Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

This certification must accompany any document submitted to Illinois EPA in accordance with the corrective action requirements set forth in a facility's RCRA permit. The original and two copies of all documents submitted must be provided.

1.0 Facility Identification

Name: Equilon Enterprises LLC d/b/a/ SOPUS
County: Madison
Street Address: 900 South Central Ave
Site No. (IEPA): 1191150002
City: Roxana
Site No. (USEPA): ILD080 012 305

2.0 Owner Information

Name: Not Applicable
Mail Address:
City:
State: Zip Code:
Contact Name:
Contact Title:
Phone:

3.0 Operator Information

Name: Equilon Enterprises LLC d/b/a/ SOPUS
Mail Address: 128 East Center Street
City: Nazareth
State: PA Zip Code: 18064
Contact Name: Leroy Bealer
Contact Title: Principal Program Manager
Phone: 484-632-7955

4.0 Type of Submission (check applicable item and provide requested information, as applicable)

☐ RFI Phase I Workplan/Report
☐ RFI Phase II Workplan/Report
☐ CMP Report;
☒ Other (describe): Final Design and Workplan for Roxana Public Works Yard Steam Enhanced Extraction

IEPA Permit Log No. B-43R
Date of Last IEPA Letter on Project: October 1, 2020
Log No. of Last IEPA Letter on Project: B-43R-CA-95, CA-98

Does this submittal include groundwater information: ☒ Yes ☐ No

Date of Submittal: January 31, 2022

5.0 Description of Submittal: (briefly describe what is being submitted and its purpose)

Final design and workplan for proposed Steam Enhanced Extraction system at the Roxana Public Works Yard

6.0 Documents Submitted (identify all documents in submittal, including cover letter; give dates of all documents)

Cover letter, RCRA Corrective Action Certification, and Public Works Yard Steam Enhanced Extraction Workplan.

Copy of submittal also sent directly to Collinsville FOS, B. Sinnott, R. Watson, and A. Butler of IPEA.

7.0 Certification Statement

(This statement is part of the overall certification being provided by the owner/operator, professional and laboratory in Items 7.1, 7.2 and 7.3 below). The activities described in the subject submittals have been carried out in accordance with procedures approved by Illinois EPA. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

For: Public Works Yard Steam Enhanced Extraction Workplan
Date of Submission: January 31, 2022

7.1 Owner/Operator Certification

(Must be completed for all submittals. Certification and signature requirements are set forth in 35 IAC 702.126.) All submittals pertaining to the corrective action requirements set forth in a RCRA Permit must be signed by the person designated below (or by a duly authorized representative of that person):

1. For a Corporation, by a principal executive officer of at least the level of vice president.
2. For a Partnership or Sole Proprietorship, by a general partner or the proprietor, respectively.
3. For a Governmental Entity, by either a principal executive officer or a ranking elected official.

A person is a duly authorized representative only if:

1. the authorization is made in writing by a person described above; and
2. the written authorization is provided with this submittal (a copy of a previously submitted authorization can be used).

Owner Signature: *NOT APPLICABLE* Date: _____

Title: _____

Operator Signature: _____ Date: 1/28/2022

Title: **Principal Program Manager**

7.2 Professional Certification (if necessary)

Work carried out in this submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. No one is relieved from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44 (h))

Professional's Signature: Wendy M Pennington Date: 1/28/2022

Professional's Name Wendy M. Pennington

Address 100 N. Broadway, 20th Floor

City St. Louis

State MO Zip Code 63102

Phone 314-429-0100

Professional's Seal:



7.3 Laboratory Certification (if necessary)

The sample collection, handling, preservation, preparation and analysis efforts for which this laboratory was responsible were carried out in accordance with procedures approved by Illinois EPA.

Name of Laboratory NOT APPLICABLE

_____ Date: _____

Signature of Laboratory Responsible Officer

Mailing Address of Laboratory

Address _____

City _____

State _____ Zip Code _____

_____

Name and Title of Laboratory Responsible Officer

AECOM
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St. Louis, MO 63102
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314 429 0100 tel
314 429 0462 fax

January 31, 2022

Mr. Kenneth E. Smith, PE
Manager, Permit Section
Division of Land Pollution Control
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62702

Public Works Yard Steam Enhanced Extraction Workplan
Roxana, Illinois
1191150002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43R.

Dear Mr. Smith:

On behalf of Shell Oil Products US (SOPUS), AECOM is submitting the enclosed referenced workplan and RCRA Correction Action Certification Form for your review.

Copies of this submittal are being sent separately directly to Amy Butler and the Collinsville, Illinois office with Illinois Environmental Protection Agency (IEPA).

If you have any questions during your review, please contact Buddy Bealer, SOPUS Principal Program Manager, at leroy.bealer@shell.com (484-632-79556), or Wendy Pennington at wendy.pennington@aecom.com (314-452-8929).

Sincerely,

AECOM, on behalf of Shell Oil Products US

Brett Howell, PG
Geologist

Wendy Pennington, PE
Program Manager

Enclosures: Public Works Yard Steam Enhanced Extraction Workplan
RCRA Facility Groundwater, Leachate and Gas Reporting Form
(Original plus 1 copy)

cc: Buddy Bealer, SOPUS
Amy Butler, IEPA, Springfield
FOS, IEPA, Collinsville
Bill Sinnott, IEPA, Springfield
Rob Watson, IEPA, Springfield
Lori Littrell, Atlantic Richfield Company
Erika Reynolds, Greensfelder, Hemker & Gale P.C.
Repositories – Roxana Public Library, website
Project File

AECOM

Public Works Yard
Steam Enhanced Extraction Workplan
Roxana, IL

Prepared For:
Equilon Enterprises LLC dba Shell Oil Products US
Roxana, IL

Project Reference: 60674381
January 31, 2022

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Quality information

Prepared by	Approved by
Brett Howell	Wendy Pennington,
Geologist, PG	Engineer, PE

Revision History

Revision	Revision date	Details	Authorized	Name	Position

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1 – original 1 – copy	No	Mr. Kenneth E Smith, PE IEPA, Springfield
None	Yes	Mr. Thomas Morgan Phillips 66
None	Yes	Ms. Amy Butler IEPA, Springfield
None	Yes	Ms. Gina Search IEPA, Collinsville
None	Yes	Roxana Public L brary
None	Yes	Website

Prepared for: Equilon Enterprises LLC dba Shell Oil Products US

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Attachment C – IEPA Letter Dated 12/20/2019

1. Introduction

On behalf of Equilon Enterprises LLC, dba Shell Oil Products US (SOPUS), AECOM Technical Services, Inc. (AECOM) has prepared this workplan to describe the proposed steam enhanced extraction (SEE) system for remediation of subsurface impacts at the Village of Roxana Public Works Yard (PWY) located in Roxana, Illinois (**Figure 1**).

This workplan contains the following sections:

- Site Background
- Remedial Objectives and Approach
- System and Operational Overview
- Health and Safety
- Steam Extraction Vapor Monitoring Plan
- Steam Effectiveness Plan
- Monitoring Program Modifications
- Permits and Notifications
- Reporting

The Predesign Investigation Report and Final SEE Design are included as attachments.

1.1 Schedule

Below is a proposed timetable in order to achieve SEE operation at the PWY during the 2022 construction season. If the schedule below is delayed for any reason, operational activities will commence in 2023.

January 2022:	Submittal of SEE workplan to IEPA
February 2022:	Submittal of permit modifications to recently approved FESOP; submittal of injection well and water discharge permitting
March 2022:	IEPA response to SEE Workplan (schedule assumes approval of Workplan/SEE Final Design; approval of permitting items)
April - June 2022:	Drilling activities begin (SEE System and Vapor Monitoring Network). SEE system construction, subject to material and equipment availability.
July 2022:	SEE system online
July 2022:	Steam Extraction Vapor Monitoring Program commences
January 2023 or before:	SEE system shut down
July 2023:	Steam Effectiveness Sampling commences

2. Background

The PWY is bounded on the west and north by Illinois Route 111/Old Edwardsville Road and East Eighth Street, respectively. There is a Norfolk Southern railroad corridor along the southern boundary and the Phillips 66 Wood River Refinery (WRR) forms the eastern boundary. Residential properties are directly north of the PWY. The property occupies approximately 2.4 acres, where approximately 0.4 acres is covered or obstructed by buildings and/or structures. Topographically, the western and southern portions of the PWY are at a lower elevation relative to the northeastern portion of the PWY. This relief across the PWY is approximately 13 feet. The PWY owned by the Village of Roxana and is infrequently used by the Village for vehicle maintenance and storage. The PWY is also the location of the Village's former wastewater treatment plant (WWTP). In-ground concrete tanks associated with the WWTP continue to be used to help manage stormwater overflow in the Village. Most of the PWY is enclosed by a chain link fence.

SOPUS has conducted several subsurface investigations at the PWY (URS, 2007). Quarterly groundwater monitoring began in 2010. These investigations indicate dissolved-phase benzene concentrations ranging from 100 milligrams per liter (mg/L) to 1,900 mg/L[1]. In 2011, SOPUS constructed a soil vapor extraction (SVE) system compound on the adjoining WRR which includes a header-line connecting to six extraction wells at the PWY. There are also eight multilevel vapor monitoring probes (VMPs), and two groundwater monitoring wells at the PWY. The SVE system has operated at the PWY since late 2012. Soil vapor data for the PWY demonstrates the shallow and intermediate zones have been remediated. Deep (>25 feet below ground surface) soil gas concentrations have also decreased over time but remain in some areas with fluctuating groundwater levels and submerged impacts.

The WRR, adjacent to the eastern PWY boundary, currently maintains hydraulic control of groundwater in the area with a groundwater production system consisting of several pumping wells which operate at a minimum combined flow of 3,000 gallons per minute (gpm). The pumped groundwater is used by Phillips 66 (P66), the refinery operator, as process and cooling water. Groundwater pumping is conducted to contain groundwater contamination within refinery property boundaries.

IEPA requested that SOPUS evaluate additional remedial technologies to reduce the highest benzene concentrations in the PWY. In 2019, in-situ thermal remediation (ISTR) was identified as a potentially viable alternative; a predesign investigation was conducted to gather information to better assess its viability. Results from the June and July 2019 predesign investigation found that the zone of highest impact in the PWY ranges in elevation from approximately 388 to 398 feet above mean sea level which correlates to approximately 37 to 54 feet below ground surface (bgs) due to the relief at the PWY. Results from the predesign investigation indicate the highest dissolved-phase benzene concentrations are approximately 7 to 17 feet below the water table, based on groundwater elevations observed during 4Q21. Additionally, detected benzene concentrations exceeding the soil saturation limit suggest the presence of residual non-aqueous phase liquid (NAPL). Given the results of the predesign investigation, AECOM and SOPUS requested proposals from multiple leading ISTR firms, and each firm proposed implementation of SEE as the most effective ISTR technology for soil and groundwater impacts at the PWY. SEE would allow for the most efficient and uniform heating based on site-specific characteristics. Upon review of the proposals, AECOM on behalf of SOPUS, has contracted McMillan-McGee Corporation (McMillan-McGee) to begin work on the design of the SEE system for the PWY. **Attachment A – 2019 Predesign Investigation Report** contains a summary of the activities performed and the results found during the 2019 Predesign Investigation at the PWY.

In response to an April 2017 Tiered Approach to Corrective Action Objectives (TACO) Tier 3 Demonstration Report (Tier 3 Report) (AECOM, 2017), and subsequent submittals pertaining to the Tier 3 Report, the IEPA issued a letter dated October 1, 2020 (IEPA, 2020) citing conditions and modifications to the SVE system shutdown procedures outlined in the Tier 3 Report. At the time of this submittal, SVE operations continue in the PWY as outlined in the 3Q21 Soil Vapor Sampling and SVE Monitoring Report. However, current SVE operations in the PWY will cease with the implementation of SEE. **Sections 4.4** and **8.1** outline the how SEE will alter the existing remedial action plan for the PWY. A response to the 10/1/20 letter is being submitted separately and concurrently with this workplan.

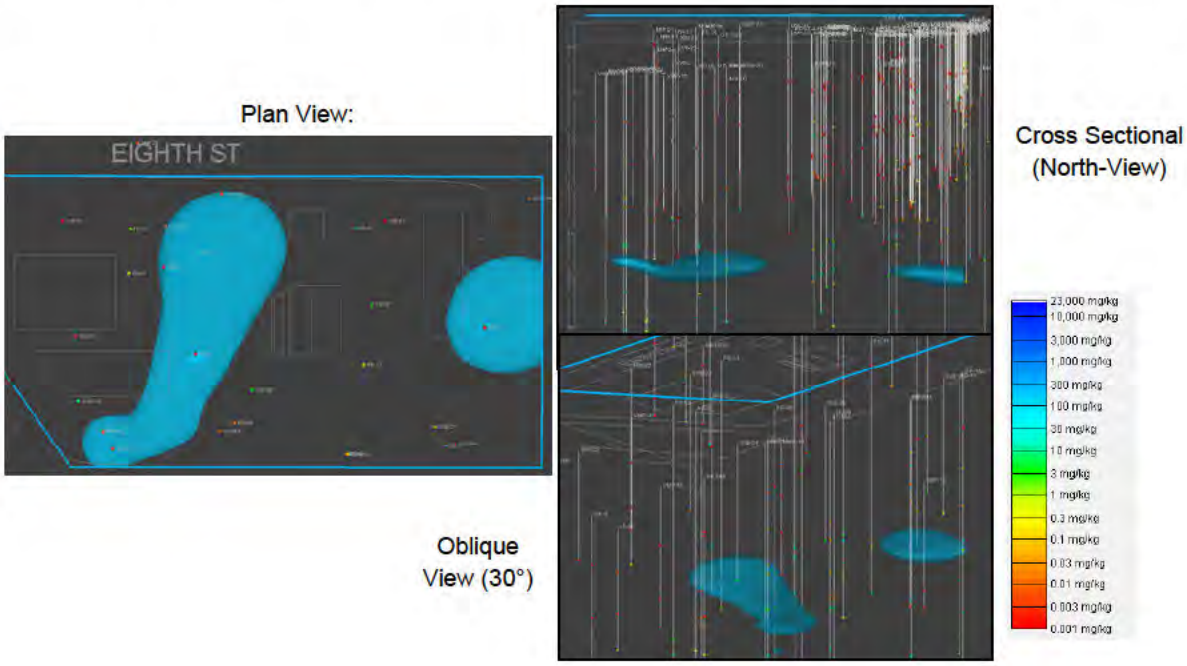
[1] Values are from Roxana interim groundwater monitoring reports – wells MW-7 and MW-8.

Two technical discussions between AECOM, SOPUS, and IEPA were had with respect to the SEE system. The initial discussion occurred on July 15th, 2021.

The second technical discussion occurred on November 4th, 2021.

3. Remedial Objective and Approach

SEE will remove volatile organic compound (VOC) contamination from the subsurface by enhanced mobilization, volatilization, and degradation reactions, through a combination of steam injection (SI) and multiphase extraction (MPE) throughout the treatment area. SEE will target VOCs sorbed to saturated soils, including VOCs as NAPL. Evaluation of the results obtained during the 2019 Predesign Investigation identified where the potential source of contamination is within the PWY. Therefore, the SEE system has been developed to target two distinct areas within the bounds of the Public Works Yard. The boundaries of these areas have been defined based on data collected and modeled from the 2019 predesign investigation and other data historically collected. Modeling of the 2019 benzene concentrations in soil above the saturation limit is shown below. Additional data and modeling can be found in **Attachment A – 2019 Predesign Investigation Report**. These treatment areas are described further in **Section 4**.



The remedial objective of SEE is to accelerate the reduction of VOC mass in the PWY; specifically, the reduction of benzene concentrations within the treatment areas, to the extent practicable using SEE. Remaining concentrations will be addressed by natural attenuation processes and continued pumping from the WRR groundwater production system. Mass reduction calculations will be conducted regularly during SEE operations as conditions pertaining to SEE system shutdown are in part tied to a reduction is mass recovery rates. A more detailed explanation can be found in the **Attachment B – Final SEE Design**.

The primary mechanism used by SEE for remediation involves the mobilization of subsurface contaminants by heat injection and recovery of the mobilized contaminants at MPE wells. Contaminants will be recovered both as a mobilized liquid and vapor. In addition, a zone of enhanced biodegradation will form along the outside boundary of the thermal treatment zone due to elevated groundwater temperatures on the periphery on the steam injection area, and any vapors generated via biodegradation will also be captured by the SEE system's MPE wells.

The proposed schedule presented in **Section 1.1** is based on SEE operations being performed beginning in Summer 2022. Summer operation is preferred as it will result in less heat loss and will be during a period of less natural gas demand.

Perimeter air and soil vapor monitoring will be conducted throughout the entire operating period. The need to add additional soil vapor monitoring points along Eighth Street to monitor for the safety of the residents has been addressed and is discussed in **Section 6**.

The SEE system should effectively treat volatile compounds within the targeted treatment zone (TTZ). Historically, kerosene impacts have been observed within the southern portion of Area B. While many of the compounds in kerosene boil at temperatures greater than 100°C, steam stripping will be effective at volatilizing much of the mass much in same way that soil vapor extraction effectively treats gasoline impacted soil with compounds that boil well above ambient temperatures.

The SEE system is designed to treat impacted soil and groundwater within the TTZ. As SEE is designed to dewater the TTZ and pass steam through the unsaturated soil, soil outside the TTZ will not effectively be dewatered and therefore will see limited treatment. Typically, it is assumed that soil greater than a few feet from the TTZ will have limited treatment. While this soil will experience a temperature increase, neither steam nor air will pass through the soil resulting in limited volatilization. Heated water from the SEE system will increase hydrocarbon solubility and this enhanced dissolved phase impact will be captured in the process water extraction system. It should be noted that groundwater is anticipated to return to background temperatures just outside the TTZ and should not affect the larger impact observed within the refinery.

Once shutdown criteria outlined in **Attachment B** have been met, the SEE system will cease steam injection, and MPE will continue for a period of two to three weeks. Perimeter air monitoring will continue during those two to three weeks., Soil vapor monitoring will continue, following the sample plan outlined in **Section 6**, along the boundaries of PWY until the subsurface cools to ambient conditions, or a period of six months, whichever occurs first. A Steam Effectiveness Plan consisting of groundwater and soil sampling will commence once the subsurface has cooled to ambient temperature, or after a period of approximately six months. Refer to **Section 7** for detailed information pertaining to the Steam Effectiveness Plan.

4. System and Operational Overview

The work sequence for SEE consists of the following steps:

1. Permitting requirements
2. Construction and System Installation
3. Acceptance Testing
4. Start-Up, Operations, Maintenance, and System Optimization
5. Data Collection and Management
6. System Shutdown Procedures/Performance Evaluation
7. Demobilization and Site Restoration
8. Post-SEE Monitoring

4.1 Wellfield Layout and Treatment Volume

The SEE wellfield layout is based on two areas targeted for treatment in the PWY as shown on **Figure 2**. The targeted treatment zones (TTZ) were defined using benzene data collected during the 2019 investigation and historic site investigations. The TTZs address locations where benzene concentrations meet or exceed the site-specific soil saturation limit for benzene (726 mg/kg). The two areas are designated as Treatment Areas A and B with a combined total area of approximately 48,204 square feet (ft^2). Treatment Area A is approximately 28,060 ft^2 with a vertical treatment interval between 378 and 397 feet above mean sea level (amsl); and Treatment Area B is approximately 20,144 ft^2 with a vertical treatment interval between 389 and 395 feet amsl. The subsurface treatment volume is approximately 23,183 cubic yards (CY). SEE injection points will be located laterally and screened vertically to create a heated subsurface zone to fully encompass the targeted volume (23,183 CY) of subsurface soil and groundwater, with a total thermal influence area (area subject to thermal treatment and temperature changes) of approximately 48,204 square feet. The wellfield layout includes steam injection wells, MPE wells, and temperature sensors. The quantity and specifications for each type of point are as follows:

- 81 Steam injection wells based on a 30-foot spacing, each constructed of 2-inch diameter steel casing with 2 to 3 feet of screen;
- 36 MPE wells based on a 30- to 50-foot spacing and 30-foot radius of capture, each fitted with 4-inch diameter 10-slot stainless steel wire-wrap screen;
- 16 Temperature sensor locations, each with 15 sensing elements at vertical intervals, for a total of 240 sensing elements. The vertical placement for temperature sensors will vary based on site location and will be installed at intervals best suited to ensure that target temperature is achieved throughout the treatment areas.

Placement of the above-mentioned equipment is subject to change and may vary from the proposed locations based on utilities (above and below ground), subsurface obstructions (i.e., pipelines), and potential design changes based on assessment findings during installation. Well field and system layouts, system schematics, and operational procedures can be found in **Attachment B**.

4.2 Aboveground Equipment

The SEE includes a steam boiler unit for the steam injection wells, and treatment units for vapor and liquid streams extracted from the subsurface via the MPE wells. McMillan-McGee's has sized a boiler unit with a 500 horsepower (HP) (21 MMBTU/hr) capacity and has calculated a vapor recovery of up to 2,000 standard cubic feet per minute (SCFM). The majority of contaminant mass removal will occur in the vapor phase; mass removal will occur to a lesser degree in the liquid phase. Recovered vapor will be conveyed to the existing regenerative thermal oxidizer (RTO)

located on WRR property for destruction. In addition, a backup vapor carbon vessel system will be implemented so the extraction process stream can continue to be captured in the event of an interruption of the RTO. Recovered liquid is planned for treatment using air strippers and liquid-phase granular activated carbon (LGAC) before discharge to the Publicly Owned Treatment Works (POTW) via the sewer system. Air stripper off-gas will be conveyed to the RTO for destruction.

4.3 Power and Duration

Based on McMillan-McGee's calculations, approximately 8,000 pounds of steam per hour must be provided to the injection wells continuously over a 60 to 90-day period for the subsurface to reach target temperature. It is estimated that the total operational run time for the SEE system, including the time required to reach target temperature, is 180 days. The total energy (power x duration) required over a six-month operational period is approximately 10,460 megawatt-hours (MWhr).

4.4 Construction and System Installation

Construction and installation of the SEE system will commence upon regulatory approval of this workplan, associated permitting, and the availability of equipment and/or materials. Equipment will be provided by the SEE contractor. AECOM will oversee the installation, which is anticipated to follow the sequence of activities listed below:

1. Manufacturing of injectors, electronic control system, subsurface sensor equipment;
2. Delivery of boilers and necessary electrical switchgear;
3. Drilling and installation of injectors and temperature sensors;
4. Installation and construction of MPE wells;
5. Delivery and connection of boiler(s) to a fuel source;
6. Connection of injectors to steam header system;
7. MPE system installation and connection;
8. Connection of subsurface sensors to server; and
9. Completion of feed water lines and surface piping.

AECOM will oversee SEE contractor technicians as well as any local subcontractors needed (i.e., electricians for power drop connections).

Additionally, any existing wells (soil vapor extraction, groundwater monitoring, or vapor monitoring points) that are of PVC construction will be abandoned prior to operation of the SEE system, as they will not withstand the temperatures generated during SEE. **Section 8** outlines the proposed alterations to the existing vapor monitoring and groundwater monitoring networks.

Upon successful system install, a period of acceptance testing will occur prior to full scale system operation. Acceptance testing is done to ensure the following:

1. All necessary personnel are familiar with safety protocols while working near SEE equipment.
2. Steam injection system is operating as intended.
3. Extraction and treatment system are operating as intended.
4. Data collection systems are logging data correctly and data is being relayed and stored accordingly.

4.5 Operations, Maintenance, and System Optimization

The SEE system will require periodic maintenance once operations have begun. The Programmed Logic Controller (PLC) and internet-based monitoring system allow for remote viewing of all operational data and system control from any computer connected to the internet via password protected site access. The initial start-up procedure will include the following tasks:

1. The site will be cleared of all unnecessary personnel.
2. Pressure regulators will be opened at a low pressure and injection setting.
3. Trained personnel will perform a short propagation test throughout the perimeter to assess the safety and predictable operation of the SEE system.
4. Once this procedure is complete, the injection wells will be energized at target operating values and the steam propagation test will be repeated throughout the project and surrounding area.

Once safe operating conditions are established for the SEE system, project personnel will be allowed to commence with their normal duties. This procedure will be repeated at any time when pressure regulators are adjusted, with any other major operational change in the project, or after a severe weather event.

In order to assess system performance, AECOM and the subcontractor will monitor the following:

Influent and effluent concentrations	Mass Removed
Process Temperatures	Subsurface Temperatures
Steam Injection Flow Rates	Vapor Extraction Rates
Well Vacuum and Temperature	Soil Vapor Concentrations
Process Flow (both liquid and vapor)	Ambient Air Concentrations

Weekly Tedlar© bag samples will be collected from the Public Works Header at the RTO, as this is the location where the SEE influent stream enters the existing SVE system. This data will be used in tandem with the data that is to be collected from the vapor monitoring network outlined in **section 6**. Analytical vapor samples will be collected monthly in order to comply with the current SVE/RTO system operating permit. Analyses include:

1. Volatile Organic Compounds (VOCs) via Modified USEPA Total Organic-15 (TO-15) (including butane and isopentane), and
2. Natural gases (defined for purposes of this report as oxygen, nitrogen, carbon monoxide, methane, carbon dioxide, ethane, and ethene) via Modified ASTM D-1945.

4.6 System Shutdown Procedures/Performance Evaluation

After up to six months of system operation and/or attainment of the system performance objectives, the steam will be shut off, and system shutdown procedures will commence. System shutdown will be based on meeting the target soil temperature and any one of the following criteria:

1. Achieved a mass recovery rate of 10% of the peak (over 14 days/4 sampling events); OR
2. Achieved a linear mass recovery rate curve or decreasing recovery trends using statistical trend analysis (e.g., Mann-Kendall); OR
3. Achieved or exceeded a temperature of 80°C at 90% of the subsurface sensors within the heated volume, and operate for up to 135 days after target temperatures have been met
4. Reduced petroleum concentrations within the TTZs to the extent practical using SEE.

4.7 Demobilization and Site Restoration

Upon completion of the SEE project, SEE infrastructure will be removed. The MPE wells will potentially stay in place so they can potentially be used for rebound extraction, or groundwater monitoring (as outlined in **Section 8**, if the need arises, until such a time that the existing SVE system is decommissioned). Decommissioning will include the following tasks:

1. Disconnect all electrical connections;
2. Disconnect and dismantle steam boiler circulation system;

3. Remove the treatment system;
4. Disconnect and dismantle the surface facilities;
5. Demobilization of recoverable equipment from the site;
6. Perform all site restoration activities; and
7. Complete the Task Close Out Report.

5. Health and Safety

Health and Safety during these installation activities will be governed by a site-specific Health and Safety Plan (HASP). Personal protective equipment (PPE) and monitoring equipment to be used will be described in a HASP.

Shell's 9 Life Saving Rules are mandatory rules for working on any Shell property or site and they aim to help employees and contractors comply with company-wide rules covering the activities of highest safety risks. Additionally, for all work done for Shell Soil and Groundwater (SGW) in the USA, the Shell Permit to Work (PTW) system must be followed. Employees and subcontractors working on Shell SGW projects will complete LSR training annually, PTW training bi-annually, and carry a copy of the training certificates with them when working on Shell sites. Once the final SEE system design has been approved, a site-specific HASP and Job Hazard Analyses (JHA) will be created.

5.1 Decontamination

Field personnel and equipment will undergo decontamination procedures for the health and safety of those present, to maintain sample integrity, and to minimize the potential for cross-contamination. Decontamination will be in accordance with the most recent version of the decontamination standard operating procedures (SOP) for the Roxana project and details will be further described in the HASP.

5.2 Investigation Derived Waste & Residual Management

Investigation derived waste (IDW) will include, but is not limited to, investigation spoils, decontamination water, purge water, PPE, and expendable materials (e.g., gloves, tubing, etc.). Expendable materials having a low probability of contamination will be collected in trash bags and disposed as municipal waste. Potentially impacted expendable materials and environmental media will be collected, placed in labeled and closed containers, sample for characterization and disposed in accordance with applicable federal, state, and local regulations. Additional details pertaining to IDW generation and management will be outlined in an IDW Management Plan, which will be developed prior to initiation of site construction activities.

6. Steam Extraction Vapor Monitoring Plan

A soil vapor monitoring network will be installed in the corridor between the PWY northern boundary and the residential area just north of Eighth Street. Presently, there are a total of six existing vapor monitoring points (VMPs) in the 8th Street corridor (VMP-10, -11, -17, -18, -19, -41). In addition to these six VMPs, eleven SVPs (steam vapor monitoring points[2]) will be installed to expand the existing network to fill in potential vapor pathway gaps. The proposed vapor monitoring network can be seen in **Figure 3**. SVPs will be on approximately fifty-foot centers and divided into two rows. SVP-1 through SVP-4, in addition to existing VMPs (10, 11, and 17) will be referred to as the primary row SVPs, while SVP-5 through SVP-11, in addition to VMP-18 and VMP-19, will be referred to as the secondary row SVPs.

The primary row of SVPs will be located within the SEE system's radius of influence (ROI), while the secondary row of SVPs is located at, or beyond, the maximum ROI of the SEE system. The primary row of SVPs will be screened at three intervals (shallow, intermediate, and deep), with the shallow and intermediate depths being screened at approximately 10 feet and 20 feet below ground surface (bgs). The deepest interval will be screened as close to 30 feet bgs as possible but may be shallower in some locations. The vertical relief and elevation of the water table will determine final depth of the deepest screened interval. The secondary row of SVPs will be screened based on the results of a foundation evaluation of the 8th Street residences. The evaluation will determine the foundation depth and style (crawl space vs. basement vs. slab on grade). SVPs will be screened at four depths if the nearest home is a slab on grade, bi-level home, or has a crawl space; all of which may extend up to five and half feet below ground surface. If the nearest home is constructed with a basement that extends to a minimum of seven and at half feet bgs, a shallow (less than 10 feet bgs) screened interval will not be needed, and the SVP will be screened at three intervals following the same procedure outlined for the primary row of SVPs (1 through 4). VMP-18 and VMP-19 are directly next to SVP-8 and SVP-6 respectively, and they will be utilized for the shallow port if needed, as they are both screened in the less than 10 feet bgs interval.

Upon installation and development, in accordance with the most current soil vapor sampling SOP, samples from each SVP interval will be collected for analysis. Samples will be analyzed for volatile organic compounds (VOCs) via stainless steel canisters and Modified USEPA Total Organic-15 (TO-15) to establish a baseline of soil vapor conditions at each SVP. Additionally, Tedlar© bags will be collected to add field screening results (CH_4, lower explosive limit (LEL), CO_2, O_2, PID response, THC, and non-methane hydrocarbons (referred to as petroleum hydrocarbons (PHC) on this Site) to the baseline at each SVP. Vacuum and pressure readings will also be collected each time an SVP is visited for sample collection. Field screening will be performed on site by trained personnel using the following equipment:

- Landtec GEM-2000 (used for measuring CH_4, LEL, CO_2, O_2)
- Thermo Scientific TVA-2020 Vapor Analyzer - Photoionization Detector (PID) and,
- Thermo Scientific TVA-2020 Vapor Analyzer - Flame Ionization Detector (FID) (used for measuring THC and PHC)

With a baseline for each SVP established, and once the SEE system comes online, start-up testing will be conducted to ensure emission capture and control along the Eighth Street corridor. Start-up testing will consist of collecting Tedlar bags for field screening, with the sampling frequency following the same logic of that which was outlined in the 2011 Soil Vapor Extraction Pilot Test Report (AECOM, 2011). Sampling program frequency will follow the outlined criteria below:

- Once per week until such a time that temperatures within the target treatment zones (TTZ) reach half of the expected target temperature, then
- Twice a week until the optimal target temperature is met, then

[2] Steam vapor monitoring points (SVPs) are constructed similarly to VMPs, however their purpose for monitoring is specific to operation of SEE.

- Three times a week after target temperature is met and will continue until two weeks post SEE system shut down.

The collection of samples for laboratory analysis during SEE operation will be determined by comparing field screening results to the established baseline for each SVP. If any exceedance of the Tier 1 residential soil gas indoor inhalation remediation objectives in field screening results is observed in a secondary SVP (SVP-5 through SVP-11), a sample will be collected for laboratory analysis via TO-15, as those locations are at or beyond the maximum extent of capture for the SEE system[3]. The field screening results within the primary SVPs (SVP-1 through SVP-4) have the potential to increase as they are located within the capture zone of the SEE system. Therefore, samples for laboratory analysis will only be collected from the primary row of if the baseline results were clean[4] and an increase in field screening results is observed, otherwise laboratory samples from those locations will not be collected during SEE operations.

Once SEE shutdown criteria have been met, steam injection will cease while extraction continues for a duration of approximately two weeks. At this stage in the project, shutdown testing will begin. Samples will be collected following a similar sequence to that of start-up testing. The frequency of collecting Tedlar© bags during shutdown testing are outlined below:

- Three samples for the first week after SEE injection ceases, then
- One sample a week until the MPE wells are turned off, then
- Three samples a week for the first week after all extraction has ceased, then
- One sample a week until TTZ has reached half the target, then
- Once per month until the TTZ has returned to static/stable temperatures, or six months since SEE system shutdown.

Samples for laboratory analysis will follow the same set of procedures as those that were in place for active SEE operation.

If it is found during the SVP baseline evaluation or SEE operation that additional SVP locations are needed, discussion will be initiated with IEPA.

[3] Field screening result increases over baseline will initially be repeated for confirmation.
[4] A location is deemed “clean” when field screening results for CH4 = 0.0ppm, LEL = 0%, and THC = 0.0 ppm

7. Steam Effectiveness Plan

To evaluate the effectiveness of the PWY SEE system AECOM and SOPUS are proposing a post-SEE sampling plan for the PWY TTZs. As explained in **Section 6** PWY monitoring points (VMPs, SVEs, and MWs) that are constructed of PVC will have to be abandoned prior to the operation of the SEE system. The temperature profile of the subsurface within the TTZ footprint will exceed the temperature rating of the materials previously used for the construction of the following locations: MW-8, VMP-29, VMP-30, SVE-2, SVE-21 through SVE-24, SVE-26, and SVE-27. **Figure 4** depicts the current location of the above-mentioned monitoring locations within the bounds and periphery of the PWY. Due to safety concerns and the temperatures that are expected during SEE operations, AECOM and SOPUS propose that the reinstallation of MW-8, VMP-29 and VMP-30 take place after the SEE system has been shut down and subsurface conditions have cooled and stabilized. SEE effectiveness, or confirmation, sampling will only occur after subsurface conditions have stabilized to avoid potential safety concerns. It is estimated that the installation and sampling efforts outlined below will occur approximately six months after the SEE system has been shut down.

Consistent with the May 2016 Groundwater Management Zone proposal (AECOM, 2016), the RCRA Part B Post-Closure Hazardous Waste Permit most recently modified December 20, 2019, the RCRA Part B Post-Closure Hazardous Waste Permit renewal application submitted in April of 2020 (AECOM, 2020), and various correspondence between SOPUS and the IEPA, AECOM proposes to reinstall MW-8 (as the new MW-8A) screened across the water level observed at the time of installation and within approximately 10 feet of the original location. New monitoring wells (MW-29A and MW-29B) are proposed to be installed along the eastern edge of the PWY, near to the location of predesign boring PD-07. The purpose of the proposed locations is to provide further delineation between the WRR, the village of Roxana, and the Public Works Yard. Two B-level monitoring wells are also proposed in general accordance with Condition 4.b in Attachment A of the IEPA December 20, 2019 letter with modified Permit, Condition V.D.3 of the December 20, 2019 modified Permit, and the *Response to Condition 4.b in Attachment A and Condition V.D.3 of the 12/20/2019 IEPA Letter with Modified Permit dated* October 12, 2020 (**Attachment C**). These new B-level locations (MW-8B and MW-29B) are proposed to be installed adjacent to the MW-8 replacement (MW-8A), and a new MW-29A location. The location of the above-mentioned wells can be seen on **Figure 4.** The proposed wells will provide further delineation to the west of the WRR North Property and will be used to intercept potential groundwater contamination observed in the B-Level well, P-93B. The B-level wells will be screened across the zone of greatest impact, based on the groundwater profiling described below.

During the installation of the monitoring wells outlined above, AECOM proposes to collect approximately three to five soil samples from each, and sample intervals will be similar to those of nearby borings sampled during the 2019 Predesign Investigation. Specific sample depths from the 2019 Predesign Investigation can be found in **Table 1** and **Table 2** of **Attachment A**). In addition to soil sampling, groundwater profiling will be conducted prior to the installation of the monitoring wells. Groundwater profiling will be conducted at approximately 10-foot intervals once contact to the water table is made. Sampled depths will be similar to those sampled during the 2019 investigation (see **Table 3** and **Table 4** of **Attachment A** for exact sample depths). As the MW-8A(B) location is equidistant from three 2019 investigation borings (PD-01, PD-04, and PD-05), the results from groundwater profiling and soil sampling with be compared to results from those three locations accordingly. The results from groundwater profiling and soil sampling from the MW-29A(B) locations will be compared to the 2019 investigation boring PD-07. **Figure 4** depicts the locations of the monitoring wells and predesign borings (PD) outlined above. Borings for MW-29A(B) and MW-8A(B) wells will be drilled to a depth so that groundwater profiling and soil sampling can be performed to similar vertical extents of those borings sampled in the 2019 investigation, and to ensure vertical delineation.

To assess site wide SEE effectiveness, AECOM and SOPUS propose to sample groundwater from the multiphase extraction wells (MPEs) used during SEE operation, which will be screened from 24 to 57 feet bgs, which will encompass the targeted treatment interval (46-53 feet bgs). In addition to MW-8A and MW-8B, three MPEs within the Area A treatment zone will be selected for groundwater sampling. The three samples will be collected from the northern, eastern, and southern peripheries of the Area A TTZ, and MW-8A and MW-8B will add analytical data for the western edge of Area A. In addition to MW-29A(B), two MPEs within the Area B footprint will be selected for analytical sampling, one from both the northern and southern extent of the Area B treatment zone.

Samples for soil will be analyzed for the same suite of constituents that have previously been analyzed for in historic sampling efforts within the Village of Roxana. These samples will be analyzed for USEPA Method 8260B Volatile Organic Compounds (VOCs) and Method 8270D Semivolatile Organic Compounds (GC/MS), including Polynuclear Aromatic Hydrocarbons (PAHs). Samples collected for groundwater will be analyzed for the same suite of constituents that the current Roxana Quarterly sampling program adheres to. Groundwater will be sampled for VOCs via USEPA Methods 8260B and 8011, for SVOCs via USEPA Method 8270D, and for Polycyclic Aromatic Hydrocarbons (PAHs) via USEPA Method 8270D Low Level (LL). USEPA Method 8011 will be used for select VOCs (1,2-dibromoethane and 1,2-dibromo-3-chloropropane) in order to achieve lower reporting limits as well as adhere to the current version of the Part B RCRA Post-Closure Hazardous Waste Permit (Permit) for the Site.

Based upon the results observed during the effectiveness sampling outlined above, additional soil sampling and/or groundwater profiling locations may be completed or proposed within the Comprehensive SEE Effectiveness Report. The effectiveness of the SEE system will be determined by comparing the results from the effectiveness sampling outlined above with results from the 2019 Predesign Investigation sampling effort. A significant reduction in contamination (benzene) is expected. The effectiveness of the proposed SEE system will be further quantified in the Comprehensive SEE Effectiveness Report. Upon completion of soil sampling and groundwater profiling, the new groundwater monitoring wells will be installed, developed. The new groundwater monitoring wells will also be incorporated into the current Roxana Interim Groundwater Monitoring Program and sampled quarterly.

8. Projected Operations and Monitoring Program Modifications

8.1 SVE Operations

Current SVE operations in the PWY will cease with the onset of SEE, due to integrity issues with the construction of existing SVE wells. SVE is planned for continued operation near the 4th street and Chaffer Avenue area concurrent with SEE in the PWY, per the October 1, 2020 IEPA letter. MPE wells will potentially be repurposed as a new SVE leg at the PWY for the existing RTO. These proposed changes will affect the SVE system operations in the PWY originally approved by the IEPA in a letter dated July 22nd, 2013 (IEPA, 2013). Based upon the results observed during and after SEE operation, a proposal for SVE shutdown and rebound monitoring may be submitted post-SEE shutdown, as discussed in the *Response to TACO Tier 3 Demonstration 10/1/2020 IEPA Comment Letter*.

8.2 Groundwater and Soil Vapor Monitoring Programs

Monitoring of the following groundwater monitoring wells and vapor monitoring points will cease during SEE operations: MW-07, MW-08, VMP-29, and VMP-30. All but MW-07 will be abandoned prior to SEE operations as they are all constructed of PVC and will be subject to increased subsurface temperatures per final design specifications outlined in **Attachment B**. Reinstallation and sampling will continue post-SEE, as outlined in **Section 6** and **7**. Proposed changes will affect the quarterly soil vapor and groundwater monitoring programs as directed in the August 5th, 2010 IEPA letter (IEPA, 2010) and subsequent correspondences.

9. Permits and Notifications

Various permits and notifications will be required for construction and operation of the SEE system. The following table describes the expected requirements and the relevant utility, municipality, and/or regulatory authority for each associated SEE item.

Item	Expected Permit/Notification Requirements
Drilling/SEE Point Installations	Any well installation permits and/or notifications required by IEPA will be obtained prior to installing SEE points (steam injection wells, MPE wells, and temperature sensors). AECOM is currently reviewing the Underground Injection Control (UIC) rules for potential applicability for the steam injection points. Groundwater monitoring well installations will be conducted in accordance with relevant IEPA, IDPH and Permit requirements.
Air Discharge	Treated vapors from SEE operations are planned for discharge to atmosphere under the October 5, 2021 Federally Enforceable State Operating Permit (FESOP), Application No.: 12040025. for the SVE system's RTO. A construction permit application for the steam boiler will be submitted. Other SEE equipment will be incorporated into the existing FESOP with a request for modification. AECOM and Shell have already been in contact with IEPA regarding construction permits and FESOP modification.
Wastewater Discharge	Treated wastewater from SEE operations is planned for discharge to the Village of Roxana publicly owned treatment works (POTW). A Contained-In Determination followed by a Water Pollution Control Permit Application are currently being drafted for submittal and approval by IEPA. AECOM and SOPUS have already been in contact with the Village of Roxana regarding treated water discharge.
Electrical Power Drop	Ameren Illinois will provide electrical power required for SEE operations. Any required permits will be obtained in advance.
Steam Boiler Fuel	Natural gas from Ameren Illinois is the preferred fuel for steam boiler operations. Any required permits for the natural gas connection will be obtained in advance.
Steam Boiler Feed Water	Connection to the Village of Roxana municipal water supply is planned for the steam boiler. Any required permits for the connection will be obtained in advance. AECOM and SOPUS have already been in contact with the Village of Roxana regarding potable water needs.
SEE Point Abandonment	SEE point abandonment at the completion of the remedy will be conducted in accordance with relevant IEPA and IDPH requirements. Any required permits/notifications will be obtained.

Inquiry into permit needs regarding the above table are underway at the time of this submittal. AECOM has been in contact with the local municipality (Village of Roxana) regarding:

1. Discharge of treated wastewater to the local POTW and,
2. Potable water supply availability for SEE steam boiler operation.

Upon approval of this workplan, additional inquiries will commence to resolve the items listed in the table above.

10. Reporting

Upon successful SEE construction and installation, an SEE Construction Completion report will be submitted to the agency. Contents will include, but are not limited to:

1. Technical Specifications
2. Deviations from Final SEE Design
3. Description of Construction Activities
4. Detailed As-Built Drawings
5. Quality Assurance/Quality Control
6. Boring logs
7. Baseline field screening and analytical measures for the proposed Vapor Monitoring Program

After successful SEE shutdown and completion of the Steam Effectiveness Plan, reporting materials will be prepared for submittal to the IEPA. Contents will include, but are not limited to:

1. Summary of SEE operations
2. SEE mass removal calculations,
3. Results from soil sampling and groundwater profiling
4. Evaluation of SEE success and/or the need for additional confirmation sampling efforts.

The specific number of reports and content will be determined at a later time.

11. References

Illinois Environmental Protection Agency (IEPA), 2021 (IEPA, 2021); Federally Enforceable State Operating Permit; Issued to Shell Oil Products US (SOPUS); dated October 5, 2021

AECOM, 2021; (AECOM, 2021a); Interim Groundwater Monitoring Program – 4th Quarter 2020 – Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated January 2021.

AECOM, 2021; (AECOM, 2021b); Soil Vapor Sampling and SVE Monitoring Report – 4th Quarter 2020 – Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated January 2021.

AECOM, 2020; (AECOM, 2020); *Response to Condition 4.b in Attachment A and Condition V.D.3 of the 12/20/2019 IEPA Letter with Modified Permit*. Submitted on behalf of Shell Oil Products US (SOPUS); dated October 12, 2020.

Illinois Environmental Protection Agency (IEPA), 2020; (IEPA, 2020); Response to April 7, 2017; April 28, 2017; July 17, 2017; and November 27, 2017 submittals. Issued to Shell Oil Products US (SOPUS), dated October 1, 2020.

Illinois Environmental Protection Agency (IEPA), 2019. *Hazardous Waste Management RCRA Post-Closure Permit*. Issued to SOPUS at the WRB Refining LP Wood River Refinery (WRB WRR), issued September 23, 2010; effective October 28, 2010; modified April 2, 2013; modified June 13, 2014; modified November 25, 2014; modified July 29, 2015; modified December 20, 2019.

AECOM, 2021; (AECOM, 2017); TACO Tier 3 Demonstration Report – Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated April 2017.

Illinois Environmental Protection Agency (IEPA), 2013; (IEPA, 2013); Response to SVE Construction Completion Report Addendum dated February 13, 2013. Issued to Shell Oil Products US (SOPUS), dated July 7, 2013.

URS Corporation (URS), 2012; SVE System Construction Completion Report – Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated May 30, 2012.

Illinois Environmental Protection Agency (IEPA), 2010; (IEPA, 2010); Response to Log No. B-43-CA-16; B-43-CA-18; RCRA Permit. Issued to Shell Oil Products US (SOPUS), dated August 5, 2010.

URS Corporation (URS), 2010; Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report – Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated February 18, 2010.

URS Corporation (URS), 2007; West Fenceline P-93 Dissolved Phase Benzene Investigation Report-Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated September 2007.

Figures

Figure 1 – Investigation Area Location Map

Figure 2 – Steam Enhanced Extraction System Layout

Figure 3 – Proposed Steam Vapor Monitoring Point Locations

Figure 4 – Proposed Monitoring Well Locations – Post SEE

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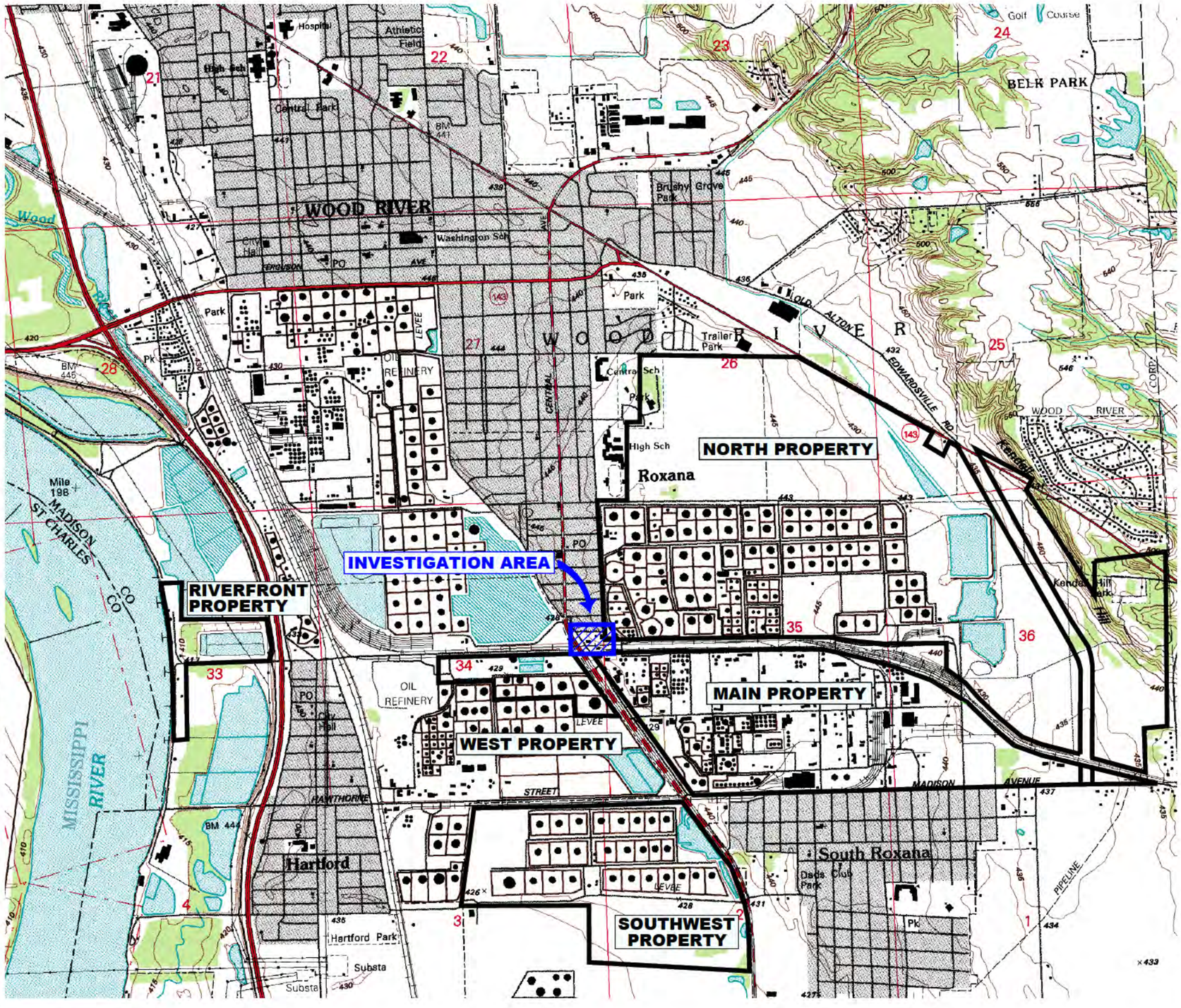

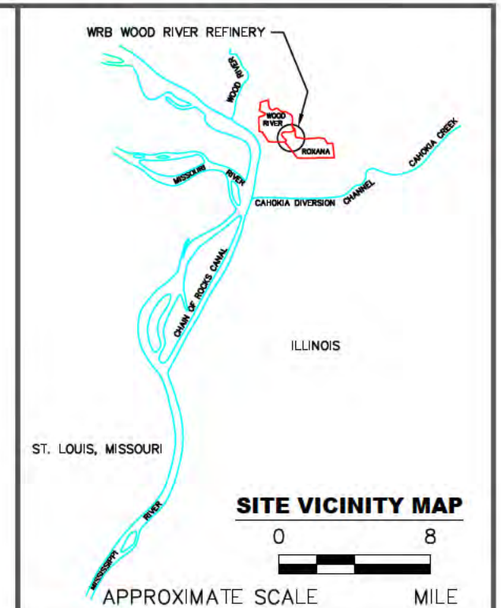

LEGEND

- WOOD RIVER REFINERY PROPERTY BOUNDARY
- INVESTIGATION AREA

SOURCE: ELECTRONIC USGS DIGITAL RASTER GRAPHIC 7.5 MINUTE TOPOGRAPHIC MAP OF WOOD RIVER, IL–MO REVISED 1994.

0 2000

APPROXIMATE SCALE FEET

N

PUBLIC WORKS YARD
PREDESIGN INVESTIGATION
ROXANA, ILLINOIS

PROJECT NO. 60674381

AECOM

DRN. BY: bah Dec 2021
DSGN. BY: djd
CHKD. BY: bJ

Investigation Area Location Map

FIG. NO. 1

File: C:\USERS\BRETT.HOWELL\ONEDRIVE - AECOM\DOCUMENTS\PUBLIC WORKS\PUBLIC WORKS 2021\SEE WORKPLAN\FIGURES\PWY SEE FIG 1 - LOCATION MAP - 1.27.22.DWG Last edited: 01/27/22 @ 8:53 AM @ WIC-ST.LOUIS

LEGEND

- PIPE RACK
- TREATMENT SYSTEM PIPING
- MULTIPHASE EXTRACTION PIPING
- THERMAL INFLUENCE BOUNDARY
- NORFOLK SOUTHERN RAILROAD
- STEAM INJECTION POINT
- MULTIPHASE EXTRACTION WELL
- TEMPERATURE SENSOR
- STEAM TRAP

EIGHTH ST

CHAFFER AVE

Approximate Location of Power and Water Utility Connections

PDP

Power Distribution Panel

Area A

Area B

Equipment Staging Area

GEN

Pump Station

SI-AA1 SI-AA2 SI-AA3 SI-AB1 SI-AB2 SI-AB3 SI-AB4 SI-AC1 SI-AC2 SI-AC3 SI-AC4 SI-AC5 SI-AD1 SI-AD2 SI-AD3 SI-AD4 SI-AD5 SI-AD6 SI-AE1 SI-AE2 SI-AE3 SI-AE4 SI-AE5 SI-AE6 SI-AF2 SI-AF3 SI-AF4 SI-AF5 SI-AF6 SI-AG3 SI-AG4 SI-AG5 SI-AG6 SI-AG7 SI-AH5 SI-AH6 SI-AH7 SI-AH8 SI-AI5 SI-AI7 SI-AI8 SI-AJ6 SI-AJ7 SI-AJ8 SI-AK7 SI-AK8

T-AB2 T-AB3 T-AC2 T-AD5 T-AE5 T-AE3 T-AF3 T-AG6 T-AH5 T-AI7

X-AB1 X-AB4 X-AC3 X-AC5 X-AD5 X-AE4 X-AE6 X-AF4 X-AF6 X-AG5 X-AG7 X-AH7 X-AI6 X-AJ8

SI-1C3 SI-1H4 SI-1I6

SI-BA1 SI-BA2 SI-BA3 SI-BB1 SI-BB2 SI-BB3 SI-BB4 SI-BC1 SI-BC2 SI-BC3 SI-BC4 SI-BD1 SI-BD2 SI-BD3 SI-BD4 SI-BE1 SI-BE2 SI-BE3 SI-BE4 SI-BF1 SI-BF2 SI-BF3 SI-BF4 SI-BG1 SI-BG2 SI-BG3 SI-BG4 SI-BH1 SI-BH2 SI-BH3 SI-BH4

T-BB2 T-BE3 T-BF2 T-BF3 T-BG2 T-BH3

X-BB2 X-BB3 X-BC1 X-BC2 X-BC3 X-BD1 X-BD2 X-BD3 X-BE1 X-BE2 X-BE3 X-BF1 X-BF2 X-BF3 X-BG1 X-BG2 X-BG3 X-BH1 X-BH2 X-BH3

0 40

SCALE FEET

N

PUBLIC WORKS YARD
STEAM ENHANCED EXTRACTION WORKPLAN
ROXANA, ILLINOIS

PROJECT NO. 60674381

AECOM

DRN. BY: bah Dec 2021
DSGN. BY: djd
CHKD. BY: wmp

Steam Enhanced Extraction System Layout

FIG. NO. 2

LEGEND

- EXISTING GROUNDWATER MONITORING WELL (MW)
- EXISTING VAPOR MONITORING POINT (VMP)
- EXISTING SOIL VAPOR EXTRACTION WELL (SVE)
- PROPOSED STEAM VAPOR MONITORING POINT (SVP)
- NORFOLK SOUTHERN RAILROAD

NOTES:

- THERMAL INFLUENCE BOUNDARY

EIGHTH ST

CHAFFER AVE

S. Old Edwardsville Rd

SVE SYSTEM

MW-25
SVP-11
SVP-10
SVP-9
SVP-8
VMP-18
SVP-7
VMP-19
SVP-6
SVP-5
SVE-19
SVP-1
SVP-2
SVP-3
SVP-4
SVE-20
SVE-36
SVE-23
MW-5
VMP-41
VMP-10
SVE-22
VMP-11
MW-7
SVE-21
VMP-17
VMP-12
SVE-2
VMP-29
MW-8
VMP-30
VMP-13
SVE-26
SVE-24
VMP-55
VMP-14
SVE-27

6' BENZENE

0 40
SCALE FEET

N

PUBLIC WORKS YARD STEAM ENHANCED EXTRACTION WORKPLAN ROXANA, ILLINOIS		PROJECT NO. 60674381
AECOM		
DRN. BY: bah Dec 2021 DSGN. BY: djd CHKD. BY: wmp	Proposed Steam Vapor Monitoring Point Locations	FIG. NO. 3

LEGEND

- EXISTING GROUNDWATER MONITORING WELL (MW)
- EXISTING VAPOR MONITORING POINT (VMP)
- EXISTING SOIL VAPOR EXTRACTION WELL (SVE)
- 2019 PREDESIGN INVESTIGATION BORING (PD)
- NORFOLK SOUTHERN RAILROAD
- PROPOSED MONITORING WELL (MW)
- THERMAL INFLUENCE BOUNDARY

CHAFFER AVE

EIGHTH ST

S. Old Edwardsville Rd

SVE SYSTEM

MW-25
VMP-18
VMP-19
SVE-19
SVE-20
SVE-36
SVE-23
MW-5
VMP-41
VMP-10
SVE-22
VMP-11
MW-7
SVE-21
VMP-17
VMP-12
PD-1
SVE-2
VMP-29
MW-8A
MW-8B
MW-8
PD-4
PD-5
VMP-30
VMP-13
SVE-26
SVE-24
VMP-55
VMP-14
PD-7
MW-29A
MW-29B
SVE-27

6' BENZENE

0 40
SCALE FEET

N

PUBLIC WORKS YARD STEAM ENHANCED EXTRACTION WORKPLAN ROXANA, ILLINOIS	PROJECT NO. 60674381
AECOM	
DRN. BY: bah Dec 2021 DSGN. BY: djd CHKD. BY: wmp	Proposed Monitoring Well Locations – Post SEE
	FIG. NO. 4

Attachments

Attachment A – 2019 Predesign Investigation Report

Attachment B – Final SEE Design

Attachment C – IEPA Letter Dated 12/20/2019

Attachment A

2019 Predesign Investigation Report

Confidential Settlement Communication

AECOM Imagine it. Delivered.

Public Works Yard
Predesign Investigation Report
Roxana, Illinois

Prepared for:
Equilon Enterprises LLC dba Shell Oil Products US
Roxana, IL

Project reference:60592794
October 2019

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Appendix C Soil Boring Logs
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Appendix I Summary of SOPUS Westhollow Results

1. Introduction and Objectives

On behalf of Equilon Enterprises LLC, dba Shell Oil Products US (SOPUS), AECOM Technical Services, Inc. (AECOM) prepared this Predesign Investigation Report (Report) for the Village of Roxana (Village) Public Works Yard (PWY) site. The Predesign Investigation focused on collection of data to refine the Conceptual Site Model (CSM) for the PWY. Additionally, data collected will be used to evaluate the use of thermal treatment as a potential remedial technology at the site. This report includes supporting tables, figures and appendices that follow the text. The report also contains embedded images, charts and tables that are not numbered.

The PWY is bounded on the west and north by Illinois Route 111/Old Edwardsville Road and East Eighth Street, respectively. There is a railroad corridor along the southern boundary and the Phillips 66 Wood River Refinery (WRR) forms the eastern boundary (**Figure 1)**. The property occupies approximately 2.4 acres, approximately 0.4 acres of which is covered or obstructed by buildings or structures. Topographically, the western and southern portions of the PWY are at a lower elevation relative to the northeastern portion of the PWY. This relief across the PWY is approximately 13 feet. The PWY is infrequently used by the Village for vehicle maintenance and storage. The PWY is also the location of the Village's former wastewater treatment plant (WWTP). In-ground concrete tanks associated with the WWTP continue to be used to help manage stormwater. Most of the PWY is enclosed by a chain link fence. The aerial image below shows the location of the PWY with respect to surrounding features.



SOPUS has conducted several subsurface investigations at the PWY beginning in 2006 (URS, 2007), and quarterly groundwater monitoring began in 2010. These investigations indicate dissolved phase groundwater benzene concentrations on the order of hundreds to thousands of milligrams per liter (mg/L). In 2011, SOPUS constructed a soil vapor extraction (SVE) system on the adjoining Phillips 66 refinery which includes a header-line connecting to six extraction wells at the PWY. There are also eight vapor monitoring points (VMPs) at the PWY. The SVE system has operated at the PWY since late 2012. Soil vapor data for the PWY demonstrates the shallow and intermediate zones have been remediated. Soil gas concentrations at deeper depths have also decreased over time but may remain at depth in certain areas partly due to fluctuating groundwater conditions and submerged impact.

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2. Investigation Approach

SOPUS evaluated several potential remedial alternatives to address petroleum impacts in groundwater at the PWY and of these, in-situ thermal treatment, and in particular Steam Enhanced Extraction (SEE), appears most promising at this time. The following site attributes affect SEE and served to focus the predesign investigation:

- Constituents of Potential Concern (COPCs), including Mass
- Debris, Obstructions and Preferential Pathways
- Hydraulic Conductivity
- Anisotropy
- Hydraulic Gradient/Depth to Groundwater
- Depth of Impact Relative to Groundwater Potentiometric Surface
- Stratigraphy
- Water Quality (for reinjection)

The investigative approach used four exploratory techniques:

1. Laser Induced Fluorescence (LIF), enhanced by an injected dye (dyeLIF), which causes solvent-like non-aqueous phase liquids (NAPL) like benzene to fluoresce differently than other hydrocarbons. This allowed for real-time identification of NAPL in the subsurface pore space.

2. Cone Penetration Testing (CPT), utilizing direct-push technologies, allowed for real-time identification of lithology and other soil properties that were used to help determine where to collect soil and groundwater samples.

3. Collection and analysis of soil samples using conventional drilling techniques for comparison with the dyeLIF results, provided quantification of analytical concentrations and determined certain physical soil properties.

4. Groundwater profiling using CPT for collection of depth-discrete groundwater samples for dissolved phase characterization vertically and horizontally across the PWY.

The approach allowed for information to be interpreted in the field and for additional locations to be added based on those results. The planned work was described in the *Predesign Investigation Workplan* (Workplan) dated May 2019.

The PWY is Village property, and the site work was performed under the access agreement between SOPUS and the Village dated September 17, 2012.

3. Field Investigation Activities

Field activities were conducted in June and July 2019 by AECOM, supported by the following site subcontractors:

- Roberts Environmental Drilling, Inc. (REDI) – Utility locate, utility clearance, and soil borings
- Walker-Hill Environmental (WHE) – CPT and groundwater profiling
- Dakota Technologies – DyeLIF, in conjunction with WHE's CPT rig.
- Juneau Associates – Surveying
- Environmental Management Alternatives (EMA) and Heritage Environmental Services – Waste management and disposal

Investigation locations were surveyed for horizontal and vertical control and added to the base map for the area after the completion of field activities **(Figure 2).**

The following sections describe the investigation activities as completed.

3.1 Pre-field Activities

The investigative locations were initially presented in the Workplan and refined based on available information on underground and aboveground utilities. Locations were distributed across the PWY with a spacing of approximately 40 to 60 feet. The investigation locations are shown on **Figure 2**. These locations were marked in the field with marking paint and pin flags. The locations were also reviewed with Village of Roxana representatives and Illinois' Joint Utility Locating Information for Excavators (JULIE) (SOP 5 – *Utility Clearance Procedures*).

A 3rd party private locate was performed for locations PD-01 to PD-11 on June 3, 2019 and locations PD-12 through PD-19[1] on June 17, 2019. This was conducted to identify potential obstructions and included the use of Ground Penetrating Radar, and Electro-Magnetic locating. The locator checked a 10-foot by 10-foot square area centered on each proposed location. Locations proposed on the east side of the PWY (PD-3 and PD-7) were relocated due to a subsurface underground pipeline and the minimum 25 foot set back distance requirement regarding that pipeline. Additionally, borings PD-01 and PD-05 were relocated based on underground piping for the SVE system, underground power lines and water transfer lines, that were more accurately identified after initial boring placement.

3.2 Intrusive Activities

3.2.1 Air-Knifing

An air-vacuum system was used to advance air-knife holes to assess the presence of utility lines or other obstructions at each planned investigative location (SOP-5 *Utility Clearance Procedures*). Air knife holes were cleared to depths of 10 feet below ground surface (bgs) and approximately 12 inches diameter for locations planned for soil drilling. Locations planned for CPT probing were air-knifed to 10 feet in depth and approximately 10 inches in diameter.

Three holes were air-knifed at each of the first planned locations (PD-01 through PD-11), for the CPT/DyeLIF, groundwater profiling, and soil borings. Locations PD-12 through PD-19 were added during the field program and each had two air knife holes, based on projected further investigation using only CPT methods. One location (PD-01) had an additional hole air-knifed due to refusal during CPT drilling and one location (PD-12) also had an additional hole air-knifed due to re-sampling being required[2].

AECOM collected grab samples at approximately two-foot intervals using a hand auger through the borehole clearance depth of 10 feet. Following hand auger sampling, each borehole was cleared using an air knife to a depth of 10 feet and width of approximately 10 to 12 inches (SOP-13 *Hand Auger Sampling*). A Photoionization Detector (PID) was

[1] PD-18 was proposed during the work but was not performed due to underground and overhead utilities.
[2] The sample shipment to the laboratory was delayed in transit; samples were recollected.

used for field screening and visual classification for soil logging (SOP-14 *Soil Headspace Screening* and SOP-17 *Soil Logging*). Air-knife holes were back-filled with sand when completed.

3.2.2 CPT/DyeLIF

CPT equipped with dyeLIF was performed by WHE and Dakota Technologies between June 10 and 20, 2019 at the locations shown on **Figure 2** (PD-01 – PD-19).

CPT technology, mounted on a tracked vehicle, hydraulically pushes a cone tip into the subsurface soil at a controlled rate of 1.5 to 2.5 cm/s. Total penetration resistance, friction, and pore water pressure are measured and integrated using software within the CPT unit. The CPT process follows the ASTM Standard D-3441 and includes correlating the soil properties to soil type; this information is included on CPT logs. Certain properties and information are also used to estimate hydraulic conductivity (K) and this information is discussed in Section 4.1.

DyeLIF technology utilizes the injection of water-insoluble dye which fluoresces very weakly and with short lifetimes while in the crystalline phase. When the dye comes in to contact with non-aqueous phase liquids it rapidly solvates into the NAPL, where it fluoresces intensely with a color shift and prolonged lifetimes. This change in solvation is monitored with laser-induced fluorescence sensing through a sapphire window attached to the side of the CPT rod near the rod's tip. The fluorescence collected from outside the sapphire window is brought to the surface where it is converted into a waveform (a combined measurement of intensity, color, and lifetime) by the LIF hardware. Dakota's software program ultimately calculates a response percentage. An increase in fluorescence strength and color shift ("blue shift") are indicative of a target response (benzene and/or other NAPLs are encountered). The more dramatic increases in the response intensity and blue-shifts, the higher the confidence that an effective dye-solvating NAPL like benzene has been encountered by the probe. The response to benzene-like NAPLs is faster and higher than other petroleum NAPLs such as gasoline, diesel, etc., which provide a less intense response (typically by an order of magnitude in lab testing). LIF logs were produced in the field and used to help guide subsequent locations.

Additional locations PD-12 through PD-19 were added to further refine the extent of impact. The process at these locations followed the same utility clearance/air-knife process as described previously.

CPT/DyeLIF borings (PD-01 through PD-19) extended to depths ranging from approximately 40 to 74 feet bgs, which is approximately 10 feet below the lower limit of dyeLIF response or to refusal as determined by the pressure generated on the cone tip prior to causing damage to equipment. DyeLIF logs are included in **Appendix A.**

Refusal was encountered in seven of the CPT/dyeLIF borings (PD-4, PD-6, PD-7, PD-11, PD-14, PD-17, and PD-19). In most borings, this refusal was consistent with dense sands which, when encountered, could not be penetrated by the equipment used.

Upon completion, borings were grouted with Type I cement grout placed via tremie pipe (SOP-12 *Grouting Procedures*). CPT logs are included in **Appendix B.**

3.2.3 Soil Borings

Soil borings were advanced at locations adjacent to the dyeLIF borings with observed NAPL response to collect samples for laboratory analysis and physical properties testing. Drilling occurred between June 11 and 23, 2019 and included 13 borings. Borings were advanced using 4-1/4-inch inside diameter (ID) hollow stem auger (HSA) and mud rotary advancement techniques using a 3-7/8-inch tricone bit. Borings were typically advanced with augers to depths ranging from 30 to 40 feet bgs then continued using mud rotary drilling. These depths were determined based on the observed groundwater depth during drilling and subsurface material types. The mud rotary process uses a bentonite and water mixture to keep the borehole open. Boreholes were started with projected depths based on results from previously advanced dyeLIF locations. A majority of the borings were terminated when soil samples did not display visual evidence of impact or odors and field screening (PID) results were less than approximately 25 ppm for a distance of approximately 5 to 10 feet. Final borehole depths ranged from 62 to 72 feet bgs.

The borings were continuously sampled using 24-inch-long split-spoon samplers, sampled back to back the length of the boring, starting at 10 feet bgs. Sampling was performed using a 140-pound hammer dropped from 30 inches to push the sampler into the formation. The number of hammer strikes required to achieve six inches of soil penetration

are recorded as blow counts. Blow counts are used to determine density of soils during sampling; this information is included on the boring logs. Soils in the sampler were logged by a qualified field scientist in accordance with the Unified Soil Classification System (USCS), visually evaluated for evidence of impact and screened in the field using a PID (SOP-14 *Soil Headspace Screening*). The field scientist noted soil attributes such as color, particle size, consistency, moisture content, structure, plasticity, odor (if obvious), and organic content (if visible) (SOP-17 *Soil Logging*). Soil boring logs are included in **Appendix C.**

Selected samples (based on visual observations and PID readings) were field tested using Sudan IV soil test kits which qualitatively identify hydrocarbons as a rough indicator of potential NAPL presence (Sudan results are included on the boring logs)**.**

Selected soil samples were collected for analytical testing. Samples retained for testing were biased to focus on intervals with evidence of impact, based on dyeLIF response, PID, Sudan results and visual indicators. Samples were also collected from above and below these zones to provide information on changes in composition. Commonly, 3 to 5 samples per boring were retained for analysis. Samples were analyzed for volatile and semivolatile organic compounds (VOCs and SVOCs), including polynuclear aromatic hydrocarbons (PAHs); refer to Section 3.6 for additional information.

Based on the Sudan IV soil test kits results, eleven[3] (11) soil samples suspected to contain NAPL were sent to the SOPUS Westhollow laboratory in Houston, TX for testing. The results are presented Section 4.2.1.

Soil samples for physical properties testing, including grain size and permeability, were collected from six borings. These samples were collected from locations across the PWY, and the following inset table indicates the location and sample depth. The samples represented a range from 33 to 60 feet bgs, which includes the interval of greatest dyeLIF response. Physical property samples were collected using a large diameter split-spoon sampler with acetate liners[4]. See Section 4.1 for additional information.

Boring ID	Sample Date	Sample Depth (ft)
PD-1	6/18/2019	51
PD-4	6/21/2019	33
	6/24/2019	60
PD-5	6/14/2019	45
	6/14/2019	57
PD-6	7/12/2019	41
PD-7	7/18/2019	43
	7/18/2019	53
PD-10	6/13/2019	44

Borings were grouted upon completion with Type I cement grout placed via tremie methods (SOP-12 *Grouting Procedures*).

3.3 Groundwater Profiling

Depth-discrete groundwater sampling was performed between June 25 and July 23, 2019. Samples were collected from separate CPT borings adjacent to the dyeLIF borings. Groundwater samples were collected at approximately 10-foot intervals or as dyeLIF results suggested concentrations may be indicative of NAPL.

[3] Nine (9) of these samples were collected from the same interval as samples sent to Test America for analytical testing.
[4] This resulted in a sample approximately 3-inches in diameter by 24-inches in length.

Samples were collected through the rods with a lead rod which retracted to expose a stainless-steel screen. Samples were obtained via low-flow techniques using tubing and an inertial pump or hand pump using a foot valve (SOP-42 *Groundwater Profiling*). Due to the small diameter rod and screen, groundwater levels could only be measured prior to and after purging and sampling. Samples were collected when the following parameters had stabilized[5]: pH, oxidation-reduction potential (ORP), dissolved oxygen (DO), temperature and specific conductivity. Most groundwater borings extended to a depth of approximately 70 feet bgs or CPT refusal based on subsurface conditions. Low flow groundwater sampling data sheets are included in **Appendix D**.

Groundwater samples were collected for analysis of VOCs and SVOCs, including PAHs. Six additional samples were collected from six locations distributed across the PWY for analysis of general water quality parameters: alkalinity, hardness, calcium, manganese, sodium, potassium, phosphate, chloride, nitrate, chlorine, ferrous iron, sulfate and total dissolved solids. These samples were collected from depths ranging from 35 to 70 feet bgs. Refer to Section 3.6 for additional groundwater sampling details.

Nineteen[6] (19) groundwater samples suspected to contain NAPL based on visual observations were sent to the SOPUS Westhollow laboratory in Houston, TX for testing. The results are presented in Section 4.2.2.

Borings were grouted upon completion with Type I cement grout placed via tremie methods (SOP-12 *Grouting Procedures*).

3.4 Health and Safety

Health and Safety during these investigation activities was governed by a site-specific Health and Safety Plan *(*HASP). Personal protective equipment (PPE) and monitoring equipment used are described in the HASP.

The 12 Life-Saving Rules (LSRs) are mandatory rules for working on any SOPUS property or site and they aim to help employees and contractors comply with company-wide rules covering the activities of highest safety risks. Additionally, for all work done for involving soil and groundwater the Safe System of Work (SSoW) was followed. Employees and subcontractors working on soil and groundwater projects for SOPUS completed LSR and SSoW Training and carry a copy of the training certificate with them when working on SOPUS sites.

Task hazard assessments (THA) were discussed and completed before starting work activities each day. The THA requires the worker to describe steps to reduce the risk, including specific hazards and mitigations to be addressed, protective equipment to be used, and controls to be implemented. If the hazard(s) cannot be successfully mitigated, the work is not allowed to proceed. Employees and visitors signed the THAs daily. Tasks performed were discussed, including driving to the site, parking, and walking as well as the hazards, associated risk, and appropriate controls for each step. THAs were reviewed in advance by AECOM project safety personnel for SOPUS Safety C.A.S.E. review.

Prior to beginning work, the management team conducted a pre-field meeting or call with subcontractors where last-minute scope of work and safety concerns were discussed.

During the drilling of boring PD-11, and in particular the interval from approximately 38 to 44 feet bgs, elevated PID readings were detected in the breathing zone. Work was stopped to assess the change in conditions. Work resumed using engineering controls. Air movers in the form of a vacuum fan was positioned at the boring hole with discharge lines situated 20 feet down-wind of the workers. Additionally, normal “push” fans were directed at the workers breathing zone to provide fresh air from up-wind sources. This allowed fresh air to be brought into the work zone and ensure vacuumed air could not return in case of wind direction change.

3.5 Decontamination

Field personnel and equipment underwent decontamination procedures for the health and safety of those present, to maintain sample integrity, and to minimize the potential for cross-contamination. A temporary decontamination area

[5] Stabilized readings are 3 consecutive readings (per specified parameter) at a constant calculated flow rate, after 3 calculated flow through cell volumes have been purged.
[6] Seventeen (17) of these samples were collected from the same interval as samples sent to Test America for analytical testing Data are included in Table 3 and 4.

was established in the southeast corner of the PWY. Non-dedicated or non-expendable equipment (e.g., soil samplers) were decontaminated prior to the collection of each analytical sample by spraying with Liquinox® and distilled water (SOP-4 *Decontamination*). Decontamination fluids were collected and containerized for proper management and disposal. Large equipment (e.g., drill rig augers) was cleaned with a high-pressure cold-water wash at the decontamination pad. A rinsate sample was collected for analysis to assess the adequacy of cold-water pressure wash cleaning. The results indicated the decontamination procedures were satisfactory. Additional decontamination details are further described in the HASP.

3.6 Investigation Derived Waste

Investigation derived waste (IDW) included investigation spoils (e.g., soil from air knife and auger borings, drilling mud), decontamination water, purge water, groundwater tubing, PPE and expendable materials (e.g., gloves, tubing, etc.).

Soils generated from borehole clearing (air knife) and hollow stem auger drilling, zero to approximately 30 feet in depth, were containerized for disposal using 15-cubic yard covered and lined roll-off containers. A composite sample was collected from the containerized soils and sent to Teklab of Collinsville, IL. (Teklab) for characterization and to facilitate proper disposal. Soils were characterized as non-hazardous and were disposed at the Waste Management Milam RDF facility in East St. Louis, Illinois.

Drilling mud was containerized for disposal using 55-gallon steel drums. A composite sample was sent to Heritage to confirm characterization and facilitate proper disposal. Drilling mud was characterized as hazardous and disposed at the Heritage Environmental incinerator in East Liverpool, Ohio.

Decontamination water was containerized for disposal using 55-gallon steel drums. A composite sample of the decontamination water was collected and sent to Teklab to confirm characterization and facilitate proper disposal. Decontamination water was characterized as non-hazardous and was disposed at the Heritage Environmental facility in Indianapolis, Indiana.

Purge water was containerized for disposal using 55-gallon steel drums. Generator knowledge was used for characterization and to facilitate proper disposal. Purge water was characterized as hazardous and was disposed at the Heritage Environmental facility in Indianapolis, Indiana.

Tubing used during groundwater profiling to collect groundwater samples was containerized for disposal using 55-gallon steel drums. Generator knowledge was used for characterization and to facilitate proper disposal. Tubing was characterized as hazardous and was disposed at the Heritage Environmental facility in Indianapolis, Indiana.

The PPE and expendable materials having a low probability of impact were collected in trash bags and disposed with municipal waste. The PPE and expendable materials potentially impacted were containerized with the groundwater tubing for disposal.

Containers were staged on the PWY to meet storage requirements of SOPUS' Residual Management Program (RMP). Wastes were managed in accordance with SOPUS' RMP guidance as well as state and federal regulations.

3.7 QA/QC, Sample Control and Laboratory Testing and Data Review and Management

Quality assurance samples in the form of duplicates (DUP), equipment blanks (EB), trip blanks, and matrix spike and matrix spike duplicates (MS/MSD) were collected for soil and groundwater samples. Duplicates of selected samples were collected and analyzed from 10 percent of the investigative samples to check for sampling and analytical reproducibility. MS/MSD samples were collected and analyzed from 5 percent of the investigative samples to evaluate the effect of the sample matrix on the accuracy of the analysis. Trip blanks were collected and analyzed daily to assess the potential for VOC cross-contamination of samples during shipment to the laboratory. The trip blank consisted of one or more VOA vials prepared by the laboratory, transported to the field, and shipped with the other samples to the laboratory. The trip blanks were not opened in the field. Equipment blanks were collected and analyzed from 10 percent of the investigative samples where non-dedicated or non-expendable equipment was used. In total 5

MS/MSDs, 9 EBs, and 9 DUPs were collected for groundwater sampling QA/QC. Additionally, 3 MS/MSDs 5 EBs and 5 DUPs were collected for soil sampling QA/QC. Refer to SOP-23 *QA Samples* for additional information.

Personnel conducting the sampling wore clean, disposable protective gloves. Sample containers were labeled with a sample ID number, site name, sampler initials, sample date and time, sample preservative, and the parameters to be analyzed. After sample collection, the samples were logged on a chain-of-custody (COC) form, packaged to prevent damage during shipment, and cooled to ≤4°C (except soil physical property samples, which were not shipped on ice). The samples were then delivered, under the proper COC documentation, to the appropriate laboratory via delivery or courier service. Samples sent to the SOPUS Westhollow laboratory were shipped as Department of Transportation (DOT) hazardous materials following applicable packing and shipping procedures. Refer to SOP 24-*Sample Classification, Packaging, and Shipping (DOT)*, SOP 25-*Sample Containers, Preservation, and Holding Times* and SOP 26-*Sample Control and Custody Procedures.*

Soil and groundwater samples were analyzed for USEPA Method 8260B Volatile Organic Compounds (VOCs) and Method 8270D Semivolatile Organic Compounds (SVOCs), including Polynuclear Aromatic Hydrocarbons (PAHs) that are included in the reporting lists for the Roxana Interim Groundwater Monitoring Program, plus tentatively identified compounds (TICs). The primary testing laboratory was TestAmerica of Pensacola FL. Soil and groundwater samples from an initial group of locations (PD-1, -5, -10) were analyzed on an expedited basis (24 hour) by Teklab to provide results for comparison with the dyeLIF results. Water quality samples were sent to TestAmerica of Chicago.

Soil samples for physical properties testing were sent to TerraSense Inc. in Totowa NJ for grain size (ASTM D-422) and permeability (ASTM D-5084).

Laboratory data were provided in electronic form, and analytical data were independently reviewed and qualified by AECOM, consistent with other analytical data collected for the Roxana project. One hundred percent of the data were subjected to a data quality review. Evaluation of the data followed procedures outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2017). Specific criteria reviewed included sample receipt condition and holding times, method blanks, surrogate spike recoveries, laboratory control samples, results reported from dilutions, and field duplicate results. The laboratory assigned data qualifiers on the basis of their quality control or to indicate sample analysis information (e.g., dilutions). Data qualifiers were also added by AECOM, as appropriate, and included on the data tables and laboratory result pages. Based on laboratory control sample (LCS), MS/MSD, surrogate, holding time, and field duplicate criteria, the analytical results reported were accepted for their intended use. Laboratory data reviews and reports are included in **Appendix E.**

Field data and documentation collected as part of this scope of work became part of the project file. AECOM maintains the files for the PWY and the database management system.

The following documentation was completed and supplements the COC records:

- Field logbooks.
- Air knife and soil boring logs.
- Field sample collection data (either forms and/or via electronic Toughpad®).
- Safety documentation.
- Air monitoring and calibration records.

Field and analytical data, (e.g., lithology, dyeLIF, concentration), were compiled and loaded into an Environmental Visualization Systems (EVS) model to facilitate interpretation.

4. Conceptual Site Model Data Assessment

This update to the existing conceptual site model includes information from the Predesign Investigation integrated with historical site data.

4.1 Site Specific Geology

The subsurface conditions in the PWY area generally consist of the following materials from the ground surface down:

- Fill – The fill consists mainly of clay with varying amounts of gravel, cinders, etc., and ranges in thickness from 0 to approximately 5 feet thick and is located in sporadic locations across the site.
- Silty Clay – A silty clay interval is thickest and underlies portions of the southwest area of the site. This interval's thickness ranges from approximately 3 to 15 feet. In the eastern portion of the PWY it is typically less than 5 feet thick.
- Sand – The sand underlies the silty clay, is primarily fine to medium grained to a depth of approximately 60 feet below ground surface [bgs]) then becomes medium to coarse grained. The sand extends to the depths explored (93 feet)[7]. There are occasional silty zones in the sand, but these appear to be relatively thin (inches thick) and are not laterally continuous.

Subsurface cross-sections were developed for five views through the PWY and are shown on **Figures 3A**, **4A**, **5A**, **6A** and **7A**.

Sand grain size across the PWY varies; a majority of subsurface material to a depth of approximately 70 feet is described as fine to medium grained sand with some silty sand. Approximately half of the borings noted occasional coarse-grained sand at varying depths.

Grain size analysis was performed on the soil samples sent for physical properties testing and the percent by size is shown in the inset table below.

Boring	PD-01	PD-04		PD-05		PD-06	PD-07		PD-10
Depth (bgs)	51	33	60	45	57	41	43	53	44
% SAND	93.0	98.2	98.6	95.7	96.2	98.4	97.3	96.0	96.3
% Coarse SAND	0.0	0.1	0.1	0.1	1.9	0.1	0.1	0.2	0.7
% Medium SAND	8.5	43.8	85.3	15.3	54.1	41.1	29.3	9.6	19.9
% Fine SAND	84.5	54.3	13.2	80.3	40.2	57.2	67.9	86.2	75.7
% FINES (Silts and Clays)	7.0	1.5	1.4	4.3	3.7	1.6	2.7	4.0	3.7

[7] Soil sampling performed in December 2012 (URS, 2013).

Horizontal and vertical permeability tests were conducted on nine samples from 6 borings distributed across the PWY at depths between 33 and 60 feet bgs. The results are presented below.

Well ID	Sample Depths (bgs)	Lithology	Vertical Hydraulic Conductivity (K, cm/s)	Horizontal Hydraulic Conductivity (K, cm/s)	Estimated K-value from DyeLIF (cm/s)
PD-1	51	F.-M. Grained Sand	3.0×10^{-5}	2.9×10^{-5}	4×10^{-7} to 3.5×10^{-4}
PD-4	33	F.-C. Grained Sand	1.0×10^{-2}	1.0×10^{-2}	1.0×10^{-2} to 1.4×10^{-2}
	60	F.-C. Grained Sand	2.9×10^{-3}	2.4×10^{-2}	NA*
PD-5	45	F.-M. Grained Sand	6.5×10^{-5}	1.0×10^{-2}	4×10^{-7} to 1.0×10^{-3}
	57	F.-M. Grained Sand	2.1×10^{-4}	5.2×10^{-3}	4×10^{-7} to 4.5×10^{-3}
PD-6	40	F. Grained Sand	2.8×10^{-2}	2.3×10^{-2}	1.0×10^{-2} to 1.4×10^{-2}
PD-7	43	F. Grained Sand	1.9×10^{-3}	1.5×10^{-2}	1.4×10^{-3} to 1.0×10^{-2}
	53	F. Grained Sand	4.6×10^{-5}	2.0×10^{-3}	4×10^{-7} to 1.0×10^{-2}
PD-10	44	F.-M. Grained Sand	1.6×10^{-3}	2.2×10^{-2}	1.5×10^{-2} to 1.9×10^{-2}

The average horizontal hydraulic conductivity is 1.2×10^{-2} cm/sec and the average vertical hydraulic conductivity is 5.0×10^{-3} cm/sec. This represents an anisotropy ratio (horizontal to vertical) of 2.4. The horizontal laboratory hydraulic conductivities are within the range of conductivities estimated by the dyeLIF calculation.

Refer to **Appendix F** for the physical properties test results.

4.2 Presentation of Analytical Results

4.2.1 Soil

The soil samples from this investigation (41 investigative samples) were analyzed for compounds in the Roxana Interim Groundwater Monitoring Program. The results are included in **Table 1** (VOC detections) and **Table 2** (SVOC detections). A total of 142 VOCs and SVOCs were analyzed, of those, 44 different analytes were detected (refer to table below). Of these, benzene is the major component, being detected in 95% of the samples (39 of 41) at an average concentration of 1,298 mg/kg. As mentioned previously, the soil samples retained for analysis were generally biased to more impacted intervals. The next most commonly detected compound is 1-methylnaphthalene and it was detected in 85% of the samples with an average concentration of 1.73 mg/kg.

Chemical	% Detected	Average Concentration (mg/kg)
Benzene	95%	1,298
1-Methylnaphthalene	85%	1.73
2-Methylnaphthalene	83%	2.71
Phenanthrene	73%	2.32
Ethylbenzene	66%	14.1
Pyrene	66%	0.857
1,2,4-Trimethylbenzene	61%	29.6
Fluoranthene	54%	0.119
m,p-Xylenes	51%	28.8
Phenol	51%	0.197
Benzo(a)pyrene	49%	0.215
Fluorene	49%	0.218
Toluene	49%	2.14
Xylenes (total)	49%	35.2
n-Propylbenzene	46%	4.98
Benzo(g,h,i)perylene	41%	0.031
1,3,5-Trimethylbenzene	39%	7.73
Benzo(a)anthracene	39%	0.186
Anthracene	37%	0.163
Indeno(1,2,3-cd)pyrene	37%	0.016
Acenaphthene	34%	0.128
Benzo(b)fluoranthene	34%	0.091
Naphthalene	34%	3.60

Chemical	% Detected	Average Concentration (mg/kg)
o-Xylenes	34%	5.94
Chrysene	32%	0.262
Isopropylbenzene (Cumene)	27%	1.36
Dibenzo(a,h)anthracene	22%	0.018
sec-Butylbenzene	20%	0.458
bis(2-Ethylhexyl)phthalate	17%	0.013
Benzo(k)fluoranthene	15%	0.011
n-Butylbenzene	15%	1.56
Cymene (p-Isopropyltoluene)	12%	0.267
Acenaphthylene	7%	0.013
Acetone	7%	0.002
Chloroform	7%	0.079
Indene	6%	0.044
Dichloromethane (Methylene chloride)	5%	2.06
1,1,2,2-Tetrachloroethane	2%	0.003
4-Chlorotoluene	2%	0.211
Benzyl alcohol	2%	0.004
Butyl benzyl phthalate	2%	0.001
Dibenzofuran	2%	0.001
Di-n-butyl phthalate	2%	0.002
Methyl tert-Butyl Ether (MTBE)	2%	0.000

Notes: 1) % Detected represents the number of samples with detections divided by the total number of samples. 2) Concentrations noted as 0.000 indicates a rounded average concentration.

The modeled benzene results for soil samples are shown in cross section view in **Figures 3B**, **4B**, **5B**, **6B**, and **7B. Figure 8** shows the distribution of soil benzene results in plan view. For a complete list of soil detections refer to **Table 1**(VOCs) and **Table 2**(SVOCs). Refer to **Appendix G** for soil VOC TICs and SVOC TICs. Several compounds were tentatively identified during the TIC search. Of these, the vast majority were only detected in a small percentage of samples and at relatively lower concentrations.

The SOPUS Westhollow laboratory performed additional analytical testing on soil samples which had positive Sudan tests; results were non-detect for NAPL in the samples. SOPUS Westhollow soil analysis results can be found in **Appendix I.**

4.2.2 Groundwater

The groundwater samples from this investigation (81 investigative samples) were analyzed for compounds in the Roxana Interim Groundwater Monitoring Program. The results are included in **Table 3** (VOC results) and **Table 4** (SVOC results). A total of 142 VOCs and SVOCs were analyzed, of those, 49 different analytes were detected (refer to table below). Of these, benzene is the major component, being detected in 98% of the samples (79 of 81), at an average concentration of 420 mg/L. Note that, in contrast to soil samples, groundwater samples were collected from throughout the length of the borings. As such, the average concentrations shown in the table also include lower concentration results. The next most commonly detected compound is 1-methylnaphthalene, and it was detected in 88% of the samples, at an average concentration of 0.025 mg/L.

Chemical	% Detected	Average Concentration (mg/L)
Benzene	98%	420
1-Methylnaphthalene	88%	0.025
2-Methylnaphthalene	86%	0.034
Toluene	59%	0.269
Phenol	54%	0.064
Ethylbenzene	53%	0.265
Xylenes (total)	49%	0.664
1,2,4-Trimethylbenzene	48%	0.122
m,p-Xylenes	47%	0.505
Phenanthrene	43%	0.003
o-Xylenes	42%	0.151
1,3,5-Trimethylbenzene	41%	0.023
Methyl tert-Butyl Ether (MTBE)	40%	0.009
Acenaphthene	36%	0.001
Naphthalene	36%	0.017
Fluorene	33%	0.001
Pyrene	31%	0.002
n-Propylbenzene	30%	0.011
Isopropylbenzene (Cumene)	25%	0.006
Anthracene	23%	0.000
Fluoranthene	20%	0.000
sec-Butylbenzene	19%	0.001
Acenaphthylene	16%	0.000
Benzoic Acid	16%	0.002

Chemical	% Detected	Average Concentration (mg/L)
3 & 4-Methylphenol (m & p-Cresol)	15%	0.001
Chrysene	14%	0.001
n-Butylbenzene	14%	0.001
tert-Butylbenzene	14%	0.000
Acetone	12%	0.003
Benzo(a)anthracene	12%	0.000
Dibenzofuran	12%	0.000
Benzo(a)pyrene	11%	0.001
Indene	13%	0.002
Benzo(b)fluoranthene	10%	0.000
Benzo(g,h,i)perylene	7%	0.000
bis(2-Ethylhexyl)phthalate	7%	0.001
Dibenzo(a,h)anthracene	7%	0.000
Indeno(1,2,3-cd)pyrene	7%	0.000
Cymene (p-Isopropyltoluene)	6%	0.000
1,4-Dioxane	5%	0.000
2,4-Dimethylphenol	5%	0.001
2-Butanone	4%	0.001
2-Methylphenol (o-Cresol)	4%	0.000
Chloromethane	4%	0.000
Pentachlorophenol	4%	0.000
Trichloroethene	2%	0.000
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	1%	0.633
Benzyl alcohol	1%	0.000
Di-n-octyl phthalate	1%	0.000

Notes: 1) % Detected represents the number of samples with detections divided by the total number of samples. 2) Concentrations noted as 0.000 indicates a rounded average concentration.

The modeled benzene results for groundwater samples are shown in cross section view in **Figures 3C**, **4C**, **5C**, **6C**, and **7C. Figure 9** shows the distribution of groundwater benzene results in plan view. For a complete list of soil detections refer to **Table 3** (VOCs) and **Table 4** (SVOCs). Refer to **Appendix H** for groundwater VOC TICs and SVOC TICs. Several compounds were tentatively identified during the TIC search. Of these, the vast majority were only detected in a small percentage of samples and at relatively low concentrations.

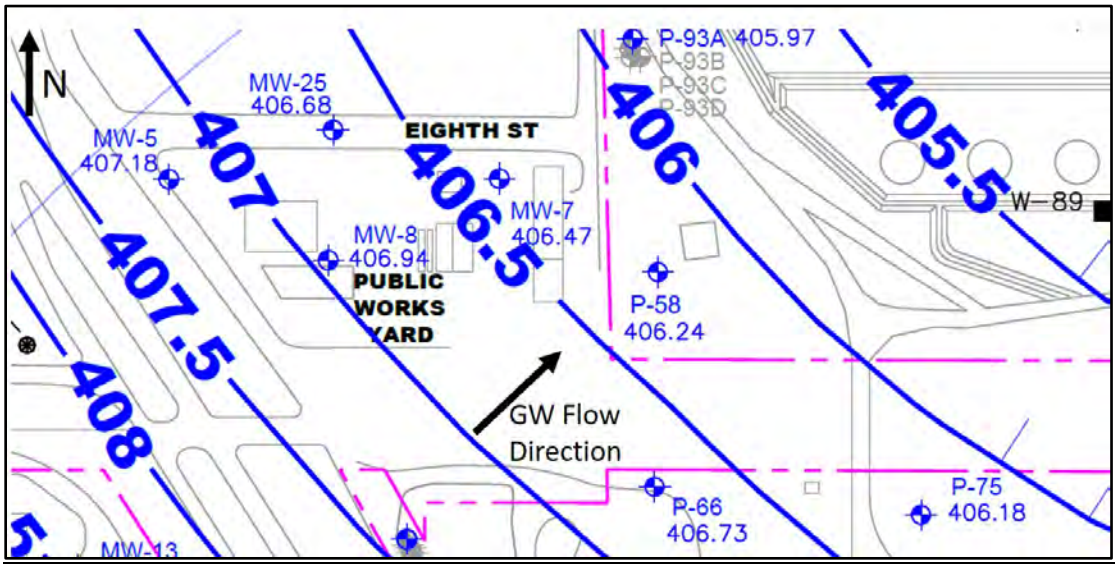
The results of the water quality testing are presented in **Table 5**. Water quality will be evaluated for the possibility of reinjection as part of SEE but will likely require pretreatment.

The SOPUS Westhollow laboratory performed additional analytical testing on groundwater samples suspected to contain NAPL; results were non-detect. SOPUS Westhollow groundwater analysis results can be found in **Appendix I.**

4.3 Assessment of Findings

Groundwater in the area is the primary source for large volume water production (e.g., industrial). Prior to development in the area, the natural movement of groundwater was toward the west (toward the Mississippi River). Since development in the area, groundwater pumping has altered the groundwater flow direction toward nearby industrial pumping wells. Regional pumping has decreased over the past several decades coupled with wetter than average rainfalls and elevated river stages have contributed to higher on-site groundwater levels than in the past.

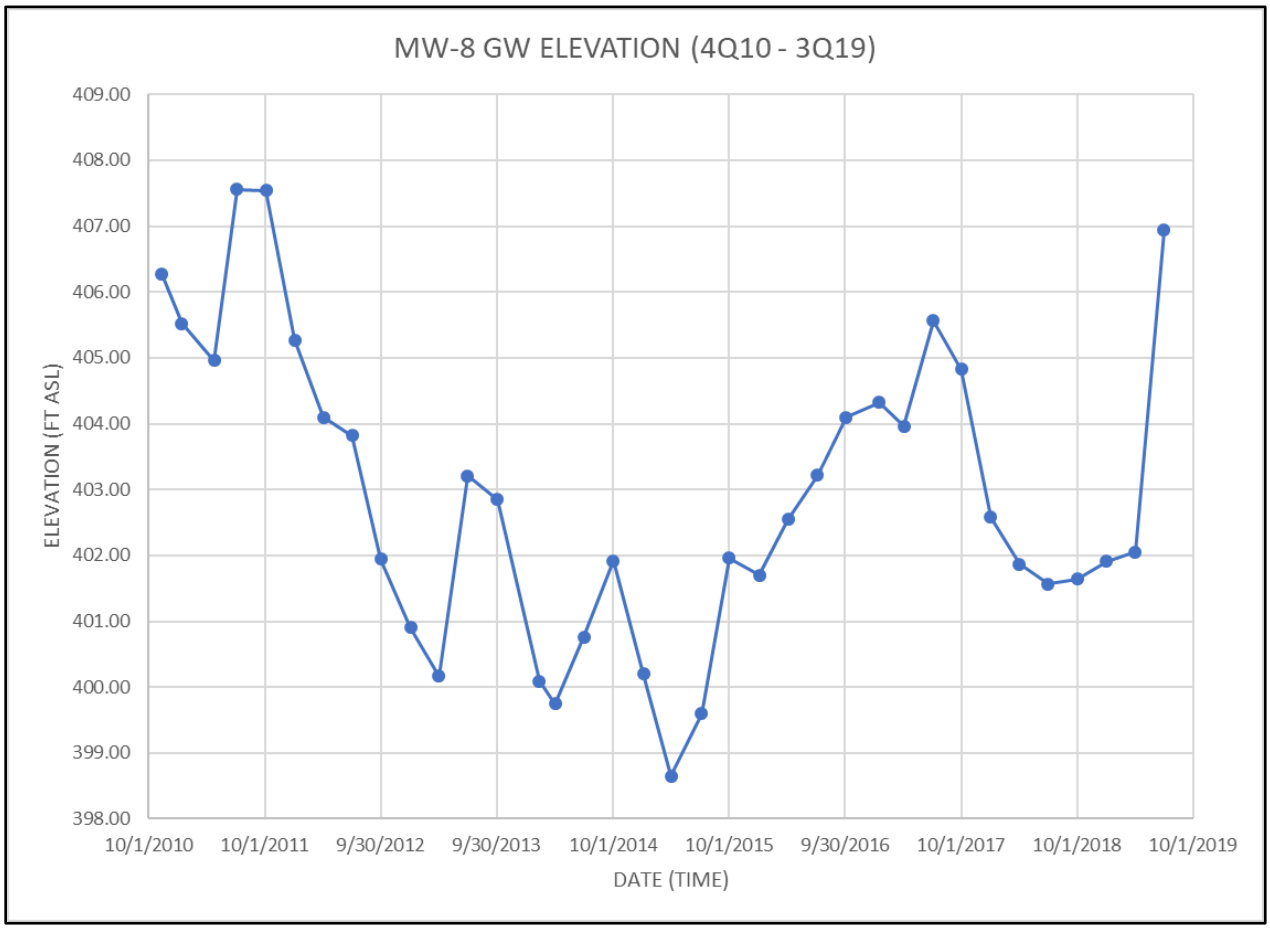
Groundwater occurs at a depth of approximately 28 feet bgs or elevation 407 North American Vertical Datum (NAVD 88), based on the 3rd quarter 2019 measurement in well MW-8 in the western portion of the PWY. Groundwater in this area is controlled by the high-volume pumping at the Wood River Refinery (WRR) which creates an aggregate cone of depression and resultant hydraulic gradients directed toward the pumping centers. The following figure, excerpted from Figure 3b in the 3rd quarter 2019 quarterly report (AECOM 2019), shows typical groundwater flow directions, with flow inward toward the refinery pumping wells (e.g., W-89).



Using the average horizontal hydraulic conductivity, hydraulic gradient of 0.00296 ft/ft (from 3Q19 data) and porosity[8] of 36% results in an estimated groundwater velocity of approximately 0.27 feet/day. In comparison, using the gradient from 1Q19 data (0.001 ft/ft) results in an estimated groundwater velocity of 0.09 ft/day.

The groundwater elevations observed in 3Q19 were unusually high, influenced in part by above-average precipitation in the first half of 2019 (year to date: 45 inches, historical average: 30 inches) and flood conditions in the Mississippi River. Between 2010 and present the groundwater elevation has ranged from approximately 399 to 407 feet NAVD 88. The chart below shows the elevation for well MW-8 for the past 10 years. The average elevation over this period is 403 feet.

[8] Porosity value represents an average of the literature-based values for fine to coarse sand.



Figures 10 and 11 are EVS images for soil and groundwater, respectively, each showing the approximate footprint (plan view) of benzene concentrations greater than 100 mg/kg or mg/L. The figures also show a 1,000 mg/kg or mg/L contour; this represents the greatest impact (benzene concentrations in the hundreds to thousands of mg/kg or mg/L). The images below the plan view map show oblique "3-D like" perspectives from the southwest part of the PWY, looking northeast. This 3-dimensional footprint of benzene in soil and groundwater, occupies an area in the PWY of approximately 1.9 acres, generally between 37 and 54 feet bgs[9] (388-398 feet). This suggests the greatest impact is submerged beneath current and longer-term average groundwater conditions.

Multiple lines of evidence, including dyeLIF response, visual identification of sheen, Sudan test results, PID readings, and analytical results were used to identify the zone of greatest impact. This information is included in **Table 6**. When grouping these multiple lines of evidence, it appears that the greatest impact occurs between approximately 37 and 54[9] feet bgs but is inconclusive for LNAPL.

A majority of the PWY facility has been vertically delineated for groundwater. The highest benzene concentrations occur from the groundwater surface to a depth of approximately 54 feet; concentrations averaged 672 mg/L within this interval. Below the 54-foot depth, concentrations were predominantly below 1 mg/L. There are exceptions to this in the northeastern part of the PWY (e.g., PD-3, and -7) where, as a result of the WRR pumping, concentrations up to 1,200 mg/L were detected to the depth sampled (71 feet bgs). Based on soil and groundwater analytical data, in situ concentrations are lowest in the western portion of the site.

Additionally, in soil samples collected in the highest zone of impact (37 to 54 feet bgs) benzene concentrations averaged 1,526 mg/kg. Below this depth the highest detection was 38 mg/kg.

[9] Depth range listed accounts for the difference in ground-surface elevation across the PWY.

5. Conclusions

AECOM conducted this Predesign Investigation on behalf of SOPUS on the Village of Roxana's Public Works Yard. Site and subsurface conditions have been assessed at the PWY over the past approximately 13 years and the historical data combined with the predesign data result in the following conclusions:

- The PWY comprises approximately 2.4 acres; approximately 20% of this is covered with buildings or structures.
- The uppermost 10 to 15 feet beneath the PWY is comprised of combinations of fill, silty clay and sand. Soils beneath this are almost entirely sands to the depths explored. The sands are primarily fine to medium grain with silt/clay content averaging approximately 3% in the samples tested. No laterally extensive silt or clay zones were identified within the sands.
- The average groundwater depth over the past 10 years is approximately 35.5 feet bgs across the PWY. This depth corresponds to an elevation of approximately 403 feet NAVD 88. The groundwater elevation during the Predesign Investigation was approximately 407 feet NAVD 88.
- The dyeLIF, Sudan, and soil benzene concentrations ranging from 120 to 23,000 mg/kg and groundwater benzene concentrations ranging from 180 to 2,900 mg/L, depict the most significant impact (primarily benzene) is in a zone between elevations of approximately 388 and 398 feet (37 to 54 feet bgs)[9] and occupying a footprint of approximately 1.9 acres. The highest detections are at depths below the water table (current and recent past).
- The vertical extent of dissolved phase impact has been further characterized at the PWY. The highest concentrations occur from the groundwater surface to a depth of approximately 54 feet bgs, where benzene concentrations range from 290 mg/L to 1,400 mg/L; concentrations are generally less than 1 mg/L below this depth. There are exceptions to this in the northeastern part of the PWY where, as a result of the WRR pumping, concentrations up to 1,200 mg/L were detected to the depth sampled (71 feet bgs).
- The data collected and evaluated in the Predesign Investigation continue to support that SEE is an applicable technology.
  - SEE is effective for treating the site COPCs, primarily benzene, as its boiling point is below the boiling point of water that the steam will reach.
  - SEE is most effective at depths greater than approximately 11 feet and with hydraulic conductivity greater than 10^{-5} cm/sec. PWY site impacts are focused in the saturated zone from 37 to 54 feet in depth and hydraulic conductivities average approximately 10^{-2} cm/sec to 10^{-3} cm/sec.
  - No optimal anisotropy exists when considering SEE, however significant differences in conductivities with direction (secondary porosity, etc.) can be controlling. Based on the horizontal and vertical hydraulic conductivity at this site, anisotropy should not be a limiting factor.
  - SEE can be a preferred method of remediation at sites with relatively homogenous stratigraphy, and higher groundwater flow rates as long as the hydraulic gradient is not too large. As a result of the relatively homogenous sands at the site, the hydraulic conductivity is relatively high and the hydraulic gradient is relatively low, which results in flow rates within the effective range for SEE.
  - The SEE process can potentially utilize water reinjection but may require pretreatment.

6. Limitations

SOPUS shall have the right to make and retain copies of and use all Work Product provided. However, such use shall be limited to the particular Site and project for which the Work Product is provided. SOPUS and its agents may release the Work Product to third parties at its sole risk and discretion. This report is based on data, site conditions, and other information that is generally applicable as of the date of this report, and the conclusions and recommendations herein are therefore applicable only to that time frame and to the report in its entirety.

Data may have been provided to AECOM by SOPUS or a third party and used in preparing this report. AECOM has relied on this information as furnished, and is neither responsible for, nor has confirmed the accuracy of this information.

7. References

AECOM, 2019 (AECOM, 2019); Interim Groundwater Monitoring Program – 3rd Quarter 2019 – Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated September 2019.
URS Corporation (URS), 2007; West Fenceline P-93 Dissolved Phase Benzene Investigation Report-Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated September 2007.

URS Corporation (URS), 2013; Public Works Yard Soil Sampling Report-Roxana, Illinois; Prepared for Shell Oil Products US (SOPUS); dated March 2013.

US Environmental Protection Agency (USEPA), January 2017; (USEPA, 2017); Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review.

SOP-4 Decontamination Procedures

SOP-5 Utility Clearance Procedures

SOP-12 Grouting Procedures

SOP-13 Hand Auger Sampling

SOP-14 Soil Headspace Screening Procedures

SOP-17 Soil Logging Procedures

SOP-23 QA Samples

SOP-24 Sample Classification, Packaging and Shipping Procedures

SOP-25 Sample Containers, Preservation and Holding Times

SOP-26 Sample Control and Custody Procedures

SOP-42 Groundwater Profiling Procedures

Tables

TABLE 1

SUMMARY OF SOIL VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1,1,1,2-Tetrachloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Chlorotoluene	Acetone	Benzene	Chloroform	Cymene (p-Isopropyltoluene)	Dichloromethane (Methylene chloride)	Ethanol
				Analytical Results (mg/kg)									
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019	<0.0461	0.128	0.044 J	<0.0461	<0.576	2.31	<0.0461	<0.0461	<0.23	
	PD-1-SB-55-061819	55 ft	6/18/2019	<0.0298	0.0937	0.0313	<0.0298	<0.373	1.58	<0.0298	<0.0298	<0.149	
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019	<4.4	<4.4	<4.4	<4.4	<22	120	<4.4	<4.4	<13	
	PD-2-SB-52-070919	52 ft	7/9/2019	<6	<6	<6	<6	<30	150	<6	<6	<18	
	PD-2-SB-60-070919	60 ft	7/9/2019	<1.2	<1.2	<1.2	<1.2	<6	38	<1.2	<1.2	<3.6	
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019	<1.2	<1.2	<1.2	<1.2	<5.9	23	<1.2	<1.2	<3.5	
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019	<0.0021	<0.0021	<0.0021	<0.0021	0.013 J	0.005	<0.0021	<0.0021	<0.0106	
	PD-4-SB-41-062419	41 ft	6/24/2019	<0.005	<0.005	<0.005	<0.005	<0.025	0.092	<0.005	<0.005	<0.015	
	PD-4-SB-53-062419	53 ft	6/24/2019	<5.8	160	55	<5.8	<29	320	3.6 J	2 J	<17	
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019	<0.002	0.0009 J	<0.002	<0.002	<0.0256	0.001 J	<0.002	<0.002	<0.0102	
	PD-5-SB-43-061419	43 ft	6/14/2019	<17.9	<17.9	<17.9	<17.9	<224	7380	<17.9	<17.9	94.4	
	PD-5-SB-53-061419	53 ft	6/14/2019	<15.2	252	<15.2	9.7 J	<191	982	<15.2	<15.2	<76.2	
	PD-5-SB-62-061419	62 ft	6/14/2019	<0.0481	0.206	<0.0481	<0.0481	<0.601	4.15	<0.0481	<0.0481	0.282	
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019	<0.66	<0.66	<0.66	<0.66	<3.3	19	<0.66	<0.66	<2	11 J
	PD-6-SB-46-071119	46 ft	7/11/2019	<5.2	23	6.2	<5.2	<26	120	<5.2	<5.2	<15	
	PD-6-SB-51-071119	51 ft	7/11/2019	<2.7	12	3.1	<2.7	<13	70	<2.7	<2.7	<8	
	PD-6-SB-54-071119	54 ft	7/11/2019	<0.28	0.072 J	<0.28	<0.28	<1.4	8.1	<0.28	<0.28	<0.83	
	PD-6-SB-63-071219	63 ft	7/12/2019	<0.25	0.11 J	<0.25	<0.25	<1.3	2.3	<0.25	<0.25	<0.76	5.7
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019	<0.0071	<0.0071	<0.0071	<0.0071	0.025 J	0.0022 J	<0.0071	<0.0071	<0.021	
	PD-7-SB-43-071819	43 ft	7/18/2019	<0.31	2.2	0.6	<0.31	<1.6	0.054 J	<0.31	0.1 J	<0.94	
	PD-7-SB-51-071819	51 ft	7/18/2019	<67	56 J	19 J	<67	<340	5200	<67	<67	<200	
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	<60	49 J	15 J	<60	<300	5000	<60	<60	<180	
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	<3.2	3.9	1.4 J	<3.2	<16	110	<3.2	<3.2	<9.6	
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	<3.2	0.93 J	<3.2	<3.2	<16	86	<3.2	<3.2	<9.5	
	PD-8-SB-40-062519	40 ft	6/25/2019	<15	28	8.8 J	<15	<75	2300	<15	<15	<45	
	PD-8-SB-51-062619	51 ft	6/26/2019	<5.4	410	140	<5.4	<27	<5.4	<5.4	5.3 J	<16	
	PD-8-SB-62-062619	62 ft	6/26/2019	<0.0049	0.05	0.016	<0.0049	<0.025	0.14	<0.0049	0.0012 J	<0.015	

TABLE 1

SUMMARY OF SOIL VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1,1,1,2-Tetrachloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Chlorotoluene	Acetone	Benzene	Chloroform	Cymene (p-Isopropyltoluene)	Dichloromethane (Methylene chloride)	Ethanol
				Analytical Results (mg/kg)									
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019	<0.0048	0.0012 J	<0.0048	<0.0048	<0.024	0.036	<0.0048	<0.0048	<0.014	
	PD-9-SB-43-062819	43 ft	6/28/2019	<1.5	<1.5	<1.5	<1.5	<7.6	43	<1.5	<1.5	<4.5	
	PD-9-SB-54-062819	54 ft	6/28/2019	<5.7	51	17	<5.7	<28	240	<5.7	<5.7	<17	
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	<5.6	47	16	<5.6	<28	260	<5.6	<5.6	<17	
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	<0.0507	<0.0507	<0.0507	<0.0507	<0.634	<0.0254	0.013 J	<0.0507	<0.254	
	PD-10-SB-46-061219	46 ft	6/12/2019	<0.002	0.0045	<0.002	<0.002	0.0297	0.0118	0.0009 J	<0.002	<0.0102	
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	<5.3	260	71	<5.3	<27	740	<5.3	4.9 J	<16	
	PD-11-SB-45-070219	45 ft	7/2/2019	<1	0.31 J	<1	<1	<5.2	29	<1	<1	<3.1	
	PD-11-SB-57-070219	57 ft	7/2/2019	<0.65	<0.65	<0.65	<0.65	<3.3	15	<0.65	<0.65	<2	
	PD-11-SB-61-070219	61 ft	7/2/2019	<0.27	<0.27	<0.27	<0.27	<1.3	8.9	<0.27	<0.27	<0.81	7.1
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019	<0.37	<0.37	<0.37	<0.37	<1.9	11 F1 J	<0.37	<0.37	<1.1	5.5 J
	PD-12-SB-55-070819	55 ft	7/8/2019	<1.9	6.4	2.3	<1.9	<9.5	79	<1.9	<1.9	<5.7	
	PD-12-SB-59-070819	59 ft	7/8/2019	<0.26	0.078 J	<0.26	<0.26	<1.3	0.51	<0.26	<0.26	<0.79	
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019	<11	<11	<11	<11	<54	290	<11	<11	<33	
	PD-14-SB-49-072219	49 ft	7/22/2019	<49	<49	<49	<49	<240	23000	<49	<49	<150	
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019	<56	<56	<56	<56	<280	13000	<56	<56	<170	
	PD-14-SB-55-072219	55 ft	7/22/2019	<0.26	0.15 J	0.05 J	<0.26	<1.3	10	<0.26	<0.26	<0.79	
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019	<0.26	<0.26	<0.26	<0.26	<1.3	6.5	<0.26	<0.26	<0.78	
	PD-17-SB-55-071519	55 ft	7/15/2019	<1.1	1.1	0.26 J	<1.1	<5.3	32	<1.1	<1.1	<3.2	

SUMMARY OF SOIL VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	Ethylbenzene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylenes	sec-Butylbenzene	Toluene	Xylenes (total)
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019	0.0793	<0.0461	0.206	<0.0461	<0.115	<0.0461	0.027 J	0.064 J	<0.0461	0.042 J	0.271
	PD-1-SB-55-061819	55 ft	6/18/2019	0.0898	<0.0298	0.215	<0.0298	0.033 J	<0.0298	0.023 J	0.06 J	<0.0298	0.0486	0.274
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<8.8
	PD-2-SB-52-070919	52 ft	7/9/2019	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<12
	PD-2-SB-60-070919	60 ft	7/9/2019	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.4
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.4
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019	0.0011 J	<0.0021	<0.0042	0.0127	<0.0053	<0.0021	<0.0021	<0.0042	<0.0021	0.0013 J	<0.0084
	PD-4-SB-41-062419	41 ft	6/24/2019	0.001 J	0.0039 J	<0.005	<0.005	<0.005	<0.005	0.0072	<0.005	0.0044 J	0.0011 J	<0.01
	PD-4-SB-53-062419	53 ft	6/24/2019	42	9.5	65	<5.8	21	15	35	5 J	3.3 J	<5.8	70
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019	0.0011 J	<0.002	<0.0041	<0.002	<0.0051	<0.002	<0.002	<0.0041	<0.002	0.0012 J	<0.0082
	PD-5-SB-43-061419	43 ft	6/14/2019	<17.9	<17.9	<35.9	<17.9	<44.8	<17.9	<17.9	<35.9	<17.9	3.8 J	<71.7
	PD-5-SB-53-061419	53 ft	6/14/2019	186	14 J	470	<15.2	24 J	<15.2	54.6	166	<15.2	52.3	636
	PD-5-SB-62-061419	62 ft	6/14/2019	0.148	<0.0481	0.373	<0.0481	0.033 J	<0.0481	0.043 J	0.084 J	<0.0481	0.043 J	0.457
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019	0.15 J	<0.66	<0.66	<0.66	0.045 J	<0.66	<0.66	<0.66	<0.66	<0.66	<1.3
	PD-6-SB-46-071119	46 ft	7/11/2019	1.3 J	1 J	1.6 J	<5.2	<5.2	<5.2	2.2 J	<5.2	<5.2	<5.2	<10
	PD-6-SB-51-071119	51 ft	7/11/2019	1.1 J	0.57 J	2.3 J	<2.7	1.2 J	<2.7	1.2 J	0.79 J	<2.7	1.1 J	3.1 J
	PD-6-SB-54-071119	54 ft	7/11/2019	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	0.12 J	<0.55
	PD-6-SB-63-071219	63 ft	7/12/2019	0.033 J	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.51
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019	0.0014 J	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0022 J	<0.014
	PD-7-SB-43-071819	43 ft	7/18/2019	0.23 J	0.15 J	0.51	<0.31	0.28 J	0.26 J	0.3 J	<0.31	0.15 J	<0.31	0.56 J
	PD-7-SB-51-071819	51 ft	7/18/2019	22 J	<67	51 J	<67	<67	<67	<67	<67	<67	<67	60 J
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	20 J	<60	47 J	<60	<60	<60	<60	<60	<60	<60	55 J
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	1.8 J	<3.2	5.2	<3.2	0.093 J	<3.2	0.7 J	1.7 J	<3.2	1.3 J	6.9
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	0.44 J	<3.2	1.2 J	<3.2	0.24 J	<3.2	<3.2	<3.2	<3.2	<3.2	1.5 J
	PD-8-SB-40-062519	40 ft	6/25/2019	15	<15	40	<15	7.4 J	<15	5 J	14 J	<15	13 J	55
	PD-8-SB-51-062619	51 ft	6/26/2019	250	20	410	<5.4	58	36	82	11	8	4.2 J	430
	PD-8-SB-62-062619	62 ft	6/26/2019	0.063	0.0043 J	0.1	<0.0049	0.0091	0.0052	0.014	<0.0049	0.0023 J	0.0037 J	0.1

TABLE 1

SUMMARY OF SOIL VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	Ethylbenzene	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylenes	sec-Butylbenzene	Toluene	Xylenes (total)
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019	0.0016 J	<0.0048	0.0023 J	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0017 J	0.0031 J
	PD-9-SB-43-062819	43 ft	6/28/2019	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<3
	PD-9-SB-54-062819	54 ft	6/28/2019	32	2.6 J	75	<5.7	10 E	4.9 J	10	26	1.3 J	9.4	100
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	32	2.4 J	77	<5.6	8.2 E	4.6 J	9.5	28	1.1 J	9.7	100
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	<0.0507	<0.0507	<0.101	<0.0507	3.22	<0.0507	<0.0507	<0.101	<0.0507	<0.0507	<0.203
	PD-10-SB-46-061219	46 ft	6/12/2019	0.0025	<0.002	0.0024 J	<0.002	<0.0051	<0.002	0.001 J	0.0012 J	<0.002	0.0008 J	0.0036 J
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	37	12	65	<5.3	32	11	27	16	7.1	2.1 J	81
	PD-11-SB-45-070219	45 ft	7/2/2019	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2.1
	PD-11-SB-57-070219	57 ft	7/2/2019	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<1.3
	PD-11-SB-61-070219	61 ft	7/2/2019	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	0.079 J	<0.27	<0.27	<0.27	<0.54
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.74
	PD-12-SB-55-070819	55 ft	7/8/2019	5.1	0.29 J	14	<1.9	<1.9	<1.9	1.3 J	4.6	<1.9	1.5 J	18
	PD-12-SB-59-070819	59 ft	7/8/2019	0.058 J	<0.26	0.18 J	<0.26	<0.26	<0.26	0.052 J	<0.26	<0.26	<0.26	0.22 J
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019	<11	<11	<11	<11	<11	<11	<11	<11	<11	<11	<22
	PD-14-SB-49-072219	49 ft	7/22/2019	<49	<49	<49	<49	<49	<49	<49	<49	<49	<49	<98
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019	<56	<56	<56	<56	<56	<56	<56	<56	<56	<56	<110
	PD-14-SB-55-072219	55 ft	7/22/2019	0.09 J	<0.26	0.2 J	<0.26	<0.26	<0.26	<0.26	0.061 J	<0.26	<0.26	0.26 J
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	0.13 J	<0.26	<0.52
	PD-17-SB-55-071519	55 ft	7/15/2019	0.47 J	<1.1	0.48 J	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	0.57 J

Notes:

Table does not include analytes that were non-detect in all samples.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

F1 = Indicates MS and/or MSD recovery is outside acceptance limit.

<#.## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

TABLE 2
SUMMARY OF SOIL SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzyl alcohol	bis(2-Ethylhexyl)phthalate
				Analytical Results (mg/kg)											
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019	1.5	2.66				<0.0716	<0.0244	<0.0244				<2.51
	PD-1-SB-55-061819	55 ft	6/18/2019		0.0047 J	<0.0238	<0.0238		<0.0699		0.007 J	0.0047 J			
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019	0.49	0.75	0.066	<0.0076	0.075	0.12	0.11	0.055	0.029	<0.0076	<0.38	<0.046 U
	PD-2-SB-52-070919	52 ft	7/9/2019	0.0051 J	0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.39	<0.072 U
	PD-2-SB-60-070919	60 ft	7/9/2019	0.013	0.021	0.0018 J	<0.008	0.0021 J	<0.008	<0.008	<0.008	<0.008	<0.008	<0.4 UJ	<0.061 U
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019	0.017	0.026	0.0026 J	<0.0077	<0.0077	<0.0077	0.0049 J	<0.0077	<0.0077	<0.0077	<0.38	<0.06 U
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019	<0.0121	<0.0121	<0.0121	<0.0121	<0.0121	<0.0357	<0.0121	<0.0121	<0.0121	<0.0121	<1.79	<1.25
	PD-4-SB-41-062419	41 ft	6/24/2019	0.0082 J	<0.0061 J B U	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	0.0035 J	0.0044 J	<0.0083	<0.42	<0.42
	PD-4-SB-53-062419	53 ft	6/24/2019	0.022	0.044 B	<0.008	<0.008	<0.008	<0.008	0.003 J	0.0023 J	<0.008	<0.008	<0.4	<0.4
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019	<0.0071										<1.05	
	PD-5-SB-43-061419	43 ft	6/14/2019	0.0035 J	0.0035 J	<0.0119			0.0082 J	0.0023 J		<0.0119			<1.22
	PD-5-SB-53-061419	53 ft	6/14/2019		7.09			0.0311					<0.0122	<1.8	<1.26
	PD-5-SB-62-061419	62 ft	6/14/2019				<0.0122	<0.0122	<0.0358	<0.0122		<0.0122	<0.0122		
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019	0.28	0.35	0.028	<0.0076	0.012	0.013	0.014	<0.0076	<0.0076	<0.0076	<0.38	<0.11 U
	PD-6-SB-46-071119	46 ft	7/11/2019	1	1.5	0.11	<0.0074	0.093	0.15	0.15	0.082	0.037	<0.0074	<0.37	<0.11 U
	PD-6-SB-51-071119	51 ft	7/11/2019	0.24	0.36	0.024	<0.0075	0.027	0.038	0.041	0.021	0.011	<0.0075	<0.38	<0.1 U
	PD-6-SB-54-071119	54 ft	7/11/2019	0.0061 J	0.0079	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.0076	<0.38	<0.084 U
	PD-6-SB-63-071219	63 ft	7/12/2019	0.006 J	0.0072 J	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074	<0.37	0.11 J B U
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.42 UJ	<0.42
	PD-7-SB-43-071819	43 ft	7/18/2019	4	5.6	0.15	<0.0085	0.13	0.13	0.15	<0.0085	0.04	<0.0085	<0.42	0.063 J B
	PD-7-SB-51-071819	51 ft	7/18/2019	2 J	2.7 J	0.11 J	<0.0088	0.055 J	0.06 J	0.074 J	0.04	0.019	<0.0088	<0.44	<0.067 U
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	6.2 J	9 J	0.21 J	<0.0082	0.12 J	0.12 J	0.14 J	0.066	0.031	<0.0082	<0.41	<0.056 U
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	0.089 J	0.15 B J	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.4	<0.067 U
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	0.24 J	0.4 B J	<0.0083	<0.0083	<0.0083	<0.0083	0.0053 J	<0.0083	0.0039 J	<0.0083	<0.41	<0.06 U
	PD-8-SB-40-062519	40 ft	6/25/2019	1.4	2.3 B	<0.0077	<0.0077	<0.0077	0.013	<0.0077	<0.0077	0.0085	<0.0077	<0.38	<0.069 U
	PD-8-SB-51-062619	51 ft	6/26/2019	16	30 B	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<1.9	<1.9
	PD-8-SB-62-062619	62 ft	6/26/2019	0.01	0.016 B	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.41	<0.41

Location	Sample ID	Depth	Sample Date	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzyl alcohol	bis(2-Ethylhexyl)phthalate
				Analytical Results (mg/kg)											
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019	0.0033 J	<0.0027 U	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.41	<0.07 J B U
	PD-9-SB-43-062819	43 ft	6/28/2019	0.022	<0.0083 U	<0.0081	<0.0081	0.007 J	0.0042 J	0.005 J	<0.0081	<0.0081	<0.0081	<0.4	<0.062 U
	PD-9-SB-54-062819	54 ft	6/28/2019	4.2	11 B	<0.0078 UJ	<0.0078	<0.0078	0.0028 J	0.0052 J	0.0062 J	<0.0078	<0.0078	<0.39	<0.062 J B U
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	3.3	8.1 B	0.076 J	<0.0077	<0.0077	0.003 J	0.0049 J	<0.0077	0.0046 J	<0.0077	<0.38	<0.072 J B U
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019		8.45		0.551	6.75	7.56	8.57	3.65	1.07		<51.6	<36.1
	PD-10-SB-46-061219	46 ft	6/12/2019				<0.0083		<0.0244	0.0016 J			<0.0083	<1.22	<0.855
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	20 B	31 B	0.11	<0.0077	<0.0077	<0.0077	0.25	0.092	0.054	<0.0077	<0.38	<0.38
	PD-11-SB-45-070219	45 ft	7/2/2019	1.1 B	1.5 B	<0.076	<0.076	0.12	0.26	0.28	0.094	0.071 J	0.017 J	0.2 J	<0.07 U
	PD-11-SB-57-070219	57 ft	7/2/2019	<0.0042 U	0.0079 J B	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.41	<0.068 U
	PD-11-SB-61-070219	61 ft	7/2/2019	<0.02 B U	<0.016 B U	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077	0.0035 J	<0.0077	<0.39	<0.065 U
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019	0.075	0.069	<0.0084	<0.0084	<0.0084	0.0034 J	0.0034 J	0.0048 J	0.005 J	0.004 J	<0.42	0.078 J
	PD-12-SB-55-070819	55 ft	7/8/2019	0.73	1.4	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	<0.48	0.07 J
	PD-12-SB-59-070819	59 ft	7/8/2019	0.037	0.045	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.39	0.059 J
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019	0.0034 J	0.003 J	<0.0078	<0.0078	<0.0078	<0.0021 U	<0.0012 U	<0.0015 U	<0.0078	<0.0078	<0.39 UJ	<0.078 UJ
	PD-14-SB-49-072219	49 ft	7/22/2019	0.022	0.026	0.0058 J	<0.0075	0.0096	0.015 B	0.011 B	0.018 B	0.0057 J	0.0065 J	<0.37	<0.074 U
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019	0.02	0.024	0.0058 J	<0.0078	0.0087	0.01 B	<0.0059 U	0.0086 B	<0.0078	0.0029 J	<0.39	<0.058 U
	PD-14-SB-55-072219	55 ft	7/22/2019	0.011	0.026	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.39	<0.067 U
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019	0.071	0.039	0.022	<0.0076	0.015	0.049	0.064	0.031	0.02	0.011	<0.38	<0.38
	PD-17-SB-55-071519	55 ft	7/15/2019	0.008	0.012	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.39 UJ	<0.39

Location	Sample ID	Depth	Sample Date	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-butyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Phenol	Pyrene
				Analytical Results (mg/kg)											
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019	<2.51			<2.51	<2.51		0.193		<0.0244			0.0382
	PD-1-SB-55-061819	55 ft	6/18/2019		<0.0238										<0.0238
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019	<0.38	0.23	0.027	<0.38	<0.048 U	0.045	0.08	<0.38	0.015	0.52	0.71	0.33
	PD-2-SB-52-070919	52 ft	7/9/2019	<0.39	<0.0078	<0.0078	<0.39	<0.057 U	0.0025 J	<0.0078	<0.39	<0.0078	0.0062 J	0.57	0.01
	PD-2-SB-60-070919	60 ft	7/9/2019	<0.4	<0.008	<0.008	<0.4	<0.059 U	0.002 J	0.0014 J	<0.4	<0.008	0.017	0.048 J	0.0064 J
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019	<0.38	0.0072 J	<0.0077	<0.38	<0.052 U	0.0023 J	0.0025 J	<0.38	<0.0077	0.021	0.094 J	0.011
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019	<1.25	<0.0121	<0.0121	<1.25	<1.25	<0.0121	<0.0121		<0.0121	<0.0121	<1.25	<0.0121
	PD-4-SB-41-062419	41 ft	6/24/2019	<0.42	<0.0083	0.0043 J	<0.42	<0.42	<0.0083	<0.0083	<0.42	0.0045 J	0.0056 J	0.053 J	<0.0047 J B U
	PD-4-SB-53-062419	53 ft	6/24/2019	<0.4	<0.008	<0.008	<0.4	<0.4	<0.008	<0.008	<0.4	0.003 J	0.0023 J	0.065 J	<0.0014 J B U
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019	<0.732	<0.0071			<0.732		<0.0071			<0.0071	<0.732	<0.0071
	PD-5-SB-43-061419	43 ft	6/14/2019	<1.22	<0.0119	<0.0119		<1.22				<0.0119			
	PD-5-SB-53-061419	53 ft	6/14/2019		<0.0122		<1.26	<1.26					0.17		
	PD-5-SB-62-061419	62 ft	6/14/2019		<0.0122	<0.0122	<1.25					<0.0122	<0.0122		
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019	<0.38	0.027	<0.0076	<0.38	<0.068 U	0.0079	0.03	<0.38	<0.0076	0.12	<0.38	0.06
	PD-6-SB-46-071119	46 ft	7/11/2019	<0.37	0.28	0.032	0.062 J	<0.088 U	0.059	0.13	<0.37	0.016	0.74	0.43	0.45
	PD-6-SB-51-071119	51 ft	7/11/2019	<0.38	0.075	<0.0075	<0.38	<0.088 U	0.015	0.029	<0.38	<0.0075	0.18	0.46	0.11
	PD-6-SB-54-071119	54 ft	7/11/2019	<0.38	<0.0076	<0.0076	<0.38	<0.062 U	<0.0076	<0.0076	<0.38	<0.0076	<0.0076	0.15 J	<0.0076
	PD-6-SB-63-071219	63 ft	7/12/2019	<0.37	<0.0074	<0.0074	<0.37	0.088 J B	<0.0074	<0.0074	<0.37	<0.0074	0.0012 J	<0.37	<0.0074
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019	<0.42 UJ	<0.0085	<0.0085	<0.42	<0.42	<0.0085	<0.0085	<0.42 UJ	<0.0085	<0.0085	<0.42	<0.0085
	PD-7-SB-43-071819	43 ft	7/18/2019	<0.42	0.26	<0.0085	<0.42	<0.42	0.062 B	0.3	<0.42	0.015	1.1	<0.42	0.45
	PD-7-SB-51-071819	51 ft	7/18/2019	<0.44	0.12	<0.0088	<0.44	<0.44	0.031 B	0.15 J	0.12 J	0.0091	0.42	0.64	0.19
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	<0.41	0.19	<0.0082	<0.41	<0.41	0.06 B	0.3 J	<0.41	0.018	1.1	<0.41	0.41
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	<0.4	<0.0081	<0.0081	<0.4	<0.4	<0.0081	<0.0081	<0.4	<0.0081	0.016	0.47	<0.0039 U
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	<0.41	<0.0083	<0.0083	<0.41	<0.41	<0.0073 U	<0.0083	<0.41	0.004 J	0.038	0.51	<0.0082 U
	PD-8-SB-40-062519	40 ft	6/25/2019	<0.38	0.022	<0.0077	<0.38	<0.38	0.033 B	0.099	<0.38	<0.0077	0.21	0.72	0.043 B
	PD-8-SB-51-062619	51 ft	6/26/2019	<1.9	<0.15	<0.15	<1.9	<1.9	<0.15	<0.15	<1.9	<0.15	0.89	<1.9 UJ	<0.15
	PD-8-SB-62-062619	62 ft	6/26/2019	<0.41	<0.0082	<0.0082	<0.41	<0.41	<0.0082	<0.0082	<0.41	<0.0082	<0.0082	<0.41	<0.0082

Location	Sample ID	Depth	Sample Date	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-butyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Phenol	Pyrene
				Analytical Results (mg/kg)											
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019	<0.41	<0.0082	<0.0082	<0.41	<0.41	<0.0082	<0.0082	<0.41	<0.0082	<0.0082	<0.41	<0.0082
	PD-9-SB-43-062819	43 ft	6/28/2019	<0.4	<0.0081	<0.0081	<0.4	<0.4	0.033 B	0.0045 J	<0.4	<0.0081	0.025	0.11 J	0.02 B J
	PD-9-SB-54-062819	54 ft	6/28/2019	<0.39	<0.0078	<0.0078	<0.39	<0.39	<0.012 U	<0.0078	<0.39	<0.0078	0.15	<0.39	0.016 B J
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	<0.38	<0.0077	0.0033 J	<0.38	<0.38	<0.013 U	0.094	<0.38	0.0044 J	0.13	<0.38	0.015 B J
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	<36.1	10.2	0.688	<36.1	<36.1	4.83			0.551	97.9	<36.1	35.3
	PD-10-SB-46-061219	46 ft	6/12/2019		<0.0083				<0.0083	<0.0083		<0.0083		<0.855	0.0057 J
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	<0.38	<0.0077	<0.0077	<0.38	<0.38	0.076	0.18	1.5	0.025	1.2	<0.38	0.67
	PD-11-SB-45-070219	45 ft	7/2/2019	<0.38	0.53	0.071 J	<0.38	<0.38	0.088	0.18	<0.38	0.04 J	1	0.67	0.99
	PD-11-SB-57-070219	57 ft	7/2/2019	<0.41	<0.0082	<0.0082	<0.41	<0.41	0.0037 J	<0.0082	<0.41	<0.0082	0.011	0.19 J	0.013
	PD-11-SB-61-070219	61 ft	7/2/2019	<0.39	<0.0077	<0.0077	<0.39	<0.39	<0.0077	<0.0077	<0.39	<0.0077	0.01	0.21 J	0.01
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019	0.062 J	0.0025 J	0.0044 J	<0.42	<0.42	0.0022 J	0.0041 J	<0.42	0.0046 J	<0.0084	0.16 J	0.0024 J
	PD-12-SB-55-070819	55 ft	7/8/2019	<0.48	<0.0095	<0.0095	<0.48	<0.48	0.0032 J	0.03	<0.48	<0.0095	0.052	<0.48	0.0058 J
	PD-12-SB-59-070819	59 ft	7/8/2019	<0.39	<0.0078	<0.0078	<0.39	<0.39	<0.0078	<0.0078	<0.39	<0.0078	<0.0078	0.045 J	<0.0078
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019	<0.39 UJ	<0.0078	<0.0078	<0.39 UJ	<0.39 UJ	0.0028 J	<0.0078	<0.39 UJ	<0.0078	0.0021 J	0.12 J F1 F2	0.0018 J
	PD-14-SB-49-072219	49 ft	7/22/2019	<0.37	0.014	<0.0075	<0.37	<0.37	0.035	0.0085	<0.37	0.0048 J	0.043	1.1	0.027
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019	<0.39	0.0089	<0.0078	<0.39	<0.39	0.027	0.0074 J	<0.39	0.0028 J	0.034	0.52	0.019
	PD-14-SB-55-072219	55 ft	7/22/2019	<0.39	<0.0078	<0.0078	<0.39	<0.39	<0.0078	<0.0078	<0.39	<0.0078	<0.0078	0.095 J	<0.0078
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019	<0.38	0.1	0.012	<0.38	<0.38	0.023	0.03	<0.38	0.01	0.14	<0.38	0.16 *
	PD-17-SB-55-071519	55 ft	7/15/2019	<0.39	<0.0078	<0.0078	<0.39	<0.39	<0.0078	<0.0078	<0.39	<0.0078	0.0087	<0.39	<0.0078

Notes:

Table does not include analytes that were non-detect in all samples.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

B = Target analyte was identified in the method blank, indicating possible lab contamination.

J = The analyte was detected below the reporting limit. Result is estimated.

F1 = Indicates MS and/or MSD recovery is outside acceptance limit.

F2 = MS/MSD RPD exceeds control limits.

<#.## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

SUMMARY OF GROUNDWATER VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,4-Dioxane	2-Butanone	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Acetone	Benzene	Chloromethane	Cymene (p-Isopropyltoluene)	Ethylbenzene	Hexane	Isobutanol (Isobutyl alcohol)
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-34-062519	34 ft	6/25/2019	<0.002	<0.002	<0.002	<0.01	<0.01	0.0067 J	0.0022	<0.005	<0.002	0.0002 J		
	PD-1-GWP-44-062519	44 ft	6/25/2019	0.0034	0.0006 J	<0.002	0.0038 J	<0.01	<0.01	1.08	<0.005	<0.002	0.0059		
	PD-1-GWP-53-062519	53 ft	6/25/2019	0.568	0.18	<0.002	<0.5	<0.5	0.15 J	114	<0.25	<0.1	2.09		
	PD-1-GWP-60-062619	60 ft	6/26/2019	0.0053	0.0016 J	0.00038 J	0.0013 J	<0.01	0.009 J	0.856	0.0005 J	<0.002	0.0106		
	PD-1-GWP-69-062619	69 ft	6/26/2019	0.0005 J	0.0001 J	0.00038 J	<0.01	<0.01	0.0116	0.0013	<0.005	<0.002	0.0003 J		
	PD-1-GWP-75-062619	75 ft	6/26/2019	0.0011 J	0.0003 J	0.00038 J	<0.01	<0.01	0.0063 J	0.0025	0.0006 J	<0.002	0.0003 J		
	PD-1-GWP-80-062719	80 ft	6/27/2019	0.0009 J	0.0003 J	<0.002	<0.01	<0.01	0.0042 J	0.0091	<0.005	<0.002	0.0002 J		
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019	<2	<2	<0.0097	<50	<50	<50	340	<2	<2	<2		
	PD-2-GWP-50-071819	50 ft	7/18/2019	<10	<10	<0.0098 UJ	<250	57 J	<250	2500 J	<10	<10	<10		
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	<10	<10	<0.0096	<250	<250	<250	1500 J	<10	<10	<10		
	PD-2-GWP-59-071819	59 ft	7/18/2019	<0.1	<0.1	<0.01	<2.5	<2.5	<2.5	12	<0.1	<0.1	<0.1		
	PD-2-GWP-65-071919	65 ft	7/19/2019	<0.05	<0.05	<0.01	<1.3	<1.3	<1.3	10	<0.05	<0.05	<0.05		
	PD-2-GWP-70-071919	70 ft	7/19/2019	<0.001	<0.001	<0.0099	<0.025	<0.025	<0.025	0.013	<0.001	<0.001	<0.001		
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019	<0.001	<0.001	<0.0098	<0.025	<0.025	<0.025	0.054	<0.001	<0.001	<0.001		
PD-03	PD-3-GWP-45-072319	45 ft	7/23/2019	<0.02	<0.02	<0.0097	<0.5	<0.5	<0.5	2.5	<0.02	<0.02	<0.02		
	PD-3-GWP-50-072319	50 ft	7/23/2019	<5	<5	<0.0098	<130	<130	<130	1200	<5	<5	<5		
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	<5	<5	<0.0097	<130	<130	<130	1200	<5	<5	<5		
	PD-3-GWP-55-072319	55 ft	7/23/2019	<5	<5	<0.0098	<130	<130	<130	680	<5	<5	<5		
	PD-3-GWP-60-072319	60 ft	7/23/2019	<5	<5	<0.0097	<130	<130	<130	650	<5	<5	<5		
	PD-3-GWP-65-072319	65 ft	7/23/2019	<5	<5	<0.0096	<130	<130	<130	880	<5	<5	<5		
	PD-3-GWP-71-072319	71 ft	7/23/2019	<5	<5	<0.0097	<130	<130	<130	1200	<5	<5	<5		
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	0.001	<0.001	<0.01	<0.025	<0.025	<0.025	0.0063	<0.001	<0.001	0.00072 J		
	PD-4-GWP-41-071519	41 ft	7/15/2019	<0.2	<0.2	<0.0098	<5	<5	<5	67	<0.2	<0.2	0.51		
	PD-4-GWP-43-071519	43 ft	7/15/2019	0.099	0.03	<0.01	<0.025	<0.025	<0.025	0.3	<0.001	0.0018	0.15	0.17	
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.017	0.01	<0.0097	<0.25	<0.25	<0.25	2.3	<0.01	<0.01	0.029	0.12	
	PD-4-GWP-53-071619	53 ft	7/16/2019	1	<1	<0.0097 UJ	<25	<25	<25	290	<1	<1	0.64 J	1	
	PD-4-GWP-60-071619	60 ft	7/16/2019	0.0033	0.00086 J	<0.0097	<0.025	<0.025	<0.025	0.039	<0.001	<0.001	0.002	0.0058	
	PD-4-GWP-70-071619	70 ft	7/16/2019	0.0064	0.0018	<0.0097	<0.025	<0.025	<0.025	0.0076	<0.001	<0.001	0.0016	0.0016	
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019	0.006	0.0017	<0.0097	<0.025	<0.025	<0.025	0.0078	0.0015	<0.001	0.0014	0.0014	
	PD-4-GWP-80-071619	80 ft	7/16/2019	<0.001	<0.001	<0.0097	<0.025	<0.025	<0.025	0.0036	<0.001	<0.001	0.00053 J	0.001	
PD-05	PD-5-GWP-42-062719	42 ft	6/27/2019	<1	0.011 J J	<0.002	<0.1 UJ	<0.1 UJ	<0.1 UJ	1990 J	<0.05 UJ	<0.02 UJ	0.074 J		
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019	0.0358 J	0.01 J J	<0.002	<0.2 UJ	<0.2 UJ	<0.2 UJ	1910 S J	<0.1 UJ	<0.04 UJ	0.0678 J		
	PD-5-GWP-48-062719	48 ft	6/27/2019	0.034 J J	0.12 J	0.00044 J	<0.2 UJ	<0.2 UJ	<0.2 UJ	226 J	<0.1 UJ	0.0022 J J	1.67 J		
	PD-5-GWP-54-062719	54 ft	6/27/2019	0.456 J	0.021 J	<0.002	<0.2	<0.2	<0.2	0.455	<0.1	<0.04	0.0442		
	PD-5-GWP-62-062719	62 ft	6/27/2019	0.0708	0.0002 J	<0.002	<0.01	<0.01	0.0061 J	0.195	<0.005	<0.002	0.0005 J		
	PD-5-GWP-70-062719	70 ft	6/27/2019	0.0005 J	0.0007 J	<0.002	<0.01	<0.01	0.0065 J	0.184	<0.005	<0.002	0.0022		
	PD-5-GWP-80-062819	80 ft	6/28/2019	0.0026	0.00063 J	<0.0099	<0.025	<0.025	<0.025	0.18	<0.001	<0.001	0.0018	0.0023	

SUMMARY OF GROUNDWATER VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,4-Dioxane	2-Butanone	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Acetone	Benzene	Chloromethane	Cymene (p-Isopropyltoluene)	Ethylbenzene	Hexane	Isobutanol (Isobutyl alcohol)
				Analytical Results (mg/L)											
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.0015	0.026	<0.01	<0.05	<0.05	<0.05	0.4	<0.002	0.007	0.015	0.0027	
	PD-7-GWP-50-072219	50 ft	7/22/2019	0.11	<1	<0.05	<25	<25	<25	500	<1	<1	1.4		
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.97 J	<1	<0.01	<25	<25	<25	380	<1	<1	1.5		
	PD-7-GWP-55-072319	55 ft	7/23/2019	1.1	<10	<0.01	<250	<250	<250	1400	<10	<10	<10		
PD-08	PD-8-GWP-35-062819	35 ft	6/28/2019	<10	<1	<0.0096	<25	<25	<25	810	<1	<1	<1		
	PD-8-GWP-41-062819	41 ft	6/28/2019	0.33	0.11 J	<0.0097 UJ	<0.63 UJ	<0.63 UJ	<0.63 UJ	4.9 J	<0.025 UJ	<0.025 UJ	1.4 J	0.25 J	
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.0082	0.0065	<0.0098	0.037 J	<0.05	0.042 J	0.086	<0.002	<0.002	0.054		
	PD-8-GWP-52-062819	52 ft	6/28/2019	<0.001	<0.001 UJ	<0.0097 UJ	<0.025 UJ	<0.025 UJ	<0.025 UJ	0.014 J	<0.001 UJ	<0.001 UJ	<0.001 UJ		
	PD-8-GWP-57-070119	57 ft	7/1/2019	<0.001	<0.001	<0.0098	<0.025	<0.025	<0.025	0.011	<0.001	<0.001	<0.001		
	PD-8-GWP-62-070119	62 ft	7/1/2019	0.0012	<0.001	<0.0097	<0.025	<0.025	<0.025	0.02	<0.001	<0.001	0.00082 J		
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.11	0.032	<0.01	<0.025	<0.025	<0.025	0.12	<0.001	0.00074 J	0.059	0.0016	
	PD-8-GWP-80-070119	80 ft	7/1/2019	0.0021	<0.002	<0.0098	<0.05	<0.05	<0.05	0.27	<0.002	<0.002	0.0014 J		
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019	<0.01	<0.01	<0.01	<0.25	<0.25	<0.25	1.4	<0.01	<0.01	<0.01		
	PD-9-GWP-40-070919	40 ft	7/9/2019	<1	<1	<0.0098	<25	<25	<25	1100	<1	<1	0.68 J		
	PD-9-GWP-45-070919	45 ft	7/9/2019	<1	<1	<0.0097	<25	<25	<25	340	<1	<1	1.3		
	PD-9-GWP-54-071019	54 ft	7/10/2019	1.7	0.48	<0.049 UJ	<2.5	<2.5	<2.5	20	<0.1	<0.1	3.5	1.4	
	PD-9-GWP-60-071019	60 ft	7/10/2019	0.011	0.0035 J	<0.0097	<0.13	<0.13	<0.13	0.89	<0.005	<0.005	0.0096	0.0069	
	PD-9-GWP-70-071019	70 ft	7/10/2019	0.088	0.026	<0.01	<0.5	<0.5	<0.5	3.1 J	<0.02	<0.02	0.098	0.094	
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	0.094 J	<0.1	<0.01	<2.5	<2.5	<2.5	13 J	<0.1	<0.1	0.13		
	PD-9-GWP-80-071019	80 ft	7/10/2019	<0.001	<0.001	<0.01	<0.025	<0.025	<0.025	0.025	<0.001	<0.001	<0.001		
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019	<0.001	0.00083 J	<0.01	<0.025	<0.025	<0.025	0.018	<0.001	<0.001	0.0018		
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.61	0.1	<0.01	<0.25	<0.25	<0.25	1.4	<0.01	0.0077 J	0.29		
	PD-11-GWP-43-071119	43 ft	7/11/2019	<2.5	<2.5	<0.01	<63	<63	<63	2500	<2.5	<2.5	<2.5		
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	<2.5	<2.5	<0.01	<63	<63	<63	2400	<2.5	<2.5	<2.5		
	PD-11-GWP-50-071119	50 ft	7/11/2019	0.016	<0.01	<0.01	<0.25	<0.25	<0.25	1.9	<0.01	<0.01	<0.01		
	PD-11-GWP-56-071119	56 ft	7/11/2019	0.025	0.007	<0.01	<0.13	<0.13	<0.13	1.2	<0.005	<0.005	0.0049 J		
	PD-11-GWP-60-071119	60 ft	7/11/2019	<0.5	<0.5	<0.0098 UJ	<13	<13	<13	200	<0.5	<0.5	<0.5		
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019	0.0016	<0.001	<0.0098 UJ	<0.025	<0.025	<0.025	0.29	<0.001	<0.001	0.00071 J		
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019	0.0037	0.0012	<0.0099	<0.025	<0.025	<0.025	0.027	<0.001	<0.001	0.0024		
	PD-12-GWP-45-071219	45 ft	7/12/2019	<0.5	<0.5	<0.0099 UJ	<13	<13	<13	460	<0.5	<0.5	<0.5		
	PD-12-GWP-50-071219	50 ft	7/12/2019	<0.05	<0.05	<0.0099 UJ	<1.3	<1.3	<1.3	25	<0.05	<0.05	<0.05		
	PD-12-GWP-55-071219	55 ft	7/12/2019	1.2	0.44 J	<0.01 UJ	<13	<13	<13	330	<0.5	<0.5	3		
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.018	0.0096	<0.0098	<0.025	<0.025	<0.025	0.15	<0.001	<0.001	0.012		
	PD-12-GWP-70-071519	70 ft	7/15/2019	<0.001	<0.001	<0.0098	<0.025	<0.025	<0.025	0.0052	<0.001	<0.001	<0.001		
	PD-12-GWP-73-071519	73 ft	7/15/2019	<0.001	<0.001	<0.0098	<0.025	<0.025	<0.025	0.0012	<0.001	<0.001	<0.001		

SUMMARY OF GROUNDWATER VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,4-Dioxane	2-Butanone	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Acetone	Benzene	Chloromethane	Cymene (p-Isopropyltoluene)	Ethylbenzene	Hexane	Isobutanol (Isobutyl alcohol)
				Analytical Results (mg/L)											
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019	<0.001	<0.001	<0.0096	<0.025	<0.025	<0.025	0.00043 J	<0.001	<0.001	<0.001		
	PD-13-GWP-46-070819	46 ft	7/8/2019	0.0017	0.003	<0.0098	<0.025	<0.025	<0.025	0.0021	<0.001	<0.001	<0.001	0.0011	
	PD-13-GWP-50-070819	50 ft	7/8/2019	<0.001	<0.001	<0.0097	<0.025	<0.025	<0.025	0.00093 J	<0.001	<0.001	<0.001		
	PD-13-GWP-59-070819	59 ft	7/8/2019	<0.001	<0.001	<0.0097	<0.025	<0.025	<0.025	<0.001	<0.001	<0.001	<0.001		
	PD-13-GWP-65-070919	65 ft	7/9/2019	<0.001	0.00072 J	<0.0096	<0.025 UJ	<0.025	<0.025	0.0026	<0.001	<0.001	<0.001		
	PD-13-GWP-70-070919	70 ft	7/9/2019	<0.001	<0.001	<0.0097	<0.025	<0.025	<0.025	0.00047 J	<0.001	<0.001	<0.001		
	PD-13-GWP-80-070919	80 ft	7/9/2019	<0.001	<0.001	<0.0098	<0.025	<0.025	<0.025	<0.001	<0.001	<0.001	<0.001		
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	0.94 J	<1	<0.0097	<25	<25	<25	230	<1	<1	0.92 J	1.7	50
	PD-14-GWP-45-071719	45 ft	7/17/2019	<2.5	<2.5	<0.0098	<63	<63	<63	2000	<2.5	<2.5	<2.5		
	PD-14-GWP-50-071719	50 ft	7/17/2019	<5	<5	<0.0098	<130	<130	<130	2300	<5	<5	<5		
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019	<5	<5	<0.01	<130	<130	<130	2900	<5	<5	<5		
	PD-14-GWP-53-071719	53 ft	7/17/2019	<2	<2	<0.0099	<50	<50	<50	970	<2	<2	<2		
	PD-14-GWP-60-071719	60 ft	7/17/2019	1.3	0.43 J	<0.0099	<13	<13	<13	140	<0.5	<0.5	4.2	0.9	21
	PD-14-GWP-70-071719	70 ft	7/17/2019	<0.001	<0.001	<0.049	<0.025	<0.025	0.01 J	0.13	<0.001	<0.001	<0.001		
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019	0.0019	0.00079 J	<0.0099	<0.025	<0.025	<0.025	0.31	<0.001	<0.001	0.003	0.0012	0.032
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019	<0.25	<0.25	<0.0097	<6.3	<6.3	<6.3	180	<0.25	<0.25	<0.25		
	PD-17-GWP-50-072219	50 ft	7/22/2019	<2.5	<2.5	<0.01	<63	<63	<63	1600 J	<2.5	<2.5	<2.5		
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	<2.5	<2.5	<0.052	<63	<63	<63	2200 J	<2.5	<2.5	<2.5		

SUMMARY OF GROUNDWATER VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylenes	sec-Butylbenzene	tert-Butylbenzene	Toluene	Trichloroethene	Xylenes (total)
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-34-062519	34 ft	6/25/2019	<0.002	<0.002	0.0078	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	0.0002 J	<0.002	<0.004
	PD-1-GWP-44-062519	44 ft	6/25/2019	0.0047	0.0137	0.0084	0.0021 J	0.0003 J	0.0034	0.0052	0.0003 J	0.0003 J	0.0016 J	0.0007 J	0.0188
	PD-1-GWP-53-062519	53 ft	6/25/2019	0.046 J	3.65	<0.1	0.19 J	0.023 J	0.128	0.444	0.0065 J	0.0065 J	0.508	<0.1	4.1
	PD-1-GWP-60-062619	60 ft	6/26/2019	0.0004 J	0.0222	0.0091	0.0012 J	<0.002	0.0011 J	0.0051	0.0001 J	<0.002	0.0038	<0.002	0.0273
	PD-1-GWP-69-062619	69 ft	6/26/2019	<0.002	0.0006 J	0.0042	<0.005	<0.002	<0.002	0.0001 J	<0.002	<0.002	0.0002 J	<0.002	0.0007 J
	PD-1-GWP-75-062619	75 ft	6/26/2019	<0.002	0.0007 J	0.0012 J	0.0006 J	0.0001 J	0.0001 J	0.0002 J	<0.002	<0.002	0.0001 J	<0.002	0.0009 J
	PD-1-GWP-80-062719	80 ft	6/27/2019	<0.002	0.0006 J	0.0012 J	0.0004 J	<0.002	0.0001 J	0.0002 J	<0.002	<0.002	0.0002 J	<0.002	0.0008 J
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019	<2	<10	<2	<2	<2	<2	<10	<2	<2	<2	<2	<20
	PD-2-GWP-50-071819	50 ft	7/18/2019	<10	<50	<10	<10	<10	<10	<50	<10	<10	<10	<10	<100
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	<10	<50	<10	<10	<10	<10	<50	<10	<10	<10	<10	<100
	PD-2-GWP-59-071819	59 ft	7/18/2019	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<1
	PD-2-GWP-65-071919	65 ft	7/19/2019	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.5
	PD-2-GWP-70-071919	70 ft	7/19/2019	<0.001	<0.005	0.0049	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.00055 J	<0.001	<0.01
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019	<0.001	<0.005	0.0044	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.00044 J	<0.001	<0.01
PD-03	PD-3-GWP-45-072319	45 ft	7/23/2019	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.2
	PD-3-GWP-50-072319	50 ft	7/23/2019	<5	<25	<5	0.039	<5	<5	<25	<5	<5	2.4 J	<5	<50
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	<5	<25	<5	0.046	<5	<5	<25	<5	<5	<5	<5	<50
	PD-3-GWP-55-072319	55 ft	7/23/2019	<5	<25	<5	0.014	<5	<5	<25	<5	<5	<5	<5	<50
	PD-3-GWP-60-072319	60 ft	7/23/2019	<5	<25	<5	<5	<5	<5	<25	<5	<5	<5	<5	<50
	PD-3-GWP-65-072319	65 ft	7/23/2019	<5	<25	<5	<5	<5	<5	<25	<5	<5	<5	<5	<50
	PD-3-GWP-71-072319	71 ft	7/23/2019	<5	<25	<5	<5	<5	<5	<25	<5	<5	<5	<5	<50
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	<0.001	<0.005	0.0062	<0.001	<0.001	<0.001	0.00062 J	<0.001	0.001	0.00072 J	<0.001	0.002 J
	PD-4-GWP-41-071519	41 ft	7/15/2019	<0.2	0.79 J	<0.2	0.22	<0.2	<0.2	0.3 J	<0.2	<0.2	0.45	<0.2	1.1 J
	PD-4-GWP-43-071519	43 ft	7/15/2019	0.031	0.25	0.0052	0.048	<0.001	0.031	0.11	0.0024	<0.001	0.058	<0.001	0.36
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.04	0.093	<0.01	0.017	0.015	0.069	0.026 J	0.01	<0.01	0.018	<0.01	0.12
	PD-4-GWP-53-071619	53 ft	7/16/2019	<1	<5	<1	<1	<1	<1	<5	<1	<1	<1	<1	<10
	PD-4-GWP-60-071619	60 ft	7/16/2019	0.0019	0.0022 J	0.0075	<0.001	<0.001	0.0011	<0.005	<0.001	0.0016	0.00046 J	<0.001	0.0025 J
	PD-4-GWP-70-071619	70 ft	7/16/2019	<0.001	0.002 J	0.0064	0.0011	<0.001	0.0017	<0.005	<0.001	<0.001	<0.001	<0.001	0.0023 J
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019	<0.001	0.0018 J	0.0065	0.0011	<0.001	0.0016	<0.005	<0.001	<0.001	<0.001	<0.001	0.0021 J
	PD-4-GWP-80-071619	80 ft	7/16/2019	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
PD-05	PD-5-GWP-42-062719	42 ft	6/27/2019	0.0024 J J	0.189 J	0.314 J	0.0081 J J	0.0017 J J	0.006 J J	0.0736 J	<0.02 UJ	<0.02 UJ	0.292 J	0.0035 J J	0.262 J
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019	<0.04 UJ	0.172 J	0.326 J	0.0082 J J	<0.04 UJ	0.006 J J	0.0648 J	<0.04 UJ	<0.04 UJ	0.275 J	<0.04 UJ	0.237 J
	PD-5-GWP-48-062719	48 ft	6/27/2019	0.03 J J	3.12 J	0.0066 J J	0.141 J	0.0058 J J	0.077 J	0.81 J	0.0034 J J	0.0034 J J	0.813 J	<0.04 UJ	3.93 J
	PD-5-GWP-54-062719	54 ft	6/27/2019	0.0054 J	0.075	0.006 J	0.0082 J	<0.04	0.019 J	0.0074 J	0.0028 J	0.0024 J	0.003 J	<0.04	0.0824
	PD-5-GWP-62-062719	62 ft	6/27/2019	<0.002	0.001 J	0.002 J	<0.005	<0.002	<0.002	0.0002 J	<0.002	<0.002	0.0004 J	<0.002	0.0012 J
	PD-5-GWP-70-062719	70 ft	6/27/2019	0.0002 J	0.0045	0.0031	0.0005 J	0.0002 J	0.0004 J	0.001 J	<0.002	<0.002	0.0009 J	<0.002	0.0055
	PD-5-GWP-80-062819	80 ft	6/28/2019	<0.001	0.0038 J	<0.001	<0.001	<0.001	<0.001	0.0011 J	<0.001	<0.001	0.00061 J	<0.001	0.0049 J

TABLE 3

SUMMARY OF GROUNDWATER VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylenes	sec-Butylbenzene	tert-Butylbenzene	Toluene	Trichloroethene	Xylenes (total)
				Analytical Results (mg/L)											
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.011	0.027	<0.002	0.013	<0.002	0.017	<0.01	0.012	<0.002	<0.002	<0.002	0.027
	PD-7-GWP-50-072219	50 ft	7/22/2019	<1	2.7 J	<1	<1	<1	<1	0.71 J	<1	<1	1.1	<1	3.5 J
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	<1	2.8 J	<1	<1	<1	<1	0.75 J	<1	<1	1.1	<1	3.6 J
	PD-7-GWP-55-072319	55 ft	7/23/2019	<10	<50	<10	<10	<10	<10	<50	<10	<10	<10	<10	<100
PD-08	PD-8-GWP-35-062819	35 ft	6/28/2019	<1	<5	<1	<1	<1	<1	<5	<1	<1	1.5	<1	<10
	PD-8-GWP-41-062819	41 ft	6/28/2019	0.029 J	2.2 J	<0.025 UJ	0.12 J	<0.025 UJ	0.061 J	0.28 J	<0.025 UJ	<0.025 UJ	0.15 J	<0.025 UJ	2.5 J
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.032	0.097	<0.002	0.0049	0.0034	0.083	0.012	0.0025	0.0019 J	0.028	<0.002	0.11
	PD-8-GWP-52-062819	52 ft	6/28/2019	<0.001	<0.005	0.0049 J	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
	PD-8-GWP-57-070119	57 ft	7/1/2019	<0.001	<0.005	0.0049	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
	PD-8-GWP-62-070119	62 ft	7/1/2019	<0.001	0.0016 J	0.0049	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	0.0016 J
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.0044	0.13	0.0013	0.022	<0.001	0.014	0.016	0.00096 J	0.0011	0.0024	<0.001	0.15
	PD-8-GWP-80-070119	80 ft	7/1/2019	<0.002	<0.01	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002	<0.002	0.00095 J	<0.002	<0.02
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019	<0.01	<0.05	0.0075 J	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.1
	PD-9-GWP-40-070919	40 ft	7/9/2019	<1	<5	<1	0.081	<1	<1	<5	<1	<1	2.8	<1	<10
	PD-9-GWP-45-070919	45 ft	7/9/2019	<1	1.6 J	<1	0.21 E	<1	<1	<5	<1	<1	2.1	<1	2 J
	PD-9-GWP-54-071019	54 ft	7/10/2019	0.11	7.2	<0.1	0.24	<0.1	0.27	2.2	<0.1	<0.1	2.2	<0.1	9.5
	PD-9-GWP-60-071019	60 ft	7/10/2019	<0.005	0.021 J	<0.005	<0.005	<0.005	<0.005	0.0076 J	<0.005	<0.005	0.011	<0.005	0.028 J
	PD-9-GWP-70-071019	70 ft	7/10/2019	<0.02	0.19	<0.02	0.014	<0.02	0.018 J	0.077 J	<0.02	<0.02	0.068	<0.02	0.27
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	<0.1	0.24 J	<0.1	0.0098 J	<0.1	<0.1	0.09 J	<0.1	<0.1	0.1	<0.1	0.33 J
	PD-9-GWP-80-071019	80 ft	7/10/2019	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019	0.031	0.0036 J	<0.001	0.001	<0.001	0.0055	0.0018 J	0.01	0.008	0.00093 J	<0.001	0.0054 J
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.1	0.24	<0.01	0.09	0.017	0.14	0.11	0.019	<0.01	0.0063 J	<0.01	0.35
	PD-11-GWP-43-071119	43 ft	7/11/2019	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<25
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<25
	PD-11-GWP-50-071119	50 ft	7/11/2019	<0.01	<0.05	<0.01	0.0011 J	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.1
	PD-11-GWP-56-071119	56 ft	7/11/2019	<0.005	0.01 J	<0.005	<0.005	<0.005	<0.005	0.0033 J	<0.005	<0.005	<0.005	<0.005	0.013 J
	PD-11-GWP-60-071119	60 ft	7/11/2019	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<5
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019	<0.001	<0.005	0.00079 J	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.00066 J	<0.001	0.0017 J
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019	<0.001	0.0049 J	0.0023	0.0011	<0.001	<0.001	0.00072 J	<0.001	<0.001	0.00047 J	<0.001	0.0056 J
	PD-12-GWP-45-071219	45 ft	7/12/2019	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	<0.5	0.26 J	<0.5	<5
	PD-12-GWP-50-071219	50 ft	7/12/2019	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.5
	PD-12-GWP-55-071219	55 ft	7/12/2019	<0.5	7.3	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	2.3	<0.5	10
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.022	0.076	<0.001	0.013	0.0023	0.037	0.01	0.0014	<0.001	0.0054	<0.001	0.086
	PD-12-GWP-70-071519	70 ft	7/15/2019	<0.001	<0.005	0.0076	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
	PD-12-GWP-73-071519	73 ft	7/15/2019	<0.001	<0.005	0.0052	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01

TABLE 3

SUMMARY OF GROUNDWATER VOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	Isopropylbenzene (Cumene)	m,p-Xylenes	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylenes	sec-Butylbenzene	tert-Butylbenzene	Toluene	Trichloroethene	Xylenes (total)
				Analytical Results (mg/L)											
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019	<0.001	<0.005	0.0058	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.0014	<0.001	<0.01
	PD-13-GWP-46-070819	46 ft	7/8/2019	0.004	0.0019 J	<0.001	0.0017	0.0009 J	0.0013	0.0019 J	0.0016	0.0029	0.0011	<0.001	0.0038 J
	PD-13-GWP-50-070819	50 ft	7/8/2019	0.0086	0.0034 J	<0.001	<0.001	<0.001	0.0028	0.00099 J	0.0015	0.0023	0.0017	<0.001	0.0044 J
	PD-13-GWP-59-070819	59 ft	7/8/2019	<0.001	<0.005	0.0017	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.0012	<0.001	<0.01
	PD-13-GWP-65-070919	65 ft	7/9/2019	<0.001	<0.005	0.0039	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
	PD-13-GWP-70-070919	70 ft	7/9/2019	<0.001	<0.005	0.0038	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
	PD-13-GWP-80-070919	80 ft	7/9/2019	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	<1	2.9 J	<1	<1	<1	<1	1.2 J	<1	<1	4.4	<1	4 J
	PD-14-GWP-45-071719	45 ft	7/17/2019	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<25
	PD-14-GWP-50-071719	50 ft	7/17/2019	<5	<25	<5	<5	<5	<5	<25	<5	<5	<5	<5	<50
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019	<5	<25	<5	<5	<5	<5	<25	<5	<5	<5	<5	<50
	PD-14-GWP-53-071719	53 ft	7/17/2019	<2	<10	<2	<2	<2	<2	<10	<2	<2	<2	<2	<20
	PD-14-GWP-60-071719	60 ft	7/17/2019	<0.5	9.3	<0.5	<0.5	<0.5	<0.5	3.6	<0.5	<0.5	1.1	<0.5	13
	PD-14-GWP-70-071719	70 ft	7/17/2019	<0.001	<0.005	0.0047	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	0.00044 J	<0.001	<0.01
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019	<0.001	0.0063	0.0026	<0.001	<0.001	<0.001	0.0025 J	<0.001	<0.001	0.0006 J	<0.001	0.0088 J
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019	<0.25	<1.3	<0.25	<0.25	<0.25	<0.25	<1.3	<0.25	<0.25	0.1 J	<0.25	<2.5
	PD-17-GWP-50-072219	50 ft	7/22/2019	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<25
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<13	<2.5	<2.5	<2.5	<2.5	<25

Notes:

Table does not include analytes that were non-detect in all samples.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

<#.## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

SUMMARY OF GROUNDWATER SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzoic Acid	Benzyl alcohol
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-34-062519	34 ft	6/25/2019	<0.0002	<0.02	<0.0002	<0.02	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.015 J	<0.04
	PD-1-GWP-44-062519	44 ft	6/25/2019	0.00058	<0.02	0.00026	<0.02	<0.02	0.00004 J	0.00006 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.015 J	<0.04
	PD-1-GWP-53-062519	53 ft	6/25/2019	0.0242	<0.02	0.0445	<0.02	<0.02	0.00048	0.00014 J	0.00008 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.1	<0.04
	PD-1-GWP-60-062619	60 ft	6/26/2019	0.00022	<0.02	0.00034	<0.02	<0.02	0.0001 J	0.00016 J	<0.0002	<0.0002	<0.0002	0.00004 J	<0.0002	0.015 J	<0.04
	PD-1-GWP-69-062619	69 ft	6/26/2019	0.00006 J	<0.02	0.0001 J	<0.02	<0.02	0.00012 J	0.00008 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.015 J	<0.04
	PD-1-GWP-75-062619	75 ft	6/26/2019	0.00018 J	<0.02	0.0003	<0.02	<0.02	0.00008 J	0.00008 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.014 J	<0.04
	PD-1-GWP-80-062719	80 ft	6/27/2019	0.00008 J	<0.02	0.00012 J	<0.02	<0.02	0.00006 J	0.00008 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.1	<0.04
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019	0.00038	<0.0097	0.00066	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029 UJ	<0.0097
	PD-2-GWP-50-071819	50 ft	7/18/2019	0.0024	0.01 H J	0.0031	0.0019 J H J	0.0039 J H J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	0.013 J H J	<0.0098 UJ
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	0.0021	0.0075 J	0.0033	<0.0096	0.0024 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	0.015 J * J	<0.0096
	PD-2-GWP-59-071819	59 ft	7/18/2019	0.0011	<0.01	0.0014	<0.01	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03 UJ	<0.01
	PD-2-GWP-65-071919	65 ft	7/19/2019	0.00025	<0.01	0.00013 J	<0.01	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-2-GWP-70-071919	70 ft	7/19/2019	<0.0002	<0.0099	<0.0002	<0.0099	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0099
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019	<0.0002	<0.0098	<0.0002	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
PD-03	PD-3-GWP-45-072319	45 ft	7/23/2019	0.000021 J	<0.0097	0.000029 J	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-3-GWP-50-072319	50 ft	7/23/2019	0.013	<0.0098	0.017	<0.0098	0.0035 J	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	0.016	<0.0097	0.021	<0.0097	<0.019	0.0003	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-3-GWP-55-072319	55 ft	7/23/2019	0.0033	<0.0098	0.0044	<0.0098	0.0013 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0074 J	<0.0098
	PD-3-GWP-60-072319	60 ft	7/23/2019	0.0012	<0.0097	0.00099	<0.0097	0.0015 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	0.012 J	<0.0097
	PD-3-GWP-65-072319	65 ft	7/23/2019	0.00048	<0.0096	0.00055	<0.0096	0.0028 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	0.016 J	0.0033 J
	PD-3-GWP-71-072319	71 ft	7/23/2019	0.0012	<0.0097	0.00078	<0.0097	0.0025 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	0.0083 J	<0.0097
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	0.00037	<0.01	0.00053	<0.01	<0.02	<0.0002	<0.0002	0.00013 J	<0.001	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-4-GWP-41-071519	41 ft	7/15/2019	0.024	<0.0098	0.0091	<0.0098	<0.02	<0.00098	<0.00098	0.00024 J	<0.00098	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-4-GWP-43-071519	43 ft	7/15/2019	0.021	<0.01	0.02	<0.01	<0.02	<0.0002	<0.0002	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.034	<0.0097	0.023	<0.0097	<0.019	<0.00097	<0.00097	<0.00097	<0.00097	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-4-GWP-53-071619	53 ft	7/16/2019	0.11	<0.0097 UJ	0.17	<0.0097 UJ	<0.019 UJ	0.00069 J	<0.00097	0.00031 J	<0.00097	<0.00097	<0.00097	<0.00097	<0.029 UJ	<0.0097 UJ
	PD-4-GWP-60-071619	60 ft	7/16/2019	0.00076 J	<0.0097	0.0016 J	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-4-GWP-70-071619	70 ft	7/16/2019	0.0017 J	<0.0097	0.0026 J	<0.0097	<0.019	<0.00019 UJ	<0.00019 UJ	<0.00019 UJ	<0.00019 UJ	<0.00019 UJ	<0.00019 UJ	<0.00019 UJ	<0.029	<0.0097
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019	0.0011 J	<0.0097	0.0018 J	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-4-GWP-80-071619	80 ft	7/16/2019	0.000032 J	<0.0097	0.000059 J	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019	0.0027	0.022	0.0018 B	0.018	0.011 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	0.042	<0.0096
	PD-5-GWP-42-062719	42 ft	6/27/2019	0.00216	<0.02	0.0034	<0.02	0.003 J	0.00026	0.00014 J	0.00012 J	0.00012 J	0.00004 J	0.00006 J	<0.0002	0.004 J	<0.04
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019	0.00288	<0.02	0.00418	<0.02	0.003 J	<0.0002	<0.0002	0.00022	0.00014 J	0.00004 J	0.00006 J	<0.0002	0.004 J	<0.04
	PD-5-GWP-48-062719	48 ft	6/27/2019	0.0147	<0.02	0.0275	<0.02	0.004 J	0.00028	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.005 J	<0.04
	PD-5-GWP-54-062719	54 ft	6/27/2019	0.00206	<0.02	0.00332	<0.02	<0.02	0.00014 J	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.1	<0.04
	PD-5-GWP-62-062719	62 ft	6/27/2019	0.0001 J	<0.02	0.00016 J	<0.02	<0.02	0.00008 J	0.0001 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.1	<0.04
	PD-5-GWP-70-062719	70 ft	6/27/2019	0.00008 J	<0.02	0.00014 J	<0.02	<0.02	0.00012 J	0.00012 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.1	<0.04
	PD-5-GWP-80-062819	80 ft	6/28/2019	0.00012 J	<0.0099	<0.00023 U	<0.0099	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0099

SUMMARY OF GROUNDWATER SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzoic Acid	Benzyl alcohol
				Analytical Results (mg/L)													
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.0044 B	<0.01	0.0022 B	<0.01	<0.02	0.002	<0.0002	0.00015 J	<0.0002	<0.0002	<0.0002	<0.0002 UJ	<0.03	<0.01
	PD-7-GWP-50-072219	50 ft	7/22/2019	0.27 B	<0.05	0.36 B	<0.05	<0.1	<0.001	<0.001	0.008	0.01	0.009	0.0048	0.0021	<0.15	<0.05
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.076 B	<0.01	0.1 B	<0.01	<0.02	0.0029	<0.0002	0.003	0.0039	0.0038	0.002	0.0012 J	<0.031	<0.01
	PD-7-GWP-55-072319	55 ft	7/23/2019	0.015	<0.01	0.02	<0.01	<0.02	0.00064	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	0.047	<0.0097	0.056 B	<0.0097	<0.019	0.0006	<0.00019	<0.00019	0.00004 J	<0.00019	0.000061 J	<0.00019	<0.029	<0.0097
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.046	<0.0098	0.063 B	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-8-GWP-52-062819	52 ft	6/28/2019	<0.00019	<0.0097	<0.00019	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-8-GWP-57-070119	57 ft	7/1/2019	0.000068 J	<0.0098	<0.0002	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-8-GWP-62-070119	62 ft	7/1/2019	0.00016 J	<0.0097	0.00027 B	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.014	<0.01	0.023 B	<0.01	<0.02	0.00021	<0.0002	0.000071 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-8-GWP-80-070119	80 ft	7/1/2019	0.00082	<0.0098	0.0011 B	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019	0.00016 J	<0.01	<0.0002	<0.01	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-9-GWP-40-070919	40 ft	7/9/2019	0.028	0.0056 J	0.0018	0.0046 J	0.0085 J	0.00043	<0.0002	0.000099 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-9-GWP-45-070919	45 ft	7/9/2019	0.018	<0.0097	0.031	<0.0097	<0.019	0.0021	<0.00019	0.00023	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-9-GWP-54-071019	54 ft	7/10/2019	0.24	<0.049 UJ	0.52	<0.049 UJ	<0.097 UJ	<0.00097	<0.00097	<0.00019	0.00014 J	<0.00019	<0.00019	<0.00019	<0.15 UJ	<0.049 UJ
	PD-9-GWP-60-071019	60 ft	7/10/2019	0.00056	<0.0097	0.001	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-9-GWP-70-071019	70 ft	7/10/2019	0.0048	<0.01	0.0088	<0.01	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	0.0028	<0.01	0.0046	<0.01	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
	PD-9-GWP-80-071019	80 ft	7/10/2019	<0.0002	<0.01	0.000063 J	<0.01	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019	0.018	<0.01	0.00095	<0.01	<0.02	0.0082	<0.0002	0.003	0.0023	0.0027	0.0011	0.00056	<0.031	<0.01
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.17	<0.01	0.066	<0.01	<0.02	0.0065	<0.0002	<0.0002	<0.0002	0.0038	<0.0002	0.0011	<0.03	<0.01
	PD-11-GWP-43-071119	43 ft	7/11/2019	0.029 J	<0.01	0.039 J	<0.01	<0.02	0.0019 J	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	0.00053	<0.03	<0.01
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	0.12 J	<0.01	0.17 J	<0.01	<0.021	0.0073 J	0.0012	0.0062	0.0077	0.012	0.0052	<0.0052	<0.031	<0.01
	PD-11-GWP-50-071119	50 ft	7/11/2019	0.0018	<0.01	0.0018	<0.01	<0.021	0.0025	<0.00021	0.00016 J	0.00011 J	0.000097 J	<0.00021	<0.00021	<0.031	<0.01
	PD-11-GWP-56-071119	56 ft	7/11/2019	0.0025	<0.01	0.0025	<0.01	<0.02	0.00036	0.000048 J	0.00031	0.00029	0.00032	0.00016 J	0.00012 J	<0.03	<0.01
	PD-11-GWP-60-071119	60 ft	7/11/2019	0.00085	<0.0098 UJ	0.00081	<0.0098 UJ	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029 UJ	<0.0098 UJ
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019	0.0017 H J	<0.0098	0.00056 H J	<0.0098	<0.02	0.0004 H J	<0.0002	<0.0002 UJ	<0.0002 UJ	<0.0002 UJ	<0.0002 UJ	<0.0002	<0.029	<0.0098
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019	0.00039	<0.0099	0.0007 B	<0.0099	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0099
	PD-12-GWP-45-071219	45 ft	7/12/2019	0.019 H J	<0.0099 UJ	0.0031 H J	<0.0099 UJ	<0.02 UJ	J	<0.0012 UJ	<0.0012 UJ	<0.0012 UJ	<0.0012 UJ	<0.0012 UJ	<0.0012 UJ	<0.03 UJ	<0.0099 UJ
	PD-12-GWP-50-071219	50 ft	7/12/2019	0.0011 H J	<0.0099 UJ	J	<0.0099 UJ	<0.02 UJ	<0.00099 UJ	<0.00099 UJ	<0.00099 UJ	<0.00099 UJ	<0.00099 UJ	<0.00099 UJ	<0.00099 UJ	<0.03 UJ	<0.0099 UJ
	PD-12-GWP-55-071219	55 ft	7/12/2019	0.13 H J	<0.01 UJ	0.2 H J	<0.01 UJ	<0.02 UJ	<0.001 UJ	<0.001 UJ	0.0012 H J	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.03 UJ	<0.01 UJ
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.0085 H J	<0.0098	0.01 H J	<0.0098	<0.02	<0.00098 UJ	<0.00098 UJ	<0.00098 UJ	<0.00098 UJ	<0.00098 UJ	<0.00098 UJ	<0.00098 UJ	<0.029	<0.0098
	PD-12-GWP-70-071519	70 ft	7/15/2019	0.00011 J	<0.0098	0.00011 J	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-12-GWP-73-071519	73 ft	7/15/2019	0.000044 J	<0.0098	0.000077 J	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098

SUMMARY OF GROUNDWATER SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzoic Acid	Benzyl alcohol
				Analytical Results (mg/L)													
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019	<0.00019	<0.0096	<0.00019	<0.0096	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0096
	PD-13-GWP-46-070819	46 ft	7/8/2019	0.015	<0.0098	0.00055	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-13-GWP-50-070819	50 ft	7/8/2019	0.0093	<0.0097	0.00051	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-13-GWP-59-070819	59 ft	7/8/2019	<0.00019	<0.0097	<0.00019	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-13-GWP-65-070919	65 ft	7/9/2019	0.00015 J	<0.0096	0.00019	<0.0096	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0096
	PD-13-GWP-70-070919	70 ft	7/9/2019	<0.00019	<0.0097	<0.00019	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-13-GWP-80-070919	80 ft	7/9/2019	0.00018 J	<0.0098	0.00026	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0098
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	<0.00019	<0.0097	0.0012	<0.0097	<0.019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0097
	PD-14-GWP-45-071719	45 ft	7/17/2019	0.0015	0.0075 J	0.0015	<0.0098	0.0012 J	<0.0002	<0.0002	<0.0002	<0.00098	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-14-GWP-50-071719	50 ft	7/17/2019	0.00055	<0.0098	0.00093	<0.0098	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019	0.00055	<0.01	0.00089	<0.01	0.0013 J	<0.00021	<0.00021	0.000033 J	<0.00021	<0.00021	<0.00021	<0.00021	<0.031	<0.01
	PD-14-GWP-53-071719	53 ft	7/17/2019	0.011	<0.0099	0.025	<0.0099	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0099
	PD-14-GWP-60-071719	60 ft	7/17/2019	0.082 B	<0.0099	0.15 B	<0.0099	<0.02	<0.00099	<0.00099	0.00012 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0099
	PD-14-GWP-70-071719	70 ft	7/17/2019	<0.0002	<0.049	<0.0002	<0.049	<0.098	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.15	<0.049
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019	0.00041	<0.0099	0.00067	<0.0099	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03 UJ	<0.0099
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019	0.0047	<0.0097	0.00054	<0.0097	<0.019	0.0032	<0.00019	0.00027	0.000097 J	0.00016 J	<0.00019	<0.00019	<0.029	<0.0097
	PD-17-GWP-50-072219	50 ft	7/22/2019	0.032 B J	<0.01	0.05 B J	<0.01	<0.02	0.0018 J	<0.0002	0.00099 J	0.0012	0.0012 J	0.00063 J	<0.0002	<0.03	<0.01
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	0.57 B J J	<0.052	0.74 B J J	<0.052	<0.1	0.023 J J	<0.01	0.015 J	<0.001	0.018 J	0.0063	0.0035	<0.16	<0.052

SUMMARY OF GROUNDWATER SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	bis(2-Ethylhexyl)phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
				Analytical Results (mg/L)												
PD-01	PD-1-GWP-34-062519	34 ft	6/25/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	<0.01	<0.0002
	PD-1-GWP-44-062519	44 ft	6/25/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	0.003 J	<0.0002
	PD-1-GWP-53-062519	53 ft	6/25/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	0.00056		<0.0002	<0.04	0.00064	0.044	0.00004 J
	PD-1-GWP-60-062619	60 ft	6/26/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	0.01	<0.0002
	PD-1-GWP-69-062619	69 ft	6/26/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	<0.01	<0.0002
	PD-1-GWP-75-062619	75 ft	6/26/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	<0.01	<0.0002
	PD-1-GWP-80-062719	80 ft	6/27/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	<0.01	<0.0002
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	0.12 J	<0.00019
	PD-2-GWP-50-071819	50 ft	7/18/2019	<0.0098 UJ	<0.00019	<0.00019	<0.0098 UJ	<0.0098 UJ	<0.00019	<0.00019	<0.0098 UJ	<0.00019	<0.02 UJ	0.00039	0.16 H J	<0.00019
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	<0.0096	<0.00019	<0.00019	<0.0096	<0.0096	<0.00019	<0.00019	<0.0096	<0.00019	<0.019	<0.00019	0.1	<0.00019
	PD-2-GWP-59-071819	59 ft	7/18/2019	<0.01	<0.0002	<0.0002	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.02	<0.0002	0.057	<0.0002
	PD-2-GWP-65-071919	65 ft	7/19/2019	<0.01	<0.0002	<0.0002	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.02	<0.0002	0.084	<0.0002
	PD-2-GWP-70-071919	70 ft	7/19/2019	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0002	<0.0002	<0.0099	<0.0002	<0.02	<0.0002	<0.0099	<0.0002
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002
PD-03	PD-3-GWP-45-072319	45 ft	7/23/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0025 U	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	0.0046 J	<0.00019
	PD-3-GWP-50-072319	50 ft	7/23/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	0.00038	<0.0098	<0.0002	<0.02	0.00033	0.27	<0.0002
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	0.00038	<0.0097	<0.00019	<0.019	0.00039	0.23	<0.00019
	PD-3-GWP-55-072319	55 ft	7/23/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	0.000095 J	0.17	<0.0002
	PD-3-GWP-60-072319	60 ft	7/23/2019	0.0098	<0.00019	<0.00019	<0.0097	<0.0013 U	<0.00019	<0.00019	0.0059 J	<0.00019	<0.019	<0.00019	0.067	<0.00019
	PD-3-GWP-65-072319	65 ft	7/23/2019	<0.0096	<0.00019	<0.00019	<0.0096	<0.002 U	<0.00019	<0.00019	0.0024 J	<0.00019	<0.019	<0.00019	0.15	<0.00019
	PD-3-GWP-71-072319	71 ft	7/23/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0025 U	<0.00019	<0.00019	0.0031 J	<0.00019	<0.019	<0.00019	0.089	<0.00019
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	<0.01 U	<0.001	<0.0002	<0.01	<0.01	<0.001	<0.0002	<0.01	<0.0002	<0.02	<0.001	<0.01	0.00011 J
	PD-4-GWP-41-071519	41 ft	7/15/2019	<0.013 U	<0.00098	<0.0002	<0.0098	<0.0098	0.00013 J	0.0011	0.0049 J	<0.0002	<0.02	0.0012	0.17	0.00024 J
	PD-4-GWP-43-071519	43 ft	7/15/2019	<0.01	<0.001	<0.0002	<0.01	<0.01	<0.001	0.00077	<0.01	<0.0002	<0.02	0.0012	<0.01	0.00018 J
	PD-4-GWP-50-071519	50 ft	7/15/2019	<0.0097	<0.00097	<0.00019	<0.0097	<0.0097	<0.00097	0.0002 J	<0.0097	<0.00019	<0.019	0.00024 J	0.018	<0.00097
	PD-4-GWP-53-071619	53 ft	7/16/2019	<0.0097 UJ	<0.00097	<0.00097	0.0018 J J	<0.0097 UJ	0.00033 J	0.0016	<0.0097 UJ	<0.00097	0.0025 J J	0.0012	<0.0097 UJ	<0.00097
	PD-4-GWP-60-071619	60 ft	7/16/2019	0.0059 J	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
	PD-4-GWP-70-071619	70 ft	7/16/2019	0.082 J	<0.00019 UJ	<0.00019 UJ	<0.0097	<0.0097	<0.00019 UJ	<0.00019 UJ	<0.0097	<0.00019 UJ	<0.019	0.00004 J J	<0.0097	<0.00019 UJ
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019	<0.0097 UJ	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	0.000045 J	<0.0097	<0.00019
	PD-4-GWP-80-071619	80 ft	7/16/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019	<0.0096	<0.00019	<0.00019	<0.0096	<0.0096	<0.00019	<0.00019	0.0069 J	<0.00019	0.0023 J	<0.00019	0.23	<0.00019
	PD-5-GWP-42-062719	42 ft	6/27/2019	<0.012	0.00006 J	<0.0002	<0.02	<0.02	0.00024	0.00032		<0.0002	<0.04	0.00086	0.055	0.0002
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019	<0.012	0.00008 J	<0.0002	<0.02	<0.02	0.0003	<0.0002		<0.0002	<0.04	0.00104	0.053	0.00022
	PD-5-GWP-48-062719	48 ft	6/27/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	0.00016 J		<0.0002	<0.04	<0.0002	0.03	<0.0002
	PD-5-GWP-54-062719	54 ft	6/27/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	0.00008 J		<0.0002	<0.04	<0.0002	<0.01	<0.0002
	PD-5-GWP-62-062719	62 ft	6/27/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	<0.01	<0.0002
	PD-5-GWP-70-062719	70 ft	6/27/2019	<0.012	<0.0002	<0.0002	<0.02	<0.02	<0.0002	<0.0002		<0.0002	<0.04	<0.0002	<0.01	<0.0002
	PD-5-GWP-80-062819	80 ft	6/28/2019	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0002	<0.0002	<0.0099	<0.0002	<0.02	<0.0002	0.0043 J	<0.0002

SUMMARY OF GROUNDWATER SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	bis(2-Ethylhexyl)phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
				Analytical Results (mg/L)												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	<0.01	<0.0002	<0.0002	0.00063 J	<0.01	0.000053 J	0.0014	<0.01	<0.0002	<0.02	0.00046	<0.01	0.00021
	PD-7-GWP-50-072219	50 ft	7/22/2019	<0.05	0.019	0.0019	<0.05	<0.05	0.004	0.014	<0.05	0.00084 J	<0.1	0.057	0.095	0.033
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	<0.01	0.0068	<0.0002	0.0021 J	<0.01	0.0018	0.0035	<0.01	<0.0002	<0.02	0.021	0.14	0.011
	PD-7-GWP-55-072319	55 ft	7/23/2019	<0.01	<0.0002	<0.0002	<0.01	<0.0023 U	<0.0002	0.00055	<0.01	<0.0002	0.0021 J	0.00077	0.21	0.00015 J
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	<0.0097	0.000074 J	<0.00019	<0.0097	<0.0097	0.00014 J	0.0019	0.013	<0.00019	<0.019	0.0024	<0.0097	0.00013 J J
	PD-8-GWP-46-062819	46 ft	6/28/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	0.00026	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002
	PD-8-GWP-52-062819	52 ft	6/28/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
	PD-8-GWP-57-070119	57 ft	7/1/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002
	PD-8-GWP-62-070119	62 ft	7/1/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
	PD-8-GWP-70-070119	70 ft	7/1/2019	<0.0099 UJ	<0.0002	<0.0002	<0.01	<0.01	<0.0002	0.00029	<0.01	<0.0002	<0.02	0.00029	<0.01	<0.0002
	PD-8-GWP-80-070119	80 ft	7/1/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	0.000045 J	0.0063 J	<0.0002
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019	<0.01	<0.0002	<0.0002	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.02	<0.0002	0.048	<0.0002
	PD-9-GWP-40-070919	40 ft	7/9/2019	<0.0099 U	<0.0002	<0.0002	<0.0098	<0.0098	0.00013 J	0.00048	0.008 J	<0.0002	<0.02	0.00026	0.37	<0.0002
	PD-9-GWP-45-070919	45 ft	7/9/2019	<0.0097	<0.00019	<0.00019	0.0011 J	<0.0097	0.00035	0.001	0.057	<0.00019	<0.019	0.0014	0.16	0.00016 J
	PD-9-GWP-54-071019	54 ft	7/10/2019	<0.049 UJ	0.00011 J	<0.00019	<0.049 UJ	<0.049 UJ	<0.00019	<0.00097	<0.049 UJ	<0.00019	<0.097 UJ	0.0047	<0.049 UJ	0.00053
	PD-9-GWP-60-071019	60 ft	7/10/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	0.013	<0.00019
	PD-9-GWP-70-071019	70 ft	7/10/2019	0.0059 J	<0.0002	<0.0002	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.02	0.000091 J	0.036	<0.0002
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	0.0095 J	<0.0002	<0.0002	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.02	<0.0002	0.065	<0.0002
	PD-9-GWP-80-071019	80 ft	7/10/2019	<0.01	<0.0002	<0.0002	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.02	<0.0002	<0.01	<0.0002
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019	<0.01	0.0047	0.0004	0.0037 J	<0.01	0.0013	0.0097	<0.01	0.00031	<0.02	0.00065	<0.01	0.0094
	PD-11-GWP-37-071119	37 ft	7/11/2019	<0.01	0.0055	0.0011	0.0053 J	<0.01	<0.0002	0.0075	<0.01	0.00064	<0.02	0.018	0.009 J	0.016
	PD-11-GWP-43-071119	43 ft	7/11/2019	<0.01	0.0021 J	0.00048	<0.01	<0.01	0.00068	0.0023 J	<0.01	0.00026	<0.02	0.012	0.37	0.0055
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	<0.01	0.015 J	0.0035 J	0.0068 J	<0.01	0.0035	0.0085 J	<0.01	<0.0052	<0.021	0.029	0.14	0.02
	PD-11-GWP-50-071119	50 ft	7/11/2019	<0.01	0.00019 J	<0.00021	<0.01	<0.01	<0.00021	0.00038	<0.01	<0.00021	<0.021	0.00087	J	0.00045
	PD-11-GWP-56-071119	56 ft	7/11/2019	<0.01	0.00061	0.000076 J	<0.01	<0.01	<0.0002	0.00038	<0.01	0.000058 J	<0.02	0.0018	0.012	0.0011
	PD-11-GWP-60-071119	60 ft	7/11/2019	<0.0098 UJ	<0.0002	<0.0002	<0.0098 UJ	<0.0098 UJ	<0.0002	<0.0002	<0.0098 UJ	<0.0002	<0.02	0.000089 J	<0.0098 UJ	0.000061 J
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019	<0.0098	<0.0002 UJ	<0.0002	<0.0098	<0.0098	J	0.00043 H J	<0.0098	<0.0002	<0.02	0.0012 H J	0.004 J H J	J
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0002	<0.0002	<0.0099	<0.0002	<0.02	<0.0002	<0.0099	<0.0002
	PD-12-GWP-45-071219	45 ft	7/12/2019	<0.0099 UJ	<0.0012 UJ	<0.0012 UJ	0.001 J H J	<0.0099 UJ	<0.0012 UJ	J	<0.0099 UJ	<0.0012 UJ	<0.02 UJ	J	0.41 H J	J
	PD-12-GWP-50-071219	50 ft	7/12/2019	0.0075 J H J	<0.00099 UJ	<0.00099 UJ	<0.0099 UJ	<0.0099 UJ	<0.00099 UJ	<0.00099 UJ	<0.0099 UJ	<0.00099 UJ	<0.02 UJ	J	0.11 H J	J
	PD-12-GWP-55-071219	55 ft	7/12/2019	<0.01 UJ	<0.001 UJ	<0.001 UJ	<0.01 UJ	<0.01 UJ	J	0.0028 H J	<0.01 UJ	<0.001 UJ	<0.02 UJ	0.0045 H J	0.063 H J	J
	PD-12-GWP-60-071219	60 ft	7/12/2019	<0.0098	<0.00098 UJ	<0.00098 UJ	<0.0098	J	<0.00098 UJ	<0.00098 UJ	<0.0098	<0.00098 UJ	<0.02	J	0.0066 J H J	<0.00098 UJ
	PD-12-GWP-70-071519	70 ft	7/15/2019	<0.033 U	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002
	PD-12-GWP-73-071519	73 ft	7/15/2019	<0.013 U	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002

SUMMARY OF GROUNDWATER SVOC ANALYTICAL DETECTIONS

Location	Sample ID	Depth	Sample Date	bis(2-Ethylhexyl)phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
				Analytical Results (mg/L)												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019	<0.0096	<0.00019	<0.00019	<0.0096	<0.0096	<0.00019	<0.00019	<0.0096	<0.00019	<0.019	<0.00019	<0.0096	<0.00019
	PD-13-GWP-46-070819	46 ft	7/8/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002
	PD-13-GWP-50-070819	50 ft	7/8/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
	PD-13-GWP-59-070819	59 ft	7/8/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
	PD-13-GWP-65-070919	65 ft	7/9/2019	<0.0096	<0.00019	<0.00019	<0.0096	<0.0096	<0.00019	<0.00019	<0.0096	<0.00019	<0.019	<0.00019	<0.0096	<0.00019
	PD-13-GWP-70-070919	70 ft	7/9/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	<0.0097	<0.00019
	PD-13-GWP-80-070919	80 ft	7/9/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	<0.0098	<0.0002
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.019	<0.00019	0.06	<0.00019
	PD-14-GWP-45-071719	45 ft	7/17/2019	<0.0098	<0.00098	<0.0002	<0.0098	<0.0098	0.000085 J	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	0.16	<0.00098
	PD-14-GWP-50-071719	50 ft	7/17/2019	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	0.000082 J	<0.0002	<0.0098	<0.0002	<0.02	<0.0002	0.23	0.000038 J
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019	0.0054 J	<0.00021	<0.00021	<0.01	<0.01	0.00015 J	<0.00021	<0.01	<0.00021	<0.021	0.00034	0.17	0.00006 J
	PD-14-GWP-53-071719	53 ft	7/17/2019	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0002	<0.0002	<0.0099	<0.0002	<0.02	<0.0002	0.31	<0.0002
	PD-14-GWP-60-071719	60 ft	7/17/2019	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0002	<0.00099	0.036	<0.0002	<0.02	0.00081	0.036	0.000075 J
	PD-14-GWP-70-071719	70 ft	7/17/2019	<0.049	<0.0002	<0.0002	<0.049	<0.049	<0.0002	<0.0002	<0.049	<0.0002	<0.098	<0.0002	<0.049	<0.0002
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0002	<0.0002	<0.0099	<0.0002	<0.02	<0.0002	0.014	<0.0002
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019	<0.0097	0.00013 J	<0.00019	0.0007 J	<0.0097	0.00015 J	0.0018	<0.0097	<0.00019	<0.019	0.00067	0.09	0.00055
	PD-17-GWP-50-072219	50 ft	7/22/2019	<0.01	0.0023 J	<0.0002	0.00093 J	<0.01	0.00038 J	0.0018 J	<0.01	<0.0002	<0.02	0.0077 J	0.15	0.0039 J
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	<0.052	0.036 J	0.0028	<0.052	<0.052	0.007 J	0.035 J J	<0.052	0.0014	<0.1	0.11 J	0.12	0.06 J

Notes:

Table does not include analytes that were non-detect in all samples.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

B = Target analyte was identified in the method blank, indicating possible lab contamination.

J = The analyte was detected below the reporting limit. Result is estimated.

H = Analyzed or extracted out of holding time criteria.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

SUMMARY OF WATER QUALITY ANALYTICAL RESULTS

				Metals					Other Parameters										
				Ferrous Iron	Iron	Iron, Dissolved	Magnesium	Manganese	Alkalinity, Total (CaCO3)	Calcium hardness as CaCO3	Calcium	Chloride	Nitrite	pH	Phosphate	Potassium	Sodium	Sulfate	Total Dissolved Solids (TDS)
Location	Sample ID	Depth	Sample Date	Analytical Results (mg/L)															
PD-02	PD-2-GWP-50-071819	50 ft	7/18/2019	9.5 HF	45	19	56	1.9	480	670	280	130	0.0073 J	7 HF	0.61	8.3	99 B	150	1100
PD-04	PD-4-GWP-60-071619	60 ft	7/16/2019	3.2 HF	74	11	66	4.8	450	900	320 B	130	<0.02	7.2 HF	<0.15	12	74 B	84	940
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	<0.05	27	1.9	45	0.85	320	760	290	32	<0.02	7.8 HF	0.13 J	5.9	48	210	770
PD-08	PD-8-GWP-35-062819	35 ft	6/28/2019	<0.05	100	39	58	1.6	430	260	150	170	<0.02	6.9 HF	6.2	5.4	140	0.25	830
PD-13	PD-13-GWP-46-070819	46 ft	7/8/2019	0.1 HF	23 B	22	250	0.79	440	1900	520	120	<0.02	7 HF	12	690	3100 B	0.41	700
PD-14	PD-14-GWP-70-071719	70 ft	7/17/2019	<0.05	60 B	7.4	57	3.9	330	660	240 B	140	0.0064 J	7.2 HF	0.69	12	99	77	800

LABORATORY QUALIFIERS

B = Target analyte was identified in the method blank, indicating possible lab contamination.

J = The analyte was detected below the reporting limit. Result is estimated.

HF = Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

<#.## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-1	434.73	0	434.73	-	-	-	0.0	NO	-	-	-	-
		2	432.73	-	-	-	0.0	NO	-	-	-	-
		4	430.73	-	-	-	0.0	NO	-	-	-	-
		6	428.73	-	-	-	0.0	NO	-	-	-	-
		8	426.73	-	-	-	0.0	NO	-	-	-	-
		10	424.73	-	-	-	0.0	NO	-	-	-	-
		12	422.73	-	-	-	0.0	NO	-	-	-	-
		14	420.73	-	-	-	0.0	NO	-	-	-	-
		16	418.73	-	-	-	0.0	NO	-	-	-	-
		18	416.73	-	-	-	0.0	NO	-	-	-	-
		20	414.73	-	-	-	0.0	NO	-	-	-	-
		22	412.73	-	-	-	0.0	NO	-	-	-	-
		24	410.73	-	-	-	0.0	NO	-	-	-	-
		26	408.73	-	-	-	0.0	NO	-	-	-	-
		28	406.73	-	-	-	0.0	NO	-	-	-	-
		29	405.73	-	-	Negative	0.0	NO	-	-	-	-
		30	404.73	-	-	-	0.0	NO	-	-	-	-
		32	402.73	-	-	-	0.0	NO	-	-	-	-
		34	400.73	0.00	-	-	0.0	NO	-	-	-	-
		36	398.73	-	-	-	0.0	NO	-	-	-	-
		37	397.73	-	-	Negative	0.4	NO	-	-	-	-
		38	396.73	-	-	-	0.4	NO	-	-	-	-
		40	394.73	-	-	-	131.0	NO	-	-	-	-
		41	393.73	-	-	Negative	>5000	NO	-	-	-	-
		42	392.73	-	-	-	>5000	NO	-	-	-	-
		44	390.73	1.08	-	-	>5000	NO	-	-	-	-
		46	388.73	-	-	Negative	552.0	NO	-	-	-	-
		48	386.73	-	-	-	320.0	NO	-	-	-	-
		50	384.73	-	-	-	166.0	NO	-	-	-	-
		51	383.73	-	-	-	-	NO	-	-	3.0×10^{-5}	2.9×10^{-5}
		52	382.73	-	-	-	-	YES	-	-	-	-
		53	381.73	114.00	2.31	-	2178.0	YES	NO	NO	-	-
		54	380.73	-	-	-	2178.0	YES	-	-	-	-
		55	379.73	-	1.58	Negative	10.3	YES	NO	NO	-	-
		56	378.73	-	-	-	10.3	NO	-	-	-	-
		58	376.73	-	-	-	102.0	NO	-	-	-	-
		60	374.73	0.86	-	-	-	NO	-	-	-	-
		62	372.73	-	-	-	28.0	NO	-	-	-	-
		64	370.73	-	-	-	22.0	NO	-	-	-	-
		66	368.73	-	-	-	-	NO	-	-	-	-
		68	366.73	-	-	-	-	NO	-	-	-	-
		69	365.73	0.00	-	-	-	NO	-	-	-	-
		70	364.73	-	-	-	-	NO	-	-	-	-
		72	362.73	-	-	-	-	NO DATA	-	-	-	-
		74	360.73	-	-	-	-	NO DATA	-	-	-	-
		75	359.73	0.00	-	-	-	NO DATA	-	-	-	-
		76	358.73	-	-	-	-	NO DATA	-	-	-	-
		78	356.73	-	-	-	-	NO DATA	-	-	-	-
		80	354.73	0.01	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-2	443.87	0	443.87	-	-	-	0.0	NO	-	-	-	-
		2	441.87	-	-	-	0.0	NO	-	-	-	-
		4	439.87	-	-	-	0.0	NO	-	-	-	-
		6	437.87	-	-	-	0.0	NO	-	-	-	-
		8	435.87	-	-	-	0.0	NO	-	-	-	-
		10	433.87	-	-	-	0.0	NO	-	-	-	-
		12	431.87	-	-	-	0.7	NO	-	-	-	-
		14	429.87	-	-	-	0.5	NO	-	-	-	-
		16	427.87	-	-	-	0.6	NO	-	-	-	-
		18	425.87	-	-	-	0.1	NO	-	-	-	-
		20	423.87	-	-	-	0.6	NO	-	-	-	-
		22	421.87	-	-	-	1.3	NO	-	-	-	-
		24	419.87	-	-	-	0.5	NO	-	-	-	-
		26	417.87	-	-	-	0.9	NO	-	-	-	-
		28	415.87	-	-	-	0.5	NO	-	-	-	-
		30	413.87	-	-	-	0.5	NO	-	-	-	-
		32	411.87	-	-	-	0.8	NO	-	-	-	-
		34	409.87	-	-	-	0.7	NO	-	-	-	-
		36	407.87	-	-	-	0.3	NO	-	-	-	-
		38	405.87	-	-	-	0.8	NO	-	-	-	-
		40	403.87	-	-	-	1.0	NO	-	-	-	-
		42	401.87	-	-	-	1.3	NO	-	-	-	-
		44	399.87	340	-	-	51.0	NO	-	-	-	-
		46	397.87	-	-	-	185.0	NO	-	-	-	-
		48	395.87	-	-	-	20.0	NO	-	-	-	-
		49	394.87	-	-	Positive	438.0	YES	-	-	-	-
		50	393.87	2500	120	-	438.0	YES	YES	NO	-	-
		50	393.87	1500	-	-	438.0	YES	YES	NO	-	-
		51	392.87	-	-	Negative	341.0	YES	-	-	-	-
		52	391.87	-	150	-	341.0	YES	NO	NO	-	-
		54	389.87	-	-	-	68.0	NO	-	-	-	-
		56	387.87	-	-	-	62.0	NO	-	-	-	-
		58	385.87	-	-	-	18.0	NO	-	-	-	-
		59	384.87	12	-	-	16.0	NO	-	-	-	-
		60	383.87	-	38	Negative	16.0	NO	-	-	-	-
		60	383.87	-	23	Negative	16.0	NO	-	NO	-	-
		62	381.87	-	-	-	18.0	NO	-	-	-	-
		64	379.87	-	-	-	22.0	NO	-	-	-	-
		65	378.87	10	-	-	3.0	NO	-	-	-	-
		66	377.87	-	-	-	3.0	NO	-	-	-	-
		68	375.87	-	-	-	11.0	NO	-	-	-	-
		70	373.87	0.013	-	-	18.0	NO	-	-	-	-
		72	371.87	-	-	-	-	NO DATA	-	-	-	-
		74	369.87	-	-	-	-	NO DATA	-	-	-	-
		74.5	369.37	0.054	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-3	444.62	0	444.62	-	-	-	0.0	NO	-	-	-	-
		2	442.62	-	-	-	0.0	NO	-	-	-	-
		4	440.62	-	-	-	0.0	NO	-	-	-	-
		6	438.62	-	-	-	0.0	NO	-	-	-	-
		8	436.62	-	-	-	0.0	NO	-	-	-	-
		10	434.62	-	-	-	0.0	NO	-	-	-	-
		12	432.62	-	-	-	-	NO	-	-	-	-
		14	430.62	-	-	-	-	NO	-	-	-	-
		16	428.62	-	-	-	-	NO	-	-	-	-
		18	426.62	-	-	-	-	NO	-	-	-	-
		20	424.62	-	-	-	-	NO	-	-	-	-
		22	422.62	-	-	-	-	NO	-	-	-	-
		24	420.62	-	-	-	-	NO	-	-	-	-
		26	418.62	-	-	-	-	NO	-	-	-	-
		28	416.62	-	-	-	-	NO	-	-	-	-
		30	414.62	-	-	-	-	NO	-	-	-	-
		32	412.62	-	-	-	-	NO	-	-	-	-
		34	410.62	-	-	-	-	NO	-	-	-	-
		36	408.62	-	-	-	-	NO	-	-	-	-
		38	406.62	-	-	-	-	NO	-	-	-	-
		40	404.62	-	-	-	-	NO	-	-	-	-
		42	402.62	-	-	-	-	NO	-	-	-	-
		44	400.62	-	-	-	-	NO	-	-	-	-
		45	399.62	2.5	-	-	-	NO	-	-	-	-
		46	398.62	-	-	-	-	NO	-	-	-	-
		48	396.62	-	-	-	-	NO	-	-	-	-
		50	394.62	1200	-	-	-	NO	-	NO	-	-
		50	394.62	1200	-	-	-	NO	-	NO	-	-
		52	392.62	-	-	-	-	NO	-	-	-	-
		54	390.62	-	-	-	-	NO	-	-	-	-
		55	389.62	680	-	-	-	NO	-	-	-	-
		60	384.62	650	-	-	-	NO	-	-	-	-
		62	382.62	-	-	-	-	NO	-	-	-	-
		64	380.62	-	-	-	-	NO	-	-	-	-
		65	379.62	880	-	-	-	NO	-	-	-	-
		66	378.62	-	-	-	-	NO	-	-	-	-
		68	376.62	-	-	-	-	NO	-	-	-	-
		70	374.62	-	-	-	-	NO	-	-	-	-
		71	373.62	1200	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-4	434.51	0	434.51	-	-	-	0.0	NO	-	-	-	-
		2	432.51	-	-	-	1.5	NO	-	-	-	-
		4	430.51	-	-	-	2.3	NO	-	-	-	-
		6	428.51	-	-	-	0.0	NO	-	-	-	-
		8	426.51	-	-	-	0.0	NO	-	-	-	-
		10	424.51	-	-	-	0.0	NO	-	-	-	-
		12	422.51	-	-	-	0.0	NO	-	-	-	-
		14	420.51	-	-	-	0.0	NO	-	-	-	-
		16	418.51	-	-	-	0.0	NO	-	-	-	-
		18	416.51	-	-	-	0.0	NO	-	-	-	-
		20	414.51	-	-	-	0.0	NO	-	-	-	-
		22	412.51	-	-	-	0.0	NO	-	-	-	-
		24	410.51	-	-	-	0.0	NO	-	-	-	-
		26	408.51	-	-	-	0.0	NO	-	-	-	-
		28	406.51	-	-	-	0.0	NO	-	-	-	-
		30	404.51	-	-	-	0.0	NO	-	-	-	-
		32	402.51	-	-	-	0.0	NO	-	-	-	-
		33	401.51	-	-	-	-	NO	-	-	1.0×10^{-2}	1.0×10^{-2}
		34	400.51	-	-	-	-	NO	-	-	-	-
		35	399.51	0.0063	0.005	-	0.7	NO	NO	NO	-	-
		36	398.51	-	-	-	0.7	NO	-	-	-	-
		37	397.51	-	-	Negative	71.0	NO	-	-	-	-
		38	396.51	-	-	-	71.0	NO	-	-	-	-
		40	394.51	-	-	-	1.0	YES	-	-	-	-
		41	393.51	67	0.092	Negative	30.9	YES	YES	NO	-	-
		42	392.51	-	-	-	30.9	YES	-	-	-	-
		43	391.51	0.3	-	-	444.0	YES	-	-	-	-
		44	390.51	-	-	-	444.0	NO	-	-	-	-
		46	388.51	-	-	-	46.1	NO	-	-	-	-
		48	386.51	-	-	-	25.8	NO	-	-	-	-
		50	384.51	2.3	-	-	956.0	NO	-	-	-	-
		52	382.51	-	-	-	960.0	YES	-	-	-	-
		53	381.51	290	320	-	366.0	YES	-	NO	-	-
		54	380.51	-	-	-	366.0	YES	-	-	-	-
		56	378.51	-	-	-	82.0	NO	-	-	-	-
		58	376.51	-	-	-	-	NO	-	-	-	-
		60	374.51	0.039	-	-	18.0	NO DATA	-	-	2.9×10^{-3}	2.4×10^{-2}
		62	372.51	-	-	-	-	NO DATA	-	-	-	-
		64	370.51	-	-	-	-	NO DATA	-	-	-	-
		66	368.51	-	-	-	-	NO DATA	-	-	-	-
		68	366.51	-	-	-	-	NO DATA	-	-	-	-
		70	364.51	0.076	-	-	-	NO DATA	-	-	-	-
		70	364.51	0.0078	-	-	-	NO DATA	-	-	-	-
		72	362.51	-	-	-	-	NO DATA	-	-	-	-
		74	360.51	-	-	-	-	NO DATA	-	-	-	-
		76	358.51	-	-	-	-	NO DATA	-	-	-	-
		78	356.51	-	-	-	-	NO DATA	-	-	-	-
		80	354.51	0.0036	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-5	435.51	0	435.51	-	-	-	0.0	NO	-	-	-	-
		2	433.51	-	-	-	0.0	NO	-	-	-	-
		4	431.51	-	-	-	0.0	NO	-	-	-	-
		6	429.51	-	-	-	0.0	NO	-	-	-	-
		8	427.51	-	-	-	0.0	NO	-	-	-	-
		10	425.51	-	-	-	0.0	NO	-	-	-	-
		12	423.51	-	-	-	0.0	NO	-	-	-	-
		14	421.51	-	-	-	0.0	NO	-	-	-	-
		16	419.51	-	-	-	0.0	NO	-	-	-	-
		17	418.51	-	0.001	Negative	0.0	NO	-	-	-	-
		18	417.51	-	-	-	0.0	NO	-	-	-	-
		20	415.51	-	-	-	0.0	NO	-	-	-	-
		22	413.51	-	-	-	0.0	NO	-	-	-	-
		24	411.51	-	-	-	0.0	NO	-	-	-	-
		26	409.51	-	-	-	0.0	NO	-	-	-	-
		28	407.51	-	-	-	0.0	NO	-	-	-	-
		30	405.51	-	-	-	0.0	NO	-	-	-	-
		32	403.51	-	-	-	0.1	NO	-	-	-	-
		34	401.51	-	-	-	3.7	NO	-	-	-	-
		36	399.51	-	-	-	165.0	NO	-	-	-	-
		37	398.51	-	-	Negative	1109.3	NO	-	-	-	-
		38	397.51	-	-	-	1109.3	NO	-	-	-	-
		40	395.51	-	-	-	509.0	NO	-	-	-	-
		41	394.51	-	-	Positive	509.0	YES	-	-	-	-
		42	393.51	1990	-	-	>5000	YES	-	NO	-	-
		42	393.51	1910	-	-	>5000	YES	-	-	-	-
		43	392.51	-	7380	Positive	>5000	YES	-	-	-	-
		44	391.51	-	-	-	>5000	YES	-	-	-	-
		45	390.51	-	-	-	-	YES	-	-	6.5×10^{-5}	1.0×10^{-2}
		46	389.51	-	-	-	-	NO	-	-	-	-
		48	387.51	226	-	-	353.0	NO	-	NO	-	-
		50	385.51	-	-	-	553.0	NO	-	-	-	-
		51	384.51	-	-	Negative	2555.0	NO	-	-	-	-
		52	383.51	-	-	-	2555.0	YES	-	-	-	-
		53	382.51	-	982	Positive	1612.0	YES	-	-	-	-
		54	381.51	0.455	-	-	1612.0	YES	-	NO	-	-
		56	379.51	-	-	-	-	YES	-	-	-	-
		57	378.51	-	-	-	-	NO	-	-	2.1×10^{-4}	5.2×10^{-3}
		58	377.51	-	-	-	-	NO	-	-	-	-
		60	375.51	-	-	-	3200.0	NO	-	-	-	-
		62	373.51	0.195	4.15	-	98.0	NO	-	-	-	-
		64	371.51	-	-	-	-	NO	-	-	-	-
		66	369.51	-	-	-	-	NO	-	-	-	-
		68	367.51	-	-	-	-	NO	-	-	-	-
		70	365.51	0.184	-	-	-	NO	-	-	-	-
		72	363.51	-	-	-	-	NO DATA	-	-	-	-
		74	361.51	-	-	-	-	NO DATA	-	-	-	-
		76	359.51	-	-	-	-	NO DATA	-	-	-	-
		78	357.51	-	-	-	-	NO DATA	-	-	-	-
		80	355.51	0.18	4.15	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-6	443.78	0	443.78	-	-	-	0.0	NO	-	-	-	-
		2	441.78	-	-	-	0.0	NO	-	-	-	-
		4	439.78	-	-	-	0.0	NO	-	-	-	-
		6	437.78	-	-	-	0.0	NO	-	-	-	-
		8	435.78	-	-	-	0.0	NO	-	-	-	-
		10	433.78	-	-	-	0.0	NO	-	-	-	-
		12	431.78	-	-	-	0.0	NO	-	-	-	-
		14	429.78	-	-	-	0.1	NO	-	-	-	-
		16	427.78	-	-	-	0.4	NO	-	-	-	-
		18	425.78	-	-	-	0.3	NO	-	-	-	-
		20	423.78	-	-	-	0.3	NO	-	-	-	-
		22	421.78	-	-	-	0.4	NO	-	-	-	-
		24	419.78	-	-	-	0.8	NO	-	-	-	-
		26	417.78	-	-	-	0.1	NO	-	-	-	-
		28	415.78	-	-	-	0.1	NO	-	-	-	-
		30	413.78	-	-	-	0.2	NO	-	-	-	-
		32	411.78	-	-	-	0.1	NO	-	-	-	-
		34	409.78	-	-	-	0.0	NO	-	-	-	-
		36	407.78	-	-	-	0.1	NO	-	-	-	-
		38	405.78	-	-	-	0.0	NO	-	-	-	-
		40	403.78	-	-	-	361.0	NO	-	-	-	-
		41	402.78	-	-	-	361.0	NO	-	-	2.8×10^{-2}	2.3×10^{-2}
		42	401.78	-	-	-	19.4	NO	-	-	-	-
		44	399.78	-	-	-	-	NO	-	-	-	-
		45	398.78	-	19	-	37.0	NO	-	-	-	-
		46	397.78	-	120	Positive	37.0	NO	YES	NO	-	-
		48	395.78	-	-	-	531.0	YES	-	-	-	-
		50	393.78	-	-	-	375.0	YES	-	-	-	-
		51	392.78	-	70	Negative	280.0	YES	-	-	-	-
		52	391.78	-	-	-	280.0	NO DATA	-	-	-	-
		54	389.78	-	8.1	-	165.0	NO DATA	-	-	-	-
		56	387.78	-	-	-	161.0	NO DATA	-	-	-	-
		58	385.78	-	-	-	106.0	NO DATA	-	-	-	-
		60	383.78	-	-	-	14.0	NO DATA	-	-	-	-
		62	381.78	-	-	-	0.2	NO DATA	-	-	-	-
		63	380.78	-	2.3	-	0.1	NO DATA	-	-	-	-
		64	379.78	-	-	-	0.1	NO DATA	-	-	-	-
		66	377.78	-	-	-	6.2	NO DATA	-	-	-	-
		68	375.78	-	-	-	1.7	NO DATA	-	-	-	-
		70	373.78	-	-	-	1.3	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-7	443.52	0	443.52	-	-	-	0.0	NO	-	-	-	-
		2	441.52	-	-	-	0.0	NO	-	-	-	-
		4	439.52	-	-	-	0.0	NO	-	-	-	-
		6	437.52	-	-	-	0.0	NO	-	-	-	-
		8	435.52	-	-	-	0.0	NO	-	-	-	-
		10	433.52	-	-	-	0.0	NO	-	-	-	-
		12	431.52	-	-	-	0.0	NO	-	-	-	-
		14	429.52	-	-	-	0.0	NO	-	-	-	-
		16	427.52	-	-	-	0.0	NO	-	-	-	-
		18	425.52	-	-	-	0.4	NO	-	-	-	-
		20	423.52	-	-	-	0.0	NO	-	-	-	-
		22	421.52	-	-	-	0.0	NO	-	-	-	-
		24	419.52	-	-	-	0.0	NO	-	-	-	-
		26	417.52	-	-	-	0.1	NO	-	-	-	-
		27	416.52	-	0.0022	-	0.0	NO	-	-	-	-
		28	415.52	-	-	-	0.0	NO	-	-	-	-
		30	413.52	-	-	-	0.0	NO	-	-	-	-
		32	411.52	-	-	-	0.0	NO	-	-	-	-
		34	409.52	-	-	-	0.0	NO	-	-	-	-
		36	407.52	-	-	-	0.0	NO	-	-	-	-
		38	405.52	-	-	-	0.0	NO	-	-	-	-
		40	403.52	-	-	-	0.0	NO	-	-	-	-
		42	401.52	-	-	-	-	NO	-	-	-	-
		43	400.52	-	0.054	-	-	NO	-	-	1.9×10^{-3}	1.5×10^{-2}
		44	399.52	-	-	-	-	NO	-	-	-	-
		45	398.52	0.4	-	-	-	NO	-	-	-	-
		46	397.52	-	-	-	1.5	YES	-	-	-	-
		47	396.52	-	-	Positive	1.5	YES	-	-	-	-
		48	395.52	-	-	-	1.7	YES	-	-	-	-
		49	394.52	-	-	Positive	1.7	YES	-	-	-	-
		50	393.52	500	-	-	2342.0	YES	-	NO	-	-
		50	393.52	380	-	-	2342.0	YES	-	NO	-	-
		51	392.52	-	5200	Positive	2500.0	YES	-	-	-	-
		51	392.52	-	5000	Positive	2500.0	YES	-	-	-	-
		52	391.52	-	-	-	2500.0	YES	-	-	-	-
		53	390.52	-	-	-	-	YES	-	-	4.6×10^{-5}	2.0×10^{-3}
		54	389.52	-	-	-	-	NO DATA	-	-	-	-
		55	388.52	1400	-	-	542.0	NO DATA	-	-	-	-
		56	387.52	-	-	-	542.0	NO DATA	-	-	-	-
		58	385.52	-	-	-	47.3	NO DATA	-	-	-	-
		60	383.52	-	-	-	62.0	NO DATA	-	-	-	-
		62	381.52	-	-	-	130.0	NO DATA	-	-	-	-
		64	379.52	-	-	-	392.0	NO DATA	-	-	-	-
		66	377.52	-	-	-	646.0	NO DATA	-	-	-	-
		68	375.52	-	-	-	92.0	NO DATA	-	-	-	-
		70	373.52	-	-	-	3.0	NO DATA	-	-	-	-
		72	371.52	-	-	-	0.4	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-8	434.68	0	434.68	-	-	-	0.0	NO	-	-	-	-
		2	432.68	-	-	-	0.0	NO	-	-	-	-
		4	430.68	-	-	-	0.0	NO	-	-	-	-
		6	428.68	-	-	-	0.0	NO	-	-	-	-
		8	426.68	-	-	-	0.0	NO	-	-	-	-
		10	424.68	-	-	-	0.0	NO	-	-	-	-
		12	422.68	-	-	-	0.0	NO	-	-	-	-
		14	420.68	-	-	-	0.1	NO	-	-	-	-
		16	418.68	-	-	-	0.1	NO	-	-	-	-
		18	416.68	-	-	-	0.1	NO	-	-	-	-
		20	414.68	-	-	-	0.1	NO	-	-	-	-
		22	412.68	-	-	-	0.1	NO	-	-	-	-
		24	410.68	-	-	-	0.1	NO	-	-	-	-
		26	408.68	-	-	-	0.1	NO	-	-	-	-
		28	406.68	-	-	-	51.0	NO	-	-	-	-
		30	404.68	-	-	-	157.0	NO	-	-	-	-
		32	402.68	-	-	-	624.0	NO	-	-	-	-
		34	400.68	-	-	-	507.0	NO	-	-	-	-
		35	399.68	810	-	-	507.0	NO	-	-	-	-
		36	398.68	-	-	-	451.0	YES	-	-	-	-
		37	397.68	-	110	Negative	451.0	YES	-	-	-	-
		37	397.68	-	86	Negative	652.0	YES	-	-	-	-
		38	396.68	-	-	-	652.0	YES	-	-	-	-
		39	395.68	-	-	Positive	3214.0	YES	-	-	-	-
		40	394.68	-	2300	-	3214.0	YES	-	-	-	-
		41	393.68	4.9	-	Negative	3214	YES	-	NO	-	-
		42	392.68	-	-	-	>5000	YES	-	-	-	-
		44	390.68	-	-	-	1509	YES	-	-	-	-
		46	388.68	0.086	-	-	488.0	NO	-	NO	-	-
		48	386.68	-	-	-	355.0	NO	-	-	-	-
		50	384.68	-	-	-	173.0	NO	-	-	-	-
		51	383.68	-	<5.4	Positive	173.0	YES	-	-	-	-
		52	382.68	0.014	-	-	763.0	YES	-	NO	-	-
		53	381.68	-	-	Positive	763.0	YES	-	-	-	-
		54	380.68	-	-	-	744.0	YES	-	-	-	-
		56	378.68	-	-	-	93.0	NO	-	-	-	-
		57	377.68	0.011	-	-	93.0	NO	-	-	-	-
		58	376.68	-	-	-	56.0	NO	-	-	-	-
		60	374.68	-	-	-	83.0	NO	-	-	-	-
		62	372.68	0.02	0.14	-	50.0	NO	-	-	-	-
		64	370.68	-	-	-	58.0	NO	-	-	-	-
		66	368.68	-	-	-	35.0	NO	-	-	-	-
		68	366.68	-	-	-	52.0	NO	-	-	-	-
		70	364.68	0.12	-	-	24.0	NO	-	-	-	-
		72	362.68	-	-	-	-	NO DATA	-	-	-	-
		74	360.68	-	-	-	-	NO DATA	-	-	-	-
		76	358.68	-	-	-	-	NO DATA	-	-	-	-
		78	356.68	-	-	-	-	NO DATA	-	-	-	-
		80	354.68	0.27	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-9	435.72	0	435.72	-	-	-	0.0	NO	-	-	-	-
		2	433.72	-	-	-	0.0	NO	-	-	-	-
		4	431.72	-	-	-	0.0	NO	-	-	-	-
		6	429.72	-	-	-	0.0	NO	-	-	-	-
		8	427.72	-	-	-	0.0	NO	-	-	-	-
		10	425.72	-	-	-	0.0	NO	-	-	-	-
		12	423.72	-	-	-	0.0	NO	-	-	-	-
		14	421.72	-	-	-	0.0	NO	-	-	-	-
		16	419.72	-	-	-	0.0	NO	-	-	-	-
		18	417.72	-	-	-	0.0	NO	-	-	-	-
		20	415.72	-	-	-	0.0	NO	-	-	-	-
		22	413.72	-	-	-	0.0	NO	-	-	-	-
		24	411.72	-	-	-	0.0	NO	-	-	-	-
		26	409.72	-	-	-	0.0	NO	-	-	-	-
		28	407.72	-	-	-	0.0	NO	-	-	-	-
		30	405.72	-	-	-	0.0	NO	-	-	-	-
		32	403.72	-	-	-	-	NO	-	-	-	-
		34	401.72	-	-	-	0.0	NO	-	-	-	-
		35	400.72	1.4	-	-	0.0	NO	-	-	-	-
		36	399.72	-	-	-	0.0	NO	-	-	-	-
		38	397.72	-	-	-	9.2	NO	-	-	-	-
		40	395.72	1100	-	-	9.0	NO	-	-	-	-
		41	394.72	-	0.036	Negative	9.0	NO	-	-	-	-
		42	393.72	-	-	-	2.0	NO	-	-	-	-
		43	392.72	-	43	Negative	2.0	NO	-	-	-	-
		44	391.72	-	-	-	503.0	NO	-	-	-	-
		45	390.72	340	-	-	503.0	NO	-	-	-	-
		46	389.72	-	-	-	356.0	NO	-	-	-	-
		48	387.72	-	-	-	965.0	NO	-	-	-	-
		49	386.72	-	-	Positive	965.0	NO	-	-	-	-
		50	385.72	-	-	-	56.0	NO	-	-	-	-
		52	383.72	-	-	-	1477.0	NO	-	-	-	-
		53	382.72	-	-	Positive	1477.0	NO	-	-	-	-
		54	381.72	20	240	-	2148.0	NO	-	-	-	-
		54	381.72	-	260	-	2148.0	NO	-	-	-	-
		55	380.72	-	-	Positive	2148.0	NO	-	-	-	-
		56	379.72	-	-	-	873.0	NO	-	-	-	-
		57	378.72	-	-	Negative	873.0	NO	-	-	-	-
		58	377.72	-	-	-	56.1	NO	-	-	-	-
		60	375.72	0.89	-	-	2.0	NO	-	-	-	-
		62	373.72	-	-	-	10.2	NO	-	-	-	-
		64	371.72	-	-	-	6.7	NO	-	-	-	-
		66	369.72	-	-	-	9.1	NO	-	-	-	-
		68	367.72	-	-	-	3.4	NO	-	-	-	-
		70	365.72	3.1	-	-	2.6	NO	-	-	-	-
		70	365.72	13	-	-	2.6	NO	-	-	-	-
		72	363.72	-	-	-	-	NO DATA	-	-	-	-
		74	361.72	-	-	-	-	NO DATA	-	-	-	-
		76	359.72	-	-	-	-	NO DATA	-	-	-	-
		78	357.72	-	-	-	-	NO DATA	-	-	-	-
		80	355.72	0.25	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-10	435.99	0	435.99	-	-	-	0.0	NO	-	-	-	-
		2	433.99	-	-	-	0.0	NO	-	-	-	-
		4	431.99	-	-	-	0.0	NO	-	-	-	-
		6	429.99	-	-	-	0.0	NO	-	-	-	-
		8	427.99	-	-	-	0.0	NO	-	-	-	-
		10	425.99	-	-	-	0.0	NO	-	-	-	-
		12	423.99	-	-	-	0.0	NO	-	-	-	-
		14	421.99	-	-	-	0.0	NO	-	-	-	-
		16	419.99	-	-	-	0.0	NO	-	-	-	-
		18	417.99	-	-	-	2.6	NO	-	-	-	-
		19	416.99	-	<0.0254	Positive	3.0	NO	-	-	-	-
		20	415.99	-	-	-	3.0	NO	-	-	-	-
		22	413.99	-	-	-	0.0	NO	-	-	-	-
		24	411.99	-	-	-	0.4	NO	-	-	-	-
		26	409.99	-	-	-	0.1	NO	-	-	-	-
		28	407.99	-	-	-	0.1	NO	-	-	-	-
		30	405.99	-	-	-	0.0	NO	-	-	-	-
		32	403.99	-	-	-	0.0	NO	-	-	-	-
		34	401.99	-	-	-	-	NO	-	-	-	-
		36	399.99	-	-	-	0.0	NO	-	-	-	-
		38	397.99	-	-	-	0.0	NO	-	-	-	-
		40	395.99	-	-	-	0.0	NO	-	-	-	-
		42	393.99	-	-	-	-	NO	-	-	-	-
		44	391.99	-	-	-	-	NO	-	-	1.6×10^{-3}	2.2×10^{-2}
		45	390.99	-	0.0118	-	0.0	NO	-	-	-	-
		46	389.99	-	-	-	0.0	NO	-	-	-	-
		48	387.99	-	-	-	0.0	NO	-	-	-	-
		50	385.99	-	-	-	0.0	NO	-	-	-	-
		52	383.99	-	-	-	-	NO	-	-	-	-
		54	381.99	-	-	-	-	NO	-	-	-	-
		56	379.99	-	-	-	-	NO	-	-	-	-
		58	377.99	-	-	-	-	NO	-	-	-	-
		60	375.99	-	-	-	-	NO	-	-	-	-
		62	373.99	-	-	-	-	NO	-	-	-	-
		64	371.99	-	-	-	-	NO	-	-	-	-
		66	369.99	-	-	-	-	NO	-	-	-	-
		68	367.99	-	-	-	-	NO	-	-	-	-
		70	365.99	-	-	-	-	NO	-	-	-	-
		72	363.99	-	-	-	-	NO DATA	-	-	-	-
		74	361.99	-	-	-	-	NO DATA	-	-	-	-
		76	359.99	-	-	-	-	NO DATA	-	-	-	-
		78	357.99	-	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-11	436.54	0	436.54	-	-	-	0.0	NO	-	-	-	-
		2	434.54	-	-	-	0.0	NO	-	-	-	-
		4	432.54	-	-	-	0.0	NO	-	-	-	-
		6	430.54	-	-	-	0.0	NO	-	-	-	-
		8	428.54	-	-	-	0.0	NO	-	-	-	-
		10	426.54	-	-	-	0.0	NO	-	-	-	-
		12	424.54	-	-	-	0.0	NO	-	-	-	-
		14	422.54	-	-	-	12.8	NO	-	-	-	-
		16	420.54	-	-	-	0.2	NO	-	-	-	-
		18	418.54	-	-	-	0.0	NO	-	-	-	-
		20	416.54	-	-	-	1.4	NO	-	-	-	-
		21	415.54	-	-	Negative	1.4	NO	-	-	-	-
		22	414.54	-	-	-	1.4	NO	-	-	-	-
		24	412.54	-	-	-	2.1	NO	-	-	-	-
		26	410.54	-	-	-	0.0	NO	-	-	-	-
		28	408.54	-	-	-	0.8	NO	-	-	-	-
		30	406.54	-	-	-	3.9	NO	-	-	-	-
		32	404.54	-	-	-	11.7	NO	-	-	-	-
		34	402.54	-	-	-	189.0	YES	-	-	-	-
		35	401.54	0.018	-	-	189.0	YES	-	-	-	-
		36	400.54	-	-	-	576.0	YES	-	-	-	-
		37	399.54	1.4	740	Positive	576.0	YES	-	-	-	-
		38	398.54	-	-	-	4551.0	YES	-	-	-	-
		39	397.54	-	-	Positive	4551	YES	YES	NO	-	-
		40	396.54	-	-	-	>5000	NO DATA	-	NO	-	-
		42	394.54	-	-	-	>5000	NO DATA	-	-	-	-
		43	393.54	2500	-	-	>5000	NO DATA	-	-	-	-
		43	393.54	2400	-	-	>5000	NO DATA	-	-	-	-
		44	392.54	-	-	-	>5000	NO DATA	-	-	-	-
		45	391.54	-	29	Positive	>5000	NO DATA	-	-	-	-
		46	390.54	-	-	-	>5000	NO DATA	-	-	-	-
		48	388.54	-	-	-	5	NO DATA	-	-	-	-
		50	386.54	1.9	-	-	25.2	NO DATA	-	-	-	-
		52	384.54	-	-	-	128.0	NO DATA	-	-	-	-
		54	382.54	-	-	-	14.8	NO DATA	-	-	-	-
		56	380.54	1.2	-	-	3.3	NO DATA	-	-	-	-
		57	379.54	-	15	Negative	3.3	NO DATA	-	-	-	-
		58	378.54	-	-	-	129.0	NO DATA	-	-	-	-
		60	376.54	200	-	-	694.0	NO DATA	-	-	-	-
		61	375.54	-	8.9	Negative	694.0	NO DATA	-	-	-	-
		62	374.54	-	-	-	659.0	NO DATA	-	-	-	-
		64	372.54	-	-	-	371.0	NO DATA	-	-	-	-
		66	370.54	-	-	-	60.9	NO DATA	-	-	-	-
		66.7	369.84	0.29	-	-	60.9	NO DATA	-	-	-	-
		68	368.54	-	-	-	-	NO DATA	-	-	-	-
		70	366.54	-	-	-	21.9	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-12	436.03	0	436.03	-	-	-	0.0	NO	-	-	-	-
		2	434.03	-	-	-	0.0	NO	-	-	-	-
		4	432.03	-	-	-	0.0	NO	-	-	-	-
		6	430.03	-	-	-	0.0	NO	-	-	-	-
		8	428.03	-	-	-	0.0	NO	-	-	-	-
		10	426.03	-	-	-	0.0	NO	-	-	-	-
		12	424.03	-	-	-	0.0	NO	-	-	-	-
		14	422.03	-	-	-	0.0	NO	-	-	-	-
		16	420.03	-	-	-	0.0	NO	-	-	-	-
		18	418.03	-	-	-	0.0	NO	-	-	-	-
		20	416.03	-	-	-	0.0	NO	-	-	-	-
		22	414.03	-	-	-	0.0	NO	-	-	-	-
		24	412.03	-	-	-	0.0	NO	-	-	-	-
		26	410.03	-	-	-	0.0	NO	-	-	-	-
		28	408.03	-	-	-	0.0	NO	-	-	-	-
		30	406.03	-	-	-	0.0	NO	-	-	-	-
		32	404.03	-	-	-	0.0	NO	-	-	-	-
		34	402.03	-	-	-	0.0	NO	-	-	-	-
		36	400.03	-	-	-	0.0	NO	-	-	-	-
		38	398.03	-	-	-	-	NO	-	-	-	-
		40	396.03	-	-	-	0.9	NO	-	-	-	-
		42	394.03	-	-	-	2.5	NO	-	-	-	-
		44	392.03	-	-	-	34.1	NO	-	-	-	-
		45	391.03	460	-	-	34.1	NO	-	-	-	-
		46	390.03	-	-	-	14.3	NO	-	-	-	-
		48	388.03	-	-	-	6.6	NO	-	-	-	-
		50	386.03	25	-	-	9.2	NO	-	-	-	-
		52	384.03	-	11	-	342.5	NO	-	-	-	-
		54	382.03	-	-	-	1683.4	YES	-	-	-	-
		55	381.03	330	79	Positive	1683.4	YES	-	-	-	-
		56	380.03	-	-	-	1449.6	YES	-	-	-	-
		58	378.03	-	-	-	63.4	NO	-	-	-	-
		59	377.03	-	0.51	-	63.4	NO	-	-	-	-
		60	376.03	0.15	-	-	71.0	NO	-	-	-	-
		62	374.03	-	-	-	35.6	NO	-	-	-	-
		64	372.03	-	-	-	35.6	NO	-	-	-	-
		66	370.03	-	-	-	44.4	NO	-	-	-	-
		68	368.03	-	-	-	17.9	NO	-	-	-	-
		70	366.03	0.0052	-	-	21.7	NO	-	-	-	-
		72	364.03	-	-	-	-	NO DATA	-	-	-	-
		73	363.03	0.0012	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-13	433.32	0	433.32	-	-	-	0.0	NO	-	-	-	-
		2	431.32	-	-	-	0.0	NO	-	-	-	-
		4	429.32	-	-	-	0.0	NO	-	-	-	-
		6	427.32	-	-	-	0.0	NO	-	-	-	-
		8	425.32	-	-	-	0.0	NO	-	-	-	-
		10	423.32	-	-	-	0.0	NO	-	-	-	-
		12	421.32	-	-	-	-	NO	-	-	-	-
		14	419.32	-	-	-	-	NO	-	-	-	-
		16	417.32	-	-	-	-	NO	-	-	-	-
		18	415.32	-	-	-	-	NO	-	-	-	-
		20	413.32	-	-	-	-	NO	-	-	-	-
		22	411.32	-	-	-	-	NO	-	-	-	-
		24	409.32	-	-	-	-	NO	-	-	-	-
		26	407.32	-	-	-	-	NO	-	-	-	-
		28	405.32	-	-	-	-	NO	-	-	-	-
		30	403.32	-	-	-	-	NO	-	-	-	-
		32	401.32	-	-	-	-	NO	-	-	-	-
		34	399.32	-	-	-	-	NO	-	-	-	-
		36	397.32	-	-	-	-	NO	-	-	-	-
		38	395.32	-	-	-	-	NO	-	-	-	-
		40	393.32	0.00043	-	-	-	NO	-	-	-	-
		42	391.32	-	-	-	-	NO	-	-	-	-
		44	389.32	-	-	-	-	NO	-	-	-	-
		46	387.32	0.0021	-	-	-	NO	-	-	-	-
		48	385.32	-	-	-	-	NO	-	-	-	-
		50	383.32	0.00093	-	-	-	NO	-	-	-	-
		52	381.32	-	-	-	-	NO	-	-	-	-
		54	379.32	-	-	-	-	NO	-	-	-	-
		56	377.32	-	-	-	-	NO	-	-	-	-
		58	375.32	-	-	-	-	NO	-	-	-	-
		59	374.32	ND	-	-	-	NO	-	-	-	-
		60	373.32	-	-	-	-	NO	-	-	-	-
		62	371.32	-	-	-	-	NO	-	-	-	-
		64	369.32	-	-	-	-	NO	-	-	-	-
		65	368.32	0.0026	-	-	-	NO	-	-	-	-
		66	367.32	-	-	-	-	NO	-	-	-	-
		68	365.32	-	-	-	-	NO	-	-	-	-
		70	363.32	0.00047	-	-	-	NO	-	-	-	-
		72	361.32	-	-	-	-	NO DATA	-	-	-	-
		74	359.32	-	-	-	-	NO DATA	-	-	-	-
		76	357.32	-	-	-	-	NO DATA	-	-	-	-
		78	355.32	-	-	-	-	NO DATA	-	-	-	-
		80	353.32	ND	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-14	443.05	0	443.05	-	-	-	0.0	NO	-	-	-	-
		2	441.05	-	-	-	0.0	NO	-	-	-	-
		4	439.05	-	-	-	0.0	NO	-	-	-	-
		6	437.05	-	-	-	0.0	NO	-	-	-	-
		8	435.05	-	-	-	0.0	NO	-	-	-	-
		10	433.05	-	-	-	0.0	NO	-	-	-	-
		12	431.05	-	-	-	0.0	NO	-	-	-	-
		14	429.05	-	-	-	0.0	NO	-	-	-	-
		16	427.05	-	-	-	0.0	NO	-	-	-	-
		18	425.05	-	-	-	0.0	NO	-	-	-	-
		20	423.05	-	-	-	0.0	NO	-	-	-	-
		22	421.05	-	-	-	0.0	NO	-	-	-	-
		24	419.05	-	-	-	0.0	NO	-	-	-	-
		26	417.05	-	-	-	0.0	NO	-	-	-	-
		28	415.05	-	-	-	0.0	NO	-	-	-	-
		30	413.05	-	-	-	0.0	NO	-	-	-	-
		32	411.05	-	-	-	0.0	NO	-	-	-	-
		34	409.05	-	-	-	0.0	NO	-	-	-	-
		36	407.05	-	-	-	0.0	NO	-	-	-	-
		38	405.05	-	-	-	0.0	NO	-	-	-	-
		40	403.05	230	-	-	0.0	NO	-	-	-	-
		42	401.05	-	-	-	0.0	NO	-	-	-	-
		44	399.05	-	-	-	0.0	NO	-	-	-	-
		45	398.05	2000	290	-	0.0	NO	-	-	-	-
		46	397.05	-	-	-	84.5	NO	-	-	-	-
		48	395.05	-	-	-	>5000	YES	-	-	-	-
		49	394.05	-	23000	Negative	>5000	YES	-	-	-	-
		49	394.05	-	13000	Negative	>5000	YES	-	-	-	-
		50	393.05	2300	-	-	>5000	YES	-	-	-	-
		50	393.05	2900	-	-	>5000	YES	-	-	-	-
		51	392.05	-	-	Negative	>5000	YES	-	-	-	-
		52	391.05	-	-	-	255.0	NO	-	-	-	-
		53	390.05	970	-	-	255.0	NO	-	-	-	-
		54	389.05	-	-	-	19.0	NO	-	NO	-	-
		55	388.05	-	10	-	19.0	NO	-	-	-	-
		56	387.05	-	-	-	41.5	NO	-	-	-	-
		58	385.05	-	-	-	216.8	NO DATA	-	-	-	-
		59	384.05	-	-	Positive	216.8	NO DATA	NO	NO	-	-
		60	383.05	140	-	-	1221.1	NO DATA	-	-	-	-
		62	381.05	-	-	-	1062.0	NO DATA	-	-	-	-
		64	379.05	-	-	-	30.6	NO DATA	-	-	-	-
		66	377.05	-	-	-	7.3	NO DATA	-	-	-	-
		68	375.05	-	-	-	3.9	NO DATA	-	-	-	-
		70	373.05	10	-	-	2.8	NO DATA	-	-	-	-
		72	371.05	-	-	-	-	NO DATA	-	-	-	-
		74	369.05	-	-	-	-	NO DATA	-	-	-	-
		76	367.05	-	-	-	-	NO DATA	-	-	-	-
		78	365.05	-	-	-	-	NO DATA	-	-	-	-
		78.5	364.55	0.31	-	-	-	NO DATA	-	-	-	-

Well ID	Ground Elevation (NGVD)	Sample Depths (bgs)	Sample Elevations (NGVD)	Groundwater Benzene Result (mg/L)	Soil Benzene Result (mg/kg)	Sudan Test Results	PID (ppm)	Blue Shift from DyeLIF	Fluorescent NAPL from Dakota	Westhollow NAPL Confirmation	Vertical Conductivity (cm/s)	Horizontal Conductivity (cm/s)
PD-17	443.92	0	443.92	-	-	-	0.0	NO	-	-	-	-
		2	441.92	-	-	-	0.0	NO	-	-	-	-
		4	439.92	-	-	-	0.0	NO	-	-	-	-
		6	437.92	-	-	-	0.0	NO	-	-	-	-
		8	435.92	-	-	-	0.0	NO	-	-	-	-
		10	433.92	-	-	-	0.0	NO	-	-	-	-
		12	431.92	-	-	-	0.0	NO	-	-	-	-
		14	429.92	-	-	-	0.0	NO	-	-	-	-
		16	427.92	-	-	-	0.0	NO	-	-	-	-
		18	425.92	-	-	-	0.0	NO	-	-	-	-
		20	423.92	-	-	-	0.0	NO	-	-	-	-
		22	421.92	-	-	-	0.0	NO	-	-	-	-
		24	419.92	-	-	-	0.0	NO	-	-	-	-
		26	417.92	-	-	-	0.0	NO	-	-	-	-
		28	415.92	-	-	-	0.0	NO	-	-	-	-
		30	413.92	-	-	-	0.0	NO	-	-	-	-
		32	411.92	-	-	-	0.0	NO	-	-	-	-
		34	409.92	-	-	-	0.0	NO	-	-	-	-
		36	407.92	-	-	-	0.0	NO	-	-	-	-
		38	405.92	-	-	-	0.0	NO	-	-	-	-
		40	403.92	-	-	-	0.0	NO	-	-	-	-
		42	401.92	-	-	-	0.0	NO	-	-	-	-
		44	399.92	-	-	-	0.0	NO	-	-	-	-
		45	398.92	180	6.5	-	0.0	NO	YES	NO	-	-
		46	397.92	-	-	-	4.2	NO	-	-	-	-
		47.5	396.42	-	-	Positive	4.5	YES	-	-	-	-
		48	395.92	-	-	-	17.6	YES	-	-	-	-
		50	393.92	1600	-	-	297.4	YES	-	NO	-	-
		50	393.92	2200	-	-	297.4	NO DATA	-	NO	-	-
		52	391.92	-	-	-	300.0	NO DATA	-	-	-	-
		54	389.92	-	-	-	598.6	NO DATA	-	-	-	-
		55	388.92	-	32	-	598.6	NO DATA	-	-	-	-
		56	387.92	-	-	-	158.0	NO DATA	-	-	-	-
		58	385.92	-	-	-	6.2	NO DATA	-	-	-	-
		60	383.92	-	-	-	8.7	NO DATA	-	-	-	-
		62	381.92	-	-	-	12.5	NO DATA	-	-	-	-
		64	379.92	-	-	-	3.9	NO DATA	-	-	-	-
		66	377.92	-	-	-	7.8	NO DATA	-	-	-	-
		68	375.92	-	-	-	0.2	NO DATA	-	-	-	-
		70	373.92	-	-	-	2.4	NO DATA	-	-	-	-

NOTES:

1. Table only includes locations where more that one investigation method was conducted.
2. Fluorescent NAPL from Dakota. Dakota viewed samples under a microscope; sample fluoresced in presence of dye
3. Westhollow NAPL Confirmation: Results from selected samples that were sent for analysis to Shell's Westhollow Laboratory.

- = Indicates NM
ND = Non-Detect
NA = Indicates Not Applicable since CPT/DyeLIF hit refusal before this depth
* = Indicates the minimum to maximum estimated K-value from the sample interval based on LIF logs

Indicates Zone of Neglible Impact.
Indicates Zone of Lesser Impact based on fewer lines of supporting data.
Indicates Zone of Highest Impact based on multiple lines of supporting data.

Figures

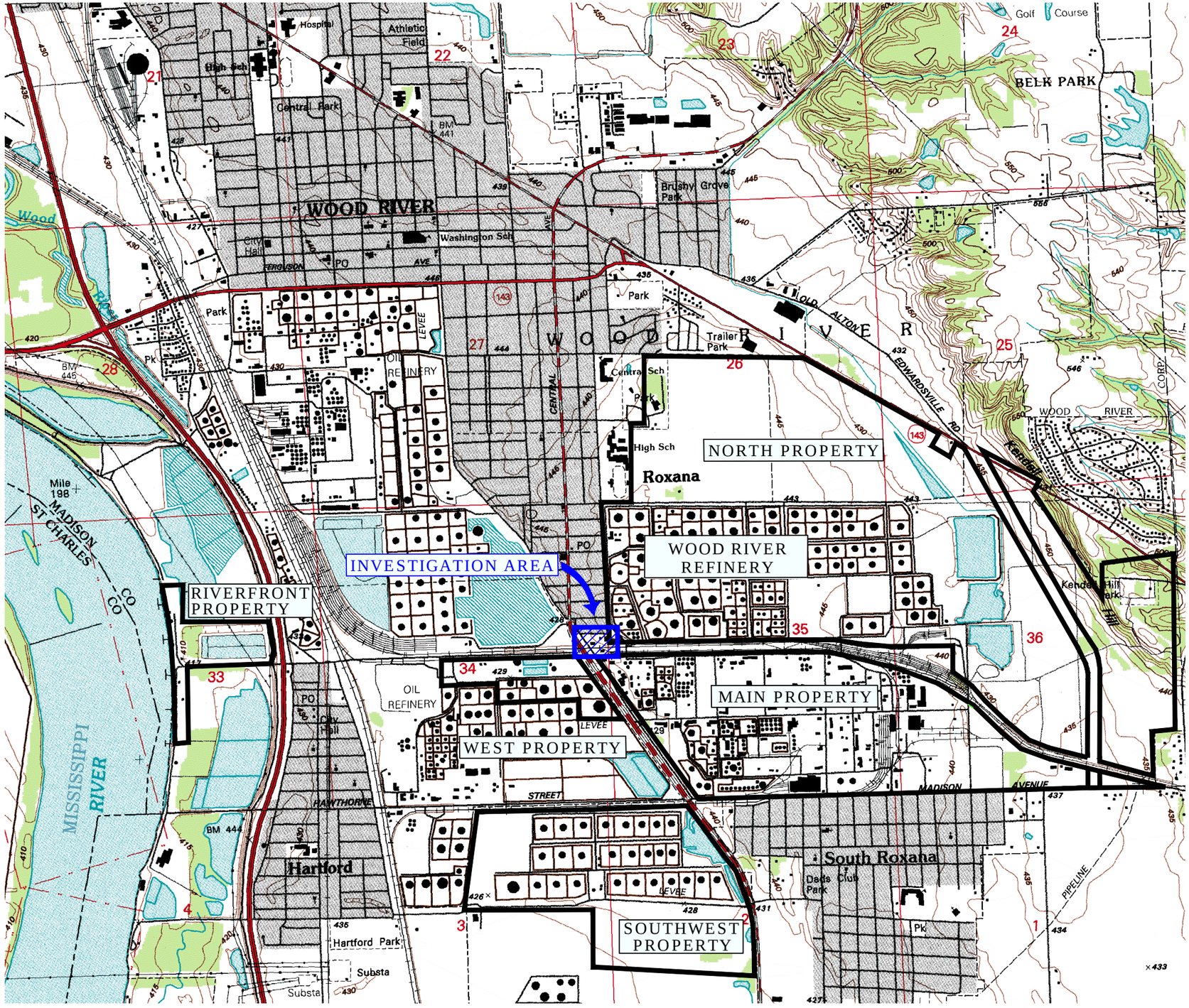
The following EVS Descriptions and Assumptions apply to **Figures 3A-C, 4A-C, 5A-C, 6A-C, 7A-C, 10, and 11**. C Tech Development Corporation's Earth Volumetric Studio, Version 19.2 (EVS 19.2) was used to model the estimated distribution of benzene in the groundwater and soil, as well as lithology derived from cone penetration testing (CPT) data.

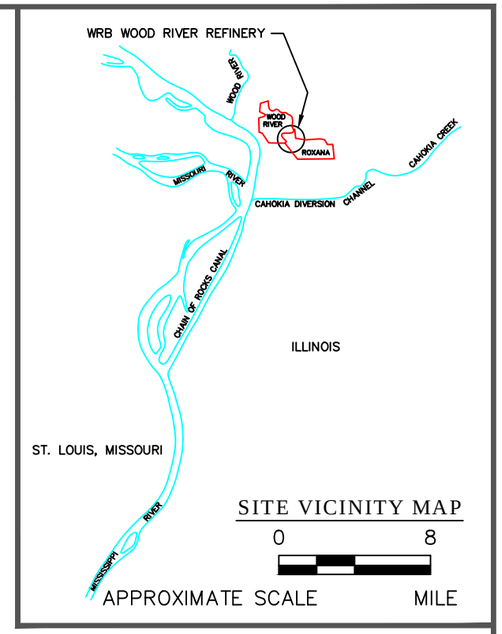
EVS Descriptions and Assumptions:

3D Model Output – The data input for the model was not limited by depth and was modeled in three dimensions (3D) using a 3D interpolation process called kriging.

Duplicate Samples – In locations and depths where duplication samples were collected, the higher concentration was used.

Detection Limits – In cases where the lab reported a non-detect, half the value of the lab reporting limit was used in the model. This conservative method assumes that the sample is likely not free of benzene, but the quantity contained is lower than detectable at the analyzed dilution.





LEGEND

- WOOD RIVER REFINERY PROPERTY BOUNDARY
- INVESTIGATION AREA

SOURCE: ELECTRONIC USGS DIGITAL RASTER GRAPHIC 7.5 MINUTE TOPOGRAPHIC MAP OF WOOD RIVER, IL–MO REVISED 1994.

0 2000 FEET
APPROXIMATE SCALE

N

PUBLIC WORKS YARD
PREDESIGN INVESTIGATION
ROXANA, ILLINOIS

PROJECT NO. 60592794

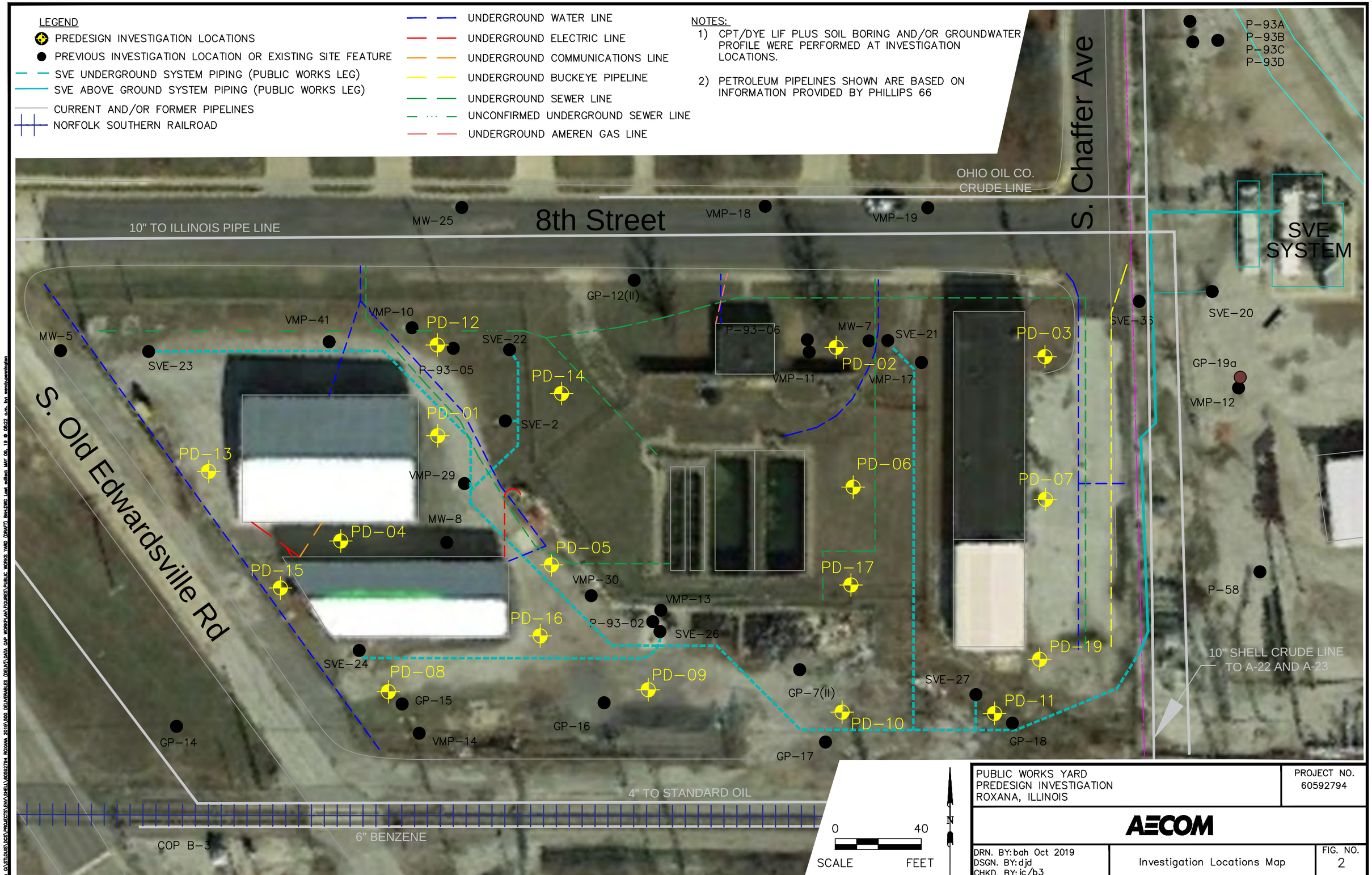
AECOM

DRN. BY: bah Oct 2019
DSGN. BY: djd
CHKD. BY: b3

Investigation Area Location Map

FIG. NO. 1

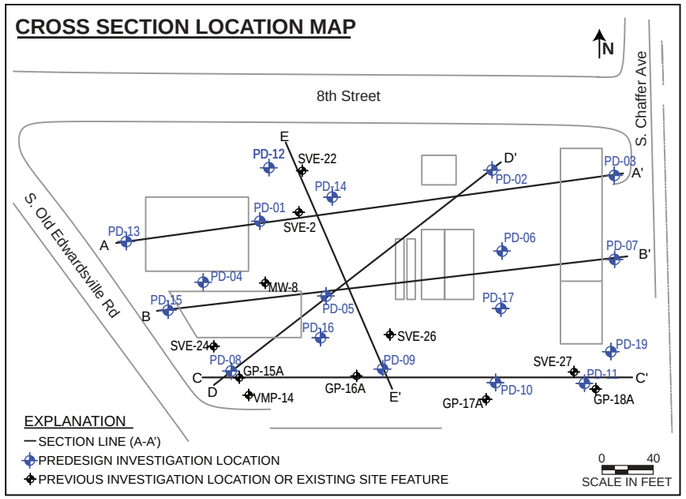
File: C:\USERS\BRETT.HOWELL\DOCUMENTS\ROXANA 2019 – 60592794\PUBLIC WORKS\FIGURES\PUBLIC WORKS YARD (FIG 1 – FINAL) 101019.DWG Last edited: 10/10/19 @ 7:30 AM @ WSC-ST.LOUIS



PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
DRN. BY: bah Oct 2019 DSGN. BY: djd CHKD. BY: jc/b3	Investigation Locations Map
	FIG. NO. 2

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator

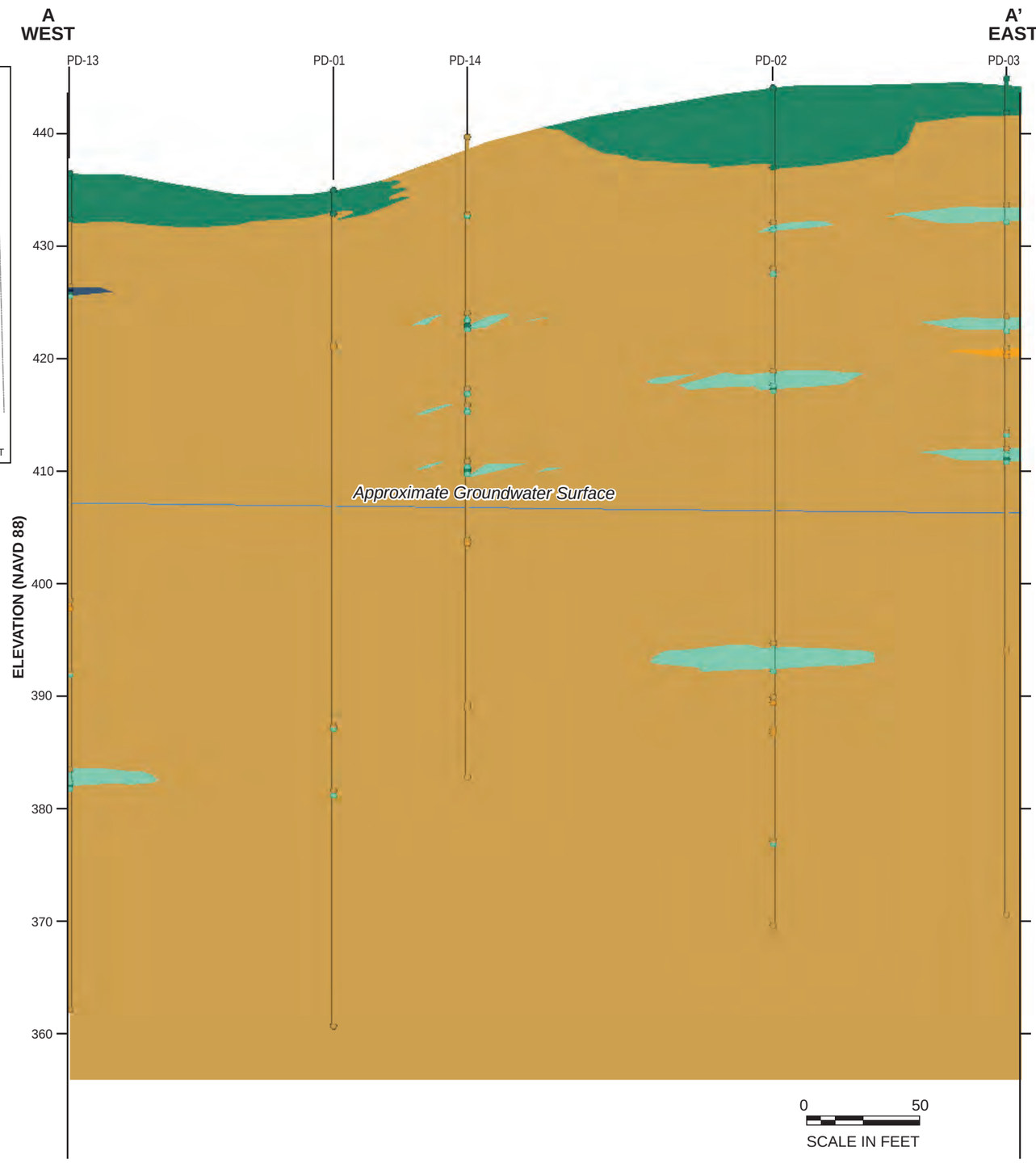
CROSS SECTION LOCATION MAP



EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay



NOTES

NAVD 88 North American Vertical Datum

1. Lithology was modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2.
2. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
3. Locations within 15 feet were projected onto the cross section line.
4. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION A-A' LITHOLOGY	FIG. NO. 3A

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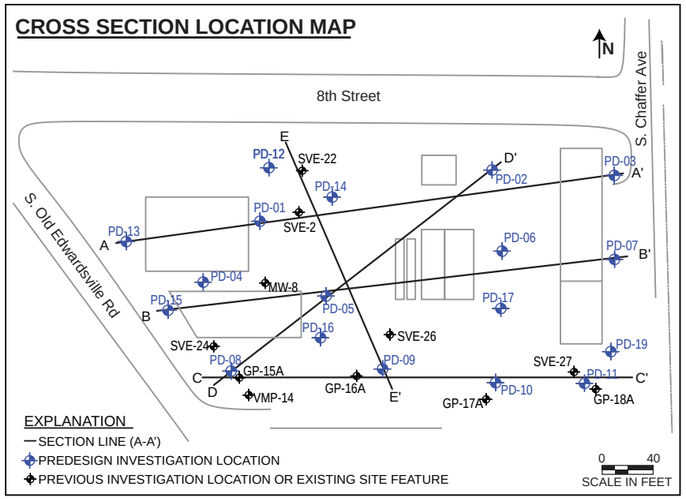
CROSS SECTION LOCATION MAP



EXPLANATION

Lithology

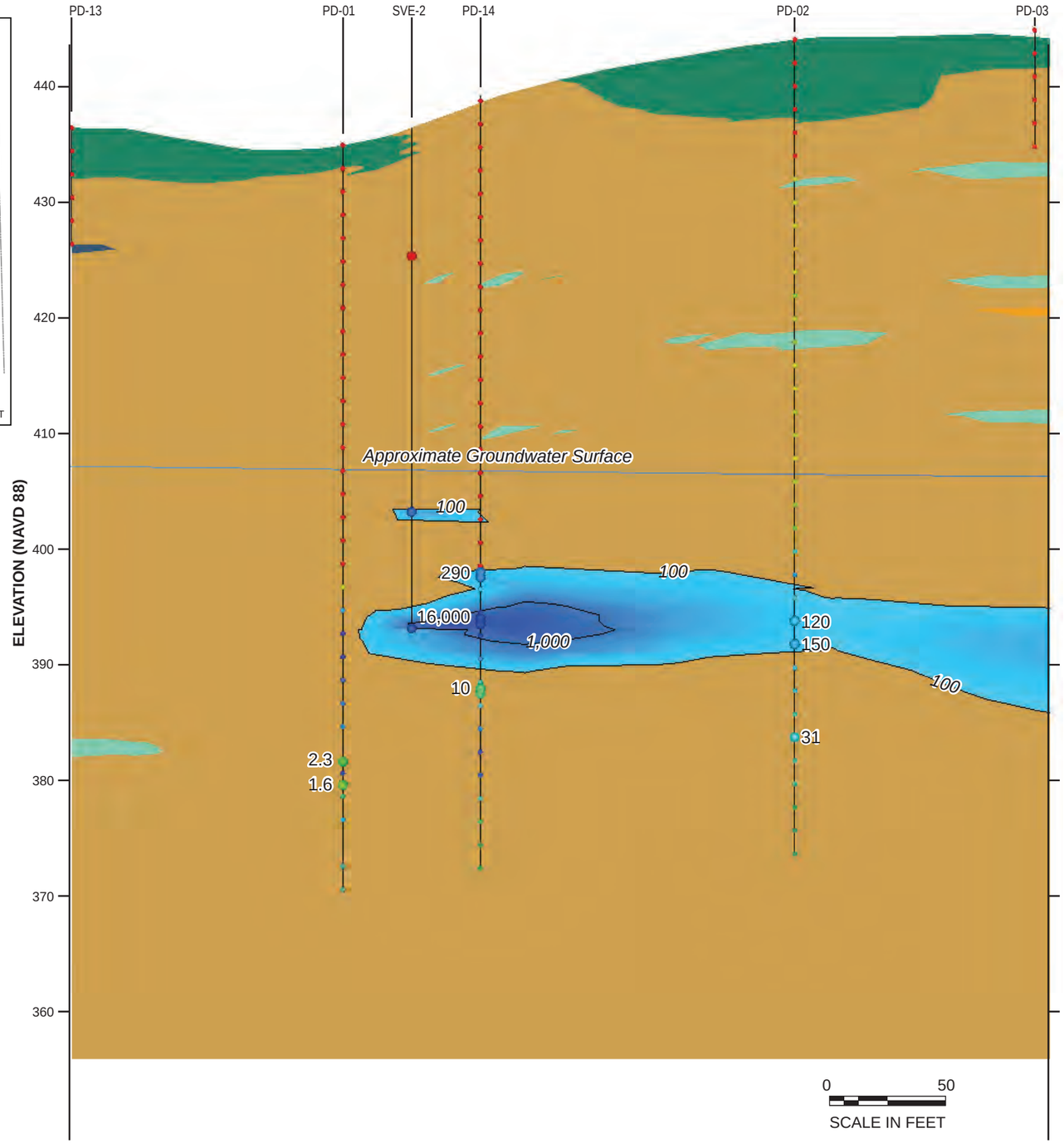
- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay

Benzene in Soil (mg/kg)

23,000 · 10,000 · 3,000 · 1,000 · 300 · 100 · 30 · 10 · 3 · 1 · 0.3 · 0.1 · 0.03 · 0.01

PID Reading (ppm)

>5,000 · 3,000 · 1,000 · 300 · 100 · 30 · 10 · 3 · 1 · 0.3 · 0.1 · 0.03 · 0.01 · 0.003 · 0.001



NOTES

NAVD 88	North American Vertical Datum
mg/kg	milligrams per kilogram
PID	photoionization detector
>	greater than
ppm	parts per million

1. Lithology and concentrations of benzene in soil were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/kg.
3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in soil was modeled using EVS' Krig Statistics method. The dataset includes historical and predesign concentrations of benzene in soil at the site (larger dots represent analytical results).
5. PID data are represented by small, unlabeled dots.
6. Locations within 15 feet were projected onto the cross section line.
7. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION A-A' BENZENE IN SOIL	FIG. NO. 3B

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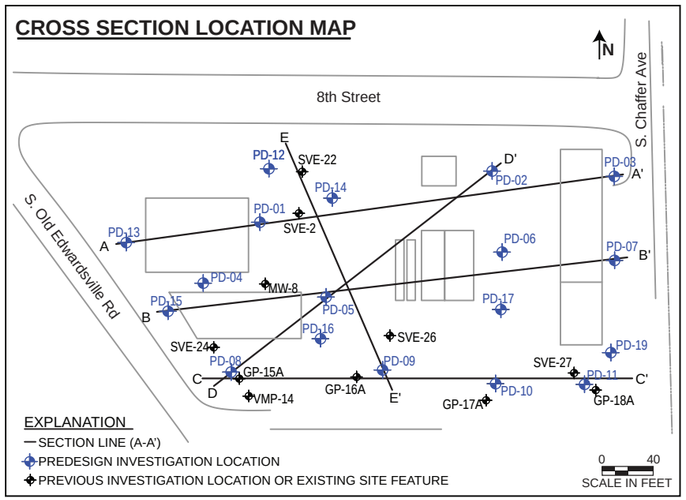
CROSS SECTION LOCATION MAP



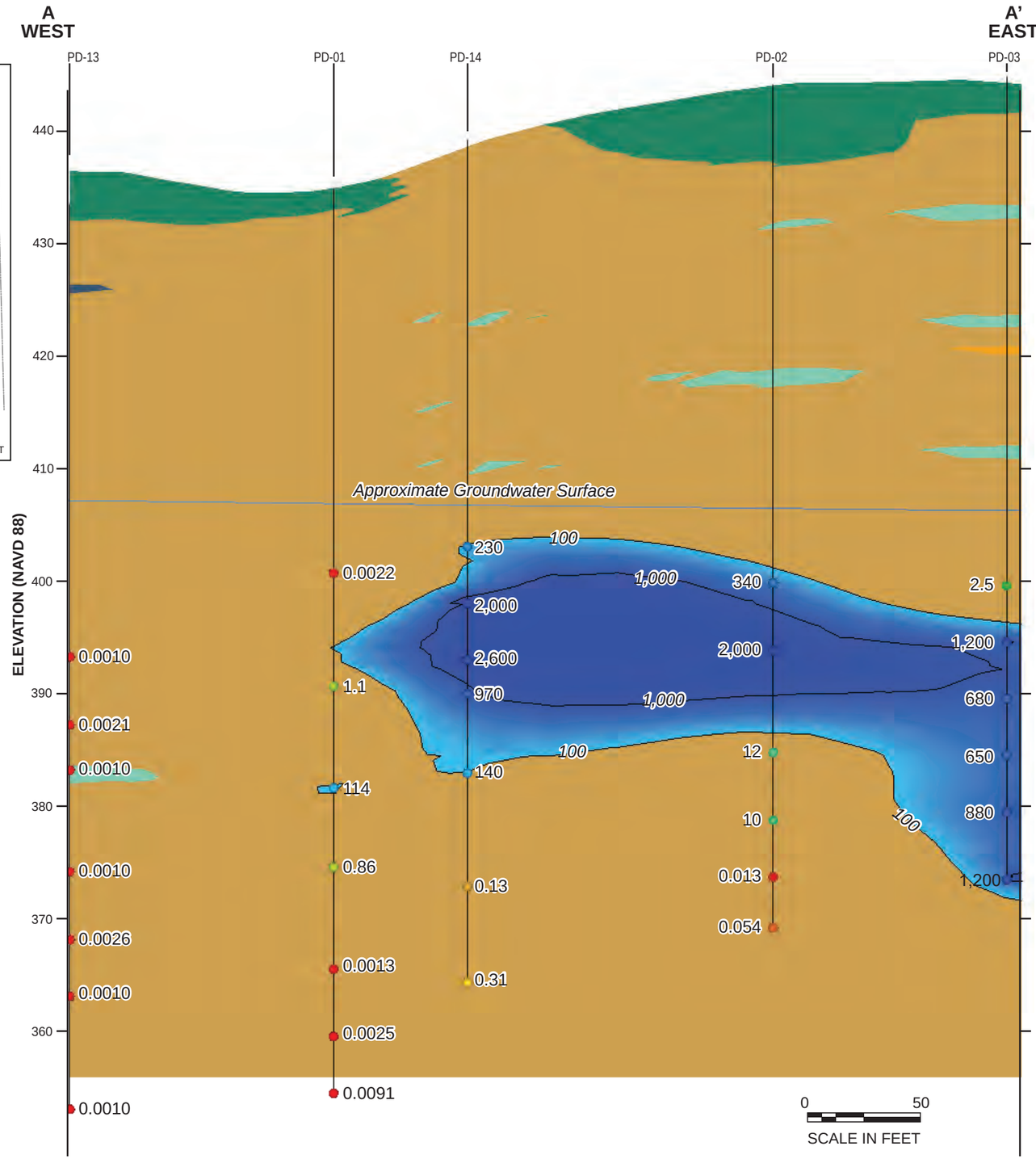
EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay

Benzene in Groundwater (mg/L)

- 2,600
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01
- 0.003
- 0.001



NOTES

NAVD 88 — North American Vertical Datum
mg/L — milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION A-A' BENZENE IN GROUNDWATER	FIG. NO. 3C

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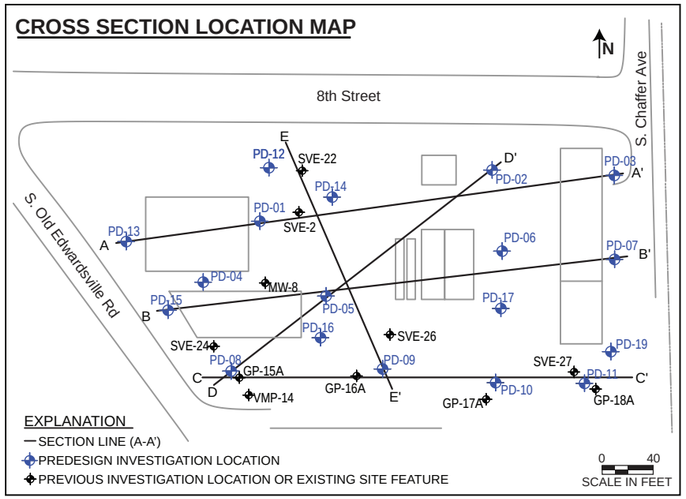
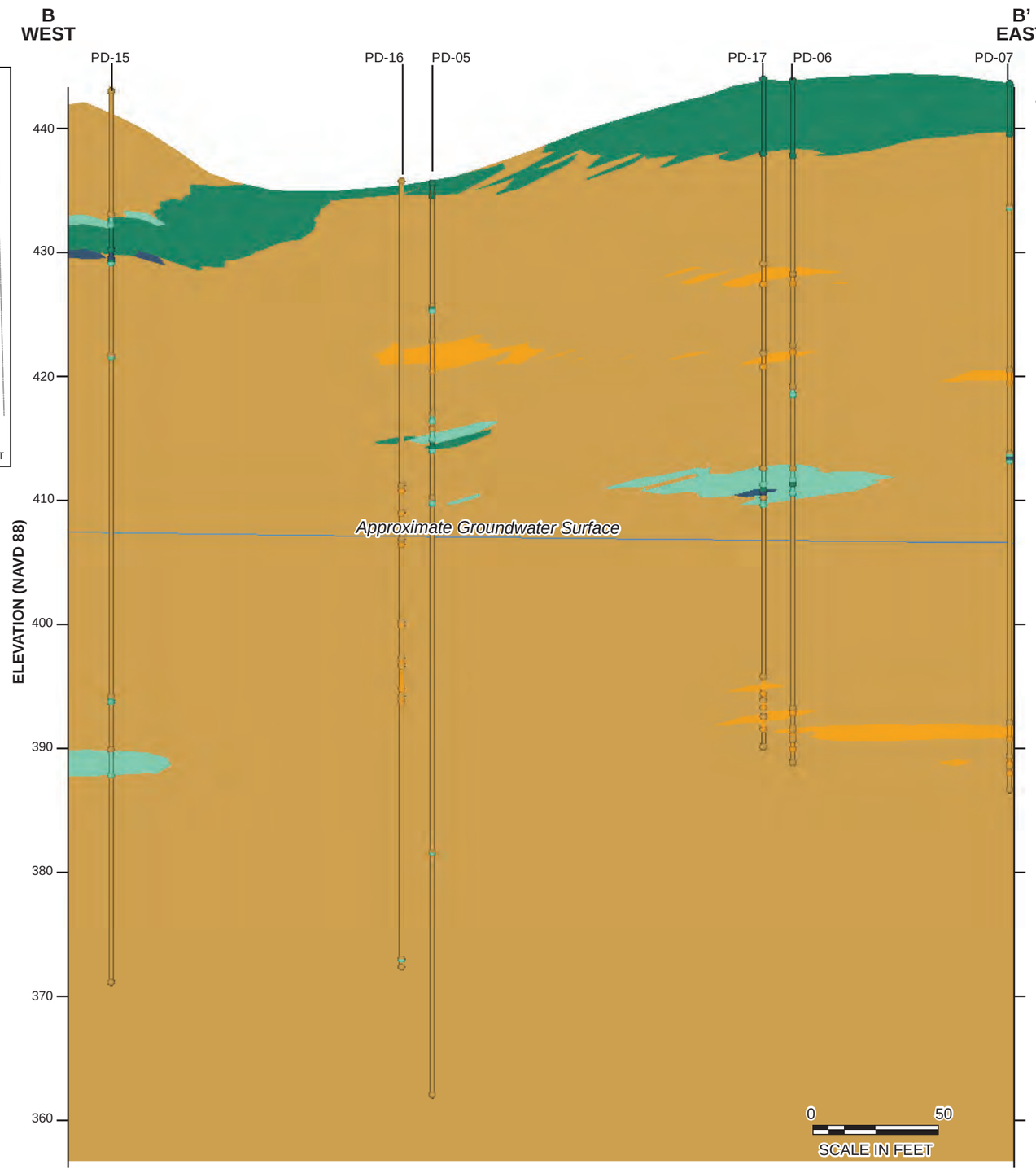
CROSS SECTION LOCATION MAP



EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay



NOTES

NAVD 88 North American Vertical Datum

1. Lithology was modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2.
2. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
3. Locations within 15 feet were projected onto the cross section line.
4. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION B-B' LITHOLOGY	FIG. NO. 4A

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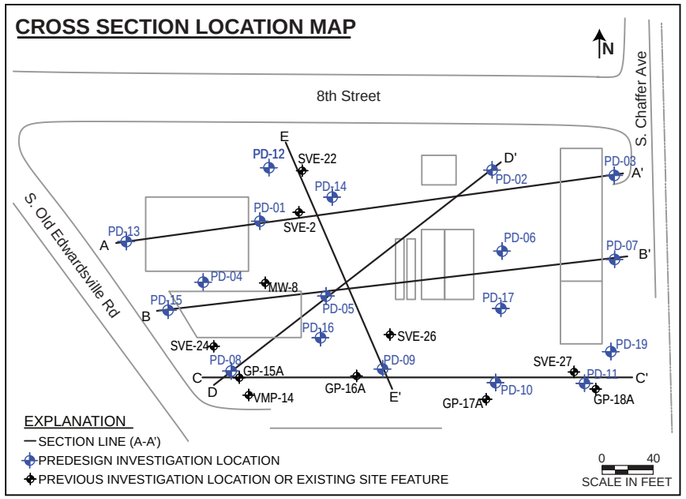
CROSS SECTION LOCATION MAP



EXPLANATION

Lithology

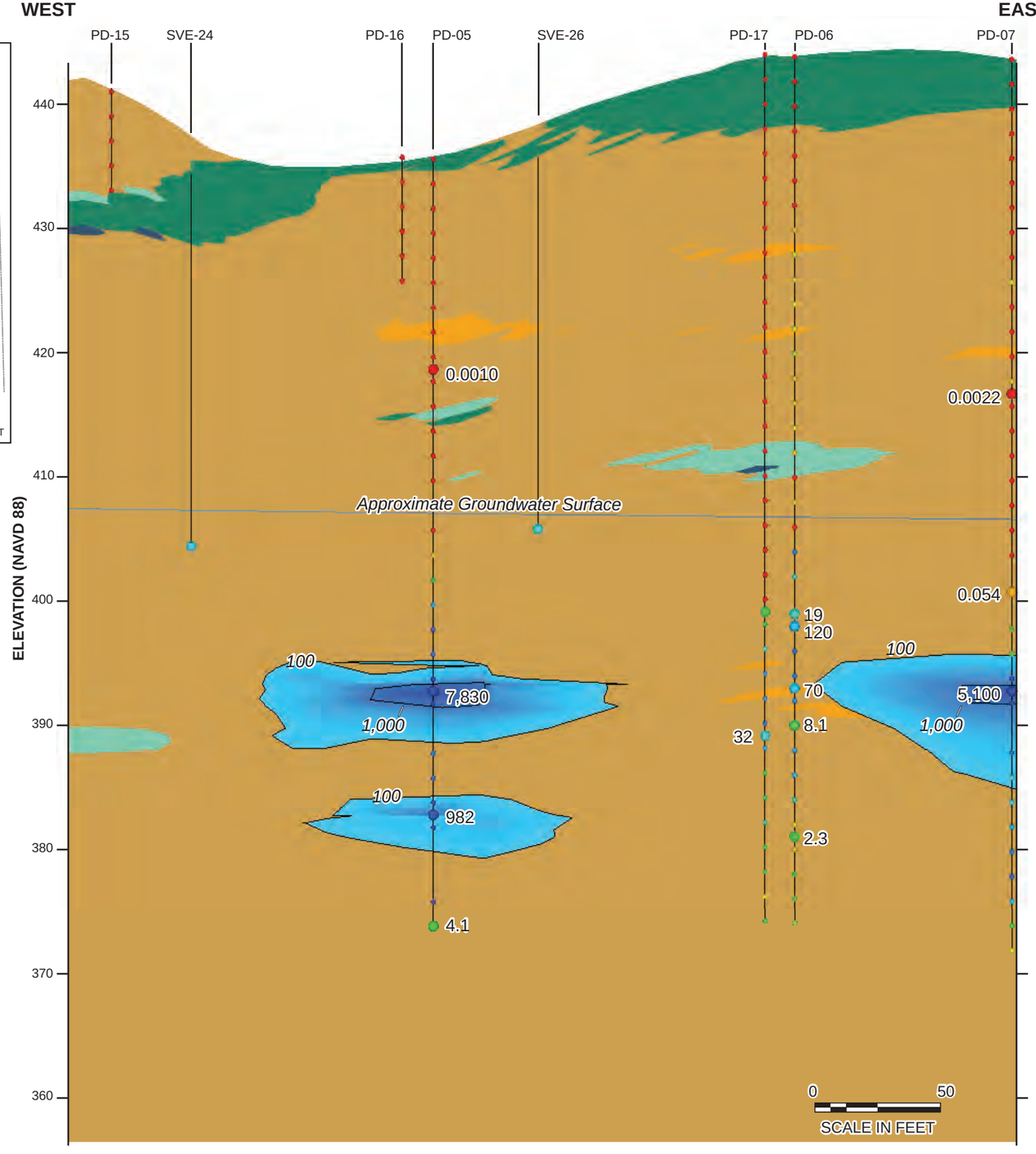
- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay

Benzene in Soil (mg/kg)

23,000
10,000
3,000
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01

PID Reading (ppm)

>5,000
3,000
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001



NOTES

NAVD 88	North American Vertical Datum
mg/kg	milligrams per kilogram
PID	photoionization detector
>	greater than
ppm	parts per million

1. Lithology and concentrations of benzene in soil were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/kg.
3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in soil was modeled using EVS' Krig Statistics method. The dataset includes historical and predesign concentrations of benzene in soil at the site (larger dots represent analytical results).
5. PID data are represented by small, unlabeled dots.
6. Locations within 15 feet were projected onto the cross section line.
7. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION B-B' BENZENE IN SOIL	FIG. NO. 4B

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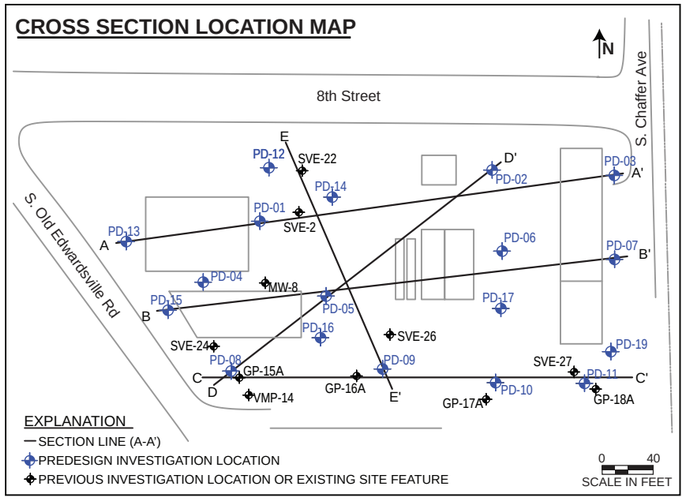
CROSS SECTION LOCATION MAP



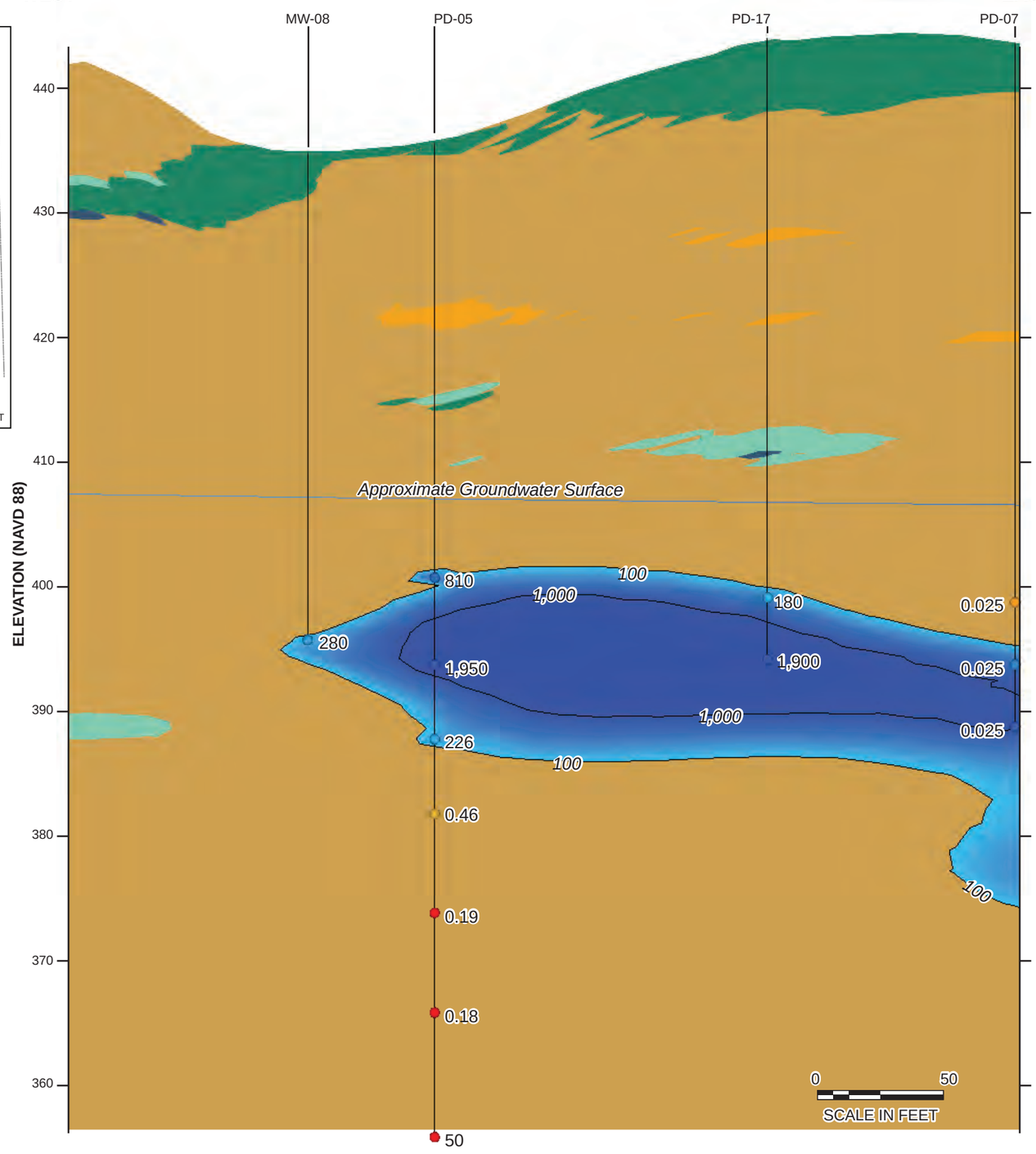
EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay

Benzene in Groundwater (mg/L)

- 2,600
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01
- 0.003
- 0.001



NOTES

NAVD 88 — North American Vertical Datum
mg/L — milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.
7. Groundwater profiling was not completed at PD-06, PD-15 or PD-16.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION B-B' BENZENE IN GROUNDWATER	FIG. NO. 4C

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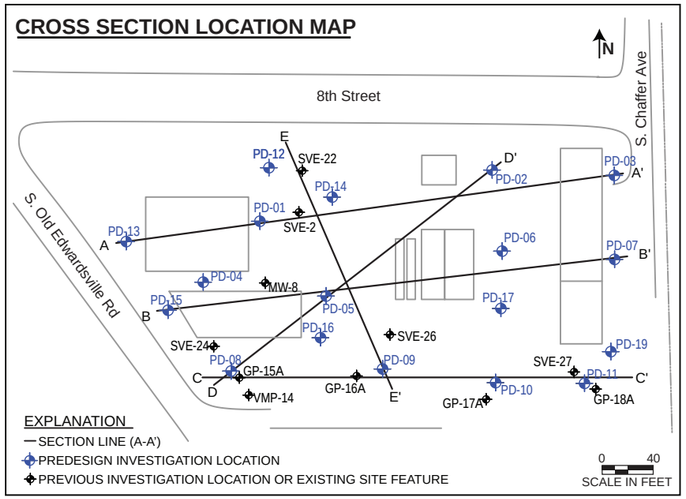
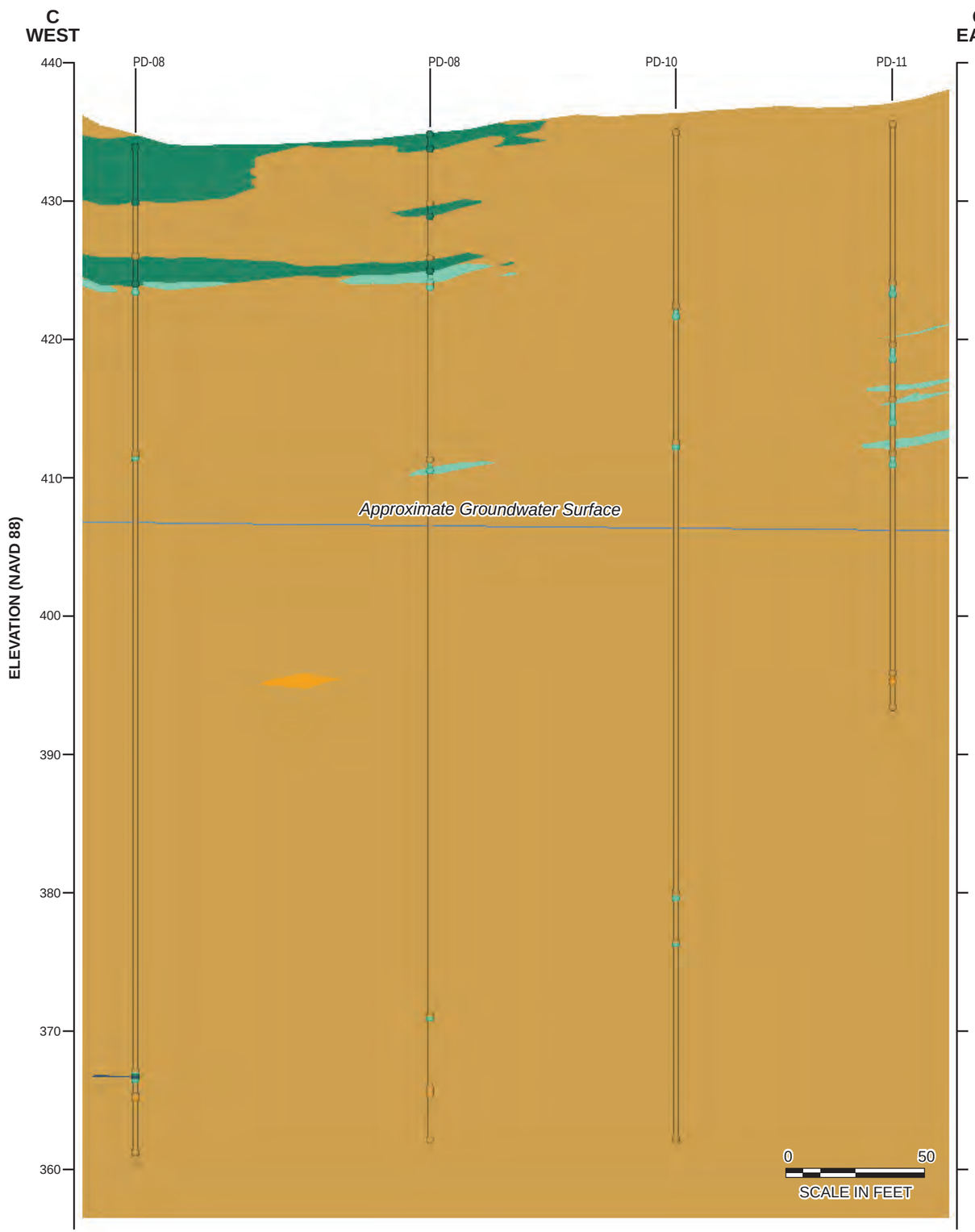
CROSS SECTION LOCATION MAP



EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay



NOTES

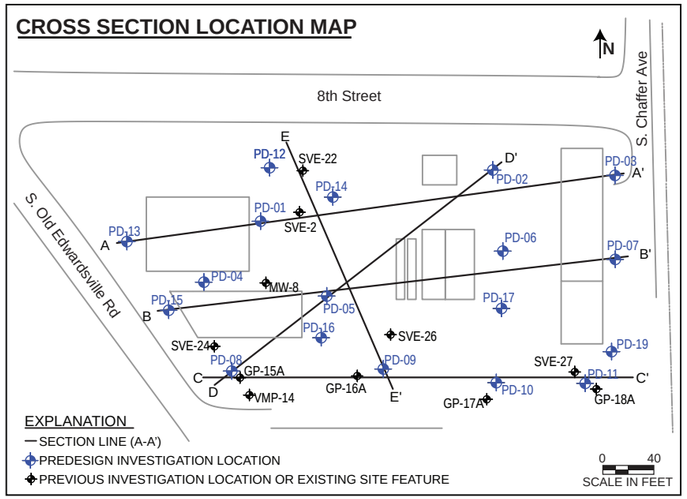
NAVD 88 North American Vertical Datum

1. Lithology was modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2.
2. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
3. Locations within 15 feet were projected onto the cross section line.
4. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION C-C' LITHOLOGY	FIG. NO. 5A

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator

CROSS SECTION LOCATION MAP



EXPLANATION

Lithology

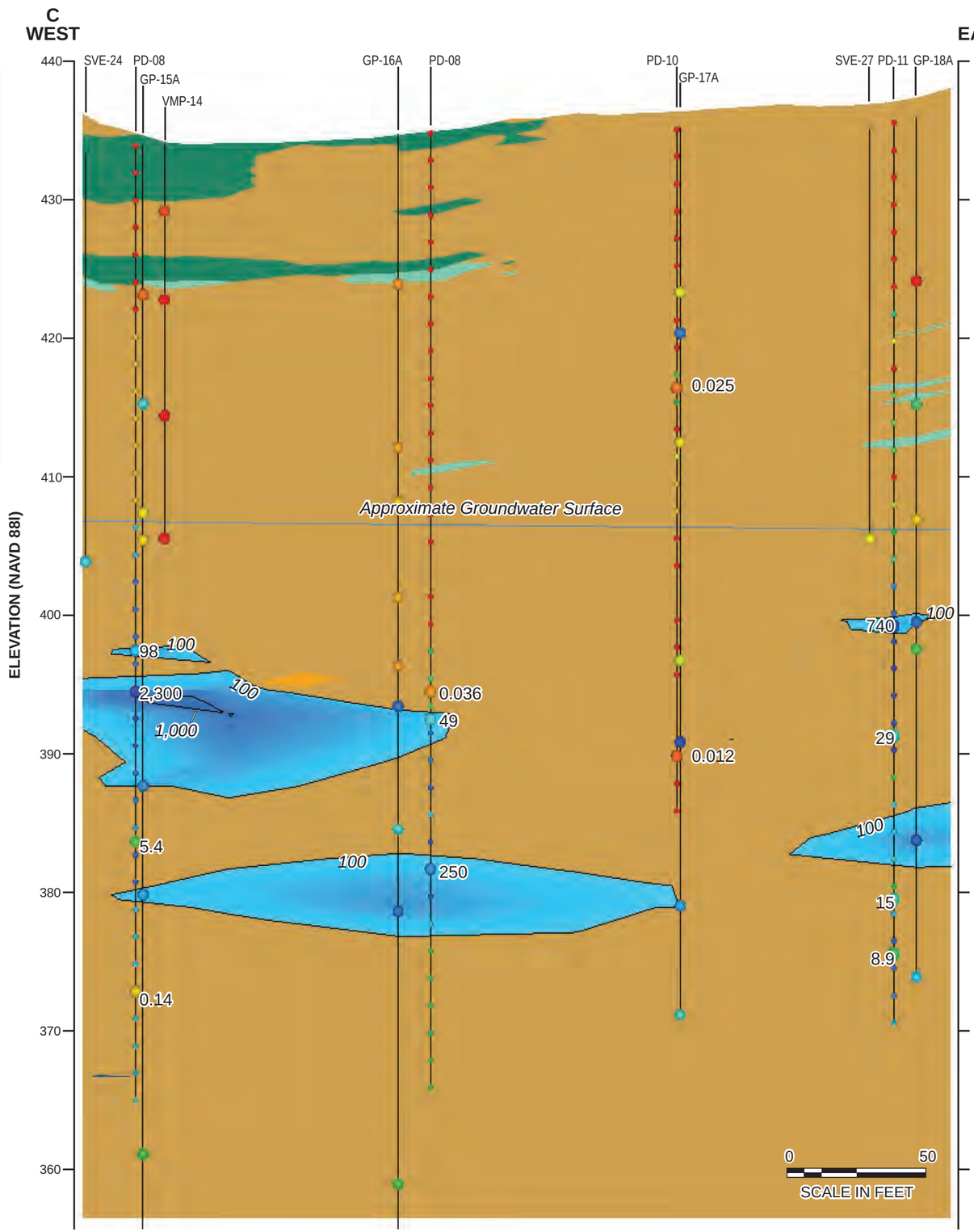
- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Soil (mg/kg)

23,000
10,000
3,000
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01

PID Reading (ppm)

>5,000
3,000
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001



NOTES

NAVD 88	North American Vertical Datum
mg/kg	milligrams per kilogram
PID	photoionization detector
>	greater than
ppm	parts per million

1. Lithology and concentrations of benzene in soil were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/kg.
3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in soil was modeled using EVS' Krig Statistics method. The dataset includes historical and predesign concentrations of benzene in soil at the site (larger dots represent analytical results).
5. PID data are represented by small, unlabeled dots.
6. Locations within 15 feet were projected onto the cross section line.
7. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION C-C' BENZENE IN SOIL	FIG. NO. 5B

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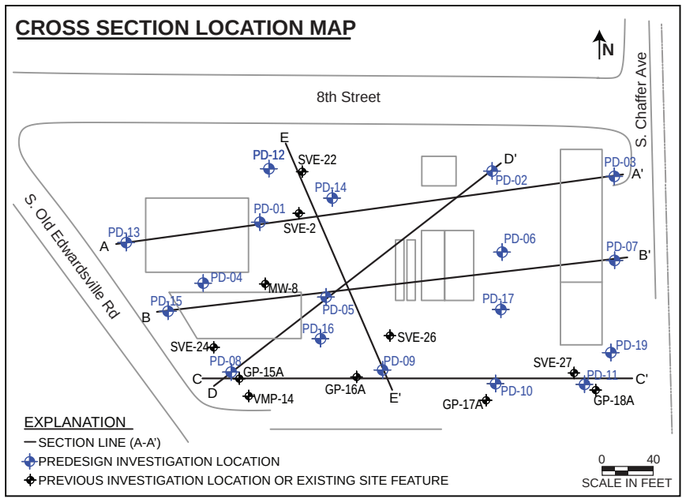
CROSS SECTION LOCATION MAP



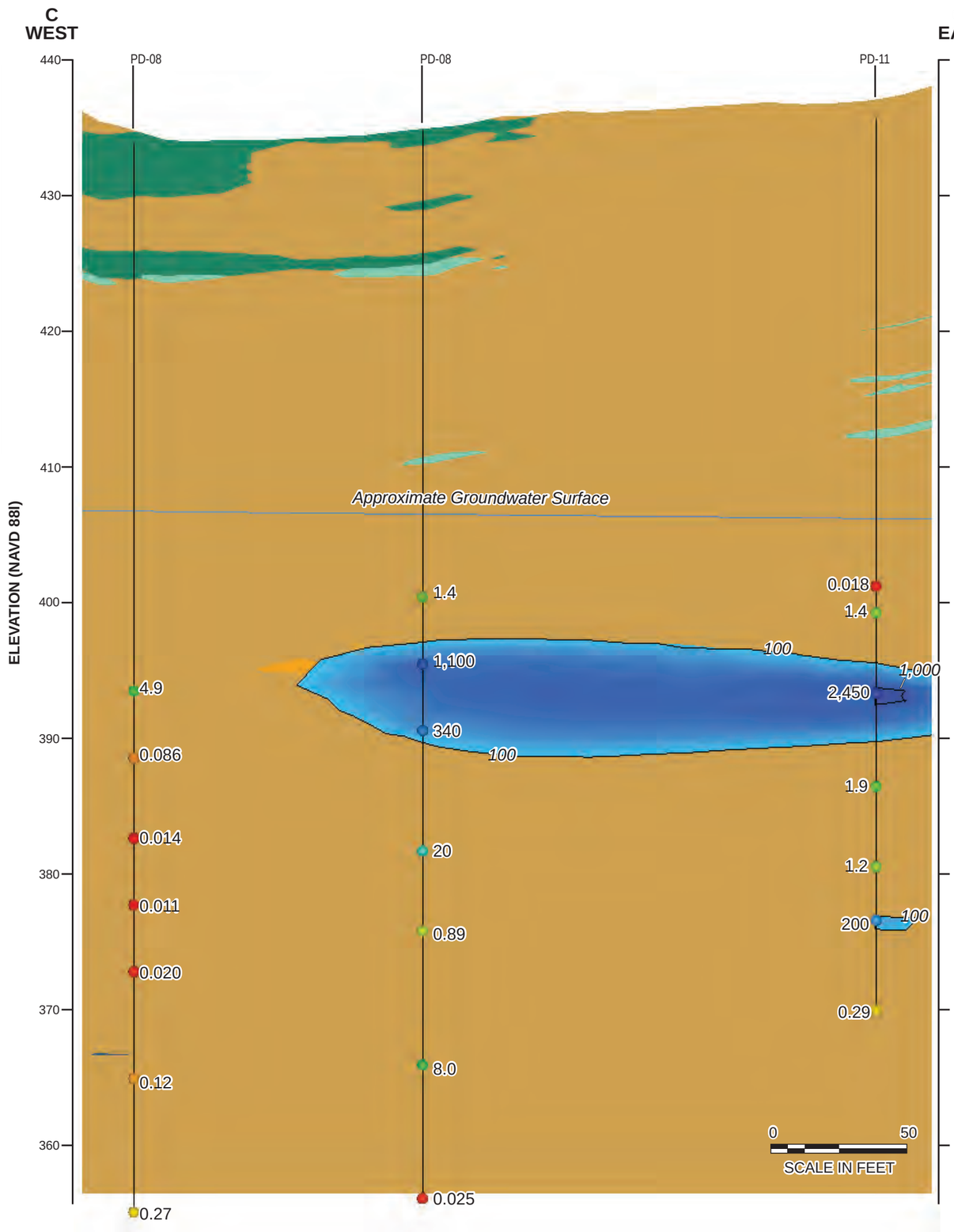
EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Groundwater (mg/L)

- 2,600
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01
- 0.003
- 0.001



NOTES

NAVD 88 North American Vertical Datum
mg/L milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION C-C' BENZENE IN GROUNDWATER	FIG. NO. 5C

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator

D
SOUTHWEST

D'
NORTHEAST

PD-08 PD-16 PD-05 PD-02

ELEVATION (NAVD 88)

440
430
420
410
400
390
380
370
360

Approximate Groundwater Surface

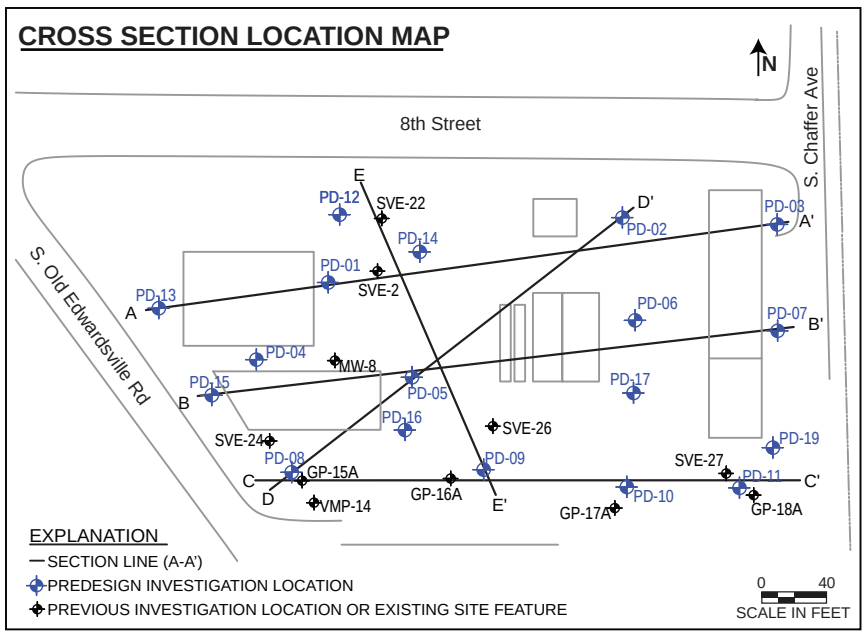
0 50
SCALE IN FEET

EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

CROSS SECTION LOCATION MAP



NOTES

NAVD 88 North American Vertical Datum

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2.
2. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which is based on hand auger logs.
3. Locations within 15 feet were projected on to the cross section line.
4. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION D-D' LITHOLOGY	FIG. NO. 6A

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D
SOUTHWEST

D'
NORTHEAST

PD-08 VMP-14 SVE-24 GP-15A PD-16 PD-05 PD-02

ELEVATION (NAVD 88)

440 430 420 410 400 390 380 370 360

0.0010

Approximate Groundwater Surface

98 2,300 *1,000* 7,380 *1,000* *100* 5.4 *100* 982 0.14 4.1 *100* 120 150 31

0 50
SCALE IN FEET

EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

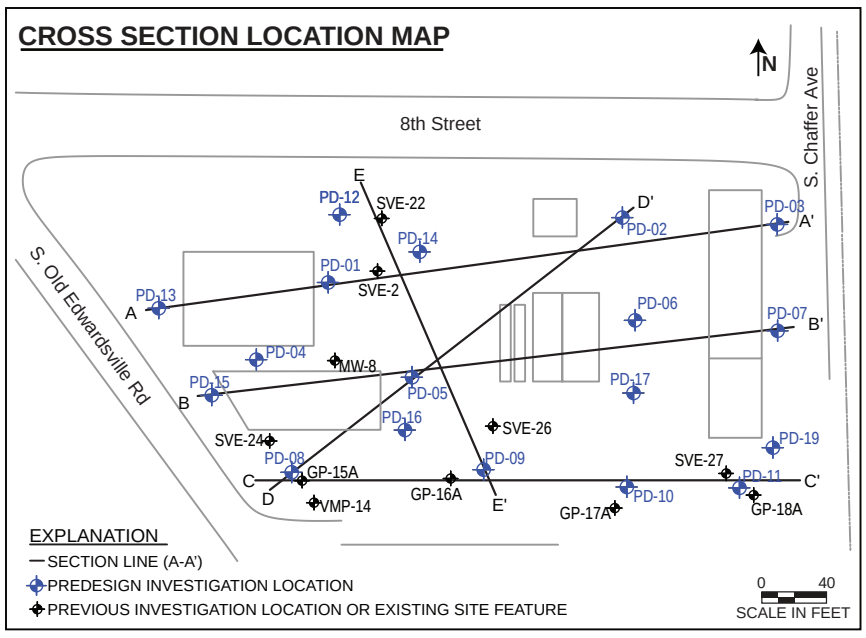
Benzene in Soil (mg/kg)

23,000 10,000 3,000 1,000 300 100 30 10 3 1 0.3 0.1 0.03 0.01

PID Reading (ppm)

>5,000 3,000 1,000 300 100 30 10 3 1 0.3 0.1 0.03 0.01 0.003 0.001

CROSS SECTION LOCATION MAP



NOTES

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/kg.
3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in soil was modeled using EVS' Krig Statistics method. The dataset includes historical and predesign concentrations of benzene in soil at the site (larger dots represent analytical results).
5. PID data are represented by small, unlabeled dots.
6. Locations within 15 feet were projected on to the cross section line.
7. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

NAVD 88	North American Vertical Datum
mg/kg	milligrams per kilogram
PID	photoionization detector
>	greater than
ppm	parts per million

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION D-D' BENZENE IN SOIL	FIG. NO. 6B

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D
SOUTHWEST

D'
NORTHEAST

PD-08 PD-05 PD-02

ELEVATION (NAVD 88)

440 430 420 410 400 390 380 370 360

Approximate Groundwater Surface

100 1,000 100 1,000

4.9 0.086 0.014 0.011 0.020 0.12 0.27

810 1,950 226 0.46 0.19 0.18 0.18

340 1,400 2,000 12 10 0.013 0.054

0 50
SCALE IN FEET

EXPLANATION

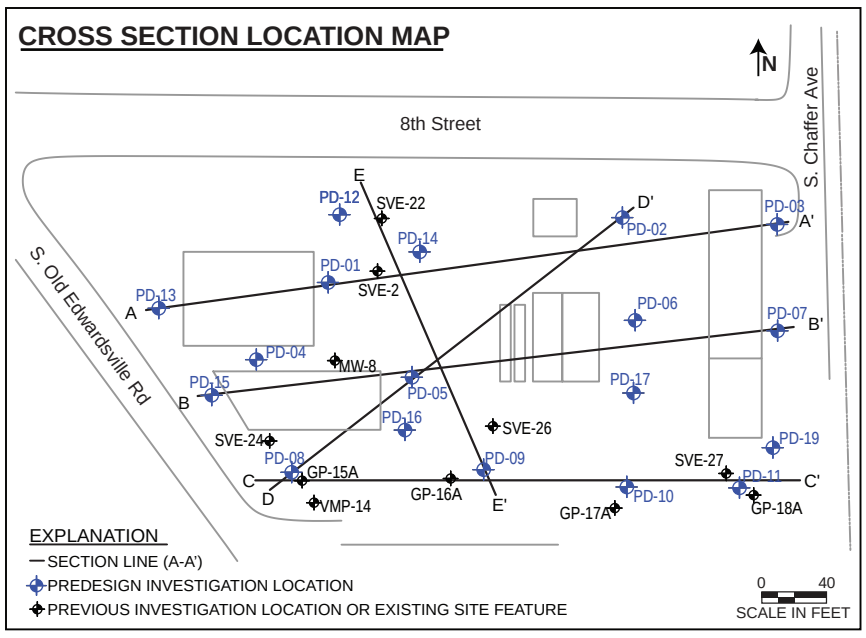
Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Groundwater (mg/L)

2,600
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001

CROSS SECTION LOCATION MAP



NOTES

NAVD 88	North American Vertical Datum
mg/L	milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;

2. Contour lines are in orders of magnitude, starting at 100 mg/L.

3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.

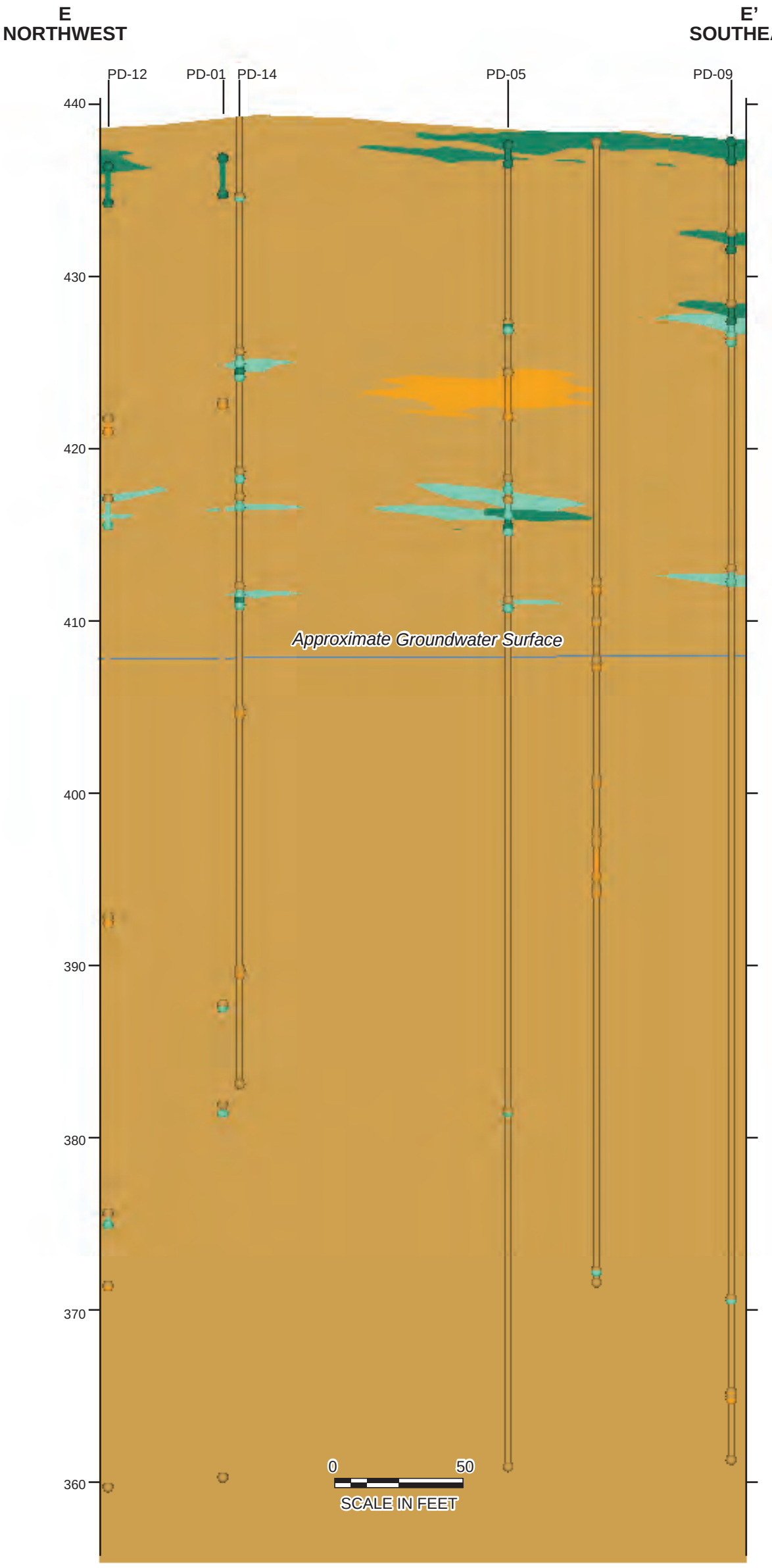
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.

5. Locations within 15 feet were projected on to the cross section line.

6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION D-D' BENZENE IN GROUNDWATER	FIG. NO. 6C

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator



EXPLANATION

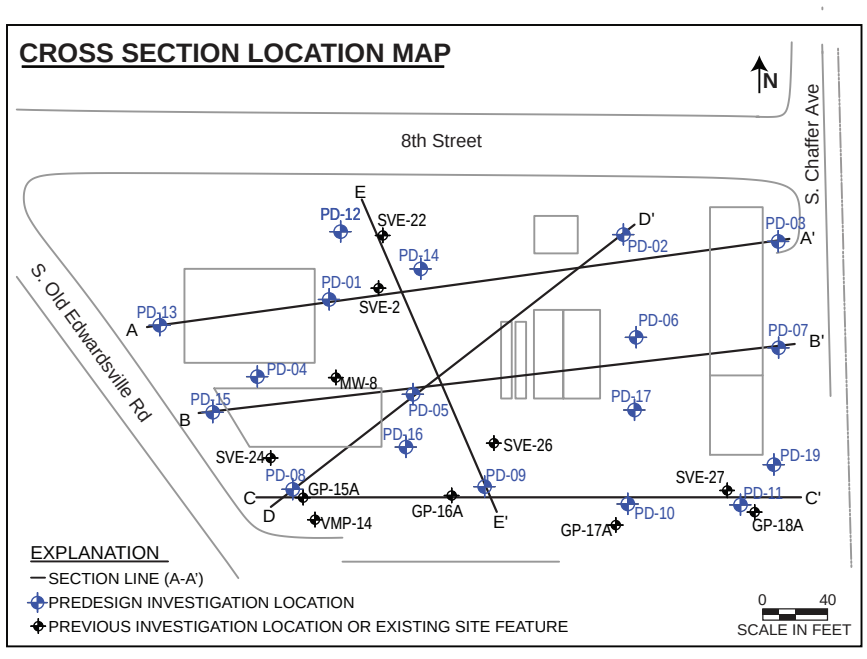
Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

NOTES

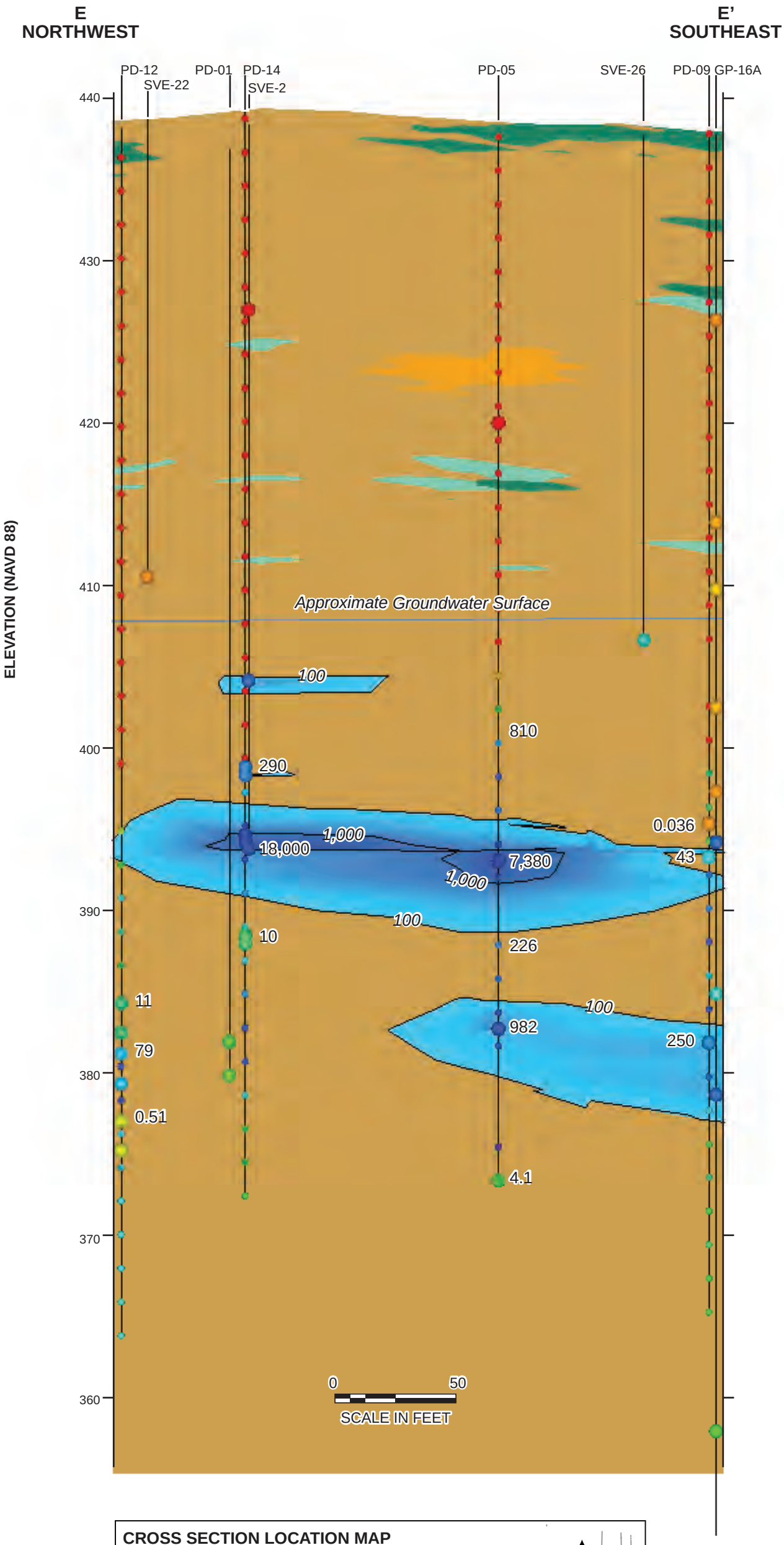
NAVD 88 North American Vertical Datum

1. Lithology was modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2.
2. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
3. Locations within 15 feet were projected onto the cross section line.
4. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.



PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION E-E' LITHOLOGY	FIG. NO. 7A

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator



EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Soil (mg/kg)

23,000
10,000
3,000
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01

PID Reading (ppm)

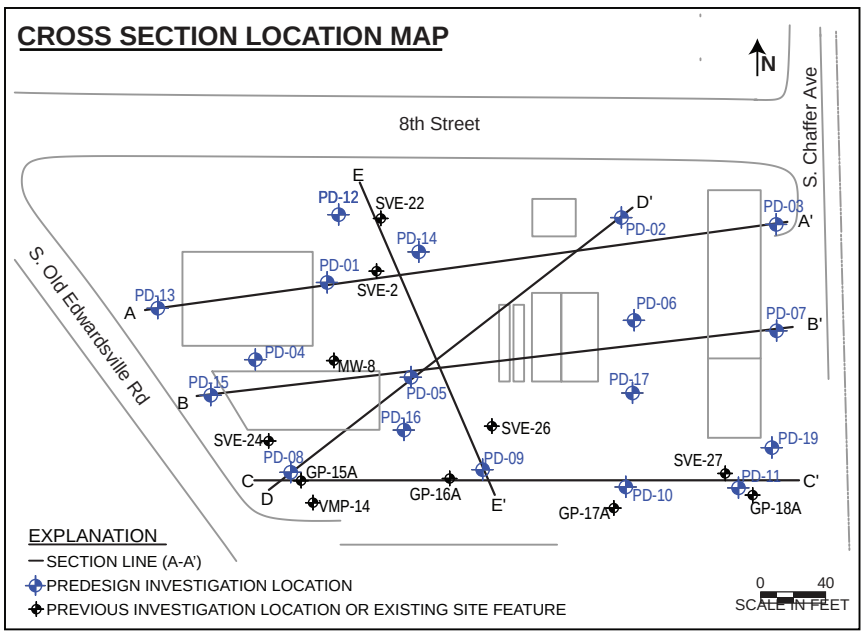
>5,000
3,000
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001

NOTES

NAVD 88	North American Vertical Datum
mg/kg	milligrams per kilogram
PID	photoionization detector
>	greater than
ppm	parts per million

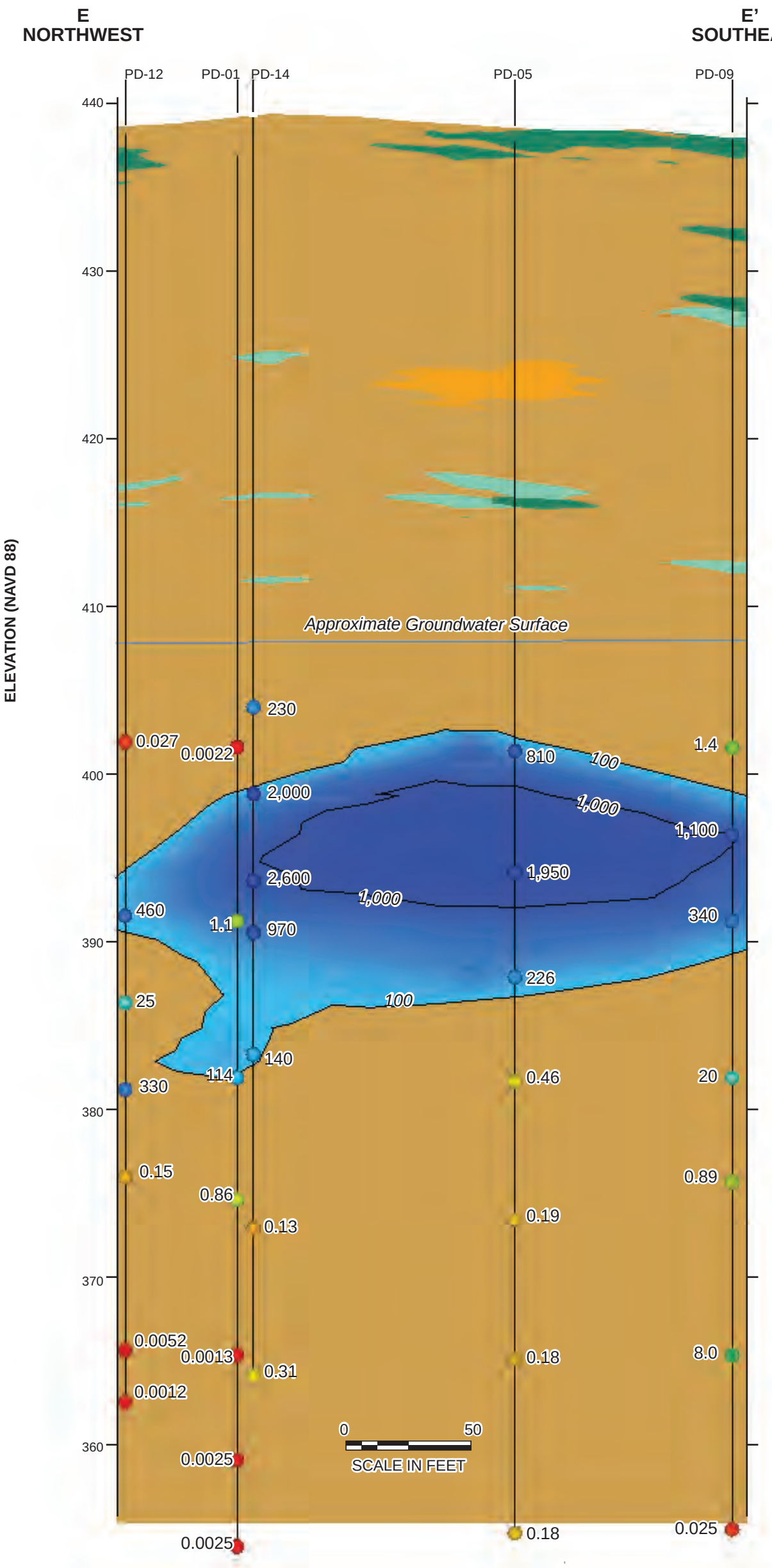
1. Lithology and concentrations of benzene in soil were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/kg.
3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in soil was modeled using EVS' Krig Statistics method. The dataset includes historical and predesign concentrations of benzene in soil at the site (larger dots represent analytical results).
5. PID data are represented by small, unlabeled dots.
6. Locations within 15 feet were projected onto the cross section line.
7. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

CROSS SECTION LOCATION MAP



PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION E-E' BENZENE IN SOIL	FIG. NO. 7B

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator



EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Groundwater (mg/L)

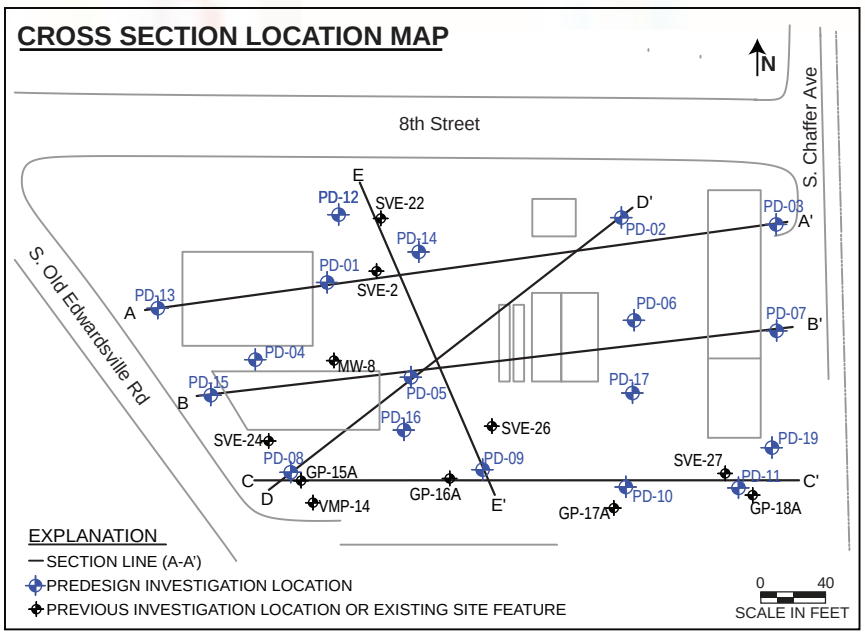
2,600
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001

NOTES

NAVD 88	North American Vertical Datum
mg/L	milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

CROSS SECTION LOCATION MAP



PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
CROSS SECTION E-E' BENZENE IN GROUNDWATER	FIG. NO. 7C

LEGEND

- INVESTIGATION LOCATIONS
- INVESTIGATION LOCATIONS WITHOUT SOIL BORING

NOTES:

1) CPT/DYE LIF PLUS SOIL BORING AND/OR GROUNDWATER PROFILE WERE PERFORMED AT INVESTIGATION LOCATIONS.
2) REFER TO TABLE 1 FOR APPLICABLE LABORATORY/AECOM QUALIFIERS
3) * INDICATES A DUPLICATE SAMPLE

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-14	45 ft	290
	49 ft	23000
	*49 ft	*13000
	55 ft	10

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-02	50 ft	120
	52 ft	150
	60 ft	38
	*60 ft	*23

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-12	52 ft	11 F1 J
	55 ft	79
	59 ft	0.51

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-06	45 ft	19
	46 ft	120
	51 ft	70
	54 ft	8.1
	63 ft	2.3

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-01	53 ft	2.31
	55 ft	1.58

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-07	27 ft	0.0022 J
	43 ft	0.054 J
	51 ft	5200
	*51 ft	*5000

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-04	35 ft	0.005
	41 ft	0.092
	53 ft	320

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-17	45 ft	6.5
	55 ft	32

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-10	19 ft	<0.0254
	46 ft	0.0118

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-05	17 ft	0.001 J
	43 ft	7380
	53 ft	982
	62 ft	4.15

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-11	37 ft	740
	45 ft	29
	57 ft	15
	61 ft	8.9

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-08	37 ft	110
	*37 ft	*86
	40 ft	2300
	51 ft	<5.4
	62 ft	0.14

Location	Sample Depth (bgs)	Benzene Result (mg/kg)
PD-09	41 ft	0.036
	43 ft	43
	54 ft	240
	*54 ft	*260

PD-12, PD-14, PD-02, PD-03, PD-01, PD-13, PD-04, PD-06, PD-07, PD-15, PD-05, PD-16, PD-17, PD-19, PD-08, PD-09, PD-10, PD-11

0 40
SCALE FEET

N

PUBLIC WORKS YARD
PREDESIGN INVESTIGATION
ROXANA, ILLINOIS

PROJECT NO. 60592794

AECOM

DRN. BY: bah Oct 2019
DSGN. BY: djd
CHKD. BY: jc/b3

Benzene Soil Analytical Results

FIG. NO. 8

File: G:\STL\GIS\ACAD PROJECTS\ENVIRONMENTAL\60592794 ROXANA 2019\300 DELIVERABLES\DELIV\DATA GAP WORK\MXD\FIGURES\PUBLIC WORKS YARD (DRAFT) (BAH).DWG Last edited: MAY 09, 19 @ 08:22 a.m. by: wendy.pennington

LEGEND

- INVESTIGATION LOCATIONS
- INVESTIGATION LOCATIONS WITHOUT GROUNDWATER SAMPLING

NOTES:

1) CPT/DYE LIF PLUS SOIL BORING AND/OR GROUNDWATER PROFILE WERE PERFORMED AT INVESTIGATION LOCATIONS.
2) REFER TO TABLE 3 FOR APPLICABLE LABORATORY/AECOM QUALIFIERS
3) * INDICATES A DUPLICATE SAMPLE

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-12	35 ft	0.027
	45 ft	460
	50 ft	25
	55 ft	330
	60 ft	0.15
	70 ft	0.0052
	73 ft	0.0012

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-01	34 ft	0.0022
	44 ft	1.08
	53 ft	114
	60 ft	0.856
	69 ft	0.0013
	75 ft	0.0025
	80 ft	0.0091

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-14	40 ft	230
	45 ft	2000
	50 ft	2300
	*50 ft	*2900
	53 ft	970
	60 ft	140
	70 ft	0.13
	78.5 ft	0.31

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-02	44 ft	340
	50 ft	2500
	*50 ft	*1500
	59 ft	12
	65 ft	10
	70 ft	0.013
	74.5 ft	0.054

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-03	45 ft	2.5
	50 ft	1200
	*50 ft	*1200
	55 ft	680
	60 ft	650
	65 ft	880
	71 ft	1200

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-07	45 ft	0.4
	50 ft	500
	*50 ft	*380
	55 ft	1400

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-13	40 ft	0.00043 J
	46 ft	0.0021
	50 ft	0.00093 J
	59 ft	<0.001
	65 ft	0.0026
	70 ft	0.00047 J
	80 ft	<0.001

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-09	35 ft	1.4
	40 ft	1100
	45 ft	340
	54 ft	20
	60 ft	0.89
	70 ft	3.1
	*70 ft	*13
	80 ft	0.025

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-04	35 ft	0.0063
	41 ft	67
	43 ft	0.3
	50 ft	2.3
	53 ft	290
	60 ft	0.039
	70 ft	0.0076
	*70 ft	*0.0078
	80 ft	0.0036

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-11	35 ft	0.018
	37 ft	1.4
	43 ft	2500
	*43 ft	*2400
	50 ft	1.9
	56 ft	1.2
	60 ft	200
	66.7 ft	0.29

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-05	42 ft	1990 J
	*42 ft	*1910 S J
	48 ft	226 J
	54 ft	0.455
	62 ft	0.195
	70 ft	0.184
	80 ft	0.18

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-08	35 ft	810
	41 ft	4.9
	46 ft	0.086
	52 ft	0.014
	57 ft	0.011
	62 ft	0.02
	70 ft	0.12
	80 ft	0.27

Location	Sample Depth (bgs)	Benzene Result (mg/L)
PD-17	45 ft	180
	50 ft	1600
	*50 ft	*2200

PD-12, PD-01, PD-14, PD-02, PD-03, PD-13, PD-04, PD-15, PD-05, PD-16, PD-08, PD-06, PD-07, PD-09, PD-17, PD-19, PD-11, PD-10

0 40
SCALE FEET

N

PUBLIC WORKS YARD
PREDESIGN INVESTIGATION
ROXANA, ILLINOIS

PROJECT NO. 60592794

AECOM

DRN. BY: bah Oct 2019
DSGN. BY: djd
CHKD. BY: jc/bs

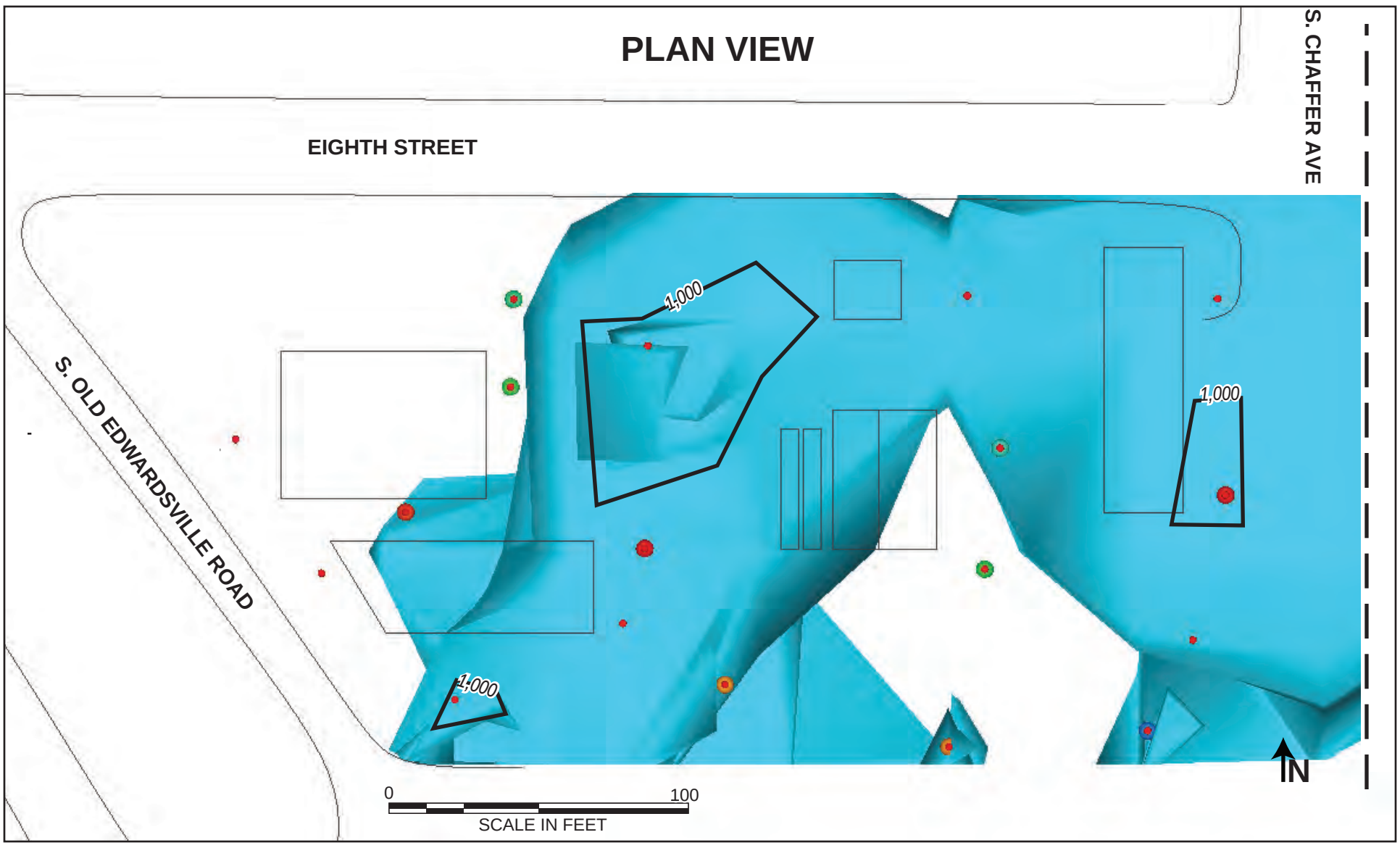
Benzene Groundwater Analytical Results

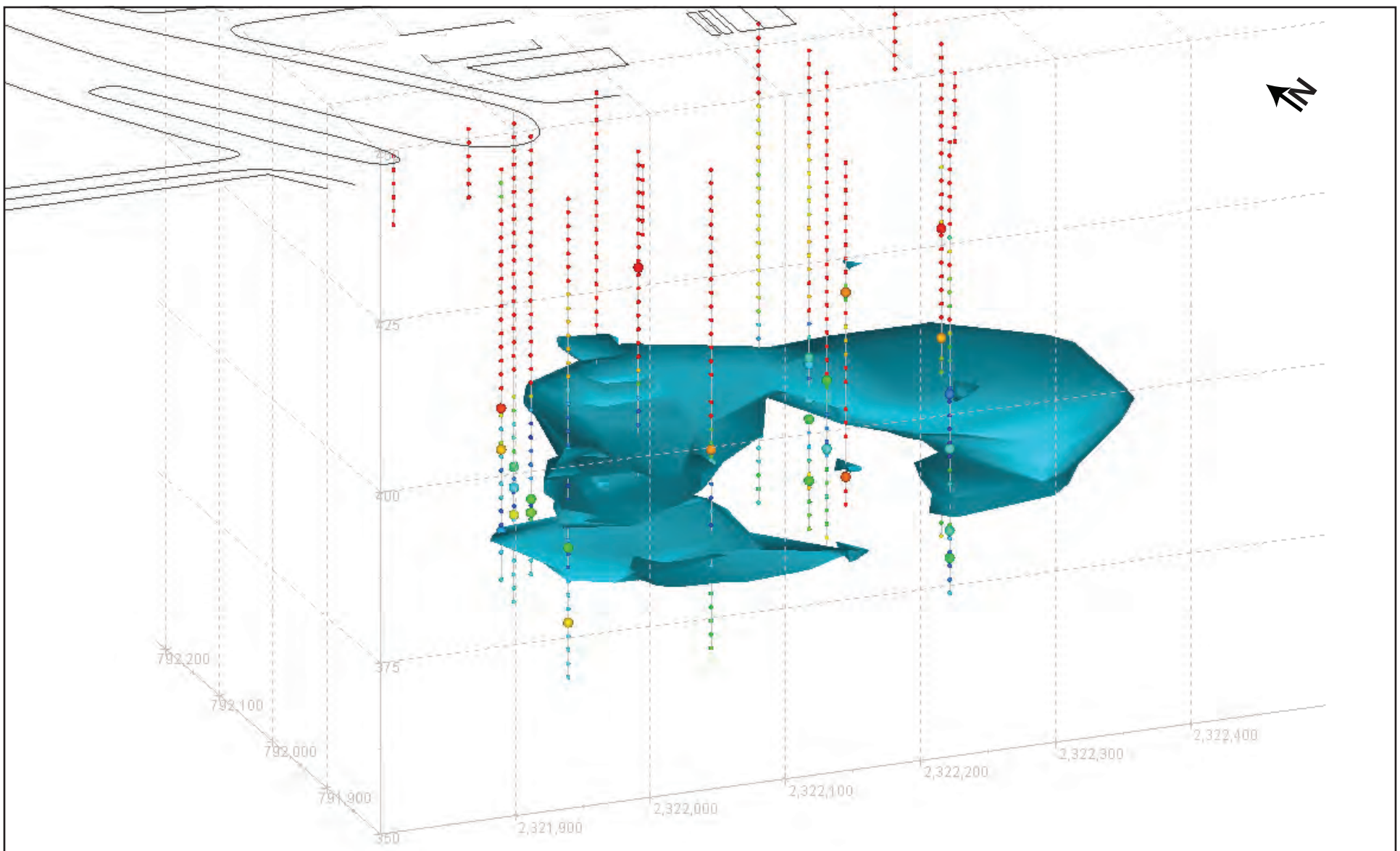
FIG. NO. 9

G:\StLouis\DCS\Projects\ENVSHELL\60592794 Roxana 2019\500 Deliverables (DELIV)\Data Gap Workplan\Draft Predesign Investigation\Figures\Public Works Yard (Fig 9 - FINAL) 102819.dwg ---- 10/23/2019

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator

PLAN VIEW





OBLIQUE VIEW TOWARDS THE NORTHEAST

EXPLANATION

Benzene in Soil (mg/kg)

- 23,000
- 10,000
- 3,000
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01

NOTES

NAVD 88 North American Vertical Datum
mg/kg milligrams per kilogram

1. Benzene in soil was modeled using the Krig Statistic's method in CTECH's Earth Volumetric Studio (EVS), version 2019.2. The dataset includes historical and predesign concentrations of benzene in soil at the site (larger dots represent analytical results). Historical data are not shown on this figure. The benzene plume is shown at 100 mg/kg. A 1,000 mg/kg contour line is shown on the plan view image.

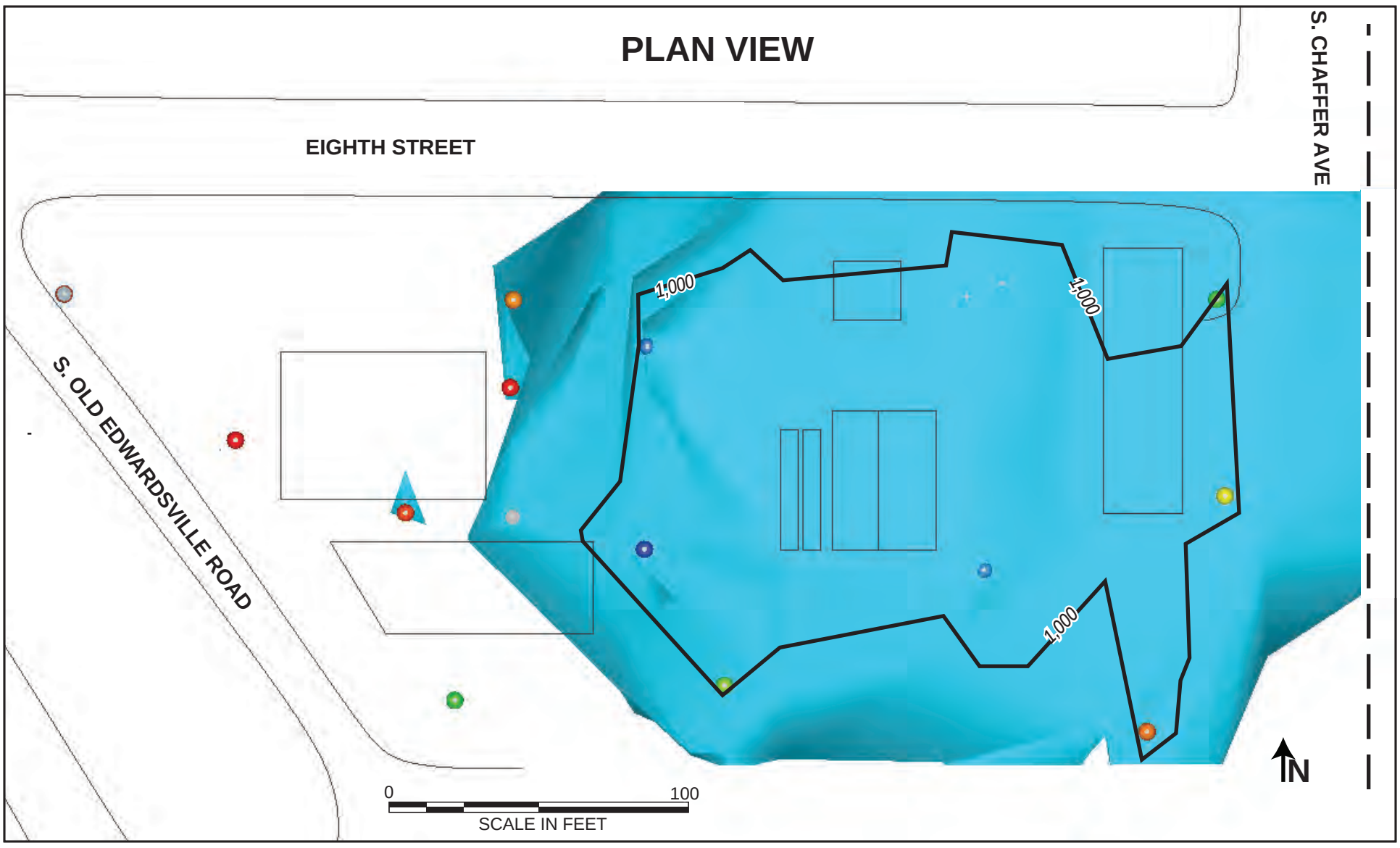
2. For the purposes of this figure, the ground surface is modeled as a plane at elevation 450 NAVD 88.

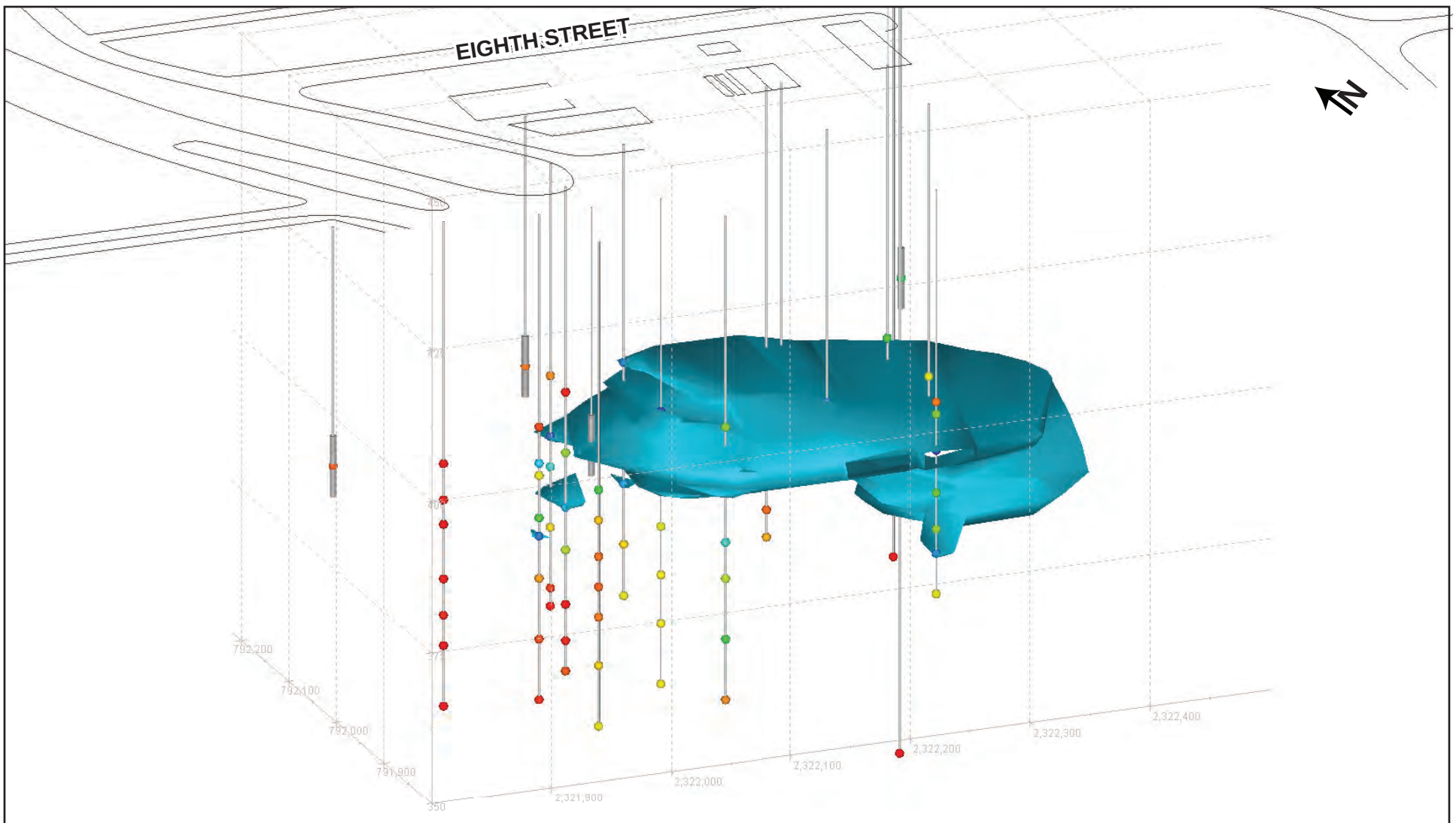
3. The oblique image is at azimuth 202 and 20 degree inclination.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
BENZENE IN SOIL (>100mg/kg),MODEL OUTPUT	FIG. NO. 10

V:\Projects_Proj\Shell\St Louis\EVS\2019_PWY_LIF_Investigation\Output\Illustrator

PLAN VIEW





OBLIQUE VIEW TOWARDS THE NORTHEAST

EXPLANATION

Benzene in Groundwater (mg/L)

- 2,600
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01
- 0.003
- 0.001

NOTES

NAVD 88 North American Vertical Datum
mg/L milligrams per liter

1. Benzene in groundwater was modeled using the Krig Statistic's method in CTECH's Earth Volumetric Studio (EVS), version 2019.2. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program. The benzene plume is shown at 100 mg/L. A 1,000 mg/L contour line is shown in the plan view image.

2. For the purposes of this figure, the ground surface is modeled as a plane at elevation 450 NAVD 88.

3. The oblique image is at azimuth 202 and 20 degree inclination.

PUBLIC WORKS YARD PREDESIGN INVESTIGATION ROXANA, ILLINOIS	PROJECT NO. 60592794
AECOM	
BENZENE IN GROUNDWATER (>100 mg/L), MODEL OUTPUT	FIG. NO. 11

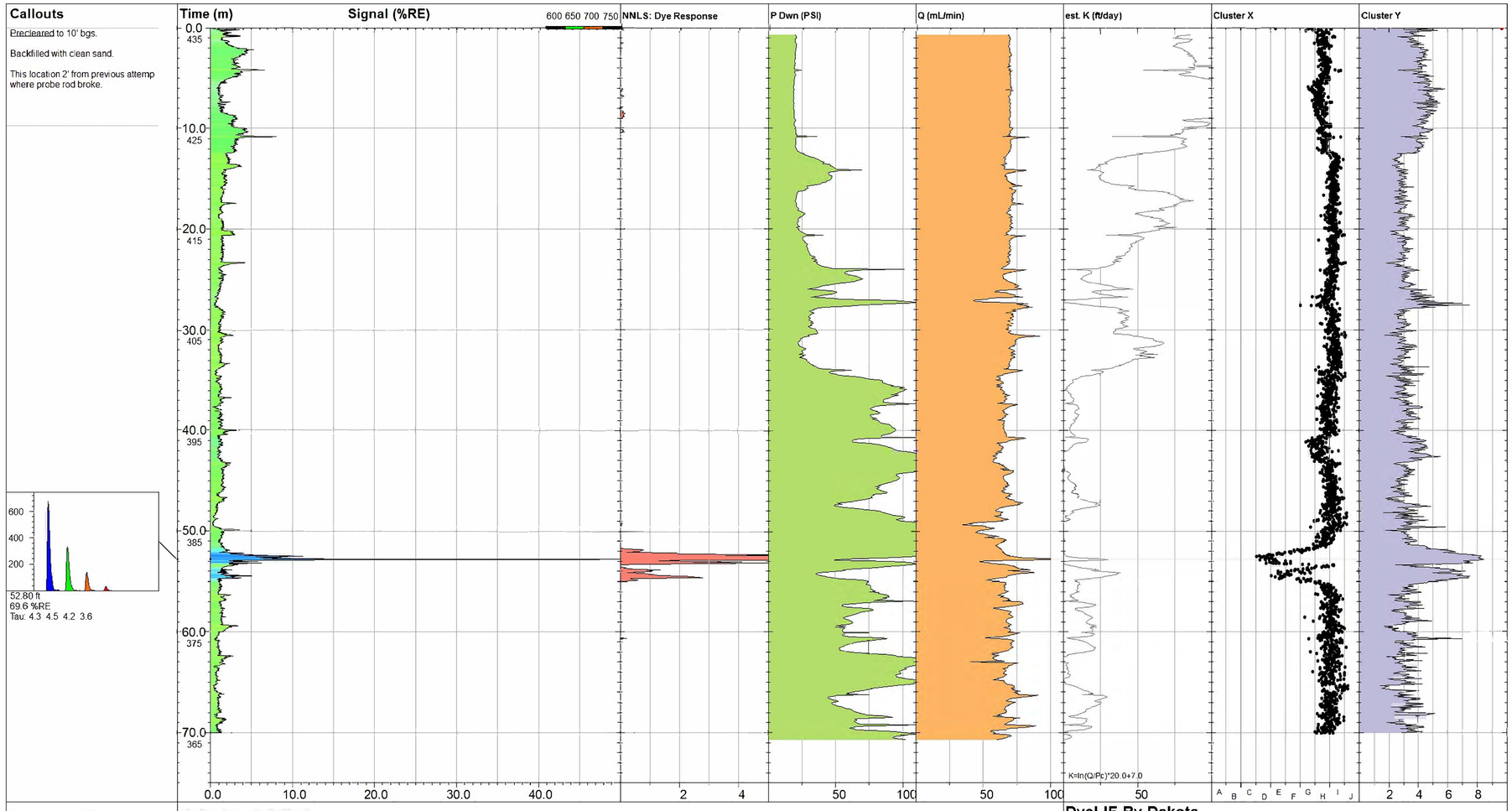
Appendix A – DyeLIF Logs

Callouts

Precleared to 10' bgs.

Backfilled with clean sand.

This location 2' from previous attemp where probe rod broke.



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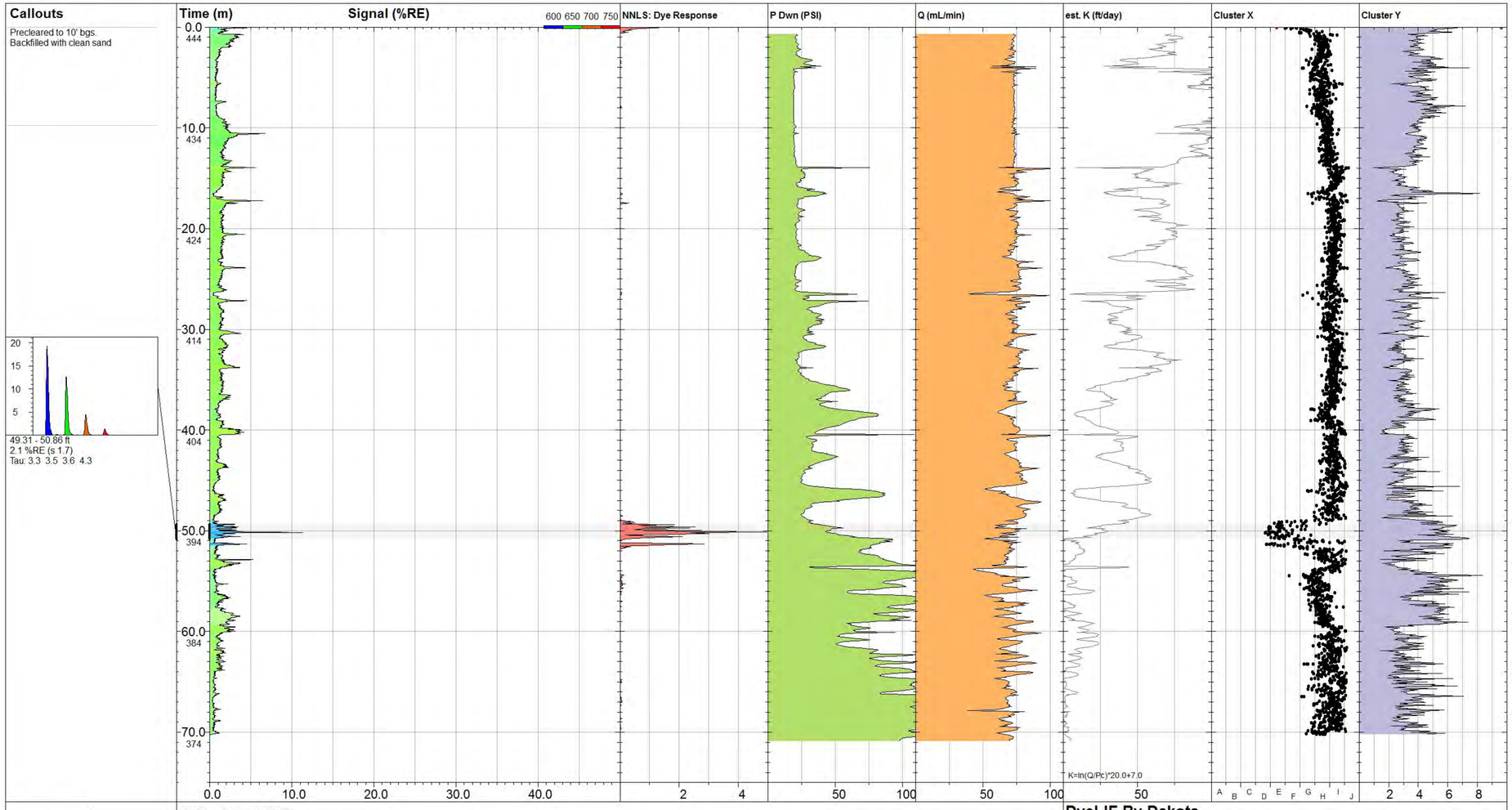
PD-01-CPT

DyeLIF By Dakota
www.DakotaTechnologies.com

Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791982.56 /**	*Final depth:* **70.01 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2321984.10 /**	*Max signal:* **69.6 %RE @ 52.80 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **434.8 ft**	*Date & Time:* **2019-06-14 09:39 CDT**



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PD-02-CPT

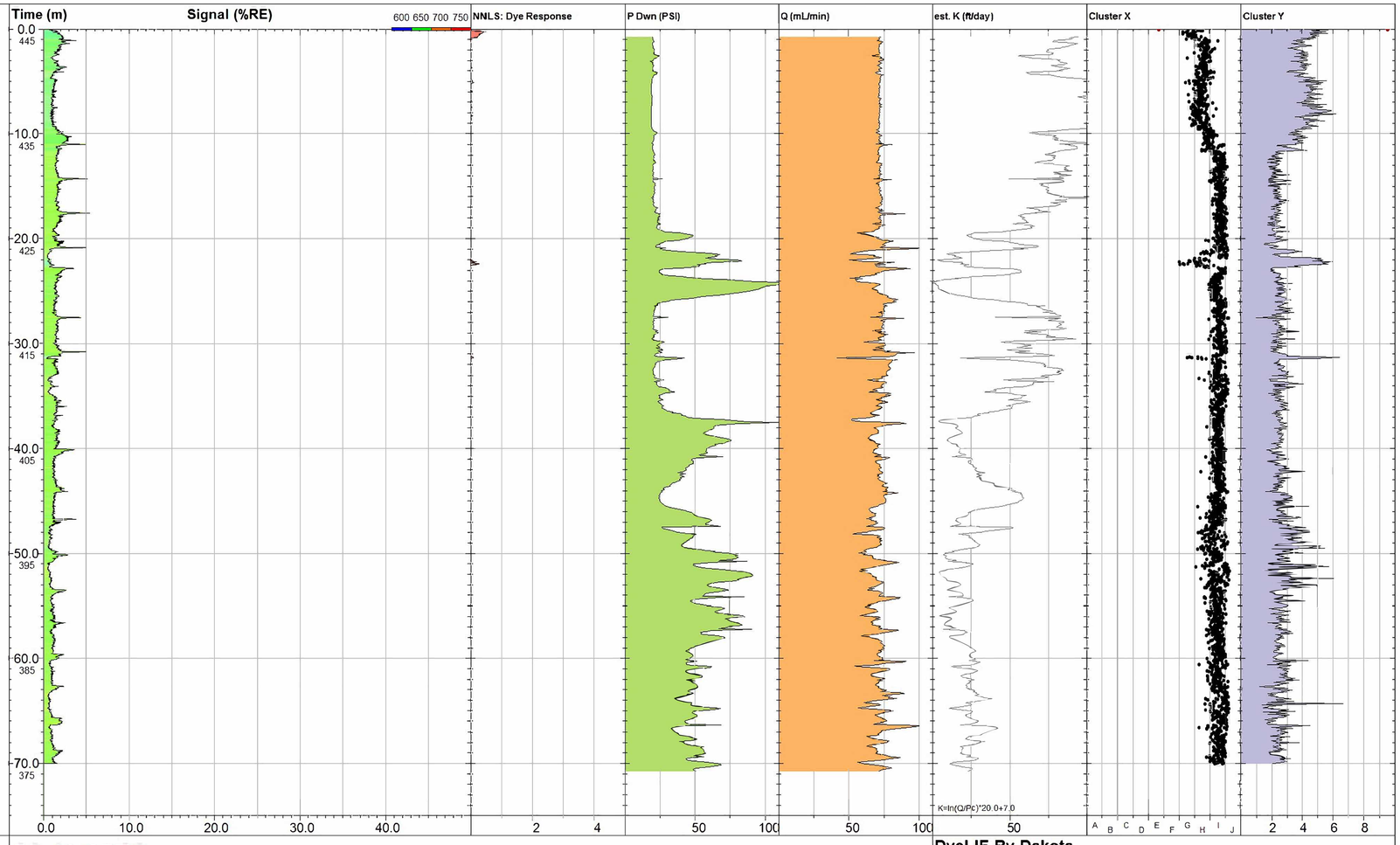
DyeLIF By Dakota
www.DakotaTechnologies.com

Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **792019.06 /**	*Final depth:* **70.19 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322167.16 /**	*Max signal:* **11.7 %RE @ 50.17 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **443.8 ft**	*Date & Time:* **2019-06-18 12:40 CDT**

Callouts

Precleared to 10' bgs.
Backfilled with clean sand.

This location is a re-do of PD-03.
Offset about 2'



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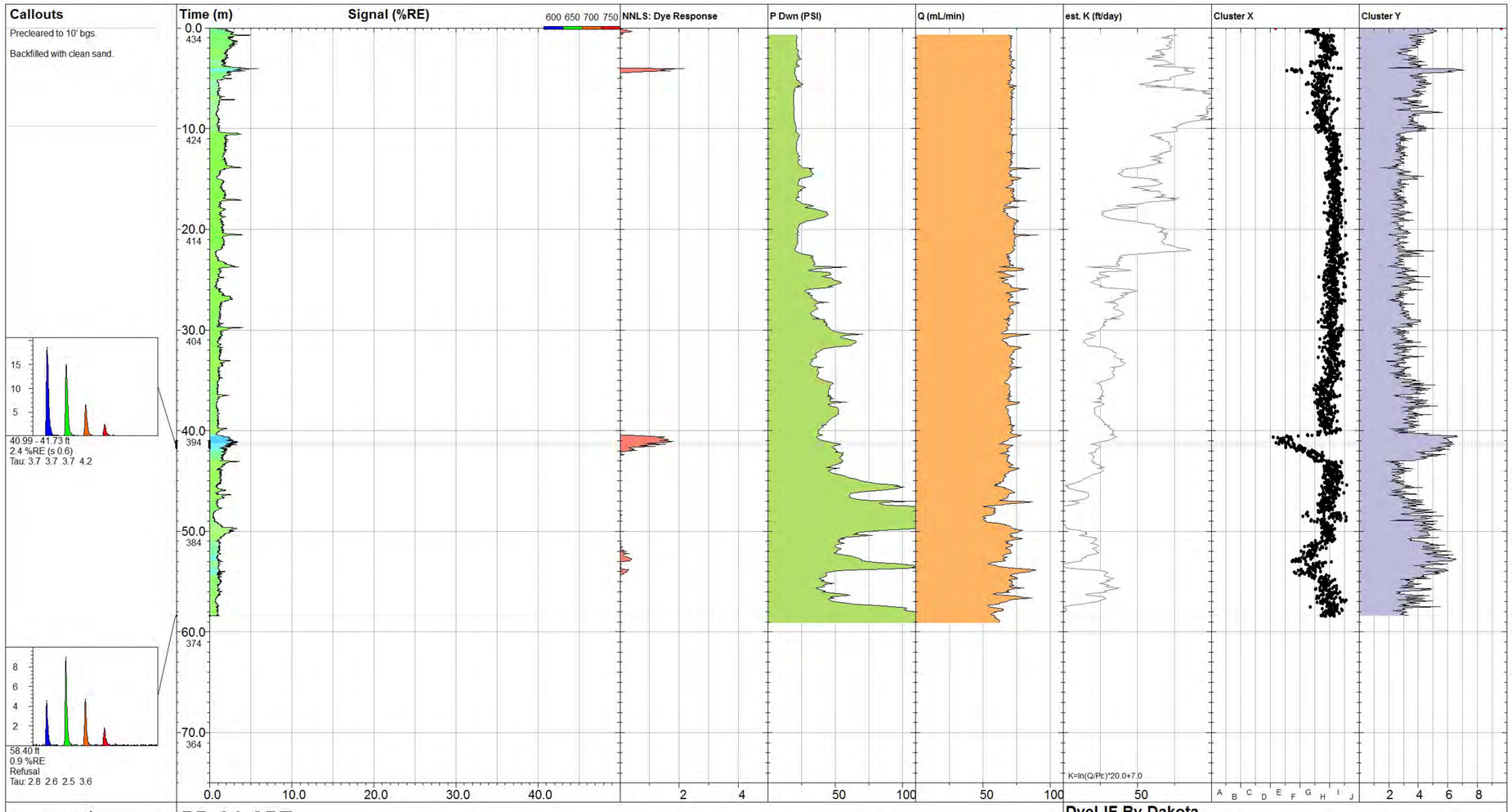
PD-03-CPT

DyeLIF By Dakota
www.DakotaTechnologies.com

Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **792017.91 /**	*Final depth:* **70.01 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322267.45 /**	*Max signal:* **5.4 %RE @ 17.57 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **444.6 ft**	*Date & Time:* **2019-06-19 11:30 CDT**



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PD-04-CPT

DyeLIF By Dakota
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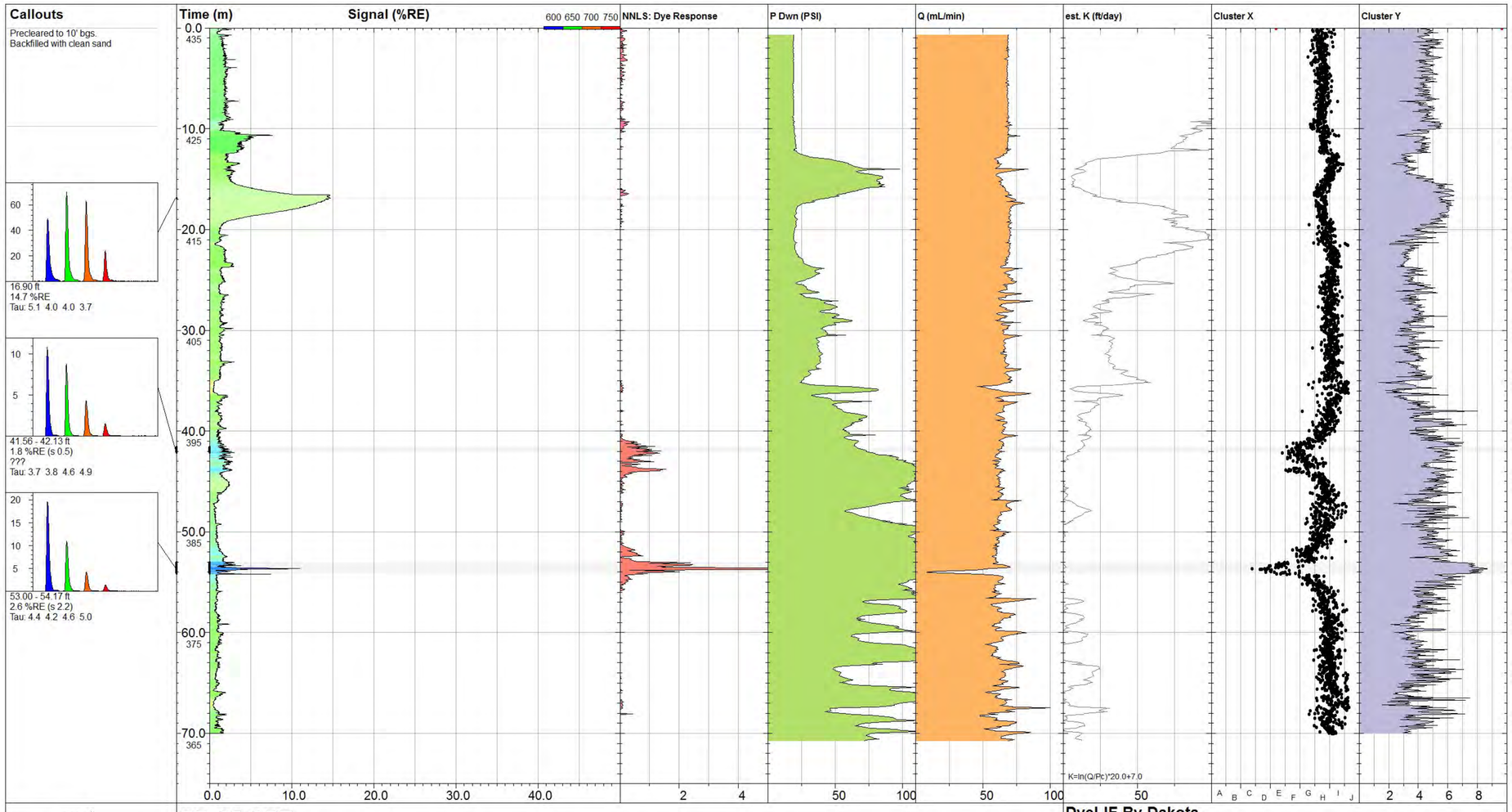
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791932.39 /**	*Final depth:* **58.40 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2321942.06 /**	*Max signal:* **6.1 %RE @ 4.04 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **434.5 ft**	*Date & Time:* **2019-06-14 11:38 CDT**



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PD-05-CPT

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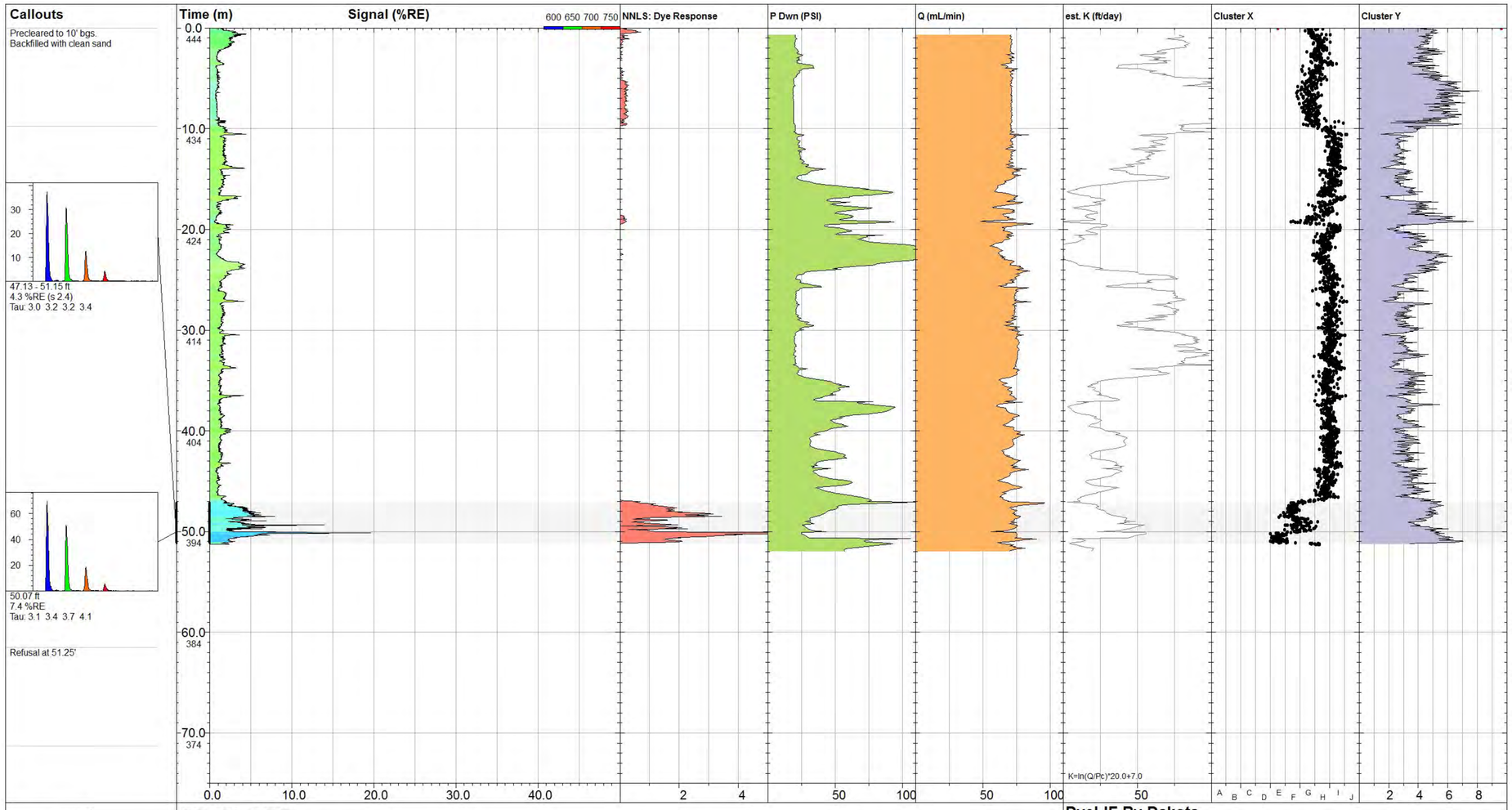
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791917.79 /**	*Final depth:* **70.01 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322037.88 /**	*Max signal:* **14.7 %RE @ 16.90 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **435.5 ft**	*Date & Time:* **2019-06-12 10:41 CDT**



PD-06-CPT		**DyeLIF By Dakota** www.DakotaTechnologies.com
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791958.05 /**	*Final depth:* **51.25 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322180.31 /**	*Max signal:* **20.3 %RE @ 50.13 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **443.7 ft**	*Date & Time:* **2019-06-18 08:30 CDT**

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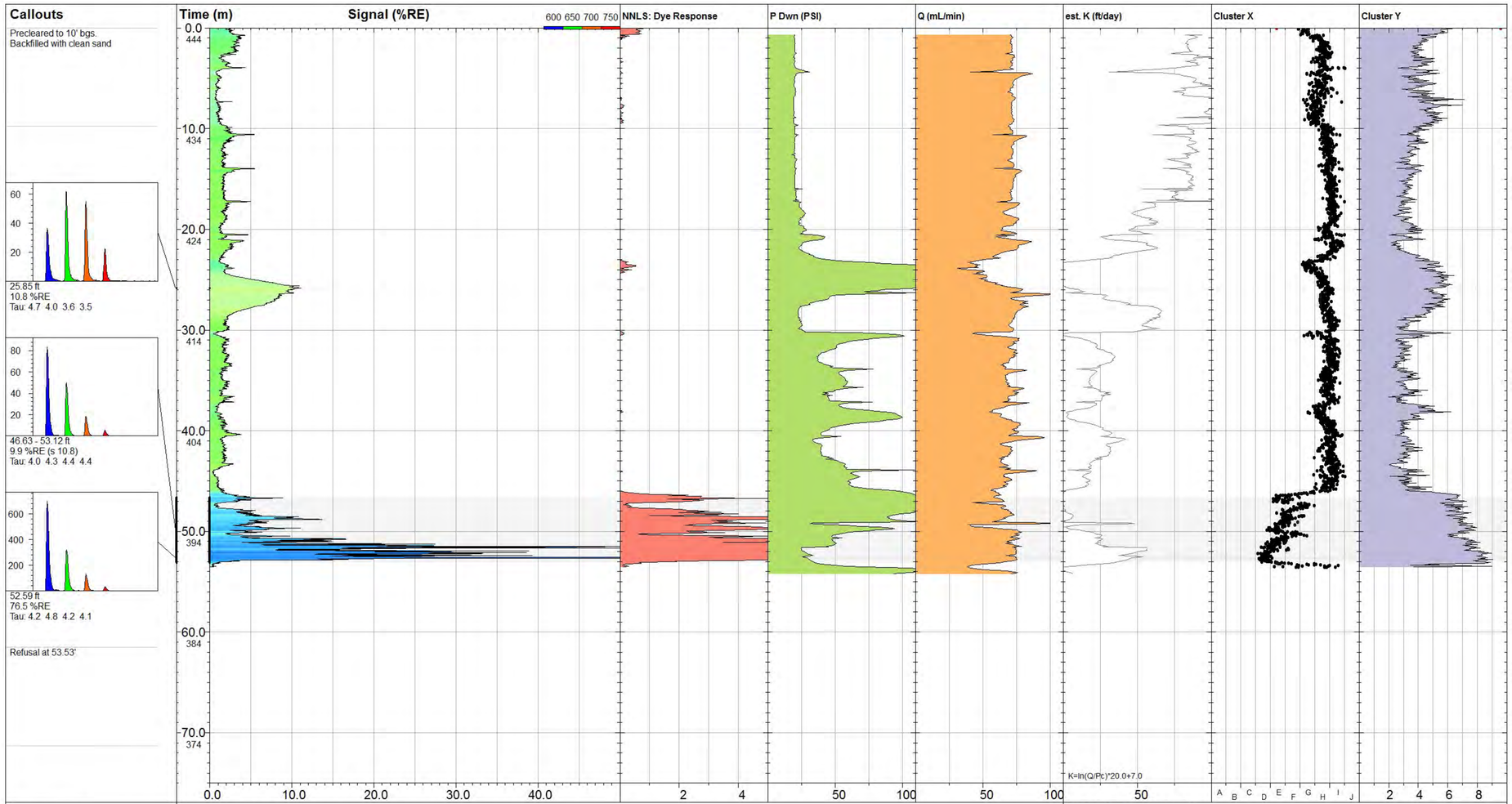

PD-07-CPT		**DyeLIF By Dakota** www.DakotaTechnologies.com
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791939.17 /**	*Final depth:* **53.54 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322270.72 /**	*Max signal:* **76.5 %RE @ 52.59 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **443.5 ft**	*Date & Time:* **2019-06-18 14:34 CDT**

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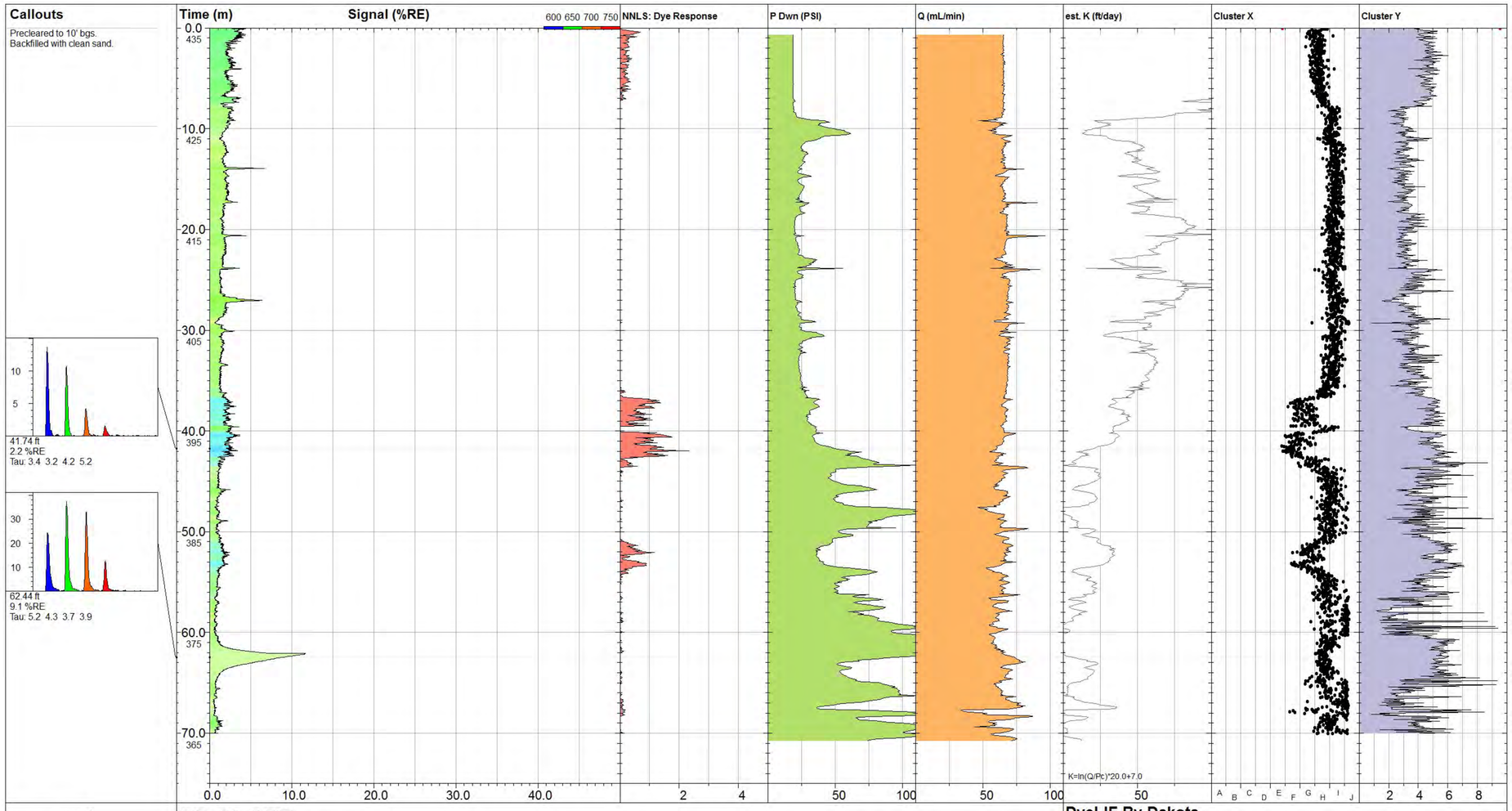

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PD-08-CPT

DyeLIF By Dakota
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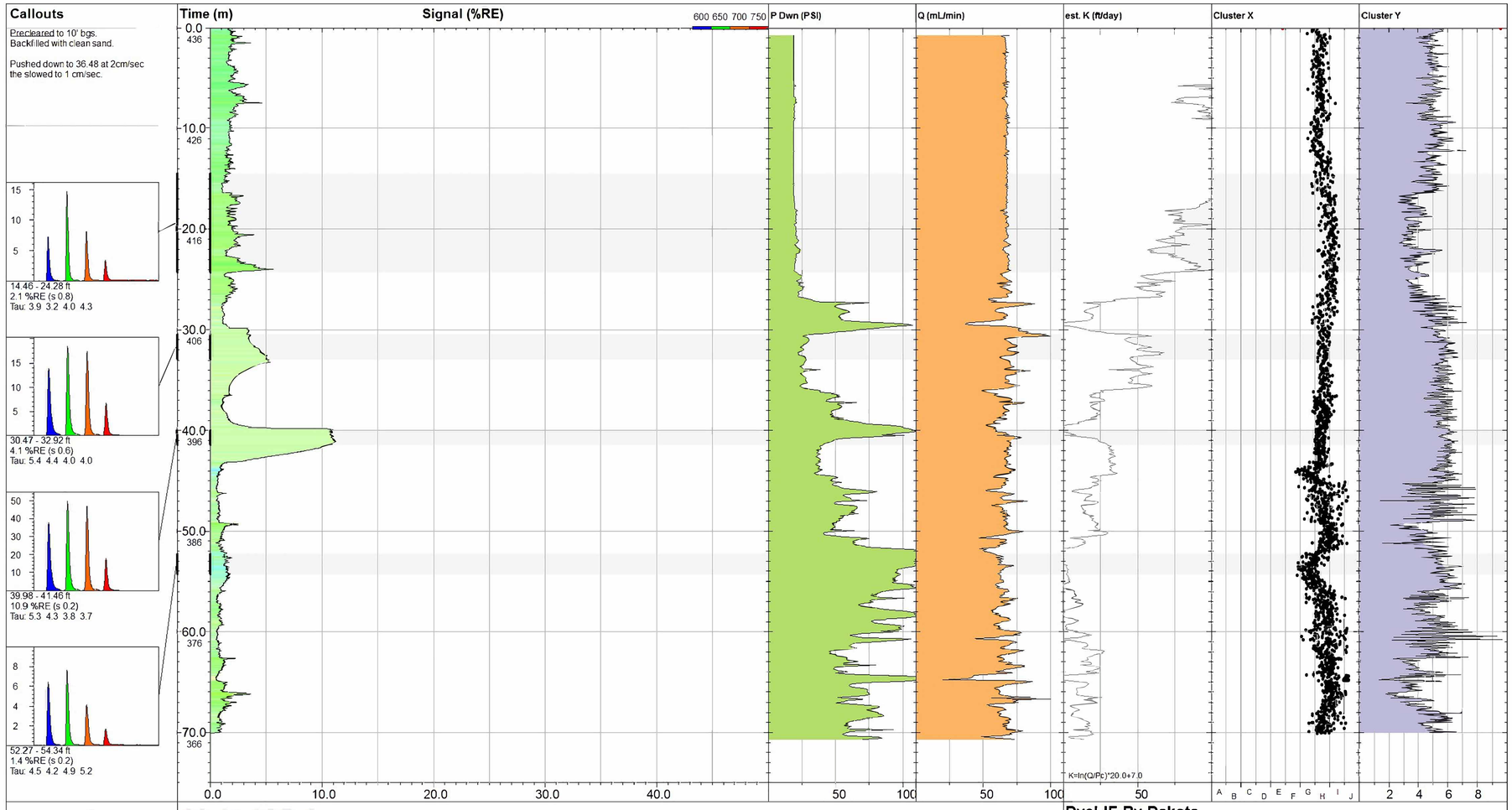
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791857.25 /**	*Final depth:* **70.02 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2321961.85 /**	*Max signal:* **11.7 %RE @ 62.08 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **434.7 ft**	*Date & Time:* **2019-06-12 13:41 CDT**



PD-09-CPT		**DyeLIF By Dakota** www.DakotaTechnologies.com
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791863.24 /**	*Final depth:* **70.03 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322070.06 /**	*Max signal:* **11.3 %RE @ 41.14 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **435.7 ft**	*Date & Time:* **2019-06-12 08:41 CDT**

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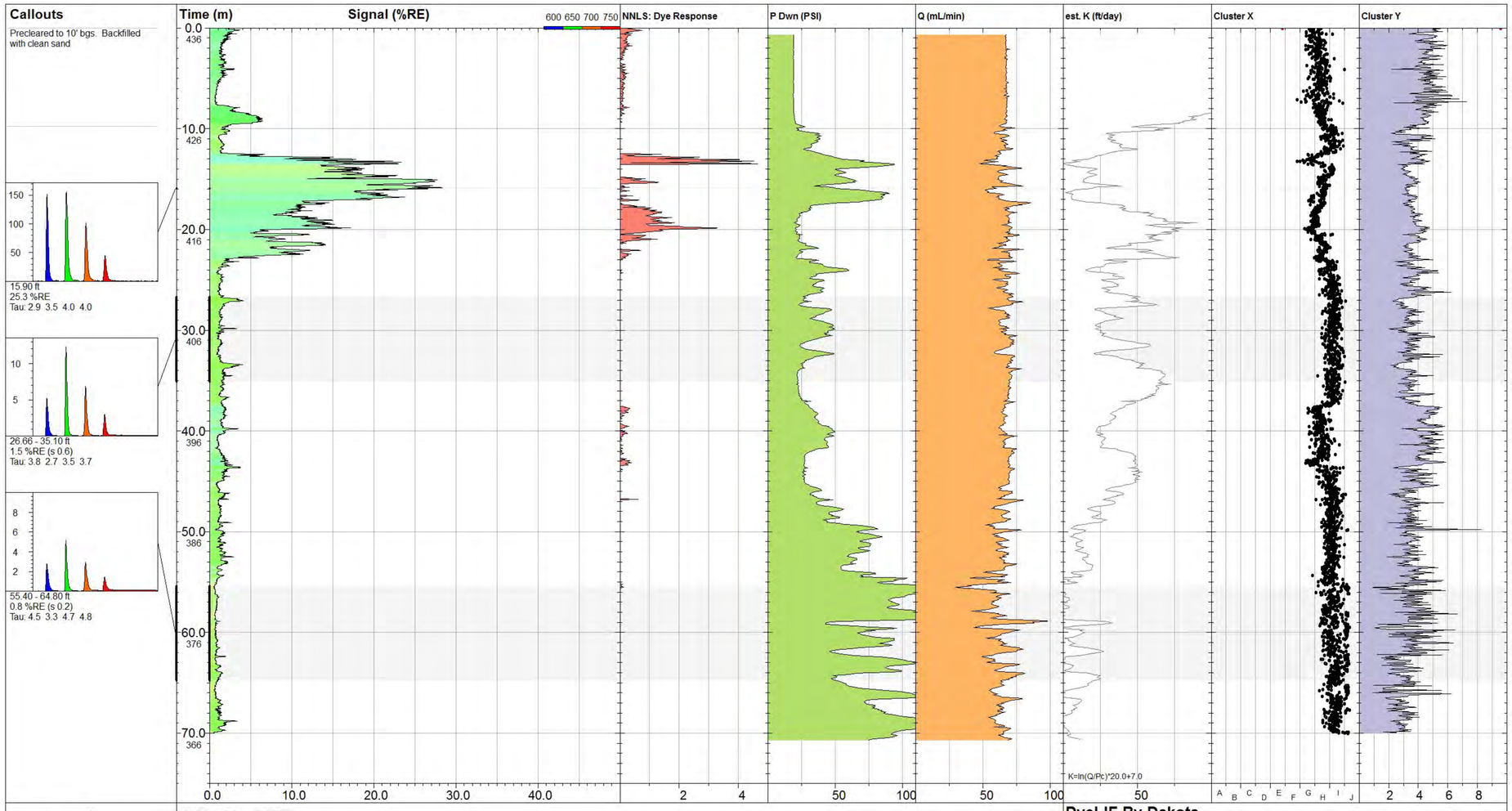

PD-10-CPT		**DyeLIF By Dakota** www.DakotaTechnologies.com
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791838.30 /**	*Final depth:* **70.01 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322159.82 /**	*Max signal:* **28.7 %RE @ 15.84 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **435.9 ft**	*Date & Time:* **2019-06-11 09:43 CDT**

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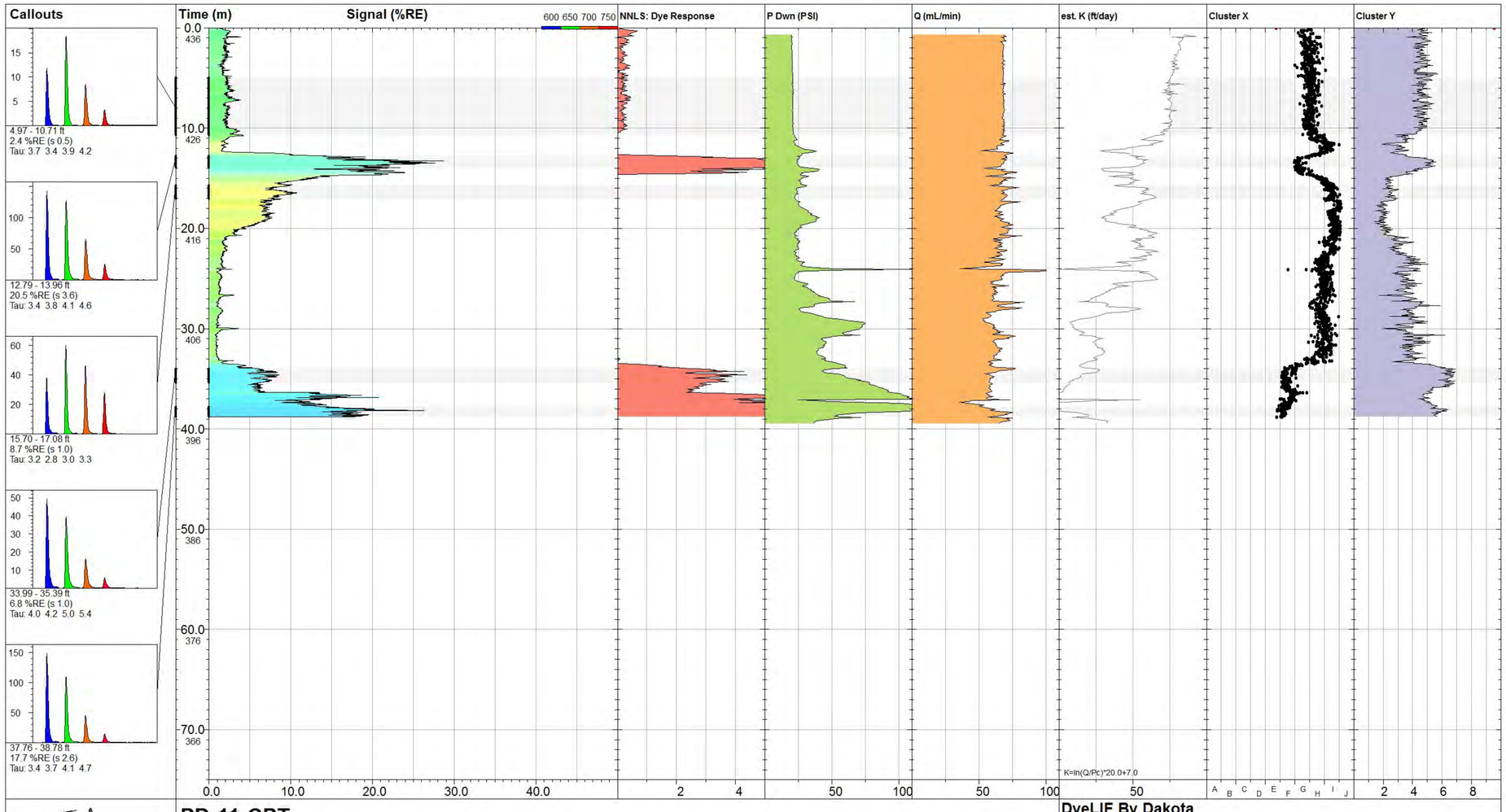

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PD-11-CPT

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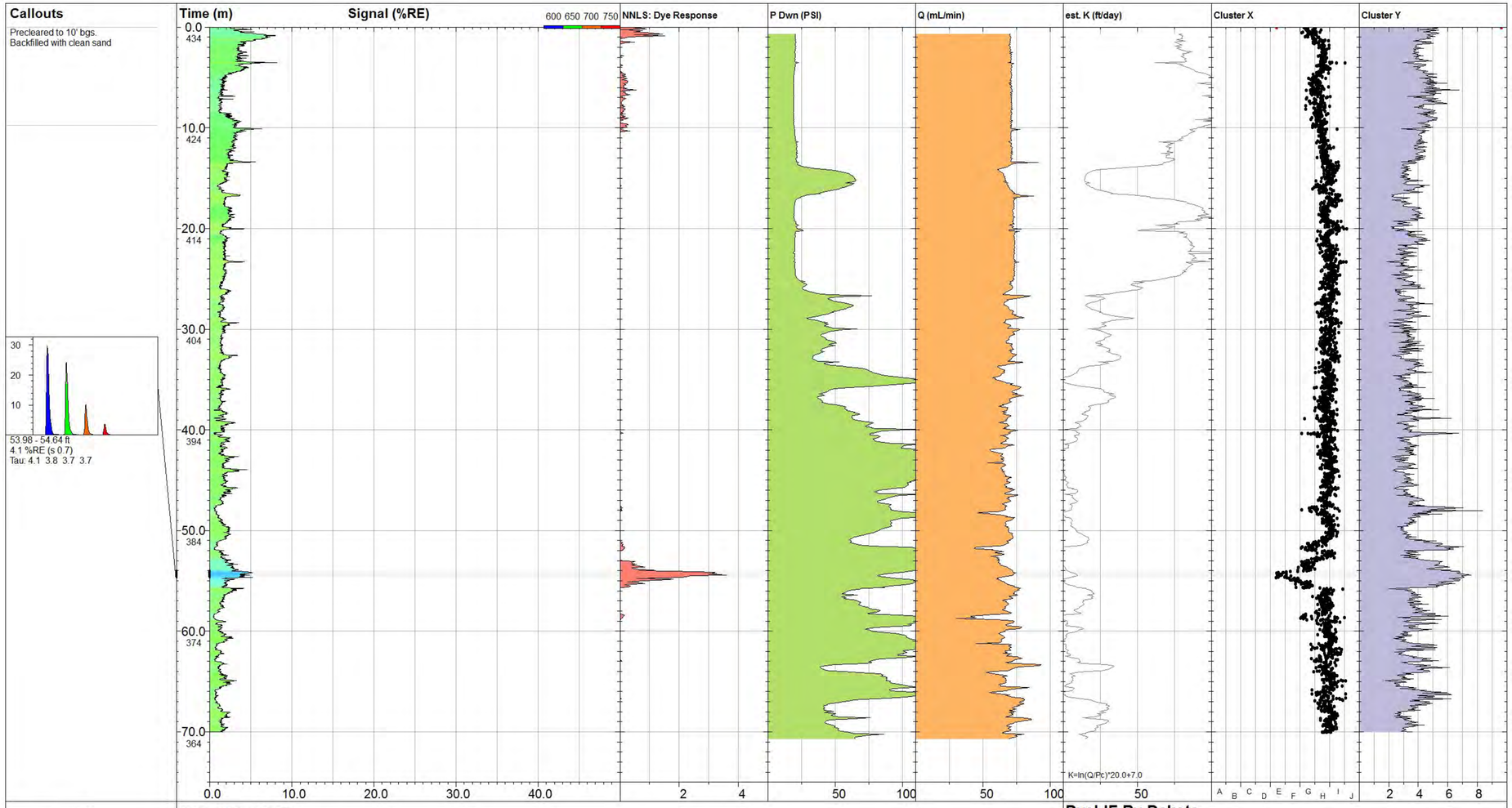
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791844.75 /**	*Final depth:* **38.78 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322239.41 /**	*Max signal:* **29.3 %RE @ 13.25 ft**
Operator / Unit: **SDA / TG1005**	*Elevation:* **436.4 ft**	*Date & Time:* **2019-06-10 15:14 CDT**



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PD-12-CPT

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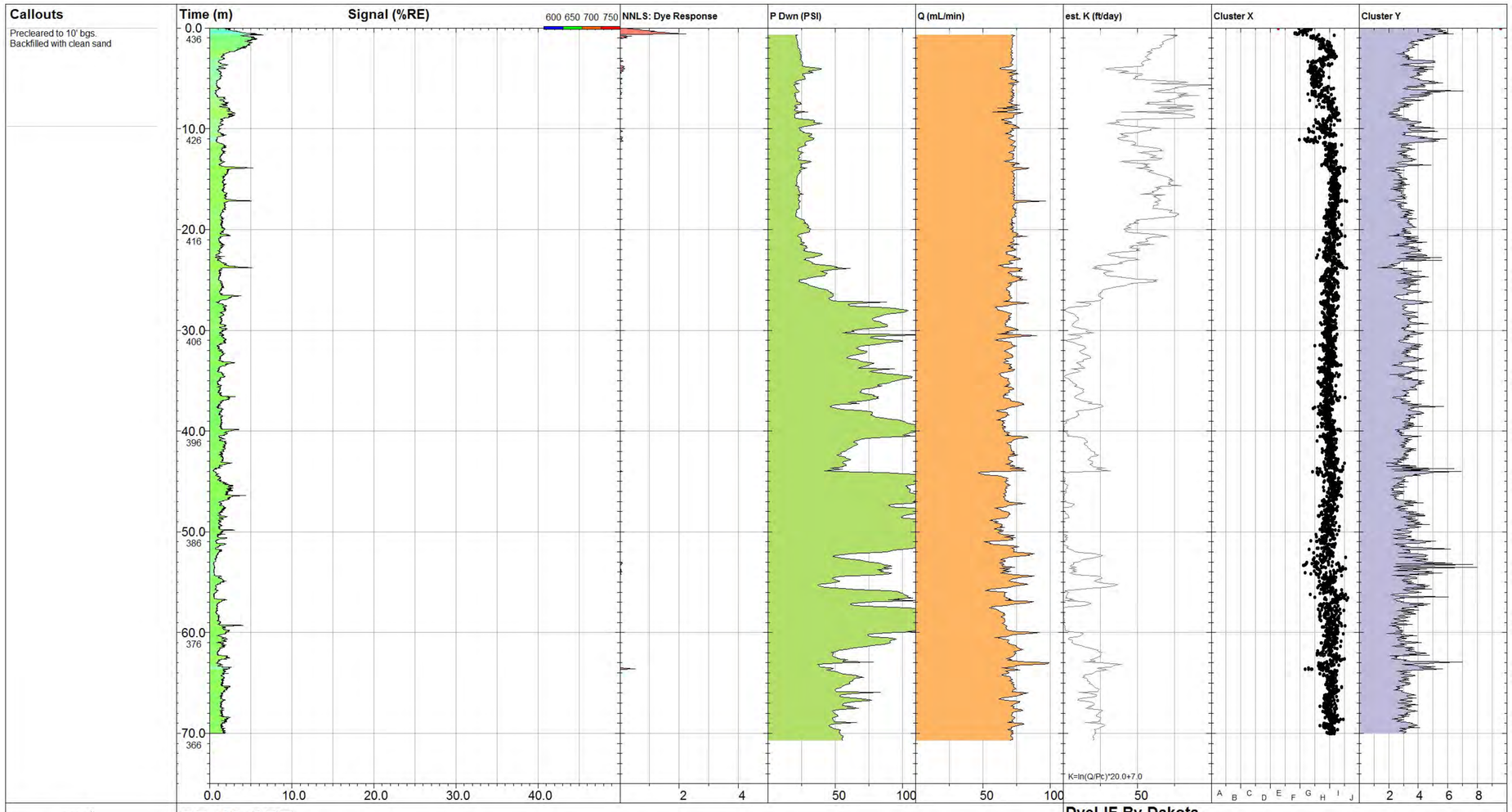
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **792017.66 /**	*Final depth:* **70.02 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2321985.38 /**	*Max signal:* **8.5 %RE @ 3.53 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **434.3 ft**	*Date & Time:* **2019-06-17 13:18 CDT**



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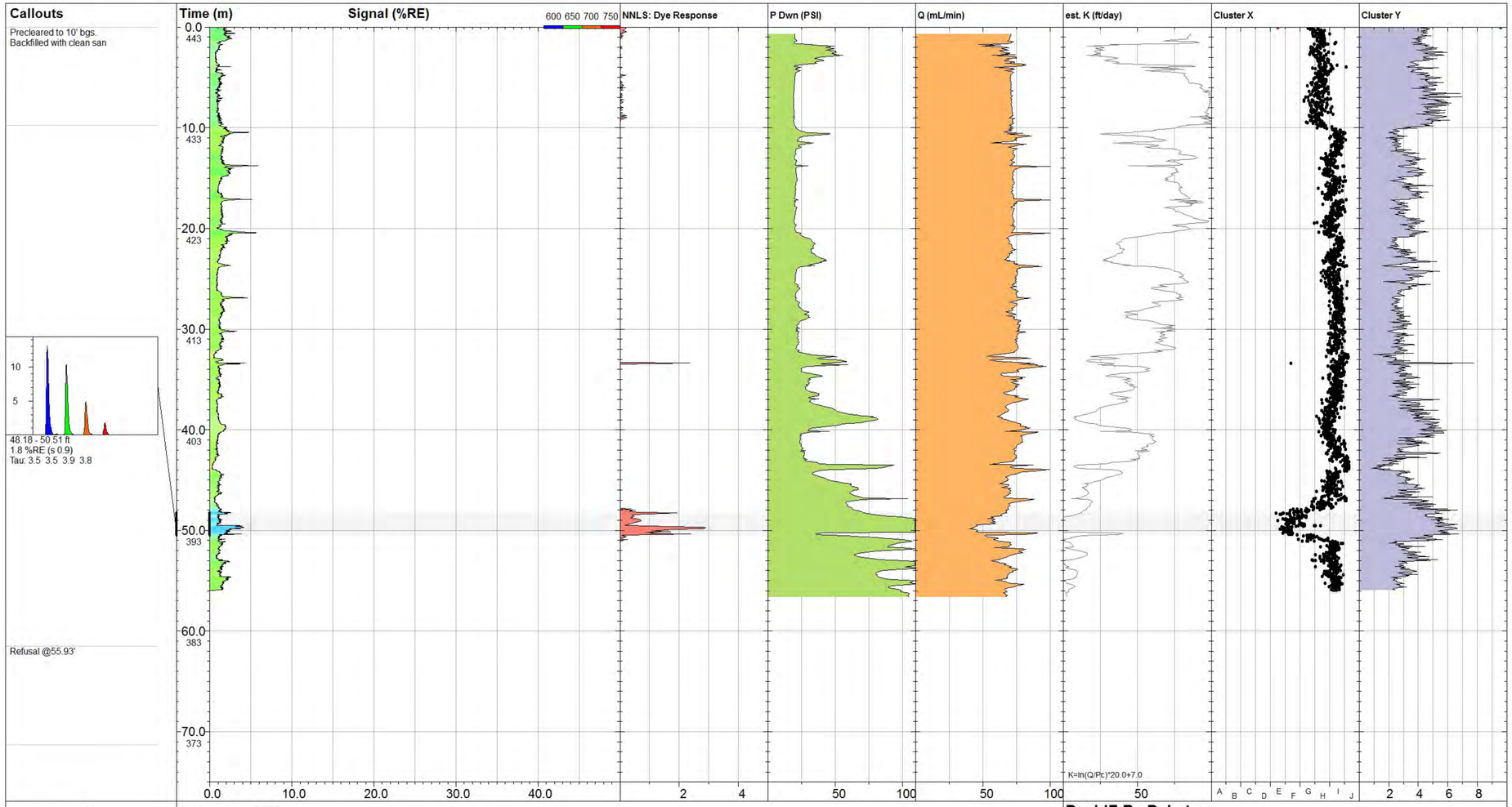
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791961.48 /**	*Final depth:* **70.01 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2321873.89 /**	*Max signal:* **6.5 %RE @ 0.70 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **436.3 ft**	*Date & Time:* **2019-06-17 14:57 CDT**



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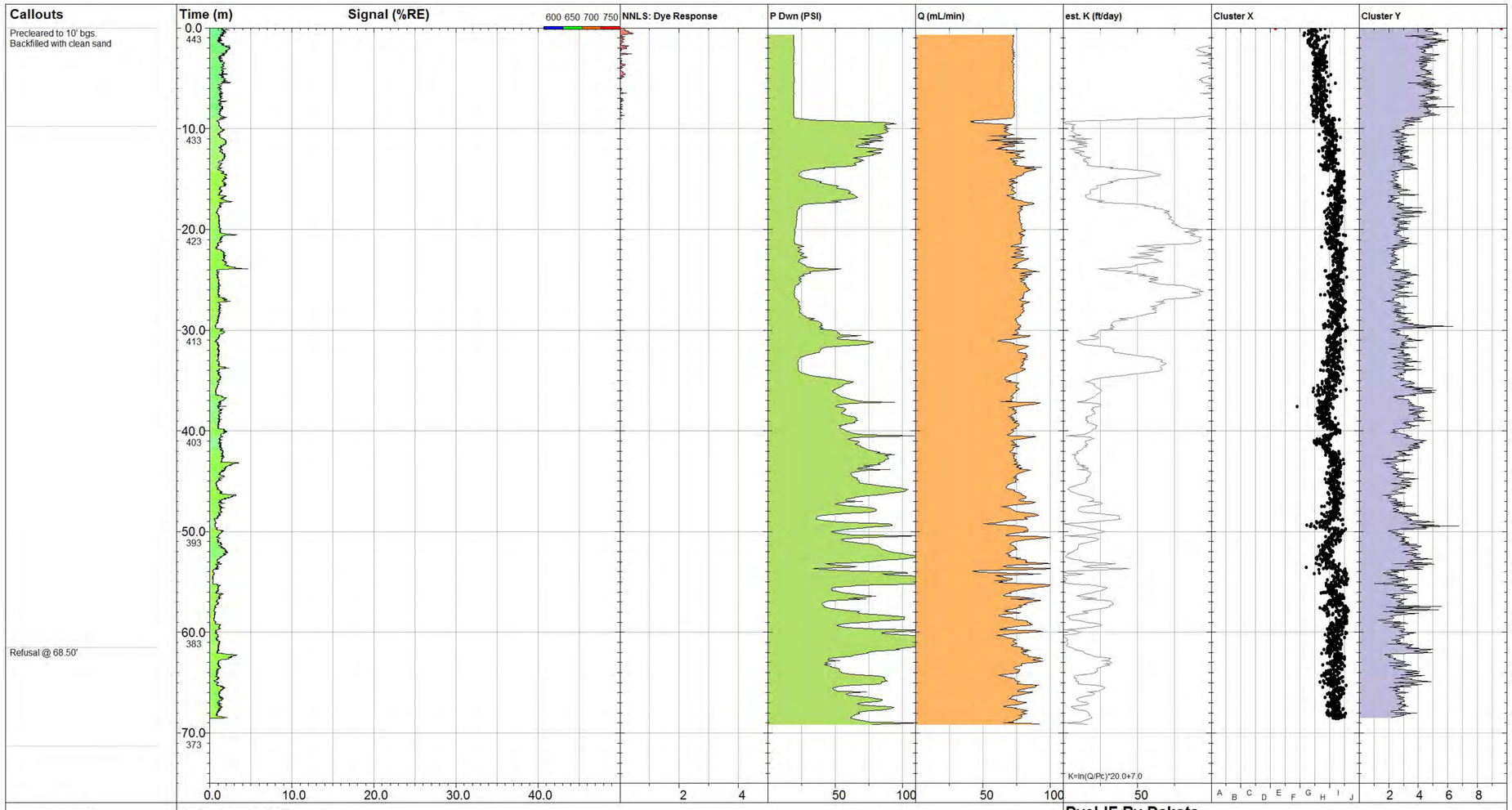
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791999.00 /**	*Final depth:* **55.93 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322039.10 /**	*Max signal:* **6.2 %RE @ 13.78 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **442.6 ft**	*Date & Time:* **2019-06-20 10:04 CDT**



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PD-15-CPT

DyeLIF By Dakota
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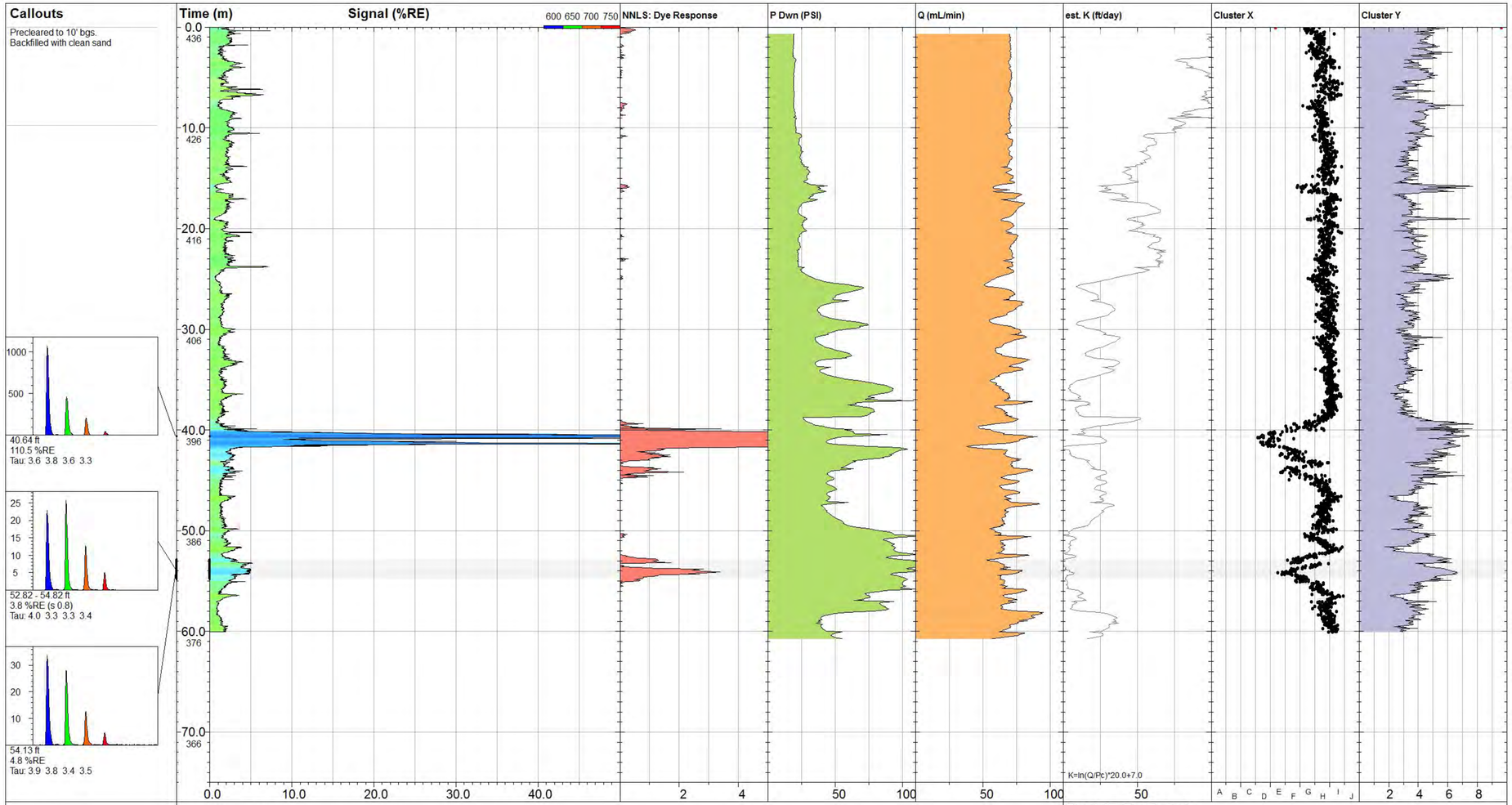
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791907.91 /**	*Final depth:* **68.50 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2321908.32 /**	*Max signal:* **4.8 %RE @ 23.91 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **442.9 ft**	*Date & Time:* **2019-06-20 14:37 CDT**



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PD-16-CPT

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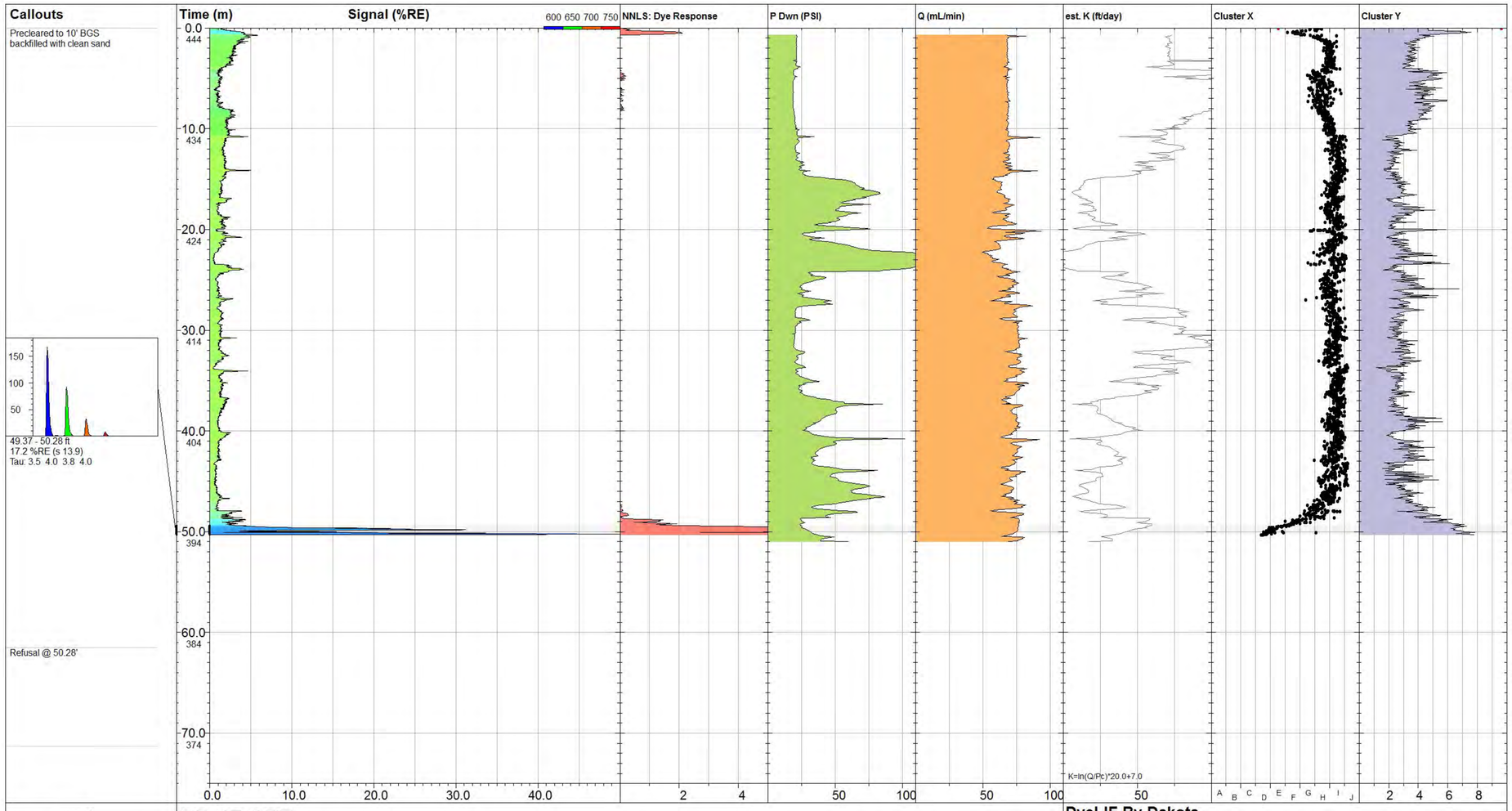
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791887.76 /**	*Final depth:* **60.03 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322029.09 /**	*Max signal:* **110.5 %RE @ 40.64 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **435.6 ft**	*Date & Time:* **2019-06-20 16:35 CDT**



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PD-17-CPT

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Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791909.51 /**	*Final depth:* **50.28 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322174.12 /**	*Max signal:* **60.2 %RE @ 50.23 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **443.9 ft**	*Date & Time:* **2019-06-20 08:09 CDT**



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PD-19-CPT

DyeLIF By Dakota
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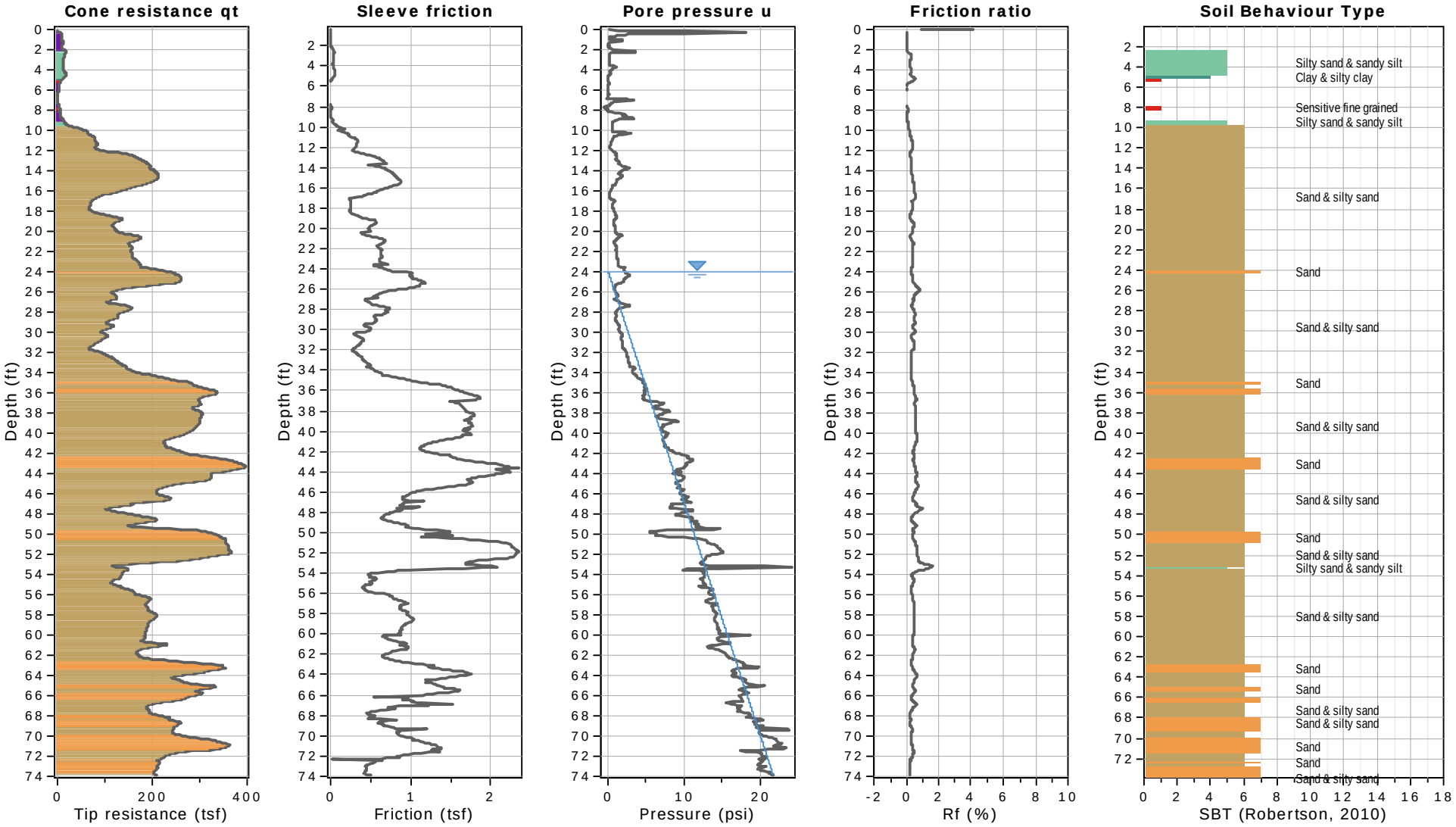
Site: **Roxana Public Works**	*Y Coord.(Lat-N) / System:* **791881.13 /**	*Final depth:* **51.16 ft**
Client / Job: **AECOM /**	*X Coord.(Lng-E) / Fix:* **2322257.60 /**	*Max signal:* **10.0 %RE @ 48.60 ft**
Operator / Unit: **T. Rudolph / TG1005**	*Elevation:* **443.6 ft**	*Date & Time:* **2019-06-20 12:21 CDT**

Appendix B – CPT Logs

Walker-Hill Environmental
Chris Hayslip
chris@whenv.com
www.whenv.com

Project: **H19013-88IL**
Location: **Roxana, IL**

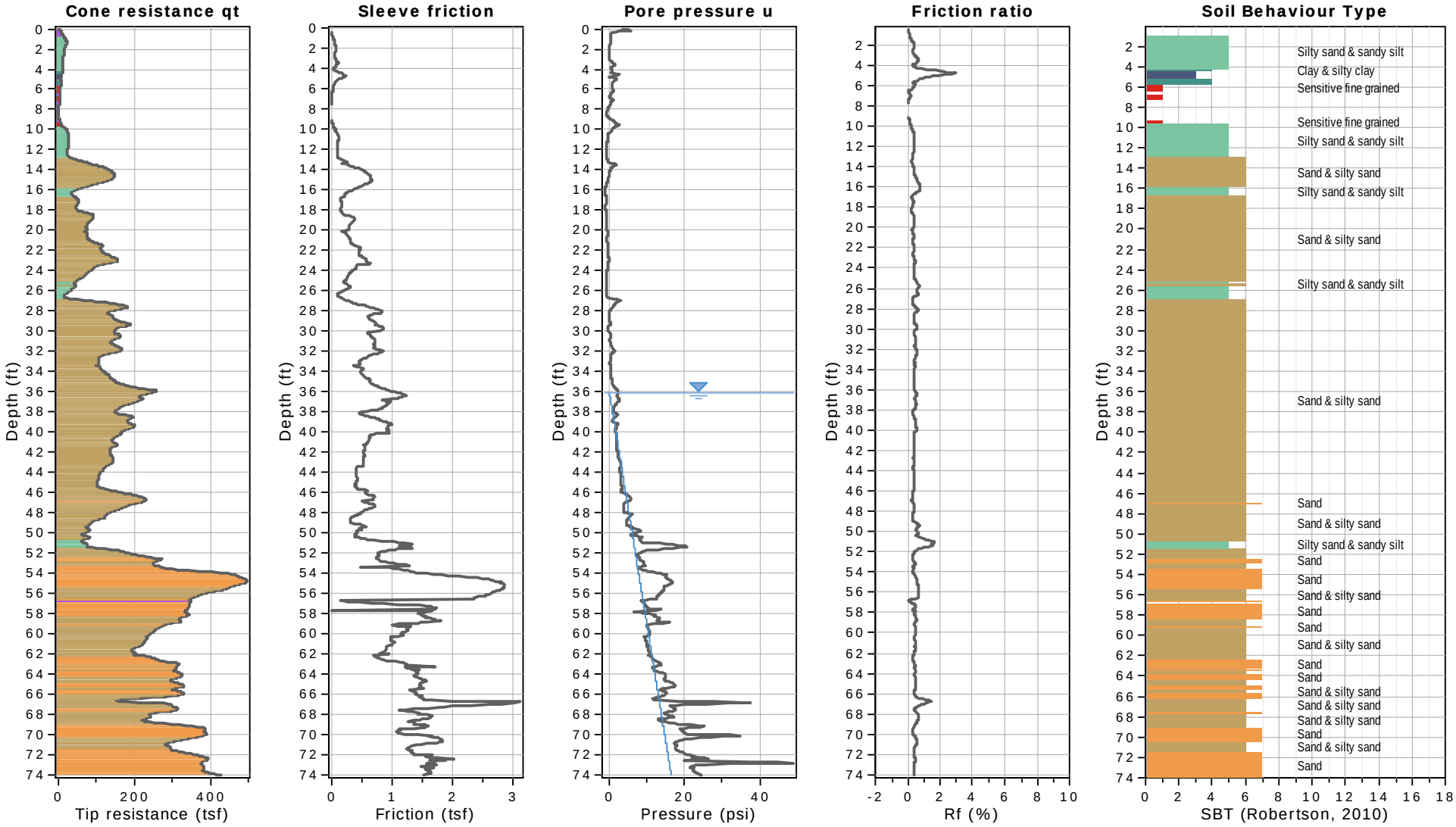
CPT: PD-01-CPT
Total depth: 73.88 ft, Date: 6/14/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



Walker-Hill Environmental
Chris Hayslip
chris@whenv.com
www.whenv.com

Project: **H19013-88IL**
Location: **Roxana, IL**

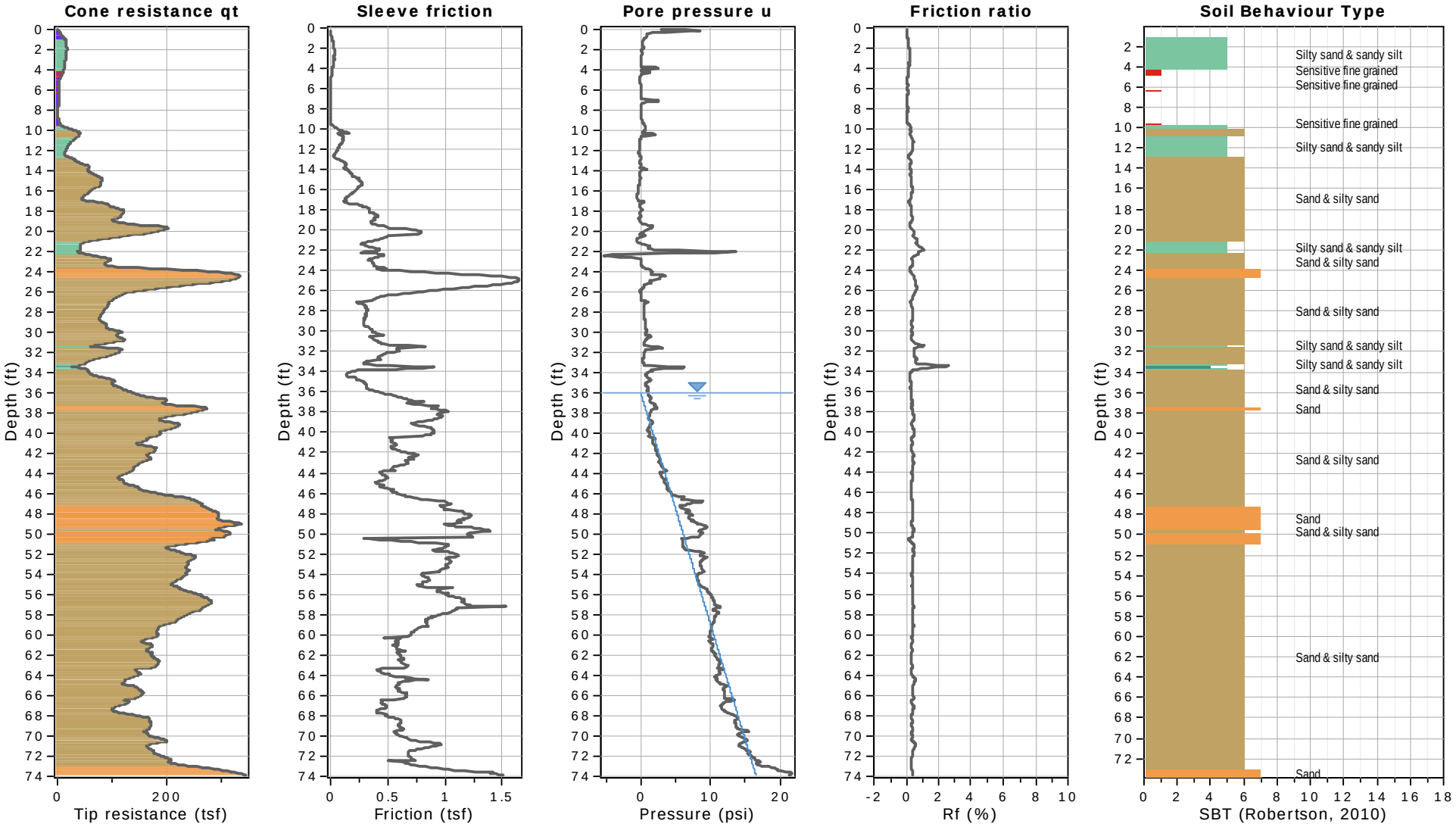
CPT: PD-02-CPT
Total depth: 74.02 ft, Date: 6/18/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



Walker-Hill Environmental
Chris Hayslip
chris@whenv.com
www.whenv.com

Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-03-CPT
Total depth: 73.88 ft, Date: 6/19/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



Walker-Hill Environmental
Chris Hayslip
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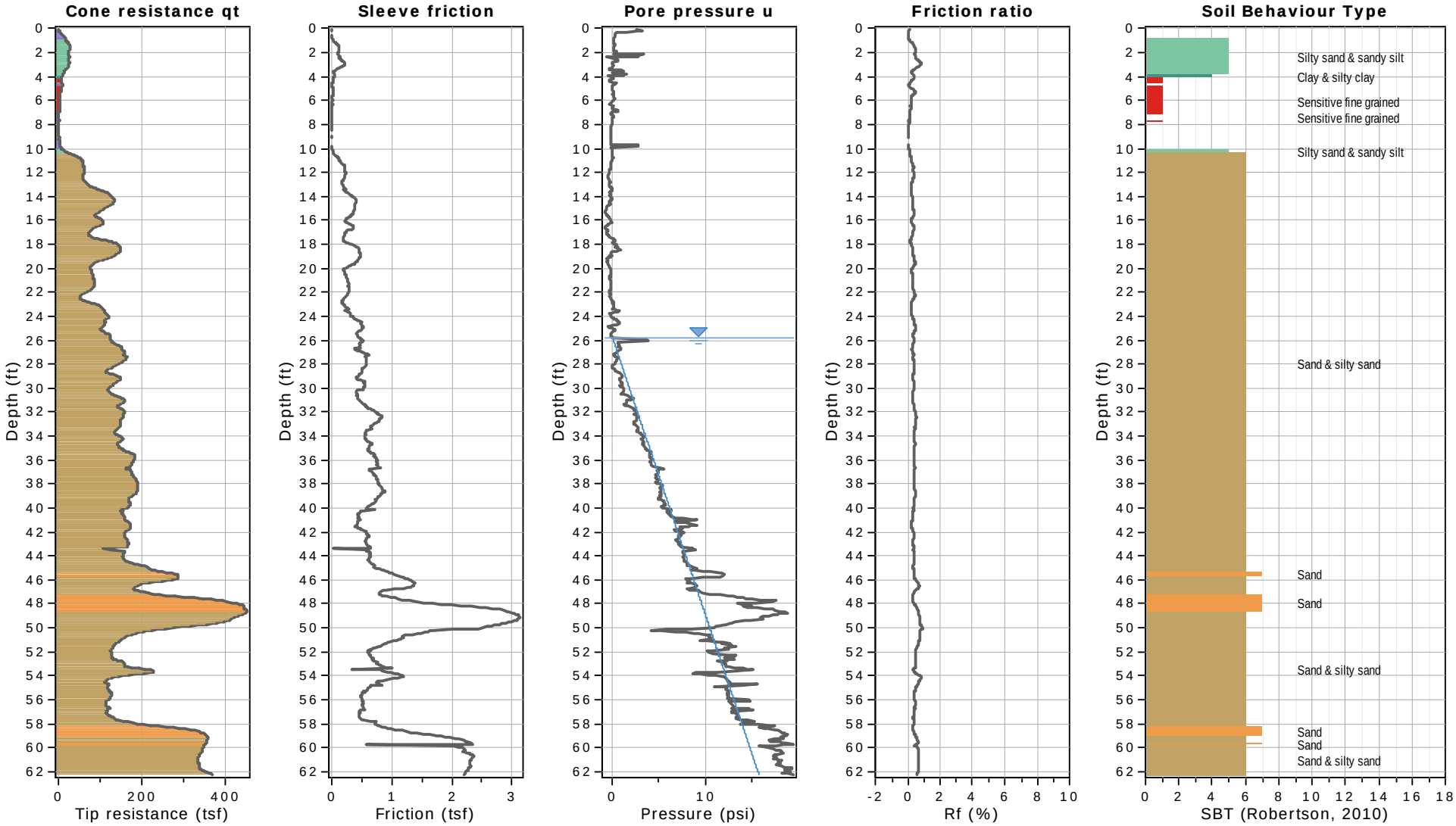
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-04-CPT
Total depth: 62.27 ft, Date: 6/14/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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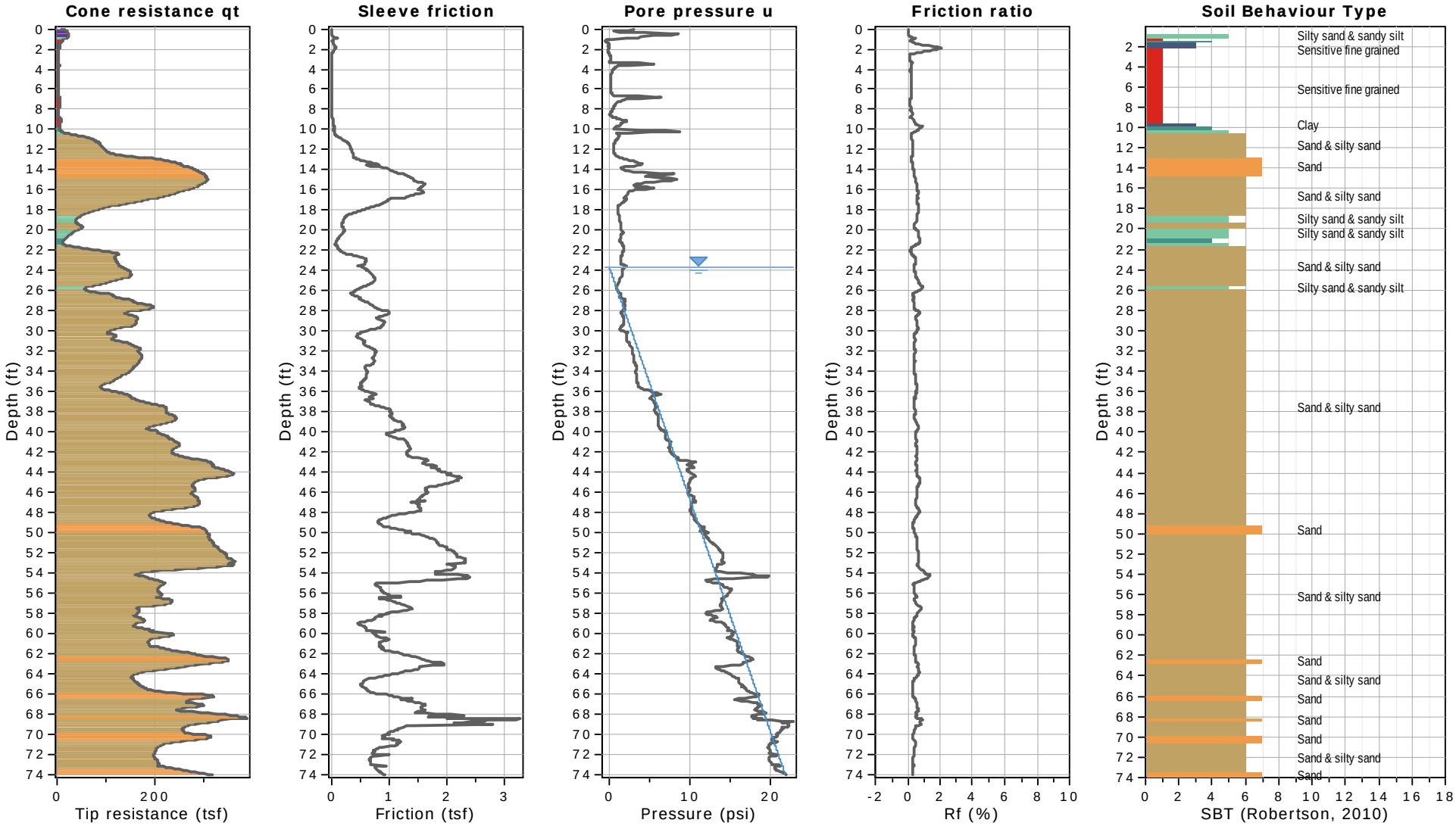
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-05-CPT
Total depth: 74.02 ft, Date: 6/12/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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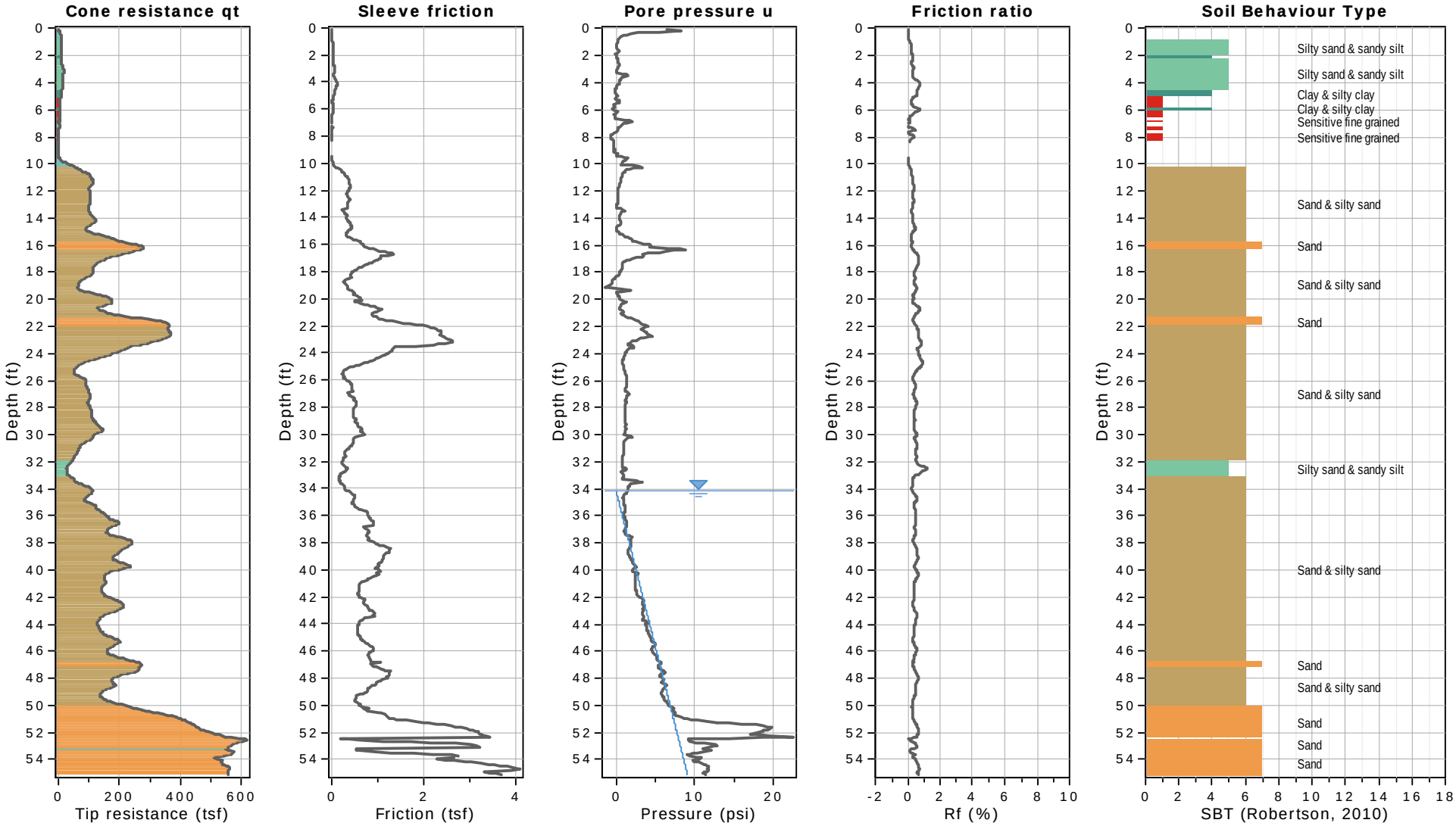
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-06-CPT
Total depth: 55.12 ft, Date: 6/18/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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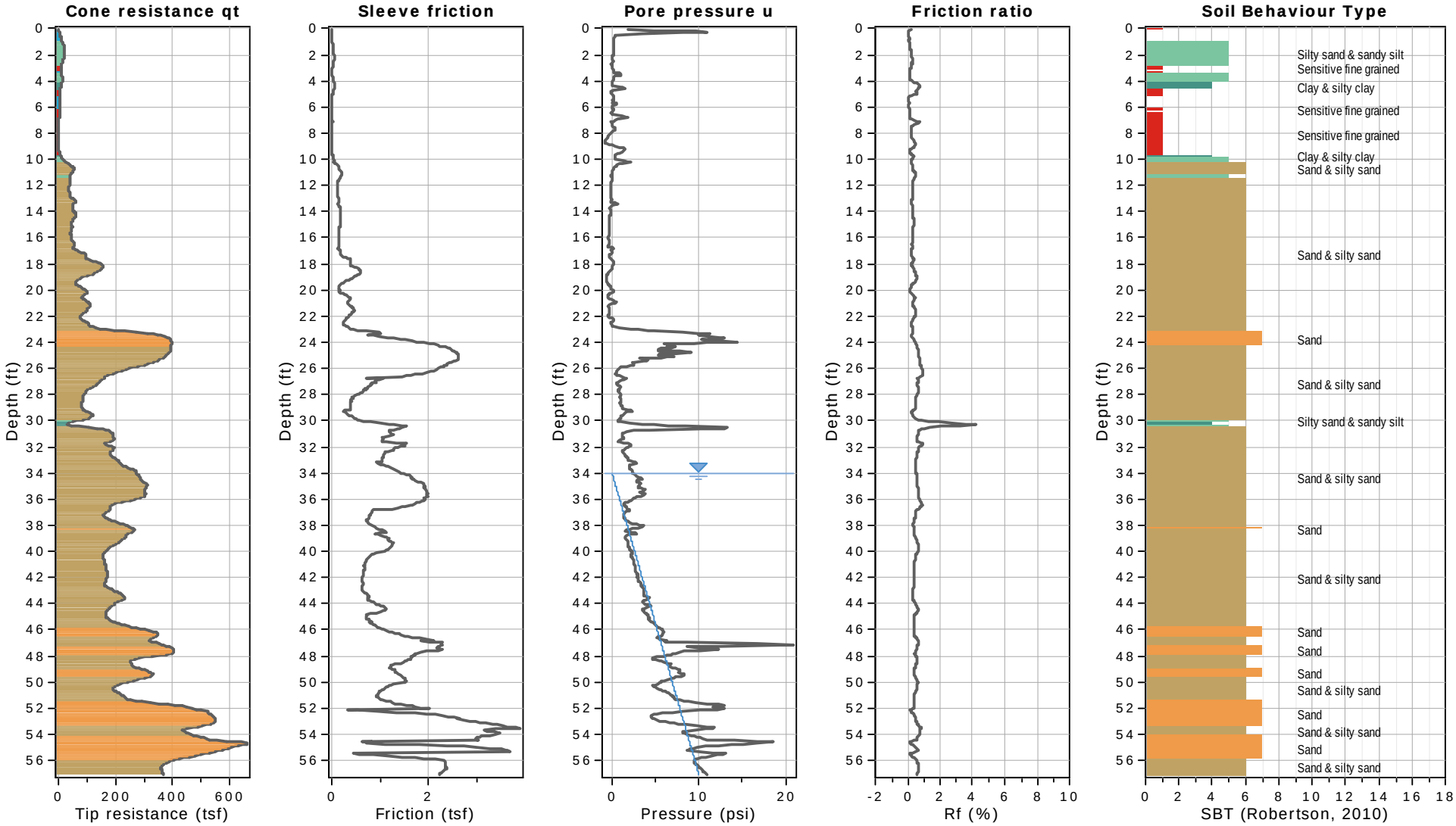
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: HPD-07-CPT
Total depth: 57.09 ft, Date: 6/18/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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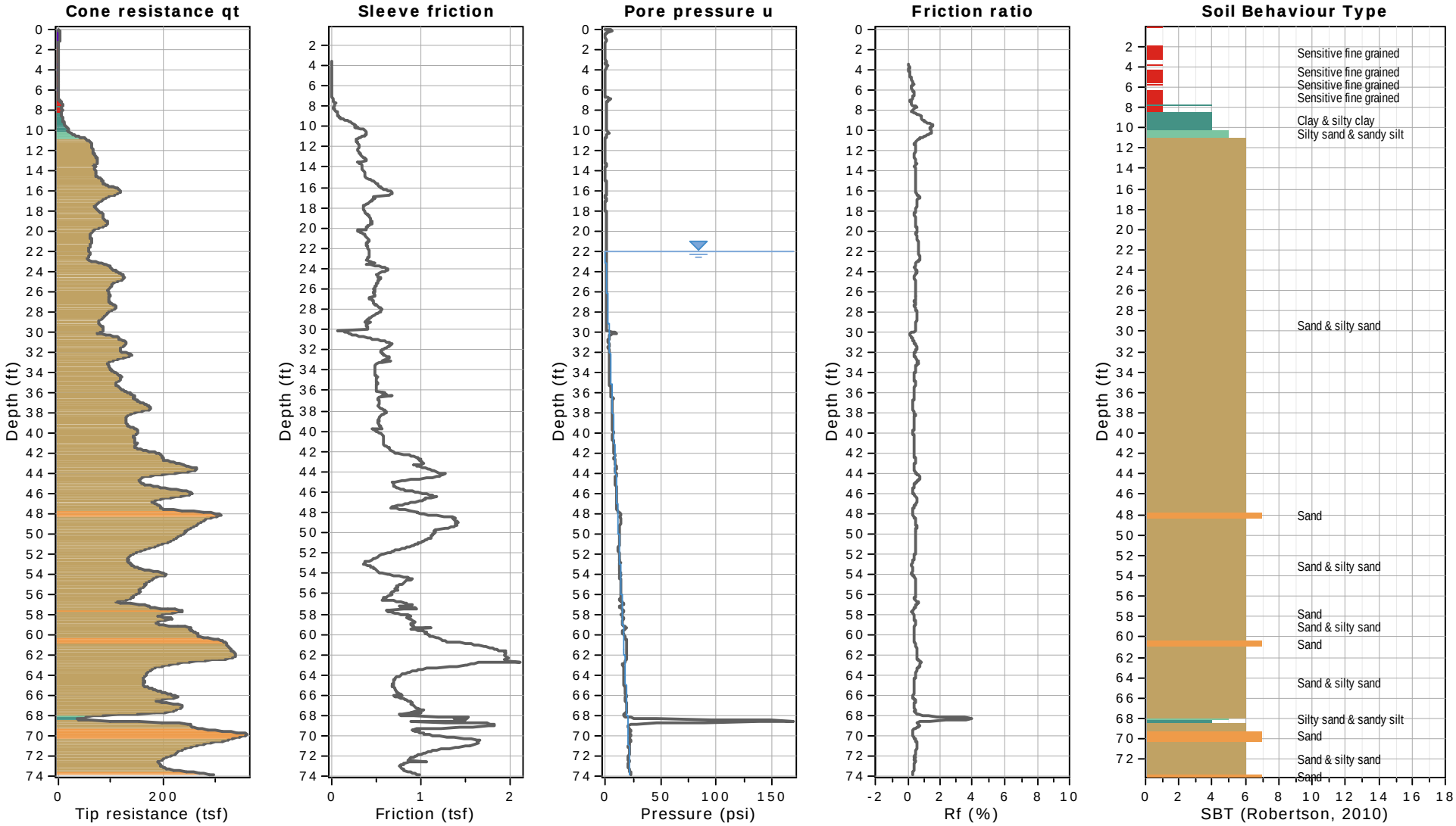
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-08-CPT
Total depth: 73.82 ft, Date: 6/12/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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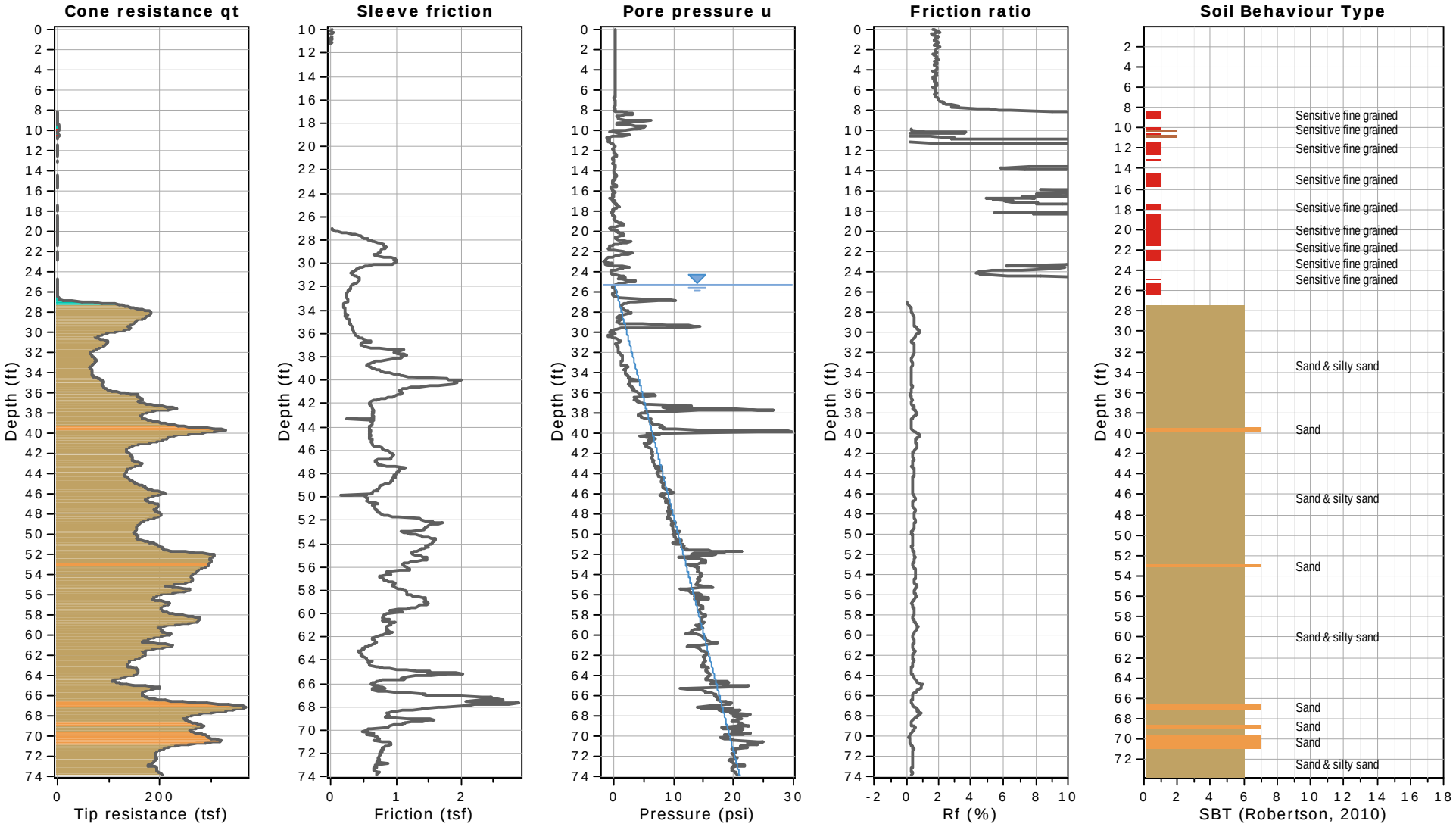
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-09-CPT
Total depth: 73.82 ft, Date: 6/12/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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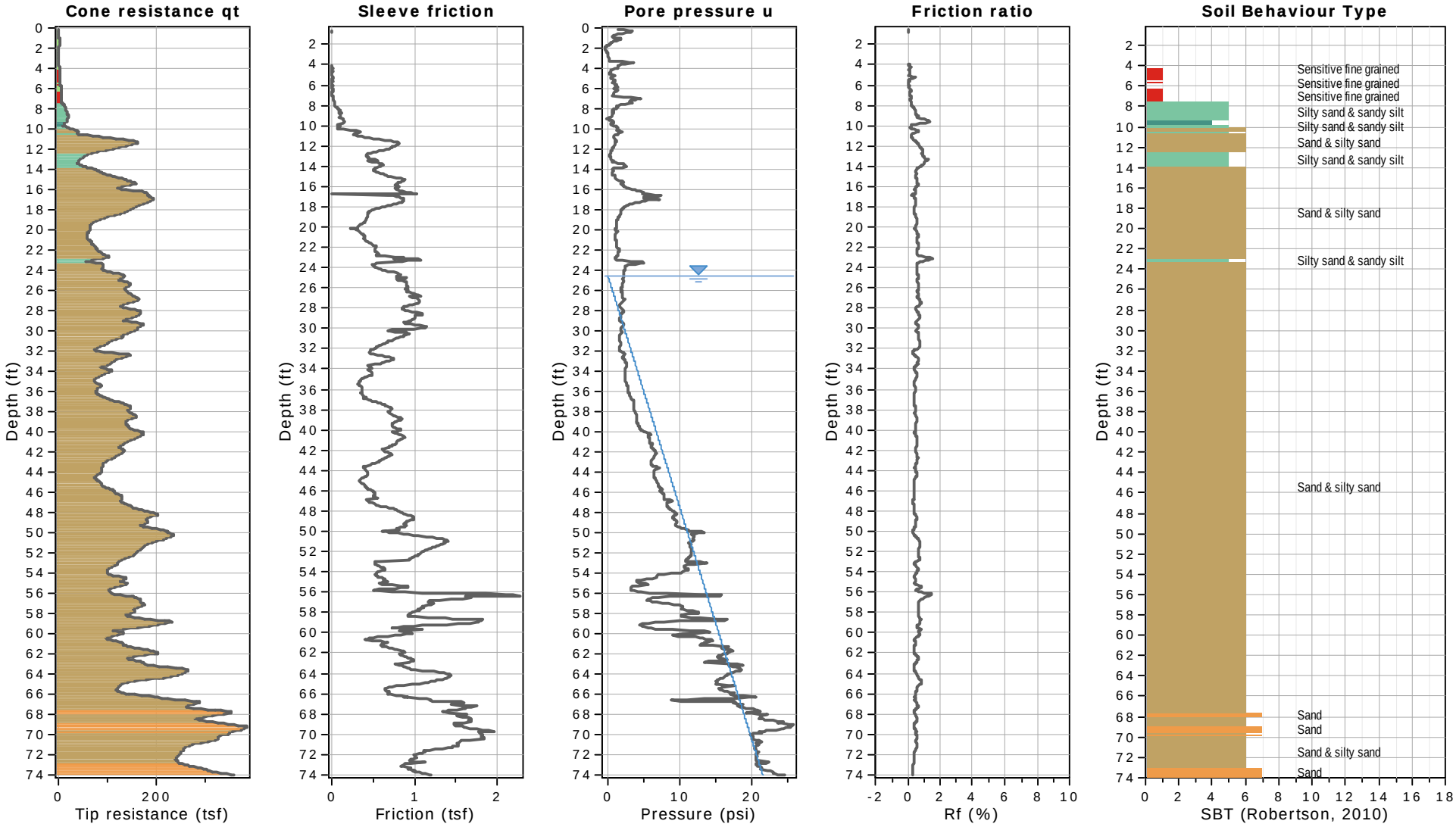
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-10-CPT
Total depth: 74.02 ft, Date: 6/11/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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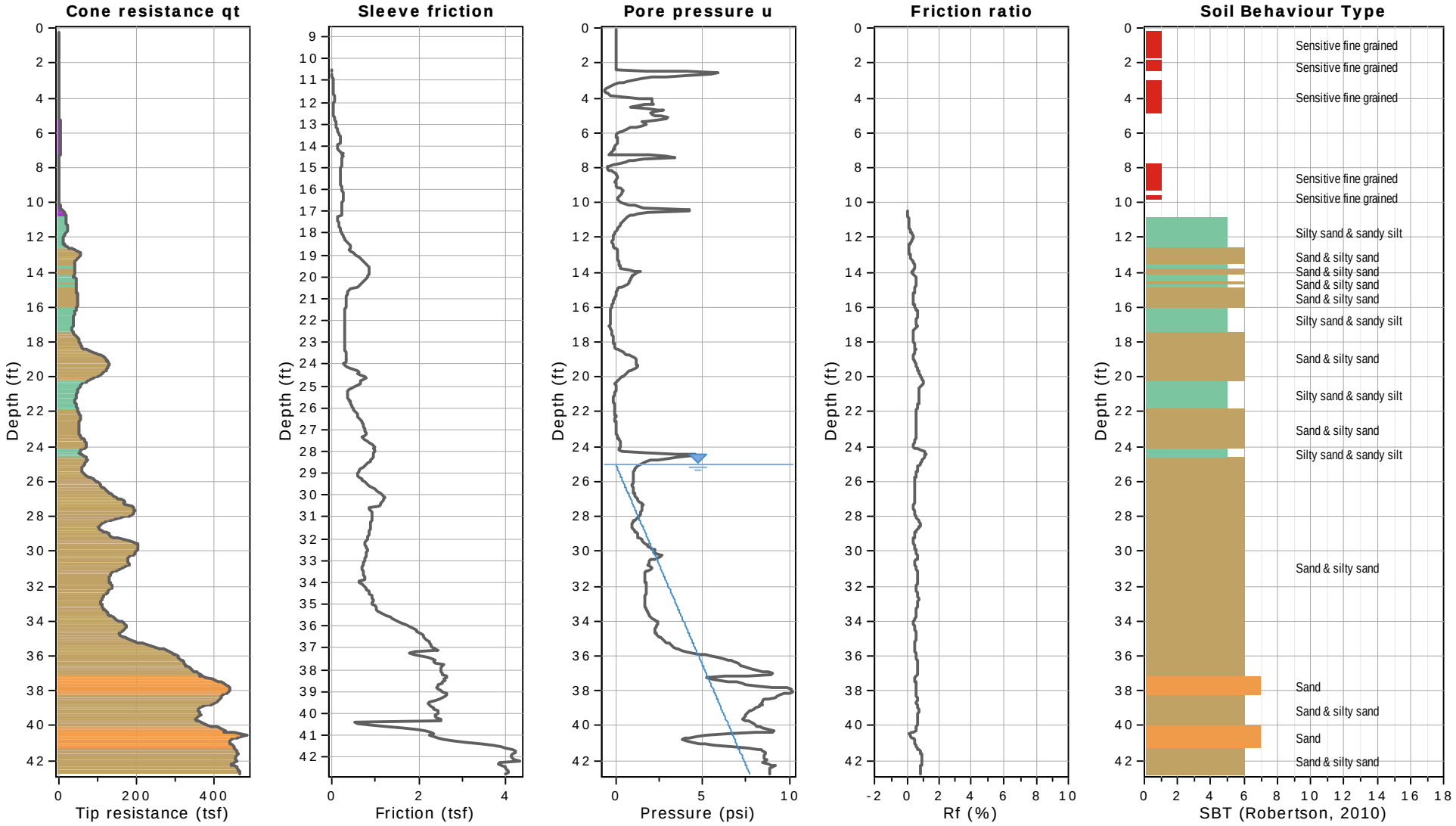
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-11-CPT
Total depth: 42.78 ft, Date: 6/10/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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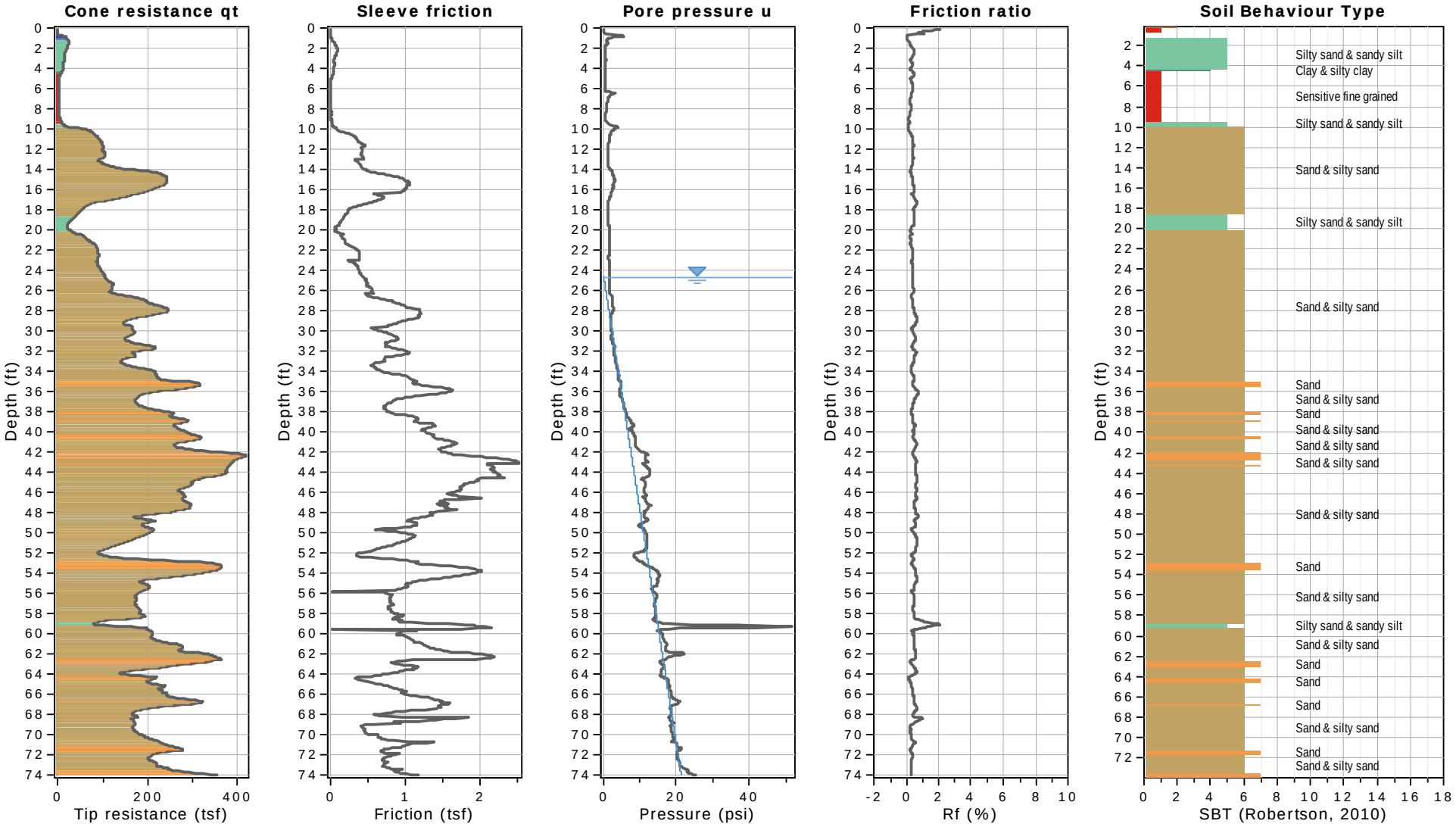
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-12-CPT
Total depth: 73.95 ft, Date: 6/17/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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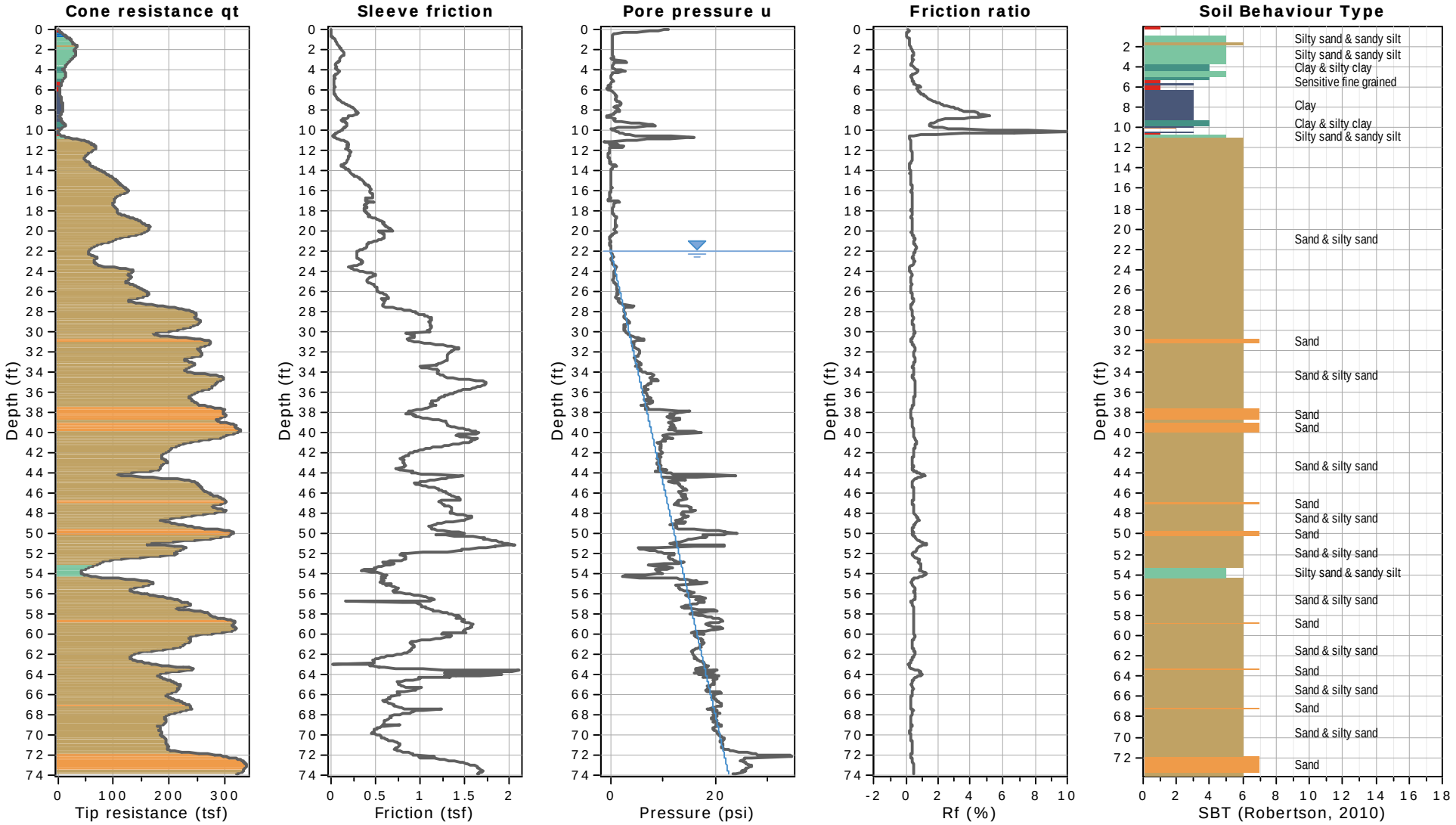
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-13-CPT
Total depth: 73.88 ft, Date: 6/17/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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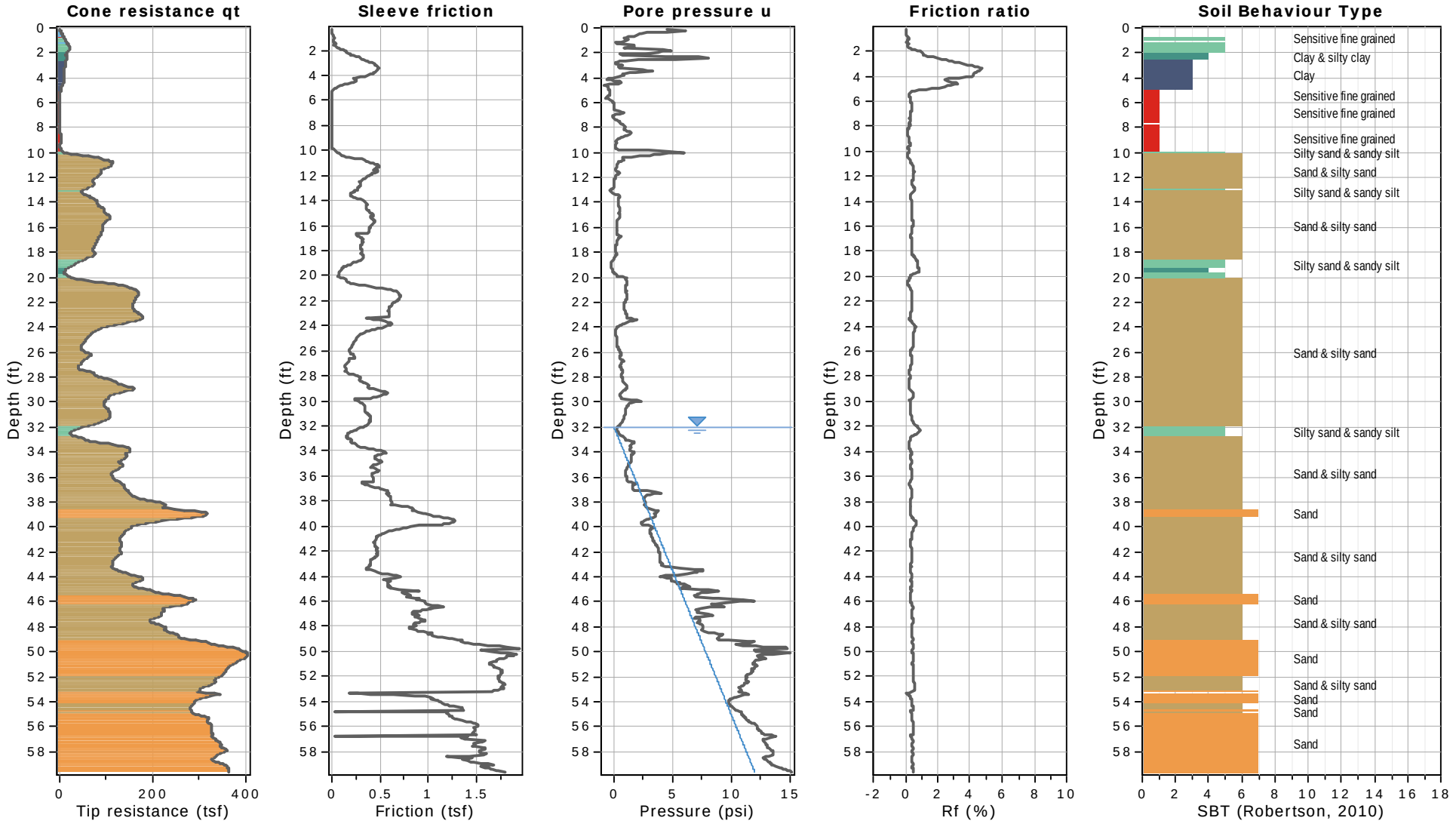
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-14-CPT
Total depth: 59.65 ft, Date: 6/20/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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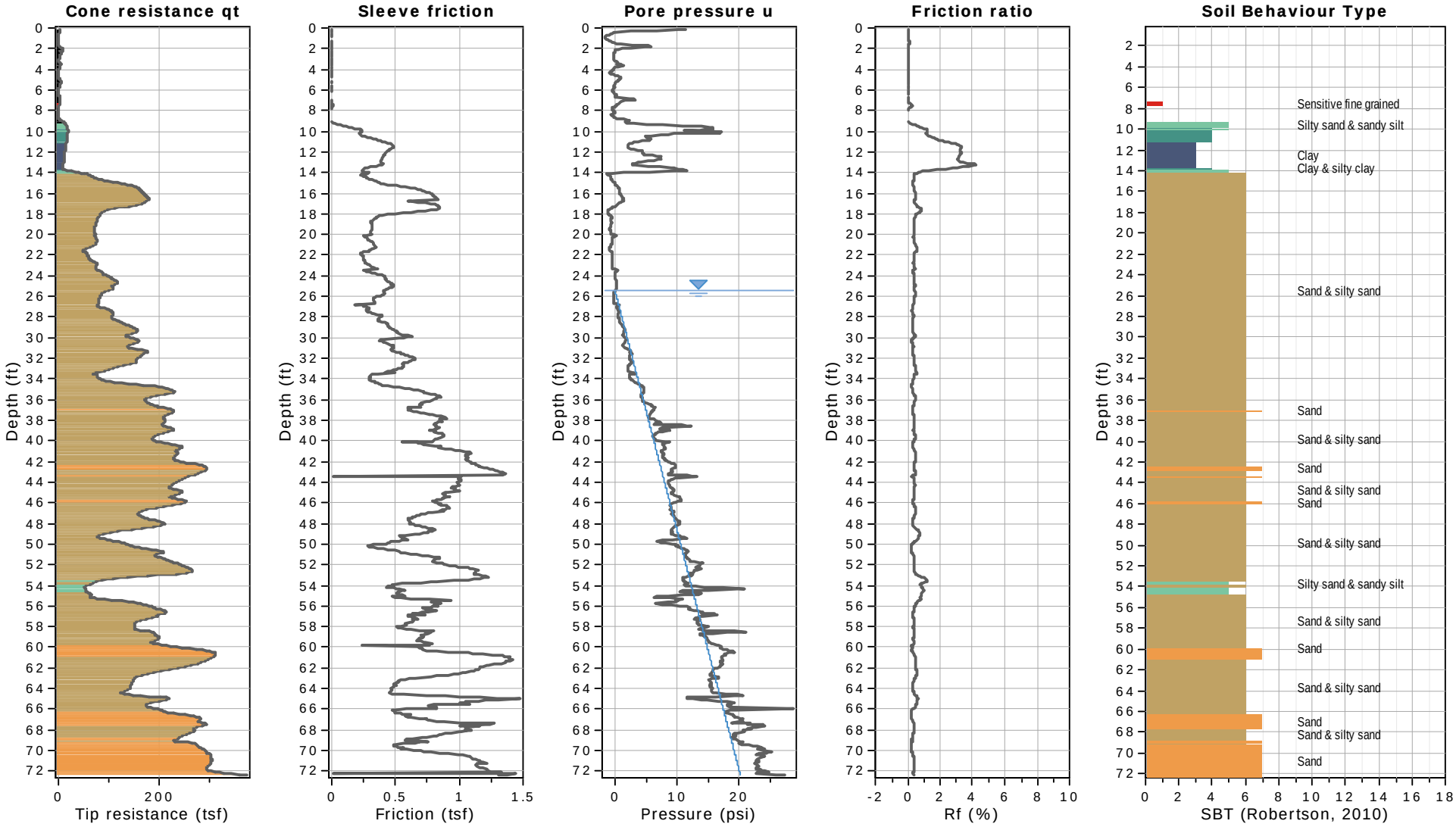
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-15-CPT
Total depth: 72.38 ft, Date: 6/20/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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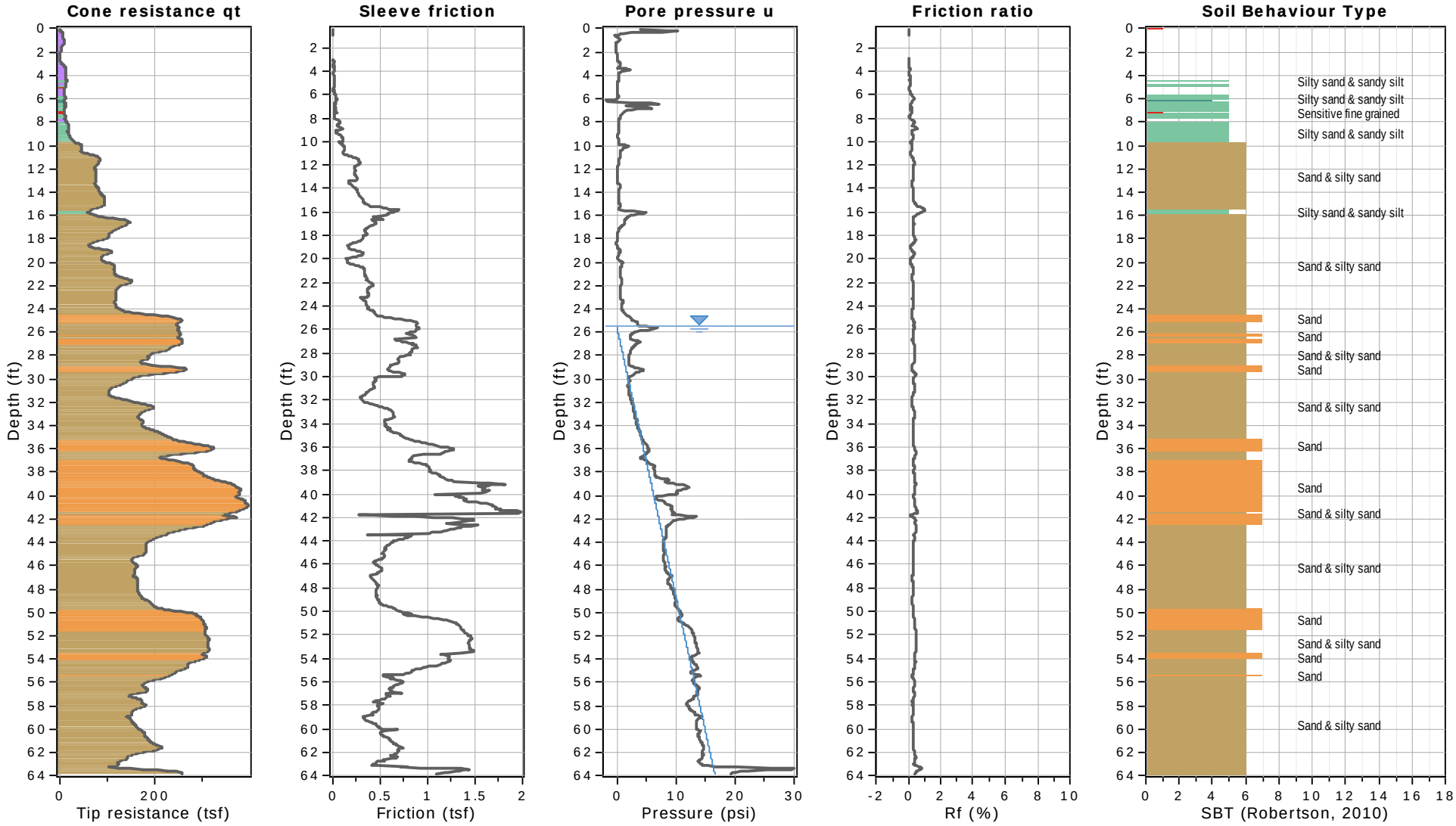
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-16-CPT
Total depth: 63.85 ft, Date: 6/20/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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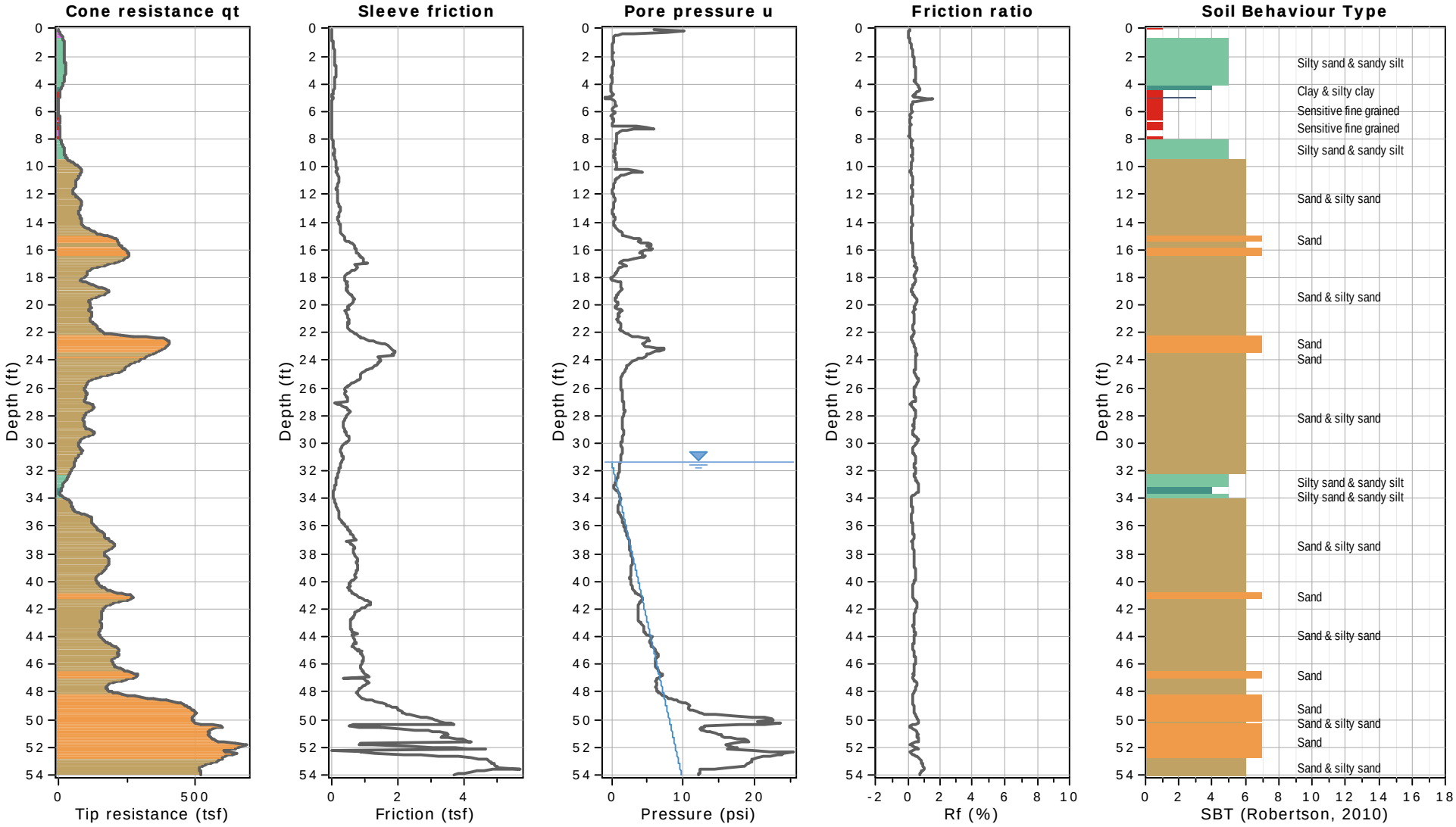
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-17-CPT
Total depth: 54.00 ft, Date: 6/20/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



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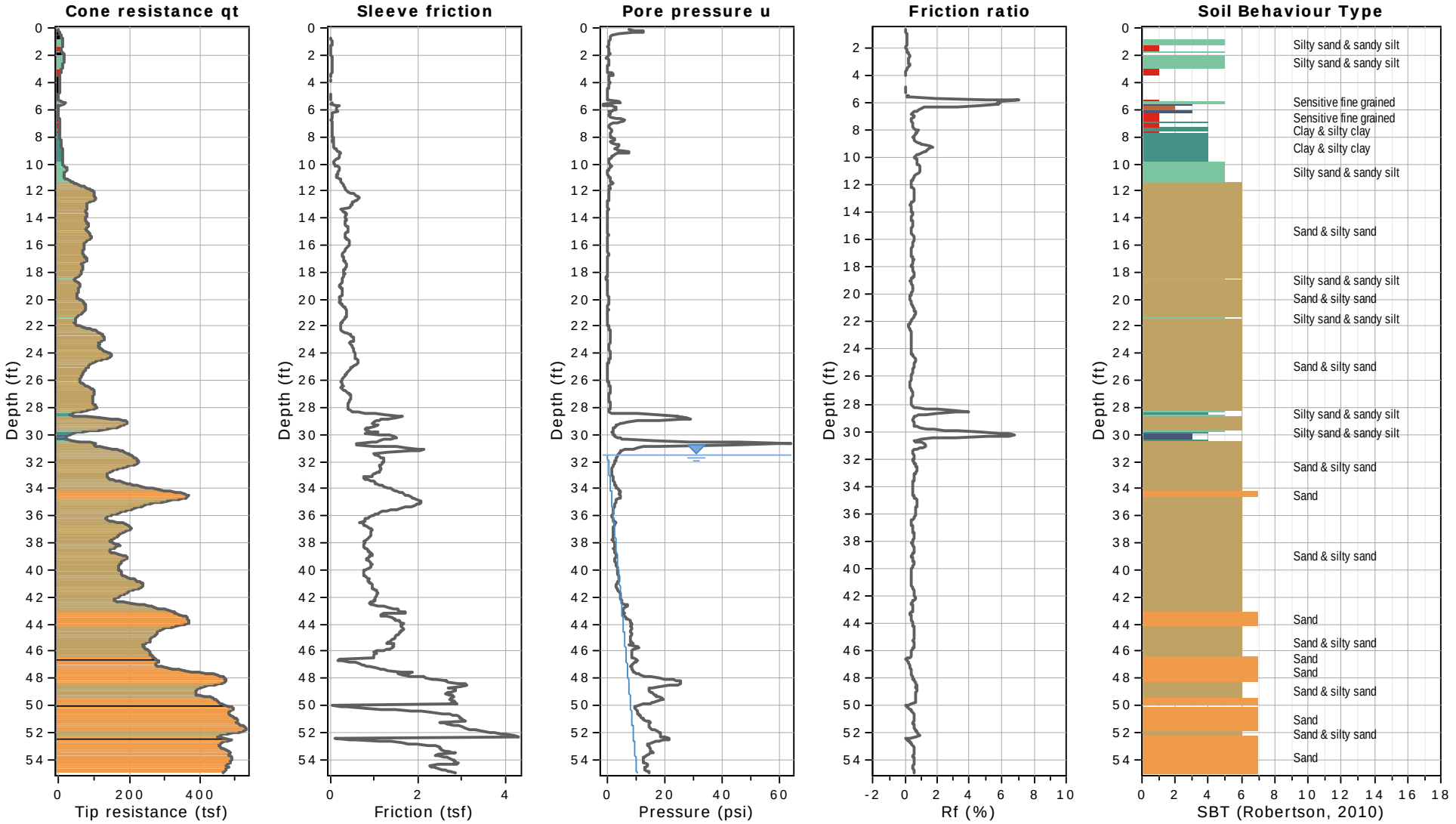
Project: **H19013-88IL**
Location: **Roxana, IL**

CPT: PD-19-CPT
Total depth: 54.99 ft, Date: 6/20/2019
Cone Type: Gregg
Cone Operator: Chris Hayslip



Appendix C – Soil Boring Logs

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-1-SB

Starting Date: 6/17/19
Completion Date: 6/19/19
Casing Elevation: Not Installed
Ground Elevation: 434.75 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791982.56000000
E: (Y):2321984.10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	ASPHALT	6" asphalt / gravel mix	Air knifed to 10' bgs to clear utilities
				0.0	CL	Soft, moist, dark yellow brown (10 YR - 4/4) CLAY (CL), some fine to medium grained sand	
				0.0		Medium stiff, moist, brown (10 YR - 4/3), low plasticity CLAY (CL), trace silt and fine grained sand	
				0.0		Loose, moist, dark yellow brown (10 YR - 4/6), fine to medium grained poorlysorted SAND (SP), trace silt	
				0.0			
5				0.0		Becomes brown (10 YR - 5/3); Trace silt grades out	
				0.0		Becomes yellow brown (10 YR - 5/4)	
				0.0			
				0.0		Mottling	
10	24	20	2 2 4 7	0.0		Becomes brown (7 1/2 YR - 4/4) and fine grained	Begin hollow stem auger with split spoon sampling
	24	24	2 5 8 11	0.0	SP	Becomes medium dense	
15	24	24	4 8 7 6	0.0			
	24	18	1 2 4 4	0.0		Becomes loose	
	24	16	2 3 5 8	0.0			
20	24	17	5 8 11 14	0.0		Becomes medium dense	
	24	20	3 9 7 8	0.0			
	24	18	2 5	0.0			

Completion Depth: 64.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-1-SB

Starting Date: 6/17/19
Completion Date: 6/19/19
Casing Elevation: Not Installed
Ground Elevation: 434.75 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791982.56000000
E: (Y):2321984.10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			7 7					SAME: Medium dense, moist, brown (7 1/2 YR - 4/4), fine grained SAND (SP)	
	24	20	4 6 8 9	0.0					
	24	20	8 11 9 12	0.0				Black streaking for 1/4" ▽ Becomes wet	
30	24	12	5 9 14 15	0.0				Becomes fine to medium grained	Begin mud rotary drilling using PureGold gel drilling mud
	24	11	3 7 13 18	0.0					
35	24	13	5 21 31 30	0.0				Becomes very dense	
	24	14	12 19 20 23	0.4			SP		Slight hydrocarbon odor Collected sudan PD-1-SB-37 (Green; negative)
	24	11	12 16 22 19	131				Becomes dense and gray (7 1/2 YR - 5/1)	
40	24	16	16 26 28 30	>5000				Becomes very dense and very dark gray (10 YR - 3/1)	Hydrocarbon odor Collected sudan PD-1-SB-40 (Dark green; negative)
	24	8	12 11 12 17	>5000				Becomes medium dense	Driller noticed slight sheen floating on top of mud pit liquids Hydrocarbon odor
45	24	16	8 10 8 11	552					Hydrocarbon odor, visible sheen
	24	15	10 15 25 25	320				Becomes dense and very dark gray (10 YR - 4/1)	Collected sudan PD-1-SB-46 (Dark green; negative) Hydrocarbon odor
	24	16	13 29 38 31	166				Becomes very dense	Hydrocarbon odor

Completion Depth: 64.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-1-SB

Starting Date: 6/17/19
Completion Date: 6/19/19
Casing Elevation: Not Installed
Ground Elevation: 434.75 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791982.56000000
E: (Y):2321984.10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	19.5						SAME: Dense, wet, very dark gray (10 YR - 4/1), fine to medium grained SAND (SP)	Physical sample PD-1-SB-51-061819
	24	12	8 15 15 18	2178				Becomes medium dense	Hydrocarbon odor Analytical sample PD-1-SB-53-061819
55	24	15	8 18 21 21	10.3				Becomes dense	Slight hydrocarbon odor Analytical sample PD-1-SB-55-061819
	24	24	6 8 12 12	102			SP	Becomes medium dense	Slight hydrocarbon odor
	24	0	4 6 10 14						
60	24	12	6 8 12 14	28				Becomes gray and well sorted	Slight hydrocarbon odor
	24	22	6 8 8 10	22					Faint hydrocarbon odor
65								Bottom of boring at 64' bgs	Boring backfilled with high solids grout via tremie to surface.
70									

Completion Depth: 64.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-2-SB

Starting Date: 7/9/19
Completion Date: 7/10/19
Casing Elevation: Not Installed
Ground Elevation: 443.82 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792019.06000000
E: (Y):2322167.16

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			TOPSOIL	2" sod	Air knifed to 10' bgs to clear utilities
				0.0			ML	Soft, moist, very dark brown (10 YR - 2/2), low plasticity SILT (ML), some clay	
				0.0				Soft, moist, dark brown (10 YR - 3/3), low plasticity CLAY (CL), trace very fine grained sand	
				0.0				Medium stiff, moist, brown (10 YR - 4/4), medium plasticity CLAY (CL), trace very fine grained sand	
				0.0				Becomes brown (10 YR - 4/3)	
				0.0			CL	Becomes brown (10 YR - 4/6) with trace silt	
5				0.0				Soft, moist, dark yellow brown (10 YR - 3/4), non-plastic CLAY (CL), trace fine grained sand	
				0.0				Becomes dark yellow brown (10 YR - 3/6)	
				0.0				Very loose, moist, yellow brown (10 YR - 5/4), fine to medium grained SAND (SP)	
				0.0				Becomes dark yellow brown (10 YR - 4/4)	
				0.0				Becomes dark yellow brown (10 YR - 4/6)	
10	24	18	3 2 2 3	0.75 0.0				Loose, dry, 10 YR - 4/4, well sorted, fine to medium grained SAND (SP)	Begin hollow stem auger with split spoon sampling
	24	19	5 9 14 17	0.0 0.5				Becomes medium dense and 10 YR - 4/6	
15	24	18	3 5 10 7	0.6 0.5				Becomes 10 YR - 6/4	
	24	20	3 3 4 4	0.1 0.0			SP	Becomes loose	
	24	18	3 3 4 3	0.5 0.6					
20	24	24	3 5 7 7	0.4 1.3				Becomes with 10 YR - 3/2 silt for 6" Becomes medium dense and 10 YR - 5/4	
	24	9	3 4 4 5	0.5				Becomes loose	
	24	22	3 5	0.9				Becomes medium dense	

Completion Depth: 70.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: J. Bell
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 38 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.

▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-2-SB

Starting Date: 7/9/19
Completion Date: 7/10/19
Casing Elevation: Not Installed
Ground Elevation: 443.82 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792019.06000000
E: (Y):2322167.16

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			7 8	0.5				SAME: Medium dense, dry, 10 YR - 5/4, well sorted, fine to medium grained SAND (SP)	
	24	22	4 6 7 7	0.5 0.3			SP		
	24	21	3 4 8 8	0.5 0.2			CL	2" lens; Soft, dry, 10 YR - 5/4, medium plasticity, fine grained SANDY CLAY (CL)	
30	24	22	6 6 8 7	0.8 0.5					
	24	20	4 8 12 11	0.7 0.3			SP		
35	24	18	3 6 8 11	0.3 0.4					
	24	20	1 1 3 6	0.8 0.9			SM	8" lens; Loose, wet, 10 YR - 4/4, well sorted, fine grained SILTY SAND (SM) ▽	
	24	19	1 3 7 8	1.0 0.6				Loose, wet, 10 YR - 4/4, well sorted, fine grained SAND (SP)	
40	24	12	7 8 9 12	1.3				Becomes medium dense	Begin mud rotary drilling
	24	10	4 8 9 9	51			SP		
45	24	12	5 7 10 13	42 185				Black staining	
	24	15	12 15 15 20	4.0 20				Becomes coarse grained for 2"	
	24	18		432 438				1/8" - 2" layer; 50% lignite / coal Becomes 10 YR - 5/2	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Bell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 38 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-2-SB

Starting Date: 7/9/19
Completion Date: 7/10/19
Casing Elevation: Not Installed
Ground Elevation: 443.82 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792019.06000000
E: (Y):2322167.16

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	18		341				SAME: Medium dense, wet, 10 YR - 5/2, well sorted, fine grained SAND (SP)	Strong hydrocarbon odor Sample PD-2-50-070919 Collected sudan (Red; positive)
	24	12	2 1 9 28	68				Becomes loose	Slight hydrocarbon odor Sample PD-2-52-070919 Collected sudan (No red; negative)
55	24	16	30 42 48 27	62				Becomes very dense	
	24	19	22 30 50 44	18 11				Becomes coarse grained for 1" Becomes 10 YR - 4/4	
	24	0		16 4.0					
60							SP	Becomes coarse grained for 2"	
	24	9	3 4 7 9	18				Becomes 5 YR - 4/4	No hydrocarbon odor Sample PD-2-60-070919, DUP Collected sudan (No red; negative)
	24	16	16 22 30 30	22 7.0				Becomes very dense Becomes coarse grained for 2"	
65	24	15	22 31 36 27	2.0 3.0					
	24	18	9 15 17 20	11 0.5					
	24	12	22 29 34 26	18					
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Bell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 38 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

☒ Geoprobe
◧ Air Knife
⊠ Hand Auger
■ Sonic
◨ Splitspoon Sampler
◧ Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-3-SB

Starting Date: 6/6/19
Completion Date: 6/6/19
Casing Elevation: Not Installed
Ground Elevation: 444.64 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792017.91000000
E: (Y):2322267.45

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			TOPSOIL	2" sod	
				0.0			CL	Soft, moist, dark brown (10 YR - 3/3), low plasticity CLAY (CL), trace very fine grained sand Becomes dark brown (10 YR - 3/2)	
				0.0				Becomes dark brown (10 YR - 3/3) and medium plasticity	
				0.0				Loose, moist, brown (10 YR - 3/3), medium grained SAND (SP), with silt	
				0.0				Becomes reddish brown (7.5 YR - 4/3) with some silt	
5				0.0				Loose, moist, dark brown (7.5 YR - 4/3), fine to medium grained SAND (SP), some clay and silt, mottling	
				0.0			SP	Loose, moist, reddish brown (7.5 YR - 4/3), medium grained SAND (SP), some silt Becomes brown (7.5 YR - 4/3) with trace silt	
				0.0				Becomes brown (7.5 YR - 3/4)	
				0.0				Becomes tan (7.5 YR - 5/6) and medium to coarse grained; Trace silt grades out	
10								Bottom of boring at 10' bgs	No soil boring advanced. Boring cleared for CPT and groundwater profiling purposes.
15									
20									

Completion Depth: **10.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **Hand Auger**
Drill Rig Type: **Hand Auger**
Logged by: **B. Howell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: _____ ft., After _____ hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-4-SB

Starting Date: 6/20/19
Completion Date: 6/24/19
Casing Elevation: Not Installed
Ground Elevation: 434.47 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791932.39000000
E: (Y):2321942.06

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			ASPHALT	8" asphalt / gravel mix	Air knifed to 10' bgs to clear utilities
				0.0			CL	Soft, moist, black (10 YR - 2/1) SILTY CLAY (CL), trace very fine grained sand	
				1.5			CL	Soft, moist, very dark brown (10 YR - 2/2), low plasticity CLAY (CL), with silt and trace very fine grained sand	Strong hydrocarbon odor, oily sheen
				2.3				Soft, moist, black (10 YR - 2/1), high plasticity CLAY (CL), trace silt and very fine grained sand	Strong hydrocarbon odor, oily sheen
				0.0			ML	Soft, moist, dark brown (7.5 YR - 3/3), fine grained SANDY SILT (ML), with clay	
5				0.0			CL	Soft, moist, dark brown (7.5 YR - 3/3), medium grained, low plasticity SANDY CLAY (CL), with silt	
				0.0				Black staining	
				0.0			SC	Loose, moist, dark yellow brown (10 YR - 4/4), medium grained CLAYEY SAND (SC), with silt	
				0.0				Loose, moist, brown (7.5 YR - 4/6), fine to medium grained SAND (SP), with silt	
				0.0					
10	24	18	4 4 5 7	0.0				Becomes well sorted and fine grained; With silt grades out	Begin hollow stem auger with split spoon sampling
	24	18	2 2 3 5	0.0					
15	24	19	6 7 6 8	0.0				Becomes medium dense	
	24	16	1 3 6 7	0.0			SP	Becomes loose Black streaking	
	24	21	4 5 5 6	0.0					
20	24	20	6 5 5 4	0.0					
	24	17	2 3 5 6	0.0				Black streaking	
	24	19	5 6	0.0				Becomes medium dense Black streaking	

Completion Depth: **62.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 31 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-4-SB

Starting Date: 6/20/19
Completion Date: 6/24/19
Casing Elevation: Not Installed
Ground Elevation: 434.47 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791932.39000000
E: (Y):2321942.06

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			7 9					SAME: Medium dense, moist, brown (7.5 YR - 4/6), well sorted, fine grained SAND (SP)	
	24	15	6 10 8 5	0.0					
	24	15	5 8 10 6	0.0					
30	24	22	5 6 8 8	0.0				▽ Becomes wet Trace fine gravel and coarse grained sand	
	24	0							Physical soil sample PD-4-SB-33-062119
35	24	17	4 6 4 8	0.7				Loose, wet, brown (7.5 YR - 4/4), well sorted, fine to medium grained SAND (SP)	Analytical sample PD-4-SB-35-062119
	24	18	15 17 10 14	71			SP	Becomes medium dense Becomes black (10 YR - 2/1)	Strong hydrocarbon odor Collected sudan (Negative)
	24	9	8 11 11 14	1.0				Becomes dark gray (7.5 YR - 3/1)	Slight hydrocarbon odor
40	24	13	4 4 7 9	30.9					Hydrocarbon odor Analytical sample PD-4-SB-41-062419
	24	12	8 11 14 18	444					Hydrocarbon odor Collected sudan (Negative)
45	24	13	12 20 24 20	46.1				Dense, wet, light gray, fine grained SAND (SP)	
	24	17	28 36 42 50	25.8				Becomes very dense	
	24	12	11 14 16 14	956				Becomes medium dense	Strong hydrocarbon odor

Completion Depth: **62.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 31 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-4-SB

Starting Date: 6/20/19
Completion Date: 6/24/19
Casing Elevation: Not Installed
Ground Elevation: 434.47 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791932.39000000
E: (Y):2321942.06

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	24	16 21 24 31	960				Dense, wet, light gray, fine grained SAND (SP)	Strong hydrocarbon odor
								Black streaking for 2"	
	24	14	14 10 12 12	366				Becomes medium dense Becomes fine to medium grained	Hydrocarbon odor Analytical sample PD-4-SB-53-062419
55	24	24	14 17 22 24	82			SP	Becomes dense Becomes coarse grained for 2"	Slight hydrocarbon odor
	24	0	2 2 6 11					Becomes loose	
	24	24	10 13 17 23	18				Medium dense, wet, gray, fine to coarse grained SAND (SP)	
60									Physical soil sample PD-4-SB-60-062419 Boring backfilled with high solids grout via tremie to surface.
							CL	Medium stiff, wet, dark gray CLAY (CL)	
								Bottom of boring at 62' bgs	
65									
70									

Completion Depth: **62.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 31 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-5-SB

Starting Date: 6/13/19
Completion Date: 6/14/19
Casing Elevation: Not Installed
Ground Elevation: 435.49 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791917.79000000
E: (Y):2322037.88

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	GRAVEL	6" gravel	Air knifed to 10' bgs to clear utilities
				0.0	CL	Soft, moist, brown (10 YR - 4/3), low plasticity CLAY (CL), some silt and very fine grained sand	
				0.0	SP	Loose, moist, yellow brown (10 YR - 5/4), fine grained SAND (SP), some silt Becomes light yellow brown (10 YR - 6/4) with trace silt	
				0.0			
5				0.0			
				0.0	ML	Soft, moist, dark yellow brown (10 YR - 4/6) SILT (ML), trace very fine grained sand, mottling	
				0.0		Becomes some very fine grained sand; Mottling grades out	
				0.0	SP	Loose, moist, yellow brown (10 YR - 5/4), fine to medium grained SAND (SP)	
				0.0			
10	24	20	3 4 5 5	0.0		Becomes light brown (10 YR - 4/4) and fine grained	Begin hollow stem auger with split spoon sampling
	24	18	5 7 9 9	0.0		Becomes medium dense	
15	24	24	6 8 13 13	0.0			
	24	20	9 12 9 7	0.0			Analytical sample PD-5-SB-17-061319
	24	22	5 6 6 6	0.0			
20	24	22	8 7 10 7	0.0		Becomes grayish brown (10 YR - 5/2) with thin black streaks for 6"	
	24	20	2 3 3 4	0.0		Becomes loose Becomes yellowish red (5 YR - 5/8)	
	24	22	2 4	0.0		Black (10 YR - 5/1) streaking for 1.5"	

Completion Depth: 62.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur, B. Howell
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-5-SB

Starting Date: 6/13/19
Completion Date: 6/14/19
Casing Elevation: Not Installed
Ground Elevation: 435.49 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791917.79000000
E: (Y):2322037.88

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			6 8					Loose, moist, light brown (10 YR - 5/3), fine grained SAND (SP)	
	24	16	2 4 6 8	0.0					
	24	17	6 7 8 10	0.0				Becomes medium dense ▽ Becomes wet and yellowish brown (10 YR - 5/6)	
30	24	12	10 17 20 11	0.1				Dense, wet, yellowish brown (10 YR - 6/2), fine to medium grained SAND (SP)	
	24	12	9 11 11 14	3.7				Becomes medium dense	
35	24	14	7 9 11 17	106 165					
	24	20	15 26 32 36	1109.3			SP	Becomes very dense 2" lens; Fine gravel	Collected sudan (Negative)
	24	14	7 5 9 9	509				Becomes medium dense	
40	24	10	8 16 24 20	>5000				Dense, wet, gray (10 YR - 5/1), coarse grained SAND (SP)	Collected sudan (Negative)
	24	11	11 20 24 29	>5000					Analytical sample PD-5-SB-43-061419 Collected sudan (Postivive)
45	24	12						Becomes medium dense	Physical properties sample PD-5-SB-45-061419
	24	13	6 10 12 12	353				Dense, wet, grayish brown (10 YR - 4/2), fine to medium grained SAND (SP)	
	24	12	9 16 24 29	553				Becomes very dense	

Completion Depth: **62.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur, B. Howell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-5-SB

Starting Date: 6/13/19
Completion Date: 6/14/19
Casing Elevation: Not Installed
Ground Elevation: 435.49 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791917.79000000
E: (Y):2322037.88

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	12	9 16 34 38	2555				Dense, wet, dark gray (10 YR - 4/1), fine to medium grained SAND (SP)	Volatile odor
	24	12	12 23 16 16	1612					Analytical sample PD-5-SB-53-061419 Collected sudan (Positive)
55									
	24	20					SP		Physical properties sample PD-5-SB-57-061419
	24	16	7 9 13 17	3200				Becomes medium dense	
60	24	15	11 10 10 11	98					
								Bottom of boring at 62' bgs	Analytical sample PD-5-SB-62-061419 Boring backfilled with high solids grout via tremie to surface.
65									
70									

Completion Depth: **62.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur, B. Howell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

☒ Geoprobe
◧ Air Knife
⊠ Hand Auger
■ Sonic
◨ Splitspoon Sampler
◧ Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-6-SB

Starting Date: 7/11/19
Completion Date: 7/12/19
Casing Elevation: Not Installed
Ground Elevation: 443.74 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791958.05000000
E: (Y):2322180.31

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			TOPSOIL	2" sod	Air knifed to 10' bgs to clear utilities
				0.0				Soft, moist, dark brown (10 YR - 3/2), low plasticity CLAY (CL), some silt and trace very fine grained sand	
				0.0				Medium stiff, moist, brown (10 YR - 3/4), medium plasticity CLAY (CL), trace very fine grained sand	
				0.0				Becomes brown (7.5 YR - 4/3)	
				0.0			CL	Soft, moist, light brown (7.5 YR - 4/4), medium plasticity CLAY (CL), trace very fine grained sand, few mottling	
				0.0				Soft, moist, light brown (10 YR - 5/4), medium plasticity CLAY (CL), trace medium grained sand	
5				0.0				Becomes medium stiff with few mottling	
				0.0				Very loose, moist, tan (10 YR - 6/3), fine to medium grained SAND (SP)	
				0.0					
				0.0				Becomes dark tan (10 YR - 6/3)	
				0.0					
10	24	19	3 6 5 6	0.0				Medium dense, dry, 10 YR - 5/4, well sorted, fine grained SAND (SP)	Begin hollow stem auger with split spoon sampling
	24	16	1 5 6 6	0.0 0.1			SP		
15	24	20	2 6 9 7	0.2 0.5					
	24	16	2 4 5 5	0.3 0.2				Becomes loose and 10 YR - 4/4	
	24	21	2 3 4 3	0.3 0.1					
20							GM	2" lens; Soft, moist, dark gray (5 YR - 3/2) SILTY GRAVEL (GM)	
	24	22	4 7 3 12	0.3 0.4					
	24	23	4 10 19 22	0.4 0.8			SP	Becomes medium dense	
	24	22	5 4	0.1				Becomes loose	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Bell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 36 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-6-SB

Starting Date: 7/11/19
Completion Date: 7/12/19
Casing Elevation: Not Installed
Ground Elevation: 443.74 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791958.05000000
E: (Y):2322180.31

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			3 5	0.1				SAME: Loose, dry, 10 YR - 4/4, well sorted, fine grained SAND (SP)	
	24	21	2 4 5 7	0.1 0.0					
	24	22	6 7 7 9	0.2				Becomes medium dense	
30	24	23	6 7 10 13	0.1 0.0					
	24	16	3 6 8 11	0.0					
35	24	22	6 8 9 14	0.1 0.0			SP	▽	
	24	20	4 6 10 10	0.0				Becomes wet	
	24	18	9 8 9 11	131 261					
40	24	19		19.4					
	24	16							Physical properites sample PD-6-SB-41-071119. Begin mud rotary drilling
	12	0							
45	24		15 21 23 11	37 30				Becomes dense	Analytical sample PD-6-SB-45-071119, MS / MSD
							CL	1" lens; Stiff, wet, 10 YR - 4/5 CLAY (CL)	Analytical Hydrocarbon odor, keroseen and sheen Collected sudan (Red; positive) Sample PD-6-SB-46-071119
	12	12		531					
	24	12	10 18 22 29	375			SP		

Completion Depth: 70.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: J. Bell
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 36 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-6-SB

Starting Date: 7/11/19
Completion Date: 7/12/19
Casing Elevation: Not Installed
Ground Elevation: 443.74 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791958.05000000
E: (Y):2322180.31

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	14	10 22 31 27	198 280				SAME: Very dense, wet, 10 YR - 4/4, well sorted, fine grained SAND (SP) Coarse grained sand	Analytical Sample PD-6-SB-51-071119
	24	11	34 50 50 50	30 165					
55	24	18	25 35 30 30	161					Analytical sample PD-6-SB-54-071119
	24	21	14 19 27 22	75 106				Becomes dense	
	24	11	18 23 25 17	14					
60	24	12	12 16 19 22	0.1 0.2			SP	Becomes dark grayish brown (2.5 YR - 4/2) with silt	
	24	14	15 18 17 18	0.1					Analytical sample PD-6-SB-63-071219
65	24	12	7 17 21 14	5.4 6.2				Becomes coarse grained with trace fine subrounded gravel for 3" Becomes dark gray (10 YR - 4/1)	
	24	18	9 15 23 26	1.7 0.75					
	24	18	12 22 23 25	1.55 0.25				Becomes dark grayish brown (2.5 YR - 4/2)	
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Bell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 36 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-7-SB

Starting Date: 7/16/19
Completion Date: 7/19/19
Casing Elevation: Not Installed
Ground Elevation: 443.52 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791939.17000000
E: (Y):2322270.72

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	ASPHALT	4.8" asphalt	Air knifed to 10' bgs to clear utilities
				0.0	GRAVEL	2" gravel	
					ML	Soft, moist, dark gray (10 YR - 2/1), non-plastic SILT (ML), trace fine grained sand Becomes dark olive gray (10 YR - 3/3)	
				0.0	CL	Soft, moist, brown (10 YR - 4/4), low plasticity CLAY (CL), some fine grained sand, mottling Soft, moist, reddish brown (10 YR - 4/4), low plasticity CLAY (CL), with fine grained sand	
				0.0	SP	Loose, moist, reddish brown (5 YR - 4/6), medium grained SAND (SP), trace silt	
5				0.0	ML	Soft, moist, light brown (5 YR - 5/6) SILT (ML), trace very fine grained sand	
				0.0		Loose, moist, brown (5 YR - 5/6), fine grained SAND (SP), some silt	
				0.0		Loose, moist, tan (7.5 YR - 5/6), medium grained SAND (SP), trace silt	
				0.0		Becomes dark brown (7.5 YR - 5/6) with some clay; Trace silt grades out	
				0.0		Very loose, moist, tan (7.5 YR - 5/6), fine to medium grained SAND (SP), mottling	
10	24	18	1 3 3 4	0.0		Loose, moist, dark yellow brown (10 YR - 4/4), fine grained SAND (SP), with silt, mottling	Begin hollow stem auger with split spoon sampling
	24	22	2 3 3 4	0.0			
15	24	14	3 4 4 4	0.0	SP	Becomes yellowish brown (10 YR - 5/6)	
	24	16	2 3 5 8	0.4			
	24	20	5 3 3 4	0.0			
20	24	20	3 4 5 7	0.0			
	24	18	4 12 18 23	0.0		Becomes medium dense	
	24	18	8 17	0.0		Becomes pale brown (10 YR - 6/3) Mottling Becomes dense	

Completion Depth: **72.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 36 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-7-SB

Starting Date: 7/16/19
Completion Date: 7/19/19
Casing Elevation: Not Installed
Ground Elevation: 443.52 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791939.17000000
E: (Y):2322270.72

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			21 15	0.075				SAME: Dense, moist, pale brown (10 YR - 6/3), fine grained SAND (SP), with silt	
	24	18	3 4 4 6	0.0			SP	Becomes loose	Analytical sample PD-7-SB-27-071619
	24	18	4 4 2 5	0.0				Becomes yellowish brown (10 YR - 5/4)	
30							CL	14" lens; Soft to medium stiff, moist, dark grayish brown (2.5 YR - 4/2), medium plasticity CLAY (CL)	
	24	24	6 10 11 13	0.0				Becomes medium dense	
	24	0	4 10 14 16	0.0			SP	Mottling	
35	24	18	10 15 18 17	0.0				Becomes dense ▽	
	24	18	8 12 14 12	0.0				Becomes wet Slight mottling	
	24	16	4 7 6 10	0.0			SM	Medium dense, wet, olive brown (2.5 YR - 4/4), fine grained SILTY SAND (SM), mottling	
40	24	0	3 4 7 7					Becomes pale brown (2.5 YR - 7/3)	
	24	15						Loose, wet, dark brown, fine grained SAND (SP)	Physical properties sample PD-7-SB-43-071819
45	24	12	3 3 7 7	1.5				Becomes dark gray (7.5 YR - 4/1)	
	24	18	35 21 19 21	1.7			SP	Becomes dense	Hydrocarbon odor Analytical sample PD-7-SB-47-071819 Collected sudan (Positive)
	24	14	12 12 14 11	2342				Becomes medium dense	Hydrocarbon odor Collected sudan (Positive)

Completion Depth: 72.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: J. Carrino
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 36 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-7-SB

Starting Date: 7/16/19
Completion Date: 7/19/19
Casing Elevation: Not Installed
Ground Elevation: 443.52 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791939.17000000
E: (Y):2322270.72

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	15	4 12 30 42	2500				SAME: Dense, wet, dark gray (7.5 YR - 4/1), fine grained SAND (SP)	Hydrocarbon odor Analytical sample PD-7-SB-51-071819, DUP Collected sudan (Positive) Physical properties sample PD-7-SB-53-071819
	24	17							
55	24	16	26 25 21 29	542				Becomes fine to medium grained	
	24	19	10 18 23 28	47.3					
	24	22	13 19 27 22	62				Trace fine gravel, coarse sand, wood fragments	
60	24	17	12 17 22 25	130			SP		
	24	16	13 17 18 17	392					
65	24	20	10 16 15 19	646				Becomes coarse grained for 3"	
	24	16	16 22 18 19	92					
	24	14	14 24 24 26	1.4 3.05				Dense, wet, grayish brown (2.5 YR - 5/2), fine to coarse grained SAND (SP), trace silt	
70	24	17	18 28 40 41	0.15 0.4				Becomes very dense with trace coarse gravel Trace coarse gravel grades out	
								Bottom of boring at 72' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **72.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 36 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-8-SB

Starting Date: 6/25/19
Completion Date: 6/27/19
Casing Elevation: Not Installed
Ground Elevation: 434.73 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791857.52000000
E: (Y):2321961.85

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	TOPSOIL	2" sod	Air knifed to 10' bgs to clear utilities
				0.0	CL	Soft, moist, yellow brown (10 YR - 5/6), low plasticity CLAY (CL), some very fine grained sand and trace silt	
				0.0		Becomes dark yellow brown (10 YR - 3/6) with some silt	
				0.0		Soft, moist, dark yellow brown (10 YR - 3/4), medium plasticity CLAY (CL), trace fine grained sand, mottling	
				0.0		Medium stiff, moist, dark yellow brown (10 YR - 3/4), low plasticity CLAY (CL), some fine grained sand, mottling	
5				0.0	ML	Soft, moist, very dark gray (10 YR - 3/1) SILT (ML), some clay and fine grained sand	
				0.0		Becomes trace clay and trace very fine grained sand	
				0.0		Very soft, moist, black (10 YR - 2/1) SILT (ML), trace clay and very fine grained sand	
				0.0		Becomes very dark brown (10 YR - 2/2) with trace fine grained sand	
				0.0	CL	Soft, moist, very dark gray (10 YR - 3/1), low plasticity CLAY (CL), trace silt and very fine grained sand	
				0.0		Medium stiff moist, very dark gray brown (10 YR - 3/2), medium plasticity CLAY (CL), trace silt and sand, mottling	
10	24	16	2 3 4 6	0.0		Loose, moist, dark brown (10 YR - 3/3), well sorted, very fine grained SILTY SAND (SM)	Begin hollow stem auger with split spoon sampling
	24	18	2 3 4 5	0.1	SM		
15	24	22	3 5 5 6	0.1			
	24	21	2 4 3 5	0.1		Loose, moist, yellowish brown (10 YR - 4/4), well sorted, very fine grained SAND (SP)	
	24	18	4 5 4 4	0.1			
20	24	18	6 5 4 4	0.1	SP		
	24	17	3 4 4 5	0.1		Becomes very fine to fine grained	
	24	20	5 6	0.1		Medium dense, moist, yellowish brown (10 YR - 5/6), well sorted, fine to medium grained SAND (SP)	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur, B. Howell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 27.5 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

☒ Geoprobe
◧ Air Knife
⊠ Hand Auger
■ Sonic
◨ Splitspoon Sampler
◧ Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-8-SB

Starting Date: 6/25/19
Completion Date: 6/27/19
Casing Elevation: Not Installed
Ground Elevation: 434.73 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791857.52000000
E: (Y):2321961.85

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			7 6					SAME: Medium dense, moist, yellowish brown (10 YR - 5/6), well sorted, fine to medium grained SAND (SP)	
	24	22	4 6 5 6	51				▽ Becomes wet	
	24	21	3 3 6 7	157				Becomes loose	
30	24	22	4 4 5 7	624					Hydrocarbon odor
	24	24	5 7 10 12	507				Becomes medium dense and dark gray (10 YR - 3/1) Becomes dark brown (10 YR - 3/3)	Hydrocarbon odor Hydrocarbon odor
35	24	21	5 7 9 7	451					
	24	24	6 7 9 8	652			SP		Hydrocarbon odor Analytical sample PD-8-SB-062519, DUP Collected sudan (Negative)
	24	16	7 9 11 8	3214					Hydrocarbon odor Collected sudan (Positive)
40	24	14	3 6 8 11	>5000					Strong hydrocarbon odor Analytical sample PD-8-SB-40-062519
	24	15	8 12 18 20	1509					
45	24	17	12 16 20 19	488				Dense, wet, dark gray (7.5 YR - 4/1), well sorted, fine to medium grained SAND (SP), trace coarse sand	
	24	15	12 18 21 18	355					
	24	11	10 15 15 17	173				Medium dense, wet, gray (10 YR - 5/1), well sorted, fine to medium grained SAND (SP)	Hydrocarbon odor

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur, B. Howell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 27.5 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-8-SB

Starting Date: 6/25/19
Completion Date: 6/27/19
Casing Elevation: Not Installed
Ground Elevation: 434.73 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791857.52000000
E: (Y):2321961.85

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	16	8 10 13 18	763				SAME: Medium dense, wet, gray (10 YR - 5/1), well sorted, fine to medium grained SAND (SP)	Hydrocarbon odor Analytical sample PD-8-SB-062619 Collected sudan (Red; positive)
	24	14	11 12 14 12	744				Black streaking for 6"	Hydrocarbon odor Collected sudan (Red; positive)
55	24	18	10 10 13 17	93				Becomes dark gray (10 YR - 4/1)	Hydrocarbon odor
	24	12	8 11 11 14	56					
	24	19	15 25 31 27	83				Becomes very dense	
60	24	15	20 18 15 17	50			SP	Becomes dense Becomes coarse grained for 1" Becomes coarse grained for 2"	
	24	8	5 10 12 16	58				Becomes medium dense	Analytical sample PD-8-SB-62-062619
65	24	16	11 18 19 17	35				Becomes dense Trace coarse grained sand Black streaking for 3.5"	
	24	17	8 10 11 13	52				Medium dense, wet, gray (10 YR - 5/1), well sorted, fine to coarse grained SAND (SP), trace coarse gravel	
	24	14	11 14 12 18	24					
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur, B. Howell**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 27.5 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-9-SB

Starting Date: 6/27/19
Completion Date: 6/28/19
Casing Elevation: Not Installed
Ground Elevation: 435.67 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791863.24000000
E: (Y):2322070.06

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			GRAVEL	6" gravel	Air knifed to 10' bgs to clear utilities
				0.0			CL	Soft, moist, light yellow brown (10 YR - 6/4) CLAY (CL), some silt and trace very fine grained sand	
				0.0			SP	Loose, moist, brown (10 YR - 5/3), fine to medium grained SAND (SP), some silt	
				0.0				Becomes yellow brown (10 YR - 5/4)	
				0.0				Some silt grades out	
5				0.0			CL	Soft, moist, dark yellow brown (10 YR - 4/4), low plasticity CLAY (CL), some sand	
				0.0			SP	Loose, moist, yellow brown (10 YR - 5/4), medium grained SAND (SP)	
				0.0				Becomes dark yellow brown (10 YR - 4/4) with some clay	
				0.0			CL	Soft, moist, brown (7.5 YR - 5/4), low plasticity CLAY (CL), some fine grained sand, mottling	
10	24	18	3 3 5 5	0.0			SP	Loose, moist, yellowish brown (10 YR - 5/4), well sorted, fine grained SAND (SP)	Begin hollow stem auger with split spoon sampling
	24	18	2 2 3 5	0.0					
15	24	22	4 4 5 4	0.0					
	24	22	2 3 4 4	0.0					
	24	16	2 3 5 6	0.0					
20	24	21	5 6 6 7	0.0				Becomes medium dense and 10 YR - 5/8	
	24	21	3 5 6 6	0.0					
	24	23	4 6	0.0				Thin black streaks	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-9-SB

Starting Date: 6/27/19
Completion Date: 6/28/19
Casing Elevation: Not Installed
Ground Elevation: 435.67 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791863.24000000
E: (Y):2322070.06

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			8 9					SAME: Medium dense, moist, 10 YR - 5/8, well sorted, fine grained SAND (SP)	
	24	20	3 5 8 11	0.0				Becomes fine to medium grained	
	24	23	3 7 9 10	0.0				Becomes wet ▽	
30	24	21	3 6 10 12					Becomes dark yellow brown (10 YR - 4/4)	
	24	20	2 4 7 9	0.0				Becomes dark grayish brown (10 YR - 4/2)	
35	24	20	3 4 7 7	0.0					
	24	10	9 11 14 17	9.2			SP		
	24	13	5 7 10 12	9.0					
40	24	8	5 6 10 9	2.0				Becomes dark gray (10 YR - 4/1)	Analytical sample PD-9-SB-41-062819 Collected sudan (Negative)
	24	8	6 8 10 12	503					Hydrocarbon odor Analytical sample PD-9-SB-43-062819 Collected sudan (Negative)
45	24	12	7 11 15 20	356					
	24	14	9 12 11 13	965					Hydrocarbon odor Collected sudan (Negative)
	24	12	5 9 11 12	56				Becomes coarse grained for 2" Black streaking for 6"	

Completion Depth: 70.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-9-SB

Starting Date: 6/27/19
Completion Date: 6/28/19
Casing Elevation: Not Installed
Ground Elevation: 435.67 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791863.24000000
E: (Y):2322070.06

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	12	4 8 18 22	1477				SAME: Medium dense, wet, dark gray (10 YR - 4/1), well sorted, fine to medium grained SAND (SP)	
								Trace coarse gravel	
	24	20	14 22 24 20	2148				Becomes dense	Collected sudan (52'-54') (Positive)
								Becomes coarse grained for 3"	
								Becomes medium dense and fine grained	Hydrocarbon odor
55	24	10	11 13 15 17	873				Becomes coarse grained for 2"	Analytical sample PD-9-SB-54-062819, DUP Collected sudan (54'-56') (Positive)
								Black streaking for 2.5"	Hydrocarbon odor
	24	18	20 18 20 22	56.1				Becomes dense	Collected sudan (56'-58') (Negative)
									Hydrocarbon odor
	24	16	7 12 16 20	2.0			SP	Becomes medium dense	
60									
	24	10	5 7 13 15	10.2					
	24	15	7 11 17 15	6.7					
								Some coarse sand	
65	24	15	12 11 13 22	9.1				Becomes fine to medium grained	
	24	12	11 13 16 14	3.4				Some coarse grained sand and trace coarse gravel	
							CL	1/2" lens; Soft, wet, dark gray CLAY (CL)	
	24	15	5 8 13 14	2.6			SP	Medium dense, wet, dark gray (10 YR - 4/1), well sorted, fine to medium grained SAND (SP)	
								Becomes coarse grained for 6"	
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-10-SB

Starting Date: 6/11/19
Completion Date: 6/13/19
Casing Elevation: Not Installed
Ground Elevation: 435.94 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791838.30000000
E: (Y):2322159.82

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			GRAVEL	6" gravel	Air knifed to 10' bgs to clear utilities
							FILL	Loose, dry, black (10 YR - 2/1) cinter mixed with fine to coarse grained SAND (SP) and fine rounded GRAVEL (GP)	
				0.0				Loose, moist, brown (10 YR - 5/3), fine to coarse grained SAND (SP), trace silt	
								Becomes fine to medium grained	
5				0.0					
				0.0					
				0.0					
10	24	24	7 9 14 11	0.0				Medium dense, moist, dark yellowish brown (10 YR - 4/4), well sorted, fine to medium grained SAND (SP), some clay	Begin hollow stem auger with split spoon sampling
	24	24	6 9 7 12	0.0			SP	Becomes brown (7.5 YR - 5/3); Some clay grades out	
15	24	24	7 14 15 15	0.0					
	24	24	7 9 11 13	0.0 2.6					Slight hydrocarbon odor
	24	24	10 6 6 6	2.8 3.0					Sample PD-10-SB-19-061119 Collected sudan (Pink/red tint; positive)
20	24	24	4 10 10 12	1.0 0.0					
	24	24	6 8 8 10	0.0 0.4					
	24	24	3 7	0.0				Black streaking for 1/5"	

Completion Depth: 51.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: B. Fleming
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.

▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-10-SB

Starting Date: 6/11/19
Completion Date: 6/13/19
Casing Elevation: Not Installed
Ground Elevation: 435.94 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791838.30000000
E: (Y):2322159.82

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			11 11	0.1				1/2"-1" clay nodules SAME: Medium dense, moist, brown (7.5 YR - 5/3), well sorted, fine to medium grained SAND (SP) Clay nodules grade out	
	24	24	8 10 10 12	0.1					
	24	24	8 16 19 16	0.1				Becomes dense ▽ Becomes wet	
30	24	18	7 13 16 17	0.0				Becomes medium dense with trace silt	Begin mud rotary drilling
	24	0	5 8 15 21						
35	24	12	3 6 9 11	0.0				Becomes fine to coarse grained	
	24	12	9 12 16 18	0.0			SP	Trace fine gravel	
	24	10	12 13 17 16	0.0					
40	24	0							Attempt unsuccessful shelby tube sampling; no recovery
	24	0							Attempt piston sampling unsuccessful; no recovery
	24	12							Resume split spoon sampling
45									Physical properties sample PD-10-SB-44-061219
	24	12	14 23 32 43	0.0				Becomes very dense and dark gray (10 YR - 4/1)	Analytical sample PD-10-SB-46-061219
	24	12	11 16 24 38	0.0				Becomes dense	
	24	20	17 22	0.0					

Completion Depth: **51.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **B. Fleming**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-10-SB

Starting Date: 6/11/19
Completion Date: 6/13/19
Casing Elevation: Not Installed
Ground Elevation: 435.94 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791838.30000000
E: (Y):2322159.82

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			25 32				SP SM	SAME: Dense, wet, dark gray (10 YR - 4/1), fine to coarse grained SAND (SP), trace silt Dense, wet, dark gray (10 YR - 4/1), fine to medium grained SILTY SAND (SM) Bottom of boring at 51' bgs	Boring backfilled with high solids grout via tremie to surface.

55
60
65
70

Completion Depth: 51.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: B. Fleming
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-11-SB

Starting Date: 7/1/19
Completion Date: 7/2/19
Casing Elevation: Not Installed
Ground Elevation: 436.41 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791844.75000000
E: (Y):2322239.41

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	GRAVEL	6" gravel	Air knifed to 10' bgs to clear utilities
				0.0		Loose, moist, dark brown (7.5 YR - 3/4), medium to coarse grained SAND (SP), trace silt and coarse gravel	
				0.0		Becomes dark yellow brown (10 YR - 4/4) Becomes medium grained with trace clay; Trace coarse gravel grades out	
				0.0		Becomes medium to coarse grained; Trace clay grades out	
				0.0		Loose, moist, yellow brown (10 YR - 5/6), fine to medium grained SAND (SP), trace silt, common mottling	
5				0.0	SP		
				0.0		Mottling grades out	
				0.0		Loose, moist, pale brown (10 YR - 6/3), fine to coarse grained SAND (SP), trace silt, common mottling Becomes fine to medium grained with mottling	
				0.0			
				0.0			
10	24	20	2 2 3 4	0.0		Loose, moist, dark brown (7.5 YR - 3/3), well sorted, very fine grained SILTY SAND (SM)	Begin hollow stem auger with split spoon sampling
	24	18	2 3 4 4	12.8		6" layer; Loose, dark brown (7.5 YR - 3/3), black staining, oily looking substance	Hydrocarbon odor
15	24	24	4 4 3 4	0.2	SM		
	24	20	3 3 4 5	0.0			
	24	20	4 5 5 4	1.4			
20	24	20	4 4 3 5	1.4	SP	Loose, moist, dark yellowish brown (10 YR - 3/3), well sorted, fine grained SAND (SP)	
					CL	2" lens; Soft, moist, dark gray CLAY (CL)	Collected sudan (Negative)
	24	20	3 3 4 6	2.1	SP		
	24	22	4 6	0.7		Becomes medium dense	

Completion Depth: 70.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29.5 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

☒ Geoprobe
◧ Air Knife
⊠ Hand Auger
■ Sonic
◨ Splitspoon Sampler
◧ Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-11-SB

Starting Date: 7/1/19
Completion Date: 7/2/19
Casing Elevation: Not Installed
Ground Elevation: 436.41 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791844.75000000
E: (Y):2322239.41

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			6 6					SAME: Medium dense, moist, dark yellowish brown (10 YR - 3/4), well sorted, fine grained SAND (SP)	
	24	24	4 7 9 7	0.8					
	24	22	4 9 7 8	3.9				▽	
30								Becomes wet and very dark gray (10 YR - 3/1)	
	24	22	6 5 6 6	11.7				Becomes alternating dark gray and dark yellowish brown	Hydrocarbon odor Begin Mud Rotary Drilling at 45' bgs
	24	24	3 6 7 12	189					Hydrocarbon odor Sheen on interior of split spoon
35	24	24	8 18 25 30	576				Becomes dense and fine to medium grained	Hydrocarbon odor Sheen on split spoon
	24	24	4 8 18 29	4551			SP	Becomes medium dense Dark gray then dark brown	Hydrocarbon odor Sheen on split spoon (yellowish) Analytical sample PD-11-SB-37-070119 Collected sudan (Positive)
	24	22	4 15 50 50	>5000				Becomes very dense	Hydrocarbon odor Collected sudan (Positive)
40								Becomes dense	
	24	14	6 12 19 27	>5000				Becomes yellowish brown (10 YR - 4/4) with gray streaks	Hydocarbon odor
	24	17	20 30 32 34	>5000				Becomes very dense	Hydrocarbon odor
45	24	20	22 44 50	>5000					Hydrocarbon odor Analytical sample PD-11-SB-45-070219 Collected sudan (Red; positive)
	24	15	15 22 24 32	5.0				Becomes dense Becomes dark gray (10 YR - 4/1)	
	24	16	22 24 32 30	25.2				Becomes very dense	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **P. LaFleur**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 29.5 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-11-SB

Starting Date: 7/1/19
Completion Date: 7/2/19
Casing Elevation: Not Installed
Ground Elevation: 436.41 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791844.75000000
E: (Y):2322239.41

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	19	9 8 7 6	128				Medium dense, wet, dark gray (10 YR - 4/1), fine to medium grained SAND (SP) Trace coarse gravel and black streaking for 1'	
	24	20	7 8 9 9	14.8				Trace gravel, wood fragements, black banding	
55	24	22	12 15 20 24	3.3				Becomes dense	Hydrocarbon odor
	24	17	10 18 22 20	129					Collected sudan (Negative)
	24	13	7 10 11 11	694				Becomes medium dense	No hydrocarbon odor
60	24	14	15 12 10 12	659			SP		Hydrocarbon odor Analytical sample PD-11-SB-61-070219
	24	12	3 4 5 5	371				Becomes loose	
65	24	17	9 11 14 17	60.9				Becomes medium dense Becomes coarse grained with fine gravel for 1.5'	
	24	0	12 17 11 10						
	24	18	22 14 18 21	21.9				Becomes dense Becomes coarse grained for 1'	
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: 70.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: P. LaFleur
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 29.5 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-12-SB

Starting Date: 7/3/19
Completion Date: 7/8/19
Casing Elevation: Not Installed
Ground Elevation: 424.27 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792017.66000000
E: (Y):2321985.38

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	TOPSOIL	6" sod / clay / top soil	Air knifed to 10' bgs to clear utilities. Lithology from 0' to 10' projected from adjacent boring locations.
				0.0	CL	Soft, moist, dark yellow brown (10 YR - 4/4), low plasticity CLAY (CL), with fine to medium grained sand	
				0.0		Becomes 10 YR - 4/3	
				0.0		Loose, moist, dark yellow brown (10 YR - 4/6), fine to medium grained SAND (SP), with silt	
				0.0			
5				0.0		Becomes brown (10 YR - 5/3)	
				0.0		Becomes yellow brown (10 YR - 5/4)	
				0.0			
				0.0			
				0.0		Mottling	
10	24	18	3 3 4 5	0.0		Loose, moist, yellow brown (10 YR - 5/4), well sorted, very fine to fine grained SAND (SP)	Begin hollow stem auger with split spoon sampling
	24	19	2 4 8 10	0.0	SP	Becomes medium dense Becomes black (10 YR - 5/4) with silt for 1"	
15	24	18	7 8 10 13	0.0		Black streaking for 2.5"	
	24	20	2 3 3 4	0.0		Becomes loose Black streaking for 1"	
	24	20	3 3 5 6	0.0		Becomes light brownish gray (10 YR - 6/2) with black streaking for 9.5"	
20	24	22	4 4 5 4	0.0		Becomes yellow brown (10 YR - 5/6)	
	24	22	2 3 5 5	0.0			
	24	20	3 5	0.0		Becomes medium dense	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **B. Howell, T. Jones**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 43 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.

▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-12-SB

Starting Date: 7/3/19
Completion Date: 7/8/19
Casing Elevation: Not Installed
Ground Elevation: 424.27 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792017.66000000
E: (Y):2321985.38

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			10 12					SAME: Medium dense, moist, yellow brown (10 YR - 5/4), well sorted, very fine to fine grained SAND (SP) Black streaking for 2"	
	24	18	4 5 9 9	0.0					
	24	18	3 5 9 7	0.0				Becomes dark yellow brown (10 YR - 4/6) for 1"	
30	24	24	3 6 12 19	0.0				Black streaking for 6"	
	24	16	7 7 7 8	0.0				Becomes yellow brown (10 YR - 5/6)	
35	24	18	3 4 4 6	0.0				Becomes loose	
	24	0	9 11 12 15				SP	Becomes medium dense	
	24	24	15 15 20 19	0.9				Becomes dense and olive brown (2.5 YR - 4/3)	
40	24	11	4 7 9 12	2.5				Becomes medium dense	
	24	14	12 22 34 29	34.1				Black streaking Becomes very dense ▽ Becomes wet and dark gray (2.5 YR - 4/1) with mottling and black streaking	
45	24		14 27 30 34	14.3					Begin Mud Rotary Drilling at 45' bgs
	24	15	26 20 20 21	6.6				Becomes dense	
	24	13	8 12 14 14	9.2				Becomes medium dense and black grayish brown (2.5 YR - 4/2)	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **B. Howell, T. Jones**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 43 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-12-SB

Starting Date: 7/3/19
Completion Date: 7/8/19
Casing Elevation: Not Installed
Ground Elevation: 424.27 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):792017.66000000
E: (Y):2321985.38

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	19	5 11 15 25	342.5				SAME: Medium dense, wet, very dark gray (2.5 YR - 3/1), well sorted, very fine to fine grained SAND (SP) Depositional layering	
	24	14	20 24 23 26	1683.4				Becomes dense	
55	24	14	10 13 14 17	1449.6				Becomes medium dense	Sheen seen on sample Collected sudan (Deep red; positive)
	24	14	6 9 12 15	63.4				Becomes dark gray (2.5 YR - 4/1)	
	24	17	10 15 16 14	71.0				Becomes dense Black streaking for 1/3"	
60	24	15	8 12 16 22	35.6			SP	Medium dense, wet, dark gray (2.5 YR - 4/1), poorly sorted, fine to coarse grained SAND (SP), trace fine gravel Black streaking for 1/3"	
	24	20	9 17 20 29	35.6				Becomes dense Trace fine gravel grades out	
65	24	20	4 9 17 21	44.4				Becomes medium dense Becomes dark grayish brown (2.5 YR - 4/2)	
	24	17	10 11 11 14	17.9					
	24	14	16 20 21 20	21.7				Becomes dense	
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **B. Howell, T. Jones**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 43 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

☒ Geoprobe
◧ Air Knife
⊠ Hand Auger
■ Sonic
◨ Splitspoon Sampler
◧ Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-13-SB

Starting Date: 7/3/19
Completion Date: 7/3/19
Casing Elevation: Not Installed
Ground Elevation: 436.25 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791961.48000000
E: (Y):2321873.89

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
				0.0			GRAVEL	8" gravel	Air Knifed to 10' bgs to clear utilites. Lithology from 0' to 10' projected from adjacent boring locations.
				0.0			CL	Soft, moist, black (10 YR - 2/1), very fine grained SILTY CLAY (CL), trace sand	
				0.0			CL	Soft, moist, very dark brown (10 YR - 2/2), low plasticity CLAY (CL), with silt and trace sand Becomes black (10 YR - 2/1) and high plasticity	
				0.0					
				0.0			ML	Soft, moist, dark brown (7.5 YR - 3/3) SANDY SILT (ML)	
5				0.0					
				0.0					
				0.0			SC	Loose, moist, dark yellow brown (10 YR - 4/4), medium grained CLAYEY SAND (SC)	
				0.0			SP	Loose, moist, strong brown (7.5 YR - 4/6), medium grained SAND (SP), trace clay and silt	
				0.0					
10								Bottom of boring at 10' bgs	No soil boring advanced. Boring cleard for CPT and groundwater profiling purposes.
15									
20									

Completion Depth: **10.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **Air Knife/Hand Auger**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **B. Howell, T. Jones**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: _____ ft., After _____ hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-14-SB

Starting Date: 7/19/19
Completion Date: 7/23/19
Casing Elevation: Not Installed
Ground Elevation: 442.57 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791999.00000000
E: (Y):2322039.10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
				0.0	TOPSOIL	8" sod / topsoil	Air knifed to 10' bgs to clear utilities. Lithology from 0' to 10' projected from adjaent boring locations.
				0.0	CL	Soft, moist, dark yellow brown (10 YR - 4/4), low plasticity CLAY (CL), with fine to medium grained sand	
5				0.0		Loose, moist, dark yellow brown (10 YR - 4/6), fine to medium grained SAND (SP), with silt	
				0.0		Becomes brown (10 YR - 5/4)	
				0.0			
10	24	18	3 5 7 7	0.0		Medium dense, moist, pale brown (10 YR - 6/3), fine grained SAND (SP), with clay	Begin hollow stem auger with split spoon sampling
	24	18	3 4 5 4	0.0		Becomes loose Becomes fine to medium grained	
15	24	22	3 4 4 5	0.0	SP		
	24	19	1 3 6 7	0.0		Becomes yellowish brown (10 YR - 5/4)	
	24	17	3 6 6 9	0.0		Becomes medium dense	
20	24	21	4 11 11 10	0.0			
	24	22	5 8 11 7	0.0			
	24	20	2 3	0.0		Becomes loose	

Completion Depth: 70.0 Ft bgs
Project No.: 60592794-1.24.050
Project Name: Shell - Roxana Public Works
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: P. Seymour
Drilling Method: HSA/Mud Rotary
Drill Rig Type: Geoprobe 8040DT
Logged by: J. Carrino
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 35 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-14-SB

Starting Date: 7/19/19
Completion Date: 7/23/19
Casing Elevation: Not Installed
Ground Elevation: 442.57 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791999.00000000
E: (Y):2322039.10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			4 4					SAME: Loose, moist, yellowish brown (10 YR - 5/4), fine to medium grained SAND (SP), with clay	
	24	18	1 2 4 6	0.0				Becomes light yellowish brown (10 YR - 4/4)	
	24	19	6 7 8 9	0.0				Becomes medium dense	
30	24	19	9 9 5 5	0.0					
	24	24	2 3 5 5	0.0				Becomes loose	
	24	20	3 7 9 9	0.0				3" layer; Black silty organics Becomes medium dense ▽ Becomes wet and brown (10 YR - 5/3)	
35	24	24	1 2 3 3	0.0			SP	Becomes loose	
	24	24	2 7 8 16	0.0				Becomes medium dense and light yellowish brown (10 YR - 6/4); With clay grades out	
40	24	14	3 6 6 8	0.0					
	24	6	10 8 7 8	0.0				Medium dense, wet, dark grayish brown (10 YR - 4/2), fine grained SAND (SP), with silt	
45	24	16	6 7 14 17	84.5					Analytical sample PD-14-SB-45-072219, MS/MSD
	24	18	10 14 18 30	605.8 >5000				Becomes dense 1/4" seam; Coal or wood	
	24	14	8 16 22 28	516 >5000				1/4" seam; Coal or wood	Collected sudan (Slightly positive) Analytical sample PD-14-SB-49-072219, DUP

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 35 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-14-SB

Starting Date: 7/19/19
Completion Date: 7/23/19
Casing Elevation: Not Installed
Ground Elevation: 442.57 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791999.00000000
E: (Y):2322039.10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	13	16 23 29 28	255				Very dense, wet, dark gray (10 YR - 4/1), fine to medium grained SAND (SP), with silt	Collected sudan (Negative)
	24	15	14 20 27 21	19.0				Becomes dense	
55	24	14	11 17 20 17	41.5					Analytical sample PD-14-SB-55-072219
	24	15	20 24 27 28	216.8				Becomes very dense	
	24	13	14 22 26 29	1221.1				Becomes dense	
60	24	15	8 13 25 39	1062			SP		Hydrocarbon odor
	24	15	19 25 26 31	30.6				Becomes very dense Trace fine gravel	
65	24	12	18 22 15 17	7.325				Becomes dense With wood fragments	
	24	12	16 20 20 24	3.975				Wood grades out	
	24	14	8 9 16 20	2.75				Medium dense, wet, grayish brown (2.5 YR - 5/2), fine to coarse grained SAND (SP), with silt	
70								Bottom of boring at 70' bgs	Boring backfilled with high solids grout via tremie to surface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 35 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-17-SB

Starting Date: 7/15/19
Completion Date: 7/16/19
Casing Elevation: Not Installed
Ground Elevation: 443.91 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791909.51000000
E: (Y):2322174.12

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	USCS	DESCRIPTION	NOTES
					TOPSOIL	8" sod / topsoil	Air knifed to 10' bgs to clear utilities. Lothology from 0' to 10' projected from adjacent boring locations.
					CL	Soft, moist, dark brown (10 YR 3/2), low plasticity CLAY (CL), with silt and trace sand Medium stiff, moist, brown (10 YR - 3/4), medium plasticity CLAY (CL), trace very fine grained sand	
5						Becomes soft Becomes light brown (10 YR - 5/4)	
					SP	Very loose, moist, tan (10 YR - 6/3), fine to medium grined SAND (SP)	
10	24	21	4 3 4 6	0.0		Loose, moist, yellowish brown (10 YR - 5/4), fine grained SAND (SP), few mottling	Begin hollow stem auger with split spoon sampling
	24	23	2 4 5 6	0.0			
15	24	24	2 6 4 14	0.0			
	24	24	2 5 5 9	0.0		Becomes dark yellowish brown	
	24	24	1 5 6 9	0.0		Becomes medium dense	
20	24	22	2 5 6 12	0.0	ML	3" lens; Medium stiff, moist, light olive brown SILT (ML)	
	24	20	4 17 18 16	0.0	SP	Becomes dense	
	24	16	3 6	0.0		Becomes medium dense	

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 39 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-17-SB

Starting Date: 7/15/19
Completion Date: 7/16/19
Casing Elevation: Not Installed
Ground Elevation: 443.91 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791909.51000000
E: (Y):2322174.12

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			7 8					SAME: Medium dense, moist, dark yellowish brown, fine grained SAND (SP)	
	24	16	3 3 5 7	0.0				Becomes loose	
	24	19	5 8 11 10	0.0			SP	Becomes medium dense	
30	24	19	8 10 9 8	0.0				Mottling Becomes fine to medium grained	
							ML	2" lens; Medium stiff, moist, SILT (ML)	
	24	14	3 6 5 5	0.0			SP ML	Medium dense, moist, yellowish brown (10 YR - 5/4), fine to medium grained SAND (SP) 1" lens; Medium stiff, moist, light olive brown SILT (ML)	
35	24	24	2 11 11 19	0.0			SP	Organics Mottling	
	24	18	6 11 11 10	0.0				Medium dense, moist, light yellowish brown (10 YR - 6/4), fine to coarse grained SILTY SAND (SM)	
	24	24	1 5 7 9	0.0				▽ Becomes wet	
40	24	9	3 5 6 8	0.0					
	24	12	3 5 11 11	0.0 4.225			SM	Becomes dark gray (10 YR - 4/1) Becomes very dark gray (10 YR - 3/1)	
45	24	12	5 8 11 13	17.65					Oily sheen Sample PD-17-SB-45-071519
	24	14	9 13 13 21	297.4					Oily sheen Collected sudan (Positive)
	24	15	11 25 42 45	300.0					Hydrocarbon odor

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 39 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

AECOM (ENVIRON) LOG (EPA FORMAT) G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\PROJECTS\60592794-1.24 SHELL PUBLIC WORKS 2019.GPJ G:\STLOUIS\DCS\RESOURCES\GINTDATA\GINT\ENVIRONMENTAL\AECOM STL (ENVIRONMENTAL).GLB 9/24/19

LOG OF BORING
PD-17-SB

Starting Date: 7/15/19
Completion Date: 7/16/19
Casing Elevation: Not Installed
Ground Elevation: 443.91 NAVD 88

Quadrangle
Sec:34.00
T:5N
R:9W
UTM (or State Plane) Coord
N: (X):791909.51000000
E: (Y):2322174.12

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
	24	15	25 39 46 50	598.6				SAME: Very dense, wet, dark grayish brown (10 YR - 4/2), fine to coarse grained SILTY SAND (SM)	Slight hydrocarbon odor
	24	14	18 26 39 50	158.0				Becomes fine to medium grained	
55	24	18	18 26 29 33	6.25 5.4					Sample PD-17-SB-55-071519
	24	12	18 20 22 26	8.75				Becomes dense Becomes fine to medium grained with trace coarse grained sand	
							SM		
60	24	13	9 19 16 15	12.45				Becomes grayish brown (10 YR - 5/2)	
	24	12	11 14 18 18	3.9				Organics Becomes medium dense	
65	24	12	11 9 10 11	7.775				Becomes dark grayish brown (10 YR - 4/2)	
	24	14	11 9 18 22	0.225			CL	1/2" lens; Medium stiff, wet, CLAY (CL)	
	24	12	11 15 18 22	2.35 0.625			SM	Becomes dense	
70								Bottom of boring at 70's bgs	Boring backfilled with solids grout via tremie to sruface.

Completion Depth: **70.0 Ft bgs**
Project No.: **60592794-1.24.050**
Project Name: **Shell - Roxana Public Works**
Drilling Contractor: **Roberts Environmental Drilling, Inc.**
Driller Name: **P. Seymour**
Drilling Method: **HSA/Mud Rotary**
Drill Rig Type: **Geoprobe 8040DT**
Logged by: **J. Carrino**
County: **Madison**
Site ID No.: **1191150002**
Federal ID No.: **ILD080012305**

Water Depth: 39 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.
▽ Water level at time of drilling
▼ Water level after drilling
ATD - At time of drilling
NE - None Encountered
NA - Not Applicable

Geoprobe
Air Knife
Hand Auger
Sonic
Splitspoon Sampler
Hollow Stem Auger-Soil samples not collected

AECOM

USC based on field visual observations

Appendix D – Low-flow Groundwater Sampling Datasheets

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: James Rougeate
DATE: 6/25/19 | EVENT: Pre Design Invest | WEATHER: Clear - 80s
MONITORING WELL ID: PD-01-GW1 | SAMPLE ID: PD-01-GWP-34-062519

INITIAL DATA

Well Diameter (in): 4/16"
Total Well Depth (ft btoc): ~35.00' BGS
Depth to Water (ft btoc): 37.58' BTOPR
Depth to LNAPL (ft btoc): 41.72' BTOPR
Depth to Top of Screen (ft btoc): ~33.00' BGS
Screen Length: 2.00'

Water Column Height (do not include LNAPL, ft): N/A
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = N/A
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = N/A
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = N/A

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): N/A
Ambient PID/FID Reading (ppm): N/A

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	~~+/-10~~ or ~~+/-10%~~

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1050	—	Brown	None	6.71	1.251	164.5	.91	29764	18.9
2	1200 ~~900~~ BH	1054	—	"	"	6.74	1.249	149.1	0.15	19126	19.4
3	1800 ~~1600~~ BH	1056	—	"	"	6.78	1.252	139.2	0.09	15373	19.3
4	2100 ~~2400~~ BH	1057	—	"	"	6.79	1.253	132.0	0.06	13993	19.3
5	2400 ~~3200~~ BH	1058	—	"	"	6.80	1.255	118.7	0.04	13164	19.2
6	3000 ~~4000~~ BH	1100	—	"	"	6.81	1.255	115.0	0.03	12970	19.2
7	3300 ~~4800~~ BH	1101	—	"	"	6.82	1.256	109.5	0.02	10824	19.3
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: ~~1035~~ 1050
Stop Time: ~~1100~~ 1101

Elapsed Time (min): ~~31~~
Average Purge Rate (mL/min): 300 ML/MIN

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/25/19

SAMPLING DATA

Sample Date: 6/25/19
Sample Method: Low-Flow Purge
VOA Vials, No Headspace (Initials): JR

Sample Time: 1105
Sample Flow Rate (mL/min): ~ 300 ML/MIN
Total Purge Volume (mL): 3300 ~~3360~~ ML
BAH

Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples: NONE

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: James Regatz / James Carrino
DATE: 6-25-19
EVENT: Public Works Investigation - CPT/GW's
WEATHER: Sunny 83°
MONITORING WELL ID: PD-1-GWP
SAMPLE ID: PD-1-GWP-44'-062519

INITIAL DATA

Well Diameter (in): 9/16
Total Well Depth (ft btoc): 45.01
Depth to Water (ft btoc): —
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 43.01
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH (STABLE: over 3 readings, +/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	~300	~~1247~~ 1250	—	Brown		~~6.89~~ 6.84	~~1.501~~ 0.025	1016.1 82.3	0.24 2.47	>1000	21.4 20.2
2			—								
3	~300	1257	—	Brown	—	6.80	1.489	105.4	0.31	>1000	22.2
4	~900	1259	—	"	—	6.85	1.486	50.5	0.04	"	19.7
5	~1500	1301	—	"	Slight HC	6.85	1.491	43.10	0.01	"	19.7
6	~2100	1303	—	"	"	6.85	1.492	-33.3	-0.01	"	19.5
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: ~~1245~~ 1250
Stop Time: ~~1306~~ 1303
Elapsed Time (min): 7
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/25/19

SAMPLING DATA

Sample Date: 6-25-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JC
Sample Time: ~~1305~~ 1305
Sample Flow Rate (mL/min): 300 l/min
Total Purge Volume (mL): 2100
Lab Analysis: BTEX, SVOC's, PAH's
QA/QC Samples: NA

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: James Reagatz / James Cerrino
DATE: 6/25/19 | EVENT: Public Works Investigation - CPT/GW | WEATHER: Clear 85°F
MONITORING WELL ID: PD-01-GWP | SAMPLE ID: PD-1-GWP-53-062519

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth ~~(ft btoc)~~: 54.003 BGS
Depth to Water (ft btoc): 29.83 ~~BGS~~ BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~52.00'
Screen Length: ~7.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): — 77
Ambient PID/FID Reading (ppm): — 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1439	29.83	Brown	~~SS~~ HC	7.11	1.367	96.7	0.93	-4900	24.3
2	600	1441	"	"	"	6.80	1.398	76.6	0.13	-5201	21.7
3	1200	1443	"	"	"	6.74	1.407	63.4	0.14	-5403	21.5
4	1500	1444	"	"	"	6.73	1.409	57.0	0.22	-5520	21.3
5	1800	1445	"	"	"	6.72	1.405	52.2	0.28	-6020	21.2
6	2100	1446	"	"	"	6.71	1.403	42.4	0.30	-3827	21.0
7	2400	1447	"	"	"	6.71	1.404	33.2	0.26	-4011	20.8
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: BAH ~~1438~~ 1439
Stop Time: BAH ~~1452~~ 1447

Elapsed Time (min): BAH ~~44~~ 8
Average Purge Rate (mL/min): 300 l/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/25/19

SAMPLING DATA

Sample Date: 6/25/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR

Sample Time: 14:50
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2400 mL

Lab Analysis: BTEX / SVOCs / PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Ragate / J. Carrino
DATE: 6/26/19
EVENT: Public Works Investigation - CPT/GWP
WEATHER: Clear 78°F
MONITORING WELL ID: PD-01-GWP
SAMPLE ID: PD-01-GWP-60-D62619

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~61.00' BGS
Depth to Water (ft btoc): ~34.96' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~59.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): ~960
Wellbore PID/FID Reading (ppm): —
Ambient PID/FID Reading (ppm): —

PURGE DATA

Pump Type: Waterra - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
						STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%
1	0	0850	34.96	Clear	Slight HC	6.60	1.299	97.6	0.28	18250	18.7
2	300	0851	—	Brown	"	6.69	1.298	76.0	0.19	19748	18.8
3	600	0852	—	"	"	6.73	1.297	64.6	0.14	19353	19.0
4	900	0853	—	"	"	6.77	1.297	36.6	0.10	11809	19.3
5	1200	0854	—	"	"	6.79	1.296	16.2	0.07	15491	19.3
6	1500	0855	—	"	"	6.78	1.291	4.2	0.06	14835	19.1
7	1800	0856	—	"	"	6.78	1.285	-6.6	0.06	17801	18.8
8	2100	0857	—	"	"	6.78	1.284	-9.9	0.05	16425	18.7
9											
10											
11											
12											
13											
14											
15											

Start Time: BH ~~0848~~ 0850
Stop Time: BH ~~0903~~ 0857
Elapsed Time (min): BH ~~15~~ 7
Average Purge Rate (mL/min): 300/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/26/19

SAMPLING DATA

Sample Date: 6/26/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 0900
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 2100 mL
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Rodgers
DATE: 6/26/19
EVENT: Public Works Investigation - CPT/GWS
WEATHER: Clear 95°F
MONITORING WELL ID: PD-01-GWCP
SAMPLE ID: PD-01-GWCP-LA-062619

INITIAL DATA

Well Diameter (in): 0.9/1.6"
Total Well Depth (ft btoc): ~70.00' BTOC
Depth to Water (ft btoc): ~39.02' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~65.00' BTOC
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): —
Ambient PID/FID Reading (ppm): —

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1008	39.02	Brown	Slight	7.21	1.223	100.0	1.04	>1000	20.9
2	300	1009				6.95	1.218	87.1	0.50		20.5
3	600	1010				6.92	1.190	74.0	0.18		19.5
4	900	1011				"	1.189	63.9	0.14		19.9
5	1200	1012				"	1.196	52.3	0.10		19.8
6	1500	1013				"	1.206	43.4	0.09		20.0
7	1800	1014				"	1.207	35.2	0.08		20.2
8	2100	1015				"	1.205	31.1	0.07		20.4
9											
10											
11											
12											
13											
14											
15											

Start Time: 1008
Stop Time: 1015
Elapsed Time (min): 7
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/26/19

SAMPLING DATA

Sample Date: 6/26/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1020
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): 2100
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples: N/A

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: J RAGATZ / J CARRINO
DATE: 12-26-19 | EVENT: Public Works Investigation - CPT/GWP | WEATHER: Clear 85°F
MONITORING WELL ID: PD-1-GWP | SAMPLE ID: PD-1-GWP-75-062619

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 76.01
Depth to Water (ft btoc): 35.98 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~74
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	12:52	35.98	brown	NONE	7.11	1.135	30.3	0.67	24898	21.2
2	300	12:53	"	"	"	7.15	1.132	-36.5	0.25	31332	20.4
3	600	12:54	"	"	"	7.09	1.072	-52.1	0.50	21962	19.4
4	900	12:55	"	"	"	7.09	1.064	-63.2	0.25	23759	19.3
5	1200	12:56	"	"	"	7.08	1.053	-69.5	0.17	27805	19.2
6	1500	12:57	"	"	"	7.05	1.068	-73.7	0.11	20002	18.9
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: BH ~~12:50~~ 1252
Stop Time: BH ~~12:59~~ 1257

Elapsed Time (min): BH ~~9~~ 5
Average Purge Rate (mL/min): 300 / min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6-26-19

SAMPLING DATA

Sample Date: 12-26-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JC

Sample Time: 1300
Sample Flow Rate (mL/min): 300 mL/min
Total Purge Volume (mL): ~~3100~~ 1500

Lab Analysis: BTEX, PAH, SVOC's
QA/QC Samples: NONE

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Ragatz / J. Carrino
DATE: 6/27/19
EVENT: Pub. Works. Invest.
WEATHER: Ptly Cloudy 71°F
MONITORING WELL ID: PD-01-GWP
SAMPLE ID: PD-01-GWP-80-062719

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~81.00' BGS
Depth to Water (ft btoc): ~36.73' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~79.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): ~960
Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

STABLE: (over 3 readings)

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
						+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	0826		light gray	NO	6.83	1.121	122.8	3.51	-177	18.5
2	300	0827	"	"	"	6.66	1.116	114.4	2.23	-3986	18.1
3	600	0828	"	brown	"	6.68	1.064	96.7	2.89	-130.6	18.1
4	900	0829	"	"	"	6.90	1.060	90.3	2.23	28886	18.1
5	1200	0830	"	"	"	6.80	1.063	85.3	0.86	2610	18.0
6	1500	0831	"	"	"	6.76	1.022	80.7	0.78	25220	18.2
7	1800	0832	"	"	"	6.77	1.057	70.9	0.23	17158	17.9
8	2100	0833	"	"	"	6.76	1.060	66.8	0.17	18823	18.0
9	2400	0834	"	"	"	6.76	1.054	63.6	0.14	12163	17.9
10											
11											
12											
13											
14											
15											

Start Time: BH ~~0822~~ 0826
Stop Time: BH ~~0830~~ 0834

Elapsed Time (min): BH ~~#~~ 8
Average Purge Rate (mL/min): 300/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/27/19

SAMPLING DATA

Sample Date: 6/27/19
Sample Method: Low - Flow
VOA Vials, No Headspace (Initials): JR

Sample Time: 0835
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): Bau ~~#200~~ 2400

Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: B. Howell
DATE: 7/18/19
EVENT: RDX PW Investigation
WEATHER: 95° F Sunny
MONITORING WELL ID: PD-2
SAMPLE ID: PD-2-GWP-40-071819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 21'
Depth to Water (ft btoc): 43.8' BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 39.0
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm):
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0										
2	300										
3	600										
4	900										
5	1200										
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

NOT ABLE TO COLLECT SAMPLE

BAH

Start Time: —
Stop Time: —
Elapsed Time (min): —
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/18/19

SAMPLING DATA

Sample Date: ~~7/18/19~~ BAH
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): BH
Sample Time: —
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): —
Lab Analysis: Btex PAH SVOC
QA/QC Samples: MS/MSD

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: B. Howell
DATE: 7/18/19 | EVENT: ROX Pw Investigation | WEATHER: 95° F Sunny
MONITORING WELL ID: PD-2 - GWP | SAMPLE ID: PD-2-GWP-44-071819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 45'
Depth to Water (ft btoc): 43.19 BTOPR
Depth to LNAPL (ft btoc): NAE
Depth to Top of Screen (ft btoc): 43' BGS
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 638.1
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump w/ foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%		<10 or +/-10%
1	0	1252	43.19'	Brown	Slight	6.99	1.421	-118.2	1.32	>1000	19.8
2	300	1253	"			6.90	1.431	-116.2	1.24	>1000	19.7
3	600	1254	"			6.82	1.440	-113.4	1.14	>1000	19.5
4	900	1255	"			6.67	1.444	-103.6	1.41	>1000	19.1
5	1200	1256	"			6.64	1.446	-100.0	1.00	>1000	19.1
6	1500	1257	"			6.63	1.443	-98.6	0.79	>1000	19.2
7	1800	1258	"			6.63	1.440	-99.8	0.65	>1000	19.5
8	2100	1259	"			6.63	1.438	-99.5	0.84	>1000	19.4
9											
10											
11											
12											
13											
14											
15											

Start Time: 1252
Stop Time: 1259
Elapsed Time (min): 7
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/18/19

SAMPLING DATA

Sample Date: 7/18/19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): BA
Sample Time: 1305
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 2100
Lab Analysis: Btex PAH SVOCs
QA/QC Samples: MS/MSD

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: B Havell
DATE: 7/18/19
EVENT: Roxana Public Works Investigation
WEATHER: 95°F Sunny
MONITORING WELL ID: PD-2-GWP
SAMPLE ID: PD-2-GWP- 50 - 071819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 51
Depth to Water (ft btoc): 44.34 BTOPR
Depth to LNAPL (ft btoc): NA
Depth to Top of Screen (ft btoc): 49
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 1584.2
Ambient PID/FID Reading (ppm): 0.6

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C)	DO (mg/L)	Specific Cond.	pH	ORP (mV)	Turbidity (NTUs)
	STABLE: (over 3 readings)					Monitor Temp.	+/-0.2 or +/-10%	+/-5% or	+/-0.2	+/-20	Monitor Turb. < 50
1	0	1402	44.34	Brown	Strong	20.2	8.42	1.416 mS/cm uS/cm	6.57	-102.3	561
2	300	1403				20.2	8.52	1.418 mS/cm uS/cm	6.51	-99.3	>1000
3	600	1404				20.2	8.69	1.432 mS/cm uS/cm	6.43	-96.9	>1000
4	900	1405				20.3	8.69	1.431 mS/cm uS/cm	6.41	-93.8	>1000
5	1200	1406				20.0	8.53	1.434 mS/cm uS/cm	6.41	-92.7	>1000
6								mS/cm uS/cm			
7								mS/cm uS/cm			
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1402
Stop Time: 1406
Elapsed Time (min): 4
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated: 7/18/19

SAMPLING DATA

Sample Date: 7/18/19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): BH
Sample Time: 1410
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs MNA
QA/QC Samples: DUP, EB
EB @ 1445

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL): 1200

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: B. Howell
DATE: 7/18/19
EVENT: Roxana Public Works Investigation
WEATHER: 100°F Sunny
MONITORING WELL ID: PD-2-GWP
SAMPLE ID: PD-2-GWP- 59 - 071819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 60
Depth to Water (ft btoc): 60.60 BTOPR
Depth to LNAPL (ft btoc): NA
Depth to Top of Screen (ft btoc): 58
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 5.5
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C)	DO (mg/L)	Specific Cond.	pH	ORP (mV)	Turbidity (NTUs)
	STABLE: (over 3 readings)		Monitor Temp.	+/-0.2 or +/-10%		+/-5% or		+/-0.2		+/-20	Monitor Turb. < 50
1	0	1528	60.60	Cloudy	Slight	21.4	2.84	1.087 mS/cm uS/cm	6.99	-137.8	>1000
2	300	1529				21.4	2.64	1.079 mS/cm uS/cm	6.85	-134.2	>1000
3	600	1530				21.6	2.56	1.079 mS/cm uS/cm	6.77	-132.0	>1000
4	900	1531				21.9	2.50	1.066 mS/cm uS/cm	6.68	-130.3	938.0
5	1200	1532				22.0	2.49	1.063 mS/cm uS/cm	6.66	-129.8	631.7
6	1500	1533	60.60	Cloudy	Slight	21.8	2.50	1.060 mS/cm uS/cm	6.65	-129.6	543.2
7								mS/cm uS/cm			
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1528
Stop Time: 1533
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated: 7/18/19

SAMPLING DATA

Sample Date: 7/18/19
Sample Time: 1540
Lab Analysis: BTEX, SVOCs, PAHs
Sample Method: Low Flow
Sample Flow Rate (mL/min): 300
QA/QC Samples: —
VOA Vials, No Headspace (Initials): BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

BTOPR: Below Top of Probe Rod

Total Purge Volume (mL): 1500

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Loftus-
DATE: 7-19-19
EVENT: Roxana Public Works Investigation
WEATHER: clear, sunny, warm
MONITORING WELL ID: PD-2-GWP
SAMPLE ID: PD-2-GWP-65-071919

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 66
Depth to Water (ft btoc): 58.80 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 64
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.3
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	0840	58.80	Brown	Mild HC	20.0	3.30	1.139 mS/cm uS/cm	6.91	-73.4	1500
2	300	0841	"	"	"	20.0	3.07	1.135 mS/cm uS/cm	6.88	-107.0	2500
3	600	0842	"	"	"	19.9	2.81	1.133 mS/cm uS/cm	6.83	-105.5	3000
4	900	0843	"	"	"	19.8	2.75	1.126 mS/cm uS/cm	6.78	-105.6	2400
5	1200	0844	"	"	"	19.6	2.78	1.120 mS/cm uS/cm	6.75	-107.6	1700
6	1500	0845	"	"	"	19.7	2.77	1.114 mS/cm uS/cm	6.74	-109.6	1400
7	1800	0846	"	"	"	19.6	2.74	1.109 mS/cm uS/cm	6.74	-110.8	1500
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 0840
Stop Time: 0846
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated: 7-19-19

SAMPLING DATA

Sample Date: 7-19-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0850
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-19-19
EVENT: Roxana Public Works Investigation
WEATHER: sunny, warm
MONITORING WELL ID: PD-2-GWP
SAMPLE ID: PD-2-GWP-70-071919

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 71
Depth to Water (ft btoc): 59.62 BTOPR
Depth to LNAPL (ft btoc): –
Depth to Top of Screen (ft btoc): 69
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 1.3
Ambient PID/FID Reading (ppm): 0.2

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C)	DO (mg/L)	Specific Cond.	pH	ORP (mV)	Turbidity (NTUs)
	STABLE: (over 3 readings)		Monitor Temp.			+/-0.2 or +/-10%		+/-5% or	+/-0.2	+/-20	Monitor Turb. < 50
1	0	0945	59.62	Brown	Slight	21.0	3.58	1.216 mS/cm uS/cm	7.15	-132.1	3300
2	300	0946				20.8	3.03	1.219 mS/cm uS/cm	7.07	-132.5	2900
3	600	0947				20.9	2.89	1.223 mS/cm uS/cm	6.98	-129.2	2000
4	900	0948				20.6	2.78	1.209 mS/cm uS/cm	6.90	-119.9	2200
5	1200	0949				20.4	2.80	1.201 mS/cm uS/cm	6.84	-118.3	1400
6	1500	0950				20.1	2.91	1.188 mS/cm uS/cm	6.83	-120.9	1600
7								mS/cm uS/cm			
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 0945
Stop Time: 0950
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated: 7-19-19

SAMPLING DATA

Sample Date: 7-19-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0955
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: –

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-19-19
EVENT: Roxana Public Works Investigation
WEATHER: Sunny, warm 88° F
MONITORING WELL ID: PD-2-GWP
SAMPLE ID: PD-2-GWP- 74.5 - 071919

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 75.5
Depth to Water (ft btoc): 72.5 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 73.5
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 1.1
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C)	DO (mg/L)	Specific Cond.	pH	ORP (mV)	Turbidity (NTUs)
			STABLE: (over 3 readings)	Monitor Temp.		+/-0.2 or +/-10%	+/-5% or	+/-0.2	+/-20		Monitor Turb. < 50
1	0	1059	75.5	Brown	None	21.9	3.32	1.364 mS/cm uS/cm	7.03	-107.7	2300
2	300	1100				21.5	2.98	0.684 mS/cm uS/cm	7.01	-118.6	2600
3	600	1101				21.9	2.62	1.369 mS/cm uS/cm	6.99	-127.9	1300
4	900	1102				21.5	2.58	1.364 mS/cm uS/cm	6.93	-121.6	1200
5	1200	1103				20.7	2.65	1.350 mS/cm uS/cm	6.87	-115.7	700
6	1500	1104				20.5	2.70	1.336 mS/cm uS/cm	6.85	-112.8	655
7	1800	1105				20.2	2.72	1.335 mS/cm uS/cm	6.83	-110.3	583
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1059
Stop Time: 1105
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated: 7-19-19

SAMPLING DATA

Sample Date: 071919
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1110
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: Equipment Blank
PD-2-GWP-74.5-071919-EB

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7.23.19
EVENT: Roxana Public Works Investigation
WEATHER: clear, sunny, mild
MONITORING WELL ID: ~~PD-7-GWP-~~ PD-3-GWP
SAMPLE ID: PD-7-GWP- PD-3-GWP-45-072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 46
Depth to Water (ft btoc): 47.61 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 44
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.2
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1000	47.61	lt. gray	None	21.2	3.65	0.477 mS/cm uS/cm	7.05	-72.6	5800
2	300	1001	"	"	"	21.1	2.89	0.469 mS/cm uS/cm	6.94	-95.4	5800
3	600	1002	"	"	"	21.1	2.47	0.466 mS/cm uS/cm	6.87	-113.9	5600
4	900	1003	"	"	"	21.1	2.37	0.461 mS/cm uS/cm	6.83	-119.6	5000
5	1200	1004	"	"	"	21.2	2.33	0.458 mS/cm uS/cm	6.79	-120.6	4600
6	1500	1005	"	"	"	21.4	2.28	0.456 mS/cm uS/cm	6.74	-124.8	3400
7	1800	1006	"	"	"	21.4	2.29	0.454 mS/cm uS/cm	6.73	-120.9	3400
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1000
Stop Time: 1006
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 7-23-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1010
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Laflen
DATE: 7.23.19
EVENT: Roxana Public Works Investigation
WEATHER: clear, sunny, mild
MONITORING WELL ID: PD-7-GWP
SAMPLE ID: ~~RD-7-GWP~~ PD-3-GWP-50-072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~~53.82~~ 56
Depth to Water (ft btoc): 53.82 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 54
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.4
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C)	DO (mg/L)	Specific Cond.	pH	ORP (mV)	Turbidity (NTUs)
						STABLE: (over 3 readings)	Monitor Temp.	+/-0.2 or +/-10%	+/-5% or	+/-0.2	+/-20	Monitor Turb. < 50
1	0	1045	53.82	opaque, white	Strong H2S	21.7	3.56	0.759 mS/cm uS/cm	6.91	-97.0	3300
2	300	1046	"	"	"	22.2	2.96	0.767 mS/cm uS/cm	6.84	-118.1	2900
3	600	1047	"	"	"	22.0	6.03	0.747 mS/cm uS/cm	6.84	-116.1	3200
4	900	1048	"	"	"	20.9	3.06	0.696 mS/cm uS/cm	6.78	-129.9	2700
5	1200	1049	"	"	"	20.7	2.81	0.699 mS/cm uS/cm	6.72	-126.6	3000
6	1500	1050	"	"	"	20.7	7.90	0.712 mS/cm uS/cm	6.67	-124.8	3800
7	1800	1051	"	"	"	20.7	3.00	0.718 mS/cm uS/cm	6.63	-123.1	4200
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15											

Start Time: 1045
Stop Time: 1051
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated: 7.23.19

SAMPLING DATA

Sample Date: 7.23.19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials):
Sample Time: 1055
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: Duplicate, EB

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-23-19
EVENT: Roxana Public Works Investigation
WEATHER: sunny, mild
MONITORING WELL ID: PD-7-GWP
SAMPLE ID: ~~PD-7-GWP~~ PD-3-GWP-55-072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 56
Depth to Water (ft btoc): 49.42 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 54
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 38.2
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color (STABLE: over 3 readings)	Odor	Temp (°C) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1141	49.42	opaque/white	mild HD	20.9	2.76	0.652 mS/cm uS/cm	6.91	-121.8	3800
2	300	1142	"	"	"	20.8	2.51	0.648 mS/cm uS/cm	6.84	-120.1	3100
3	600	1143	"	"	"	20.7	2.50	0.635 mS/cm uS/cm	6.76	-120.0	1800
4	900	1144	"	"	"	20.6	3.11	0.613 mS/cm uS/cm	6.73	-128.1	2000
5	1200	1145	"	"	"	20.4	2.91	0.610 mS/cm uS/cm	6.70	-122.0	2600
6	1500	1146	"	"	"	20.4	2.87	0.614 mS/cm uS/cm	6.69	-118.0	3200
7								mS/cm uS/cm			
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1141
Stop Time: 1146
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 7-23-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1150
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794 - 1.24.060 | FIELD PERSONNEL: P. Gallegos
DATE: 7-23-19 | EVENT: Roxana Public Works Investigation | WEATHER: Sunny warm
MONITORING WELL ID: PD-7-GWP | SAMPLE ID: ~~PD-7-GWP~~ PD-3-GWP-60-072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 61'
Depth to Water (ft btoc): 52.83 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 59'
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 11.9
Ambient PID/FID Reading (ppm): 0.6

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C)	DO (mg/L)	Specific Cond.	pH	ORP (mV)	Turbidity (NTUs)
						STABLE: (over 3 readings)	Monitor Temp.	+/-0.2 or +/-10%	+/-5% or	+/-0.2	+/-20	Monitor Turb. < 50
1	0	1331	52.83	Brown	~~Sheen~~/HD	20.5	2.51	0.638 mS/cm uS/cm	6.80	-118.1	2255
2	300	1332	"	"	"	20.5	2.42	0.636 mS/cm uS/cm	6.72	-119.3	1992
3	600	1333	"	"	"	20.7	2.40	0.634 mS/cm uS/cm	6.67	-119.9	1941
4	900	1334	"	"	"	20.7	2.40	0.634 mS/cm uS/cm	6.64	-120.5	1876
5	1200	1335	"	"	"	20.7	2.43	0.637 mS/cm uS/cm	6.62	-121.4	1846
6	1500	1336	"	"	"	20.8	2.43	0.636 mS/cm uS/cm	6.61	-122.0	1861
7	1800	1337	"	"	"	20.9	2.46	0.636 mS/cm uS/cm	6.59	-122.5	2076
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1331
Stop Time: 1337

Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 7-23-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL

Sample Time: 1340
Sample Flow Rate (mL/min): 300

Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-23-19
EVENT: Roxana Public Works Investigation
WEATHER: sunny warm
MONITORING WELL ID: PD-7-GWP
SAMPLE ID: ~~PD-7-GWP~~ PD-3-GWP-~~65~~ 65-072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 66
Depth to Water (ft btoc): 50.23 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 64
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 7.0
Ambient PID/FID Reading (ppm): 0.6

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1425	50.23	DK. brown	mild HD	21.7	2.74	0.751 mS/cm uS/cm	6.75	-105.7	927
2	300	1426	"	"	strong HD	20.7	2.51	0.753 mS/cm uS/cm	6.71	-111.9	1197
3	600	1427	"	gray	"	20.9	2.58	0.751 mS/cm uS/cm	6.67	-113.0	2102
4	900	1428	"	"	"	20.9	2.75	0.757 mS/cm uS/cm	6.62	-114.0	1682
5	1200	1429	"	"	"	21.0	2.84	0.749 mS/cm uS/cm	6.59	-114.0	1831
6	1500	1430	"	"	"	20.3	3.05	0.756 mS/cm uS/cm	6.57	-113.4	1926
7	1800	1431	"	"	"	20.1	3.13	0.758 mS/cm uS/cm	6.56	-113.2	1626
8	2100	1432	"	"	"	20.0	3.19	0.761 mS/cm uS/cm	6.54	-112.7	1850
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1425
Stop Time: 1432
Elapsed Time (min): 7 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated: 7-23-19

SAMPLING DATA

Sample Date: 7-23-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1435
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: D. Lafleur
DATE: 7-23-19
EVENT: Roxana Public Works Investigation
WEATHER: Pity cloudy, warm
MONITORING WELL ID: PD-7-GWP
SAMPLE ID: ~~PD-7-GWP~~ PD-3-GWP-10-072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 71
Depth to Water (ft btoc): 59.33 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 69
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 92.9
Ambient PID/FID Reading (ppm): 0.4

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings)	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1519	59.33	gray	strong H2O	20.8	2.63	0.831 mS/cm uS/cm	6.78	-112.7	2200
2	300	1520	"			20.6	2.53	0.832 mS/cm uS/cm	6.72	-115.4	2000
3	600	1521	"			20.6	2.77	0.846 mS/cm uS/cm	6.66	-115.7	2800
4	900	1522	"			20.8	3.91	0.853 mS/cm uS/cm	6.62	-116.4	2500
5	1200	1523	"			20.8	3.26	0.855 mS/cm uS/cm	6.60	-116.9	2700
6	1500	1524	"			20.8	3.64	0.856 mS/cm uS/cm	6.58	-116.7	2600
7	1800	1525	"			20.6	3.53	0.858 mS/cm uS/cm	6.56	-116.5	2500
8	2100	1526	"			20.6	3.57	0.854 mS/cm uS/cm	6.55	-116.5	2000
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15											

Start Time: 1519
Stop Time: 1526
Elapsed Time (min): 7 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated: 7-23-19

SAMPLING DATA

Sample Date: 7-23-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): pL
Sample Time: 1530
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. LaFleur, J. Carrino
DATE: 7-15-19
EVENT: ROX PW Investigation
WEATHER: overcast, rain
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-35-071519

INITIAL DATA
Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 36
Depth to Water (ft btoc): 32.54 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 34
Screen Length: 21

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at: -
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at: -
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 21.1
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA
Pump Type: Hand Pump W/Foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1130	32.54	Brown	Mild HC	7.02	1.180	-111.8	2.08	3000 +	19.8
2	300	1131	"	"	"	6.96	1.178	-121.7	1.29	3000 +	19.9
3	600	1132	"	"	"	6.95	1.180	-126.2	0.98	3000 +	20.0
4	900	1133	"	"	"	6.94	1.181	-129.5	0.85	3000 +	20.1
5	1200	1134	"	"	"	6.94	1.186	-131.0	0.80	3000 +	20.1
6	1500	1135	"	"	"	6.94	1.185	-132.4	0.77	3000 +	20.1
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1130
Stop Time: 1135
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 1500 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19 (pine)

SAMPLING DATA
Sample Date: 7-15-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1140
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:
* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)
Below Top of Probe Ref: BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur, J. Carrino
DATE: 7-15-19
EVENT: ROX PW Investigation
WEATHER: Overcast, rain
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-~~35~~ 41-071519

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 34
Depth to Water (ft btoc): 32.50 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 34
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 0.3
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1352	32.50	Brown	Strong H2O	7.05	1.147	-132.2	2.59	10,000 +	19.5
2	300	1353	"	"	Strong H2O	7.02	1.142	-139.2	1.69	11,000 +	19.4
3	600	1354	"	"	"	7.00	1.151	-144.2	1.18	2,000 +	19.3
4	900	1355	"	"	"	6.99	1.154	-145.4	0.98	2,000 +	19.3
5	1200	1356	"	"	"	6.98	1.160	-147.4	0.90	2,000 +	19.2
6	1500	1357	"	"	"	6.98	1.167	-148.4	0.90	2,000 +	19.2
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1352
Stop Time: 1357
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19 (Pine)

SAMPLING DATA

Sample Date: 7-15-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1400
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod: BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur, J. Carrino
DATE: 7.15.19
EVENT: ROX PW Investigation
WEATHER: overcast, light rain, mild
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-43-071519

INITIAL DATA

Well Diameter (in): 3/16
Total Well Depth (ft btoc): 44
Depth to Water (ft btoc): 36.45 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 42
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 mL
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 mL

Wellbore PID/FID Reading (ppm): 3.8 ↑ climbing
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1442	36.45	Brown	Mild HC	7.10	1.267	-102.3	2.83	3000 +	19.8
2	300	1443	"	"	"	6.98	1.197	-111.6	1.85	3000 +	19.7
3	600	1444	"	"	"	6.95	1.199	-113.9	1.29	3000 +	19.8
4	900	1445	"	"	"	6.93	1.194	-116.6	0.98	3000 +	19.9
5	1200	1446	"	"	"	6.92	1.190	-117.6	1.06	3000 +	19.5
6	1500	1447	"	"	"	6.92	1.197	-118.3	1.17	3000 +	19.5
7	1800	1448	"	"	"	6.91	1.198	-119.4	1.12	3000 +	19.5
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1442
Stop Time: 1448
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 mL/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19 (Pre)

SAMPLING DATA

Sample Date: 7.15.19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1450
Sample Flow Rate (mL/min): 300 mL/min
Total Purge Volume (mL): 1800 mL
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carrino
DATE: 7-15-19
EVENT: Fox Run Investigation
WEATHER: overcast, windy, light rain
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-50-071519

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 51'
Depth to Water (ft btoc): 48.60 BTOPR # ↓ tall.ng
Depth to LNAPL (ft btoc): –
Depth to Top of Screen (ft btoc): 49'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): –
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = –
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = –
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = –

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 2.8
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump w/foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH (STABLE: over 3 readings; +/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	0	1540 ~~48.60~~	48.60	Brown	Strong HC	6.98	1.174	-117.0	2.08	3000 +	20.0
2	300	1541	"	"	"	6.93	1.155	-126.2	1.36	5000 +	19.7
3	600	1542	"	"	"	6.90	1.150	-129.5	1.23	5000 +	19.5
4	900	1543	"	"	"	6.88	1.145	-131.7	1.17	6000 +	19.4
5	1200	1544	"	"	"	6.88	1.151	-132.8	1.10	5000 +	19.2
6	1500	1545	"	"	"	6.87	1.157	-133.8	1.10	7000 +	19.3
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1540
Stop Time: 1545
Elapsed Time (min): ~~15~~ BA+ 1550 5
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19 (Pine)

SAMPLING DATA

Sample Date: 7-15-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1550
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: –

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod: BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-16-19
EVENT: Rox PW Investigation
WEATHER: overcast light rain
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-53-071519

INITIAL DATA

Well Diameter (in): 3/16
Total Well Depth (ft btoc): 54
Depth to Water (ft btoc): 51.2 ↑rising BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 52
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 429
Ambient PID/FID Reading (ppm): 0.2

PURGE DATA

Pump Type: Hand Pump - Footvalve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0917	51.2	Brown	Strong Mild HC	6.23	1.380	154.2	1.76	3,000 +	19.5
2	300	0918				6.31	1.393	135.2	1.49	3,000 +	19.4
3	600	0919				6.34	1.392	122.2	1.50	7000 +	19.2
4	900	0920				6.35	1.412	109.8	1.47	6000 +	19.2
5	1200	0921				6.36	1.426	106.0	1.36	6000 +	19.2
6	1500	0922				6.37	1.420	105.3	1.54	7000 +	19.2
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0917
Stop Time: 0922
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-16-19

SAMPLING DATA

Sample Date: 7-16-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0925
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: ~~water quality~~ FOK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: Paul Lafleur, Jim Carrino
DATE: 7-16-19
EVENT: Rox ~~Baseline~~ PVV Investigation
WEATHER: cloudy, warm
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-60-071619

INITIAL DATA

Well Diameter (in): 3/4
Total Well Depth (ft btoc): 61
Depth to Water (ft btoc): 42.6 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 59
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 2.2
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump - Foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1021	42.6	Brown	mild HO	7.24	1.493	64.6	2.05	19000	20.4
2	300	1022	"	"	"	7.05	1.457	36.6	1.59	19000	20.2
3	600	1023	"	"	"	6.97	1.444	24.1	1.55	18000	19.9
4	900	1024	"	"	"	6.93	1.423	13.6	1.53	13000	19.7
5	1200	1025	"	"	"	6.91	1.422	2.1	1.51	30,000	19.6
6	1500	1026	"	"	"	6.89	1.452	-1.8	1.49	27,000	19.5
7	1800	1027	"	"	"	6.88	1.464	-2.1	1.49	29,000	19.5
8						6.88	1.462	-3.2	1.48	24,000	19.6
9											
10											
11											
12											
13											
14											
15											

Start Time: 1021
Stop Time: 1027

Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 ml/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-16-19

SAMPLING DATA

Sample Date: 7-16-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): DL

Sample Time: 1030
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1800 ml

Lab Analysis: BTEX, SVOC, PAH, Water Quality
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carmo
DATE: 7-16-19
EVENT: ROX PW Investigation
WEATHER: Cloudy, warm
MONITORING WELL ID: PO-4
SAMPLE ID: PO-4-GWP-20-071619

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): ~~33.80~~ 72
Depth to Water (ft btoc): 33.80 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 69
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 26.5
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: HAND Pump w/foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1305	33.80	Brown	None	7.61	1.281	94.0	2.23	31,000	19.7
2	300	1306	"	"	"	7.28	1.230	65.9	1.58	27000	19.3
3	600	1307	"	"	"	7.19	1.229	57.4	1.53	27000	19.5
4	900	1308	"	"	"	7.14	1.229	50.5	1.50	23000	19.5
5	1200	1309	"	"	"	7.10	1.229	48.1	1.48	23000	19.3
6	1500	1310	"	"	"	7.07	1.231	39.1	1.47	19000	19.2
7	1800	1311	"	"	"	7.05	1.233	38.3	1.46	16,000	19.1
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1305
Stop Time: 1311

Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 ml/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-16-19

SAMPLING DATA

Sample Date: 7-16-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL

Sample Time: 1315
Sample Flow Rate (mL/min): 300 ml/mn
Total Purge Volume (mL): 1800 ml

Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: ~~FB~~ Duplicate

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur, J. Carrino
DATE: 7-16-19
EVENT: ROX PW Investigation
WEATHER: cloudy, warm
MONITORING WELL ID: PD-4
SAMPLE ID: PD-4-GWP-80-071619

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 34.90
Depth to Water (ft btoc): 80.81 (BTOPR)
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 79
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.3
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1420	34.90	Brown	None	7.24	1.119	54.4	2.01	24000	19.5
2	300	1421	"			7.09	1.103	41.7	1.72	26000	19.2
3	600	1422	"			7.02	1.102	32.5	1.86	21000	19.2
4	900	1423	"			6.98	1.101	23.7	1.58	17000	19.0
5	1200	1424	"			6.95	1.104	17.9	1.59	15000	18.9
6	1500	1425	"			6.94	1.101	15.7	1.50	11000	18.7
7	1800	1426	"			6.93	1.107	11.8	1.50	9000	18.6
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1420
Stop Time: 1426
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/10/19

SAMPLING DATA

Sample Date: 7-16-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1430
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: MS, MSD

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Regete B. Howell
DATE: 6/27/19
EVENT: Groundwater Profiling Public Works
WEATHER: Sunny 80
MONITORING WELL ID: PD-5-GWP
SAMPLE ID: PD-5-GWP-42-062719

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~43.00' bgs
Depth to Water (ft btoc): 44.98 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 41.00 bgs
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump - w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1030	"	Brown	Strong	6.94	1.425	91.1	~~6.40~~ 0.40	>1000	21.1
2	300	1031	"			6.73	1.397	~~82.6~~	0.11		20.8
3	400	1032	"			6.66	1.416	73.6	~~2.00~~ 2.01		20.9
4	900	1033	"			6.63	1.411	65.7	2.86		20.9
5	1200	1034	"			6.61	1.399	57.6	7.26		21.0
6	1500	1035	"			6.60	1.398	51.4	6.60		20.7
7	1800	1036	"			6.60	1.400	48.0	13.76		20.7
8	2100	1037	"			6.59	1.397	40.4	15.25		20.7
9	2400	1038	"	▽	▽	6.59	1.397	34.1	13.23	▽	20.7
10											
11											
12											
13											
14											
15											

Start Time: 1030
Stop Time: 1038
Elapsed Time (min): 8
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/27/19

SAMPLING DATA

Sample Date: 6/27/19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1045
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 2400
Lab Analysis: Btex, SVOCs PAH
QA/QC Samples: Dup - Same Time

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL) PD-05-GWP-42-062719-Dup @ 1045.

BTOPR - Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Rapacz B. Howell
DATE: 6/27/19
EVENT: Pub. Works. Invest.
WEATHER: Clear 81°F
MONITORING WELL ID: PD-05-GWP
SAMPLE ID: PD-05-GWP-48-062719

INITIAL DATA

Well Diameter (in): 0.16"
Total Well Depth (ft btoc): ~49.00' BGS
Depth to Water (ft btoc): BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~47.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1151	"	Brown	Strong	4.77	1.467	81.3	3.88	>1000	21.5
2	300	1152	"			6.68	1.474	71.2	3.88		21.7
3	600	1153	"			6.64	1.470	62.9	3.90		21.2
4	900	1154	"			6.63	1.471	48.2	4.03		21.2
5	1200	1155	"			6.63	1.468	40.1	4.016		21.3
6	1500	1156	"			6.63	1.468	34.4	4.09		21.4
7	1800	1157	"			6.63	1.467	30.1	4.10		21.4
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1151
Stop Time: 1157
Elapsed Time (min): 6
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/17/19

SAMPLING DATA

Sample Date: 6/27/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1205
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): 1800
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top Of Probe Rod - BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Rogalz B. Howell
DATE: 6/27/19
EVENT: RW - Invest.
WEATHER: Clear - 86°F
MONITORING WELL ID: PD-05-GWP
SAMPLE ID: PD-05-GWP-054-062719 GR

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~55.00' BGS
Depth to Water (ft btoc): 46.97' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~53.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1333	~~Cloudy~~	~~Moderate~~	Moderate	7.14	1.405	79.0	4.40	>1000	23.5
2	300	1334	"	Cloudy		7.06	1.392	74.9	3.97	>1000	23.1
3	600	1335	"	Brown		6.89	1.358	62.7	3.65	>1000	22.9
4	900	1336	"			6.86	1.357	57.8	3.59	"	22.7
5	1200	1337	"			6.85	1.358	53.6	3.60	"	22.2
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1333
Stop Time: 1337
Elapsed Time (min): 4
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/27/19

SAMPLING DATA

Sample Date: 6/27/19
Sample Method: Low - Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1340
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): 1200
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: J Rangel B. Howell
DATE: 6/27/19 | EVENT: P.W. Invest. | WEATHER: Clear 87°F
MONITORING WELL ID: PD-DS-GWP | SAMPLE ID: PD-DS-GWP-162-062719

INITIAL DATA
Well Diameter (in): 4/16"
Total Well Depth (ft btoc): ~63.00' BGS
Depth to Water (ft btoc): 48.07 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~61.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~370
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA
Pump Type: Waterra Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1427	48	Brown	Slight	7.65	1.239	78.3	4.26	>1000	23.2
2	300	1428	"			7.21	1.214	69.6	3.88		21.8
3	600	1429	"			7.05	1.187	51.1	3.76		21.9
4	900	1430	"			6.95	1.180	45.1	3.72		21.7
5	1200	1431	"			6.92	1.180	35.8	3.69		21.6
6	1506	1432	"			6.91	1.179	28.8	3.68		21.4
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1427
Stop Time: 1432
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/27/19

SAMPLING DATA
Sample Date: 6/27/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1435
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 1500
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples: —

COMMENTS:
* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Pragacz, B. Havell, T. Jones
DATE: 6/27/19
EVENT: EW Invest.
WEATHER: Clear 89°F
MONITORING WELL ID: PD-DS-GWP
SAMPLE ID: PD-DS-GWP-20-062719

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~71.00' BGS
Depth to Water (ft btoc): ~39.39' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~69.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	~300	1528	—	Brown	Slight	7.24	1.265	109.2	4.18	>1000	24.9
2	~600	1529				7.01	1.259	39.3	3.69		24.4
3	~900	1530				6.93	1.253	32.3	3.56		24.7
4	~1200	1531				6.92	1.252	21.2	3.49		24.5
5	~1500	1532				6.912	1.248	13.3	3.42		24.9
6	~1800	1533				6.912	1.243	-2.9	3.34		25.2
7	~2100	1534				6.913	1.238	-16.9	3.29		26.0
8	~2400	1535				6.914	1.236	-20.2	3.26		26.0
9											
10											
11											
12											
13											
14											
15											

Start Time: BH ~~1527~~ 1527 ~~1528~~ BH
Stop Time: BH ~~1542~~ 1535
Elapsed Time (min): BH ~~~15 min~~ ~8
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/27/19

SAMPLING DATA

Sample Date: 6/27/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1540
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2400
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Raggatt B. Howell
DATE: 6/28/19
EVENT: PW Invest. - CPT/GWS
WEATHER: Clear
MONITORING WELL ID: PD-DS-GWP
SAMPLE ID: PD-DS-GWP-SD-062819

INITIAL DATA

Well Diameter (in): 2"
Total Well Depth (ft btoc): ~81.00' BGS
Depth to Water (ft btoc): 35.86' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~79.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Watera - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	0950	"	Brown	Slight	6.44	1.028	189.6	3.35	>1,000	24.0
2	300	0951	"			6.50	1.017	184.2	3.24		20.1
3	600	0952	"			6.55	1.005	172.0	3.11		19.5
4	900	0953	"			6.53	1.009	154.5	3.06		19.3
5	1200	0954	"			6.54	1.007	145.0	3.05		19.2
6	1500	0955	"			6.57	1.011	134.1	3.03		19.2
7	1800	0956	"			6.59	1.014	126.3	3.03		19.2
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0950
Stop Time: 0956
Elapsed Time (min): 6
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/28/19

SAMPLING DATA

Sample Date: 6/28/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1005
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~1800
Lab Analysis: BTEX/SVOCs/TAH
QA/QC Samples: MS/MSD

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL) PD-DS-GWP-SD-062819 (MS)
PD-DS-GWP-SD-062919 (MSD)

BTOPR - Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794 - 1.24.060 | FIELD PERSONNEL: P. Lafleur
DATE: 7-22-19 | EVENT: Roxana Public Works Investigation | WEATHER: clear, sunny, warm
MONITORING WELL ID: PD-7-GWP | SAMPLE ID: PD-7-GWP- 45 - 072219

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 46
Depth to Water (ft btoc): 47.50 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 44
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 11.4
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1328	47.50	lt. gray	mild HC	21.7	2.81	1.063 mS/cm uS/cm	7.34	-137.2	1499
2	300	1329	"	"	"	21.5	7.54	1.066 mS/cm uS/cm	7.36	-146.0	1265
3	600	1330	"	"	"	21.4	2.43	1.074 mS/cm uS/cm	7.35	-156.2	1063
4	900	1331	"	"	"	21.3	2.36	1.075 mS/cm uS/cm	7.35	-163.4	992
5	1200	1332	"	"	"	21.4	2.31	1.073 mS/cm uS/cm	7.36	-171.3	1331
6	1500	1333	"	"	"	21.6	2.26	1.068 mS/cm uS/cm	7.36	-175.5	1660
7	1800	1334	"	"	"	21.6	2.24	1.065 mS/cm uS/cm	7.35	-178.3	1037
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1328
Stop Time: 1334

Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated: 7.22.19

SAMPLING DATA

Sample Date: 7-22-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL

Sample Time: 1345
Sample Flow Rate (mL/min): 300

Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: MS / MSD / water Quality

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Leflew
DATE: 7-22-19
EVENT: Roxana Public Works Investigation
WEATHER: sunny, hot.
MONITORING WELL ID: PD-7-GWP
SAMPLE ID: PD-7-GWP- SO-072219

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 51 50.10
Depth to Water (ft btoc): 40.05 50.10 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 49
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 33.7
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings)	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1444	50.70	lt. gray	Strong HC	22.3	2.29	1.101 mS/cm uS/cm	7.34	-159.1	3600
2	300	1445	"	"	"	22.6	2.22	1.120 mS/cm uS/cm	7.32	-161.1	3200
3	600	1446	"	"	"	22.3	2.22	1.14 mS/cm uS/cm	7.32	-162.2	2600
4	900	1447	"	"	"	21.9	2.24	1.181 mS/cm uS/cm	7.34	-165.2	3600
5	1200	1448	"	"	"	21.5	2.27	1.161 mS/cm uS/cm	7.36	-169.4	2700
6	1500	1449	"	"	"	21.4	2.28	1.173 mS/cm uS/cm	7.37	-171.5	1700
7	1800	1450	"	"	"	21.5	2.28	1.166 mS/cm uS/cm	7.38	-173.3	1600
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1444
Stop Time: 1450
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated: 7-22-19

SAMPLING DATA

Sample Date: 7-22-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1455
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: Duplicate, EB

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7.23.19
EVENT: Roxana Public Works Investigation
WEATHER: Clear, sunny, mild
MONITORING WELL ID: PD-7-GWP
SAMPLE ID: PD-7-GWP- SS - 072319

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 54
Depth to Water (ft btoc): 42.5 BTOPR
Depth to LNAPL (ft btoc): –
Depth to Top of Screen (ft btoc): 54
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm):
Ambient PID/FID Reading (ppm):

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	0818	42.5	white, opaque	Strong HD	20.0	2.77	0.556 mS/cm uS/cm	7.19	-186.6	5700
2	300	0819	"	"	"	19.9	2.64	0.556 mS/cm uS/cm	7.17	-191.6	5300
3	600	0820	"	"	"	19.9	2.84	0.562 mS/cm uS/cm	7.10	-195.8	3100
4	900	0821	"	"	"	19.9	3.01	0.563 mS/cm uS/cm	7.04	-189.7	2500
5	1200	0822	"	"	"	19.9	3.18	0.565 mS/cm uS/cm	6.99	-185.7	2300
6	1500	0823	"	"	"	19.9	3.38	0.567 mS/cm uS/cm	6.96	-181.8	2300
7	1800	0824	"	"	"	19.9	3.37	0.571 mS/cm uS/cm	6.93	-181.1	1900
8	2100	0825	"	"	"	19.9	3.41	0.574 mS/cm uS/cm	6.92	-181.3	2000
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 0818
Stop Time: 0825
Elapsed Time (min): 7 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated: 7-23-19

SAMPLING DATA

Sample Date: 7.23.19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0830
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: EB

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Reggate
DATE: 6/28/19
EVENT: PW Investig. - CPT/GWS
WEATHER: Clear - 85°F
MONITORING WELL ID: PD-DS-GWP
SAMPLE ID: PD-DS-GWP-35-060819

INITIAL DATA

Well Diameter (in): 9/4 11
Total Well Depth (ft btoc): ~ 35' BGS
Depth to Water (ft btoc): 32.26 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~~33'~~ BTOPR ~33' BGS
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.8
Ambient PID/FID Reading (ppm): 0.8

PURGE DATA

Pump Type: Waterra - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	~300	1122	—	Brown	Slight	6.63	1.511	1.5	5.07	>1000	25.8
2	~600	1133				6.57	1.519	-63.4	3.34		23.8
3	~900	1134				6.56	1.514	-77.4	3.03		23.4
4	~1200	1135				6.57	1.513	-87.5	3.40		23.0
5	~1500	1136				6.56	1.510	-92.0	3.74		22.9
6	~1800	1137				6.56	1.512	-93.8	3.98		23.2
7	~2100	1138				6.57	1.510	-96.6	4.80		23.3
8	~2400	1139				6.56	1.511	-99.4	4.98		23.4
9	~2700	1140				6.57	1.509	~100.1	5.04		23.2
10											
11											
12											
13											
14											
15											

Start Time: ~~BAH 1130 1132~~ 1131
Stop Time: ~~1150~~ 1146

Elapsed Time (min): BAH ~~10 min~~ 7 min
Average Purge Rate (mL/min): ~300

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/28/19

SAMPLING DATA

Sample Date: 6/28/19
Sample Method: Low - Flow
VOA Vials, No Headspace (Initials): AR

Sample Time: 1145
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2700

Lab Analysis: BTEX/SVOCs/PAH + MNA
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: ~~J.Rotz~~ JR J. Rougeatz, T. Jones
DATE: 6/28/19
EVENT: P.W. Invest - CPT/GWS
WEATHER: Clear - 86°F
MONITORING WELL ID: PD-08-GWP
SAMPLE ID: PD-08-GWP-41-062819

INITIAL DATA

Well Diameter (in): 9/16 21
Total Well Depth (ft btoc): ~~~50.50 ft~~ ~42' BGS
Depth to Water (ft btoc): ~31.01' BTOPR
Depth to LNAPL (ft btoc):
Depth to Top of Screen (ft btoc): ~40' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft):
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): ~370
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra-Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	~300	1346	—	Brown	Heavy	6.74	1.511	9.9	3.09	>1000	28.0
2	~600	1347				6.65	1.451	-76.9	2.80		23.7
3	~900	1348				6.64	1.445	-90.4	2.73		23.5
4	~1200	1349				6.64	1.451	-100.0	2.70		23.8
5	~1500	1350				6.65	1.449	-107.3	2.69		23.7
6	~2100	1351				6.65	1.452	-110.3	2.75		23.5
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1345
Stop Time: ~~BAH 1355~~ 1351

Elapsed Time (min): ~~1350~~ JR ~~BAH 10 min~~ 7 min
Average Purge Rate (mL/min): ~300

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/28/19

SAMPLING DATA

Sample Date: 6/28/19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JR

Sample Time: ~~1350~~ JR 1355
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2100

Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Regate / T. Jones
DATE: 6/28/19
EVENT: ~~PW~~ PW - Invest. - CPT/GWS
WEATHER: Clear - 90°F
MONITORING WELL ID: PD-OS-GWP
SAMPLE ID: PD-OS-GWP-46-062819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~47.00' BGS
Depth to Water (ft btoc): ~40.92' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~45.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	~300	1441	—	~~Brown~~ Tan to Gr	Moderate	7.11	1.359	33.6	3.66	>1000	27.7
2	~600	1442		Grey		6.80	1.357	-30.0	2.71		23.7
3	~900	1443				6.76	1.358	-60.5	2.70		23.4
4	~1200	1444				6.76	1.361	-79.3	2.68		23.6
5	~1500	1445				6.76	1.365	-85.4	2.64		23.9
6	~1800	1446				6.77	1.370	-96.1	2.606		23.6
7	~2100	1447				6.77	1.372	-100.1	2.65		23.8
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1440
Stop Time: ~~1455~~ 1447
Elapsed Time (min): ~~15~~ 7
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/28/19

SAMPLING DATA

Sample Date: 6/28/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1450
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2100
Lab Analysis: BTEX / SVOCs / PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: James Ruggeri / T. Jones
DATE: 6/28/19
EVENT: P.W. Invest - CPT/GWS
WEATHER: Clear - 92°F
MONITORING WELL ID: PD-08-GWP
SAMPLE ID: PD-08-GWP-52-062819

INITIAL DATA

Well Diameter (in): 2/16"
Total Well Depth (ft btoc): ~53.00' BGS
Depth to Water (ft btoc): ~39.54' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~51.00' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	~300	1531	—	Brown	Slight	7.07	1517	369	3.95	>1000	28.7
2	~600	1532				6.81	1.497	-3.1	2.72		23.6
3	~900	1533				6.79	1.491	-23.9	2.61		24.3
4	~1,200	1534				6.74	1.453	-31.1	2.63		24.1
5	~1,500	1535				6.73	1.454	-38.6	2.65		23.3
6	~1800	1536				6.73	1.463	-45.6	2.62		23.5
7	~2100	1537	↓	↓	↓	6.72	1.4666	-49.9	2.59	↓	23.8
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1530
Stop Time: ~~1545~~ 1537

Elapsed Time (min): BAH 15 7
Average Purge Rate (mL/min): ~300 mL/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 6/28/19

SAMPLING DATA

Sample Date: 6/28/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR

Sample Time: 1540
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2100

Lab Analysis: BTEX / SVOCs / PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J CARRINO / T JONES
DATE: 7-1-19
EVENT: RD2 INVEST. PW
WEATHER: CLOUDY - HOT
MONITORING WELL ID: PD-8-GWP
SAMPLE ID: PD-8-GWP-57-070119

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~58'
Depth to Water (ft btoc): 42.14 BTORR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~56'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at —
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at —
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): ~ 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND | WATERA

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0905	42.14	BROWN	NO	6.53	1.337	111.5	3.00	13593	24.9
2	300	0906	"	"	"	6.55	1.339	100.5	2.43	16227	23.5
3	600	0907	"	"	"	6.58	1.315	77.5	2.32	12880	23.1
4	900	0908	"	"	"	6.59	1.309	70.8	2.30	13271	22.9
5	1200	0909	"	"	"	6.60	1.305	58.3	2.29	13177	22.7
6	1500	0910	"	"	"	6.61	1.307	49.8	2.28	13143	22.7
7	1800	0911	"	"	"	6.62	1.304	42.0	2.26	11782	22.9
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0905
Stop Time: ~~0911~~ BAH 0911
Elapsed Time (min): ~~26~~ BAH 6
Average Purge Rate (mL/min): 300 / min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-1-19

SAMPLING DATA

Sample Date: 07-01-19
Sample Method: LOW FLOW
VOA Vials, No Headspace (Initials): JC
Sample Time: 0915
Sample Flow Rate (mL/min): 300 / MIN
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOC's, PAHs
QA/QC Samples: NONE

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOBR = Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: JCAPPINO | T JONES
DATE: 7-1-19 | EVENT: Rox PW GWP | WEATHER: HOT - CLOUDY
MONITORING WELL ID: PD-8-GWP | SAMPLE ID: PD-8-GWP-62'-070119

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~63'
Depth to Water (ft btoc): ~~31.17~~ 30.90 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~61'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump - w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1005	30.90	Brown	No	7.00	1.202	24.4	2.39	10537	23.7
2	300	1006	"	"	"	6.96	1.200	16.3	2.35	-9952	23.1
3	600	1007	"	"	"	6.85	1.190	-1.7	2.30	-6667	22.7
4	900	1008	"	"	"	6.82	1.182	-9.3	2.29	-6460	22.5
5	1200	1009	"	"	"	6.80	1.177	-16.0	2.29	-7532	22.2
6	1500	1010	"	"	"	6.78	1.180	-21.9	2.30	-7761	21.9
7	1800	1011	"	"	"	6.76	1.185	-26.9	2.29	-6994	21.9
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1005
Stop Time: 1011

Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 07-01-19

SAMPLING DATA

Sample Date: 07-01-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JC

Sample Time: 1015
Sample Flow Rate (mL/min): 300 /min
Total Purge Volume (mL): 1800

Lab Analysis: BTEX, VOCs, PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J CARRINO / T JONES
DATE: 07-01-19
EVENT: CPT/GWP Rox Pw Invest.
WEATHER: HOT/CLOUDY
MONITORING WELL ID: PD-8-GWP
SAMPLE ID: PD-8-GWP-70'-070119

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~71
Depth to Water (ft btoc): 39.09 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~69'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND/WATERRA

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1117	39.09	Brown	~~Strong~~ NO	7.54	1.060	49.1	2.67	20221	24.7
2	300	1118	"	"	"	7.36	1.060	25.5	2.37	20936	24.0
3	600	1119	"	"	"	7.23	1.065	10.6	2.30	20285	23.9
4	900	1120	"	"	"	7.13	1.069	-14.2	2.24	15929	23.6
5	1200	1121	"	"	"	7.10	1.065	-24.5	2.24	11289	23.4
6	1500	1122	"	"	"	7.04	1.060	-43.9	2.21	-8809	23.8
7	1800	1123	"	"	"	7.02	1.061	-54.1	2.19	-9271	23.9
8	2100	1124	"	"	"	7.02	1.061	-59.8	2.17	13767	24.1
9											
10											
11											
12											
13											
14											
15											

Start Time: 1117
Stop Time: 1124
Elapsed Time (min): 7
Average Purge Rate (mL/min): 300/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-1-19

SAMPLING DATA

Sample Date: 070119
Sample Method: LOW FLOW
VOA Vials, No Headspace (Initials): JL
Sample Time: 1125
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 2100
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: Jim Carrino / Tony Jones
DATE: 7/1/19
EVENT: Pox PW Investigation GWP
WEATHER: Sunny @ 77°F
MONITORING WELL ID:
SAMPLE ID: PD-8-GWP-80'-070119

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~81
Depth to Water (ft btoc): 33.03 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~79'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND / watera

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1243	33.03	Brown	No	7.40	1.042	54.0	2.45	20039.46	22.1
2	300	1244	"	"	"	7.20	1.015	35.9	2.42	19564.92	21.7
3	600	1245	"	"	"	7.11	1.011	19.6	2.35	19306.46	21.8
4	900	1246	"	"	"	7.07	1.007	1.1	2.33	19281.64	22.1
5	1200	1247	"	"	"	7.02	1.010	-21.2	2.31	16956.58	22.1
6	1500	1248	"	"	"	7.00	1.013	-33.9	2.34	14223.60	22.1
7	1800	1249	"	"	"	6.99	1.013	-42.9	2.33	12561.66	22.1
8	2100	1250	"	"	"	6.98	1.014	-51.3	2.27	11906.77	22.2
9											
10											
11											
12											
13											
14											
15											

Start Time: 1243
Stop Time: 1251
Elapsed Time (min): 7
Average Purge Rate (mL/min): 300/ per min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 07-01-19
Sample Method: Low flow
VOA Vials, No Headspace (Initials): JC
Sample Time: 1251
Sample Flow Rate (mL/min): 300/ min
Total Purge Volume (mL): 2100
Lab Analysis: DTex, SVOCs, PAHs
QA/QC Samples: NONE

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below top of Pobe Roll

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: S. Fisher
DATE: 7-9-19
EVENT: Rox PW Inv
WEATHER: Sunny 90°F
MONITORING WELL ID: PD-09
SAMPLE ID: PD-09-GWP-35-070919

INITIAL DATA

Well Diameter (in): 2/6"
Total Well Depth (ft btoc): ~36 ft bgs
Depth to Water (ft btoc): 37.36 ft BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 35 ft bgs
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 14.1
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand - Foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1353	37.36	cloudy brown	mild hydrocarb.	6.95	1.458	96.9	1.59	6154	22.3
2	300	1354	"	"	"	6.81	1.474	84.2	1.45	8008	22.3
3	600	1355	"	"	"	6.76	1.481	73.0	1.41	6842	22.6
4	~~1500~~ 900 BAU	1358	"	"	"	6.72	1.508	29.0	1.34	11528	23.2
5	~~1800~~ 1200 BAU	1410	NM	"	"	6.75	1.454	-85.0	1.15	3355	26.5
6	~~2100~~ 1500 BAU	1411	NM	"	"	6.73	1.481	-88.6	1.13	6358	26.5
7	~~2400~~ 1800 BAU	1412	NM	"	"	6.75	1.501	-92.6	1.14	5872	26.5
8	~~2700~~ 2100 BAU	1413	NM	"	"	6.75	1.504	-94.3	1.17	7837	25.3
9											
10											
11											
12											
13											
14											
15											

Samuel Fisher

Start Time: 1353
Stop Time: 1413

Elapsed Time (min): 20
Average Purge Rate (mL/min): 100-300

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-9-19

SAMPLING DATA

Sample Date: 7-9-19
Sample Method: low flow
VOA Vials, No Headspace (Initials): SF

Sample Time: 1415
Sample Flow Rate (mL/min): 100-300
Total Purge Volume (mL): ~~BAU 2100~~ 6000

Lab Analysis: BTEX SVOC PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Some drawdown made rate of discharge lower, some effervescence in sample

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: S. Fisher
DATE: 7-9-19 | EVENT: Rex pw Inv. | WEATHER: 90°F Sunny
MONITORING WELL ID: PD-09 | SAMPLE ID: PD-09-GMP-40-070919

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (~~ft btoc~~): ~41 ft bgs
Depth to Water (ft btoc): 42.84 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (~~ft btoc~~): 39 ft bgs
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960
Wellbore PID/FID Reading (ppm): SMF ~~0.3~~ 3.1
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1500	42.84	cloudy brown	strong Hydrocarbon	6.63	1.310	31.3	1.42	26415	22.4
2	300	1501	"	"	"	6.58	1.278	20.7	1.49	15283	21.8
3	600	1502	"	"	"	6.56	1.245	8.6	1.33	17199	21.5
4	900	1503	"	"	"	6.54	1.264	-2.1	1.78	21794	21.4
5	1200	1504	"	"	"	6.53	1.268	-10.1	1.92	20597	21.3
6	1500	1505	"	"	"	6.53	1.280	-14.7	1.99	19188	21.2
7											
8											
9											
10											
11											
12											
13											
14											
15											

Samuel Fisher

Start Time: 1500
Stop Time: 1505
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-~~8~~-19

SAMPLING DATA

Sample Date: 7-9-19
Sample Method: low flow
VOA Vials, No Headspace (Initials): SF
Sample Time: 1508
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 1500
Lab Analysis: BTEX SVOC PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: S. Fisher
DATE: 7-9-19
EVENT: Rox PW Inv
WEATHER: 80°F cloudy
MONITORING WELL ID: PD-09
SAMPLE ID: PD-09-GWP-45-070919

INITIAL DATA

Well Diameter (in): 2 9/16" SMF
Total Well Depth (ft ~~btoc~~): ~~45~~ 46bgs
Depth to Water (ft btoc): 37.69 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft ~~btoc~~): ~44 bgs
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at —
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at —
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 3.4
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: Hand

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)		+/-0.2			+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1549	37.69	cloudy brown	mild HC	6.77	1.181	40.0	1.57	7579	22.9
2	300	1550	"	"	"	6.68	1.182	20.2	1.65	9788	23.6
3	600	1551	"	"	↓	6.67	1.185	11.8	1.65	13011	22.2
4	900	1552	"	"	strong	6.65	1.177	2.8	1.65	11784	21.9
5											
6											
7											
8											
9											
10		Samuel Fisher									
11											
12											
13											
14											
15											

Start Time: SMF ~~1547~~ 1549 ~~1552~~
Stop Time: 1552
Elapsed Time (min): RAH 3
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-9-19

SAMPLING DATA

Sample Date: 7-9-19
Sample Method: low flow
VOA Vials, No Headspace (Initials): SF
Sample Time: 1555
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 900
Lab Analysis: BTEX SVOC PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rad

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. LeFleur / J Carnes
DATE: 7-10-19
EVENT: Rox PWI Investigation
WEATHER: Sunny / 90s
MONITORING WELL ID: PD-9
SAMPLE ID: PD-9-GWP-54-071019

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~55
Depth to Water (ft ~~btoc~~): 35.59 BTOPR
Depth to LNAPL (ft btoc): NF
Depth to Top of Screen (ft btoc): ~53
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at —
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at —
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): ~320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960 ml
Wellbore PID/FID Reading (ppm): 59.7
Ambient PID/FID Reading (ppm): 1.8

PURGE DATA

Pump Type: HAWA - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0901	35.59	cloudy brown	mild HC	6.46	1.158	122.0	1.46	max	21.1
2	300	0902		"	"	6.49	1.155	109.3	1.38	max	21.1
3	900	0904		"	"	6.49	1.147	103.4	1.38	max	20.8
4	1200	0905		"	"	6.50	1.151	98.8	1.38	max	20.7
5	1500	0906		"	"	6.50	1.151	96.9	1.38	max	20.4
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

PQ data

Start Time: 0901
Stop Time: 0906
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 / min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-10-19

SAMPLING DATA

Sample Date: 7-10-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): DF
Sample Time: 0905
Sample Flow Rate (mL/min): 300 / min
Total Purge Volume (mL): 1500
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. LaFleur / J. Carrino
DATE: 7-10-19
EVENT: ROX PW Investigation
WEATHER: Sunny 90°
MONITORING WELL ID: PD-9
SAMPLE ID: PD-9-GWP-60-071019

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~41
Depth to Water (ft btoc): 37.79 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 59
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): ~320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960 ml

Wellbore PID/FID Reading (ppm): 24.7
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: Hand - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0957	37.79	Brown	mild HC	7.40	1.036	97.3	1.91	max	21.0
2	300	0958		"	"	7.24	1.028	90.2	1.59	max	20.6
3	600	0959		"	"	7.04	0.999	83.4	1.51	max	20.5
4	900	1000		"	"	6.92	0.989	78.8	1.48	max	20.3
5	1200	1001		"	"	6.88	0.988	77.4	1.51	max	20.2
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

P. LaFleur

Start Time: 0957
Stop Time: 1001
Elapsed Time (min): 4 min
Average Purge Rate (mL/min): 300 / min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-10-19

SAMPLING DATA

Sample Date: 7-10-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1005
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1200 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below top of probe rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lefleur / J. Carrino
DATE: 7-10-19
EVENT: ROX PW Investigation
WEATHER: Sunny 90°
MONITORING WELL ID: PD-9
SAMPLE ID: PD-9-GWSP20-071019

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~71
Depth to Water (ft btoc): 38.90 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 69
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): ~320 mL
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960 mL

Wellbore PID/FID Reading (ppm): 8.8
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: Hand Pump - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1057	38.90	Brown	Slight	7.29	1.207	96.9	2.42	32000	20.9
2	300	1058				7.09	1.201	91.2	2.27	max	21.0
3	600	1059				6.98	1.208	83.4	1.50	max	21.2
4	900	1100				6.94	1.197	75.9	1.41	max	21.4
5	1200	1101				6.92	1.192	70.2	1.38	max	21.5
6	1500	1102				6.90	1.190	69.3	1.36	max	21.5
7											
8											
9											
10											
11											
12											
13											
14											
15											

P. Lefleur

Start Time: 1057
Stop Time: 1102
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 /min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-10-19

SAMPLING DATA

Sample Date: 7-10-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1105
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1500 mL
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: Dup

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carrino
DATE: 7-10-19
EVENT: Rox PW Investigation
WEATHER: sunny 90°
MONITORING WELL ID: PD-9
SAMPLE ID: PD-9-GWP-80-071019

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~ 81'
Depth to Water (ft btoc): 36.05 BTOPR
Depth to LNAPL (ft btoc): NA
Depth to Top of Screen (ft btoc): 79
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960ml

Wellbore PID/FID Reading (ppm): 12.1
Ambient PID/FID Reading (ppm): 0.2

PURGE DATA

Pump Type: HAND Pump - Footvalve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1206	36.05	Brown	Slight HC	7.31	1.044	102.6	1.70	MAX	19.9
2	300	1207			"	7.16	1.026	95.8	1.57	"	19.8
3	600	1208			"	7.06	1.022	90.6	1.52	"	19.7
4	900	1209			"	6.97	1.021	83.6	1.46	"	19.7
5	1200	1210			"	6.93	1.021	78.2	1.44	"	19.5
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

P Lafleur

Start Time: 1206
Stop Time: 1210
Elapsed Time (min): 4 min
Average Purge Rate (mL/min): 300 /min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-10-19

SAMPLING DATA

Sample Date: 7-10-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: ~~1205~~ 1210
Sample Flow Rate (mL/min): 300 /min
Total Purge Volume (mL): 1200 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top of probe rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carrino
DATE: 7-10-19
EVENT: RAX Pwl Investigation
WEATHER: 35 Ptly cloudy, hot
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-~~33~~-071019

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ≈ 36'
Depth to Water (ft btoc): 38.21 BTOPR
Depth to LNAPL (ft btoc): NA
Depth to Top of Screen (ft btoc): ~~33~~ ~~34~~ 34
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): –
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = –
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = –
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = –

Volume of Flow Through Cell (mL): ~320 mL
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): ~960 mL

Wellbore PID/FID Reading (ppm): 0.2
Ambient PID/FID Reading (ppm): 10.0

PURGE DATA

Pump Type: HAND Valve: Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1603	38.21	Brown	mild HC	7.46	1.030	98.5	1.37	43,000	24.3
2	300	1604				7.38	1.035	90.3	1.33	52,000	24.2
3	600	1605				7.52	1.052	73.3	1.33	59,000	24.2
4	900	1606				7.31	1.048	62.6	1.42	51,000	24.1
5	1200	1607				7.30	1.046	42.3	1.38	36,000	23.9
6	1500	1608				7.30	1.052	41.9	1.26	max	23.8
7	1800	1609				7.30	1.054	39.2	1.34	max	23.5
8											
9											
10											
11											
12											
13											
14											
15											

P. Lafleur

Start Time: 1603
Stop Time: 1609
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 / min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-10-19

SAMPLING DATA

Sample Date: 7-10-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1608
Sample Flow Rate (mL/min): 300 / min
Total Purge Volume (mL): 1800 mL
Lab Analysis: BTEX, SVOC, PAHs
QA/QC Samples: NONE

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR – Below top of probe rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Laflew / J. Carrino
DATE: 7-11-19
EVENT: ROX PWI Investigation
WEATHER: Sunny, warm
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-37-071119

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 38'
Depth to Water (ft btoc): 35.80 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 36'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.6
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0906	35.80	dark gray	mild HO	6.91	1.062	140.8	1.57	2747	23.2
2	300	0907	"	"	HO	6.94	1.070	126.7	1.27	5500	23.1
3	600	0908	"	"	HO	7.00	1.075	116.2	1.23	4300	23.2
4	900	0909	"	"	HO	7.03	1.075	104.9	1.21	2400	23.3
5	1200	0910	"	"	HO	7.05	1.068	99.1	1.19	1400	23.4
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0906
Stop Time: 0910
Elapsed Time (min): 4 min
Average Purge Rate (mL/min): 1200
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-11-19

SAMPLING DATA

Sample Date: 7-11-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0911
Sample Flow Rate (mL/min): 300 mL/min
Total Purge Volume (mL): 1200 mL
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carrino
DATE: 7-11-19
EVENT: ROX PW Investigation
WEATHER: sunny, warm
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-43-071119 / PD-11-GWP-43-071119-Dup

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 44
Depth to Water (ft btoc): 42.9 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 42
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 209.9
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: HAND Pump- Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1000	42.9	dark gray	mild HC	7.25	0.877	73.9	4.89	28,000	23.5
2	300	1001	"	"	"	7.10	0.883	58.6	5.76	26,000	23.4
3	600	1002	"	"	"	7.05	0.895	36.9	7.59	23,000	23.2
4	900	1003	"	"	"	7.02	0.896	19.0	9.09	23,000	23.3
5	1200	1004	"	"	"	7.00	0.894	-1.3	10.85	10,000	23.3
6	1500	1005	"	"	"	6.98	0.878	-14	11.81	13,000	23.3
7	1800	1006	"	"	"	6.97	0.884	-17	14.4	11,000	22.9
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1000
Stop Time: 1006
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 /min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-11-19

SAMPLING DATA

Sample Date: 7-11-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1010
Sample Flow Rate (mL/min): 300 /min
Total Purge Volume (mL): 1800 mL
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: Duplicate

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR : Below Top Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: D. Laflour / J. Carrino
DATE: 7-11-19
EVENT: ROX PW Investigation
WEATHER: Sunny, warm
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-50-071119

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 51
Depth to Water (ft btoc): 53.73 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 49
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 1.1
Ambient PID/FID Reading (ppm): 1.1

PURGE DATA

Pump Type: HAND Pump - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1225	53.73	brown	earthy	7.09	1.526	38.1	2.05	27,000	23.0
2	300	1226				7.03	1.490	14.5	1.67	31,000	22.5
3	600	1227				6.88	1.458	-9.5	1.51	27,000	22.3
4	900	1228				6.86	1.451	-18.6	1.58	29,000	22.2
5	1200	1229				6.82	1.433	-28.4	1.47	21,000	22.1
6	1500	1230				6.77	1.421	-35.6	1.60	24,000	22.0
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1225
Stop Time: 1230
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 1500 mL
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-11-19

SAMPLING DATA

Sample Date: 7-11-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1235
Sample Flow Rate (mL/min): 300 / min
Total Purge Volume (mL): 1500 mL
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: MS / MSD

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carnino
DATE: 7-11-19
EVENT: ROX RW Investigation
WEATHER: Ptly cloudy, warm
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-56-071119

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 57
Depth to Water (ft btoc): 41.50 BTOR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 55
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 14.5
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand Pump - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1425	41.50	Brown	slight HC	6.96	1.573	73.2	1.94	4,000	23.4
2	300	1426		"	"	6.88	1.565	62.0	1.73	10,000	22.4
3	600	1427		"	"	6.81	1.542	52.4	1.79	7500	22.2
4	900	1428		"	"	6.79	1.533	45.7	1.99	8000	22.2
5	1200	1429		"	"	6.77	1.527	37.2	2.38	4500	22.3
6	1500	1430		"	"	6.76	1.511	39.0	2.56	1800	22.3
7	1800	1431		"	"	6.73	1.534	35.0	2.41	1000	22.1
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1425
Stop Time: 1431
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 1800 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-11-19

SAMPLING DATA

Sample Date: 7-11-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1435
Sample Flow Rate (mL/min): 300 l/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOR : Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: Pfeffer / J. Carrino
DATE: 7-11-19
EVENT: 2ox PW Investigation
WEATHER:
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-40-071119

INITIAL DATA

Well Diameter (in): 3/16
Total Well Depth (ft btoc): 61
Depth to Water (ft btoc): 44.30 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 59
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 29.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1525	44.30	Brown	Ho	6.74	1.200	45.9	1.51	8000	22.7
2	300	1524	"	"	"	6.67	1.174	33.3	1.44	9000	22.3
3	600	1527	"	"	"	6.64	1.159	19.3	1.53	6000	21.8
4	900	1528	"	"	"	6.61	1.158	5.6	1.49	6000	22.1
5	1200	1529	"	"	"	6.60	1.159	-1.4	1.43	6000	21.9
6	1500	1530	"	"	"	6.60	1.151	-5.8	1.42	6500	21.7
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1525
Stop Time: 1530
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 l/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-11-19

SAMPLING DATA

Sample Date: 7-11-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1535
Sample Flow Rate (mL/min): 300 l/min
Total Purge Volume (mL): 1500
Lab Analysis: BTEX SVOC PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR : Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur / J. Carmo
DATE: 7-12-19
EVENT: ROX RI Investigation
WEATHER: Sunny warm
MONITORING WELL ID: PD-11
SAMPLE ID: PD-11-GWP-46.7-071219

INITIAL DATA

Well Diameter (in): 5/16 "
Total Well Depth (ft btoc): 67.7
Depth to Water (ft btoc): 30.59 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 65.7
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	0838	30.59	Brown	none	7.38	0.782	132.4	2.38	7,000	20.8
2	300	0839	"	"	"	7.28	0.813	93.6	1.80	9,000	20.7
3	600	0840	"	"	"	7.21	0.824	65.6	1.63	11,000	21.1
4	900	0841	"	"	"	7.05	0.840	44.2	1.92	15,000	21.3
5	1200	0842	"	"	"	6.97	0.842	42.1	1.80	19,000	21.3
6	1500	0843	"	"	"	6.92	0.849	38.5	1.78	22,000	21.1
7		~~0844~~	"	"	"		TEMP				
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0838
Stop Time: 0843
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 1500 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19

SAMPLING DATA

Sample Date: 7-12-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0845
Sample Flow Rate (mL/min): 300 / min
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BAH ~~D-16-PW~~ ~~D-22-PW~~

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: Tony Soner J. Corrino
DATE: 7/1/19 | EVENT: ROX PW/ INVEST. | WEATHER: Sunny 82°F
MONITORING WELL ID: PD-12-GWP | SAMPLE ID: PD-12-GWP-35-07w19

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~36'
Depth to Water (ft btoc): 38.55 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~41.97
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~32
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~96

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA BAH
Pump Type: ~~HAND~~/ waterra w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	~~1542~~				~~7.19~~	~~1.072~~	66.2	2.27		
2	0	1544	38.55	Brown	NO	7.22	1.008	44.2	3.61	-997.1	19.9
3	300	1545	"	"	"	7.08	1.020	38.8	2.79	18732	19.2
4	600	1546	"	"	"	7.01	1.038	36.3	2.81	23120	18.9
5	900	1547	"	"	"	6.97	1.045	35.6	2.74	22542	18.9
6	1200	1548	"	"	"	6.95	1.047	35.0	2.73	18434	18.8
7	1500	1549	"	"	"	6.94	1.049	34.9	2.69	19375	18.8
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1544
Stop Time: 1549

Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-1-19

SAMPLING DATA

Sample Date: 07-01-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JC

Sample Time: 1550
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 1500 mL

Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J CARRINO / T JONES
DATE: 7-2-19
EVENT: ROX PW INVES
WEATHER: SUNNY 89°
MONITORING WELL ID: PD-12-GWP
SAMPLE ID: PD-12-GWP-45'-070219

INITIAL DATA

Well Diameter (in): 9/16
Total Well Depth (ft btoc): ~46
Depth to Water (ft btoc): 33.75 BTOPR @0900
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~34
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at —
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Footvalve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0925	33.75	Brown	NO	6.31	1.081	167.4	5.67	10784	20.5
2	300	0926	"	"	"	6.42	1.057	134.6	2.92	11371	19.5
3	600	0927	"	"	"	6.45	1.025	119.0	2.41	13027	19.4
4	900	0928	"	"	"	6.49	1.035	105.9	2.32	15328	19.5
5	1200	0929	"	"	"	6.54	1.036	84.4	2.24	13492	19.6
6	1500	0930	"	"	"	6.58	1.037	77.7	2.23	12623	19.7
7	1800	0931	"	"	"	6.60	1.036	72.6	2.21	12373	20.0
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0925
Stop Time: 0931
Elapsed Time (min): 6'
Average Purge Rate (mL/min): 300/m
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-2-19

SAMPLING DATA

Sample Date: 7-2-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): TJ
Sample Time: 0935
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: J WARREN / T JONES
DATE: 7-2-19 | EVENT: Rex GWP | WEATHER: SUNNY 90°
MONITORING WELL ID: PD-12 GWP | SAMPLE ID: PD-12-GWP-50-070219

INITIAL DATA

Well Diameter (in): 9/16
Total Well Depth (ft btoc): ~51
Depth to Water (ft btoc): 33.75 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~49
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: WATERRA / HAND w/Footvalve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color (STABLE: over 3 readings)	Odor	pH (+/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	0	1030	33.75	~~Cloudy~~ Brown	NO	7.11	1.142	118.5	2.57	~~500~~	20.3
2	300	1031	"	"	"	6.80	1.112	103.3	2.25	14709	20.0
3	600	1032	"	"	"	6.75	1.115	99.8	2.23	~~5473~~	20.0
4	900	1033	"	"	"	6.72	1.118	95.6	2.22	~~9101~~	20.1
5	1200	1034	"	"	"	6.70	1.114	89.0	2.17	10820	20.3
6	1500	1035	"	"	"	6.68	1.108	80.1	2.15	11432	20.3
7	1800	1036	"	"	"	6.67	1.104	75.3	2.14	10737	20.3
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1030
Stop Time: 1036

Elapsed Time (min): 6
Average Purge Rate (mL/min): 300 /min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-2-19

SAMPLING DATA

Sample Date: 7-2-19
Sample Method: LOW FLOW
VOA Vials, No Headspace (Initials): JC

Sample Time: 1040
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 1800

Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: NONE

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: T. Jones / J Carino
DATE: 7-2-19
EVENT: Rdx GWP
WEATHER: Sunny 81°
MONITORING WELL ID: PD-12-GWP
SAMPLE ID: PD-12-GWP-55'-070219

INITIAL DATA

Well Diameter (in): 9/16
Total Well Depth (ft btoc): ~56'
Depth to Water (ft btoc): 35.84 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~54'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.4

PURGE DATA

Pump Type: Waterra w/ foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1245	35.84	Brown	Slight HC	7.09	1.187	109.5	2.39	-9518.02	22.8
2	300	1246	"	"	"	6.96	1.129	97.1	2.18	-8376.53	20.8
3	600	1247	"	"	"	6.77	1.107	89.1	2.14	-5978.86	21.2
4	900	1248	"	"	"	6.70	1.101	82.9	2.13	-6143.99	21.4
5	1200	1249	"	"	"	6.67	1.101	75.4	2.19	-5846.92	21.7
6	1500	1250	"	"	"	6.65	1.096	67.3	2.27	-6159.21	22.5
7	1800	1251	"	"	"	6.64	1.098	66.4	2.82	-6509.40	22.6
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1245
Stop Time: 1251
Elapsed Time (min): 6'
Average Purge Rate (mL/min): 300/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 7-2-19
Sample Method: Low flow
VOA Vials, No Headspace (Initials): JC
Sample Time: 1255
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 1800 mL
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J CARRINO / T JONES
DATE: 7-2-19
EVENT: Rex PW Invest
WEATHER: SUNNY 92°
MONITORING WELL ID: PW-12-GWP
SAMPLE ID: PW-12-GWP-[illegible]-070219

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~61
Depth to Water (ft btoc): 39.08 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~59'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.4
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Waterra - Foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1438	39.08	Brown	NO	7.24	1.212	100.1	6.95	-9123	23.8
2	300	1439	"	"	"	7.12	1.177	92.5	8.35	15815	22.9
3	600	1440	"	"	"	6.94	1.206	80.5	4.11	10603	21.8
4	900	1441	"	"	"	6.86	1.181	68.3	3.67	-7476	21.7
5	1200	1442	"	"	"	6.80	1.163	52.2	3.46	-6373	21.9
6	1500	1443	"	"	"	6.89	1.148	18.3	3.46	-9495	21.6
7	1800	1444	"	"	"	6.83	1.151	10.3	3.23	10934	21.4
8	2100	1445	"	"	"	6.80	1.153	2.2	3.19	11480	21.2
9											
10											
11											
12											
13											
14											
15											

Start Time: 1438
Stop Time: 1445
Elapsed Time (min): 7 min
Average Purge Rate (mL/min): 300/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-2-19

SAMPLING DATA

Sample Date: 7-2-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): JC
Sample Time: ~~1450~~ 1445
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 2100
Lab Analysis: BTEX, SVOCs PAHs
QA/QC Samples: NON

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below top of Probe Rod = BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: T JONES / B Howell
DATE: 7-2-19
EVENT: ROX PW INVEST
WEATHER: SUNNY 90°
MONITORING WELL ID: PD-12-GWP
SAMPLE ID: PD-12-GWP-70-070219

INITIAL DATA

Well Diameter (in): 9/16
Total Well Depth (ft btoc): ~71'
Depth to Water (ft btoc): 45.90 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~69'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at —
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: T 7/2/19 Hand Waterra - foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	T 7/2/19 1604	"	brown	slight	7.41	1.107	78.9	2.69	8649.09	21.8
2	300	T 7/2/19 1605	"	"	"	7.16	1.104	68.2	2.19	14006.10	20.4
3	600	T 7/2/19 1606	"	"	"	6.99	1.098	60.4	2.08	12946.77	20.5
4	900	T 7/2/19 1607	"	"	"	6.89	1.096	51.3	2.04	12071.88	20.5
5	1200	T 7/2/19 1608	"	"	"	6.83	1.100	37.1	1.98	16443.1	21.1
6	1500	T 7/2/19 1609	"	"	"	6.82	1.096	30.0	1.96	7746.19	20.8
7	1800	T 7/2/19 1610	"	"	"	6.81	1.099	25.1	1.98	6984.87	21.3
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1604
Stop Time: 1611
Elapsed Time (min): T 7/2/19 7 6
Average Purge Rate (mL/min): 300 mL/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-2-19

SAMPLING DATA

Sample Date: 7-2-19
Sample Method: LOW FLOW
VOA Vials, No Headspace (Initials): JC
Sample Time: 1615
Sample Flow Rate (mL/min): 300 mL/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below top of probe rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: T Jones,
DATE: 7-2-19
EVENT: Rox PW Invert
WEATHER: Sunny
MONITORING WELL ID: PD-12-GWP
SAMPLE ID: PD-12-GWP-80= PD-12-GWP-74'-070219

INITIAL DATA

Well Diameter (in): 9/16
Total Well Depth (ft btoc): ~~84'~~ ~75'
Depth to Water (ft btoc): 43.17 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): ~~79'~~ ~73'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~326
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Watera - ~~foot~~ foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1710	43.17	Gray		7.47	1.142	72.7	2.84	63057	20.8
2	300	1714	"			7.26	1.110	44.0	2.02	13660.00	20.6
3	600	1715	"			7.09	1.103	25.7	1.92	2026.78	21.0
4	900	1716	"			7.02	1.098	8.8	1.88	2577.47	20.9
5	1200	1717	"			6.97	1.091	-1.3	1.87	2776.10	20.7
6	1500	1718	"			6.93	1.093	-10.2	1.87	2796.37	20.5
7	1800	1719	"			6.91	1.093	-16.6	1.87	2276.09	20.3
8	2100	1720	"			6.89	1.095	-21.6	1.85	1714.08	20.8
9											
10											
11											
12											
13											
14											
15											

Start Time: 1710
Stop Time: 1720
Elapsed Time (min): 7 min
Average Purge Rate (mL/min): 300 mL/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/2/19

SAMPLING DATA

Sample Date: 7-2-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): TJ
Sample Time: 1725
Sample Flow Rate (mL/min): 300 / min
Total Purge Volume (mL): 2100
Lab Analysis: BTex, SVOC's, PAH's
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below top of probe Rod.

CONFIDENTIAL SETTLEMENT COMMUNICATION

RESAMPLE

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: Pfeffer / J. Carrino
DATE: 7-12-19
EVENT: Rox PW Investigation
WEATHER: sunny warm
MONITORING WELL ID: PD-12
SAMPLE ID: PD-12 GWP-45-071219

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 46
Depth to Water (ft btoc): 48.1 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): 44
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at —
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at —
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at —
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 0.3
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1007	48.1	Brown	~~None~~ slight HC	6.81	1.274	-14.4	1.66	10,000	20.4
2	300	1008		"	"	6.82	1.270	-34.7	3.99	6,000	21.4
3	600	1009		"	"	6.84	1.273	-40.9	5.86	7,000	21.1
4	900	1010		"	"	6.85	1.272	-44.9	5.96	4,000	20.9
5	1200	1011		"	"	6.85	1.260	-52.3	4.25	5,000	20.9
6	1500	1012		"	"	6.83	1.255	-58.9	4.15	5,000	20.9
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1007
Stop Time: 1012

Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 1500 ml

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19

SAMPLING DATA

Sample Date: 7-12-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL

Sample Time: 1015
Sample Flow Rate (mL/min): 300 / min
Total Purge Volume (mL): 1500

Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe rod

CONFIDENTIAL SETTLEMENT COMMUNICATION

RESAMPLE

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794.1.24.060 | FIELD PERSONNEL: P. Lafleur / J. Carrino
DATE: 7-12-19 | EVENT: 2nd RM Investigation | WEATHER: sunny, warm
MONITORING WELL ID: PD-12 | SAMPLE ID: PD-12-GWP-SD-071219

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 51
Depth to Water (ft btoc): 51.09 BTOR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 49
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 0.3
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type:

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	~~1058~~ 1100	51.09	Brown	mild HC	6.81	1.577	-49.0	1.97	10,000 +	20.9
2	300	1101		"	"	6.75	1.553	-54.7	1.75	7,000 +	20.1
3	600	1102		"	"	6.73	1.552	-63.3	1.54	12000 +	20.5
4	900	1103		"	"	6.72	1.546	-71.4	1.50	7000 +	20.7
5	1200	1104		"	"	6.71	1.563	-75.7	1.62	12,000 +	20.7
6	1500	1105		"	"	6.70	1.549	-77.3	1.53	14,000 +	20.5
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1100
Stop Time: 1105

Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 1500

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19

SAMPLING DATA

Sample Date: 7-12-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL

Sample Time: 1110
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1500 ml

Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOR : Below Top of Probe Rod

CONFIDENTIAL SETTLEMENT COMMUNICATION

RESAMPLE

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. LaFleur / J. Carrino
DATE: 7-12-19
EVENT: Rox Pad - Investigative
WEATHER: Sunny, warm
MONITORING WELL ID: PD-12
SAMPLE ID: PD-12-GWP-55-071219

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 54
Depth to Water (ft btoc): 38.5 BTOPP
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 54
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 03 1630
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: Hand Pump - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1301	38.5	Brown w/	Strong HC	7.00	1.278	28.4	1.77	11,000 +	22.5
2	300	1302	"	sheen	"	6.87	1.282	14.9	1.54	9,000 +	21.5
3	600	1303	"	"	"	6.78	1.234	-11.4	2.03	6000 +	21.7
4	900	1304	"	"	"	6.75	1.259	-22.4	1.63	6,000 +	21.7
5	1200	1305	"	"	"	6.73	1.245	-35.2	1.64	7000 +	21.8
6	1500	1306	"	"	"	6.72	1.257	-42.9	1.76	8 000 +	21.9
7	1800	1307	"	"	"	6.72	1.259	-48.5	1.88	7 000 +	22.0
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1301
Stop Time: 1307
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 1800 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19

SAMPLING DATA

Sample Date: 7-12-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1310
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1800 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPP: Below Top of Probe Rod

CONFIDENTIAL SETTLEMENT COMMUNICATION

KEY SAMPLE

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: Paul Lafleur / J. Carrino
DATE: 7-12-19
EVENT: Rox Pwy Investigation
WEATHER: Sunny, Hot
MONITORING WELL ID: PD-12
SAMPLE ID: PD-12-GWP-60-071219

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 61
Depth to Water (ft btoc): 40.97 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 59
Screen Length: 21'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 203 ↑ climbing
Ambient PID/FID Reading (ppm): ~~0.3~~ 1.0

PURGE DATA

Pump Type: Hand Pump - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	1416	40.97	Brown	mild H2O	7.04	1.320	20.3	2.54	18,000 +	20.9
2	300	1417		"	"	6.86	1.284	-15.9	1.92	8,000 +	21.0
3	600	1418		"	"	6.81	1.272	-29.8	1.84	8,000 +	21.1
4	900	1419		"	"	6.77	1.261	-43.2	2.01	12,000 +	20.0
5	1200	1420		"	"	6.74	1.277	-53.1	1.96	11,000 +	19.1
6	1500	1421		"	"	6.73	1.280	-59.7	1.91	9000 +	19.1
7	1800	1422	↓	"	"	6.72	1.287	-64.7	1.86	9000 +	19.2
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1416
Stop Time: 1422
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 / min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19

SAMPLING DATA

Sample Date: 7-12-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1425
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1800 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

CONFIDENTIAL SETTLEMENT COMMUNICATION

RESAMPLE

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur, J. Carrino
DATE: 7-15-19
EVENT: Rox PW Investigation
WEATHER: Cloudy, mild
MONITORING WELL ID: PD-12
SAMPLE ID: PD-12-GWP-70-071519

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 71
Depth to Water (ft btoc): 51.35 rising BTOPR
Depth to LNAPL (ft btoc): –
Depth to Top of Screen (ft btoc): 69
Screen Length: 21

Water Column Height (do not include LNAPL, ft): –
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = –
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = –
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = –

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): 960 ml
Wellbore PID/FID Reading (ppm): 0.7
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: HAND Pump - Footvalve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0901	51.35	Brown	mild HD	7.14	1.096	-100.2	1.99	5,000 +	20.2
2	300	0902	"	"	"	7.05	1.076	-101.4	1.51	6,000 +	19.0
3	600	0903	"	"	"	7.02	1.089	-98.8	1.34	4,000 +	18.8
4	900	0904	"	"	"	7.00	1.093	-95.8	1.39	3,000 +	18.7
5	1200	0905	"	"	"	7.00	1.086	-94.6	1.43	2,000 +	18.5
6	1500	0906	"	"	"	7.00	1.094	-94.6	1.32	2,000 +	18.6
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0901
Stop Time: 0906
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19 (Pine)

SAMPLING DATA

Sample Date: 7-15-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0910
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX - SVOC, PAH
QA/QC Samples: –

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod ? BTOPR

CONFIDENTIAL SETTLEMENT COMMUNICATION

RESAMPLE

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
DATE: 7-15-19
MONITORING WELL ID: PD-12
PROJECT NUMBER: 60592794.1.24.060
EVENT: ROX PW Investigation
SAMPLE ID: PD-12-GWP-73-071519
FIELD PERSONNEL: P. Lafleur, J Carrino
WEATHER: cloudy, mild

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 75
Depth to Water (ft btoc): 43.6 rising BTOPR
Depth to LNAPL (ft btoc): –
Depth to Top of Screen (ft btoc): 73'
Screen Length: 2"

Water Column Height (do not include LNAPL, ft): –
If Depth to Top of Screen is > Depth to Water, Place Pump at Depth to Top of Screen + 5 feet = –
If Depth to Top of Screen is < Depth to Water, Place Pump at Depth to Water + 5 feet = –
If Water Column Height is < 10 feet, Place Pump at Depth to Water + (0.5 * Water Column Height) = –

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): 960 ml
Wellbore PID/FID Reading (ppm): 5.2
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump w/ foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
						STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%
1	0	1013	43.6	Brown	earthy	7.27	1.058	-123.2	2.18	5,000+	18.8
2	300	1014	"	"	mild HO	7.20	1.034	-129.3	1.53	8,000+	18.7
3	600	1015	"	"	"	7.10	1.054	-123.3	1.50	7,000+	18.6
4	900	1016	"	"	"	7.09	1.058	-119.4	1.80	5,000+	18.6
5	1200	1017	"	"	"	7.07	1.054	-111.2	1.76	3000+	18.5
6	1500	1018	"	"	"	7.06	1.045	-108.2	1.73	2000+	18.4
7	1800	1019	"	"	"	7.06	1.056	-107.4	1.69	2000+	18.4
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1013
Stop Time: ~~1018~~ 1019
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 ml
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-12-19 (Pine)

SAMPLING DATA

Sample Date: 7-15-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1020
Sample Flow Rate (mL/min): 300 ml
Total Purge Volume (mL): 1800 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: –

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod : BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Raggatt
DATE: 7/8/19
EVENT: PW - Investigation
WEATHER: Clear - 81°F
MONITORING WELL ID: PD-13-GWP
SAMPLE ID: PD-13-GWP-40-07082019

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~41' BGS
Depth to Water (ft btoc): ~34.55' BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~39' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	~300	1115	—	Brown	Slight	6.17	1.450	139.2	3.57	>1000	22.0
2	~600	1116	↓	↓	↓	6.45	1.365	112.5	1.69	↓	20.8
3	~900	1117	↓	↓	↓	6.50	1.335	101.3	1.63	↓	20.6
4	~1200	1118	↓	↓	↓	6.51	1.333	94.0	1.61	↓	20.5
5	~1500	1119	↓	↓	↓	6.52	1.340	87.16	1.60	↓	20.2
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1114
Stop Time: ~~BAH HRS~~ 1119

Elapsed Time (min): ~~BAH Hmin~~ 5
Average Purge Rate (mL/min): ~300

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/8/19

SAMPLING DATA

Sample Date: 7/8/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR

Sample Time: 1120
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~1500

Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Ragatz
DATE: 7/8/19
EVENT: PW Invest. - CPT/GWS
WEATHER: Clear - 82° F
MONITORING WELL ID: PD-13-GWP
SAMPLE ID: PD-13-GWP-46-070819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~47' BGS
Depth to Water (ft btoc): ~42.37' BTOPR
Depth to LNAPL (ft btoc):
Depth to Top of Screen (ft btoc): ~45' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): ~960
Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Watura-Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
						STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%
1	~300	1205	—	Grey	Moderate	7.02	1.269	97.1	3.91	>1000	23.3
2	~600	1206				6.92	1.275	84.1	3.69		22.8
3	~900	1207				6.82	1.288	75.5	3.23		22.2
4	~1200	1208				6.81	1.291	70.9	3.66		22.0
5	~1500	1209				6.81	1.282	64.9	4.61		21.6
6	~1800	1210				6.79	1.267	56.7	4.77		21.6
7	~2100	1211				6.76	1.254	48.1	4.82		21.8
8	~2400	1212				6.74	1.251	41.4	4.79		22.0
9											
10											
11											
12											
13											
14											
15											

Start Time: 1204
Stop Time: BAH ~~1220~~ 1212
Elapsed Time (min): BAH ~~16 min~~ 8
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/8/19

SAMPLING DATA

Sample Date: 7/8/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1215
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): 2400
Lab Analysis: BTEX/SVOCs/PAHs/MNA
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Roegner
DATE: 7/8/19
EVENT: PW Invest. CPT/GWS
WEATHER: Clear - 96°F
MONITORING WELL ID: PD-13-GWP
SAMPLE ID: PD-13-GWP-50-070819

INITIAL DATA

Well Diameter (in): 4/1/16"
Total Well Depth (ft btoc): ~51' BGS
Depth to Water (ft btoc): ~46.81' BTOPR
Depth to LNAPL (ft btoc):
Depth to Top of Screen (ft btoc): ~49' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet =
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet =
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) =

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~960
Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Waterra - Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)		+/-0.2	+/-5% or +/-2 uS/cm		+/-0.2		+/-20	+/-0.2 or +/-10%		<10 or +/-10%
1	~320	1406	—	Grey	Slight	7.55	1.171	90.5	3.71	>1000	23.7
2	~640	1407				6.99	1.168	69.2	2.41		22.3
3	~960	1408				6.91	1.157	49.0	1.76		21.8
4	~1280	1409				6.87	1.149	38.4	1.64		21.4
5	~1600	1410				6.86	1.148	29.9	1.58		21.2
6	~1920	1411				6.84	1.147	23.0	1.56		21.1
7	~2100	1412				6.83	1.146	20.1	1.54		21.0
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1405
Stop Time: ~~1420~~ 1412
Elapsed Time (min): ~~20~~ 7 min
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/8/19

SAMPLING DATA

Sample Date: 7/8/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1415
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~2100
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples:

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: J. Ragonte
DATE: 7/8/19
EVENT: PW-Invest-CPT/GWS
WEATHER: Clear-87°F
MONITORING WELL ID: PD-13-GWP
SAMPLE ID: PD-13-GWP-59-070819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): ~60' BGS
Depth to Water (ft btoc): 49.62 BTOPR
Depth to LNAPL (ft btoc): —
Depth to Top of Screen (ft btoc): ~58' BGS
Screen Length: ~2.00'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): ~960
Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA
Pump Type: Waterra-Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
						STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%
1	~300	1501	—	Grey	Slight	7.31	1.125	77.6	3.48	>1000	22.5
2	~600	1502	↓	Brown	↓	6.99	1.105	46.2	1.59	↓	20.3
3	~900	1503	↓	↓	↓	6.92	1.110	35.4	1.55	↓	20.0
4	~1200	1504	↓	↓	↓	6.88	1.117	26.0	1.52	↓	20.0
5	~1500	1505	↓	↓	↓	6.87	1.118	18.5	1.51	↓	20.0
6	~1800	1506	↓	↓	↓	6.86	1.120	15.0	1.50	↓	19.9
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1500
Stop Time: BAH ~~1515~~ 1506
Elapsed Time (min): BAH ~~~15min~~ 6
Average Purge Rate (mL/min): ~300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/8/19

SAMPLING DATA

Sample Date: 7/8/19
Sample Method: Low-Flow
VOA Vials, No Headspace (Initials): JR
Sample Time: 1510
Sample Flow Rate (mL/min): ~300
Total Purge Volume (mL): ~1800
Lab Analysis: BTEX/SVOCs/PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR - Below Top Of Probe Rod.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: Sam Fisher / J Carrino
DATE: 7-9-19
EVENT: Rox PW Invest.
WEATHER: Sunny 85°
MONITORING WELL ID: PD-13
SAMPLE ID: PD-13-GWP-65-070913

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (~~ft btoc~~): ~66' bgs
Depth to Water (ft btoc): 31.14 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft ~~btoc~~): ~64' bgs
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~320
Minimum Purge Volume (mL) = (3 x Flow Through Cell Volume): ~960
Wellbore PID/FID Reading (ppm): 0.1
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand - Foot valve

STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0903	31.14	Cloudy brown	NO	6.56	1.011	100.0	2.12	22062	18.4
2	300	0907	"	"	"	6.72	0.989	90.1	1.88	23252	18.2
3	600	0908	"	"	"	6.71	0.981	79.0	1.70	25873	18.6
4	900	0909	"	"	"	6.70	0.980	71.3	1.63	17670	18.5
5	1200	0910	"	"	"	6.70	0.979	69.2	1.62	15041	18.5
6	1500	0911	"	"	"	6.70	0.980	67.0	1.61	12548	18.5
7											
8											
9											
10	Samuel										
11											
12											
13	Fisher										
14											
15											

Start Time: 0906
Stop Time: 0911
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-9-19

SAMPLING DATA

Sample Date: 7-9-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): SF
Sample Time: 0915
Sample Flow Rate (mL/min): 300/min
Total Purge Volume (mL): 1500
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: S. Fisher
DATE: 7-9-19
EVENT: ROX PW Ewn.
WEATHER: Sunny 90°F
MONITORING WELL ID: PD-13
SAMPLE ID: PD-13-GWP-20-070913

INITIAL DATA

Well Diameter (in): 4/16"
Total Well Depth (~~ftbtoc~~): ~ 71 Ft bgs
Depth to Water (ft btoc): 31.62 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft ~~btoc~~): ~~71~~ 69 bgs
Screen Length: 2 ft exposed

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand - Footvalve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1012	31.62	cloudy brown	none	7.13	1.040	115.3	1.90	17375	19.8
2	300	1013	"	"	"	6.93	1.064	105.7	1.66	24391	19.6
3	600	1014	"	"	"	6.84	1.057	99.1	1.58	22181	19.5
4	900	1015	"	"	"	6.80	1.057	95.7	1.56	18797	19.5
5	1200	1016	"	"	"	6.78	1.058	91.1	1.54	13834	19.4
6	1500	1017	"	"	"	6.77	1.058	87.8	1.54	11498	19.3
7											
8											
9											
10											
11											
12											
13											
14											
15											

Samuel Fisher

Start Time: 1012
Stop Time: 1017
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-9-19

SAMPLING DATA

Sample Date: 7-9-19
Sample Method: low flow
VOA Vials, No Headspace (Initials): SF
Sample Time: 1020
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 1500
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Red

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: S. Fisher
DATE: 7-9-19
EVENT: Rox PW Inv.
WEATHER: Sunny 90°F
MONITORING WELL ID: PD-13
SAMPLE ID: PD-13-GWP-80-070919

INITIAL DATA

Well Diameter (in): ~~bgs~~ 9/16" SWF
Total Well Depth (~~ft btoc~~): 3[ft - 81 ft ~~SWF~~
Depth to Water (ft btoc): 55.45 BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 79
Screen Length: 2ft exposed

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: Hand - Footvalve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
STABLE: (over 3 readings)			+/-0.2			+/-5% or +/-2 uS/cm		+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1122	55.45	cloudy brown	none	7.30	1.054	111.8	1.88	6503	20.1
2	300	1123	"	"	"	7.13	1.041	104.9	1.71	17960	20.2
3	600	1124	"	"	"	7.03	1.027	98.5	1.59	23876	20.3
4	900	1125	"	"	"	6.97	1.007	91.7	1.54	18691	20.3
5	1200	1126	"	"	"	6.93	0.994	82.6	1.50	23955	20.2
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Samuel Fisher

Start Time: 1122
Stop Time: 1126
Elapsed Time (min): 4
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-9-19

SAMPLING DATA

Sample Date: 7-9-19
Sample Method: low flow
VOA Vials, No Headspace (Initials): SF
Sample Time: 1130
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 1200
Lab Analysis: BTEX SVOC PAH
QA/QC Samples: —

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod: BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-17-19
EVENT: ROX PWI Investigation
WEATHER: Clear, sunny, warm
MONITORING WELL ID: PD-14
SAMPLE ID: PD-14-GWP-40-071719

INITIAL DATA

Well Diameter (in): 3/16
Total Well Depth (ft btoc): 41
Depth to Water (ft btoc): 43.4 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 39
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.2
Ambient PID/FID Reading (ppm): 0.2

PURGE DATA

Pump Type: Hand Pump w/ foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH (STABLE: over 3 readings; +/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	0	0857	43.4	Brown	None	6.51	1.319	120.8	1.64	27000	19.8
2	300	0858	"	"	"	6.57	1.370	98.9	1.40	21000	20.0
3	600	0859	"	"	"	6.56	1.400	93.4	1.34	19000	19.5
4	900	0900	"	"	"	6.57	1.430	86.3	1.31	14000	19.3
5	1200	0901	"	"	"	6.57	1.457	82.3	1.31	16000	19.2
6	1500	0902	"	"	"	6.59	1.450	80.1	1.31	15000	18.9
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0857
Stop Time: 0902
Elapsed Time (min): 5
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-17-19

SAMPLING DATA

Sample Date: 07-17-19
Sample Method: Low flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 0910
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-17-19
EVENT: RAX PW Investigation
WEATHER: clear, Hot 86°
MONITORING WELL ID: PD-14
SAMPLE ID: PD-14-GWP-~~40~~ 45 -071719

INITIAL DATA

Well Diameter (in): 3/16
Total Well Depth (ft btoc): 46
Depth to Water (ft btoc): 47.28 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 44
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 5.1
Ambient PID/FID Reading (ppm): 0.2

PURGE DATA

Pump Type: HAND Pump w/Footvalve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH (STABLE: over 3 readings; +/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	0	1006	47.28	Brown	Mild HC	6.76	1.446	27.1	3.63	29000	20.8
2	300	1007	"	"	"	6.68	1.450	1.2	2.57	27000	19.9
3	600	1008	"	"	"	6.64	1.427	-10.8	2.20	28000	19.9
4	900	1009	"	"	"	6.60	1.414	-20.4	2.36	23000	19.9
5	1200	1010	"	"	"	6.58	1.414	-28.6	2.86	26000	19.8
6	1500	1011	"	"	"	6.58	1.416	-34.0	2.87	24000	14.7
7	1800	1012	"	"	"	6.58	1.416	-36.9	2.79	25000	19.6
8				"							
9											
10											
11											
12											
13											
14											
15											

Start Time: 1006
Stop Time: 1012

Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 mL/min

Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-17-19

SAMPLING DATA

Sample Date: 7-17-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL

Sample Time: 1015
Sample Flow Rate (mL/min): 300 mL/min
Total Purge Volume (mL): 1800

Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Gallen
DATE: 7-17-19
EVENT: Rox Pw Investigation
WEATHER: Hot, Sunny, 86°
MONITORING WELL ID: PD-14
SAMPLE ID: PD-14-GWP-50-071719

INITIAL DATA

Well Diameter (in): 3/16 "
Total Well Depth (ft btoc): 51
Depth to Water (ft btoc): 51.65 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 49'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 667
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: HAND Pump w/foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH (STABLE: over 3 readings; +/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	0	1057	51.65	DK. Brown	Strong HC	6.89	1.457	-1.2	8.49	8,000	21.2
2	300	1058	"	"	"	6.82	1.469	-17.7	15.78	16,000	21.1
3	600	1059	"	"	"	6.75	1.471	-31.5	20.52	18,000	20.6
4	900	1100	"	"	"	6.71	1.462	-40.5	23.08	20,000	20.3
5	1200	1101	"	"	"	6.69	1.471	-45.2	23.46	21,000	20.2
6	1500	1102	"	"	"	6.68	1.465	-48.2	23.11	18,000	20.1
7	1800	1103	"	"	"	6.67	1.461	-49.7	22.22	18,000	20.0
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1057
Stop Time: 1103
Elapsed Time (min): ~~BAD 1110~~ 6 min
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 7-17-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1110
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: Duplicate

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-17-19
EVENT: Box PW Investigation
WEATHER: Sunny - Hot - clear 89°F
MONITORING WELL ID: PD-14
SAMPLE ID: PD-14-GWP-53-071719

INITIAL DATA

Well Diameter (in): 3/16"
Total Well Depth (ft btoc): 54
Depth to Water (ft btoc): 42.45 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 52'
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 1.2
Ambient PID/FID Reading (ppm): 0.7

PURGE DATA

Pump Type: Hand Pump w/foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)		+/-0.2			+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1303	42.45	Brown	strong mild HC	6.60	1.368	-101.1	3.8	2500	21.0
2	300	1304	"	"	"	6.65	1.385	-3.1	1.7	4000	20.8
3	600	1305	"	"	"	6.63	1.355	0.1	1.0	6000	20.3
4	900	1306	"	"	"	6.54	1.317	-113.1	0.9	4000	20.0
5	1200	1307	"	"	"	6.51	1.289	-111.2	0.8	3000	19.8
6	1500	1308	"	"	"	6.49	1.285	-110.5	0.7	5000	20.0
7	1800	1309	"	"	"	6.49	1.280	-111.3	0.7	3002	20.2
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1303
Stop Time: 1309
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-17-19

SAMPLING DATA

Sample Date: 7-17-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1315
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOC, PAH
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL) - screen sat opened over lunch

BTOPR: Below Top of probe rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-17-19
EVENT: Rox PW Investigation
WEATHER: Ptly Cloudy, Hot
MONITORING WELL ID: PD-14
SAMPLE ID: PD-14-GWP-60-071719

INITIAL DATA

Well Diameter (in): 3/16 "
Total Well Depth (ft btoc): 61
Depth to Water (ft btoc): 61.05 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 59
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 151
Ambient PID/FID Reading (ppm): 0.3

PURGE DATA

Pump Type: HAND Pump w/ foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH (STABLE: over 3 readings, +/-0.2)	Specific Cond. (mS/cm) (+/-5% or +/-2 uS/cm)	ORP (mV) (+/-20)	DO (mg/L) (+/-0.2 or +/-10%)	Turbidity (NTUs) (<10 or +/-10%)	Temp (°C)
1	0	1402	61.05	Brown	Strong HC	6.80	1.315	-91.2	5.0	2000	21.4
2	300	1403	"	"	"	6.71	1.333	-94.3	2.8	3,000	21.5
3	600	1404	"	"	"	6.58	1.370	-93.1	5.2	2,000	21.4
4	900	1405	"	"	"	6.52	1.365	-93.1	4.9	2,000	21.5
5	1200	1406	"	"	"	6.49	1.374	-92.2	7.6	2,000	21.1
6	1500	1407	"	"	"	7.10	1.364	-92.2	6.8	2,000	20.7
7	1800	1408	"	"	"	6.90	1.375	-92.2	6.9	2,000	20.6
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1402
Stop Time: 1408
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300 ml/min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-17-19

SAMPLING DATA

Sample Date: 7-17-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1410
Sample Flow Rate (mL/min): 300 ml/min
Total Purge Volume (mL): 1800
Lab Analysis: BTEX, SVOC, PAH, ~~water quality~~
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below Top of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-17-19
EVENT: ROX PW Investigation
WEATHER: sunny, hot
MONITORING WELL ID: PD-14
SAMPLE ID: PD-14-GWP-70-071719

INITIAL DATA

Well Diameter (in): 3/16 "
Total Well Depth (ft btoc): 71
Depth to Water (ft btoc): 54.15 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 69
Screen Length: 2'

Water Column Height (do not include LNAPL, ft): -
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = -
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = -
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = -

Volume of Flow Through Cell (mL): 320 ml
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960 ml

Wellbore PID/FID Reading (ppm): 0.7
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump w/ foot valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
	STABLE: (over 3 readings)					+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%	
1	0	1415	54.15	Brown	slight HC	7.17	1.193	-118.0	12.3	1400	21.0
2	300	1416	"	"	"	7.05	1.119	-131.0	5.2	1400	20.6
3	600	1417	"	"	"	6.90	1.120	-120.0	3.3	1500	20.3
4	900	1418	"	"	"	6.80	1.122	-114.8	4.0	2000	20.2
5	1200	1419	"	"	"	6.75	1.125	-110.4	3.0	2400	20.0
6	1500	1420	"	"	"	6.71	1.130	-107.2	3.8	2100	20.0
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 1415
Stop Time: 1420
Elapsed Time (min): 5 min
Average Purge Rate (mL/min): 300 ml / min
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7-17-19

SAMPLING DATA

Sample Date: 7-17-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): PL
Sample Time: 1530
Sample Flow Rate (mL/min): 300 ml / min
Total Purge Volume (mL): 1500 ml
Lab Analysis: BTEX, SVOC, PAH, water quality
QA/QC Samples: -

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

Below Top of Probe Rod: BTOPR

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794.1.24.060
FIELD PERSONNEL: B. Howell
DATE: 7/18/19
EVENT: ROX PW Investigation
WEATHER: 85° Sunny
MONITORING WELL ID: PD-14
SAMPLE ID: ~~PD-14-78.5-071819~~ PD-14-GWP-78.5-071819

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 79.5'
Depth to Water (ft btoc): 60.5' BTOPR
Depth to LNAPL (ft btoc): NE
Depth to Top of Screen (ft btoc): 77.5'
Screen Length: 2

Water Column Height (do not include LNAPL, ft): —
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = —
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = —
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = —

Volume of Flow Through Cell (mL): ~~960~~ ≈320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): ~ 960

Wellbore PID/FID Reading (ppm): 2.0
Ambient PID/FID Reading (ppm): 0.0

PURGE DATA

Pump Type: HAND Pump - w/foot valve

	STABLE: (over 3 readings)	+/-0.2	+/-5% or +/-2 uS/cm	+/-20	+/-0.2 or +/-10%	<10 or +/-10%

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	pH	Specific Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
1	0	0920	60.5	Brown	Slight	6.88	1.139	+106.9	0.39	>1000	19.6
2	300	0921	"			6.77	BH 1.127	-105.8	0.32	>1000	19.4
3	600	0922	"			6.71	1.120	-105.5	0.30	>1000	19.60
4	900	0923	"			6.69	1.119	-106.6	0.24	>1000	19.4
5	1200	0924	"			6.69	1.117	-107.7	0.20	>1000	19.5
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Start Time: 0920
Stop Time: 0924
Elapsed Time (min): BH ~~0930~~ 4
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI - 18L101937
Date Calibrated: 7/18/19

SAMPLING DATA

Sample Date: 7/18/19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials): BH
Sample Time: 0930
Sample Flow Rate (mL/min): 300
Total Purge Volume (mL): 1200
Lab Analysis: BTEX, PAH, SVOCs
QA/QC Samples: EB upon completion of hole @ 0950

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (725 mL) - pH_ORP (16 mL) - RDO (56 mL) - Cond (13 mL) - Turb (40 mL)

BTOPR: Below TOP of Probe Rod

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works
PROJECT NUMBER: 60592794 - 1.24.060
FIELD PERSONNEL: P. Lafleur
DATE: 7-19-19
EVENT: Roxana Public Works Investigation
WEATHER: Hot, sunny, 95°F
MONITORING WELL ID: PD-17-GWP
SAMPLE ID: PD-17-GWP-45-071919

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 46
Depth to Water (ft btoc): 35.81 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 44
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 2.3
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color (STABLE: over 3 readings)	Odor	Temp (°C) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	1408	35.81	~~Brown~~ dark Gray	None	21.5	3.09	1.947 mS/cm uS/cm	7.14	-135.4	2900
2	300	1409	"	"	"	21.1	2.74	1.960 mS/cm uS/cm	7.05	-138.3	4000
3	600	1410	"	"	"	21.3	2.62	1.968 mS/cm uS/cm	7.01	-138.9	4000
4	900	1411	"	"	"	21.4	2.54	1.970 mS/cm uS/cm	6.97	-140.6	4000
5	1200	1412	"	"	"	20.8	2.54	1.989 mS/cm uS/cm	6.95	-140.4	6000
6	1500	1413	"	"	"	20.4	2.55	1.992 mS/cm uS/cm	6.93	-140.5	6000
7	1800	1414	"	"	"	20.4	2.54	1.996 mS/cm uS/cm	6.91	-140.5	6000
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 1408
Stop Time: 1414
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS -- 18L101937
Date Calibrated:

SAMPLING DATA

Sample Date: 7-19-19
Sample Time: 1420
Sample Method: Low Flow
Sample Flow Rate (mL/min): 300
VOA Vials, No Headspace (Initials): PL
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: - FB

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Public Works | PROJECT NUMBER: 60592794 - 1.24.060 | FIELD PERSONNEL: P. Lafleur
DATE: 7-22-19 | EVENT: Roxana Public Works Investigation | WEATHER: overcast, raining
MONITORING WELL ID: PD-17-GWP | SAMPLE ID: PD-17-GWP-50-072219

INITIAL DATA

Well Diameter (in): 9/16"
Total Well Depth (ft btoc): 51
Depth to Water (ft btoc): 50.60 BTOPR
Depth to LNAPL (ft btoc): -
Depth to Top of Screen (ft btoc): 49
Screen Length: 2 ft

Water Column Height (do not include LNAPL, ft): NA
If Depth to Top of Screen is > Depth to Water, Place Pump at
Depth to Top of Screen + 5 feet = NA
If Depth to Top of Screen is < Depth to Water, Place Pump at
Depth to Water + 5 feet = NA
If Water Column Height is < 10 feet, Place Pump at
Depth to Water + (0.5 * Water Column Height) = NA

Volume of Flow Through Cell (mL): 320
Minimum Purge Volume (mL) =
(3 x Flow Through Cell Volume): 960

Wellbore PID/FID Reading (ppm): 0.2
Ambient PID/FID Reading (ppm): 0.1

PURGE DATA

Pump Type: Hand Pump with Foot Valve

#	Purge Volume (mL)	Time	Depth to Water (ft btoc)	Color	Odor	Temp (°C) STABLE: (over 3 readings) Monitor Temp.	DO (mg/L) +/-0.2 or +/-10%	Specific Cond. +/-5% or mS/cm uS/cm	pH +/-0.2	ORP (mV) +/-20	Turbidity (NTUs) Monitor Turb. < 50
1	0	0950	50.60	grey	strong HC	20.1	3.31	1.502 mS/cm uS/cm	6.78	-53.4	2800
2	300	0951	"	"	"	20.2	3.80	1.539 mS/cm uS/cm	6.70	-83.5	1400
3	600	0952	"	"	"	20.1	4.08	1.545 mS/cm uS/cm	6.66	-91.0	1200
4	900	0953	"	"	"	20.1	4.09	1.548 mS/cm uS/cm	6.66	-95.7	1100
5	1200	0954	"	"	"	20.3	4.15	1.545 mS/cm uS/cm	6.65	-98.7	1600
6	1500	0955	"	"	"	20.4	4.21	1.538 mS/cm uS/cm	6.64	-99.3	2000
7	1800	0956	"	"	"	20.1	4.22	1.533 mS/cm uS/cm	6.63	-100.5	1700
8								mS/cm uS/cm			
9								mS/cm uS/cm			
10								mS/cm uS/cm			
11								mS/cm uS/cm			
12								mS/cm uS/cm			
13								mS/cm uS/cm			
14								mS/cm uS/cm			
15								mS/cm uS/cm			

Start Time: 0950
Stop Time: 0956
Elapsed Time (min): 6 min
Average Purge Rate (mL/min): 300
Water Quality Meter ID & SN: YSI Pro DSS – 18L101937
Date Calibrated: 7.22.19

SAMPLING DATA

Sample Date: 7-22-19
Sample Method: Low Flow
VOA Vials, No Headspace (Initials):
Sample Time: 1000
Sample Flow Rate (mL/min): 300
Lab Analysis: BTEX, SVOCs, PAHs
QA/QC Samples: PD-17-GWP-50-072219-DUP
EB @

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
BTOPR: Below Top of Probe Rod

Total Purge Volume (mL):

Appendix E – Laboratory Data Review and Reports

CROSS REFERENCE

SDG	Sample ID
19060677	PD-10-SB-19-061119
19060781	PD-5-CPT-061219-EB
	PD-10-SB-46-061219
19060884	PD-5-SB-17-061319
19060980	PD-5-SB-62-061419
	PD-5-SB-061419-EB
	PD-5-SB-43-061419
	PD-5-SB-53-061419
19061180R1	PD-1-SB-53-061819
	PD-1-SB-55-061819
19061444	PD-4-SB-35-062119
400-172155/R1	PD-4-SB-41-062419
	PD-4-SB-53-062419
400-172224/R1	PD-8-SB-37-062519
	PD-8-SB-37-062519-Dup
	PD-8-SB-40-062519
400-172317/R1	PD-8-SB-51-062619
	PD-8-SB-62-062619
400-172420/R1	PD-9-SB-41-062819
	PD-9-SB-43-062819
	PD-9-SB-54-062819
	PD-9-SB-54-062819-DUP
	PD-9-SB-EB
400-172542/R1	PD-11-SB-37-070119
400-172672/R1	PD-11-SB-45-070219
	PD-11-SB-57-070219
	PD-11-SB-61-070219
400-172763/R1	PD-12-SB-52-070819
	PD-12-SB-55-070819
	PD-12-SB-59-070819
400-172848/R1	PD-2-SB-50-070919
	PD-2-SB-52-070919
	PD-2-SB-60-070919

CROSS REFERENCE

	PD-2-SB-60-070919-DUP
400-173042/R1	PD-6-SB-45-071119
	PD-6-SB-46-071119
	PD-6-SB-51-071119
	PD-6-SB-54-071119
400-173141/R1	PD-6-SB-071219-EB
	PD-6-SB-63-071219
400-173189/R1	PD-17-SB-45-071519
	PD-17-SB-55-071519
400-173270/R1	PD-7-SB-27-071619
	PD-17-SB-27-071219-EB
400-173406/R1	PD-7-SB-43-071819
	PD-7-SB-51-071819
	PD-7-SB-51-071819-DUP
400-173530/R1	PD-14-SB-45-072219
	PD-14-SB-49-072219
	PD-14-SB-49-072219-DUP
	PD-14-SB-55-072219
19061617	PD-1-GWP-34-062519
	PD-1-GWP-44-062519
	PD-1-GWP-53-062519
19061748	PD-1-GWP-60-062619
	PD-1-GWP-69-062619
	PD-1-GWP-75-062619
19061853	PD-1-GWP-80--062719
	PD-5-GWP-42-062719
	PD-5-GWP-42-062719-DUP
	PD-5-GWP-48-062719
	PD-5-GWP-54-062719
	PD-5-GWP-62-062719
	PD-5-GWP-70-062719
400-172422/R1	PD-5-GWP-80-062819
	PD-8-GWP-35-062819
	PD-8-GWP-41-062819
	PD-8-GWP-46-062819
	PD-8-GWP-52-062819

CROSS REFERENCE

400-172541/R1	PD-8-GWP-57-070119
	PD-8-GWP-62-070119
	PD-8-GWP-70-070119
	PD-8-GWP-80-070119
	PD-8-GWP-35-070119
400-172761/R2	PD-13-GWP-40-070819
	PD-13-GWP-46-070819
	PD-13-GWP-50-070819
	PD-13-GWP-59-070819
400-172850/R1	PD-9-GWP-35-070919
	PD-9-GWP-40-070919
	PD-9-GWP-45-070919
	PD-13-GWP-65-070919
	PD-13-GWP-70-070919
	PD-13-GWP-80-070919
400-172948/R1	PD-9-GWP-54-071019
	PD-9-GWP-60-071019
	PD-9-GWP-70-071019
	PD-9-GWP-70-071019-DUP
	PD-9-GWP-80-071019
	PD-9-GWP-80-071019-EB
	PD-2-SB-071019-EB
	PD-11-GWP-35-071019
400-173045/R1	PD-11-GWP-37-071119
	PD-11-GWP-43-071119
	PD-11-GWP-43-071119-DUP
	PD-11-GWP-50-071119
	PD-11-GWP-56-071119
	PD-11-GWP-60-071119
400-173138/R1	PD-11-GWP-66.7-071219
	PD-12-GWP-45-071219
	PD-12-GWP-50-071219
	PD-12-GWP-55-071219
	PD-12-GWP-60-071219
400-173192/R1	PD-12-GWP-70-071519
	PD-12-GWP-73-071519
	PD-4-GWP-35-071519
	PD-4-GWP-41-071519
	PD-4-GWP-43-071519
	PD-4-GWP-50-071519

CROSS REFERENCE

400-173269/R1	PD-4-GWP-53-071619
	PD-4-GWP-60-071619
	PD-4-GWP-70-071619
	PD-4-GWP-70-071619-DUP
	PD-4-GWP-80-071619
400-173355/R1	PD-14-GWP-40-071719
	PD-14-GWP-45-071719
	PD-14-GWP-50-071719
	PD-14-GWP-50-071719-DUP
	PD-14-GWP-53-071719
	PD-14-GWP-60-071719
	PD-14-GWP-70-071719
400-173405/R1	PD-14-GWP-78.5-071819
	PD-14-GWP-78.5-071819-EB
	PD-2-GWP-44-071819
	PD-2-GWP-50-071819
	PD-2-GWP-50-071819-DUP
	PD-2-GWP-50-071819-EB
	PD-2-GWP-59-071819
400-173468/R1	PD-2-GWP-65-071919
	PD-2-GWP-70-071919
	PD-2-GWP-74.5-071919
	PD-2-GWP-74.5-071919-EB
	PD-17-GWP-45-071919
	PD-17-GWP-45-071919-EB
400-173526/R1	PD-17-GWP-50-072219
	PD-17-GWP-50-072219-DUP
	PD-17-GWP-50-072219-EB
	PD-7-GWP-45-072219
	PD-7-GWP-50-072219
	PD-7-GWP-50-072219-DUP
	PD-7-GWP-50-072219-EB
400-173575/R1	PD-7-GWP-55-072319
	PD-7-GWP-55-072319-EB
	PD-3-GWP-45-072319
	PD-3-GWP-50-072319
	PD-3-GWP-50-072319-DUP
	PD-3-GWP-55-072319
	PD-3-GWP-60-072319
	PD-3-GWP-65-072319
	PD-3-GWP-71-072319
	PD-3-GWP-50-072319-EB

CROSS REFERENCE

500-165969	PD-8-GWP-35-062819
500-166405	PD-13-GWP-46-070819
500-166811	PD-4-GWP-60-071619
500-166907	PD-14-GWP-70-071719
500-166958	PD-2-GWP-50-071719
500-167098	PD-7-GWP-45-072219

Roxana Predesign Soil Data Review

Laboratory SDG: 19060677

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/13/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification
PD-10-SB-19-061119

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

No problems were indicated in the laboratory case narrative or cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Sample PD-10-SB-19-061119 method 8270C SVOCs were analyzed at a 100X dilution due to matrix interference; SVOC results were reported as non-detect at elevated reporting limits.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Teklab, Inc.
Environmental Laboratory

http://www.teklabinc.com/

June 13, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19060677

Dear Elizabeth Kunkel:

TEKLAB, INC received 1 sample on 6/11/2019 4:52:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 6/13/19

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060677
Report Date: 13-Jun-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Accreditations	5
Laboratory Results	6
Quality Control Results	10
Receiving Check List	22
Chain of Custody	Appended

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060677
Client Project: PreDesign Invest. PW
Report Date: 13-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060677
Report Date: 13-Jun-2019

Cooler Receipt Temp: 11.8 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	EHurley@teklabinc.com

Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
Fax	(217) 698-1005
Email	KKlostermann@teklabinc.com

Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060677
Report Date: 13-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2019	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2019	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060677
Client Project: PreDesign Invest. PW
Report Date: 13-Jun-2019
Lab ID: 19060677-001
Client Sample ID: PD-10-SB-19-061119
Matrix: SOLID
Collection Date: 06/11/2019 13:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		4.0	%	1	06/11/2019 18:21	R263017
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	8.78		ND	mg/Kg-dry	25	06/12/2019 14:51	154146
1-Methylnaphthalene	*	0.0878		13.2	mg/Kg-dry	25	06/12/2019 14:51	154146
2-Methylnaphthalene	NELAP	0.0878		8.45	mg/Kg-dry	25	06/12/2019 14:51	154146
Acenaphthene	NELAP	0.0878		4.75	mg/Kg-dry	25	06/12/2019 14:51	154146
Acenaphthylene	NELAP	0.0878		0.551	mg/Kg-dry	25	06/12/2019 14:51	154146
Anthracene	NELAP	0.0878		6.75	mg/Kg-dry	25	06/12/2019 14:51	154146
Benzo(a)anthracene	NELAP	0.258		7.56	mg/Kg-dry	25	06/12/2019 14:51	154146
Benzo(a)pyrene	NELAP	0.351		8.57	mg/Kg-dry	100	06/12/2019 17:01	154146
Benzo(b)fluoranthene	NELAP	0.351		3.65	mg/Kg-dry	100	06/12/2019 17:01	154146
Benzo(g,h,i)perylene	NELAP	0.351		1.07	mg/Kg-dry	100	06/12/2019 17:01	154146
Benzo(k)fluoranthene	NELAP	0.351		0.448	mg/Kg-dry	100	06/12/2019 17:01	154146
Chrysene	NELAP	0.0878		10.2	mg/Kg-dry	25	06/12/2019 14:51	154146
Dibenzo(a,h)anthracene	NELAP	0.351		0.688	mg/Kg-dry	100	06/12/2019 17:01	154146
Fluoranthene	NELAP	0.0878		4.83	mg/Kg-dry	25	06/12/2019 14:51	154146
Fluorene	NELAP	0.0878		8.01	mg/Kg-dry	25	06/12/2019 14:51	154146
Indeno(1,2,3-cd)pyrene	NELAP	0.351		0.551	mg/Kg-dry	100	06/12/2019 17:01	154146
Phenanthrene	NELAP	0.351		97.9	mg/Kg-dry	100	06/12/2019 17:01	154146
Pyrene	NELAP	0.0878		35.3	mg/Kg-dry	25	06/12/2019 14:51	154146
Surr: 2-Fluorobiphenyl	*	8.85-90.5		57.9	%REC	25	06/12/2019 14:51	154146
Surr: Nitrobenzene-d5	*	5-102		46.9	%REC	25	06/12/2019 14:51	154146
Surr: p-Terphenyl-d14	*	18.4-103		88.8	%REC	25	06/12/2019 14:51	154146
Elevated reporting limit due to sample extract composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2,4,6-Trichlorophenol	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2,4-Dichlorophenol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2,4-Dimethylphenol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2,4-Dinitrophenol	NELAP	103		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2,4-Dinitrotoluene	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2,6-Dinitrotoluene	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2-Chloronaphthalene	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2-Chlorophenol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2-Nitroaniline	NELAP	103		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
2-Nitrophenol	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
3,3'-Dichlorobenzidine	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
3-Nitroaniline	NELAP	103		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4,6-Dinitro-2-methylphenol	NELAP	103		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4-Bromophenyl phenyl ether	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4-Chloro-3-methylphenol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4-Chloroaniline	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4-Chlorophenyl phenyl ether	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4-Nitroaniline	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
4-Nitrophenol	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Aniline	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Azobenzene	*	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125

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Laboratory Results

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Client: AECOM
Work Order: 19060677
Client Project: PreDesign Invest. PW
Report Date: 13-Jun-2019
Lab ID: 19060677-001
Client Sample ID: PD-10-SB-19-061119
Matrix: SOLID
Collection Date: 06/11/2019 13:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	155		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Benzyl alcohol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Bis(2-chloroethoxy)methane	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Bis(2-chloroethyl)ether	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Bis(2-chloroisopropyl)ether	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Bis(2-ethylhexyl)phthalate	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Butyl benzyl phthalate	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Dibenzofuran	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Diethyl phthalate	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Dimethyl phthalate	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Di-n-butyl phthalate	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Di-n-octyl phthalate	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Hexachlorobenzene	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Hexachlorocyclopentadiene	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Hexachloroethane	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Isophorone	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
m,p-Cresol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Nitrobenzene	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
N-Nitrosodimethylamine	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
N-Nitroso-di-n-propylamine	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
N-Nitrosodiphenylamine	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
o-Cresol	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Pentachlorophenol	NELAP	207		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Phenol	NELAP	36.1		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Pyridine	NELAP	51.6		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Quinoline	*	20.7		ND	mg/Kg-dry	100	06/12/2019 11:30	154125
Surr: 2,4,6-Tribromophenol	*	41.6-114	S	27.9	%REC	100	06/12/2019 11:30	154125
Surr: 2-Fluorobiphenyl	*	29.3-105		83.8	%REC	100	06/12/2019 11:30	154125
Surr: 2-Fluorophenol	*	35.8-97.2	S	16.0	%REC	100	06/12/2019 11:30	154125
Surr: Nitrobenzene-d5	*	36.2-95.2		43.9	%REC	100	06/12/2019 11:30	154125
Surr: Phenol-d5	*	38.8-103		55.9	%REC	100	06/12/2019 11:30	154125
Surr: p-Terphenyl-d14	*	43.2-116	S	151.7	%REC	100	06/12/2019 11:30	154125

Surrogate recovery is outside control limits due to sample dilution.
Elevated reporting limit due to sample extract composition.

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,1,1-Trichloroethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,1,2,2-Tetrachloroethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,1,2-Trichloroethane	NELAP	127		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,1-Dichloroethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,1-Dichloroethene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,1-Dichloropropene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2,3-Trichlorobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2,3-Trichloropropane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2,4-Trichlorobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2,4-Trimethylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2-Dibromo-3-chloropropane	NELAP	127		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192

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Lab ID: 19060677-001
Matrix: SOLID

Work Order: 19060677
Report Date: 13-Jun-2019
Client Sample ID: PD-10-SB-19-061119
Collection Date: 06/11/2019 13:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dibromoethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2-Dichlorobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2-Dichloroethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,2-Dichloropropane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,3,5-Trimethylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,3-Dichlorobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,3-Dichloropropane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
1,4-Dichlorobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
2,2-Dichloropropane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
2-Butanone	NELAP	634		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
2-Chloroethyl vinyl ether	*	127		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
2-Chlorotoluene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
2-Hexanone	NELAP	634		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
4-Chlorotoluene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
4-Methyl-2-pentanone	NELAP	634		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Acetone	NELAP	634		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Acrolein	NELAP	1270		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Acrylonitrile	NELAP	127		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Benzene	NELAP	25.4		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Bromobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Bromochloromethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Bromodichloromethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Bromoform	NELAP	127		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Bromomethane	NELAP	254		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Carbon disulfide	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Carbon tetrachloride	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Chlorobenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Chloroethane	NELAP	254		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Chloroform	NELAP	51	J	13	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Chloromethane	NELAP	254		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
cis-1,2-Dichloroethene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
cis-1,3-Dichloropropene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Dibromochloromethane	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Dichlorodifluoromethane	NELAP	254		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Ethyl methacrylate	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Ethylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Hexachlorobutadiene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Isopropylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
m,p-Xylenes	NELAP	101		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Methyl tert-butyl ether	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Methylene chloride	NELAP	254		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Naphthalene	NELAP	127		3220	µg/Kg-dry	12.5	06/12/2019 14:39	154192
n-Butylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
n-Propylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
o-Xylene	NELAP	101		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
p-Isopropyltoluene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
sec-Butylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192

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Client: AECOM
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Collection Date: 06/11/2019 13:41

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Styrene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
tert-Butylbenzene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Tetrachloroethene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Toluene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
trans-1,2-Dichloroethene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
trans-1,3-Dichloropropene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Trichloroethene	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Trichlorofluoromethane	NELAP	127		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Vinyl acetate	NELAP	1270		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Vinyl chloride	NELAP	50.7		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Xylenes, Total	NELAP	203		ND	µg/Kg-dry	12.5	06/12/2019 14:39	154192
Surr: 1,2-Dichloroethane-d4	*	74-124		95.6	%REC	12.5	06/12/2019 14:39	154192
Surr: 4-Bromofluorobenzene	*	79.4-123		121.8	%REC	12.5	06/12/2019 14:39	154192
Surr: Dibromofluoromethane	*	89.2-112		94.2	%REC	12.5	06/12/2019 14:39	154192
Surr: Toluene-d8	*	85-115		105.5	%REC	12.5	06/12/2019 14:39	154192

Elevated reporting limit due to matrix interference.

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060677

Report Date: 13-Jun-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R263017 **SampType:** LCS Units **%**
SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/11/2019

Batch R263017 **SampType:** LCSQC Units **%**
SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/11/2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154125 **SampType:** MBLK Units **%REC**
SampID: MBLK-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.518**	0.8350		62.0	22.4	112	06/11/2019
Surr: p-Terphenyl-d14			**0.740**	0.8350		88.7	51.1	117	06/11/2019

Batch 154125 **SampType:** LCS Units **%REC**
SampID: LCS-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.656**	0.8350		78.6	22.4	112	06/11/2019
Surr: p-Terphenyl-d14			**0.726**	0.8350		86.9	51.1	117	06/11/2019

Batch 154125 **SampType:** LCSG Units **%REC**
SampID: LCSDRO-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.608**	0.8350		72.9	22.4	112	06/11/2019
Surr: p-Terphenyl-d14			**0.786**	0.8350		94.1	51.1	117	06/11/2019

Batch 154125 **SampType:** MS Units **%REC**
SampID: 19060290-012AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.712**	1.054		67.6	20.6	99	06/11/2019
Surr: p-Terphenyl-d14			**0.923**	1.054		87.5	28.1	111	06/11/2019

Batch 154125 **SampType:** MSD Units **%REC** RPD Limit **0**
SampID: 19060290-012AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: Nitrobenzene-d5			**0.647**	1.058		61.2			06/11/2019
Surr: p-Terphenyl-d14			**0.884**	1.058		83.6			06/11/2019

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SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154146 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154146

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340		ND						06/12/2019
1-Methylnaphthalene	0.0034		ND						06/12/2019
2-Methylnaphthalene	0.0034		ND						06/12/2019
Acenaphthene	0.0034		ND						06/12/2019
Acenaphthylene	0.0034		ND						06/12/2019
Anthracene	0.0034		ND						06/12/2019
Benzo(a)anthracene	0.0100		ND						06/12/2019
Benzo(a)pyrene	0.0034		ND						06/12/2019
Benzo(b)fluoranthene	0.0034		ND						06/12/2019
Benzo(g,h,i)perylene	0.0034		ND						06/12/2019
Benzo(k)fluoranthene	0.0034		ND						06/12/2019
Chrysene	0.0034		ND						06/12/2019
Dibenzo(a,h)anthracene	0.0034		ND						06/12/2019
Fluoranthene	0.0034		ND						06/12/2019
Fluorene	0.0034		ND						06/12/2019
Indeno(1,2,3-cd)pyrene	0.0034		ND						06/12/2019
Phenanthrene	0.0034		ND						06/12/2019
Pyrene	0.0034		ND						06/12/2019
Surr: 2-Fluorobiphenyl			0.0757	0.1670		45.3	21.6	105	06/12/2019
Surr: Nitrobenzene-d5			0.0720	0.1670		43.1	26.7	93	06/12/2019
Surr: p-Terphenyl-d14			0.110	0.1670		65.9	42.6	115	06/12/2019

Batch 154146 **SampType:** LCS Units mg/Kg
SampID: LCS-154146

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340	J	0.17	0.3330	0	51.5	25.3	104	06/12/2019
1-Methylnaphthalene	0.0034		0.0917	0.1670	0	54.9	27.3	107	06/12/2019
2-Methylnaphthalene	0.0034		0.0907	0.1670	0	54.3	30	106	06/12/2019
Acenaphthene	0.0034		0.0963	0.1670	0	57.7	19.1	127	06/12/2019
Acenaphthylene	0.0034		0.0983	0.1670	0	58.9	30.2	115	06/12/2019
Anthracene	0.0034		0.103	0.1670	0	61.9	26.9	107	06/12/2019
Benzo(a)anthracene	0.0100		0.116	0.1670	0	69.7	27	116	06/12/2019
Benzo(a)pyrene	0.0034		0.104	0.1670	0	62.3	22.7	117	06/12/2019
Benzo(b)fluoranthene	0.0034		0.117	0.1670	0	69.9	23.8	125	06/12/2019
Benzo(g,h,i)perylene	0.0034		0.101	0.1670	0	60.3	31.5	109	06/12/2019
Benzo(k)fluoranthene	0.0034		0.113	0.1670	0	67.7	28.1	121	06/12/2019
Chrysene	0.0034		0.110	0.1670	0	65.7	29.2	113	06/12/2019
Dibenzo(a,h)anthracene	0.0034		0.103	0.1670	0	61.9	28.8	113	06/12/2019
Fluoranthene	0.0034		0.112	0.1670	0	66.9	24.9	115	06/12/2019
Fluorene	0.0034		0.0973	0.1670	0	58.3	30	116	06/12/2019
Indeno(1,2,3-cd)pyrene	0.0034		0.103	0.1670	0	61.9	29.5	113	06/12/2019
Phenanthrene	0.0034		0.104	0.1670	0	62.3	16.5	122	06/12/2019
Pyrene	0.0034		0.110	0.1670	0	65.9	28	111	06/12/2019
Surr: 2-Fluorobiphenyl			0.0700	0.1670		41.9	21.6	105	06/12/2019
Surr: Nitrobenzene-d5			0.0743	0.1670		44.5	26.7	93	06/12/2019
Surr: p-Terphenyl-d14			0.107	0.1670		63.9	42.6	115	06/12/2019

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SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154125 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		ND						06/11/2019
2,4,6-Trichlorophenol	0.350		ND						06/11/2019
2,4-Dichlorophenol	0.500		ND						06/11/2019
2,4-Dimethylphenol	0.500		ND						06/11/2019
2,4-Dinitrophenol	1.00		ND						06/11/2019
2,4-Dinitrotoluene	0.350		ND						06/11/2019
2,6-Dinitrotoluene	0.350		ND						06/11/2019
2-Chloronaphthalene	0.350		ND						06/11/2019
2-Chlorophenol	0.500		ND						06/11/2019
2-Nitroaniline	1.00		ND						06/11/2019
2-Nitrophenol	0.350		ND						06/11/2019
3,3´-Dichlorobenzidine	0.350		ND						06/11/2019
3-Nitroaniline	1.00		ND						06/11/2019
4,6-Dinitro-2-methylphenol	1.00		ND						06/11/2019
4-Bromophenyl phenyl ether	0.350		ND						06/11/2019
4-Chloro-3-methylphenol	0.500		ND						06/11/2019
4-Chloroaniline	0.500		ND						06/11/2019
4-Chlorophenyl phenyl ether	0.350		ND						06/11/2019
4-Nitroaniline	0.500		ND						06/11/2019
4-Nitrophenol	0.350		ND						06/11/2019
Aniline	0.500		ND						06/11/2019
Azobenzene	0.350		ND						06/11/2019
Benzoic acid	1.50		ND						06/11/2019
Benzyl alcohol	0.500		ND						06/11/2019
Bis(2-chloroethoxy)methane	0.350		ND						06/11/2019
Bis(2-chloroethyl)ether	0.500		ND						06/11/2019
Bis(2-chloroisopropyl)ether	0.350		ND						06/11/2019
Bis(2-ethylhexyl)phthalate	0.350		ND						06/11/2019
Butyl benzyl phthalate	0.350		ND						06/11/2019
Dibenzofuran	0.350		ND						06/11/2019
Diethyl phthalate	0.500		ND						06/11/2019
Dimethyl phthalate	0.350		ND						06/11/2019
Di-n-butyl phthalate	0.350		ND						06/11/2019
Di-n-octyl phthalate	0.350		ND						06/11/2019
Hexachlorobenzene	0.350		ND						06/11/2019
Hexachlorocyclopentadiene	0.500		ND						06/11/2019
Hexachloroethane	0.500		ND						06/11/2019
Isophorone	0.350		ND						06/11/2019
m,p-Cresol	0.500		ND						06/11/2019
Nitrobenzene	0.500		ND						06/11/2019
N-Nitrosodimethylamine	0.500		ND						06/11/2019
N-Nitroso-di-n-propylamine	0.500		ND						06/11/2019
N-Nitrosodiphenylamine	0.500		ND						06/11/2019
o-Cresol	0.500		ND						06/11/2019
Pentachlorophenol	2.00		ND						06/11/2019
Phenol	0.350		ND						06/11/2019
Pyridine	0.500		ND						06/11/2019

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SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154125 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.200		ND						06/11/2019
Surr: 2,4,6-Tribromophenol			1.33	1.670		79.7	53.1	123	06/11/2019
Surr: 2-Fluorobiphenyl			0.550	0.8350		65.9	45.1	87	06/11/2019
Surr: 2-Fluorobiphenyl			0.593	0.8350		71.1	52.9	106	06/11/2019
Surr: 2-Fluorophenol			1.18	1.670		70.4	52.9	104	06/11/2019
Surr: Nitrobenzene-d5			0.686	0.8350		82.1	51.5	105	06/11/2019
Surr: Phenol-d5			1.27	1.670		76.3	53.9	111	06/11/2019
Surr: p-Terphenyl-d14			0.747	0.8350		89.4	58	122	06/11/2019

Batch 154125 **SampType:** LCS Units mg/Kg
SampID: LCS-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		1.67	1.670	0	99.8	53.5	106	06/11/2019
2,4,6-Trichlorophenol	0.350		1.60	1.670	0	95.7	50.8	106	06/11/2019
2,4-Dimethylphenol	0.500		1.58	1.670	0	94.6	35.6	99.6	06/11/2019
2,4-Dinitrophenol	1.00		1.30	1.670	0	78.1	13.9	107	06/11/2019
2,4-Dinitrotoluene	0.350		1.54	1.670	0	91.9	58.9	106	06/11/2019
2-Chlorophenol	0.500		1.32	1.670	0	78.9	41.1	99.2	06/11/2019
4-Chloro-3-methylphenol	0.500		1.60	1.670	0	95.8	50	103	06/11/2019
4-Nitrophenol	0.350		1.67	1.670	0	99.7	46.3	111	06/11/2019
Bis(2-ethylhexyl)phthalate	0.350		1.59	1.670	0	95.0	40.8	109	06/11/2019
Diethyl phthalate	0.500		1.47	1.670	0	87.9	53.8	99.6	06/11/2019
Dimethyl phthalate	0.350		1.40	1.670	0	83.8	53.8	101	06/11/2019
Di-n-butyl phthalate	0.350		1.47	1.670	0	88.0	45.8	108	06/11/2019
Hexachlorobenzene	0.350		1.31	1.670	0	78.2	55.2	101	06/11/2019
Hexachloroethane	0.500		1.12	1.670	0	67.3	41.8	91.5	06/11/2019
m,p-Cresol	0.500		1.50	1.670	0	89.6	47	100	06/11/2019
Nitrobenzene	0.500		1.36	1.670	0	81.7	41.4	99	06/11/2019
N-Nitroso-di-n-propylamine	0.500		1.39	1.670	0	83.2	46.5	97.4	06/11/2019
o-Cresol	0.500		1.34	1.670	0	80.5	44.2	100	06/11/2019
Pentachlorophenol	2.00	J	1.4	1.670	0	80.8	35.7	94.8	06/11/2019
Phenol	0.350		1.39	1.670	0	83.3	43	98.6	06/11/2019
Pyridine	0.500		0.891	1.670	0	53.3	24.7	78.4	06/11/2019
Quinoline	0.200		1.59	1.670	0	95.3	48.5	97.3	06/11/2019
Surr: 2,4,6-Tribromophenol			1.37	1.670		82.0	53.1	123	06/11/2019
Surr: 2-Fluorobiphenyl			0.633	0.8350		75.8	52.9	106	06/11/2019
Surr: 2-Fluorobiphenyl			0.548	0.8350		65.7	45.1	87	06/11/2019
Surr: 2-Fluorophenol			1.17	1.670		69.9	52.9	104	06/11/2019
Surr: Nitrobenzene-d5			0.693	0.8350		83.0	51.5	105	06/11/2019
Surr: Phenol-d5			1.26	1.670		75.6	53.9	111	06/11/2019
Surr: p-Terphenyl-d14			0.746	0.8350		89.3	58	122	06/11/2019

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SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154125 **SampType:** LCSG Units %REC
SampID: LCSDRO-154125

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.608**	0.8350		72.9	45.1	87	06/11/2019

Batch 154125 **SampType:** MS Units mg/Kg-dry
SampID: 19060275-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.442		**1.92**	2.108	0	91.3	61.2	107	06/11/2019
2,4,6-Trichlorophenol	0.442		**2.05**	2.108	0	97.2	58.4	105	06/11/2019
2,4-Dimethylphenol	0.631		**1.96**	2.108	0	93.0	52.9	104	06/11/2019
2,4-Dinitrophenol	1.26	J	**0.54**	2.108	0	25.5	15.2	107	06/11/2019
2,4-Dinitrotoluene	0.442		**1.81**	2.108	0	86.0	66.7	118	06/11/2019
2-Chlorophenol	0.631		**1.81**	2.108	0	85.8	51.2	98.2	06/11/2019
4-Chloro-3-methylphenol	0.631		**2.06**	2.108	0	97.6	57.6	104	06/11/2019
4-Nitrophenol	0.442		**1.94**	2.108	0	92.2	55.1	110	06/11/2019
Bis(2-ethylhexyl)phthalate	0.442		**1.94**	2.108	0	91.9	66.2	128	06/11/2019
Diethyl phthalate	0.631		**1.70**	2.108	0	80.4	57.8	121	06/11/2019
Dimethyl phthalate	0.442		**1.66**	2.108	0	78.8	60.7	117	06/11/2019
Di-n-butyl phthalate	0.442		**1.76**	2.108	0	83.4	65.8	122	06/11/2019
Hexachlorobenzene	0.442		**1.64**	2.108	0	77.6	59.9	121	06/11/2019
Hexachloroethane	0.631		**1.23**	2.108	0	58.3	26.2	115	06/11/2019
m,p-Cresol	0.631		**1.88**	2.108	0	89.1	56.3	104	06/11/2019
Nitrobenzene	0.631		**1.71**	2.108	0	80.9	53.4	106	06/11/2019
N-Nitroso-di-n-propylamine	0.631		**1.66**	2.108	0	78.9	52.4	113	06/11/2019
o-Cresol	0.631		**1.82**	2.108	0	86.3	53.8	100	06/11/2019
Pentachlorophenol	2.53	J	**1.3**	2.108	0	60.4	38.3	99.4	06/11/2019
Phenol	0.442		**1.80**	2.108	0	85.3	53.2	103	06/11/2019
Pyridine	0.631		**1.36**	2.108	0	64.4	13.6	91.5	06/11/2019
Quinoline	0.253		**1.98**	2.108	0	93.9	48	105	06/11/2019
Surr: 2,4,6-Tribromophenol			**1.64**	2.108		77.7	41.6	114	06/11/2019
Surr: 2-Fluorobiphenyl			**0.537**	1.054		51.0	29.3	105	06/11/2019
Surr: 2-Fluorophenol			**1.54**	2.108		73.0	35.8	97.2	06/11/2019
Surr: Nitrobenzene-d5			**0.738**	1.054		70.0	36.2	95.2	06/11/2019
Surr: Phenol-d5			**1.59**	2.108		75.2	38.8	103	06/11/2019
Surr: p-Terphenyl-d14			**0.927**	1.054		87.9	43.2	116	06/11/2019

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SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154125 **SampType:** MSD Units mg/Kg-dry RPD Limit 40
SampID: 19060275-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.441		**1.92**	2.106	0	91.2	1.925	0.18	06/11/2019
2,4,6-Trichlorophenol	0.441		**1.88**	2.106	0	89.4	2.049	8.45	06/11/2019
2,4-Dimethylphenol	0.630		**1.95**	2.106	0	92.4	1.961	0.74	06/11/2019
2,4-Dinitrophenol	1.26	J	**0.60**	2.106	0	28.6	0.5374	0.00	06/11/2019
2,4-Dinitrotoluene	0.441		**1.81**	2.106	0	86.1	1.813	0.03	06/11/2019
2-Chlorophenol	0.630		**1.74**	2.106	0	82.7	1.809	3.85	06/11/2019
4-Chloro-3-methylphenol	0.630		**1.94**	2.106	0	92.1	2.058	5.92	06/11/2019
4-Nitrophenol	0.441		**1.98**	2.106	0	94.2	1.944	1.94	06/11/2019
Bis(2-ethylhexyl)phthalate	0.441		**1.77**	2.106	0	84.0	1.938	9.14	06/11/2019
Diethyl phthalate	0.630		**1.47**	2.106	0	69.9	1.696	14.10	06/11/2019
Dimethyl phthalate	0.441		**1.61**	2.106	0	76.3	1.661	3.35	06/11/2019
Di-n-butyl phthalate	0.441		**1.60**	2.106	0	75.8	1.757	9.56	06/11/2019
Hexachlorobenzene	0.441		**1.55**	2.106	0	73.6	1.636	5.39	06/11/2019
Hexachloroethane	0.630		**1.25**	2.106	0	59.3	1.229	1.53	06/11/2019
m,p-Cresol	0.630		**1.89**	2.106	0	89.7	1.879	0.47	06/11/2019
Nitrobenzene	0.630		**1.67**	2.106	0	79.5	1.706	1.85	06/11/2019
N-Nitroso-di-n-propylamine	0.630		**1.65**	2.106	0	78.2	1.664	1.02	06/11/2019
o-Cresol	0.630		**1.73**	2.106	0	82.3	1.819	4.85	06/11/2019
Pentachlorophenol	2.52	J	**1.2**	2.106	0	58.7	1.273	0.00	06/11/2019
Phenol	0.441		**1.80**	2.106	0	85.3	1.799	0.16	06/11/2019
Pyridine	0.630		**1.31**	2.106	0	62.3	1.358	3.44	06/11/2019
Quinoline	0.252		**1.95**	2.106	0	92.4	1.980	1.72	06/11/2019
Surr: 2,4,6-Tribromophenol			**1.43**	2.106		68.0			06/11/2019
Surr: 2-Fluorobiphenyl			**0.511**	1.053		48.5			06/11/2019
Surr: 2-Fluorophenol			**1.43**	2.106		68.1			06/11/2019
Surr: Nitrobenzene-d5			**0.793**	1.053		75.3			06/11/2019
Surr: Phenol-d5			**1.58**	2.106		75.1			06/11/2019
Surr: p-Terphenyl-d14			**0.843**	1.053		80.1			06/11/2019

Batch 154125 **SampType:** MS Units %REC
SampID: 19060290-012AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.613**	1.054		58.1	23.6	99.4	06/11/2019

Batch 154125 **SampType:** MSD Units %REC RPD Limit 0
SampID: 19060290-012AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.531**	1.058		50.2			06/11/2019

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Client: AECOM
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SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154192 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190612A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/12/2019
1,1,1-Trichloroethane	2.0		ND						06/12/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/12/2019
1,1,2-Trichloroethane	5.0		ND						06/12/2019
1,1-Dichloroethane	2.0		ND						06/12/2019
1,1-Dichloroethene	2.0		ND						06/12/2019
1,1-Dichloropropene	2.0		ND						06/12/2019
1,2,3-Trichlorobenzene	2.0		ND						06/12/2019
1,2,3-Trichloropropane	2.0		ND						06/12/2019
1,2,4-Trichlorobenzene	2.0		ND						06/12/2019
1,2,4-Trimethylbenzene	2.0		ND						06/12/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/12/2019
1,2-Dibromoethane	2.0		ND						06/12/2019
1,2-Dichlorobenzene	2.0		ND						06/12/2019
1,2-Dichloroethane	2.0		ND						06/12/2019
1,2-Dichloropropane	2.0		ND						06/12/2019
1,3,5-Trimethylbenzene	2.0		ND						06/12/2019
1,3-Dichlorobenzene	2.0		ND						06/12/2019
1,3-Dichloropropane	2.0		ND						06/12/2019
1,4-Dichlorobenzene	2.0		ND						06/12/2019
2,2-Dichloropropane	2.0		ND						06/12/2019
2-Butanone	25.0		ND						06/12/2019
2-Chloroethyl vinyl ether	5.0		ND						06/12/2019
2-Chlorotoluene	2.0		ND						06/12/2019
2-Hexanone	25.0		ND						06/12/2019
4-Chlorotoluene	2.0		ND						06/12/2019
4-Methyl-2-pentanone	25.0		ND						06/12/2019
Acetone	25.0		ND						06/12/2019
Acrolein	50.0		ND						06/12/2019
Acrylonitrile	5.0		ND						06/12/2019
Benzene	1.0		ND						06/12/2019
Bromobenzene	2.0		ND						06/12/2019
Bromochloromethane	2.0		ND						06/12/2019
Bromodichloromethane	2.0		ND						06/12/2019
Bromoform	5.0		ND						06/12/2019
Bromomethane	10.0		ND						06/12/2019
Carbon disulfide	2.0		ND						06/12/2019
Carbon tetrachloride	2.0		ND						06/12/2019
Chlorobenzene	2.0		ND						06/12/2019
Chloroethane	10.0		ND						06/12/2019
Chloroform	2.0		ND						06/12/2019
Chloromethane	10.0		ND						06/12/2019
cis-1,2-Dichloroethene	2.0		ND						06/12/2019
cis-1,3-Dichloropropene	2.0		ND						06/12/2019
Dibromochloromethane	2.0		ND						06/12/2019
Dichlorodifluoromethane	10.0		ND						06/12/2019
Ethyl methacrylate	2.0		ND						06/12/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060677
Report Date: 13-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154192 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190612A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/12/2019
Hexachlorobutadiene	2.0		ND						06/12/2019
Isopropylbenzene	2.0		ND						06/12/2019
m,p-Xylenes	4.0		ND						06/12/2019
Methyl tert-butyl ether	2.0		ND						06/12/2019
Methylene chloride	10.0		ND						06/12/2019
Naphthalene	5.0		ND						06/12/2019
n-Butylbenzene	2.0		ND						06/12/2019
n-Propylbenzene	2.0		ND						06/12/2019
o-Xylene	4.0		ND						06/12/2019
p-Isopropyltoluene	2.0		ND						06/12/2019
sec-Butylbenzene	2.0		ND						06/12/2019
Styrene	2.0		ND						06/12/2019
tert-Butylbenzene	2.0		ND						06/12/2019
Tetrachloroethene	2.0		ND						06/12/2019
Toluene	2.0		ND						06/12/2019
trans-1,2-Dichloroethene	2.0		ND						06/12/2019
trans-1,3-Dichloropropene	2.0		ND						06/12/2019
Trichloroethene	2.0		ND						06/12/2019
Trichlorofluoromethane	5.0		ND						06/12/2019
Vinyl acetate	50.0		ND						06/12/2019
Vinyl chloride	2.0		ND						06/12/2019
Xylenes, Total	8.0		ND						06/12/2019
Surr: 1,2-Dichloroethane-d4			**49.1**	50.00		98.2	74	124	06/12/2019
Surr: 4-Bromofluorobenzene			**50.4**	50.00		100.7	79.4	123	06/12/2019
Surr: Dibromofluoromethane			**48.5**	50.00		97.0	89.2	112	06/12/2019
Surr: Toluene-d8			**50.4**	50.00		100.8	85	115	06/12/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060677

Report Date: 13-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154192 **SampType:** LCS Units µg/Kg

SampID: LCS-AF190612A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**54.5**	50.00	0	109.1	84.3	128	06/12/2019
1,1,1-Trichloroethane	2.0		**57.0**	50.00	0	114.0	75.6	132	06/12/2019
1,1,2,2-Tetrachloroethane	2.0		**52.2**	50.00	0	104.5	81.4	126	06/12/2019
1,1,2-Trichloroethane	5.0		**53.3**	50.00	0	106.6	87.3	122	06/12/2019
1,1-Dichloroethane	2.0		**57.3**	50.00	0	114.6	84.6	123	06/12/2019
1,1-Dichloroethene	2.0		**55.5**	50.00	0	110.9	73.6	134	06/12/2019
1,1-Dichloropropene	2.0		**54.9**	50.00	0	109.8	76	132	06/12/2019
1,2,3-Trichlorobenzene	2.0		**54.3**	50.00	0	108.6	78.2	139	06/12/2019
1,2,3-Trichloropropane	2.0		**50.2**	50.00	0	100.4	81.5	125	06/12/2019
1,2,4-Trichlorobenzene	2.0		**56.4**	50.00	0	112.7	67.8	154	06/12/2019
1,2,4-Trimethylbenzene	2.0		**55.9**	50.00	0	111.7	79.6	129	06/12/2019
1,2-Dibromo-3-chloropropane	5.0		**48.3**	50.00	0	96.5	71.5	135	06/12/2019
1,2-Dibromoethane	2.0		**52.8**	50.00	0	105.6	86.2	127	06/12/2019
1,2-Dichlorobenzene	2.0		**54.5**	50.00	0	109.0	82	126	06/12/2019
1,2-Dichloroethane	2.0		**53.0**	50.00	0	105.9	77.1	130	06/12/2019
1,2-Dichloropropane	2.0		**52.5**	50.00	0	105.1	89.8	126	06/12/2019
1,3,5-Trimethylbenzene	2.0		**55.0**	50.00	0	109.9	79	129	06/12/2019
1,3-Dichlorobenzene	2.0		**54.9**	50.00	0	109.9	80.9	132	06/12/2019
1,3-Dichloropropane	2.0		**52.5**	50.00	0	105.0	84	123	06/12/2019
1,4-Dichlorobenzene	2.0		**54.8**	50.00	0	109.6	78.3	131	06/12/2019
2,2-Dichloropropane	2.0		**55.4**	50.00	0	110.7	74.8	133	06/12/2019
2-Butanone	25.0		**131**	125.0	0	104.6	75	140	06/12/2019
2-Chloroethyl vinyl ether	5.0		**48.2**	50.00	0	96.3	72	142	06/12/2019
2-Chlorotoluene	2.0		**54.5**	50.00	0	109.1	78.5	128	06/12/2019
2-Hexanone	25.0		**131**	125.0	0	105.0	74.9	131	06/12/2019
4-Chlorotoluene	2.0		**54.5**	50.00	0	109.1	77.1	132	06/12/2019
4-Methyl-2-pentanone	25.0		**129**	125.0	0	103.1	81.3	127	06/12/2019
Acetone	25.0		**160**	125.0	0	127.7	52.2	164	06/12/2019
Acrolein	50.0		**602**	500.0	0	120.4	1	211	06/12/2019
Acrylonitrile	5.0		**51.0**	50.00	0	102.0	82.8	135	06/12/2019
Benzene	1.0		**54.0**	50.00	0	107.9	85.2	124	06/12/2019
Bromobenzene	2.0		**54.3**	50.00	0	108.6	81.7	125	06/12/2019
Bromochloromethane	2.0		**52.9**	50.00	0	105.8	84.8	127	06/12/2019
Bromodichloromethane	2.0		**53.4**	50.00	0	106.9	88.9	129	06/12/2019
Bromoform	5.0		**52.3**	50.00	0	104.6	79.3	134	06/12/2019
Bromomethane	10.0		**56.3**	50.00	0	112.7	17	207	06/12/2019
Carbon disulfide	2.0		**55.6**	50.00	0	111.2	74.5	131	06/12/2019
Carbon tetrachloride	2.0		**53.4**	50.00	0	106.9	73.6	133	06/12/2019
Chlorobenzene	2.0		**55.4**	50.00	0	110.7	86.1	123	06/12/2019
Chloroethane	10.0		**52.8**	50.00	0	105.7	77.2	130	06/12/2019
Chloroform	2.0		**50.1**	50.00	0	100.1	86.8	123	06/12/2019
Chloromethane	10.0		**56.3**	50.00	0	112.5	59.5	149	06/12/2019
cis-1,2-Dichloroethene	2.0		**54.1**	50.00	0	108.2	85	125	06/12/2019
cis-1,3-Dichloropropene	2.0		**51.5**	50.00	0	103.0	89.6	130	06/12/2019
Dibromochloromethane	2.0		**52.4**	50.00	0	104.8	87	129	06/12/2019
Dichlorodifluoromethane	10.0		**58.1**	50.00	0	116.2	40.9	168	06/12/2019
Ethyl methacrylate	2.0		**52.5**	50.00	0	105.0	87.6	125	06/12/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060677
Report Date: 13-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154192 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190612A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**55.2**	50.00	0	110.3	82.3	125	06/12/2019
Hexachlorobutadiene	2.0		**57.1**	50.00	0	114.1	67.5	144	06/12/2019
Isopropylbenzene	2.0		**55.9**	50.00	0	111.8	78.5	129	06/12/2019
m,p-Xylenes	4.0		**109**	100.0	0	109.1	80.4	128	06/12/2019
Methyl tert-butyl ether	2.0		**50.2**	50.00	0	100.4	86.2	126	06/12/2019
Methylene chloride	10.0		**51.2**	50.00	0	102.5	79.4	125	06/12/2019
Naphthalene	5.0		**52.3**	50.00	0	104.5	81	127	06/12/2019
n-Butylbenzene	2.0		**56.1**	50.00	0	112.2	67.4	142	06/12/2019
n-Propylbenzene	2.0		**55.7**	50.00	0	111.4	72.3	133	06/12/2019
o-Xylene	4.0		**54.3**	50.00	0	108.7	85	124	06/12/2019
p-Isopropyltoluene	2.0		**54.4**	50.00	0	108.9	75.4	133	06/12/2019
sec-Butylbenzene	2.0		**55.9**	50.00	0	111.8	72.1	132	06/12/2019
Styrene	2.0		**54.9**	50.00	0	109.7	86.7	127	06/12/2019
tert-Butylbenzene	2.0		**54.2**	50.00	0	108.4	73.5	129	06/12/2019
Tetrachloroethene	2.0		**56.0**	50.00	0	112.0	75.8	131	06/12/2019
Toluene	2.0		**54.0**	50.00	0	107.9	81	123	06/12/2019
trans-1,2-Dichloroethene	2.0		**57.5**	50.00	0	115.0	80.8	130	06/12/2019
trans-1,3-Dichloropropene	2.0		**54.1**	50.00	0	108.2	82.8	133	06/12/2019
Trichloroethene	2.0		**54.5**	50.00	0	109.0	83.6	129	06/12/2019
Trichlorofluoromethane	5.0		**53.0**	50.00	0	105.9	63	136	06/12/2019
Vinyl acetate	50.0		**51.5**	50.00	0	103.1	81.6	133	06/12/2019
Vinyl chloride	2.0		**52.1**	50.00	0	104.3	55	149	06/12/2019
Xylenes, Total	8.0		**163**	150.0	0	108.9	82.2	127	06/12/2019
Surr: 1,2-Dichloroethane-d4			**48.2**	50.00		96.3	74	124	06/12/2019
Surr: 4-Bromofluorobenzene			**48.8**	50.00		97.5	79.4	123	06/12/2019
Surr: Dibromofluoromethane			**48.3**	50.00		96.6	89.2	112	06/12/2019
Surr: Toluene-d8			**50.4**	50.00		100.8	85	115	06/12/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060677

Report Date: 13-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154192 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190612A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**55.2**	50.00	0	110.5	54.54	1.28	06/12/2019
1,1,1-Trichloroethane	2.0		**57.7**	50.00	0	115.3	57.02	1.13	06/12/2019
1,1,2,2-Tetrachloroethane	2.0		**53.1**	50.00	0	106.2	52.25	1.65	06/12/2019
1,1,2-Trichloroethane	5.0		**55.5**	50.00	0	111.0	53.31	3.99	06/12/2019
1,1-Dichloroethane	2.0		**57.6**	50.00	0	115.2	57.28	0.56	06/12/2019
1,1-Dichloroethene	2.0		**55.4**	50.00	0	110.7	55.47	0.22	06/12/2019
1,1-Dichloropropene	2.0		**54.6**	50.00	0	109.2	54.88	0.47	06/12/2019
1,2,3-Trichlorobenzene	2.0		**55.5**	50.00	0	110.9	54.31	2.11	06/12/2019
1,2,3-Trichloropropane	2.0		**51.9**	50.00	0	103.8	50.20	3.31	06/12/2019
1,2,4-Trichlorobenzene	2.0		**56.0**	50.00	0	112.0	56.36	0.62	06/12/2019
1,2,4-Trimethylbenzene	2.0		**55.6**	50.00	0	111.3	55.86	0.38	06/12/2019
1,2-Dibromo-3-chloropropane	5.0		**49.6**	50.00	0	99.2	48.26	2.76	06/12/2019
1,2-Dibromoethane	2.0		**53.5**	50.00	0	107.1	52.81	1.35	06/12/2019
1,2-Dichlorobenzene	2.0		**54.5**	50.00	0	109.1	54.48	0.11	06/12/2019
1,2-Dichloroethane	2.0		**53.1**	50.00	0	106.2	52.95	0.30	06/12/2019
1,2-Dichloropropane	2.0		**54.0**	50.00	0	108.1	52.53	2.82	06/12/2019
1,3,5-Trimethylbenzene	2.0		**55.5**	50.00	0	111.1	54.97	1.03	06/12/2019
1,3-Dichlorobenzene	2.0		**55.6**	50.00	0	111.1	54.93	1.14	06/12/2019
1,3-Dichloropropane	2.0		**53.6**	50.00	0	107.1	52.49	2.04	06/12/2019
1,4-Dichlorobenzene	2.0		**54.9**	50.00	0	109.8	54.78	0.18	06/12/2019
2,2-Dichloropropane	2.0		**55.0**	50.00	0	110.1	55.37	0.58	06/12/2019
2-Butanone	25.0		**130**	125.0	0	103.7	130.7	0.86	06/12/2019
2-Chloroethyl vinyl ether	5.0		**49.4**	50.00	0	98.8	48.16	2.52	06/12/2019
2-Chlorotoluene	2.0		**55.1**	50.00	0	110.1	54.54	0.95	06/12/2019
2-Hexanone	25.0		**132**	125.0	0	105.5	131.3	0.49	06/12/2019
4-Chlorotoluene	2.0		**54.9**	50.00	0	109.8	54.53	0.71	06/12/2019
4-Methyl-2-pentanone	25.0		**131**	125.0	0	104.6	128.9	1.46	06/12/2019
Acetone	25.0		**156**	125.0	0	124.7	159.7	2.41	06/12/2019
Acrolein	50.0		**604**	500.0	0	120.9	602.2	0.37	06/12/2019
Acrylonitrile	5.0		**51.8**	50.00	0	103.5	51.02	1.46	06/12/2019
Benzene	1.0		**54.5**	50.00	0	108.9	53.97	0.92	06/12/2019
Bromobenzene	2.0		**54.9**	50.00	0	109.8	54.29	1.12	06/12/2019
Bromochloromethane	2.0		**54.3**	50.00	0	108.7	52.92	2.63	06/12/2019
Bromodichloromethane	2.0		**54.4**	50.00	0	108.7	53.44	1.69	06/12/2019
Bromoform	5.0		**53.8**	50.00	0	107.6	52.31	2.79	06/12/2019
Bromomethane	10.0		**57.2**	50.00	0	114.4	56.33	1.55	06/12/2019
Carbon disulfide	2.0		**55.7**	50.00	0	111.4	55.61	0.20	06/12/2019
Carbon tetrachloride	2.0		**53.2**	50.00	0	106.3	53.43	0.49	06/12/2019
Chlorobenzene	2.0		**55.5**	50.00	0	111.1	55.37	0.29	06/12/2019
Chloroethane	10.0		**52.5**	50.00	0	105.0	52.84	0.61	06/12/2019
Chloroform	2.0		**51.1**	50.00	0	102.3	50.07	2.11	06/12/2019
Chloromethane	10.0		**55.9**	50.00	0	111.8	56.26	0.66	06/12/2019
cis-1,2-Dichloroethene	2.0		**54.8**	50.00	0	109.6	54.09	1.29	06/12/2019
cis-1,3-Dichloropropene	2.0		**52.2**	50.00	0	104.4	51.48	1.43	06/12/2019
Dibromochloromethane	2.0		**53.2**	50.00	0	106.4	52.42	1.51	06/12/2019
Dichlorodifluoromethane	10.0		**58.2**	50.00	0	116.3	58.11	0.10	06/12/2019
Ethyl methacrylate	2.0		**53.6**	50.00	0	107.3	52.50	2.13	06/12/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060677

Report Date: 13-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154192 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190612A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**55.2**	50.00	0	110.5	55.15	0.16	06/12/2019
Hexachlorobutadiene	2.0		**56.7**	50.00	0	113.4	57.07	0.62	06/12/2019
Isopropylbenzene	2.0		**55.7**	50.00	0	111.3	55.88	0.39	06/12/2019
m,p-Xylenes	4.0		**110**	100.0	0	110.0	109.1	0.89	06/12/2019
Methyl tert-butyl ether	2.0		**51.3**	50.00	0	102.5	50.20	2.09	06/12/2019
Methylene chloride	10.0		**52.0**	50.00	0	104.0	51.24	1.47	06/12/2019
Naphthalene	5.0		**52.5**	50.00	0	105.1	52.27	0.52	06/12/2019
n-Butylbenzene	2.0		**55.4**	50.00	0	110.7	56.08	1.29	06/12/2019
n-Propylbenzene	2.0		**55.0**	50.00	0	110.1	55.72	1.21	06/12/2019
o-Xylene	4.0		**54.5**	50.00	0	109.0	54.34	0.28	06/12/2019
p-Isopropyltoluene	2.0		**55.3**	50.00	0	110.6	54.44	1.60	06/12/2019
sec-Butylbenzene	2.0		**56.1**	50.00	0	112.2	55.88	0.38	06/12/2019
Styrene	2.0		**55.3**	50.00	0	110.5	54.87	0.73	06/12/2019
tert-Butylbenzene	2.0		**54.5**	50.00	0	109.0	54.21	0.50	06/12/2019
Tetrachloroethene	2.0		**55.4**	50.00	0	110.8	55.98	1.04	06/12/2019
Toluene	2.0		**55.1**	50.00	0	110.3	53.96	2.16	06/12/2019
trans-1,2-Dichloroethene	2.0		**57.2**	50.00	0	114.5	57.50	0.44	06/12/2019
trans-1,3-Dichloropropene	2.0		**55.2**	50.00	0	110.5	54.08	2.10	06/12/2019
Trichloroethene	2.0		**54.8**	50.00	0	109.5	54.48	0.53	06/12/2019
Trichlorofluoromethane	5.0		**52.5**	50.00	0	104.9	52.96	0.93	06/12/2019
Vinyl acetate	50.0		**52.6**	50.00	0	105.2	51.54	2.07	06/12/2019
Vinyl chloride	2.0		**53.3**	50.00	0	106.6	52.14	2.18	06/12/2019
Xylenes, Total	8.0		**165**	150.0	0	109.7	163.4	0.69	06/12/2019
Surr: 1,2-Dichloroethane-d4			**48.8**	50.00		97.6			06/12/2019
Surr: 4-Bromofluorobenzene			**48.9**	50.00		97.8			06/12/2019
Surr: Dibromofluoromethane			**48.6**	50.00		97.2			06/12/2019
Surr: Toluene-d8			**49.8**	50.00		99.7			06/12/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060677
Report Date: 13-Jun-2019

Carrier: Robert Fleming

Completed by: Marvin L. Darling II
On: 11-Jun-2019
Marvin L. Darling

Received By: MLD

Reviewed by: Elizabeth A. Hurley
On: 12-Jun-2019
Elizabeth A. Hurley

Pages to follow: Chain of custody [1] Extra pages included [20]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 11.8
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials ☑	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	NA ☑	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

190600677

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (___Pensacola_____)
☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:

☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ UBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/11/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID

SAMPLER NAME(S) (Print): Bobby Fleming

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☐ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; melissa.mansker@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST: 8260 Project list VOCs +TICs	8270 SIM PAH	Moisture	8270 Project List SVOCs +TICs	NON-UNIT COST	FIELD NOTES:
	PD-10-SB-19-061119	6/11/2019	13:41	Soil				x	x	5	x	x	x	x	190600677-001	Sodium Bi Sulfate (Preserve)
																Methanol (Preserve)

TEMPERATURE ON RECEIPT C°: 11.8°C ICE

Container PID Readings or Laboratory Notes

ONE DAY TAT

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Robert M. Sleep	Marvin L. Dowling II	6/11/19	1052
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

Library Search Compound Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\data\AF190612A\
Data File : AF14.D
Acq On : 12 Jun 2019 14:39
Operator : R.Eaton
Sample : 19060677-001C
Misc : ,V_8260S_S,SAMP,12.5,5,
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****

Peak Number 1 Benzene, 1,2,3,4-tetramethyl- Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.051	75.70 ug/Kg	932181	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,2,3,4-tetramethyl-	134	C10H14	000488-23-3	95
2	Benzene, 1-ethyl-3,5-dimethyl-	134	C10H14	000934-74-7	95
3	Benzene, 1,2,3,5-tetramethyl-	134	C10H14	000527-53-7	95
4	Benzene, 1-methyl-2-(1-methyleth...	134	C10H14	000527-84-4	95
5	Benzene, 1,2,3,4-tetramethyl-	134	C10H14	000488-23-3	95

****

Peak Number 2 3-Phenylbut-1-ene Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.386	105.51 ug/Kg	1299280	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Phenylbut-1-ene	132	C10H12	000934-10-1	86
2	Benzene, 1-methyl-4-(2-propenyl)-	132	C10H12	003333-13-9	70
3	Benzene, 2-butenyl-	132	C10H12	001560-06-1	64
4	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000768-00-3	64
5	Benzene, 1-methyl-2-(2-propenyl)-	132	C10H12	001587-04-8	60

****

Peak Number 3 Benzene, 2-ethenyl-1,4-dime... Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.397	204.27 ug/Kg	2515310	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 2-ethenyl-1,4-dimethyl-	132	C10H12	002039-89-6	92
2	3-Phenylbut-1-ene	132	C10H12	000934-10-1	81
3	Benzene, 2-butenyl-	132	C10H12	001560-06-1	81
4	Indan, 1-methyl-	132	C10H12	000767-58-8	81
5	Benzene, 1-ethenyl-4-ethyl-	132	C10H12	003454-07-7	76

****

Peak Number 4 Naphthalene, 1,2,3,4-tetrah... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.538	330.37 ug/Kg	4068160	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,2,3,4-tetrahydro-	132	C10H12	000119-64-2	96
2	Naphthalene, 1,2,3,4-tetrahydro-	132	C10H12	000119-64-2	96
3	Naphthalene, 1,2,3,4-tetrahydro-	132	C10H12	000119-64-2	95
4	Naphthalene, 1,2,3,4-tetrahydro-	132	C10H12	000119-64-2	95
5	Benzene, cyclobutyl-	132	C10H12	004392-30-7	59

****

Peak Number 5 1H-Indene, 2,3-dihydro-1,1-... Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.649	121.43 ug/Kg	1495220	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-1,1-dimet...	146	C11H14	004912-92-9	91
2	1H-Indene, 2,3-dihydro-1,6-dimet...	146	C11H14	017059-48-2	70
3	1H-Indene, 2,3-dihydro-1,3-dimet...	146	C11H14	004175-53-5	70
4	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	70
5	Benzene, 1-methyl-4-(1-methyl-2-...	146	C11H14	097664-18-1	70

****

Peak Number 6 Benzene, 1-ethyl-4-(1-methy... Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.659	95.53 ug/Kg	1176400	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-ethyl-4-(1-methylethyl)-	148	C11H16	004218-48-8	70
2	Benzene, pentamethyl-	148	C11H16	000700-12-9	64
3	Benzene, 1-ethyl-4-(1-methylethyl)-	148	C11H16	004218-48-8	58
4	1,5,6,7-Tetramethylbicyclo[3.2.0...	148	C11H16	134329-46-7	58
5	Benzene, 1-ethyl-2,4,5-trimethyl-	148	C11H16	017851-27-3	58

****

Peak Number 7 1H-Indene, 2,3-dihydro-4,7-... Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.691	91.41 ug/Kg	1125560	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	94
2	1H-Indene, 2,3-dihydro-1,2-dimet...	146	C11H14	017057-82-8	91
3	1H-Indene,2,3-dihydro-2,2-dimethyl-	146	C11H14	020836-11-7	91
4	1H-Indene, 2,3-dihydro-1,6-dimet...	146	C11H14	017059-48-2	91
5	1H-Indene, 2,3-dihydro-5,6-dimet...	146	C11H14	001075-22-5	91

****

Peak Number 8 Benzene, 1-methyl-4-(1-meth... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.764	206.40 ug/Kg	2541560	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-methyl-4-(1-methyl-2-...	146	C11H14	097664-18-1	81
2	1H-Indene,2,3-dihydro-2,2-dimethyl-	146	C11H14	020836-11-7	81
3	1H-Indene, 2,3-dihydro-1,6-dimet...	146	C11H14	017059-48-2	81

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4	1H-Indene, 2,3-dihydro-1,3-dimet...	146	C11H14	004175-53-5	81
5	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	001559-81-5	74

****

Peak Number 9 Naphthalene, 1,2,3,4-tetrah... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.979	152.31 ug/Kg	1875560	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	003877-19-8	94
2	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	003877-19-8	93
3	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	003877-19-8	93
4	2(1H)-Naphthalenone, 3,4-dihydro-	146	C10H10O	000530-93-8	76
5	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	003877-19-8	70

****

Peak Number 10 Benzene, (2-methyl-1-butenyl)- Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.047	104.16 ug/Kg	1282650	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, (2-methyl-1-butenyl)-	146	C11H14	056253-64-6	94
2	1H-Inden-1-one, 2,3-dihydro-2-me...	146	C10H10O	017496-14-9	87
3	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	001559-81-5	87
4	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	001559-81-5	87
5	1,3-Cyclopentadiene, 5-(trans-2-...	146	C11H14	079209-36-2	81

****

Peak Number 11 Hex-1-enylbenzene Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.079	79.13 ug/Kg	974418	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hex-1-enylbenzene	160	C12H16	000828-15-9	58
2	Benzene, 1,1'-(1,5-hexadiene-1,6...	234	C18H18	004439-45-6	47
3	Bicyclo[4.2.1]nona-2,4,7-triene,...	146	C11H14	1000164-42-6	45
4	1H-Indene, 1-ethyl-2,3-dihydro-	146	C11H14	004830-99-3	42
5	1H-Indene, 1-ethyl-2,3-dihydro-	146	C11H14	004830-99-3	42

****

Peak Number 12 1H-Indene, 2,3-dihydro-4,7-... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.199	159.33 ug/Kg	1961960	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	94
2	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	93
3	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	93
4	1H-Indene, 2,3-dihydro-1,6-dimet...	146	C11H14	017059-48-2	91
5	1H-Indene, 2,3-dihydro-1,2-dimet...	146	C11H14	017057-82-8	90

****

Peak Number 13 1H-Indene, 2,3-dihydro-4,7-... Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.351	75.12 ug/Kg	924987	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	94
2	1H-Indene, 2,3-dihydro-4,6-dimet...	146	C11H14	001685-82-1	93
3	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	90
4	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	90
5	1H-Indene, 2,3-dihydro-1,2-dimet...	146	C11H14	017057-82-8	90

****

Peak Number 14 Benzocycloheptene Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.383	269.42 ug/Kg	3317590	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzocycloheptene	146	C11H14	001075-16-7	58
2	2,3,4,5,6,7-Hexahydro-1H-cyclope...	146	C11H14	1000189-31-0	58
3	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	001680-51-9	46
4	Naphthalene, 1,2,3,4-tetrahydro-...	160	C12H16	007524-63-2	43
5	Naphthalene, 1,2,3,4-tetrahydro-...	160	C12H16	004175-54-6	38

****

Peak Number 15 Naphthalene, 1,2,3,4-tetrah... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.671	138.13 ug/Kg	1700900	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	001680-51-9	94
2	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	002809-64-5	89
3	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	002809-64-5	81
4	Naphthalene, 1,2,3,4-tetrahydro-...	146	C11H14	002809-64-5	81
5	1H-1,3,2-Benzodiazaborole, 2-eth...	146	C8H11BN2	074663-81-3	76

****

Peak Number 16 Naphthalene, 1-methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
15.907	340.13 ug/Kg	4188310	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1-methyl-	142	C11H10	000090-12-0	96
2	Naphthalene, 2-methyl-	142	C11H10	000091-57-6	96
3	Naphthalene, 2-methyl-	142	C11H10	000091-57-6	93
4	Naphthalene, 1-methyl-	142	C11H10	000090-12-0	93
5	Naphthalene, 1-methyl-	142	C11H10	000090-12-0	90

****

Peak Number 17 Naphthalene, 1-methyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.085	378.26 ug/Kg	4657880	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual

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1	Naphthalene, 1-methyl-	142	C11H10	000090-12-0 96
2	Naphthalene, 2-methyl-	142	C11H10	000091-57-6 96
3	Naphthalene, 1-methyl-	142	C11H10	000090-12-0 93
4	Naphthalene, 1-methyl-	142	C11H10	000090-12-0 90
5	Benzocycloheptatriene	142	C11H10	000264-09-5 90

****

Peak Number 18 Naphthalene, 2-ethyl- Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.908	91.39 ug/Kg	1125320	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2-ethyl-	156	C12H12	000939-27-5	97
2	Naphthalene, 1-ethyl-	156	C12H12	001127-76-0	96
3	Naphthalene, 1-ethyl-	156	C12H12	001127-76-0	96
4	Naphthalene, 1-ethyl-	156	C12H12	001127-76-0	95
5	Naphthalene, 2-ethyl-	156	C12H12	000939-27-5	95

****

Peak Number 19 Naphthalene, 1,6-dimethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.060	131.89 ug/Kg	1624090	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	98
2	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	98
3	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	98
4	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	98
5	Naphthalene, 2,7-dimethyl-	156	C12H12	000582-16-1	97

****

Peak Number 20 Naphthalene, 1,7-dimethyl- Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.244	102.48 ug/Kg	1261960	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	98
2	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	98
3	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	98
4	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	97
5	Naphthalene, 2,3-dimethyl-	156	C12H12	000581-40-8	97

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA015.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.590	423	427	431	rBV	155710	136757	12.46%	0.948%
2	5.806	630	634	638	rVB	188111	164698	15.00%	1.142%
3	5.965	658	661	663	rBV	127363	116320	10.60%	0.807%
4	5.988	663	665	672	rVB	148940	137312	12.51%	0.952%
5	6.611	768	771	778	rVB2	32358	39604	3.61%	0.275%
6	7.140	855	861	866	rBV	52355	80645	7.35%	0.559%
7	7.216	870	874	876	rBV	71776	81530	7.43%	0.565%
8	7.240	876	878	882	rVB	40881	39857	3.63%	0.276%
9	7.522	923	926	930	rBV	22465	44278	4.03%	0.307%
10	7.569	930	934	938	rVV	246856	261974	23.86%	1.817%
11	7.663	945	950	955	rBV2	50021	86359	7.87%	0.599%
12	7.763	963	967	971	rVV	66348	72962	6.65%	0.506%
13	7.804	971	974	977	rVB	67889	64782	5.90%	0.449%
14	7.880	984	987	990	rBV	49078	55984	5.10%	0.388%
15	7.910	990	992	996	rVB	61914	54864	5.00%	0.380%
16	7.974	996	1003	1005	rBV2	40266	68523	6.24%	0.475%
17	8.133	1024	1030	1033	rBV5	33706	58533	5.33%	0.406%
18	8.198	1038	1041	1044	rBV2	63024	63426	5.78%	0.440%
19	8.274	1049	1054	1059	rVB4	55245	92589	8.43%	0.642%
20	8.339	1059	1065	1067	rBV4	35588	53790	4.90%	0.373%
21	8.392	1070	1074	1077	rVB3	32200	39846	3.63%	0.276%
22	8.427	1077	1080	1085	rVB6	32789	42418	3.86%	0.294%
23	8.480	1085	1089	1093	rVB3	84860	105100	9.57%	0.729%
24	8.674	1118	1122	1126	rBV2	47749	66588	6.07%	0.462%
25	8.715	1126	1129	1132	rBV2	145832	160854	14.65%	1.116%
26	8.797	1140	1143	1145	rBV2	42819	41671	3.80%	0.289%
27	8.838	1145	1150	1153	rVV5	65505	118452	10.79%	0.821%
28	8.879	1153	1157	1159	rVV3	52156	74314	6.77%	0.515%
29	8.926	1163	1165	1168	rVV2	55945	65972	6.01%	0.458%
30	8.985	1172	1175	1179	rVB	103676	109801	10.00%	0.761%
31	9.091	1189	1193	1195	rBV	311116	323546	29.47%	2.244%
32	9.114	1195	1197	1203	rVB	244646	244945	22.31%	1.699%
33	9.191	1203	1210	1213	rBV4	95649	163155	14.86%	1.132%
34	9.320	1228	1232	1236	rVV4	66439	101058	9.20%	0.701%
35	9.355	1236	1238	1241	rVB2	55294	54752	4.99%	0.380%

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

36	9.426	1244	1250	1255	rVB	172725	200997	18.31%	1.394%
37	9.508	1260	1264	1268	rBV2	199890	242940	22.13%	1.685%
38	9.596	1275	1279	1281	rBV	279233	282729	25.75%	1.961%
39	9.625	1281	1284	1288	rVB	384811	364087	33.16%	2.525%
40	9.672	1288	1292	1294	rBV	82530	92607	8.44%	0.642%
41	9.708	1294	1298	1300	rVV	192593	216003	19.67%	1.498%
42	9.731	1300	1302	1309	rVB2	197158	218747	19.92%	1.517%
43	9.802	1309	1314	1316	rBV3	80730	103459	9.42%	0.718%
44	9.831	1316	1319	1322	rVB	67974	71684	6.53%	0.497%
45	9.890	1326	1329	1332	rVV	94748	121956	11.11%	0.846%
46	9.931	1332	1336	1340	rVV2	106670	175006	15.94%	1.214%
47	9.972	1340	1343	1345	rVV	35018	37706	3.43%	0.261%
48	10.001	1345	1348	1351	rVV	88819	127244	11.59%	0.882%
49	10.048	1351	1356	1360	rVV3	185682	375342	34.19%	2.603%
50	10.084	1360	1362	1364	rVV	246149	237877	21.67%	1.650%
51	10.107	1364	1366	1369	rVV2	171231	183908	16.75%	1.275%
52	10.166	1372	1376	1379	rVV	327952	412185	37.54%	2.859%
53	10.201	1379	1382	1385	rVV2	144390	227305	20.70%	1.576%
54	10.248	1385	1390	1396	rVV	652026	1097862	100.00%	7.614%
55	10.295	1396	1398	1404	rVB	97667	109349	9.96%	0.758%
56	10.395	1412	1415	1417	rBV2	36254	37981	3.46%	0.263%
57	10.471	1426	1428	1434	rVB4	42412	69787	6.36%	0.484%
58	10.530	1434	1438	1440	rBV2	77404	97540	8.88%	0.676%
59	10.554	1440	1442	1446	rVB3	68052	71100	6.48%	0.493%
60	10.612	1448	1452	1453	rBV3	66625	75435	6.87%	0.523%
61	10.636	1453	1456	1461	rVV	214182	288423	26.27%	2.000%
62	10.683	1461	1464	1469	rVB	154448	207669	18.92%	1.440%
63	10.742	1469	1474	1478	rBV2	48228	90903	8.28%	0.630%
64	10.783	1478	1481	1484	rVB	60764	59844	5.45%	0.415%
65	10.824	1484	1488	1491	rVB2	50373	72822	6.63%	0.505%
66	10.859	1491	1494	1499	rBV4	55731	90181	8.21%	0.625%
67	10.918	1499	1504	1509	rVB5	64637	129942	11.84%	0.901%
68	11.030	1518	1523	1527	rBV5	42486	83138	7.57%	0.577%
69	11.071	1527	1530	1533	rVB3	57167	62787	5.72%	0.435%
70	11.130	1533	1540	1543	rBV6	35884	83931	7.64%	0.582%
71	11.194	1547	1551	1554	rVV	97451	145428	13.25%	1.009%
72	11.224	1554	1556	1560	rVV	64846	83748	7.63%	0.581%
73	11.276	1560	1565	1569	rVV3	101100	173571	15.81%	1.204%
74	11.329	1569	1574	1578	rVV4	261207	455210	41.46%	3.157%
75	11.370	1578	1581	1584	rVV	94669	135374	12.33%	0.939%

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

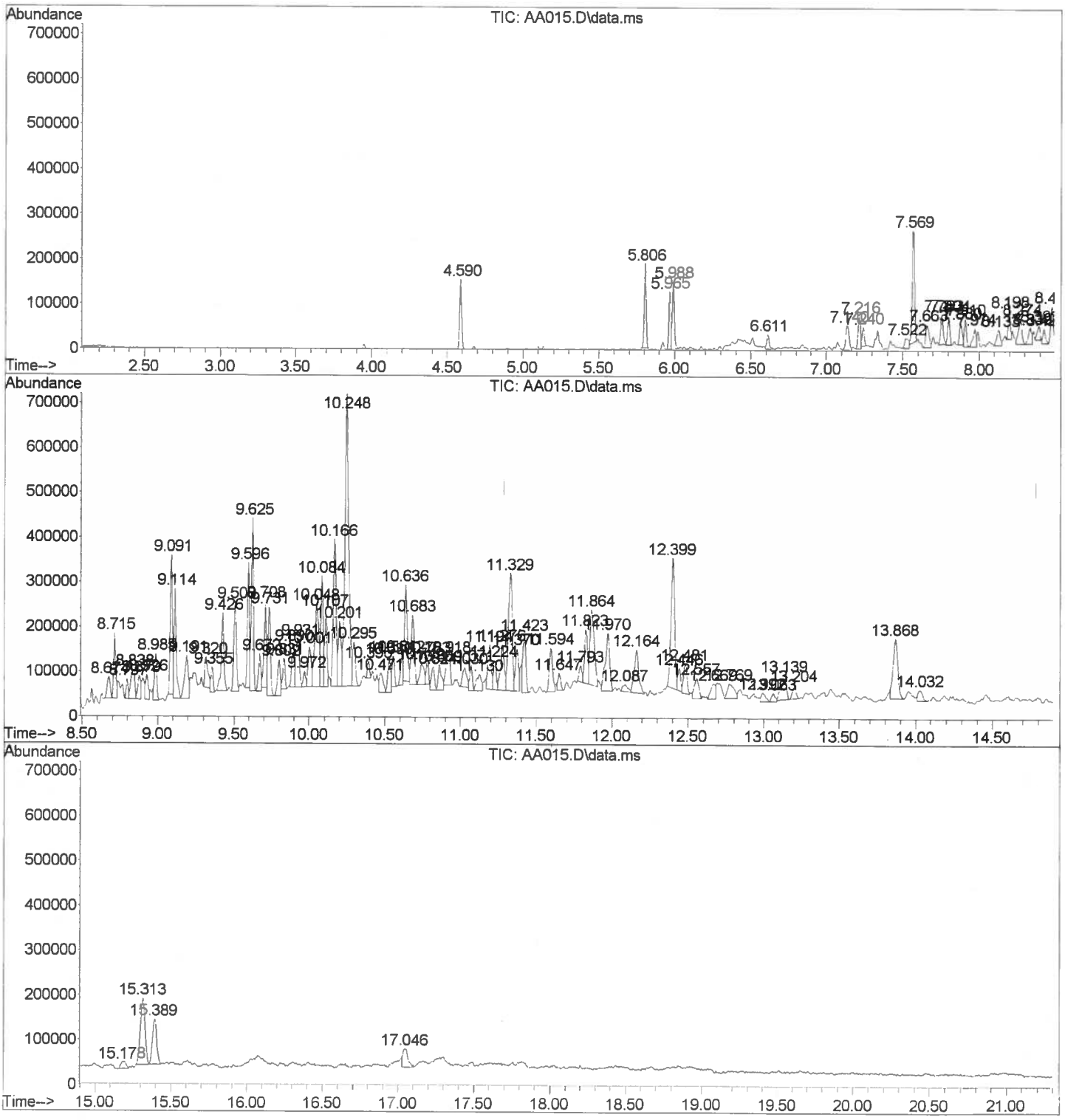
76	11.423	1587	1590	1594	rVB	129918	169382	15.43%	1.175%
77	11.594	1615	1619	1624	rBV	96783	142725	13.00%	0.990%
78	11.647	1626	1628	1633	rVB	37138	43178	3.93%	0.299%
79	11.793	1649	1653	1655	rBV4	33569	47280	4.31%	0.328%
80	11.823	1655	1658	1662	rVV	118304	180751	16.46%	1.254%
81	11.864	1662	1665	1672	rVV5	167065	318174	28.98%	2.207%
82	11.970	1676	1683	1689	rVB4	127641	269952	24.59%	1.872%
83	12.087	1698	1703	1709	rBV5	13697	33627	3.06%	0.233%
84	12.164	1709	1716	1725	rVV6	96055	198041	18.04%	1.373%
85	12.399	1750	1756	1761	rBV2	286605	481352	43.84%	3.338%
86	12.446	1761	1764	1767	rVV	48909	65745	5.99%	0.456%
87	12.481	1767	1770	1775	rVV	66381	101084	9.21%	0.701%
88	12.557	1778	1783	1788	rVB4	44297	88433	8.06%	0.613%
89	12.669	1795	1802	1804	rBV5	33243	75750	6.90%	0.525%
90	12.769	1814	1819	1828	rBV8	32089	97571	8.89%	0.677%
91	12.992	1854	1857	1865	rVB10	19245	39111	3.56%	0.271%
92	13.063	1865	1869	1873	rBV6	17746	30336	2.76%	0.210%
93	13.139	1873	1882	1887	rVB2	53735	121112	11.03%	0.840%
94	13.204	1889	1893	1899	rVB	29724	46836	4.27%	0.325%
95	13.868	2000	2006	2015	rVB	133163	280943	25.59%	1.948%
96	14.032	2030	2034	2041	rVB2	24160	47488	4.33%	0.329%
97	15.178	2225	2229	2236	rBV5	14489	35943	3.27%	0.249%
98	15.313	2245	2252	2258	rBV2	148409	300047	27.33%	2.081%
99	15.389	2259	2265	2272	rVB2	100264	203266	18.51%	1.410%
100	17.046	2543	2547	2557	rVB8	40637	100079	9.12%	0.694%

Sum of corrected areas: 14419272

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

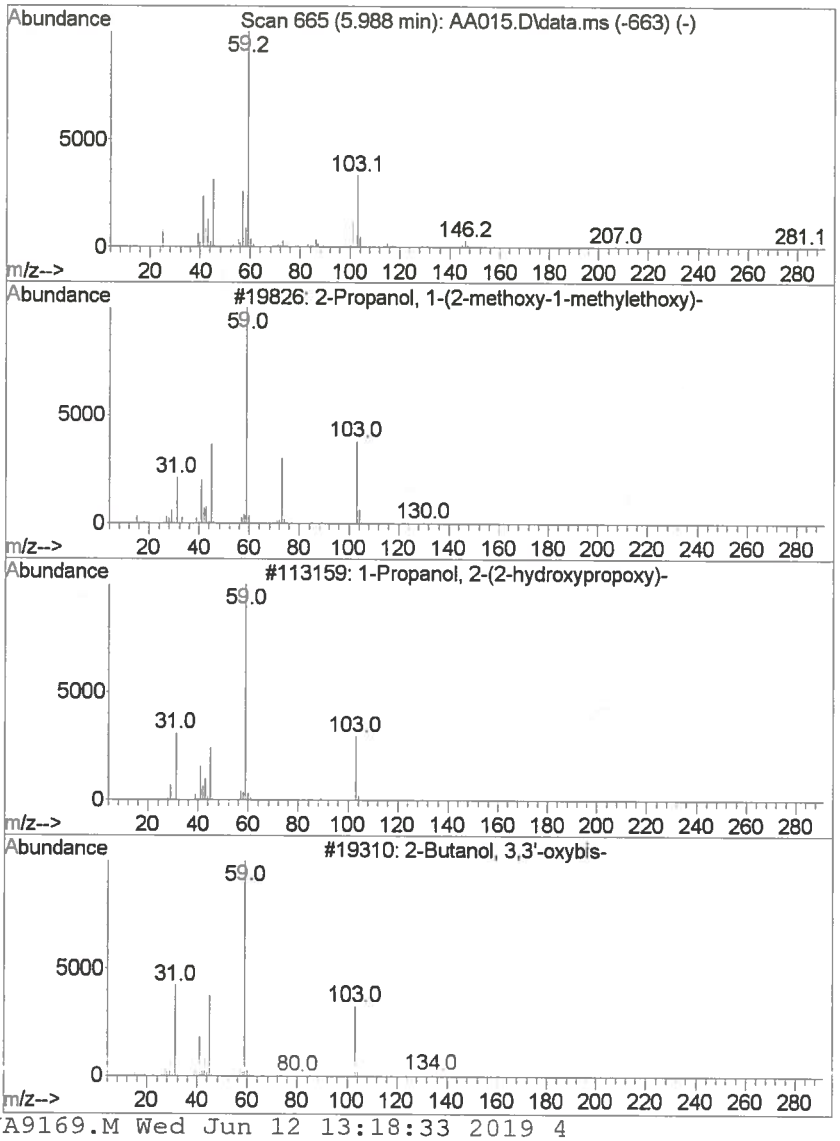
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

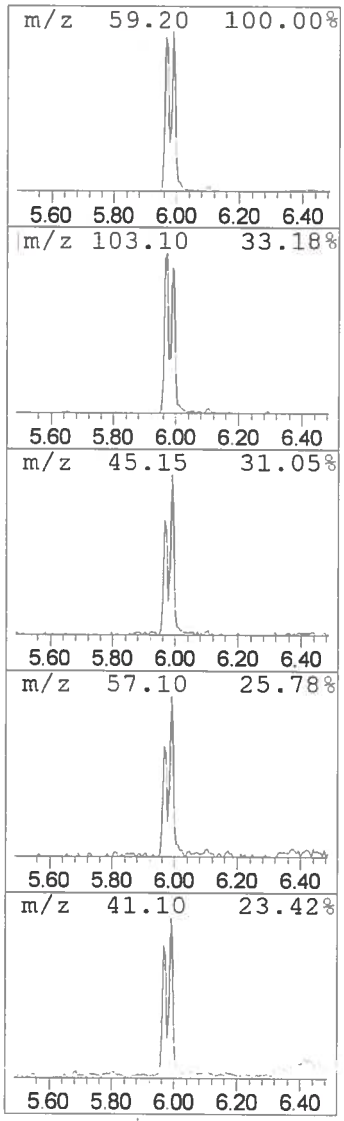
****

Peak Number 1 2-Propanol, 1-(2-methoxy-1-... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.988	33.35 ug/ml	137312	Naphthalene-d8*	5.806

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Propanol, 1-(2-methoxy-1-methy...	148	C7H16O3	020324-32-7	72
2	1-Propanol, 2-(2-hydroxypropoxy)-	134	C6H14O3	000106-62-7	72
3	2-Butanol, 3,3'-oxybis-	162	C8H18O3	054305-61-2	72
4	Dipropylene glycol	134	C6H14O3	025265-71-8	56
5	2-Propanol, 1,1'-[(1-methyl-1,2-...	192	C9H20O4	001638-16-0	47





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

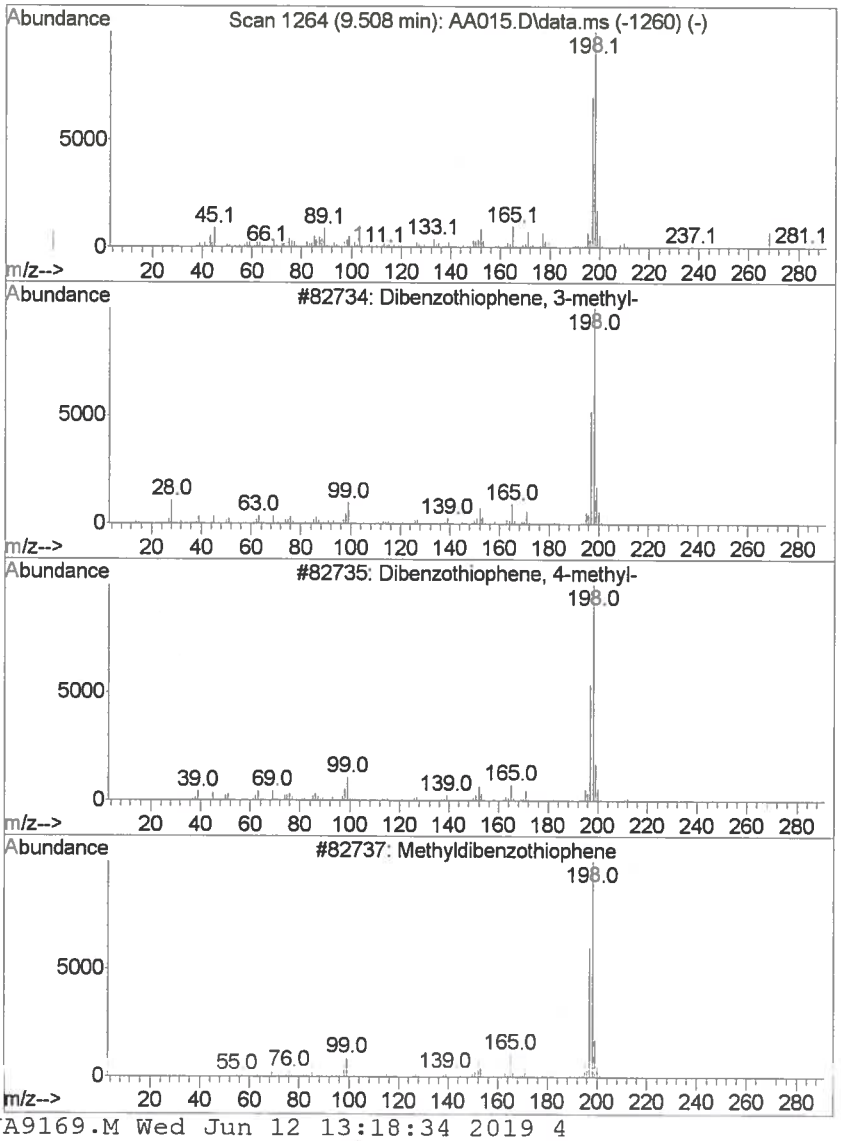
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

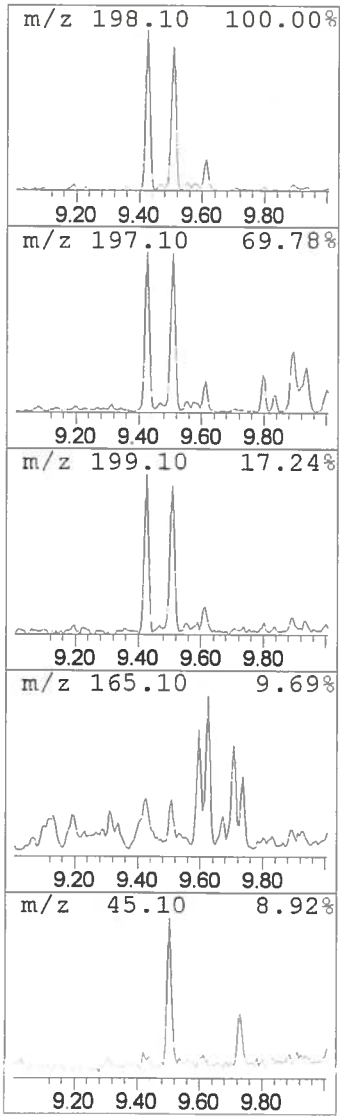
****

Peak Number 2 Dibenzothiophene, 3-methyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.508	30.03 ug/ml	242940	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dibenzothiophene, 3-methyl-	198	C13H10S	016587-52-3	93
2	Dibenzothiophene, 4-methyl-	198	C13H10S	007372-88-5	93
3	Methyldibenzothiophene	198	C13H10S	030995-64-3	86
4	Benzene, 1,1'-(1-fluoro-1,2-ethe...	198	C14H11F	000671-19-2	86
5	Benzenamine, 4,4'-methylenebis-	198	C13H14N2	000101-77-9	80





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

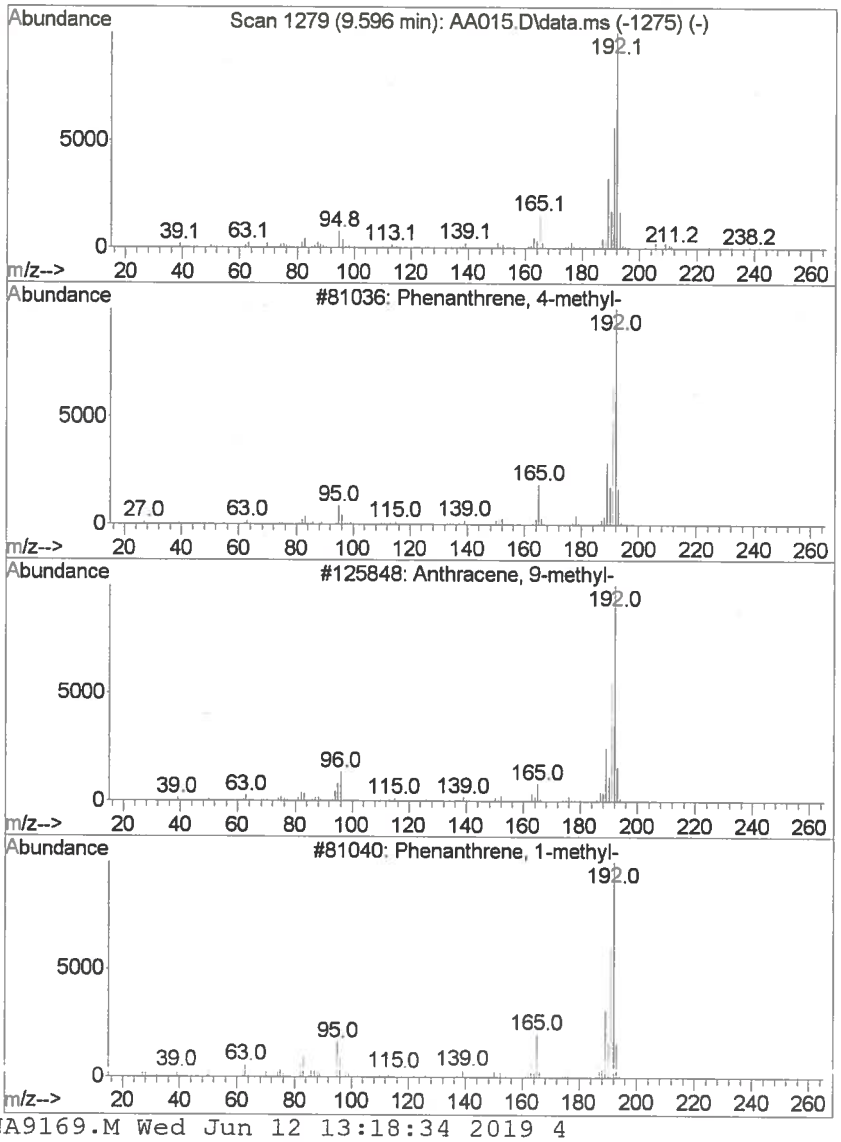
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

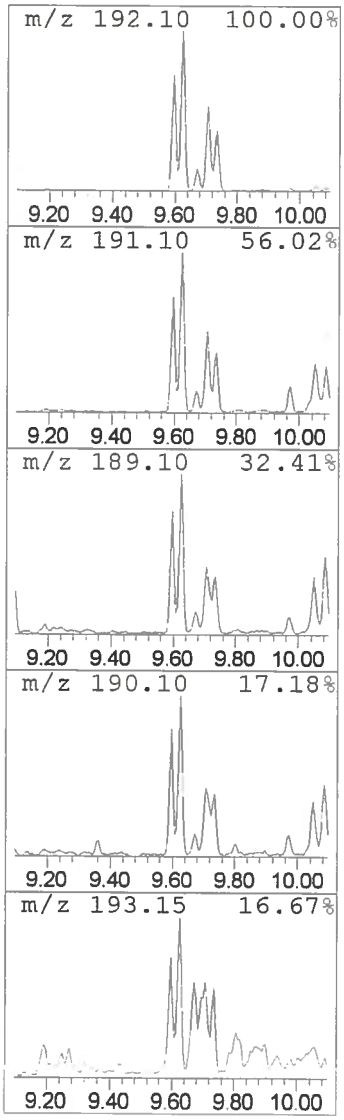
****

Peak Number 3 Phenanthrene, 4-methyl- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.596	34.95 ug/ml	282729	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthrene, 4-methyl-	192	C15H12	000832-64-4	95
2	Anthracene, 9-methyl-	192	C15H12	000779-02-2	94
3	Phenanthrene, 1-methyl-	192	C15H12	000832-69-9	93
4	Phenanthrene, 2-methyl-	192	C15H12	002531-84-2	93
5	1H-Cyclopropa[l]phenanthrene,1a,...	192	C15H12	000949-41-7	92





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

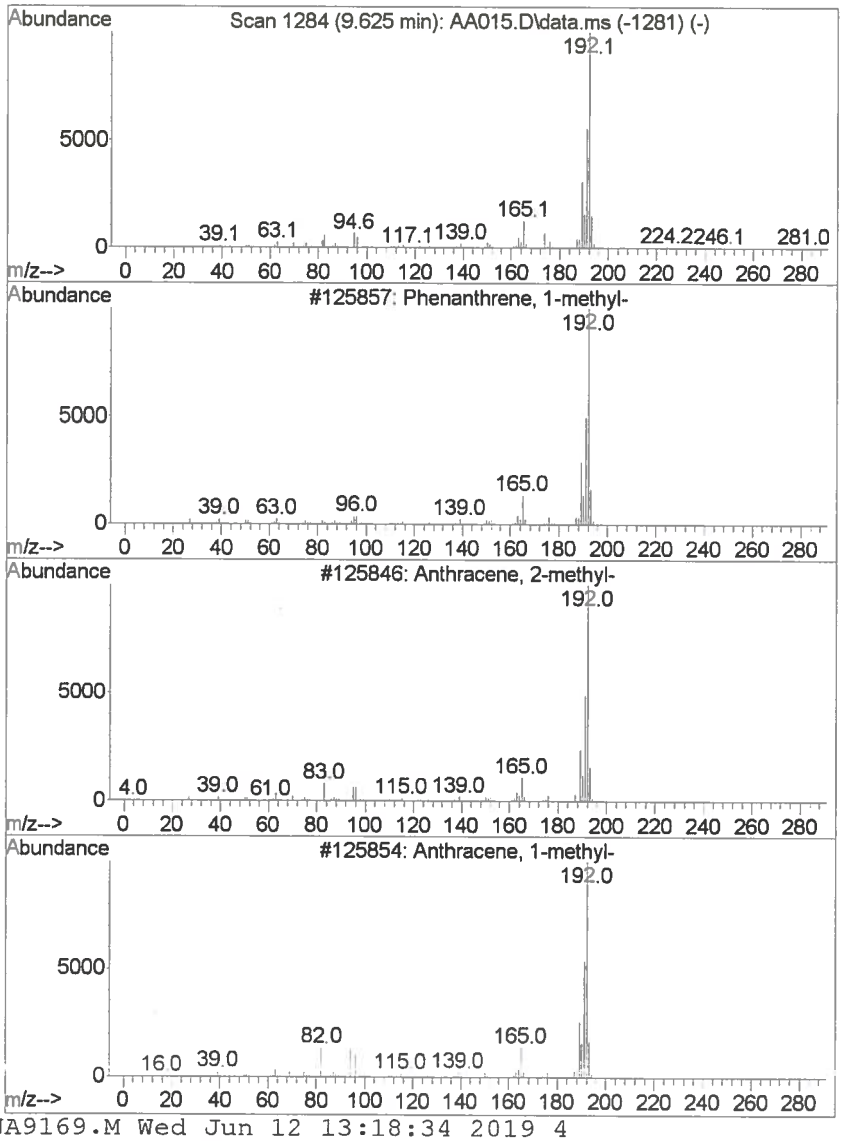
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

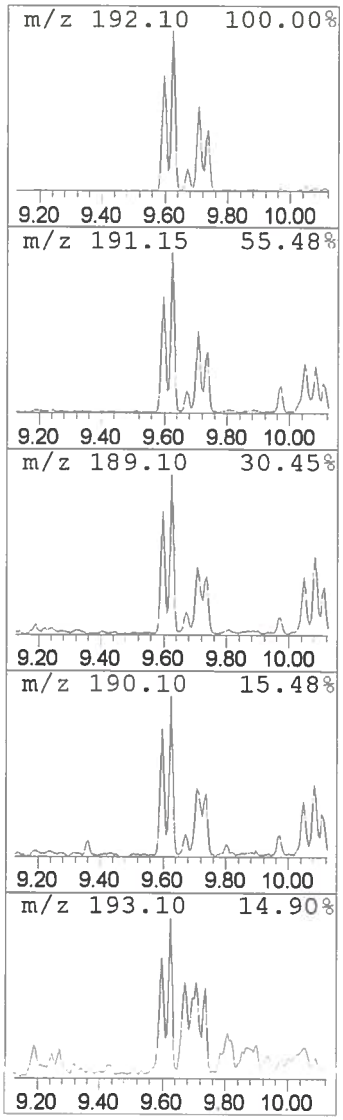
****

Peak Number 4 Phenanthrene, 1-methyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.625	45.01 ug/ml	364087	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthrene, 1-methyl-	192	C15H12	000832-69-9	95
2	Anthracene, 2-methyl-	192	C15H12	000613-12-7	94
3	Anthracene, 1-methyl-	192	C15H12	000610-48-0	94
4	Phenanthrene, 4-methyl-	192	C15H12	000832-64-4	93
5	1H-Cyclopropa[l]phenanthrene,1a,...	192	C15H12	000949-41-7	93





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

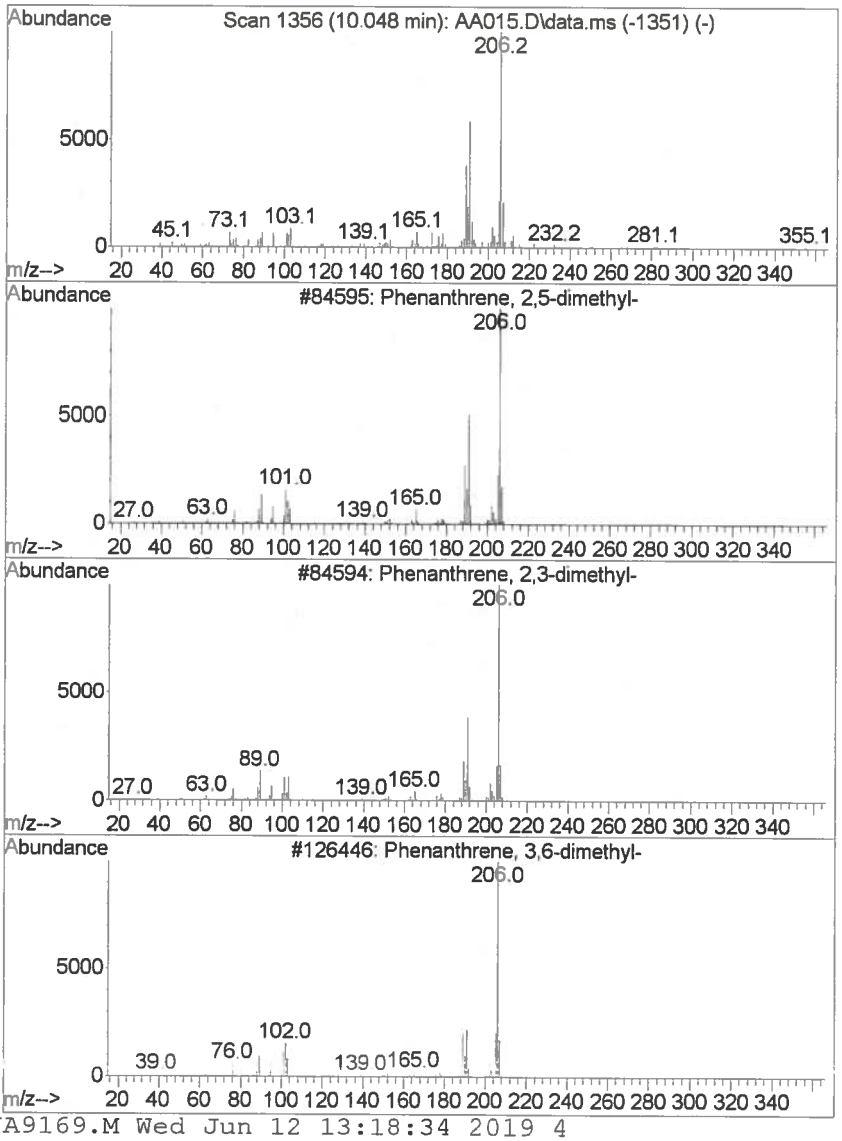
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

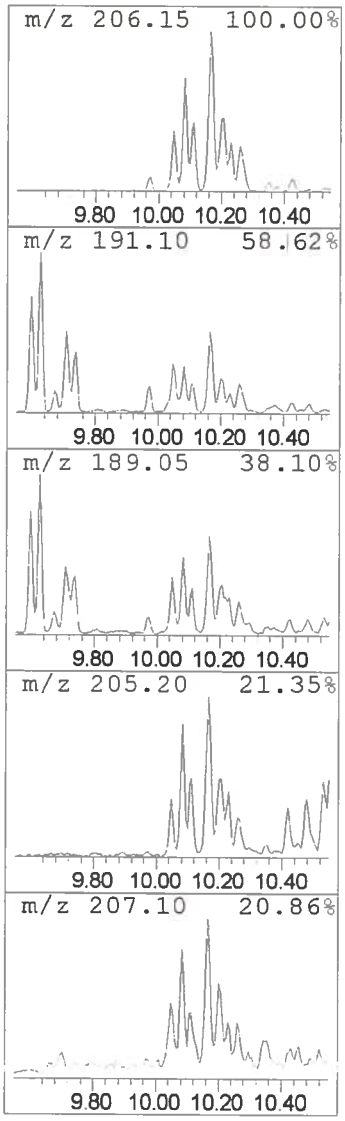
****

Peak Number 5 Phenanthrene, 2,5-dimethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.048	46.40 ug/ml	375342	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthrene, 2,5-dimethyl-	206	C16H14	003674-66-6	93
2	Phenanthrene, 2,3-dimethyl-	206	C16H14	003674-65-5	93
3	Phenanthrene, 3,6-dimethyl-	206	C16H14	001576-67-6	91
4	9,10-Dimethylanthracene	206	C16H14	000781-43-1	90
5	Anthracene, 1,4-dimethyl-	206	C16H14	000781-92-0	83





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Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

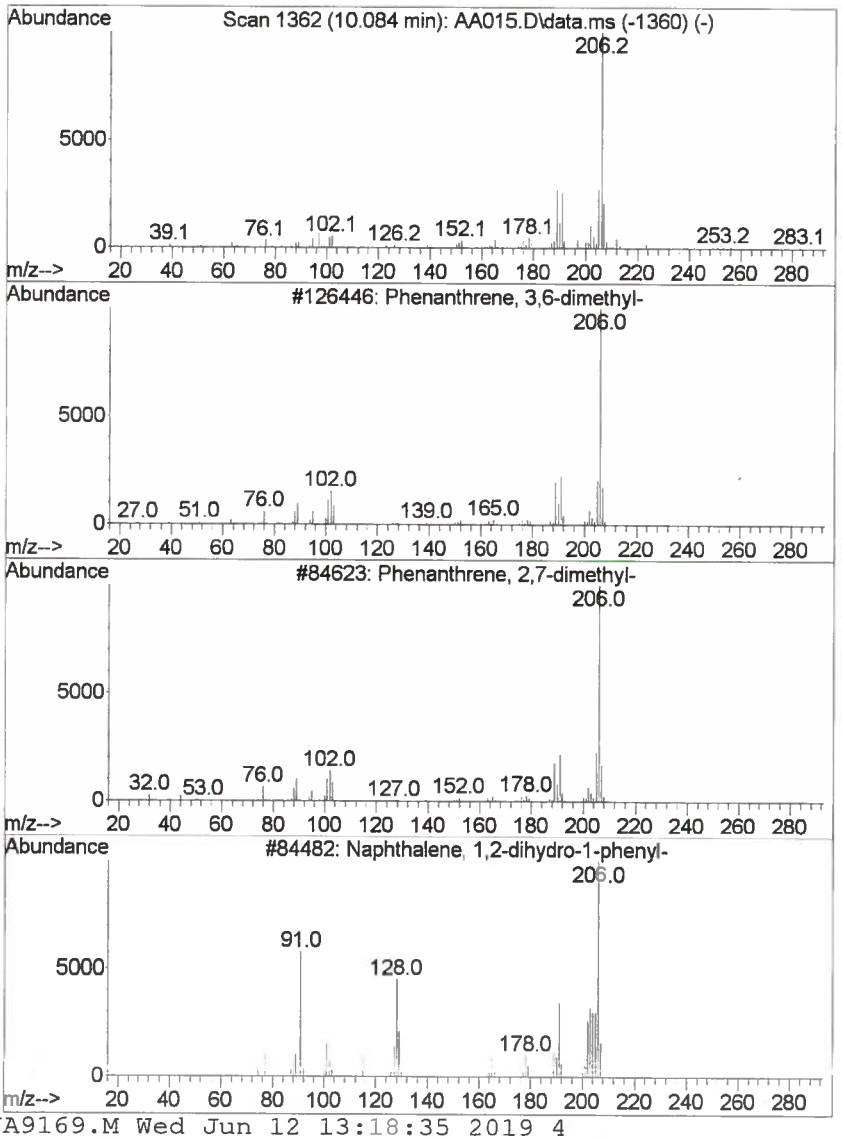
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

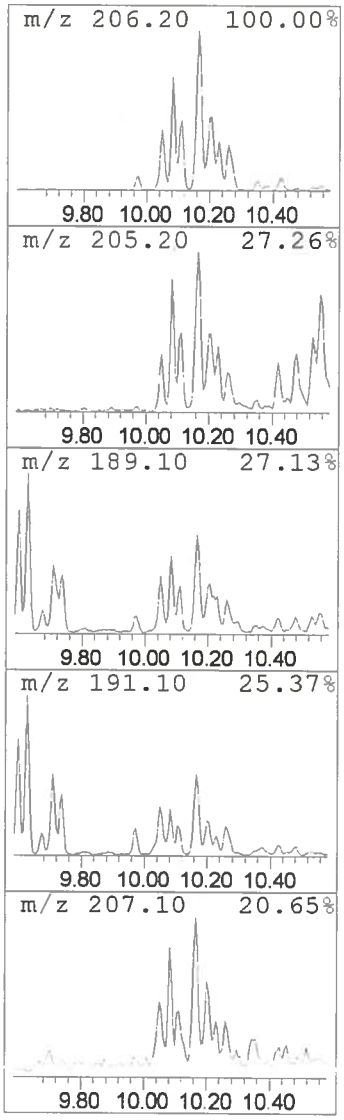
****

Peak Number 6 Phenanthrene, 3,6-dimethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.084	29.41 ug/ml	237877	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthrene, 3,6-dimethyl-	206	C16H14	001576-67-6	90
2	Phenanthrene, 2,7-dimethyl-	206	C16H14	001576-69-8	87
3	Naphthalene, 1,2-dihydro-1-phenyl-	206	C16H14	016606-46-5	72
4	2-Cyclohexen-1-one, 4,4-diphenyl-	248	C18H16O	004528-64-7	72
5	Anthracene, 2-ethyl-	206	C16H14	052251-71-5	64





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

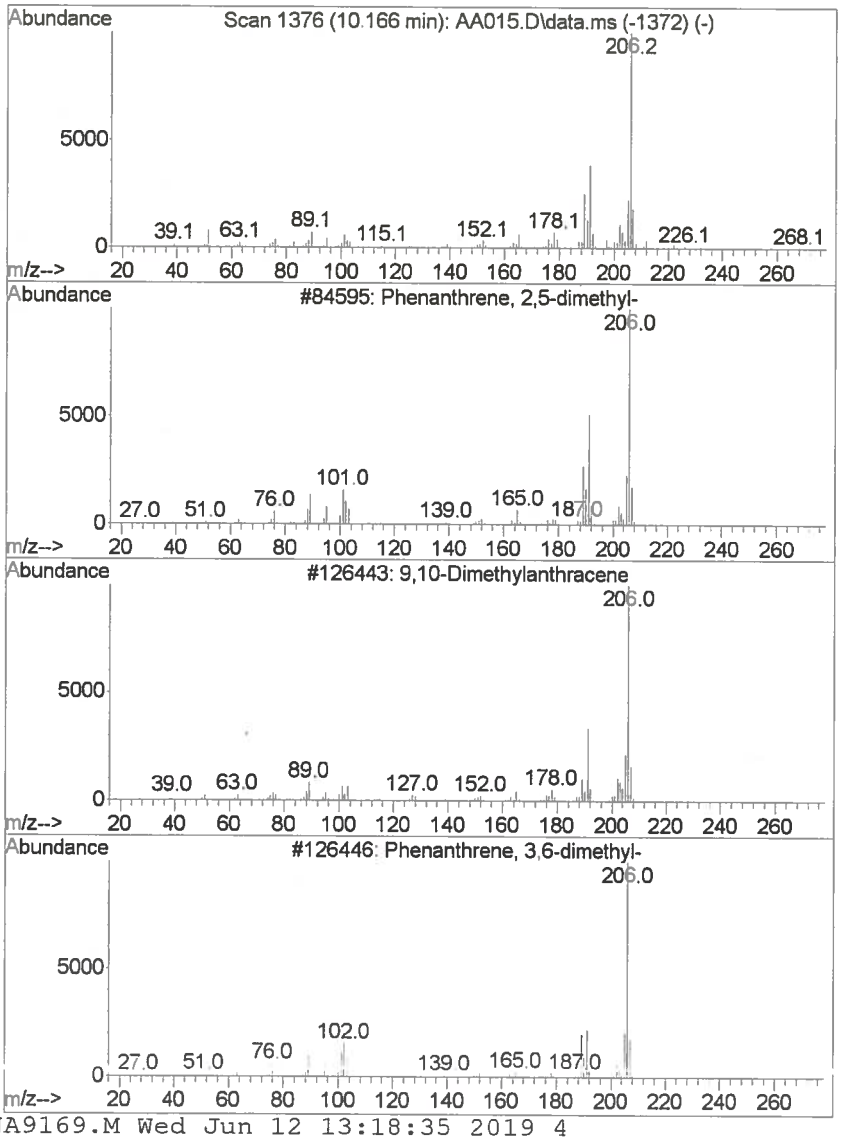
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

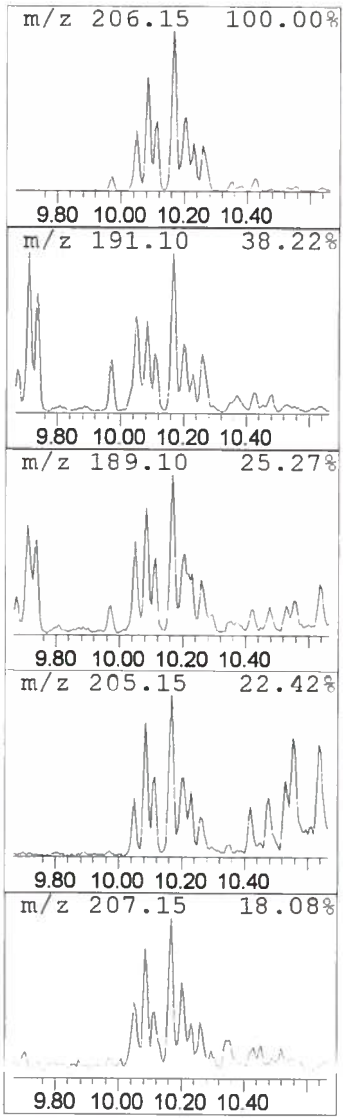
****

Peak Number 7 Phenanthrene, 2,5-dimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.166	50.96 ug/ml	412185	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenanthrene, 2,5-dimethyl-	206	C16H14	003674-66-6	93
2	9,10-Dimethylanthracene	206	C16H14	000781-43-1	93
3	Phenanthrene, 3,6-dimethyl-	206	C16H14	001576-67-6	93
4	Phenanthrene, 2,3-dimethyl-	206	C16H14	003674-65-5	93
5	Phenanthrene, 2,7-dimethyl-	206	C16H14	001576-69-8	90





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

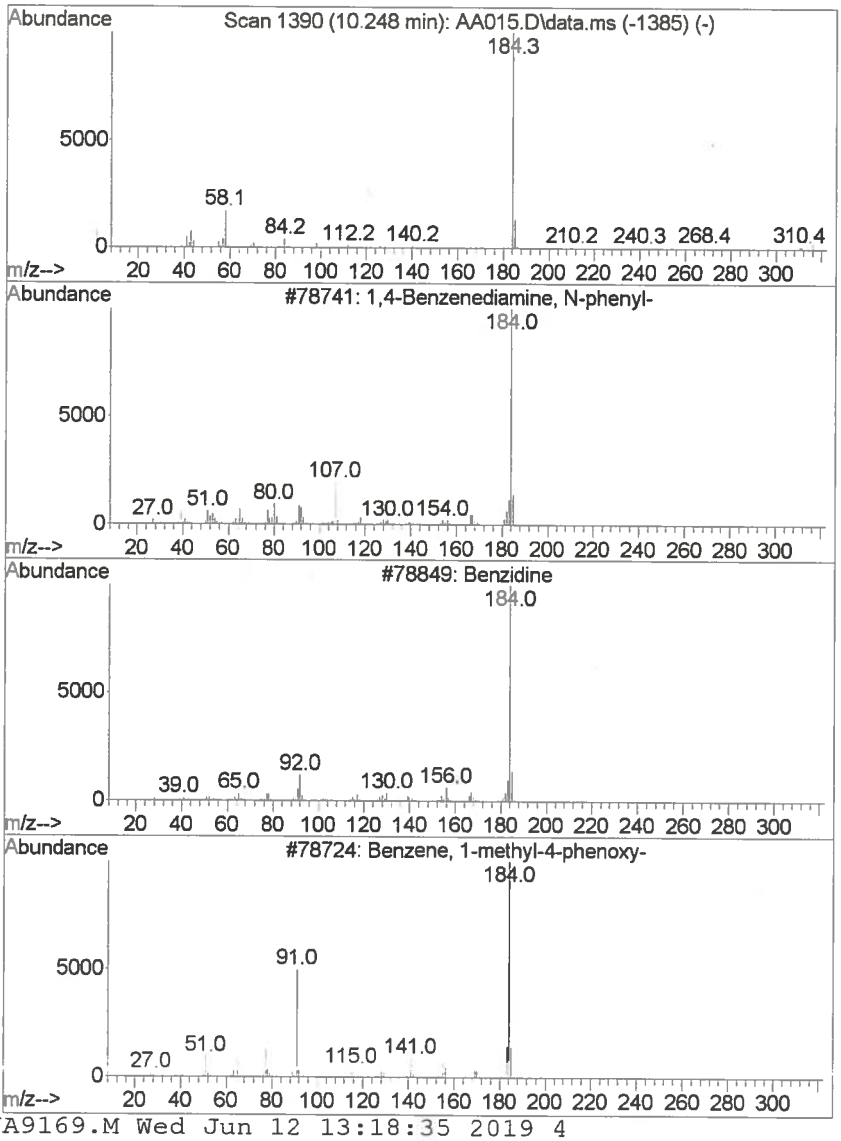
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

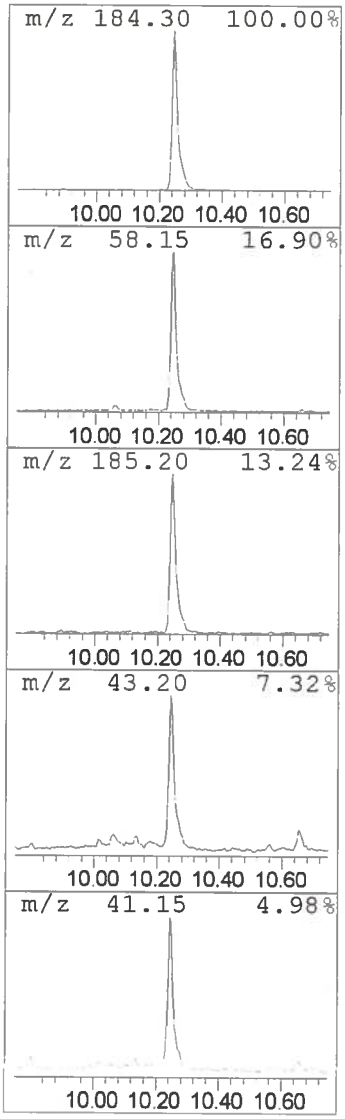
****

Peak Number 8 1,4-Benzenediamine, N-phenyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.248	135.73 ug/ml	1097860	Phenanthrene-d10*	9.091

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,4-Benzenediamine, N-phenyl-	184	C12H12N2	000101-54-2	9
2	Benzidine	184	C12H12N2	000092-87-5	9
3	Benzene, 1-methyl-4-phenoxy-	184	C13H12O	001706-12-3	9
4	Benzene, 1-methyl-2-phenoxy-	184	C13H12O	003991-61-5	9
5	Benzene, 1-methyl-3-phenoxy-	184	C13H12O	003586-14-9	9





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

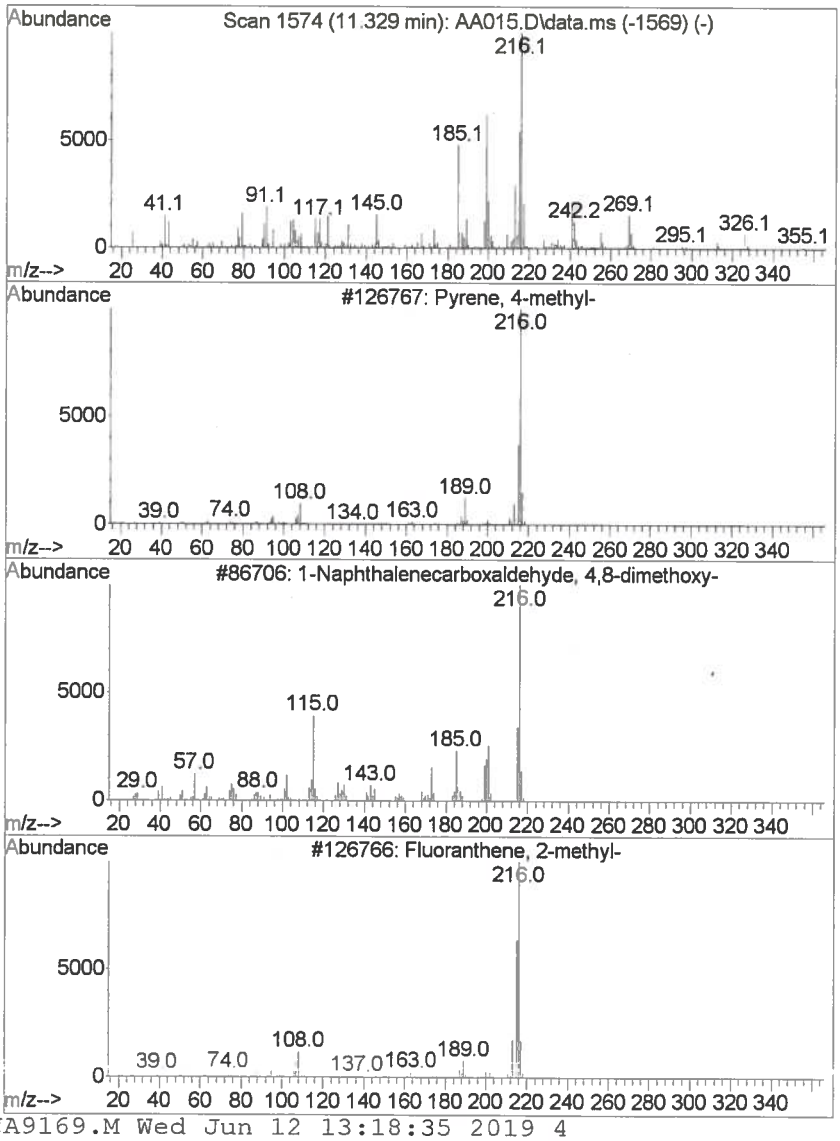
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

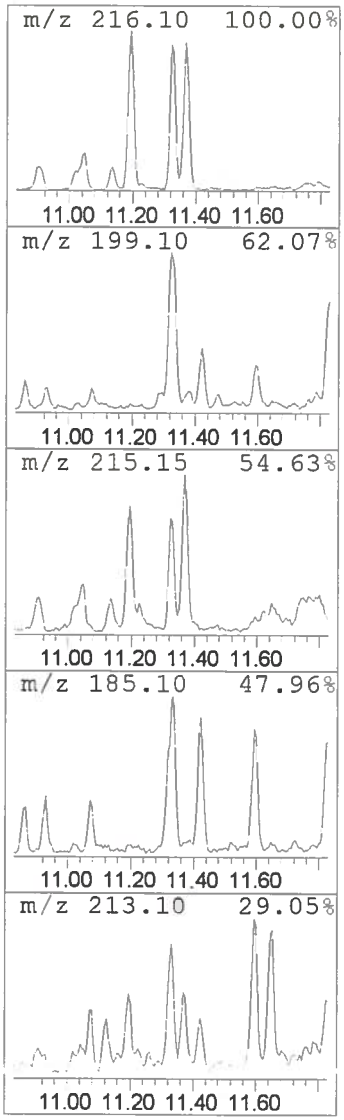
****

Peak Number 9 Pyrene, 4-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.329	37.83 ug/ml	455210	Chrysene-d12	12.405

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pyrene, 4-methyl-	216	C17H12	003353-12-6	50
2	1-Naphthalenecarboxaldehyde, 4,8...	216	C13H12O3	069833-11-0	46
3	Fluoranthene, 2-methyl-	216	C17H12	033543-31-6	46
4	Pyrene, 2-methyl-	216	C17H12	003442-78-2	45
5	Pyrene, 1-methyl-	216	C17H12	002381-21-7	43





CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

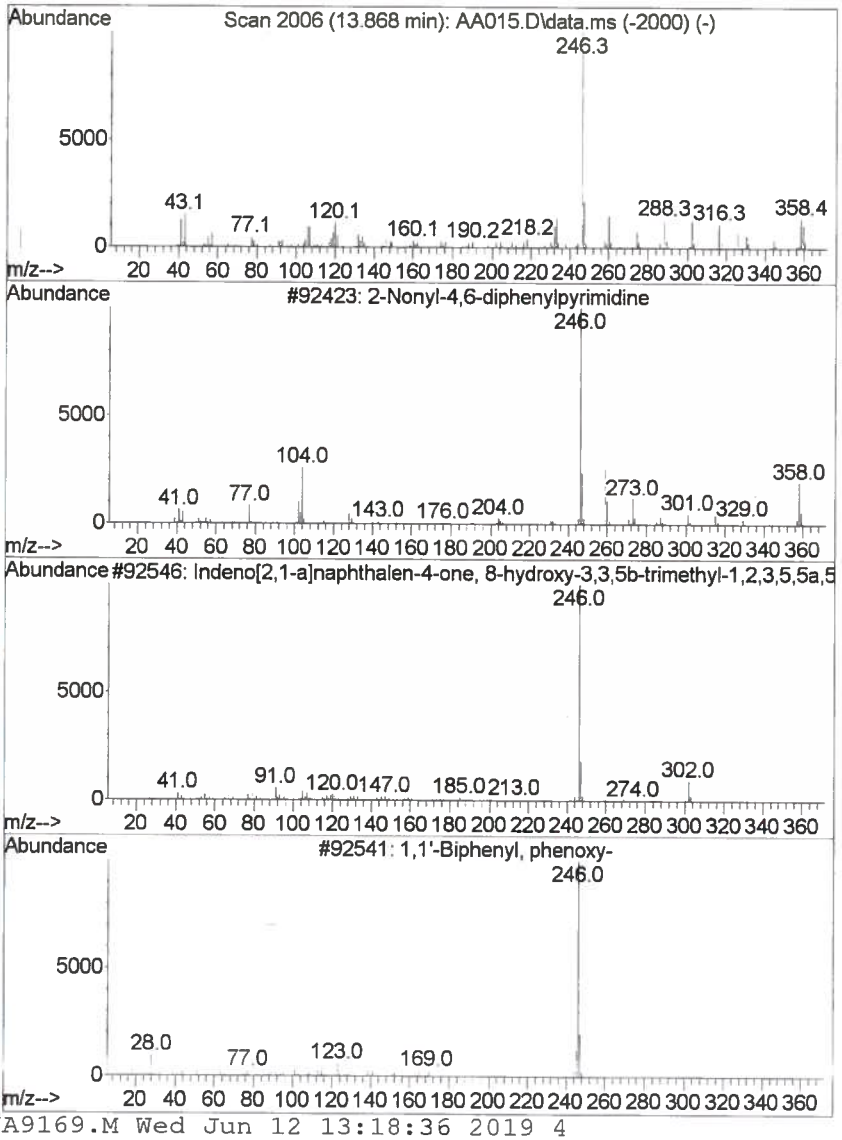
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

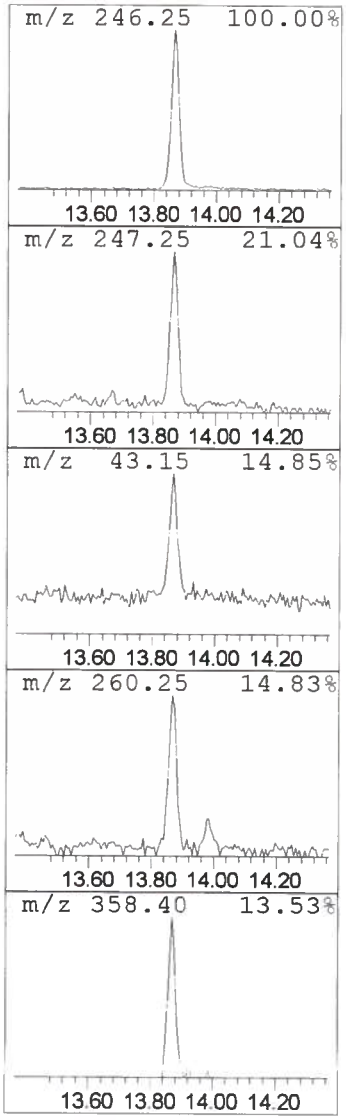
****

Peak Number 10 2-Nonyl-4,6-diphenylpyrimidine Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.868	37.45 ug/ml	280943	Perylene-d12	15.313

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Nonyl-4,6-diphenylpyrimidine	358	C25H30N2	1000070-60-5	53
2	Indeno[2,1-a]naphthalen-4-one, 8...	302	C20H30O2	1000195-73-5	49
3	1,1'-Biphenyl, phenoxy-	246	C18H14O	028984-89-6	43
4	Bicyclo[3.1.0]hex-3-en-2-one, 6,...	246	C18H14O	013304-07-9	43
5	Uracil, 1,3-dimethyl-5-(p-methox...	246	C13H14N2O3	105202-42-4	43





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190612\
Data File : AA015.D
Acq On : 12 Jun 2019 11:30 am
Operator : DH
Sample : 19060677-001A
Misc : ,SV_8270S_S,SAMP,100,10UL-1000
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9169.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
2-Propanol, 1-(...	5.988	33.3	ug/ml	137312	4	5.806	164698	40.0
Dibenzothiophen...	9.508	30.0	ug/ml	242940	7	9.091	323546	40.0
Phenanthrene, 4...	9.596	35.0	ug/ml	282729	7	9.091	323546	40.0
Phenanthrene, 1...	9.625	45.0	ug/ml	364087	7	9.091	323546	40.0
Phenanthrene, 2...	10.048	46.4	ug/ml	375342	7	9.091	323546	40.0
Phenanthrene, 3...	10.084	29.4	ug/ml	237877	7	9.091	323546	40.0
Phenanthrene, 2...	10.166	51.0	ug/ml	412185	7	9.091	323546	40.0
1,4-Benzenediam...	10.248	135.7	ug/ml	1097860	7	9.091	323546	40.0
Pyrene, 4-methyl-	11.329	37.8	ug/ml	455210	8	12.405	481352	40.0
2-Nonyl-4,6-dip...	13.868	37.5	ug/ml	280943	10	15.313	300047	40.0

Roxana Predesign Soil Data Review

Laboratory SDG: 19060781

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/17/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
PD-5-CPT-061219-EB	TB-PW-061219
PD-10-SB-46-061219	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative, the compound naphthalene was detected in the method blank. Analytes were detected in equipment blank, PD-5-CPT-061219-EB. This issue is addressed further in section 4.0 of this data review. Additionally. the sample ID for PD-10-SB-46-061219 was recorded on the COC with a depth of 45 feet; sample results are reported correctly; no qualification of data was required.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-5-CPT-061219-EB	VOCs	Acetone	12.2 μg/L
PD-5-CPT-061219-EB	VOCs	Benzene	1.2 μg/L
MBLK-T190613A-1	VOCs	Naphthalene	0.4 μg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration, (10X) for common laboratory contaminants, did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Teklab, Inc.
Environmental Laboratory

http://www.teklabinc.com/

June 17, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19060781

Dear Elizabeth Kunkel:

TEKLAB, INC received 3 samples on 6/12/2019 4:40:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 6/17/2019

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Accreditations	5
Laboratory Results	6
Sample Summary	16
Dates Report	17
Quality Control Results	18
Receiving Check List	41
Chain of Custody	Appended

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060781

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

Cooler Receipt Temp: 5.42 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	EHurley@teklabinc.com

Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
Fax	(217) 698-1005
Email	KKlostermann@teklabinc.com

Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-001
Client Sample ID: PD-5-CPT-061219-EB
Matrix: AQUEOUS
Collection Date: 06/12/2019 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00100		ND	mg/L	1	06/13/2019 17:43	154218
1-Methylnaphthalene	*	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
2-Methylnaphthalene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Acenaphthene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Acenaphthylene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Anthracene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Benzo(a)anthracene	*	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Benzo(a)pyrene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Benzo(b)fluoranthene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Benzo(g,h,i)perylene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Benzo(k)fluoranthene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Chrysene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Dibenzo(a,h)anthracene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Fluoranthene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Fluorene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Indeno(1,2,3-cd)pyrene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Phenanthrene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Pyrene	NELAP	0.00010		ND	mg/L	1	06/13/2019 17:43	154218
Surr: 2-Fluorobiphenyl	*	13.8-99.2		49.6	%REC	1	06/13/2019 17:43	154218
Surr: Nitrobenzene-d5	*	15.3-96.2		49.8	%REC	1	06/13/2019 17:43	154218
Surr: p-Terphenyl-d14	*	10-109		66.1	%REC	1	06/13/2019 17:43	154218
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2,4,6-Trichlorophenol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2,4-Dichlorophenol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2,4-Dimethylphenol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2,4-Dinitrophenol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
2,4-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2,6-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2-Chloronaphthalene	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2-Chlorophenol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
2-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/13/2019 19:00	154217
2-Nitrophenol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
3,3'-Dichlorobenzidine	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
3-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/13/2019 19:00	154217
4,6-Dinitro-2-methylphenol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
4-Bromophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
4-Chloro-3-methylphenol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
4-Chloroaniline	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
4-Chlorophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
4-Nitroaniline	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
4-Nitrophenol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
Aniline	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
Azobenzene	*	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Benzoic acid	NELAP	0.050		ND	mg/L	1	06/13/2019 19:00	154217
Benzyl alcohol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
Bis(2-chloroethoxy)methane	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-001
Client Sample ID: PD-5-CPT-061219-EB
Matrix: AQUEOUS
Collection Date: 06/12/2019 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethyl)ether	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Bis(2-chloroisopropyl)ether	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Bis(2-ethylhexyl)phthalate	NELAP	0.006		ND	mg/L	1	06/13/2019 19:00	154217
Butyl benzyl phthalate	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Dibenzofuran	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Diethyl phthalate	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Dimethyl phthalate	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Di-n-butyl phthalate	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Di-n-octyl phthalate	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Hexachlorobenzene	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Hexachlorocyclopentadiene	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
Hexachloroethane	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Isophorone	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
m,p-Cresol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Nitrobenzene	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
N-Nitrosodimethylamine	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
N-Nitroso-di-n-propylamine	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
N-Nitrosodiphenylamine	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
o-Cresol	NELAP	0.010		ND	mg/L	1	06/13/2019 19:00	154217
Pentachlorophenol	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
Phenol	NELAP	0.005		ND	mg/L	1	06/13/2019 19:00	154217
Pyridine	NELAP	0.020		ND	mg/L	1	06/13/2019 19:00	154217
Quinoline	*	0.005		ND	mg/L	1	06/13/2019 19:00	154217
Surr: 2,4,6-Tribromophenol	*	14.8-138		77.8	%REC	1	06/13/2019 19:00	154217
Surr: 2-Fluorobiphenyl	*	12.2-118		65.5	%REC	1	06/13/2019 19:00	154217
Surr: 2-Fluorophenol	*	11.1-70.8		51.9	%REC	1	06/13/2019 19:00	154217
Surr: Nitrobenzene-d5	*	14-118		72.0	%REC	1	06/13/2019 19:00	154217
Surr: Phenol-d5	*	10-49.2		34.4	%REC	1	06/13/2019 19:00	154217
Surr: p-Terphenyl-d14	*	11.3-110		82.8	%REC	1	06/13/2019 19:00	154217
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/13/2019 11:10	154226
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-001
Client Sample ID: PD-5-CPT-061219-EB
Matrix: AQUEOUS
Collection Date: 06/12/2019 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
2-Butanone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:10	154226
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/13/2019 11:10	154226
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:10	154226
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:10	154226
Acetone	NELAP	10.0		12.2	µg/L	1	06/13/2019 11:10	154226
Acrolein	NELAP	20.0		ND	µg/L	1	06/13/2019 11:10	154226
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/13/2019 11:10	154226
Benzene	NELAP	0.5		1.2	µg/L	1	06/13/2019 11:10	154226
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Bromoform	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Bromomethane	NELAP	5.0		ND	µg/L	1	06/13/2019 11:10	154226
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Chloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Chloroform	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Chloromethane	NELAP	5.0		ND	µg/L	1	06/13/2019 11:10	154226
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/13/2019 11:10	154226
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/13/2019 11:10	154226
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Naphthalene	NELAP	5.0	B	ND	µg/L	1	06/13/2019 11:10	154226
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
o-Xylene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Styrene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/13/2019 11:10	154226
Toluene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:10	154226

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-001
Client Sample ID: PD-5-CPT-061219-EB
Matrix: AQUEOUS
Collection Date: 06/12/2019 12:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:10	154226
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:10	154226
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2019 11:10	154226
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/13/2019 11:10	154226
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:10	154226
Xylenes, Total	NELAP	4.0		**ND**	µg/L	1	06/13/2019 11:10	154226
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**100.8**	%REC	1	06/13/2019 11:10	154226
Surr: 4-Bromofluorobenzene	*	83.9-115		**99.0**	%REC	1	06/13/2019 11:10	154226
Surr: Dibromofluoromethane	*	84.9-113		**103.1**	%REC	1	06/13/2019 11:10	154226
Surr: Toluene-d8	*	86.7-112		**96.8**	%REC	1	06/13/2019 11:10	154226

Naphthalene was detected in the MBLK at a level between the MDL and the RL. Sample result is less than the RL. Data is reportable.

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-002
Client Sample ID: TB-PW-061219
Matrix: TRIP BLANK
Collection Date: 06/12/2019 16:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/13/2019 11:36	154226
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
2-Butanone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:36	154226
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/13/2019 11:36	154226
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:36	154226
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:36	154226
Acetone	NELAP	10.0		ND	µg/L	1	06/13/2019 11:36	154226
Acrolein	NELAP	20.0		ND	µg/L	1	06/13/2019 11:36	154226
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/13/2019 11:36	154226
Benzene	NELAP	0.5		ND	µg/L	1	06/13/2019 11:36	154226
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Bromoform	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Bromomethane	NELAP	5.0		ND	µg/L	1	06/13/2019 11:36	154226
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Chloroethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Chloroform	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Chloromethane	NELAP	5.0		ND	µg/L	1	06/13/2019 11:36	154226
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/13/2019 11:36	154226
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/13/2019 11:36	154226

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-002
Client Sample ID: TB-PW-061219
Matrix: TRIP BLANK
Collection Date: 06/12/2019 16:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Hexachlorobutadiene	NELAP	5.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Isopropylbenzene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
m,p-Xylenes	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Methyl tert-butyl ether	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Methylene chloride	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Naphthalene	NELAP	5.0	B	**ND**	µg/L	1	06/13/2019 11:36	154226
n-Butylbenzene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
n-Propylbenzene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
o-Xylene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
p-Isopropyltoluene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
sec-Butylbenzene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Styrene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
tert-Butylbenzene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Tetrachloroethene	NELAP	0.5		**ND**	µg/L	1	06/13/2019 11:36	154226
Toluene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Xylenes, Total	NELAP	4.0		**ND**	µg/L	1	06/13/2019 11:36	154226
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**100.9**	%REC	1	06/13/2019 11:36	154226
Surr: 4-Bromofluorobenzene	*	83.9-115		**95.5**	%REC	1	06/13/2019 11:36	154226
Surr: Dibromofluoromethane	*	84.9-113		**102.9**	%REC	1	06/13/2019 11:36	154226
Surr: Toluene-d8	*	86.7-112		**95.4**	%REC	1	06/13/2019 11:36	154226

Naphthalene was detected in the MBLK at a level between the MDL and the RL. Sample result is less than the RL. Data is reportable.

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Laboratory Results

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Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-003
Client Sample ID: PD-10-SB-45-061219
Matrix: SOLID
Collection Date: 06/12/2019 14:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**18.4**	%	1	06/12/2019 17:21	R263048
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.831		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
1-Methylnaphthalene	*	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
2-Methylnaphthalene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Acenaphthene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Acenaphthylene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Anthracene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Benzo(a)anthracene	NELAP	0.0244		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Benzo(a)pyrene	NELAP	0.0083	J	**0.0016**	mg/Kg-dry	1	06/13/2019 18:14	154223
Benzo(b)fluoranthene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Benzo(g,h,i)perylene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Benzo(k)fluoranthene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Chrysene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Dibenzo(a,h)anthracene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Fluoranthene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Fluorene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Indeno(1,2,3-cd)pyrene	NELAP	0.0083		**ND**	mg/Kg-dry	1	06/13/2019 18:14	154223
Phenanthrene	NELAP	0.0083	J	**0.0081**	mg/Kg-dry	1	06/13/2019 18:14	154223
Pyrene	NELAP	0.0083	J	**0.0057**	mg/Kg-dry	1	06/13/2019 18:14	154223
Surr: 2-Fluorobiphenyl	*	8.85-90.5		**30.3**	%REC	1	06/13/2019 18:14	154223
Surr: Nitrobenzene-d5	*	5-102		**30.9**	%REC	1	06/13/2019 18:14	154223
Surr: p-Terphenyl-d14	*	18.4-103		**42.3**	%REC	1	06/13/2019 18:14	154223
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2,4,6-Trichlorophenol	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2,4-Dichlorophenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2,4-Dimethylphenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2,4-Dinitrophenol	NELAP	2.44		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2,4-Dinitrotoluene	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2,6-Dinitrotoluene	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2-Chloronaphthalene	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2-Chlorophenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2-Nitroaniline	NELAP	2.44		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
2-Nitrophenol	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
3,3'-Dichlorobenzidine	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
3-Nitroaniline	NELAP	2.44		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4,6-Dinitro-2-methylphenol	NELAP	2.44		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4-Bromophenyl phenyl ether	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4-Chloro-3-methylphenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4-Chloroaniline	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4-Chlorophenyl phenyl ether	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4-Nitroaniline	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
4-Nitrophenol	NELAP	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
Aniline	NELAP	1.22		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219
Azobenzene	*	0.855		**ND**	mg/Kg-dry	1	06/13/2019 19:27	154219

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Environmental Laboratory

Laboratory Results

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Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-003
Client Sample ID: PD-10-SB-45-061219
Matrix: SOLID
Collection Date: 06/12/2019 14:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	3.67		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Benzyl alcohol	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Bis(2-chloroethoxy)methane	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Bis(2-chloroethyl)ether	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Bis(2-chloroisopropyl)ether	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Bis(2-ethylhexyl)phthalate	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Butyl benzyl phthalate	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Dibenzofuran	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Diethyl phthalate	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Dimethyl phthalate	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Di-n-butyl phthalate	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Di-n-octyl phthalate	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Hexachlorobenzene	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Hexachlorocyclopentadiene	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Hexachloroethane	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Isophorone	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
m,p-Cresol	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Nitrobenzene	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
N-Nitrosodimethylamine	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
N-Nitroso-di-n-propylamine	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
N-Nitrosodiphenylamine	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
o-Cresol	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Pentachlorophenol	NELAP	4.89		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Phenol	NELAP	0.855		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Pyridine	NELAP	1.22		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Quinoline	*	0.489		ND	mg/Kg-dry	1	06/13/2019 19:27	154219
Surr: 2,4,6-Tribromophenol	*	41.6-114		54.7	%REC	1	06/13/2019 19:27	154219
Surr: 2-Fluorobiphenyl	*	29.3-105		48.6	%REC	1	06/13/2019 19:27	154219
Surr: 2-Fluorophenol	*	35.8-97.2		53.4	%REC	1	06/13/2019 19:27	154219
Surr: Nitrobenzene-d5	*	36.2-95.2		52.3	%REC	1	06/13/2019 19:27	154219
Surr: Phenol-d5	*	38.8-103		58.2	%REC	1	06/13/2019 19:27	154219
Surr: p-Terphenyl-d14	*	43.2-116		66.2	%REC	1	06/13/2019 19:27	154219
Elevated reporting limit due to sample composition.								
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,1,2-Trichloroethane	NELAP	5.1		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,1-Dichloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,1-Dichloroethene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,1-Dichloropropene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2,4-Trimethylbenzene	NELAP	2.0		4.5	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2-Dibromo-3-chloropropane	NELAP	5.1		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2-Dibromoethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-003
Client Sample ID: PD-10-SB-45-061219
Matrix: SOLID
Collection Date: 06/12/2019 14:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2-Dichloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,2-Dichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,3-Dichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
2,2-Dichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
2-Butanone	NELAP	25.4		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
2-Chloroethyl vinyl ether	*	5.1		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
2-Chlorotoluene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
2-Hexanone	NELAP	25.4		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
4-Chlorotoluene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
4-Methyl-2-pentanone	NELAP	25.4		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Acetone	NELAP	25.4		29.7	µg/Kg-dry	1	06/13/2019 10:59	154233
Acrolein	NELAP	50.9		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Acrylonitrile	NELAP	5.1		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Benzene	NELAP	1.0		11.8	µg/Kg-dry	1	06/13/2019 10:59	154233
Bromobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Bromochloromethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Bromodichloromethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Bromoform	NELAP	5.1		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Bromomethane	NELAP	10.2		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Carbon disulfide	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Carbon tetrachloride	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Chlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Chloroethane	NELAP	10.2		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Chloroform	NELAP	2.0	J	0.9	µg/Kg-dry	1	06/13/2019 10:59	154233
Chloromethane	NELAP	10.2		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Dibromochloromethane	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Dichlorodifluoromethane	NELAP	10.2		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Ethyl methacrylate	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Ethylbenzene	NELAP	2.0		2.5	µg/Kg-dry	1	06/13/2019 10:59	154233
Hexachlorobutadiene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Isopropylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
m,p-Xylenes	NELAP	4.1	J	2.4	µg/Kg-dry	1	06/13/2019 10:59	154233
Methyl tert-butyl ether	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Methylene chloride	NELAP	10.2		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Naphthalene	NELAP	5.1		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
n-Butylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
n-Propylbenzene	NELAP	2.0	J	1.0	µg/Kg-dry	1	06/13/2019 10:59	154233
o-Xylene	NELAP	4.1	J	1.2	µg/Kg-dry	1	06/13/2019 10:59	154233
p-Isopropyltoluene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
sec-Butylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233
Styrene	NELAP	2.0		ND	µg/Kg-dry	1	06/13/2019 10:59	154233

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060781-003
Client Sample ID: PD-10-SB-45-061219
Matrix: SOLID
Collection Date: 06/12/2019 14:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
tert-Butylbenzene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Tetrachloroethene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Toluene	NELAP	2.0	J	**0.8**	µg/Kg-dry	1	06/13/2019 10:59	154233
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Trichloroethene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Trichlorofluoromethane	NELAP	5.1		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Vinyl acetate	NELAP	50.9		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Vinyl chloride	NELAP	2.0		**ND**	µg/Kg-dry	1	06/13/2019 10:59	154233
Xylenes, Total	NELAP	8.1	J	**3.6**	µg/Kg-dry	1	06/13/2019 10:59	154233
Surr: 1,2-Dichloroethane-d4	*	74-124		**104.1**	%REC	1	06/13/2019 10:59	154233
Surr: 4-Bromofluorobenzene	*	79.4-123		**102.9**	%REC	1	06/13/2019 10:59	154233
Surr: Dibromofluoromethane	*	89.2-112		**98.5**	%REC	1	06/13/2019 10:59	154233
Surr: Toluene-d8	*	85-115		**101.2**	%REC	1	06/13/2019 10:59	154233

Teklab, Inc.
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Sample Summary

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19060781-001	PD-5-CPT-061219-EB	Aqueous	3	06/12/2019 12:00
19060781-002	TB-PW-061219	Trip Blank	1	06/12/2019 16:40
19060781-003	PD-10-SB-45-061219	Solid	4	06/12/2019 14:55

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Dates Report

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
19060781-001A	PD-5-CPT-061219-EB	06/12/2019 12:00	06/12/2019 16:40		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/13/2019 9:22	06/13/2019 17:43
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/13/2019 9:20	06/13/2019 19:00
19060781-001C	PD-5-CPT-061219-EB	06/12/2019 12:00	06/12/2019 16:40		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/13/2019 11:10
19060781-002A	TB-PW-061219	06/12/2019 16:40	06/12/2019 16:40		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/13/2019 11:36
19060781-003A	PD-10-SB-45-061219	06/12/2019 14:55	06/12/2019 16:40		
	EPA SW846 3550C, 5035A, ASTM D2974				06/12/2019 17:21
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/13/2019 11:22	06/13/2019 18:14
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/13/2019 11:22	06/13/2019 19:27
19060781-003D	PD-10-SB-45-061219	06/12/2019 14:55	06/12/2019 16:40		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/13/2019 10:59

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R263048 **SampType:** LCS Units %
SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/12/2019

Batch R263048 **SampType:** LCSQC Units %
SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/12/2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154218 **SampType:** MBLK Units mg/L
SampID: MBLK-154218

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		**ND**						06/13/2019
1-Methylnaphthalene	0.00010		**ND**						06/13/2019
2-Methylnaphthalene	0.00010		**ND**						06/13/2019
Acenaphthene	0.00010		**ND**						06/13/2019
Acenaphthylene	0.00010		**ND**						06/13/2019
Anthracene	0.00010		**ND**						06/13/2019
Benzo(a)anthracene	0.00010		**ND**						06/13/2019
Benzo(a)pyrene	0.00010		**ND**						06/13/2019
Benzo(b)fluoranthene	0.00010		**ND**						06/13/2019
Benzo(g,h,i)perylene	0.00010		**ND**						06/13/2019
Benzo(k)fluoranthene	0.00010		**ND**						06/13/2019
Chrysene	0.00010		**ND**						06/13/2019
Dibenzo(a,h)anthracene	0.00010		**ND**						06/13/2019
Fluoranthene	0.00010		**ND**						06/13/2019
Fluorene	0.00010		**ND**						06/13/2019
Indeno(1,2,3-cd)pyrene	0.00010		**ND**						06/13/2019
Phenanthrene	0.00010		**ND**						06/13/2019
Pyrene	0.00010		**ND**						06/13/2019
Surr: 2-Fluorobiphenyl			**0.00337**	0.00500		67.4	36.1	101	06/13/2019
Surr: Nitrobenzene-d5			**0.00340**	0.00500		68.0	40.1	94.4	06/13/2019
Surr: p-Terphenyl-d14			**0.00432**	0.00500		86.4	48.4	119	06/13/2019

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Quality Control Results

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Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154218 **SampType:** LCS Units mg/L
SampID: LCS-154218

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		**0.00410**	0.01000	0	41.0	22.6	63.4	06/13/2019
1-Methylnaphthalene	0.00010		**0.00311**	0.00500	0	62.2	37.8	87.8	06/13/2019
2-Methylnaphthalene	0.00010		**0.00308**	0.00500	0	61.6	37.1	85.3	06/13/2019
Acenaphthene	0.00010		**0.00301**	0.00500	0	60.2	38.4	93.5	06/13/2019
Acenaphthylene	0.00010		**0.00313**	0.00500	0	62.6	37.9	91.4	06/13/2019
Anthracene	0.00010		**0.00325**	0.00500	0	65.0	39.3	94	06/13/2019
Benzo(a)anthracene	0.00010		**0.00352**	0.00500	0	70.4	43.3	94.3	06/13/2019
Benzo(a)pyrene	0.00010		**0.00326**	0.00500	0	65.2	42.8	98.3	06/13/2019
Benzo(b)fluoranthene	0.00010		**0.00328**	0.00500	0	65.6	43	97.5	06/13/2019
Benzo(g,h,i)perylene	0.00010		**0.00314**	0.00500	0	62.8	32.3	102	06/13/2019
Benzo(k)fluoranthene	0.00010		**0.00323**	0.00500	0	64.6	40.3	99.1	06/13/2019
Chrysene	0.00010		**0.00326**	0.00500	0	65.2	42.1	96	06/13/2019
Dibenzo(a,h)anthracene	0.00010		**0.00320**	0.00500	0	64.0	39.3	97.6	06/13/2019
Fluoranthene	0.00010		**0.00312**	0.00500	0	62.4	42.4	96	06/13/2019
Fluorene	0.00010		**0.00318**	0.00500	0	63.6	40.6	93.2	06/13/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00321**	0.00500	0	64.2	35.9	103	06/13/2019
Phenanthrene	0.00010		**0.00332**	0.00500	0	66.4	42.3	96.5	06/13/2019
Pyrene	0.00010		**0.00318**	0.00500	0	63.6	40.1	95.4	06/13/2019
Surr: 2-Fluorobiphenyl			**0.00247**	0.00500		49.4	36.1	101	06/13/2019
Surr: Nitrobenzene-d5			**0.00279**	0.00500		55.8	40.1	94.4	06/13/2019
Surr: p-Terphenyl-d14			**0.00300**	0.00500		60.0	48.4	119	06/13/2019

Batch 154218 **SampType:** LCSD Units mg/L RPD Limit 40
SampID: LCSD-154218

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	0.00100		**0.00452**	0.01000	0	45.2	0.004100	9.74	06/14/2019
1-Methylnaphthalene	0.00010		**0.00298**	0.00500	0	59.6	0.003110	4.27	06/14/2019
2-Methylnaphthalene	0.00010		**0.00298**	0.00500	0	59.6	0.003080	3.30	06/14/2019
Acenaphthene	0.00010		**0.00306**	0.00500	0	61.2	0.003010	1.65	06/14/2019
Acenaphthylene	0.00010		**0.00312**	0.00500	0	62.4	0.003130	0.32	06/14/2019
Anthracene	0.00010		**0.00327**	0.00500	0	65.4	0.003250	0.61	06/14/2019
Benzo(a)anthracene	0.00010		**0.00368**	0.00500	0	73.6	0.003520	4.44	06/14/2019
Benzo(a)pyrene	0.00010		**0.00336**	0.00500	0	67.2	0.003260	3.02	06/14/2019
Benzo(b)fluoranthene	0.00010		**0.00338**	0.00500	0	67.6	0.003280	3.00	06/14/2019
Benzo(g,h,i)perylene	0.00010		**0.00327**	0.00500	0	65.4	0.003140	4.06	06/14/2019
Benzo(k)fluoranthene	0.00010		**0.00340**	0.00500	0	68.0	0.003230	5.13	06/14/2019
Chrysene	0.00010		**0.00342**	0.00500	0	68.4	0.003260	4.79	06/14/2019
Dibenzo(a,h)anthracene	0.00010		**0.00331**	0.00500	0	66.2	0.003200	3.38	06/14/2019
Fluoranthene	0.00010		**0.00328**	0.00500	0	65.6	0.003120	5.00	06/14/2019
Fluorene	0.00010		**0.00317**	0.00500	0	63.4	0.003180	0.31	06/14/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00329**	0.00500	0	65.8	0.003210	2.46	06/14/2019
Phenanthrene	0.00010		**0.00341**	0.00500	0	68.2	0.003320	2.67	06/14/2019
Pyrene	0.00010		**0.00331**	0.00500	0	66.2	0.003180	4.01	06/14/2019
Surr: 2-Fluorobiphenyl			**0.00240**	0.00500		48.0			06/14/2019
Surr: Nitrobenzene-d5			**0.00272**	0.00500		54.4			06/14/2019
Surr: p-Terphenyl-d14			**0.00305**	0.00500		61.0			06/14/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154217 **SampType:** MBLK Units mg/L
SampID: MBLK-154217

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		ND						06/13/2019
2,4,6-Trichlorophenol	0.010		ND						06/13/2019
2,4-Dichlorophenol	0.010		ND						06/13/2019
2,4-Dimethylphenol	0.010		ND						06/13/2019
2,4-Dinitrophenol	0.020		ND						06/13/2019
2,4-Dinitrotoluene	0.010		ND						06/13/2019
2,6-Dinitrotoluene	0.010		ND						06/13/2019
2-Chloronaphthalene	0.010		ND						06/13/2019
2-Chlorophenol	0.010		ND						06/13/2019
2-Nitroaniline	0.040		ND						06/13/2019
2-Nitrophenol	0.020		ND						06/13/2019
3,3'-Dichlorobenzidine	0.010		ND						06/13/2019
3-Nitroaniline	0.040		ND						06/13/2019
4,6-Dinitro-2-methylphenol	0.020		ND						06/13/2019
4-Bromophenyl phenyl ether	0.010		ND						06/13/2019
4-Chloro-3-methylphenol	0.020		ND						06/13/2019
4-Chloroaniline	0.020		ND						06/13/2019
4-Chlorophenyl phenyl ether	0.010		ND						06/13/2019
4-Nitroaniline	0.020		ND						06/13/2019
4-Nitrophenol	0.020		ND						06/13/2019
Aniline	0.020		ND						06/13/2019
Azobenzene	0.010		ND						06/13/2019
Benzoic acid	0.050		ND						06/13/2019
Benzyl alcohol	0.020		ND						06/13/2019
Bis(2-chloroethoxy)methane	0.010		ND						06/13/2019
Bis(2-chloroethyl)ether	0.010		ND						06/13/2019
Bis(2-chloroisopropyl)ether	0.010		ND						06/13/2019
Bis(2-ethylhexyl)phthalate	0.006		ND						06/13/2019
Butyl benzyl phthalate	0.010		ND						06/13/2019
Dibenzofuran	0.010		ND						06/13/2019
Diethyl phthalate	0.010		ND						06/13/2019
Dimethyl phthalate	0.010		ND						06/13/2019
Di-n-butyl phthalate	0.010		ND						06/13/2019
Di-n-octyl phthalate	0.010		ND						06/13/2019
Hexachlorobenzene	0.010		ND						06/13/2019
Hexachlorocyclopentadiene	0.020		ND						06/13/2019
Hexachloroethane	0.010		ND						06/13/2019
Isophorone	0.010		ND						06/13/2019
m,p-Cresol	0.010		ND						06/13/2019
Nitrobenzene	0.010		ND						06/13/2019
N-Nitrosodimethylamine	0.020		ND						06/13/2019
N-Nitroso-di-n-propylamine	0.010		ND						06/13/2019
N-Nitrosodiphenylamine	0.010		ND						06/13/2019
o-Cresol	0.010		ND						06/13/2019
Pentachlorophenol	0.020		ND						06/13/2019
Phenol	0.005		ND						06/13/2019
Pyridine	0.020		ND						06/13/2019

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Environmental Laboratory

Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154217 **SampType:** MBLK Units mg/L
SampID: MBLK-154217

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.005		ND						06/13/2019
Surr: 2,4,6-Tribromophenol			0.043	0.05000		85.8	52	118	06/13/2019
Surr: 2-Fluorobiphenyl			0.018	0.02500		73.7	42.2	104	06/13/2019
Surr: 2-Fluorophenol			0.026	0.05000		52.4	28.8	76.3	06/13/2019
Surr: Nitrobenzene-d5			0.020	0.02500		78.9	41.9	107	06/13/2019
Surr: Phenol-d5			0.018	0.05000		35.5	19.6	53.3	06/13/2019
Surr: p-Terphenyl-d14			0.025	0.02500		101.4	45.4	119	06/13/2019

Batch 154217 **SampType:** LCS Units mg/L
SampID: LCS-154217

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		0.045	0.05000	0	90.3	42.4	135	06/13/2019
2,4,6-Trichlorophenol	0.010		0.046	0.05000	0	91.1	40.9	131	06/13/2019
2,4-Dimethylphenol	0.010		0.044	0.05000	0	87.5	29.7	135	06/13/2019
2,4-Dinitrophenol	0.020		0.037	0.05000	0	74.4	30.5	115	06/13/2019
2,4-Dinitrotoluene	0.010		0.044	0.05000	0	87.2	45.8	165	06/13/2019
2-Chlorophenol	0.010		0.043	0.05000	0	86.2	33.8	122	06/13/2019
4-Chloro-3-methylphenol	0.020		0.044	0.05000	0	87.3	40.6	128	06/13/2019
4-Nitrophenol	0.020		0.021	0.05000	0	41.5	17.6	66.5	06/13/2019
Bis(2-ethylhexyl)phthalate	0.006		0.042	0.05000	0	84.7	32.6	166	06/13/2019
Diethyl phthalate	0.010		0.042	0.05000	0	83.3	47.2	157	06/13/2019
Dimethyl phthalate	0.010		0.041	0.05000	0	82.0	47.7	147	06/13/2019
Di-n-butyl phthalate	0.010		0.043	0.05000	0	86.5	38	169	06/13/2019
Hexachlorobenzene	0.010		0.041	0.05000	0	82.1	46	154	06/13/2019
Hexachloroethane	0.010		0.041	0.05000	0	81.9	22.8	127	06/13/2019
m,p-Cresol	0.010		0.040	0.05000	0	79.7	32.4	115	06/13/2019
Nitrobenzene	0.010		0.039	0.05000	0	78.5	33.5	136	06/13/2019
N-Nitroso-di-n-propylamine	0.010		0.044	0.05000	0	87.6	42.7	138	06/13/2019
o-Cresol	0.010		0.042	0.05000	0	84.7	33.7	119	06/13/2019
Pentachlorophenol	0.020		0.039	0.05000	0	78.0	32.8	126	06/13/2019
Phenol	0.005		0.022	0.05000	0	44.9	19.5	66.9	06/13/2019
Pyridine	0.020		0.030	0.05000	0	59.6	19	84.3	06/13/2019
Quinoline	0.005		0.048	0.05000	0	95.7	45.3	133	06/13/2019
Surr: 2,4,6-Tribromophenol			0.039	0.05000		77.6	52	118	06/13/2019
Surr: 2-Fluorobiphenyl			0.018	0.02500		70.1	42.2	104	06/13/2019
Surr: 2-Fluorophenol			0.028	0.05000		56.3	28.8	76.3	06/13/2019
Surr: Nitrobenzene-d5			0.018	0.02500		73.5	41.9	107	06/13/2019
Surr: Phenol-d5			0.019	0.05000		38.6	19.6	53.3	06/13/2019
Surr: p-Terphenyl-d14			0.021	0.02500		85.4	45.4	119	06/13/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

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Client: AECOM **Work Order:** 19060781

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154217 **SampType:** LCSD Units mg/L RPD Limit 40

SampID: LCSD-154217

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.010		**0.044**	0.05000	0	88.3	0.04517	2.24	06/13/2019
2,4,6-Trichlorophenol	0.010		**0.045**	0.05000	0	90.8	0.04557	0.37	06/13/2019
2,4-Dimethylphenol	0.010		**0.046**	0.05000	0	91.4	0.04375	4.36	06/13/2019
2,4-Dinitrophenol	0.020		**0.039**	0.05000	0	77.7	0.03721	4.34	06/13/2019
2,4-Dinitrotoluene	0.010		**0.043**	0.05000	0	85.0	0.04358	2.49	06/13/2019
2-Chlorophenol	0.010		**0.043**	0.05000	0	85.8	0.04312	0.49	06/13/2019
4-Chloro-3-methylphenol	0.020		**0.044**	0.05000	0	87.9	0.04367	0.68	06/13/2019
4-Nitrophenol	0.020	J	**0.019**	0.05000	0	37.6	0.02075	0.00	06/13/2019
Bis(2-ethylhexyl)phthalate	0.006		**0.044**	0.05000	0	87.3	0.04233	3.12	06/13/2019
Diethyl phthalate	0.010		**0.040**	0.05000	0	80.1	0.04163	3.89	06/13/2019
Dimethyl phthalate	0.010		**0.039**	0.05000	0	78.5	0.04100	4.31	06/13/2019
Di-n-butyl phthalate	0.010		**0.043**	0.05000	0	85.7	0.04325	0.88	06/13/2019
Hexachlorobenzene	0.010		**0.042**	0.05000	0	84.7	0.04107	3.07	06/13/2019
Hexachloroethane	0.010		**0.039**	0.05000	0	78.6	0.04095	4.09	06/13/2019
m,p-Cresol	0.010		**0.039**	0.05000	0	77.4	0.03985	2.98	06/13/2019
Nitrobenzene	0.010		**0.041**	0.05000	0	81.7	0.03925	4.00	06/13/2019
N-Nitroso-di-n-propylamine	0.010		**0.044**	0.05000	0	87.0	0.04380	0.69	06/13/2019
o-Cresol	0.010		**0.039**	0.05000	0	78.0	0.04235	8.18	06/13/2019
Pentachlorophenol	0.020		**0.040**	0.05000	0	80.0	0.03902	2.46	06/13/2019
Phenol	0.005		**0.021**	0.05000	0	41.1	0.02247	9.02	06/13/2019
Pyridine	0.020		**0.029**	0.05000	0	58.2	0.02981	2.44	06/13/2019
Quinoline	0.005		**0.049**	0.05000	0	97.6	0.04787	1.92	06/13/2019
Surr: 2,4,6-Tribromophenol			**0.037**	0.05000		73.4			06/13/2019
Surr: 2-Fluorobiphenyl			**0.017**	0.02500		69.1			06/13/2019
Surr: 2-Fluorophenol			**0.027**	0.05000		53.0			06/13/2019
Surr: Nitrobenzene-d5			**0.019**	0.02500		74.4			06/13/2019
Surr: Phenol-d5			**0.018**	0.05000		36.5			06/13/2019
Surr: p-Terphenyl-d14			**0.021**	0.02500		84.5			06/13/2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MBLK Units %REC

SampID: MBLK-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.617**	0.8350		73.9	45.1	87	06/13/2019
Surr: Nitrobenzene-d5			**0.536**	0.8350		64.2	22.4	112	06/13/2019
Surr: p-Terphenyl-d14			**0.736**	0.8350		88.1	51.1	117	06/13/2019

Batch 154219 **SampType:** LCS Units %REC

SampID: LCS-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.549**	0.8350		65.7	45.1	87	06/13/2019
Surr: Nitrobenzene-d5			**0.627**	0.8350		75.1	22.4	112	06/13/2019
Surr: p-Terphenyl-d14			**0.691**	0.8350		82.7	51.1	117	06/13/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
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SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** LCSG Units %REC
SampID: LCSDRO-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.586**	0.8350		70.2	45.1	87	06/13/2019
Surr: Nitrobenzene-d5			**0.477**	0.8350		57.1	22.4	112	06/13/2019
Surr: p-Terphenyl-d14			**0.740**	0.8350		88.6	51.1	117	06/13/2019

Batch 154223 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154223

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340		**ND**						06/13/2019
1-Methylnaphthalene	0.0034		**ND**						06/13/2019
2-Methylnaphthalene	0.0034		**ND**						06/13/2019
Acenaphthene	0.0034		**ND**						06/13/2019
Acenaphthylene	0.0034		**ND**						06/13/2019
Anthracene	0.0034		**ND**						06/13/2019
Benzo(a)anthracene	0.0100		**ND**						06/13/2019
Benzo(a)pyrene	0.0034		**ND**						06/13/2019
Benzo(b)fluoranthene	0.0034		**ND**						06/13/2019
Benzo(g,h,i)perylene	0.0034		**ND**						06/13/2019
Benzo(k)fluoranthene	0.0034		**ND**						06/13/2019
Chrysene	0.0034		**ND**						06/13/2019
Dibenzo(a,h)anthracene	0.0034		**ND**						06/13/2019
Fluoranthene	0.0034		**ND**						06/13/2019
Fluorene	0.0034		**ND**						06/13/2019
Indeno(1,2,3-cd)pyrene	0.0034		**ND**						06/13/2019
Phenanthrene	0.0034		**ND**						06/13/2019
Pyrene	0.0034		**ND**						06/13/2019
Surr: 2-Fluorobiphenyl			**0.0620**	0.1670		37.1	21.6	105	06/13/2019
Surr: Nitrobenzene-d5			**0.0617**	0.1670		36.9	26.7	93	06/13/2019
Surr: p-Terphenyl-d14			**0.0780**	0.1670		46.7	42.6	115	06/13/2019

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154223 **SampType:** LCS Units mg/Kg
SampID: LCS-154223-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340	J	**0.17**	0.3330	0	50.7	25.3	104	06/14/2019
1-Methylnaphthalene	0.0034		**0.0993**	0.1670	0	59.5	27.3	107	06/14/2019
2-Methylnaphthalene	0.0034		**0.0987**	0.1670	0	59.1	30	106	06/14/2019
Acenaphthene	0.0034		**0.0977**	0.1670	0	58.5	19.1	127	06/14/2019
Acenaphthylene	0.0034		**0.0983**	0.1670	0	58.9	30.2	115	06/14/2019
Anthracene	0.0034		**0.102**	0.1670	0	61.1	26.9	107	06/14/2019
Benzo(a)anthracene	0.0100		**0.111**	0.1670	0	66.5	27	116	06/14/2019
Benzo(a)pyrene	0.0034		**0.101**	0.1670	0	60.7	22.7	117	06/14/2019
Benzo(b)fluoranthene	0.0034		**0.110**	0.1670	0	66.1	23.8	125	06/14/2019
Benzo(g,h,i)perylene	0.0034		**0.0570**	0.1670	0	34.1	31.5	109	06/14/2019
Benzo(k)fluoranthene	0.0034		**0.114**	0.1670	0	68.5	28.1	121	06/14/2019
Chrysene	0.0034		**0.104**	0.1670	0	62.3	29.2	113	06/14/2019
Dibenzo(a,h)anthracene	0.0034		**0.0703**	0.1670	0	42.1	28.8	113	06/14/2019
Fluoranthene	0.0034		**0.102**	0.1670	0	61.1	24.9	115	06/14/2019
Fluorene	0.0034		**0.0963**	0.1670	0	57.7	30	116	06/14/2019
Indeno(1,2,3-cd)pyrene	0.0034		**0.0683**	0.1670	0	40.9	29.5	113	06/14/2019
Phenanthrene	0.0034		**0.102**	0.1670	0	61.1	16.5	122	06/14/2019
Pyrene	0.0034		**0.103**	0.1670	0	61.9	28	111	06/14/2019
Surr: 2-Fluorobiphenyl			**0.0733**	0.1670		43.9	21.6	105	06/14/2019
Surr: Nitrobenzene-d5			**0.0830**	0.1670		49.7	26.7	93	06/14/2019
Surr: p-Terphenyl-d14			**0.0943**	0.1670		56.5	42.6	115	06/14/2019

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Quality Control Results

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Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		ND						06/13/2019
2,4,6-Trichlorophenol	0.350		ND						06/13/2019
2,4-Dichlorophenol	0.500		ND						06/13/2019
2,4-Dimethylphenol	0.500		ND						06/13/2019
2,4-Dinitrophenol	1.00		ND						06/13/2019
2,4-Dinitrotoluene	0.350		ND						06/13/2019
2,6-Dinitrotoluene	0.350		ND						06/13/2019
2-Chloronaphthalene	0.350		ND						06/13/2019
2-Chlorophenol	0.500		ND						06/13/2019
2-Nitroaniline	1.00		ND						06/13/2019
2-Nitrophenol	0.350		ND						06/13/2019
3,3'-Dichlorobenzidine	0.350		ND						06/13/2019
3-Nitroaniline	1.00		ND						06/13/2019
4,6-Dinitro-2-methylphenol	1.00		ND						06/13/2019
4-Bromophenyl phenyl ether	0.350		ND						06/13/2019
4-Chloro-3-methylphenol	0.500		ND						06/13/2019
4-Chloroaniline	0.500		ND						06/13/2019
4-Chlorophenyl phenyl ether	0.350		ND						06/13/2019
4-Nitroaniline	0.500		ND						06/13/2019
4-Nitrophenol	0.350		ND						06/13/2019
Aniline	0.500		ND						06/13/2019
Azobenzene	0.350		ND						06/13/2019
Benzoic acid	1.50		ND						06/13/2019
Benzyl alcohol	0.500		ND						06/13/2019
Bis(2-chloroethoxy)methane	0.350		ND						06/13/2019
Bis(2-chloroethyl)ether	0.500		ND						06/13/2019
Bis(2-chloroisopropyl)ether	0.350		ND						06/13/2019
Bis(2-ethylhexyl)phthalate	0.350		ND						06/13/2019
Butyl benzyl phthalate	0.350		ND						06/13/2019
Dibenzofuran	0.350		ND						06/13/2019
Diethyl phthalate	0.500		ND						06/13/2019
Dimethyl phthalate	0.350		ND						06/13/2019
Di-n-butyl phthalate	0.350		ND						06/13/2019
Di-n-octyl phthalate	0.350		ND						06/13/2019
Hexachlorobenzene	0.350		ND						06/13/2019
Hexachlorocyclopentadiene	0.500		ND						06/13/2019
Hexachloroethane	0.500		ND						06/13/2019
Isophorone	0.350		ND						06/13/2019
m,p-Cresol	0.500		ND						06/13/2019
Nitrobenzene	0.500		ND						06/13/2019
N-Nitrosodimethylamine	0.500		ND						06/13/2019
N-Nitroso-di-n-propylamine	0.500		ND						06/13/2019
N-Nitrosodiphenylamine	0.500		ND						06/13/2019
o-Cresol	0.500		ND						06/13/2019
Pentachlorophenol	2.00		ND						06/13/2019
Phenol	0.350		ND						06/13/2019
Pyridine	0.500		ND						06/13/2019

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Quality Control Results

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Client: AECOM **Work Order:** 19060781

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MBLK Units mg/Kg

SampID: MBLK-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.200		ND						06/13/2019
Surr: 2,4,6-Tribromophenol			1.25	1.670		74.7	53.1	123	06/13/2019
Surr: 2-Fluorobiphenyl			0.559	0.8350		66.9	52.9	106	06/13/2019
Surr: 2-Fluorophenol			1.27	1.670		75.8	52.9	104	06/13/2019
Surr: Nitrobenzene-d5			0.607	0.8350		72.7	51.5	105	06/13/2019
Surr: Phenol-d5			1.26	1.670		75.5	53.9	111	06/13/2019
Surr: p-Terphenyl-d14			0.701	0.8350		84.0	58	122	06/13/2019

Batch 154219 **SampType:** LCS Units mg/Kg

SampID: LCS-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		1.32	1.670	0	79.0	53.5	106	06/13/2019
2,4,6-Trichlorophenol	0.350		1.32	1.670	0	78.8	50.8	106	06/13/2019
2,4-Dimethylphenol	0.500		1.29	1.670	0	77.2	35.6	99.6	06/13/2019
2,4-Dinitrophenol	1.00		1.30	1.670	0	77.7	13.9	107	06/13/2019
2,4-Dinitrotoluene	0.350		1.40	1.670	0	84.1	58.9	106	06/13/2019
2-Chlorophenol	0.500		1.45	1.670	0	86.9	41.1	99.2	06/13/2019
4-Chloro-3-methylphenol	0.500		1.37	1.670	0	81.9	50	103	06/13/2019
4-Nitrophenol	0.350		1.44	1.670	0	86.4	46.3	111	06/13/2019
Bis(2-ethylhexyl)phthalate	0.350		1.38	1.670	0	82.7	40.8	109	06/13/2019
Diethyl phthalate	0.500		1.32	1.670	0	79.2	53.8	99.6	06/13/2019
Dimethyl phthalate	0.350		1.35	1.670	0	81.1	53.8	101	06/13/2019
Di-n-butyl phthalate	0.350		1.36	1.670	0	81.3	45.8	108	06/13/2019
Hexachlorobenzene	0.350		1.30	1.670	0	78.0	55.2	101	06/13/2019
Hexachloroethane	0.500		1.27	1.670	0	75.9	41.8	91.5	06/13/2019
m,p-Cresol	0.500		1.39	1.670	0	83.3	47	100	06/13/2019
Nitrobenzene	0.500		1.16	1.670	0	69.5	41.4	99	06/13/2019
N-Nitroso-di-n-propylamine	0.500		1.34	1.670	0	80.0	46.5	97.4	06/13/2019
o-Cresol	0.500		1.37	1.670	0	82.1	44.2	100	06/13/2019
Pentachlorophenol	2.00	J	1.2	1.670	0	72.9	35.7	94.8	06/13/2019
Phenol	0.350		1.41	1.670	0	84.7	43	98.6	06/13/2019
Pyridine	0.500		0.774	1.670	0	46.3	24.7	78.4	06/13/2019
Quinoline	0.200		1.40	1.670	0	84.0	48.5	97.3	06/13/2019
Surr: 2,4,6-Tribromophenol			1.22	1.670		72.8	53.1	123	06/13/2019
Surr: 2-Fluorobiphenyl			0.506	0.8350		60.6	52.9	106	06/13/2019
Surr: 2-Fluorophenol			1.23	1.670		73.5	52.9	104	06/13/2019
Surr: Nitrobenzene-d5			0.513	0.8350		61.4	51.5	105	06/13/2019
Surr: Phenol-d5			1.29	1.670		77.1	53.9	111	06/13/2019
Surr: p-Terphenyl-d14			0.652	0.8350		78.0	58	122	06/13/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MS Units mg/Kg-dry
SampID: 19060781-003AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.854		**2.96**	4.073	0	72.6	61.2	107	06/13/2019
2,4,6-Trichlorophenol	0.854		**2.99**	4.073	0	73.5	58.4	105	06/13/2019
2,4-Dimethylphenol	1.22		**2.64**	4.073	0	64.8	52.9	104	06/13/2019
2,4-Dinitrophenol	2.44		**2.76**	4.073	0	67.7	15.2	107	06/13/2019
2,4-Dinitrotoluene	0.854		**3.33**	4.073	0	81.7	66.7	118	06/13/2019
2-Chlorophenol	1.22		**2.64**	4.073	0	64.7	51.2	98.2	06/13/2019
4-Chloro-3-methylphenol	1.22		**2.97**	4.073	0	73.0	57.6	104	06/13/2019
4-Nitrophenol	0.854		**3.51**	4.073	0	86.3	55.1	110	06/13/2019
Bis(2-ethylhexyl)phthalate	0.854		**3.14**	4.073	0	77.0	66.2	128	06/13/2019
Diethyl phthalate	1.22		**3.28**	4.073	0	80.5	57.8	121	06/13/2019
Dimethyl phthalate	0.854		**3.16**	4.073	0	77.5	60.7	117	06/13/2019
Di-n-butyl phthalate	0.854		**3.16**	4.073	0	77.6	65.8	122	06/13/2019
Hexachlorobenzene	0.854		**3.06**	4.073	0	75.1	59.9	121	06/13/2019
Hexachloroethane	1.22		**2.38**	4.073	0	58.5	26.2	115	06/13/2019
m,p-Cresol	1.22		**2.83**	4.073	0	69.5	56.3	104	06/13/2019
Nitrobenzene	1.22		**2.49**	4.073	0	61.0	53.4	106	06/13/2019
N-Nitroso-di-n-propylamine	1.22		**2.88**	4.073	0	70.8	52.4	113	06/13/2019
o-Cresol	1.22		**2.86**	4.073	0	70.3	53.8	100	06/13/2019
Pentachlorophenol	4.88	J	**2.8**	4.073	0	68.8	38.3	99.4	06/13/2019
Phenol	0.854		**2.78**	4.073	0	68.4	53.2	103	06/13/2019
Pyridine	1.22		**1.71**	4.073	0	41.9	13.6	91.5	06/13/2019
Quinoline	0.488		**2.87**	4.073	0	70.5	48	105	06/13/2019
Surr: 2,4,6-Tribromophenol			**2.89**	4.073		71.1	41.6	114	06/13/2019
Surr: 2-Fluorobiphenyl			**0.946**	2.036		46.5	29.3	105	06/13/2019
Surr: 2-Fluorophenol			**2.28**	4.073		56.1	35.8	97.2	06/13/2019
Surr: Nitrobenzene-d5			**0.974**	2.036		47.8	36.2	95.2	06/13/2019
Surr: Phenol-d5			**2.60**	4.073		63.8	38.8	103	06/13/2019
Surr: p-Terphenyl-d14			**1.47**	2.036		72.2	43.2	116	06/13/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MSD Units mg/Kg-dry RPD Limit 40

SampID: 19060781-003AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.853		**3.37**	4.070	0	82.8	2.956	13.11	06/13/2019
2,4,6-Trichlorophenol	0.853		**3.25**	4.070	0	79.8	2.992	8.17	06/13/2019
2,4-Dimethylphenol	1.22		**3.26**	4.070	0	80.1	2.640	21.03	06/13/2019
2,4-Dinitrophenol	2.44		**2.74**	4.070	0	67.2	2.758	0.84	06/13/2019
2,4-Dinitrotoluene	0.853		**3.36**	4.070	0	82.6	3.326	1.05	06/13/2019
2-Chlorophenol	1.22		**3.03**	4.070	0	74.4	2.636	13.88	06/13/2019
4-Chloro-3-methylphenol	1.22		**3.20**	4.070	0	78.6	2.973	7.33	06/13/2019
4-Nitrophenol	0.853		**3.53**	4.070	0	86.7	3.514	0.42	06/13/2019
Bis(2-ethylhexyl)phthalate	0.853		**3.46**	4.070	0	84.9	3.135	9.75	06/13/2019
Diethyl phthalate	1.22		**3.12**	4.070	0	76.5	3.277	5.05	06/13/2019
Dimethyl phthalate	0.853		**3.17**	4.070	0	77.8	3.158	0.32	06/13/2019
Di-n-butyl phthalate	0.853		**3.20**	4.070	0	78.7	3.160	1.36	06/13/2019
Hexachlorobenzene	0.853		**3.09**	4.070	0	75.8	3.061	0.86	06/13/2019
Hexachloroethane	1.22		**2.47**	4.070	0	60.6	2.383	3.45	06/13/2019
m,p-Cresol	1.22		**3.26**	4.070	0	80.2	2.829	14.28	06/13/2019
Nitrobenzene	1.22		**2.93**	4.070	0	72.0	2.485	16.41	06/13/2019
N-Nitroso-di-n-propylamine	1.22		**3.04**	4.070	0	74.7	2.885	5.17	06/13/2019
o-Cresol	1.22		**3.14**	4.070	0	77.1	2.863	9.17	06/13/2019
Pentachlorophenol	4.87	J	**3.1**	4.070	0	75.4	2.804	0.00	06/13/2019
Phenol	0.853		**3.23**	4.070	0	79.3	2.785	14.69	06/13/2019
Pyridine	1.22		**2.08**	4.070	0	51.1	1.706	19.72	06/13/2019
Quinoline	0.487		**3.23**	4.070	0	79.4	2.870	11.84	06/13/2019
Surr: 2,4,6-Tribromophenol			**2.94**	4.070		72.3			06/13/2019
Surr: 2-Fluorobiphenyl			**1.14**	2.035		55.9			06/13/2019
Surr: 2-Fluorophenol			**2.63**	4.070		64.6			06/13/2019
Surr: Nitrobenzene-d5			**1.16**	2.035		56.8			06/13/2019
Surr: Phenol-d5			**2.71**	4.070		66.7			06/13/2019
Surr: p-Terphenyl-d14			**1.51**	2.035		74.0			06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154226 **SampType:** MBLK Units µg/L
SampID: MBLK-T190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/13/2019
1,1,1-Trichloroethane	2.0		ND						06/13/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/13/2019
1,1,2-Trichloroethane	0.5		ND						06/13/2019
1,1-Dichloroethane	2.0		ND						06/13/2019
1,1-Dichloroethene	2.0		ND						06/13/2019
1,1-Dichloropropene	2.0		ND						06/13/2019
1,2,3-Trichlorobenzene	2.0		ND						06/13/2019
1,2,3-Trichloropropane	2.0		ND						06/13/2019
1,2,4-Trichlorobenzene	2.0		ND						06/13/2019
1,2,4-Trimethylbenzene	2.0		ND						06/13/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/13/2019
1,2-Dibromoethane	2.0		ND						06/13/2019
1,2-Dichlorobenzene	2.0		ND						06/13/2019
1,2-Dichloroethane	2.0		ND						06/13/2019
1,2-Dichloropropane	2.0		ND						06/13/2019
1,3,5-Trimethylbenzene	2.0		ND						06/13/2019
1,3-Dichlorobenzene	2.0		ND						06/13/2019
1,3-Dichloropropane	2.0		ND						06/13/2019
1,4-Dichlorobenzene	2.0		ND						06/13/2019
2,2-Dichloropropane	2.0		ND						06/13/2019
2-Butanone	10.0		ND						06/13/2019
2-Chloroethyl vinyl ether	5.0		ND						06/13/2019
2-Chlorotoluene	2.0		ND						06/13/2019
2-Hexanone	10.0		ND						06/13/2019
4-Chlorotoluene	2.0		ND						06/13/2019
4-Methyl-2-pentanone	10.0		ND						06/13/2019
Acetone	10.0		ND						06/13/2019
Acrolein	20.0		ND						06/13/2019
Acrylonitrile	5.0		ND						06/13/2019
Benzene	0.5		ND						06/13/2019
Bromobenzene	2.0		ND						06/13/2019
Bromochloromethane	2.0		ND						06/13/2019
Bromodichloromethane	2.0		ND						06/13/2019
Bromoform	2.0		ND						06/13/2019
Bromomethane	5.0		ND						06/13/2019
Carbon disulfide	2.0		ND						06/13/2019
Carbon tetrachloride	2.0		ND						06/13/2019
Chlorobenzene	2.0		ND						06/13/2019
Chloroethane	2.0		ND						06/13/2019
Chloroform	2.0		ND						06/13/2019
Chloromethane	5.0		ND						06/13/2019
cis-1,2-Dichloroethene	2.0		ND						06/13/2019
cis-1,3-Dichloropropene	2.0		ND						06/13/2019
Dibromochloromethane	2.0		ND						06/13/2019
Dichlorodifluoromethane	2.0		ND						06/13/2019
Ethyl methacrylate	5.0		ND						06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154226 **SampType:** MBLK Units µg/L
SampID: MBLK-T190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/13/2019
Hexachlorobutadiene	5.0		ND						06/13/2019
Isopropylbenzene	2.0		ND						06/13/2019
m,p-Xylenes	2.0		ND						06/13/2019
Methyl tert-butyl ether	2.0		ND						06/13/2019
Methylene chloride	10.0		ND						06/13/2019
Naphthalene	5.0	J	0.4						06/13/2019
n-Butylbenzene	2.0		ND						06/13/2019
n-Propylbenzene	2.0		ND						06/13/2019
o-Xylene	2.0		ND						06/13/2019
p-Isopropyltoluene	2.0		ND						06/13/2019
sec-Butylbenzene	2.0		ND						06/13/2019
Styrene	2.0		ND						06/13/2019
tert-Butylbenzene	2.0		ND						06/13/2019
Tetrachloroethene	0.5		ND						06/13/2019
Toluene	2.0		ND						06/13/2019
trans-1,2-Dichloroethene	2.0		ND						06/13/2019
trans-1,3-Dichloropropene	2.0		ND						06/13/2019
Trichloroethene	2.0		ND						06/13/2019
Trichlorofluoromethane	5.0		ND						06/13/2019
Vinyl acetate	5.0		ND						06/13/2019
Vinyl chloride	2.0		ND						06/13/2019
Xylenes, Total	4.0		ND						06/13/2019
Surr: 1,2-Dichloroethane-d4			51.4	50.00		102.7	79.6	118	06/13/2019
Surr: 4-Bromofluorobenzene			48.6	50.00		97.2	83.9	115	06/13/2019
Surr: Dibromofluoromethane			51.5	50.00		102.9	84.9	113	06/13/2019
Surr: Toluene-d8			48.7	50.00		97.4	86.7	112	06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154226 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**49.8**	50.00	0	99.6	48.49	2.69	06/13/2019
1,1,1-Trichloroethane	2.0		**55.0**	50.00	0	109.9	52.58	4.44	06/13/2019
1,1,2,2-Tetrachloroethane	2.0		**44.2**	50.00	0	88.4	44.52	0.74	06/13/2019
1,1,2-Trichloroethane	0.5		**47.7**	50.00	0	95.4	47.67	0.08	06/13/2019
1,1-Dichloroethane	2.0		**53.3**	50.00	0	106.6	51.67	3.07	06/13/2019
1,1-Dichloroethene	2.0		**50.0**	50.00	0	100.1	47.93	4.29	06/13/2019
1,1-Dichloropropene	2.0		**53.4**	50.00	0	106.9	49.56	7.55	06/13/2019
1,2,3-Trichlorobenzene	2.0		**49.2**	50.00	0	98.5	50.24	2.03	06/13/2019
1,2,3-Trichloropropane	2.0		**43.8**	50.00	0	87.7	44.27	1.00	06/13/2019
1,2,4-Trichlorobenzene	2.0		**51.5**	50.00	0	102.9	52.03	1.10	06/13/2019
1,2,4-Trimethylbenzene	2.0		**47.5**	50.00	0	95.0	48.17	1.36	06/13/2019
1,2-Dibromo-3-chloropropane	5.0		**47.8**	50.00	0	95.6	48.57	1.64	06/13/2019
1,2-Dibromoethane	2.0		**47.8**	50.00	0	95.7	48.11	0.58	06/13/2019
1,2-Dichlorobenzene	2.0		**45.2**	50.00	0	90.4	45.55	0.75	06/13/2019
1,2-Dichloroethane	2.0		**49.8**	50.00	0	99.6	48.66	2.28	06/13/2019
1,2-Dichloropropane	2.0		**51.3**	50.00	0	102.6	49.74	3.09	06/13/2019
1,3,5-Trimethylbenzene	2.0		**47.9**	50.00	0	95.8	46.75	2.45	06/13/2019
1,3-Dichlorobenzene	2.0		**48.3**	50.00	0	96.5	47.58	1.42	06/13/2019
1,3-Dichloropropane	2.0		**46.8**	50.00	0	93.6	46.35	0.99	06/13/2019
1,4-Dichlorobenzene	2.0		**46.9**	50.00	0	93.8	45.66	2.72	06/13/2019
2,2-Dichloropropane	2.0		**54.8**	50.00	0	109.6	53.64	2.10	06/13/2019
2-Butanone	10.0		**132**	125.0	0	105.7	137.4	3.91	06/13/2019
2-Chloroethyl vinyl ether	5.0		**53.8**	50.00	0	107.5	54.59	1.53	06/13/2019
2-Chlorotoluene	2.0		**46.8**	50.00	0	93.5	45.04	3.73	06/13/2019
2-Hexanone	10.0		**119**	125.0	0	95.6	123.8	3.54	06/13/2019
4-Chlorotoluene	2.0		**47.2**	50.00	0	94.4	46.31	1.90	06/13/2019
4-Methyl-2-pentanone	10.0		**118**	125.0	0	94.1	119.6	1.69	06/13/2019
Acetone	10.0		**126**	125.0	0	101.1	126.4	0.04	06/13/2019
Acrolein	20.0		**476**	500.0	0	95.2	483.5	1.59	06/13/2019
Acrylonitrile	5.0		**50.5**	50.00	0	101.0	51.51	2.00	06/13/2019
Benzene	0.5		**50.6**	50.00	0	101.2	49.69	1.83	06/13/2019
Bromobenzene	2.0		**46.1**	50.00	0	92.1	45.48	1.27	06/13/2019
Bromochloromethane	2.0		**51.3**	50.00	0	102.7	50.09	2.46	06/13/2019
Bromodichloromethane	2.0		**52.7**	50.00	0	105.4	51.44	2.44	06/13/2019
Bromoform	2.0		**51.3**	50.00	0	102.6	52.19	1.70	06/13/2019
Bromomethane	5.0		**54.6**	50.00	0	109.1	48.03	12.75	06/13/2019
Carbon disulfide	2.0		**46.6**	50.00	0	93.1	43.97	5.74	06/13/2019
Carbon tetrachloride	2.0		**53.9**	50.00	0	107.9	50.19	7.18	06/13/2019
Chlorobenzene	2.0		**48.8**	50.00	0	97.7	47.99	1.78	06/13/2019
Chloroethane	2.0		**48.8**	50.00	0	97.6	46.96	3.86	06/13/2019
Chloroform	2.0		**50.8**	50.00	0	101.7	49.91	1.85	06/13/2019
Chloromethane	5.0		**39.9**	50.00	0	79.7	42.70	6.88	06/13/2019
cis-1,2-Dichloroethene	2.0		**51.9**	50.00	0	103.9	51.08	1.67	06/13/2019
cis-1,3-Dichloropropene	2.0		**55.6**	50.00	0	111.2	54.26	2.46	06/13/2019
Dibromochloromethane	2.0		**49.8**	50.00	0	99.6	49.42	0.79	06/13/2019
Dichlorodifluoromethane	2.0		**34.1**	50.00	0	68.3	28.12	19.31	06/13/2019
Ethyl methacrylate	5.0		**49.6**	50.00	0	99.2	49.16	0.85	06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154226 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**48.9**	50.00	0	97.8	47.40	3.16	06/13/2019
Hexachlorobutadiene	5.0		**50.7**	50.00	0	101.4	49.78	1.83	06/13/2019
Isopropylbenzene	2.0		**50.5**	50.00	0	100.9	49.45	2.04	06/13/2019
m,p-Xylenes	2.0		**99.5**	100.0	0	99.5	95.18	4.44	06/13/2019
Methyl tert-butyl ether	2.0		**55.3**	50.00	0	110.6	55.39	0.16	06/13/2019
Methylene chloride	10.0		**49.7**	50.00	0	99.4	48.29	2.88	06/13/2019
Naphthalene	5.0	B	**50.1**	50.00	0	100.2	50.21	0.26	06/13/2019
n-Butylbenzene	2.0		**47.2**	50.00	0	94.3	46.58	1.22	06/13/2019
n-Propylbenzene	2.0		**46.9**	50.00	0	93.7	45.95	1.98	06/13/2019
o-Xylene	2.0		**48.9**	50.00	0	97.8	47.87	2.15	06/13/2019
p-Isopropyltoluene	2.0		**48.5**	50.00	0	97.0	47.51	2.10	06/13/2019
sec-Butylbenzene	2.0		**48.1**	50.00	0	96.2	47.34	1.61	06/13/2019
Styrene	2.0		**50.8**	50.00	0	101.5	50.00	1.53	06/13/2019
tert-Butylbenzene	2.0		**48.2**	50.00	0	96.3	47.14	2.14	06/13/2019
Tetrachloroethene	0.5		**46.8**	50.00	0	93.6	45.39	3.06	06/13/2019
Toluene	2.0		**47.5**	50.00	0	95.0	46.83	1.46	06/13/2019
trans-1,2-Dichloroethene	2.0		**54.7**	50.00	0	109.4	53.32	2.54	06/13/2019
trans-1,3-Dichloropropene	2.0		**50.8**	50.00	0	101.6	51.21	0.78	06/13/2019
Trichloroethene	2.0		**51.0**	50.00	0	102.0	49.50	3.00	06/13/2019
Trichlorofluoromethane	5.0		**52.4**	50.00	0	104.9	50.22	4.34	06/13/2019
Vinyl acetate	5.0		**52.8**	50.00	0	105.6	54.61	3.33	06/13/2019
Vinyl chloride	2.0		**52.5**	50.00	0	105.0	51.25	2.37	06/13/2019
Xylenes, Total	4.0		**148**	150.0	0	98.9	143.0	3.68	06/13/2019
Surr: 1,2-Dichloroethane-d4			**49.9**	50.00		99.8			06/13/2019
Surr: 4-Bromofluorobenzene			**47.9**	50.00		95.8			06/13/2019
Surr: Dibromofluoromethane			**51.5**	50.00		103.0			06/13/2019
Surr: Toluene-d8			**47.1**	50.00		94.3			06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154226 **SampType:** LCS Units µg/L
SampID: LCS-T190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**48.5**	50.00	0	97.0	83.4	118	06/13/2019
1,1,1-Trichloroethane	2.0		**52.6**	50.00	0	105.2	79.1	123	06/13/2019
1,1,2,2-Tetrachloroethane	2.0		**44.5**	50.00	0	89.0	70.7	121	06/13/2019
1,1,2-Trichloroethane	0.5		**47.7**	50.00	0	95.3	79.8	117	06/13/2019
1,1-Dichloroethane	2.0		**51.7**	50.00	0	103.3	75.1	122	06/13/2019
1,1-Dichloroethene	2.0		**47.9**	50.00	0	95.9	68.3	121	06/13/2019
1,1-Dichloropropene	2.0		**49.6**	50.00	0	99.1	76.7	122	06/13/2019
1,2,3-Trichlorobenzene	2.0		**50.2**	50.00	0	100.5	77.1	130	06/13/2019
1,2,3-Trichloropropane	2.0		**44.3**	50.00	0	88.5	70.6	114	06/13/2019
1,2,4-Trichlorobenzene	2.0		**52.0**	50.00	0	104.1	79.6	128	06/13/2019
1,2,4-Trimethylbenzene	2.0		**48.2**	50.00	0	96.3	78.9	117	06/13/2019
1,2-Dibromo-3-chloropropane	5.0		**48.6**	50.00	0	97.1	68.1	123	06/13/2019
1,2-Dibromoethane	2.0		**48.1**	50.00	0	96.2	82.9	114	06/13/2019
1,2-Dichlorobenzene	2.0		**45.6**	50.00	0	91.1	75.2	120	06/13/2019
1,2-Dichloroethane	2.0		**48.7**	50.00	0	97.3	76.9	117	06/13/2019
1,2-Dichloropropane	2.0		**49.7**	50.00	0	99.5	76.4	121	06/13/2019
1,3,5-Trimethylbenzene	2.0		**46.8**	50.00	0	93.5	79.8	118	06/13/2019
1,3-Dichlorobenzene	2.0		**47.6**	50.00	0	95.2	80.5	119	06/13/2019
1,3-Dichloropropane	2.0		**46.4**	50.00	0	92.7	77.5	113	06/13/2019
1,4-Dichlorobenzene	2.0		**45.7**	50.00	0	91.3	80.2	115	06/13/2019
2,2-Dichloropropane	2.0		**53.6**	50.00	0	107.3	62.4	151	06/13/2019
2-Butanone	10.0		**137**	125.0	0	109.9	65.7	120	06/13/2019
2-Chloroethyl vinyl ether	5.0		**54.6**	50.00	0	109.2	31.5	159	06/13/2019
2-Chlorotoluene	2.0		**45.0**	50.00	0	90.1	76	117	06/13/2019
2-Hexanone	10.0		**124**	125.0	0	99.0	65.1	121	06/13/2019
4-Chlorotoluene	2.0		**46.3**	50.00	0	92.6	77	117	06/13/2019
4-Methyl-2-pentanone	10.0		**120**	125.0	0	95.7	69.6	117	06/13/2019
Acetone	10.0		**126**	125.0	0	101.1	47.5	123	06/13/2019
Acrolein	20.0		**484**	500.0	0	96.7	27	164	06/13/2019
Acrylonitrile	5.0		**51.5**	50.00	0	103.0	74.8	127	06/13/2019
Benzene	0.5		**49.7**	50.00	0	99.4	75.8	121	06/13/2019
Bromobenzene	2.0		**45.5**	50.00	0	91.0	72.7	119	06/13/2019
Bromochloromethane	2.0		**50.1**	50.00	0	100.2	69	123	06/13/2019
Bromodichloromethane	2.0		**51.4**	50.00	0	102.9	80.8	128	06/13/2019
Bromoform	2.0		**52.2**	50.00	0	104.4	85.5	128	06/13/2019
Bromomethane	5.0		**48.0**	50.00	0	96.1	-36.7	277	06/13/2019
Carbon disulfide	2.0		**44.0**	50.00	0	87.9	64.9	133	06/13/2019
Carbon tetrachloride	2.0		**50.2**	50.00	0	100.4	79.5	129	06/13/2019
Chlorobenzene	2.0		**48.0**	50.00	0	96.0	82.1	113	06/13/2019
Chloroethane	2.0		**47.0**	50.00	0	93.9	43.9	138	06/13/2019
Chloroform	2.0		**49.9**	50.00	0	99.8	80.1	122	06/13/2019
Chloromethane	5.0		**42.7**	50.00	0	85.4	50.8	131	06/13/2019
cis-1,2-Dichloroethene	2.0		**51.1**	50.00	0	102.2	78.6	119	06/13/2019
cis-1,3-Dichloropropene	2.0		**54.3**	50.00	0	108.5	79	129	06/13/2019
Dibromochloromethane	2.0		**49.4**	50.00	0	98.8	88.1	123	06/13/2019
Dichlorodifluoromethane	2.0		**28.1**	50.00	0	56.2	35.7	155	06/13/2019
Ethyl methacrylate	5.0		**49.2**	50.00	0	98.3	80.6	123	06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154226 **SampType:** LCS Units µg/L
SampID: LCS-T190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**47.4**	50.00	0	94.8	80.7	114	06/13/2019
Hexachlorobutadiene	5.0		**49.8**	50.00	0	99.6	68.2	141	06/13/2019
Isopropylbenzene	2.0		**49.4**	50.00	0	98.9	81.3	116	06/13/2019
m,p-Xylenes	2.0		**95.2**	100.0	0	95.2	80.5	113	06/13/2019
Methyl tert-butyl ether	2.0		**55.4**	50.00	0	110.8	79.5	121	06/13/2019
Methylene chloride	10.0		**48.3**	50.00	0	96.6	76.2	119	06/13/2019
Naphthalene	5.0	B	**50.2**	50.00	0	100.4	76.1	129	06/13/2019
n-Butylbenzene	2.0		**46.6**	50.00	0	93.2	71.6	122	06/13/2019
n-Propylbenzene	2.0		**46.0**	50.00	0	91.9	76	120	06/13/2019
o-Xylene	2.0		**47.9**	50.00	0	95.7	79.7	112	06/13/2019
p-Isopropyltoluene	2.0		**47.5**	50.00	0	95.0	76.2	122	06/13/2019
sec-Butylbenzene	2.0		**47.3**	50.00	0	94.7	76.6	119	06/13/2019
Styrene	2.0		**50.0**	50.00	0	100.0	82.8	116	06/13/2019
tert-Butylbenzene	2.0		**47.1**	50.00	0	94.3	74.7	117	06/13/2019
Tetrachloroethene	0.5		**45.4**	50.00	0	90.8	80.6	122	06/13/2019
Toluene	2.0		**46.8**	50.00	0	93.7	78.3	112	06/13/2019
trans-1,2-Dichloroethene	2.0		**53.3**	50.00	0	106.6	73.5	124	06/13/2019
trans-1,3-Dichloropropene	2.0		**51.2**	50.00	0	102.4	83.4	124	06/13/2019
Trichloroethene	2.0		**49.5**	50.00	0	99.0	74.3	125	06/13/2019
Trichlorofluoromethane	5.0		**50.2**	50.00	0	100.4	71.5	136	06/13/2019
Vinyl acetate	5.0		**54.6**	50.00	0	109.2	65.9	136	06/13/2019
Vinyl chloride	2.0		**51.2**	50.00	0	102.5	55.8	135	06/13/2019
Xylenes, Total	4.0		**143**	150.0	0	95.4	80.2	113	06/13/2019
Surr: 1,2-Dichloroethane-d4			**50.0**	50.00		100.1	79.6	118	06/13/2019
Surr: 4-Bromofluorobenzene			**48.6**	50.00		97.2	83.9	115	06/13/2019
Surr: Dibromofluoromethane			**51.3**	50.00		102.5	84.9	113	06/13/2019
Surr: Toluene-d8			**47.6**	50.00		95.2	86.7	112	06/13/2019

Teklab, Inc.
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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154233 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/13/2019
1,1,1-Trichloroethane	2.0		ND						06/13/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/13/2019
1,1,2-Trichloroethane	5.0		ND						06/13/2019
1,1-Dichloroethane	2.0		ND						06/13/2019
1,1-Dichloroethene	2.0		ND						06/13/2019
1,1-Dichloropropene	2.0		ND						06/13/2019
1,2,3-Trichlorobenzene	2.0		ND						06/13/2019
1,2,3-Trichloropropane	2.0		ND						06/13/2019
1,2,4-Trichlorobenzene	2.0		ND						06/13/2019
1,2,4-Trimethylbenzene	2.0		ND						06/13/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/13/2019
1,2-Dibromoethane	2.0		ND						06/13/2019
1,2-Dichlorobenzene	2.0		ND						06/13/2019
1,2-Dichloroethane	2.0		ND						06/13/2019
1,2-Dichloropropane	2.0		ND						06/13/2019
1,3,5-Trimethylbenzene	2.0		ND						06/13/2019
1,3-Dichlorobenzene	2.0		ND						06/13/2019
1,3-Dichloropropane	2.0		ND						06/13/2019
1,4-Dichlorobenzene	2.0		ND						06/13/2019
2,2-Dichloropropane	2.0		ND						06/13/2019
2-Butanone	25.0		ND						06/13/2019
2-Chloroethyl vinyl ether	5.0		ND						06/13/2019
2-Chlorotoluene	2.0		ND						06/13/2019
2-Hexanone	25.0		ND						06/13/2019
4-Chlorotoluene	2.0		ND						06/13/2019
4-Methyl-2-pentanone	25.0		ND						06/13/2019
Acetone	25.0		ND						06/13/2019
Acrolein	50.0		ND						06/13/2019
Acrylonitrile	5.0		ND						06/13/2019
Benzene	1.0		ND						06/13/2019
Bromobenzene	2.0		ND						06/13/2019
Bromochloromethane	2.0		ND						06/13/2019
Bromodichloromethane	2.0		ND						06/13/2019
Bromoform	5.0		ND						06/13/2019
Bromomethane	10.0		ND						06/13/2019
Carbon disulfide	2.0		ND						06/13/2019
Carbon tetrachloride	2.0		ND						06/13/2019
Chlorobenzene	2.0		ND						06/13/2019
Chloroethane	10.0		ND						06/13/2019
Chloroform	2.0		ND						06/13/2019
Chloromethane	10.0		ND						06/13/2019
cis-1,2-Dichloroethene	2.0		ND						06/13/2019
cis-1,3-Dichloropropene	2.0		ND						06/13/2019
Dibromochloromethane	2.0		ND						06/13/2019
Dichlorodifluoromethane	10.0		ND						06/13/2019
Ethyl methacrylate	2.0		ND						06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154233 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/13/2019
Hexachlorobutadiene	2.0		ND						06/13/2019
Isopropylbenzene	2.0		ND						06/13/2019
m,p-Xylenes	4.0		ND						06/13/2019
Methyl tert-butyl ether	2.0		ND						06/13/2019
Methylene chloride	10.0		ND						06/13/2019
Naphthalene	5.0		ND						06/13/2019
n-Butylbenzene	2.0		ND						06/13/2019
n-Propylbenzene	2.0		ND						06/13/2019
o-Xylene	4.0		ND						06/13/2019
p-Isopropyltoluene	2.0		ND						06/13/2019
sec-Butylbenzene	2.0		ND						06/13/2019
Styrene	2.0		ND						06/13/2019
tert-Butylbenzene	2.0		ND						06/13/2019
Tetrachloroethene	2.0		ND						06/13/2019
Toluene	2.0		ND						06/13/2019
trans-1,2-Dichloroethene	2.0		ND						06/13/2019
trans-1,3-Dichloropropene	2.0		ND						06/13/2019
Trichloroethene	2.0		ND						06/13/2019
Trichlorofluoromethane	5.0		ND						06/13/2019
Vinyl acetate	50.0		ND						06/13/2019
Vinyl chloride	2.0		ND						06/13/2019
Xylenes, Total	8.0		ND						06/13/2019
Surr: 1,2-Dichloroethane-d4			**49.8**	50.00		99.7	74	124	06/13/2019
Surr: 4-Bromofluorobenzene			**50.2**	50.00		100.4	79.4	123	06/13/2019
Surr: Dibromofluoromethane			**48.3**	50.00		96.6	89.2	112	06/13/2019
Surr: Toluene-d8			**49.9**	50.00		99.9	85	115	06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154233 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		53.2	50.00	0	106.4	84.3	128	06/13/2019
1,1,1-Trichloroethane	2.0		49.2	50.00	0	98.4	75.6	132	06/13/2019
1,1,2,2-Tetrachloroethane	2.0		54.7	50.00	0	109.3	81.4	126	06/13/2019
1,1,2-Trichloroethane	5.0		54.4	50.00	0	108.7	87.3	122	06/13/2019
1,1-Dichloroethane	2.0		52.1	50.00	0	104.1	84.6	123	06/13/2019
1,1-Dichloroethene	2.0		45.3	50.00	0	90.6	73.6	134	06/13/2019
1,1-Dichloropropene	2.0		45.6	50.00	0	91.2	76	132	06/13/2019
1,2,3-Trichlorobenzene	2.0		50.2	50.00	0	100.3	78.2	139	06/13/2019
1,2,3-Trichloropropane	2.0		53.4	50.00	0	106.8	81.5	125	06/13/2019
1,2,4-Trichlorobenzene	2.0		46.9	50.00	0	93.8	67.8	154	06/13/2019
1,2,4-Trimethylbenzene	2.0		50.2	50.00	0	100.5	79.6	129	06/13/2019
1,2-Dibromo-3-chloropropane	5.0		51.2	50.00	0	102.4	71.5	135	06/13/2019
1,2-Dibromoethane	2.0		53.0	50.00	0	106.0	86.2	127	06/13/2019
1,2-Dichlorobenzene	2.0		50.7	50.00	0	101.5	82	126	06/13/2019
1,2-Dichloroethane	2.0		52.7	50.00	0	105.4	77.1	130	06/13/2019
1,2-Dichloropropane	2.0		51.0	50.00	0	102.0	89.8	126	06/13/2019
1,3,5-Trimethylbenzene	2.0		49.1	50.00	0	98.3	79	129	06/13/2019
1,3-Dichlorobenzene	2.0		48.4	50.00	0	96.8	80.9	132	06/13/2019
1,3-Dichloropropane	2.0		52.2	50.00	0	104.3	84	123	06/13/2019
1,4-Dichlorobenzene	2.0		48.6	50.00	0	97.1	78.3	131	06/13/2019
2,2-Dichloropropane	2.0		48.1	50.00	0	96.2	74.8	133	06/13/2019
2-Butanone	25.0		129	125.0	0	103.5	75	140	06/13/2019
2-Chloroethyl vinyl ether	5.0		49.9	50.00	0	99.9	72	142	06/13/2019
2-Chlorotoluene	2.0		49.3	50.00	0	98.5	78.5	128	06/13/2019
2-Hexanone	25.0		136	125.0	0	108.5	74.9	131	06/13/2019
4-Chlorotoluene	2.0		47.5	50.00	0	95.0	77.1	132	06/13/2019
4-Methyl-2-pentanone	25.0		135	125.0	0	108.3	81.3	127	06/13/2019
Acetone	25.0		133	125.0	0	106.7	52.2	164	06/13/2019
Acrolein	50.0		629	500.0	0	125.8	1	211	06/13/2019
Acrylonitrile	5.0		53.9	50.00	0	107.9	82.8	135	06/13/2019
Benzene	1.0		49.1	50.00	0	98.3	85.2	124	06/13/2019
Bromobenzene	2.0		51.9	50.00	0	103.7	81.7	125	06/13/2019
Bromochloromethane	2.0		51.4	50.00	0	102.9	84.8	127	06/13/2019
Bromodichloromethane	2.0		52.0	50.00	0	104.0	88.9	129	06/13/2019
Bromoform	5.0		53.7	50.00	0	107.4	79.3	134	06/13/2019
Bromomethane	10.0		47.2	50.00	0	94.3	17	207	06/13/2019
Carbon disulfide	2.0		44.3	50.00	0	88.6	74.5	131	06/13/2019
Carbon tetrachloride	2.0		45.1	50.00	0	90.2	73.6	133	06/13/2019
Chlorobenzene	2.0		50.7	50.00	0	101.4	86.1	123	06/13/2019
Chloroethane	10.0		44.9	50.00	0	89.9	77.2	130	06/13/2019
Chloroform	2.0		46.9	50.00	0	93.8	86.8	123	06/13/2019
Chloromethane	10.0		46.0	50.00	0	91.9	59.5	149	06/13/2019
cis-1,2-Dichloroethene	2.0		49.8	50.00	0	99.6	85	125	06/13/2019
cis-1,3-Dichloropropene	2.0		50.0	50.00	0	100.0	89.6	130	06/13/2019
Dibromochloromethane	2.0		52.2	50.00	0	104.5	87	129	06/13/2019
Dichlorodifluoromethane	10.0		45.6	50.00	0	91.3	40.9	168	06/13/2019
Ethyl methacrylate	2.0		53.5	50.00	0	107.0	87.6	125	06/13/2019

Teklab, Inc.
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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154233 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**48.7**	50.00	0	97.4	82.3	125	06/13/2019
Hexachlorobutadiene	2.0		**46.3**	50.00	0	92.5	67.5	144	06/13/2019
Isopropylbenzene	2.0		**49.2**	50.00	0	98.4	78.5	129	06/13/2019
m,p-Xylenes	4.0		**96.4**	100.0	0	96.4	80.4	128	06/13/2019
Methyl tert-butyl ether	2.0		**51.5**	50.00	0	103.1	86.2	126	06/13/2019
Methylene chloride	10.0		**48.5**	50.00	0	96.9	79.4	125	06/13/2019
Naphthalene	5.0		**52.1**	50.00	0	104.3	81	127	06/13/2019
n-Butylbenzene	2.0		**43.7**	50.00	0	87.3	67.4	142	06/13/2019
n-Propylbenzene	2.0		**47.2**	50.00	0	94.5	72.3	133	06/13/2019
o-Xylene	4.0		**50.4**	50.00	0	100.8	85	124	06/13/2019
p-Isopropyltoluene	2.0		**49.7**	50.00	0	99.4	75.4	133	06/13/2019
sec-Butylbenzene	2.0		**48.2**	50.00	0	96.3	72.1	132	06/13/2019
Styrene	2.0		**50.7**	50.00	0	101.4	86.7	127	06/13/2019
tert-Butylbenzene	2.0		**48.8**	50.00	0	97.7	73.5	129	06/13/2019
Tetrachloroethene	2.0		**45.6**	50.00	0	91.2	75.8	131	06/13/2019
Toluene	2.0		**47.2**	50.00	0	94.3	81	123	06/13/2019
trans-1,2-Dichloroethene	2.0		**48.8**	50.00	0	97.7	80.8	130	06/13/2019
trans-1,3-Dichloropropene	2.0		**53.1**	50.00	0	106.2	82.8	133	06/13/2019
Trichloroethene	2.0		**48.1**	50.00	0	96.1	83.6	129	06/13/2019
Trichlorofluoromethane	5.0		**43.0**	50.00	0	86.1	63	136	06/13/2019
Vinyl acetate	50.0		**51.7**	50.00	0	103.4	81.6	133	06/13/2019
Vinyl chloride	2.0		**40.7**	50.00	0	81.4	55	149	06/13/2019
Xylenes, Total	8.0		**147**	150.0	0	97.9	82.2	127	06/13/2019
Surr: 1,2-Dichloroethane-d4			**48.5**	50.00		97.0	74	124	06/13/2019
Surr: 4-Bromofluorobenzene			**49.3**	50.00		98.6	79.4	123	06/13/2019
Surr: Dibromofluoromethane			**48.9**	50.00		97.7	89.2	112	06/13/2019
Surr: Toluene-d8			**50.4**	50.00		100.7	85	115	06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154233 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**56.7**	50.00	0	113.4	53.18	6.37	06/13/2019
1,1,1-Trichloroethane	2.0		**56.6**	50.00	0	113.2	49.19	13.99	06/13/2019
1,1,2,2-Tetrachloroethane	2.0		**56.3**	50.00	0	112.5	54.67	2.88	06/13/2019
1,1,2-Trichloroethane	5.0		**56.6**	50.00	0	113.2	54.36	4.02	06/13/2019
1,1-Dichloroethane	2.0		**58.0**	50.00	0	116.1	52.06	10.85	06/13/2019
1,1-Dichloroethene	2.0		**53.3**	50.00	0	106.6	45.32	16.16	06/13/2019
1,1-Dichloropropene	2.0		**52.2**	50.00	0	104.3	45.58	13.46	06/13/2019
1,2,3-Trichlorobenzene	2.0		**52.6**	50.00	0	105.1	50.15	4.71	06/13/2019
1,2,3-Trichloropropane	2.0		**53.8**	50.00	0	107.6	53.41	0.75	06/13/2019
1,2,4-Trichlorobenzene	2.0		**48.6**	50.00	0	97.2	46.89	3.62	06/13/2019
1,2,4-Trimethylbenzene	2.0		**54.2**	50.00	0	108.5	50.23	7.66	06/13/2019
1,2-Dibromo-3-chloropropane	5.0		**52.9**	50.00	0	105.8	51.21	3.27	06/13/2019
1,2-Dibromoethane	2.0		**55.8**	50.00	0	111.5	52.99	5.08	06/13/2019
1,2-Dichlorobenzene	2.0		**54.4**	50.00	0	108.9	50.73	7.04	06/13/2019
1,2-Dichloroethane	2.0		**56.0**	50.00	0	112.0	52.71	6.02	06/13/2019
1,2-Dichloropropane	2.0		**55.2**	50.00	0	110.5	51.01	7.98	06/13/2019
1,3,5-Trimethylbenzene	2.0		**53.6**	50.00	0	107.1	49.13	8.61	06/13/2019
1,3-Dichlorobenzene	2.0		**52.3**	50.00	0	104.5	48.38	7.73	06/13/2019
1,3-Dichloropropane	2.0		**55.6**	50.00	0	111.1	52.17	6.28	06/13/2019
1,4-Dichlorobenzene	2.0		**51.5**	50.00	0	102.9	48.55	5.84	06/13/2019
2,2-Dichloropropane	2.0		**55.1**	50.00	0	110.2	48.11	13.51	06/13/2019
2-Butanone	25.0		**130**	125.0	0	103.6	129.4	0.11	06/13/2019
2-Chloroethyl vinyl ether	5.0		**51.3**	50.00	0	102.6	49.94	2.71	06/13/2019
2-Chlorotoluene	2.0		**53.8**	50.00	0	107.5	49.26	8.72	06/13/2019
2-Hexanone	25.0		**134**	125.0	0	107.5	135.6	0.90	06/13/2019
4-Chlorotoluene	2.0		**51.4**	50.00	0	102.8	47.49	7.95	06/13/2019
4-Methyl-2-pentanone	25.0		**136**	125.0	0	109.0	135.4	0.62	06/13/2019
Acetone	25.0		**135**	125.0	0	108.1	133.4	1.29	06/13/2019
Acrolein	50.0		**623**	500.0	0	124.6	628.8	0.97	06/13/2019
Acrylonitrile	5.0		**53.2**	50.00	0	106.3	53.93	1.42	06/13/2019
Benzene	1.0		**54.5**	50.00	0	109.0	49.14	10.38	06/13/2019
Bromobenzene	2.0		**55.4**	50.00	0	110.8	51.86	6.60	06/13/2019
Bromochloromethane	2.0		**55.0**	50.00	0	110.1	51.43	6.80	06/13/2019
Bromodichloromethane	2.0		**55.7**	50.00	0	111.4	51.98	6.93	06/13/2019
Bromoform	5.0		**55.1**	50.00	0	110.2	53.70	2.56	06/13/2019
Bromomethane	10.0		**55.4**	50.00	0	110.9	47.15	16.14	06/13/2019
Carbon disulfide	2.0		**52.7**	50.00	0	105.5	44.30	17.38	06/13/2019
Carbon tetrachloride	2.0		**52.1**	50.00	0	104.1	45.08	14.39	06/13/2019
Chlorobenzene	2.0		**54.8**	50.00	0	109.7	50.70	7.83	06/13/2019
Chloroethane	10.0		**51.8**	50.00	0	103.6	44.94	14.18	06/13/2019
Chloroform	2.0		**51.8**	50.00	0	103.7	46.91	9.97	06/13/2019
Chloromethane	10.0		**54.7**	50.00	0	109.4	45.95	17.37	06/13/2019
cis-1,2-Dichloroethene	2.0		**55.0**	50.00	0	110.1	49.78	10.05	06/13/2019
cis-1,3-Dichloropropene	2.0		**53.5**	50.00	0	107.0	50.02	6.74	06/13/2019
Dibromochloromethane	2.0		**55.0**	50.00	0	110.1	52.25	5.18	06/13/2019
Dichlorodifluoromethane	10.0		**54.8**	50.00	0	109.5	45.63	18.21	06/13/2019
Ethyl methacrylate	2.0		**54.7**	50.00	0	109.3	53.50	2.16	06/13/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060781
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154233 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190613A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**53.8**	50.00	0	107.6	48.70	9.99	06/13/2019
Hexachlorobutadiene	2.0		**52.3**	50.00	0	104.7	46.27	12.29	06/13/2019
Isopropylbenzene	2.0		**54.3**	50.00	0	108.6	49.22	9.80	06/13/2019
m,p-Xylenes	4.0		**106**	100.0	0	106.0	96.44	9.40	06/13/2019
Methyl tert-butyl ether	2.0		**53.4**	50.00	0	106.8	51.53	3.56	06/13/2019
Methylene chloride	10.0		**52.8**	50.00	0	105.5	48.46	8.48	06/13/2019
Naphthalene	5.0		**53.2**	50.00	0	106.3	52.13	1.94	06/13/2019
n-Butylbenzene	2.0		**47.4**	50.00	0	94.9	43.67	8.25	06/13/2019
n-Propylbenzene	2.0		**52.7**	50.00	0	105.4	47.25	10.89	06/13/2019
o-Xylene	4.0		**54.3**	50.00	0	108.6	50.40	7.43	06/13/2019
p-Isopropyltoluene	2.0		**55.1**	50.00	0	110.2	49.68	10.33	06/13/2019
sec-Butylbenzene	2.0		**53.7**	50.00	0	107.5	48.16	10.93	06/13/2019
Styrene	2.0		**54.6**	50.00	0	109.3	50.69	7.52	06/13/2019
tert-Butylbenzene	2.0		**54.4**	50.00	0	108.9	48.84	10.86	06/13/2019
Tetrachloroethene	2.0		**51.6**	50.00	0	103.1	45.61	12.27	06/13/2019
Toluene	2.0		**54.2**	50.00	0	108.5	47.16	13.95	06/13/2019
trans-1,2-Dichloroethene	2.0		**55.3**	50.00	0	110.5	48.85	12.33	06/13/2019
trans-1,3-Dichloropropene	2.0		**56.3**	50.00	0	112.6	53.08	5.89	06/13/2019
Trichloroethene	2.0		**53.2**	50.00	0	106.3	48.06	10.10	06/13/2019
Trichlorofluoromethane	5.0		**51.0**	50.00	0	102.1	43.04	16.99	06/13/2019
Vinyl acetate	50.0		**54.3**	50.00	0	108.6	51.68	4.98	06/13/2019
Vinyl chloride	2.0		**49.3**	50.00	0	98.5	40.69	19.06	06/13/2019
Xylenes, Total	8.0		**160**	150.0	0	106.8	146.8	8.73	06/13/2019
Surr: 1,2-Dichloroethane-d4			**48.4**	50.00		96.8			06/13/2019
Surr: 4-Bromofluorobenzene			**49.8**	50.00		99.6			06/13/2019
Surr: Dibromofluoromethane			**49.3**	50.00		98.6			06/13/2019
Surr: Toluene-d8			**50.4**	50.00		100.8			06/13/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060781
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

Carrier: Robert Fleming
Received By: AMD

Completed by: Amber M. Dilallo
On: 12-Jun-2019

Reviewed by: Elizabeth A. Hurley
On: 12-Jun-2019

Pages to follow: Chain of custody 1 Extra pages included 26

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 5.42
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☑	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Headspace was present in the Trip Blank volatile vials. Elizabeth Kunkel was notified of this error via work order summary. - adilallo - 6/12/2019 4:48:13 PM

Trip Blank collection date and time will be reported as the received date and time (end of trip). - ehurley - 6/12/2019 5:41:58 PM

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☐ TESTAMERICA (__Pensacola__)
- ☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/12/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794.1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM | LOG CODE:

ADDRESS: 100 N Broadway, 20th Fldor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) __EDD__

TEMPERATURE ON RECEIPT C° | Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

170 East Rand Avenue, Hartford	State: IL	AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location):	PHONE NO.:	E-MAIL:	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

SAMPLER NAME(S) (Print): Bobby Fleming

LAB USE ONLY: 190E078

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST: 8260 Project list VOCs +TICs	8270 SIM PAH	Moisture	8270 Project List SVOCs +TICs	NON-UNIT COST	Container PID Readings or Laboratory Notes
																190E078
	PD-5-CPT-061219-EB	6/12/2019	12:00	Water	X					4	X	X		X		001
	TB-PW-061219	6/12/2019	0:00	Water	X					2	X					002
	PD-10-SB-45-061219	6/12/2019	14:55	Soil				x	x	5	x	x	x	x		003

FIELD NOTES:

TEMPERATURE ON RECEIPT C° 5.4°C TB #3

Container PID Readings or Laboratory Notes

HS in TB.
Ø in sample.
SMO 6/12/19
Not 24 hour TAT
Sodium Bi Sulfate (Preserve)
Methanol (Preserve)

FUS

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Robert M. Fleming		6/12/19	1440
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA018.D
Acq On : 13 Jun 2019 7:00 pm
Operator : DH
Sample : 19060781-001A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 18 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA018.D\data.ms

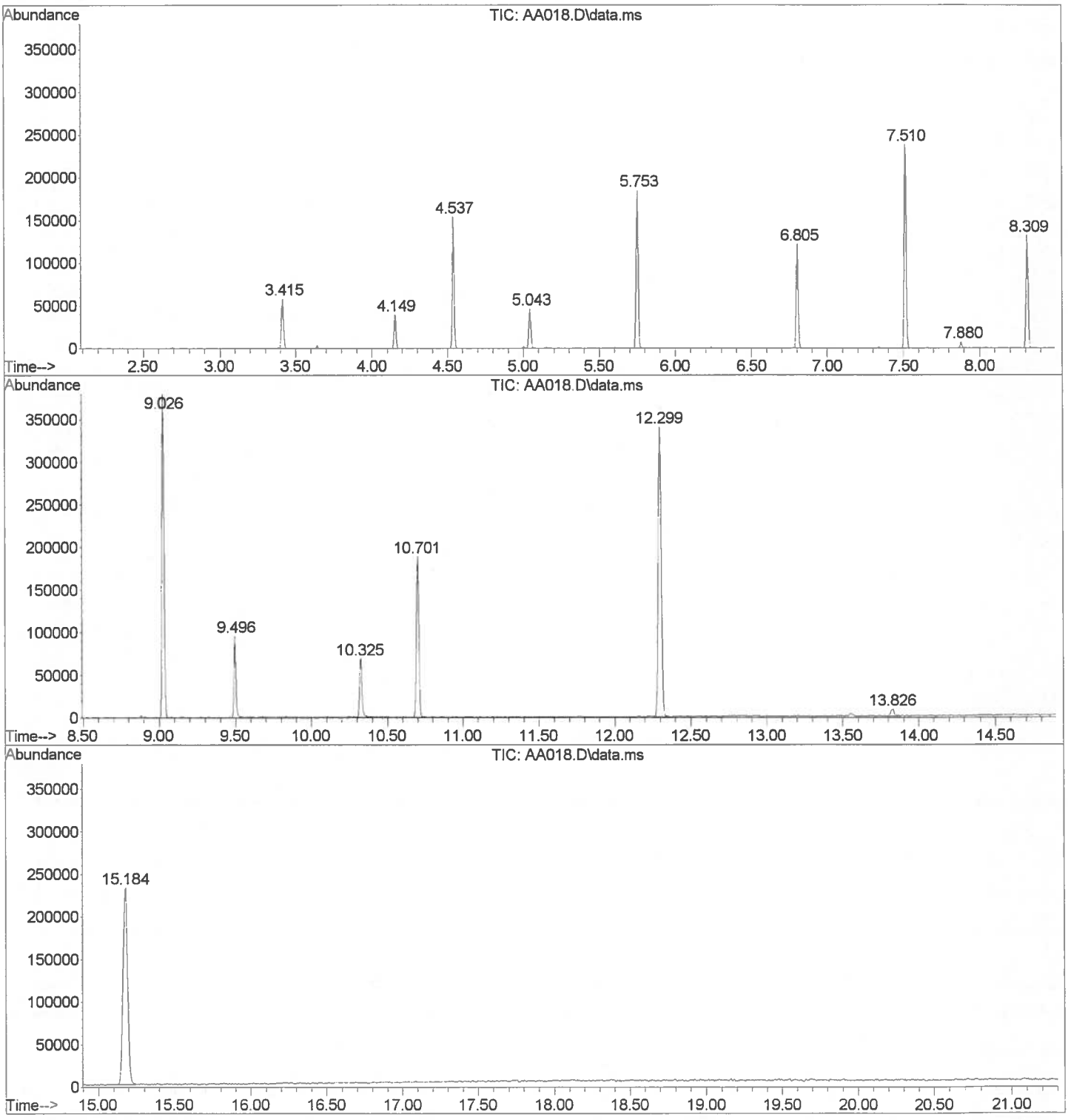
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.415	223	227	231	rVB	57753	52577	10.70%	2.029%
2	4.149	349	352	360	rVB	39566	38332	7.80%	1.479%
3	4.537	415	418	422	rBV	153998	133337	27.14%	5.145%
4	5.043	500	504	508	rBV	46072	40724	8.29%	1.571%
5	5.753	621	625	629	rBV	184511	166761	33.94%	6.435%
6	6.805	800	804	808	rVB	121400	101235	20.60%	3.906%
7	7.510	920	924	929	rBV	238572	240397	48.93%	9.276%
8	7.880	984	987	992	rBB	7485	5467	1.11%	0.211%
9	8.309	1057	1060	1064	rBV	132048	118255	24.07%	4.563%
10	9.026	1178	1182	1186	rBV	380017	349318	71.10%	13.479%
11	9.496	1258	1262	1270	rBV	95700	80642	16.41%	3.112%
12	10.325	1398	1403	1413	rBV	68845	77670	15.81%	2.997%
13	10.701	1461	1467	1472	rBV	188748	204601	41.64%	7.895%
14	12.299	1732	1739	1748	rBV	340136	491335	100.00%	18.959%
15	13.826	1994	1999	2005	rBV4	8557	13677	2.78%	0.528%
16	15.184	2219	2230	2241	rVB	231132	477288	97.14%	18.417%

Sum of corrected areas: 2591616

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA018.D
Acq On : 13 Jun 2019 7:00 pm
Operator : DH
Sample : 19060781-001A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA018.D
Acq On : 13 Jun 2019 7:00 pm
Operator : DH
Sample : 19060781-001A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 18 Sample Multiplier: 1

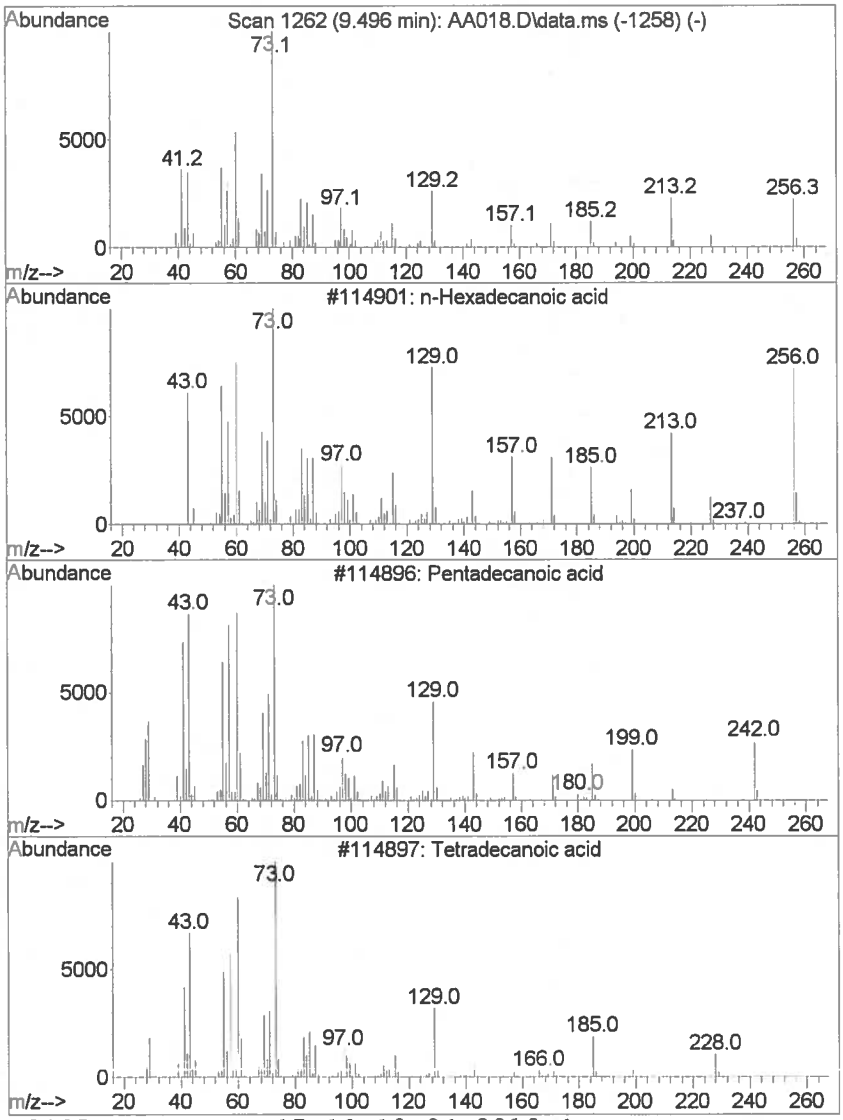
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

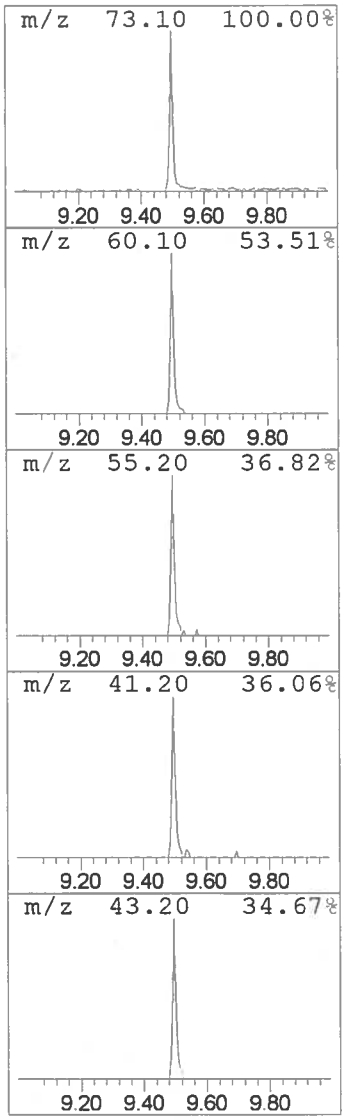
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 n-Hexadecanoic acid Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.496	9.23 ug/ml	80642	Phenanthrene-d10*	9.026

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	53
2	Pentadecanoic acid	242	C15H30O2	001002-84-2	52
3	Tetradecanoic acid	228	C14H28O2	000544-63-8	46
4	Lauric anhydride	382	C24H46O3	000645-66-9	43
5	Tridecanoic acid	214	C13H26O2	000638-53-9	37





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA018.D
Acq On : 13 Jun 2019 7:00 pm
Operator : DH
Sample : 19060781-001A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 18 Sample Multiplier: 1

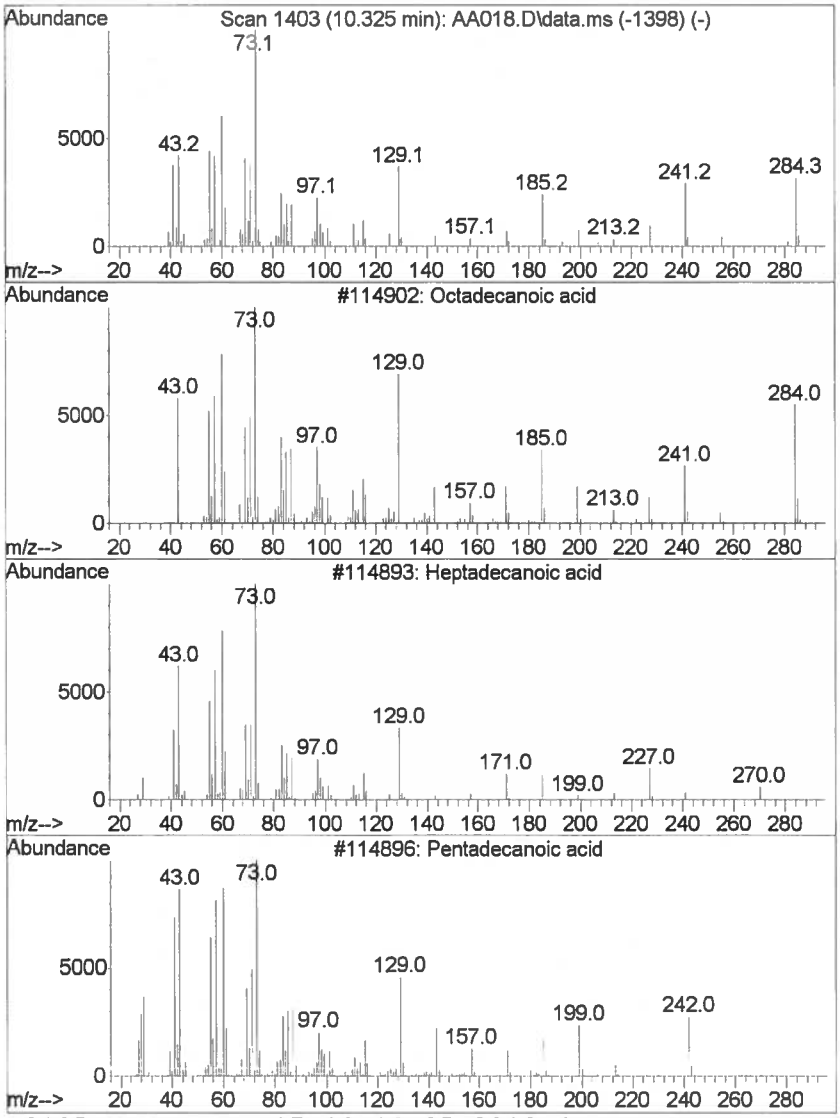
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

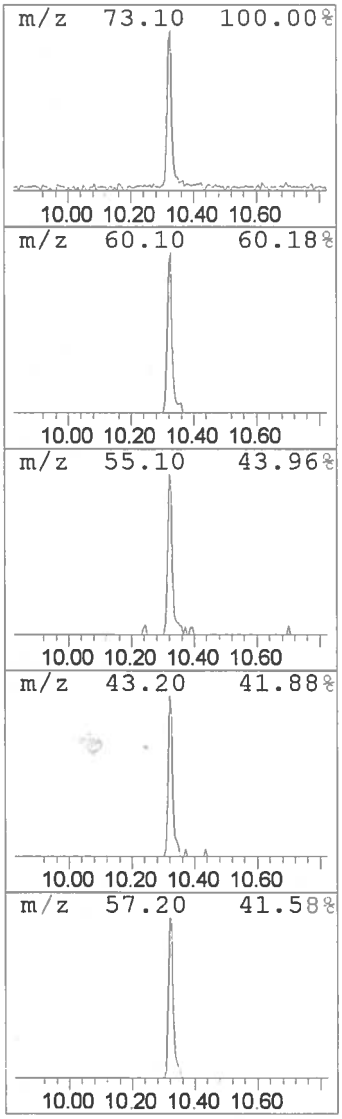
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Octadecanoic acid Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.325	8.89 ug/ml	77670	Phenanthrene-d10*	9.026

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octadecanoic acid	284	C18H36O2	000057-11-4	91
2	Heptadecanoic acid	270	C17H34O2	000506-12-7	64
3	Pentadecanoic acid	242	C15H30O2	001002-84-2	53
4	Undecanoic acid	186	C11H22O2	000112-37-8	47
5	Tetradecanoic acid	228	C14H28O2	000544-63-8	40





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA018.D
Acq On : 13 Jun 2019 7:00 pm
Operator : DH
Sample : 19060781-001A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
n-Hexadecanoic ...	9.496	9.2	ug/ml	80642	7	9.026	349318	40.0
Octadecanoic acid	10.325	8.9	ug/ml	77670	7	9.026	349318	40.0

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA019.D
Acq On : 13 Jun 2019 7:27 pm
Operator : DH
Sample : 19060781-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 19 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA019.D\data.ms

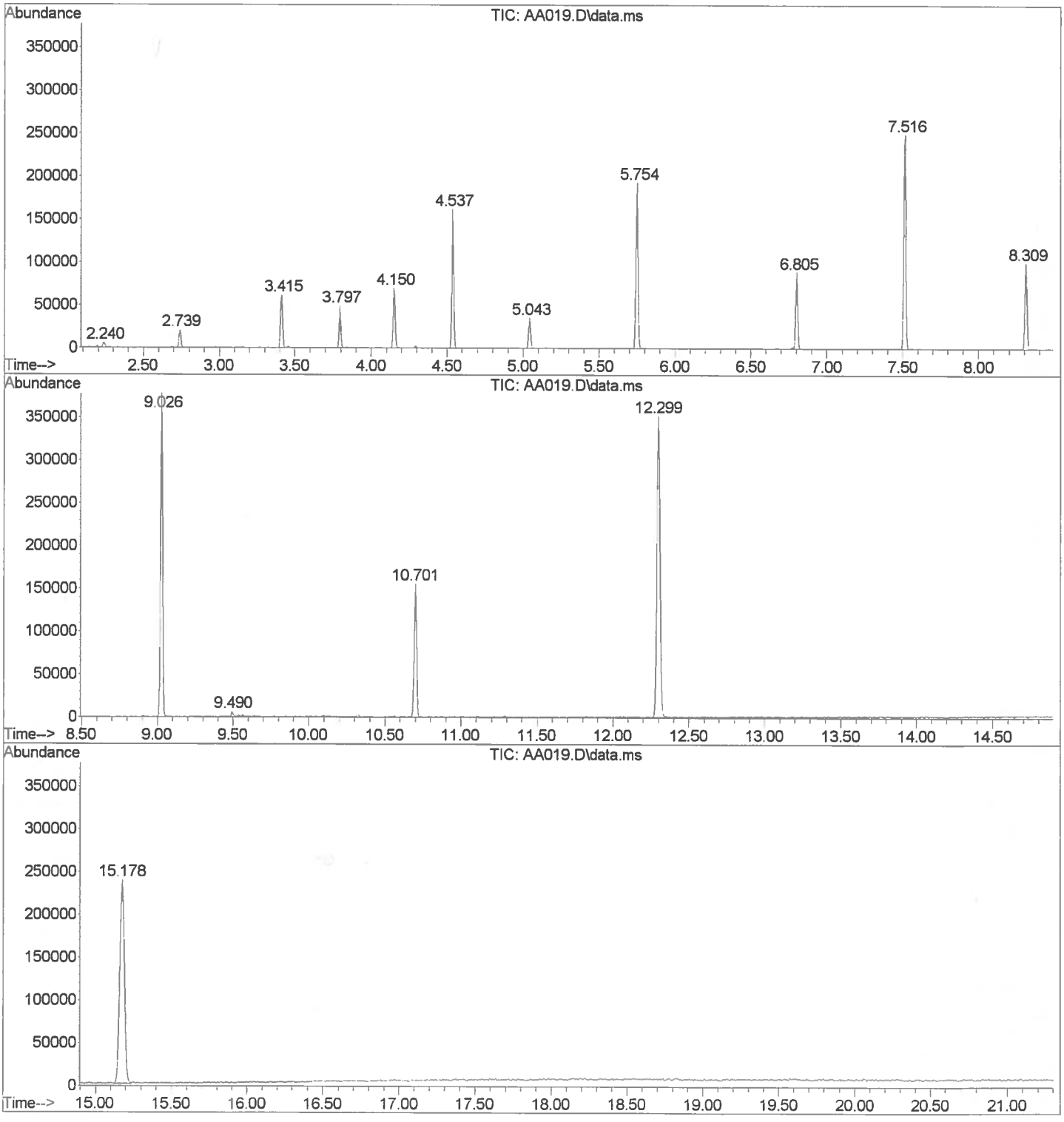
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.240	24	27	31	rBV	5150	5713	1.12%	0.232%
2	2.739	109	112	116	rBB	20361	19322	3.78%	0.785%
3	3.415	223	227	231	rVB	61271	58443	11.43%	2.375%
4	3.797	288	292	295	rBB	48583	44238	8.65%	1.798%
5	4.150	349	352	357	rBV	69449	64609	12.64%	2.626%
6	4.537	414	418	423	rBV	161586	137861	26.96%	5.603%
7	5.043	501	504	509	rBB	35042	30517	5.97%	1.240%
8	5.754	621	625	630	rBV	192769	166135	32.49%	6.752%
9	6.805	801	804	808	rVB	88384	74316	14.53%	3.020%
10	7.516	920	925	929	rBV	249282	252436	49.37%	10.259%
11	8.309	1057	1060	1064	rBV	99780	86540	16.92%	3.517%
12	9.026	1178	1182	1186	rBV	377686	349241	68.30%	14.193%
13	9.490	1259	1261	1266	rVB	6066	5356	1.05%	0.218%
14	10.701	1462	1467	1471	rVB	154673	161063	31.50%	6.546%
15	12.299	1732	1739	1747	rBV2	350611	511329	100.00%	20.780%
16	15.178	2219	2229	2239	rBV2	237428	493513	96.52%	20.056%

Sum of corrected areas: 2460632

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA019.D
Acq On : 13 Jun 2019 7:27 pm
Operator : DH
Sample : 19060781-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA019.D
Acq On : 13 Jun 2019 7:27 pm
Operator : DH
Sample : 19060781-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 19 Sample Multiplier: 1

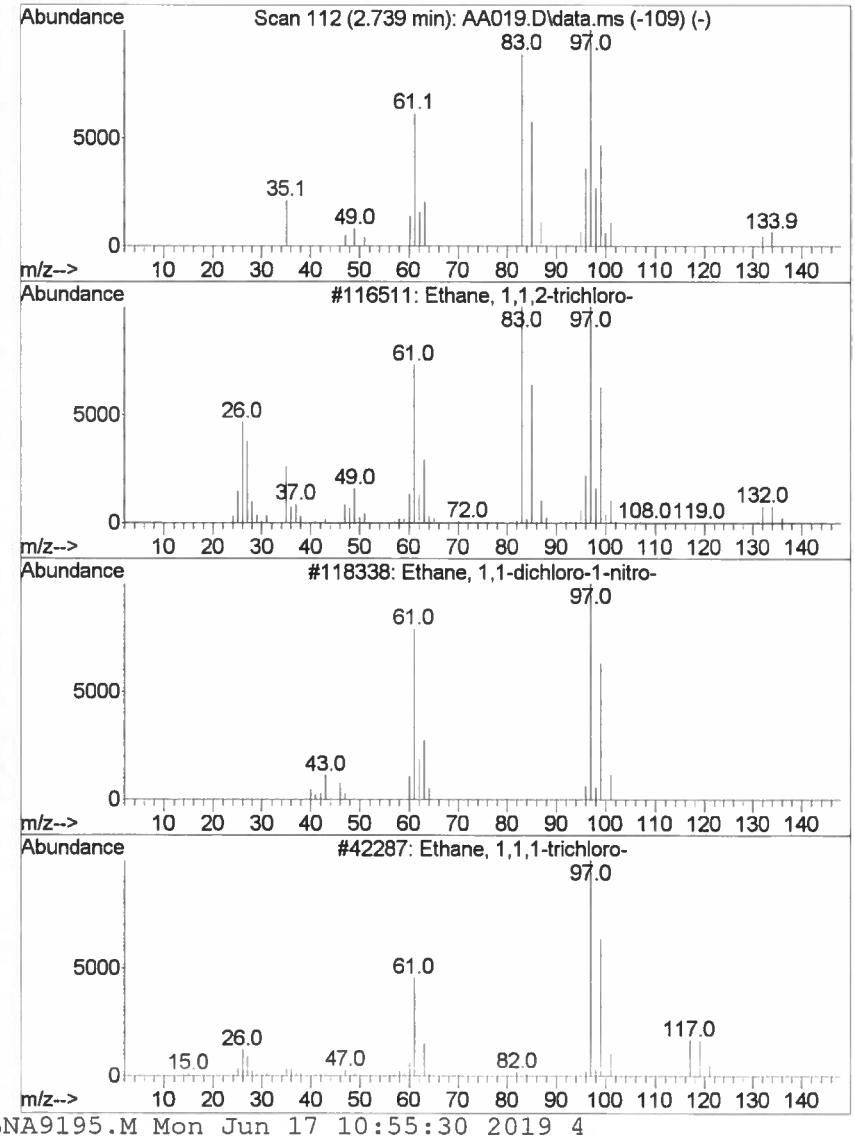
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

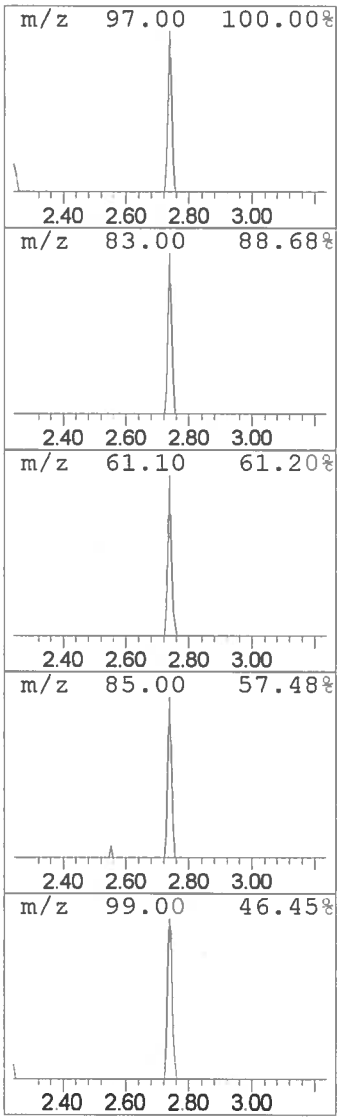
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, 1,1,2-trichloro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.739	5.61 ug/ml	19322	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	76
2	Ethane, 1,1-dichloro-1-nitro-	143	C2H3Cl2NO2	000594-72-9	47
3	Ethane, 1,1,1-trichloro-	132	C2H3Cl3	000071-55-6	27
4	Propanoyl chloride, 2,2-dichloro-	160	C3H3Cl3O	026073-26-7	25
5	Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	15





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA019.D
Acq On : 13 Jun 2019 7:27 pm
Operator : DH
Sample : 19060781-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 19 Sample Multiplier: 1

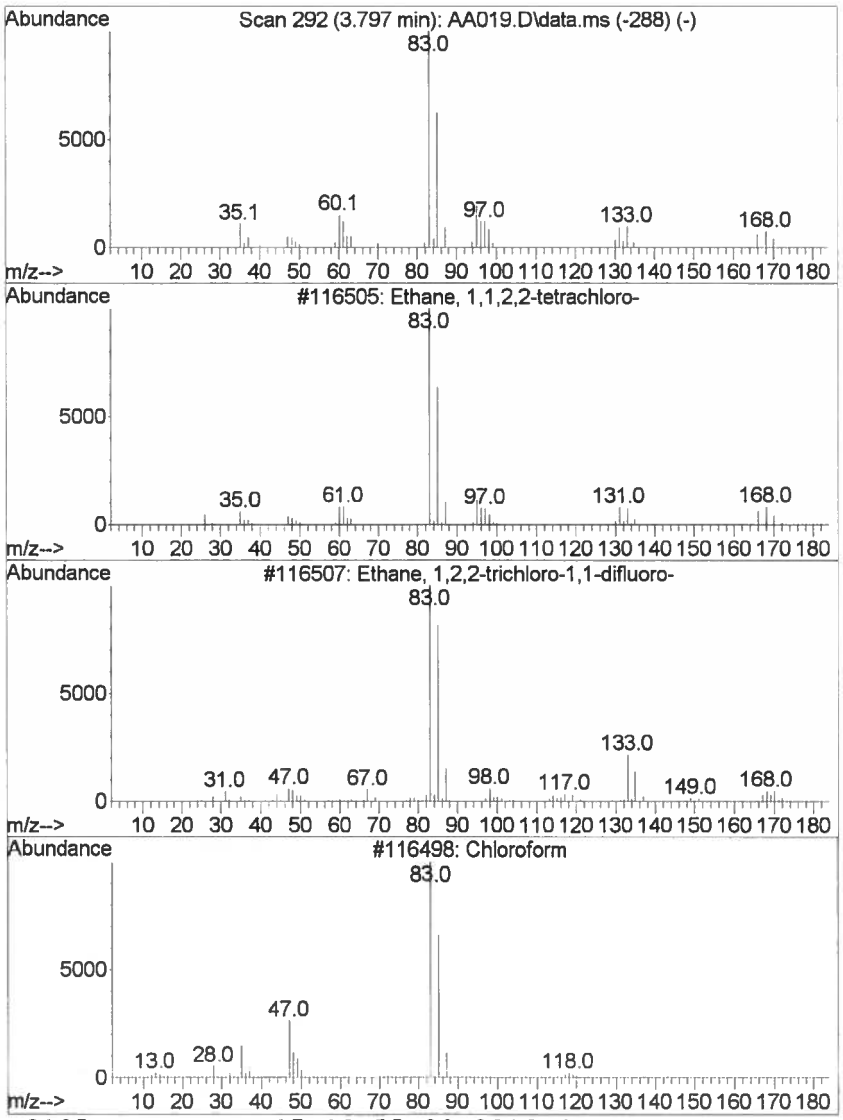
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

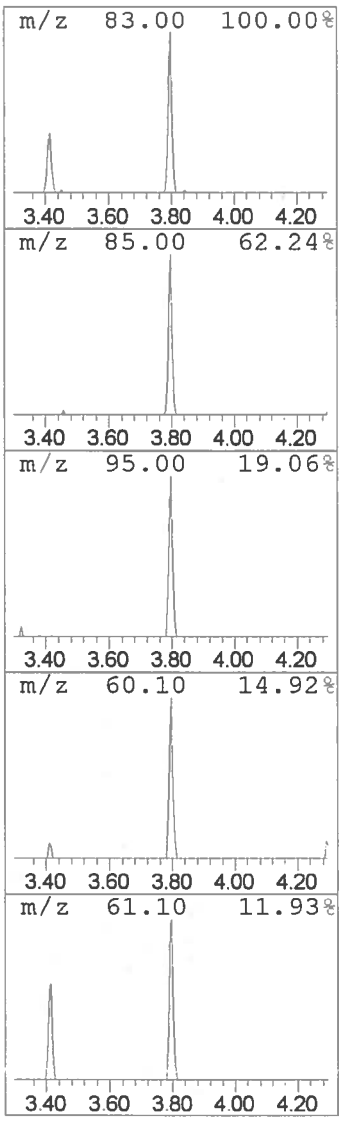
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.797	12.84 ug/ml	44238	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	96
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	52
3	Chloroform	118	CHCl3	000067-66-3	40
4	Ethane, 1,1-dichloro-2,2-difluoro-	134	C2H2Cl2F2	000471-43-2	40
5	Ethane, 2,2-dichloro-1,1,1-trifl...	152	C2HCl2F3	000306-83-2	40





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190613C\
Data File : AA019.D
Acq On : 13 Jun 2019 7:27 pm
Operator : DH
Sample : 19060781-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,1,2-t...	2.739	5.6	ug/ml	19322	1	4.537	137861	40.0
Ethane, 1,1,2,2...	3.797	12.8	ug/ml	44238	1	4.537	137861	40.0

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190613A\T07.D Vial: 7
Acq On : 13 Jun 2019 11:10 Operator: Kelly Senci
Sample : 19060781-001C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

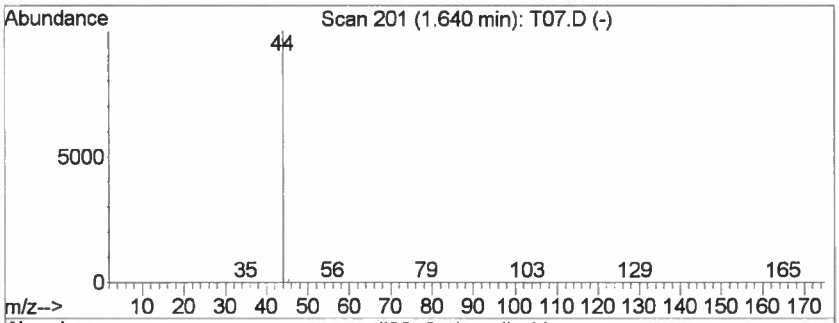
Quant Method : C:\MSDCHEM\1...\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

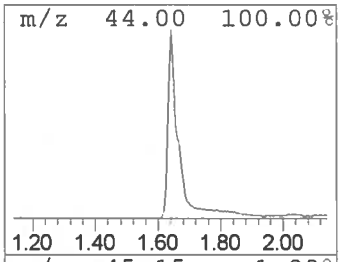
****

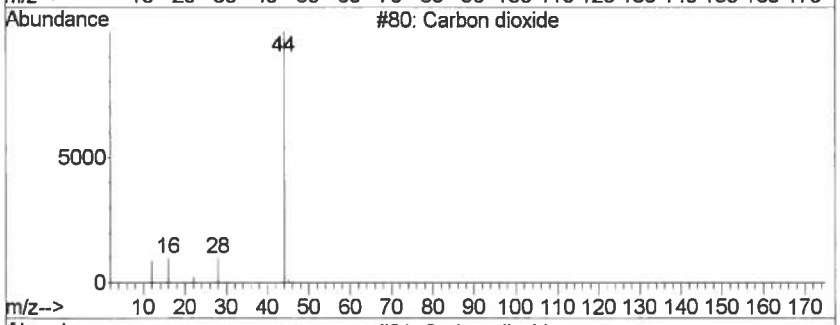
Peak Number 1 Carbon dioxide Concentration Rank 3

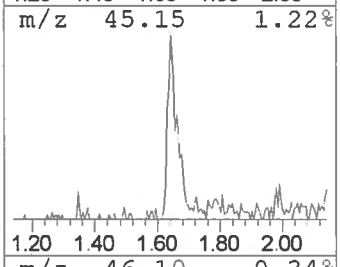
R.T.	EstConc	Area	Relative to ISTD	R.T.
1.64	10.67 ug/L	181527	Fluorobenzene	8.53

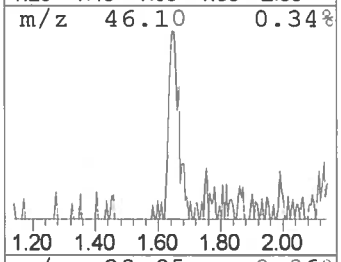
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Carbon dioxide	44	CO2	000124-38-9	3
3	Nitrous Oxide	44	N2O	010024-97-2	3
4	Nitrous Oxide	44	N2O	010024-97-2	3

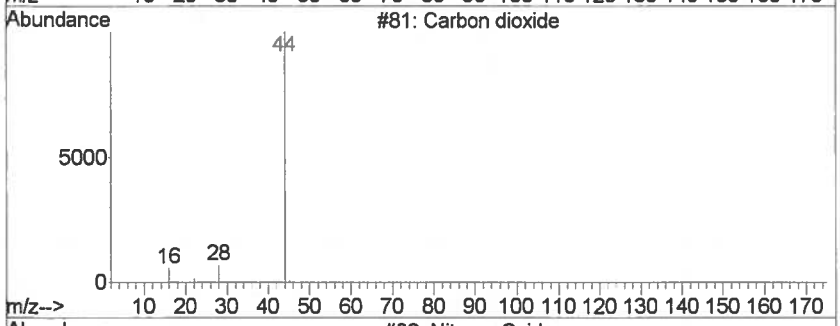


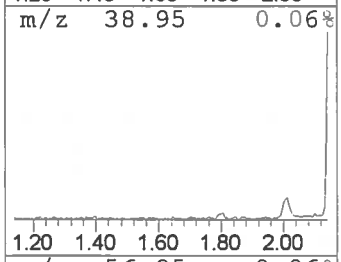


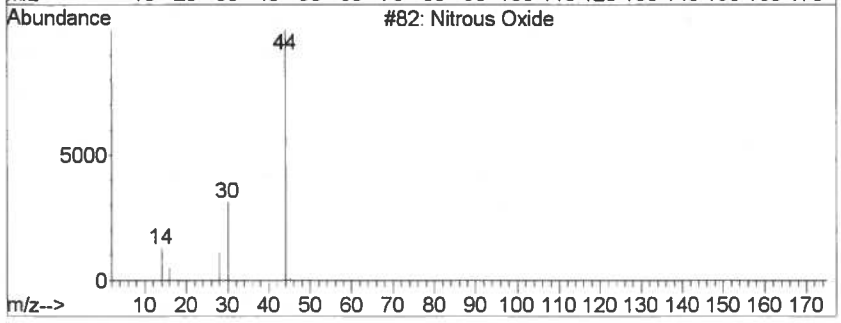


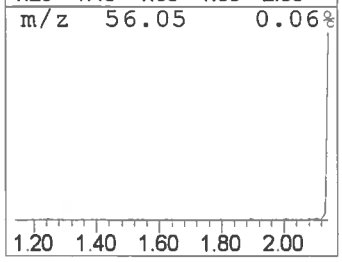












CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190613A\T07.D Vial: 7
Acq On : 13 Jun 2019 11:10 Operator: Kelly Senci
Sample : 19060781-001C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

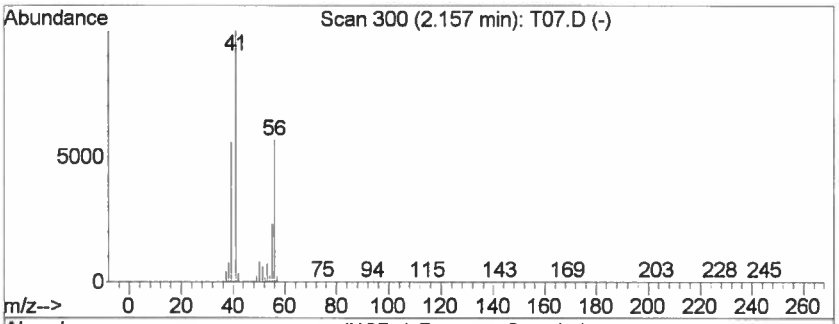
Quant Method : C:\MSDCHEM\1...\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

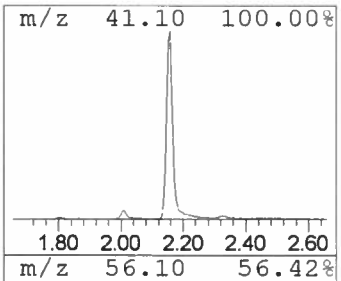
****

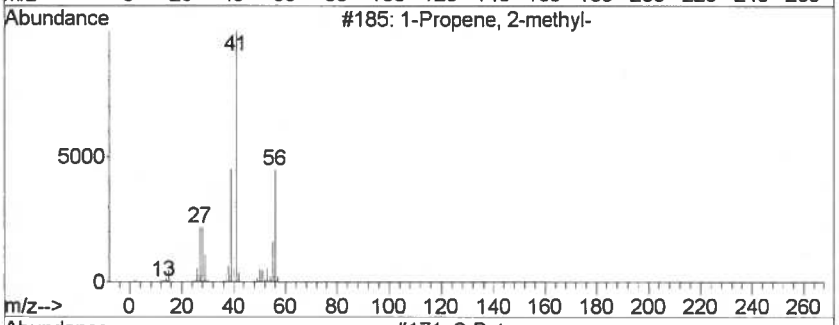
Peak Number 2 1-Propene, 2-methyl- Concentration Rank 2

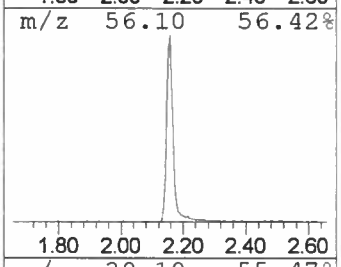
R.T.	EstConc	Area	Relative to ISTD	R.T.
2.16	12.93 ug/L	220065	Fluorobenzene	8.53

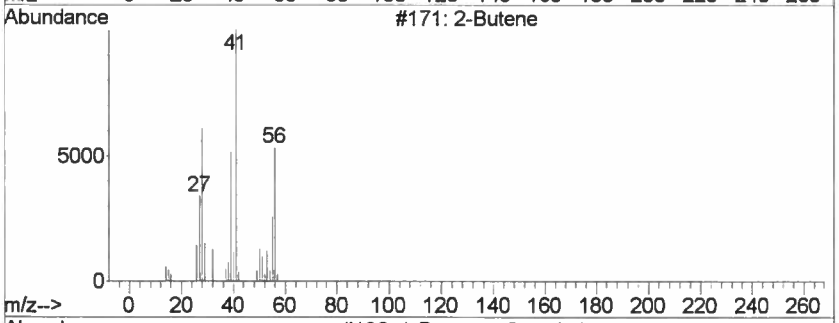
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Propene, 2-methyl-	56	C4H8	000115-11-7	83
2	2-Butene	56	C4H8	000107-01-7	72
3	1-Propene, 2-methyl-	56	C4H8	000115-11-7	72
4	2-Butene	56	C4H8	000107-01-7	64

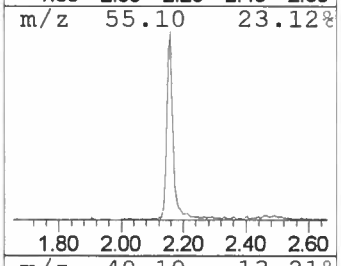


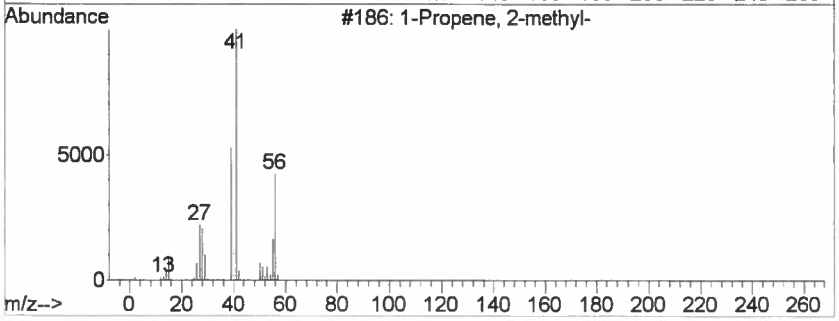












CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190613A\T07.D Vial: 7
Acq On : 13 Jun 2019 11:10 Operator: Kelly Senci
Sample : 19060781-001C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

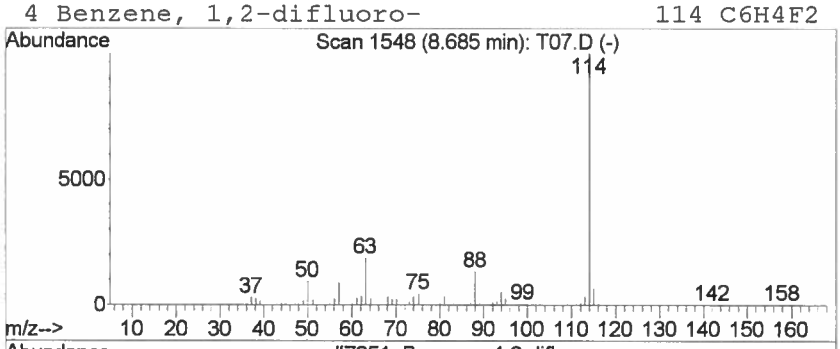
Quant Method : C:\MSDCHEM\1...\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

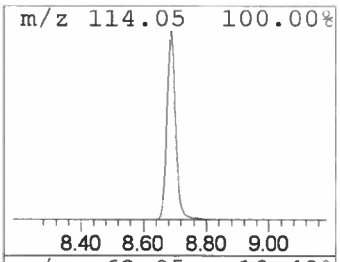
****

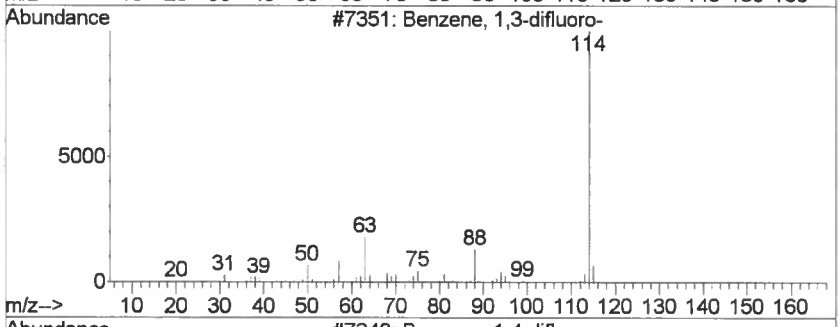
Peak Number 3 Benzene, 1,3-difluoro- Concentration Rank 1

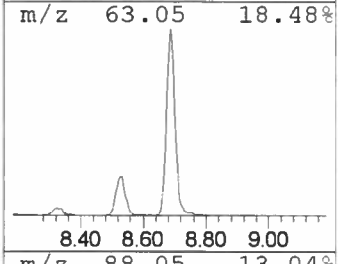
R.T.	EstConc	Area	Relative to ISTD	R.T.
8.68	50.15 ug/L	853364	Fluorobenzene*	8.53

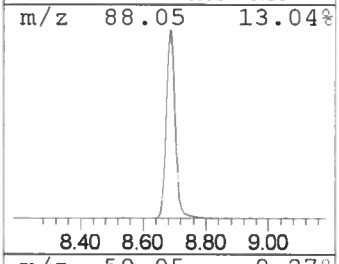
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
2	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	95
3	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
4	Benzene, 1,2-difluoro-	114	C6H4F2	000367-11-3	94

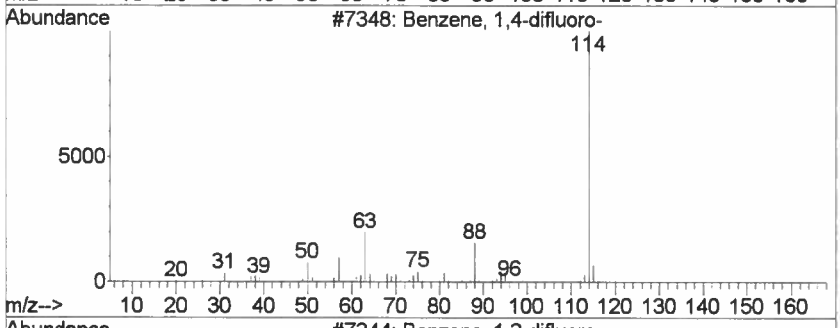


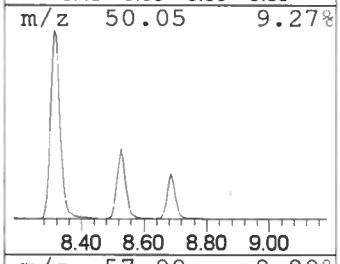


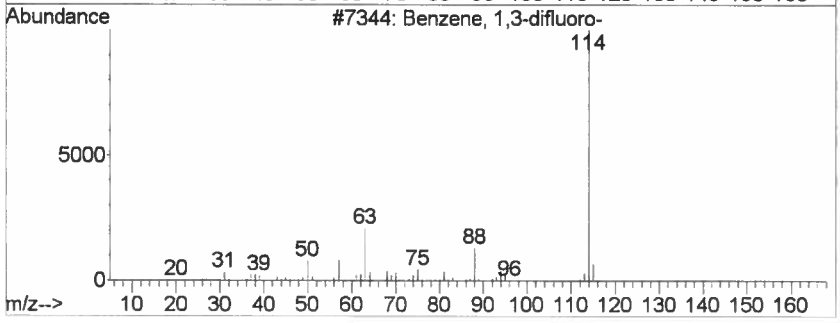


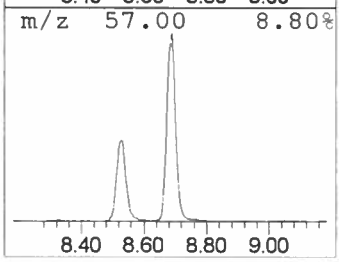












Tentatively Identified Compound (LSC) summary

CONFIDENTIAL SETTLEMENT COMMUNICATION

Operator ID: Kelly Senci Date Acquired: 13 Jun 2019 11:10
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190613A\T07.D
Name: 19060781-001C
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1907.M (RTE Integrator)
Title: 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.64	10.7	ug/L	181527	1	8.53	850754	50.0
1-Propene, 2-methyl-	2.16	12.9	ug/L	220065	1	8.53	850754	50.0
Benzene, 1,3-difl...	8.68	50.2	ug/L	853364	2	8.53	850754	50.0

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190613A\T07.D Vial: 7
Acq On : 13 Jun 2019 11:10 Operator: Kelly Senci
Sample : 19060781-001C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

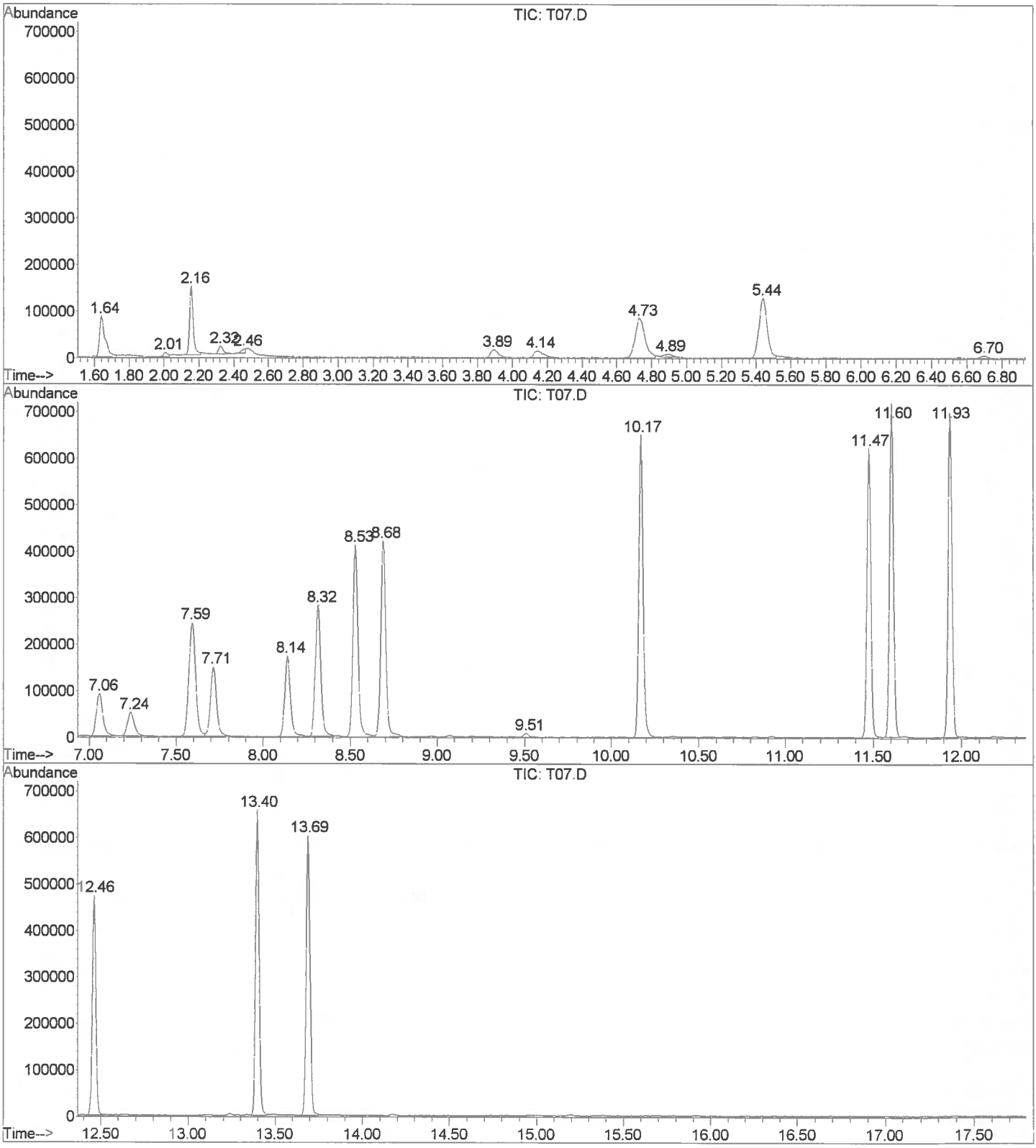
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.640	195	201	218	rBV	86928	181527	16.44%	1.472%
2	2.006	266	271	276	rBV	8523	13405	1.21%	0.109%
3	2.157	291	300	310	rBV	147890	220065	19.93%	1.785%
4	2.325	327	332	345	rVB	16587	32751	2.97%	0.266%
5	2.461	351	358	359	rBV5	9031	13209	1.20%	0.107%
6	3.894	624	632	645	rBV	17038	49038	4.44%	0.398%
7	4.140	670	679	700	rBV	13964	52627	4.77%	0.427%
8	4.731	776	792	809	rBV2	84586	333666	30.22%	2.706%
9	4.888	815	822	834	rVB5	6602	22234	2.01%	0.180%
10	5.442	914	928	942	rBV	127650	421928	38.21%	3.422%
11	6.702	1156	1169	1179	rBV4	5255	18157	1.64%	0.147%
12	7.063	1228	1238	1260	rVB	90561	235808	21.36%	1.913%
13	7.241	1262	1272	1287	rVV	50899	137923	12.49%	1.119%
14	7.591	1326	1339	1353	rBV	244721	658093	59.60%	5.337%
15	7.712	1353	1362	1384	rVB2	148861	368252	33.35%	2.987%
16	8.141	1431	1444	1467	rBV	174082	405475	36.72%	3.289%
17	8.318	1467	1478	1495	rBV	281980	620806	56.23%	5.035%
18	8.528	1507	1518	1537	rBV	411956	850754	77.05%	6.900%
19	8.685	1539	1548	1574	rVB	420614	853364	77.29%	6.921%
20	9.511	1699	1706	1712	rBV2	7367	14896	1.35%	0.121%
21	10.170	1823	1832	1849	rBV	649960	1077022	97.54%	8.735%
22	11.472	2073	2081	2092	rBV	621293	980797	88.83%	7.955%
23	11.603	2098	2106	2117	rBV	716125	1104142	100.00%	8.955%
24	11.932	2159	2169	2181	rBV	697136	1085713	98.33%	8.806%
25	12.461	2262	2270	2282	rBV	471839	705019	63.85%	5.718%
26	13.397	2441	2449	2460	rBV	657069	955851	86.57%	7.752%
27	13.690	2495	2505	2522	rBV	602499	917272	83.08%	7.439%

Sum of corrected areas: 12329794

File : C:\MSDCHEM\1\DATA\TEKLAB\T190613A\T07.D
Operator : Kelly Senci
Acquired : 13 Jun 2019 11:10 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19060781-001C
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 7
Quant File :VOCT1907.RES (RTE Integrator)



LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\data\AF190613A\
Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

Signal : TIC: AF07.D\data.ms

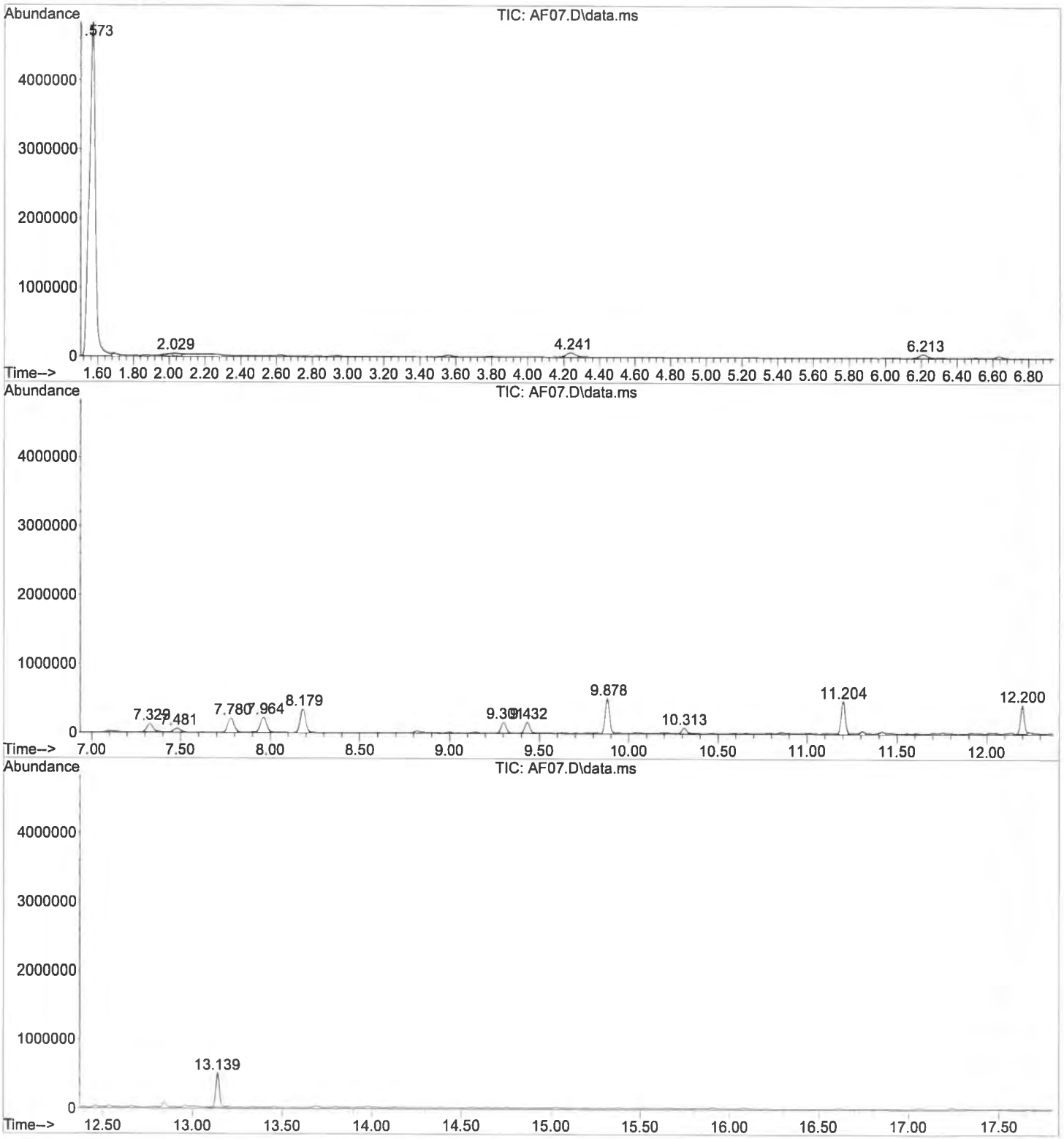
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.573	177	188	208	rBV	4822901	11087205	100.00%	63.614%
2	2.029	258	275	283	rBV3	34360	156673	1.41%	0.899%
3	4.241	682	697	717	rBV5	63473	241786	2.18%	1.387%
4	6.213	1059	1073	1085	rBV3	51964	172350	1.55%	0.989%
5	7.329	1273	1286	1304	rBV	122293	313640	2.83%	1.800%
6	7.481	1304	1315	1329	rVB	57157	147574	1.33%	0.847%
7	7.780	1362	1372	1385	rBV2	206027	481367	4.34%	2.762%
8	7.964	1397	1407	1419	rVB	211570	515926	4.65%	2.960%
9	8.179	1439	1448	1464	rBV	334717	696894	6.29%	3.998%
10	9.301	1654	1662	1672	rBV	155340	296356	2.67%	1.700%
11	9.432	1678	1687	1697	rBV	156695	313173	2.82%	1.797%
12	9.878	1765	1772	1781	rBV	498692	823627	7.43%	4.726%
13	10.313	1844	1855	1863	rBV	78949	154718	1.40%	0.888%
14	11.204	2015	2025	2035	rBV	471442	713244	6.43%	4.092%
15	12.200	2208	2215	2220	rBV	413644	594000	5.36%	3.408%
16	13.139	2383	2394	2404	rBV	496984	720428	6.50%	4.134%

Sum of corrected areas: 17428961

Data Path : C:\msdchem\1\data\AF190613A\
Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P



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Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

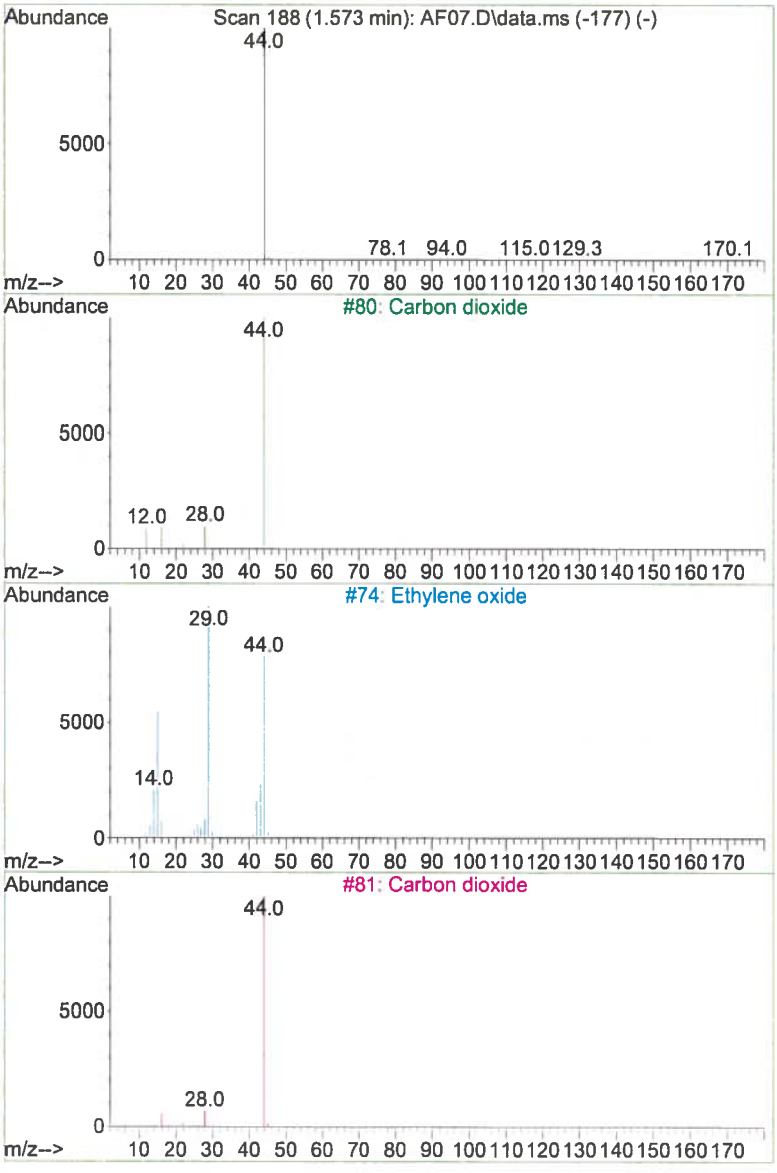
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

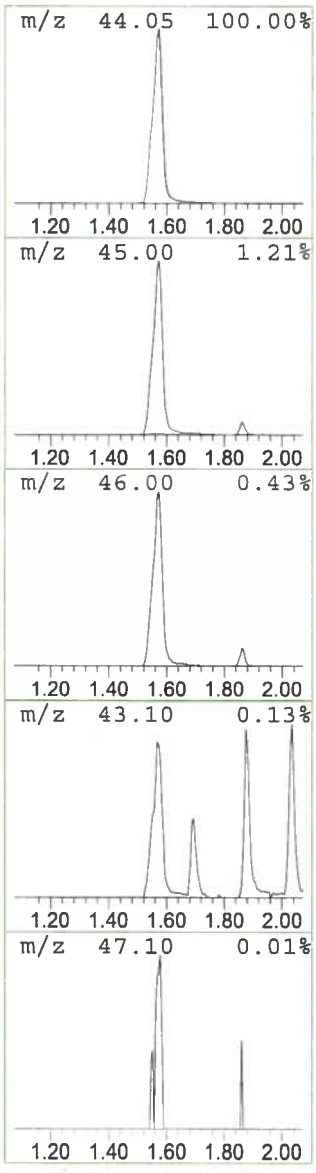
****

Peak Number 1 Carbon dioxide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.573	795.47 ug/Kg	11087200	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3
5	Nitrous Oxide	44	N2O	010024-97-2	3





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Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

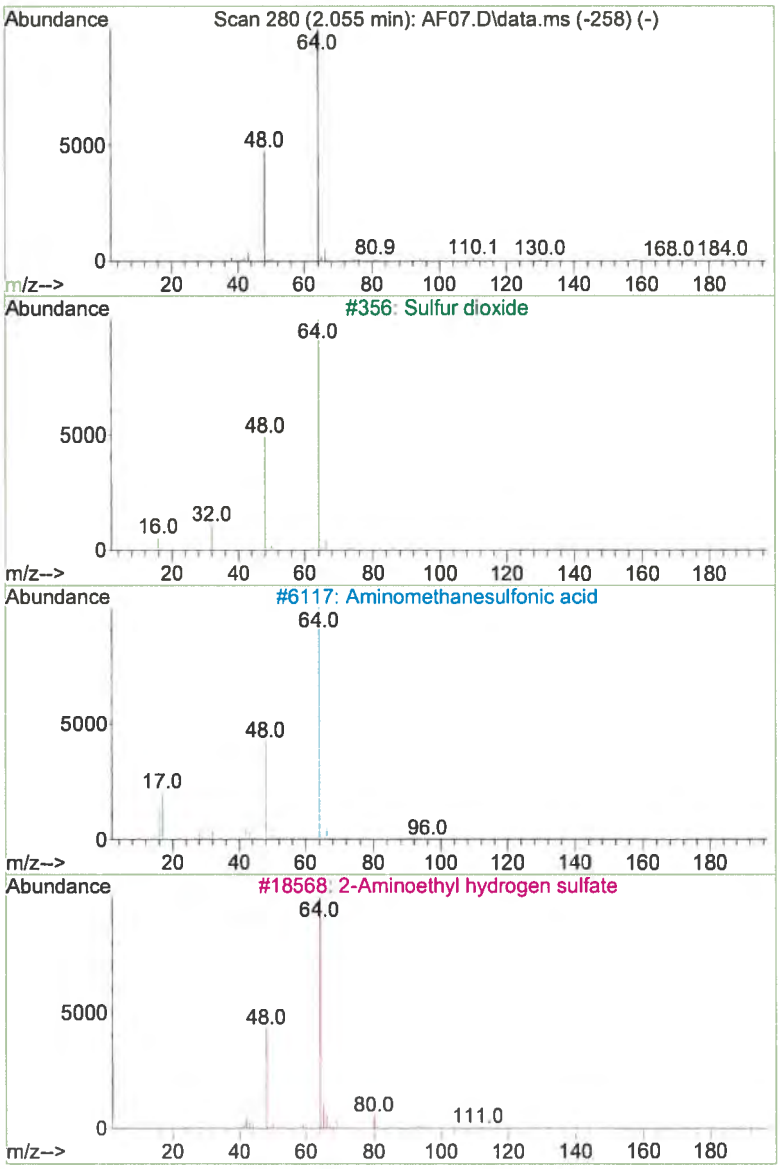
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

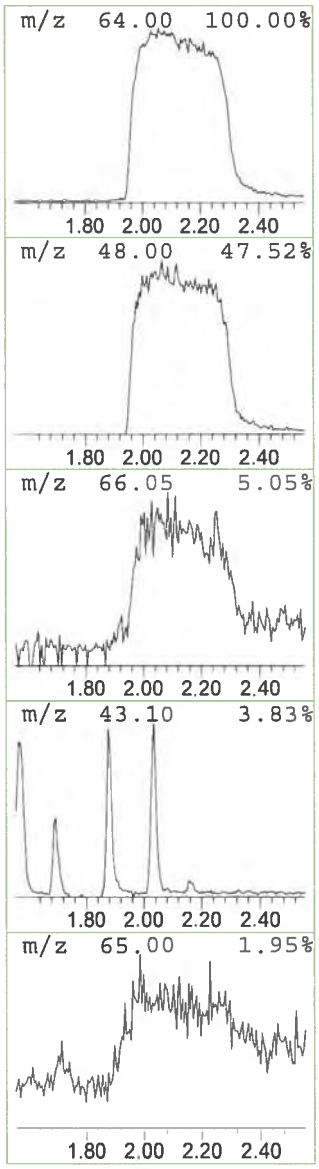
****

Peak Number 2 Sulfur dioxide Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.055	5.69 ug/Kg	79345	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Sulfur dioxide	64	O2S	007446-09-5	90
2	Aminomethanesulfonic acid	111	CH5NO3S	013881-91-9	83
3	2-Aminoethyl hydrogen sulfate	141	C2H7NO4S	000926-39-6	74
4	4,6-Diamino-5-pyrimidinyl hydrog...	206	C4H6N4O4S	071525-41-2	64
5	2-Benzimidazolyl methane thiosul...	244	C8H8N2O3S2	1000256-39-2	9





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Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

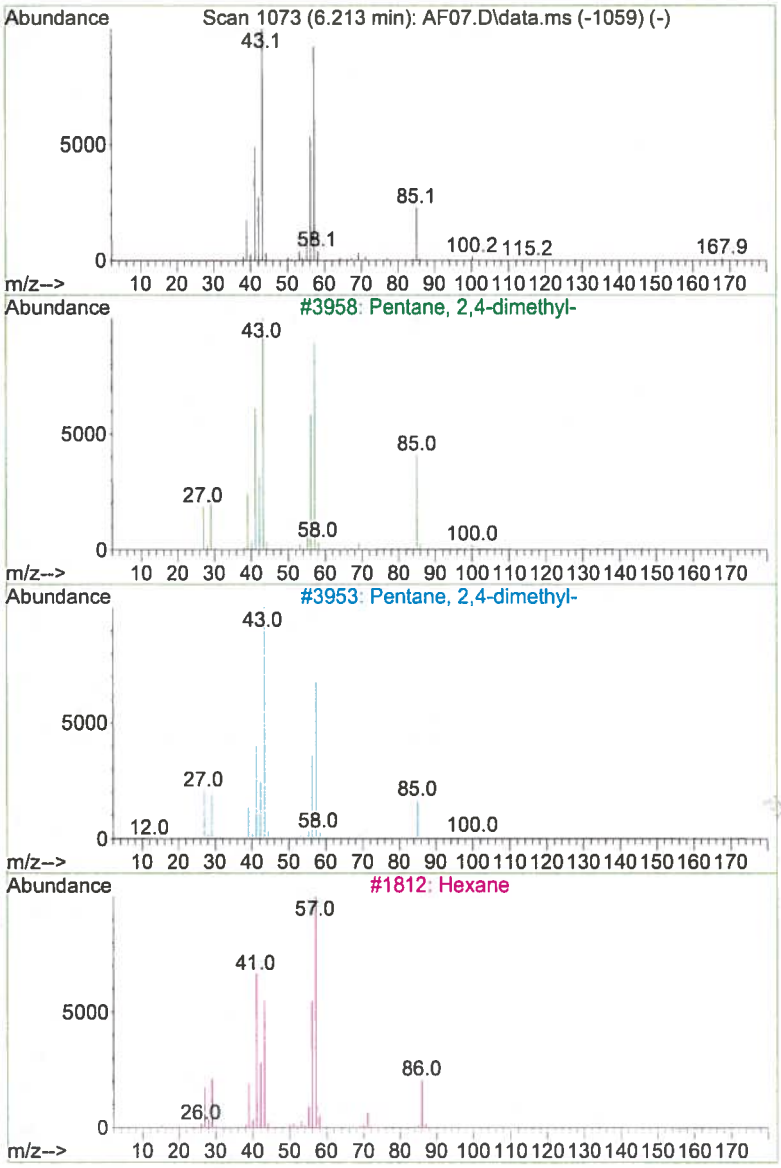
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

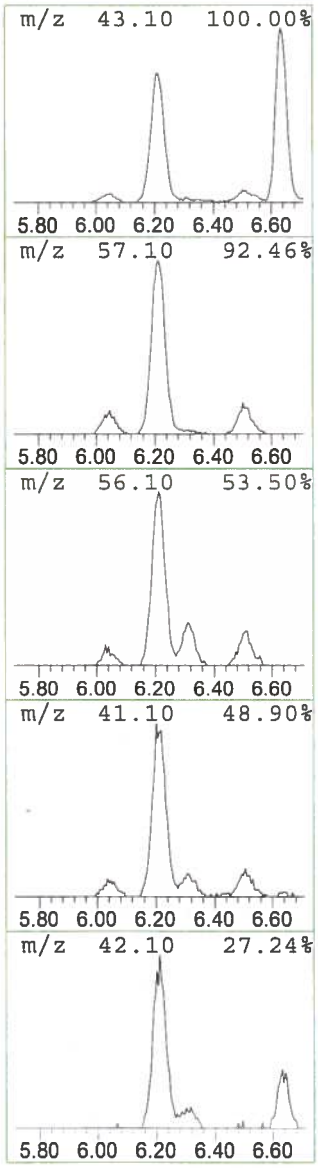
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Pentane, 2,4-dimethyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.213	6.98 ug/Kg	97259	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 2,4-dimethyl-	100	C7H16	000108-08-7	78
2	Pentane, 2,4-dimethyl-	100	C7H16	000108-08-7	72
3	Hexane	86	C6H14	000110-54-3	59
4	Butane, 2,2,3-trimethyl-	100	C7H16	000464-06-2	53
5	Butane, 2,2,3-trimethyl-	100	C7H16	000464-06-2	53





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Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

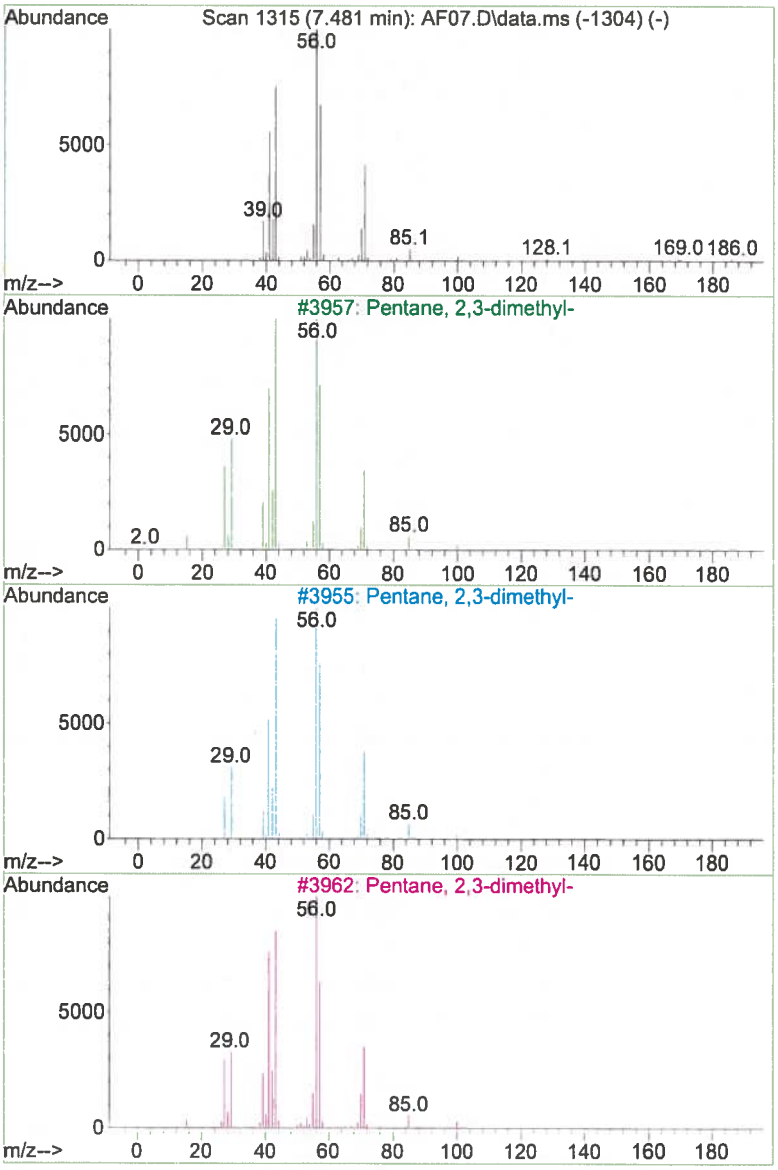
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

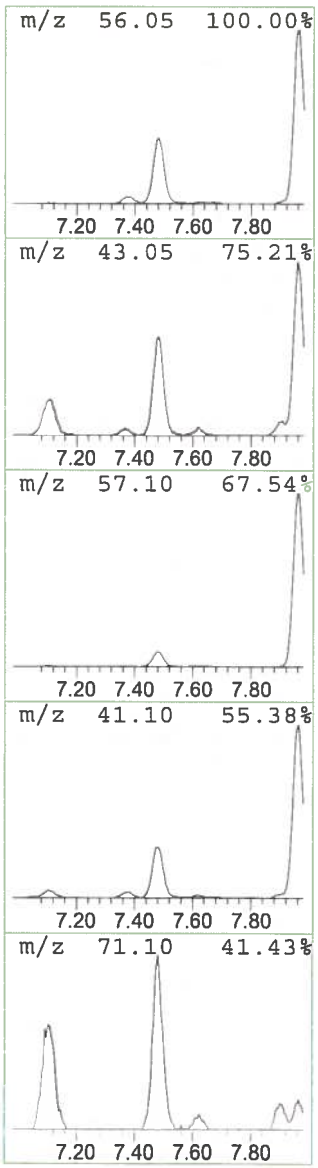
****

Peak Number 4 Pentane, 2,3-dimethyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.481	10.59 ug/Kg	147574	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	87
2	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	87
3	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	87
4	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	58
5	Hexane, 2,2,4-trimethyl-	128	C9H20	016747-26-5	42





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Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

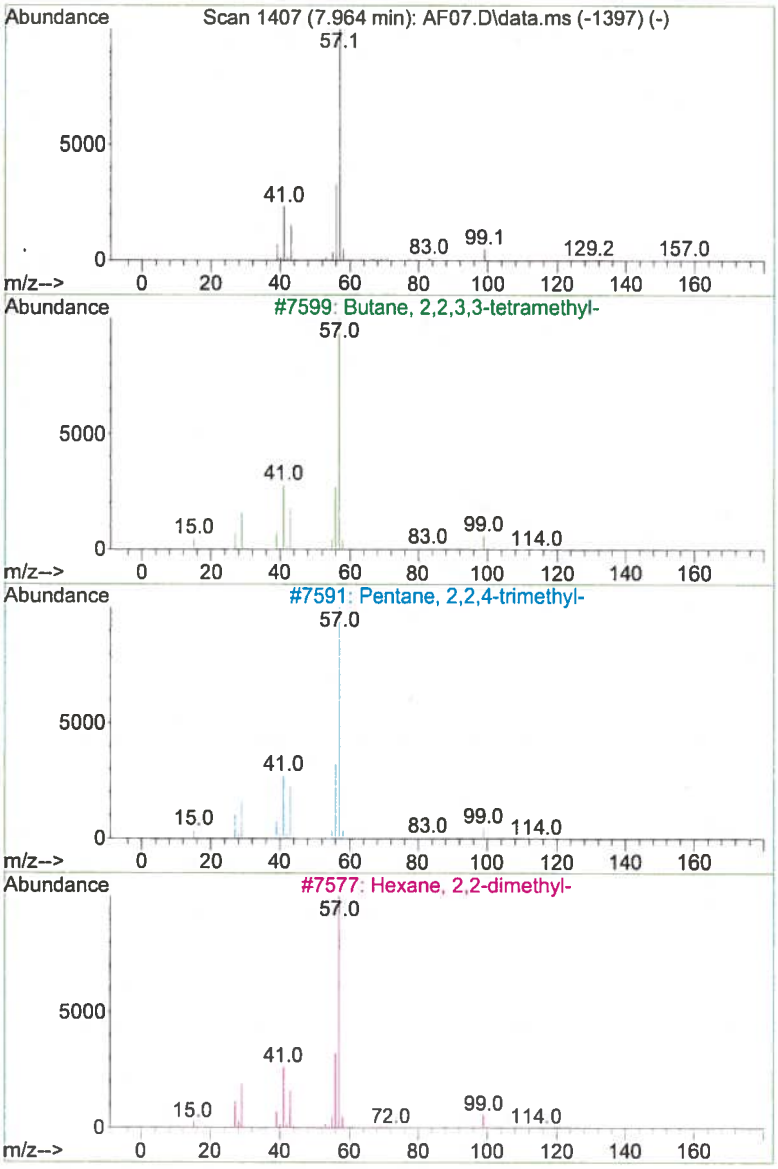
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

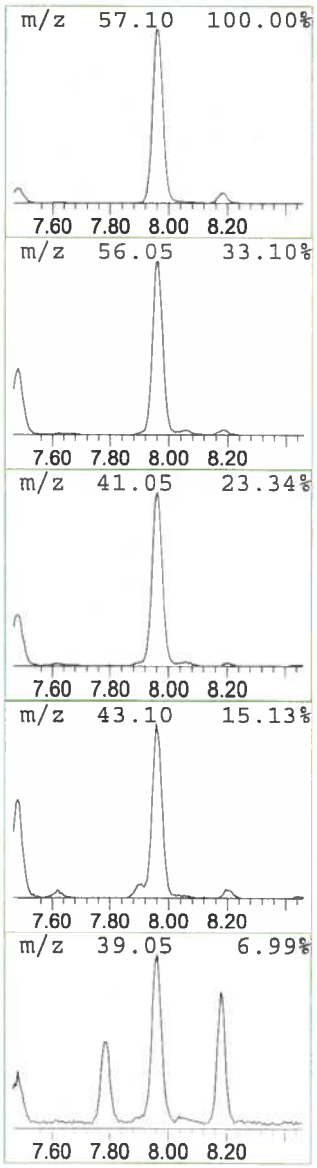
****

Peak Number 5 Butane, 2,2,3,3-tetramethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.964	37.02 ug/Kg	515926	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	83
2	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	83
3	Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	78
4	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	78
5	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	78





Data Path : C:\msdchem\1\data\AF190613A\
Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

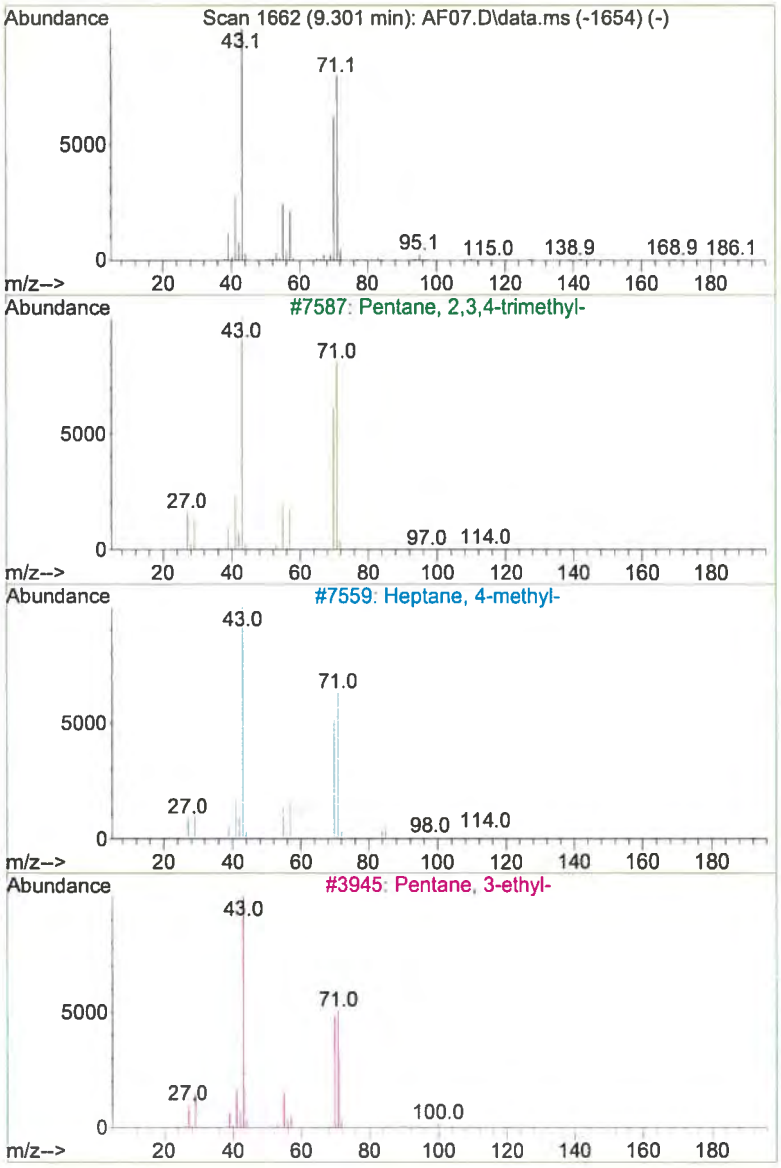
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

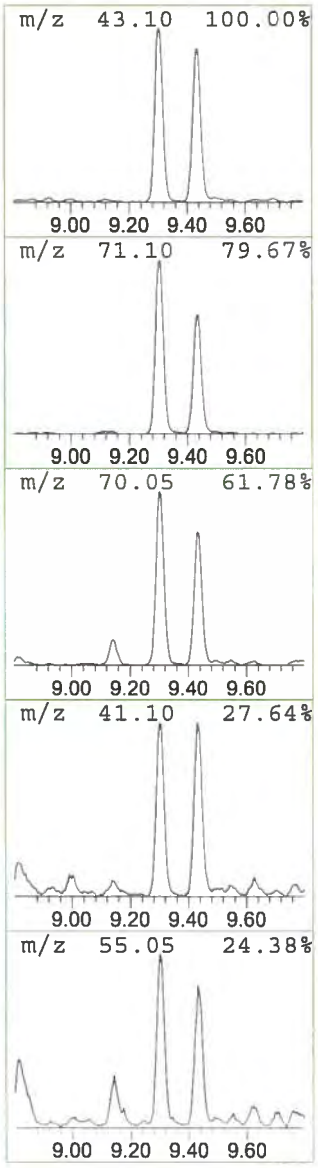
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 6 Pentane, 2,3,4-trimethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.301	21.26 ug/Kg	296356	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 2,3,4-trimethyl-	114	C8H18	000565-75-3	90
2	Heptane, 4-methyl-	114	C8H18	000589-53-7	83
3	Pentane, 3-ethyl-	100	C7H16	000617-78-7	83
4	Pentane, 3-ethyl-	100	C7H16	000617-78-7	83
5	Hexane, 3-methyl-	100	C7H16	000589-34-4	78





Data Path : C:\msdchem\1\data\AF190613A\
Data File : AF07.D
Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

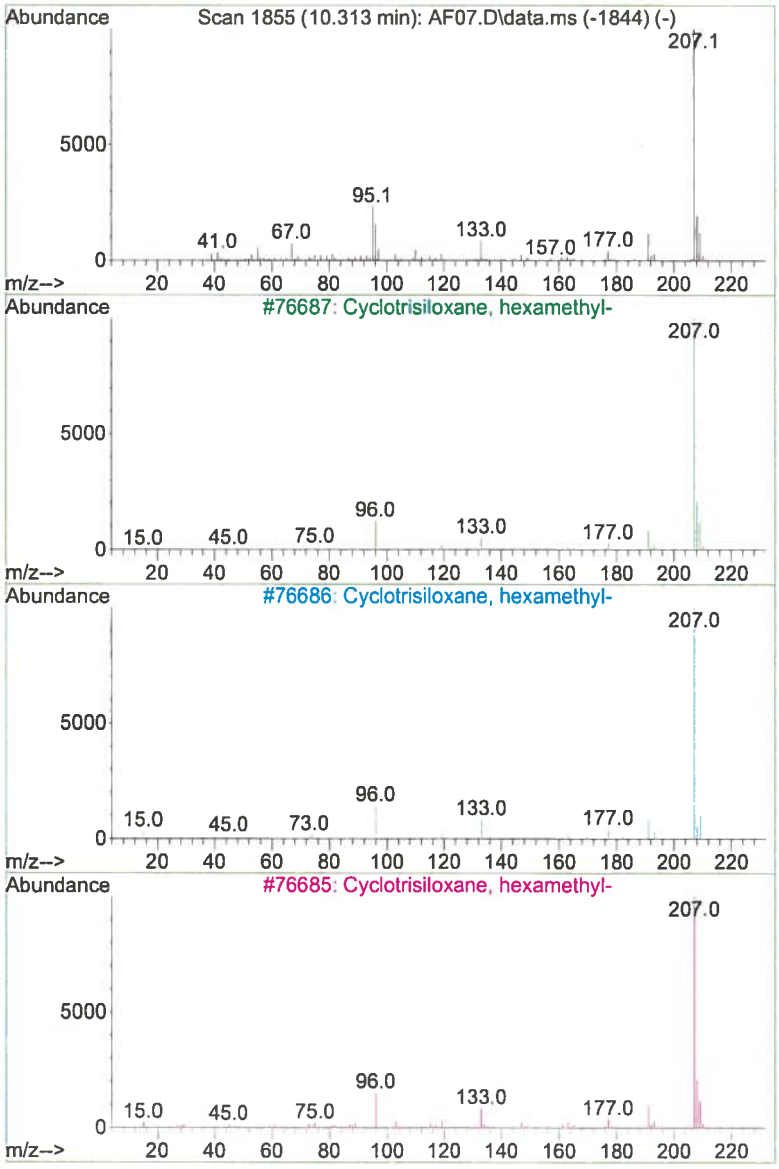
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

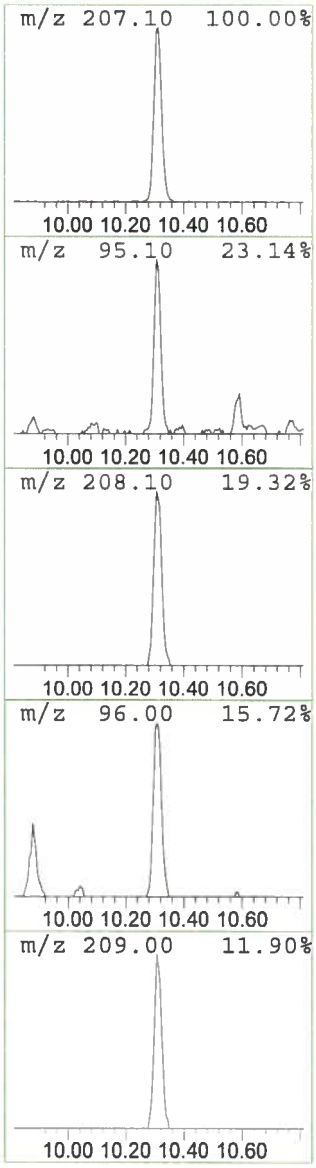
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 7 Cyclotrisiloxane, hexamethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.313	10.85 ug/Kg	154718	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	64
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	49
4	4-Cyclohexene-1,2-dicarboximide,...	207	C12H17NO2	028916-00-9	38
5	Benzo[h]quinoline, 2,4-dimethyl-	207	C15H13N	000605-67-4	36





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Acq On : 13 Jun 2019 10:59
Operator : R.Eaton
Sample : 19060781-003D
Misc : ,V_8260S_S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.573	795.5	ug/Kg	11087200	1	8.179	696894	50.0
Sulfur dioxide	2.055	5.7	ug/Kg	79345	1	8.179	696894	50.0
Pentane, 2,4-di...	6.213	7.0	ug/Kg	97259	1	8.179	696894	50.0
Pentane, 2,3-di...	7.481	10.6	ug/Kg	147574	1	8.179	696894	50.0
Butane, 2,2,3,3...	7.964	37.0	ug/Kg	515926	1	8.179	696894	50.0
Pentane, 2,3,4-...	9.301	21.3	ug/Kg	296356	1	8.179	696894	50.0
Cyclotrisiloxan...	10.313	10.8	ug/Kg	154718	2	11.204	713244	50.0

Roxana Predesign Soil Data Review

Laboratory SDG: 19060884

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/17/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
PD-5-SB-17-061319	TB-PW-061319

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative, the compound acetone was detected in the trip blank. MS/MSD recoveries for fluorene and 2-chlorophenol were outside evaluation criteria in sample PD-5-SB-17-061319. These issues are addressed further in the appropriate sections of this data review.

The cooler receipt form indicated that the trip blank was received with headspace; sample analysis was performed. No qualification of data was required; investigative sample was a soil sample.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
TB-PW-061319	VOCs	Acetone	4.6 μg/L

Analytical data that were reported non-detect or at concentrations greater than ten times (10X) for common laboratory contaminants in the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-5-SB-17-061319 was spiked and analyzed for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-5-SB-17-061319	PAHs	Fluorene	**43.3**/45.3	4.57	44.3-96.6/40
PD-5-SB-17-061319	SVOCs	2-Chlorophenol	89.3/**100.8**	3.12	51.2-98.2/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-5-SB-17-061319	PAHs	Fluorene	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Teklab, Inc.
Environmental Laboratory

http://www.teklabinc.com/

June 17, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19060884

Dear Elizabeth Kunkel:

TEKLAB, INC received 2 samples on 6/13/2019 4:31:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 6/18/2019

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Accreditations	5
Laboratory Results	6
Sample Summary	12
Dates Report	13
Quality Control Results	14
Receiving Check List	33
Chain of Custody	Appended

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

Cooler Receipt Temp: 8.0 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
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Springfield

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Chicago

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Kansas City

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Phone	(913) 541-1998
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Email	jhriley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060884-001
Client Sample ID: PD-5-SB-17-061319
Matrix: SOLID
Collection Date: 06/13/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		4.5	%	1	06/13/2019 17:39	R263132
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.711		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
1-Methylnaphthalene	*	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
2-Methylnaphthalene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Acenaphthene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Acenaphthylene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Anthracene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Benzo(a)anthracene	NELAP	0.0209		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Benzo(a)pyrene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Benzo(b)fluoranthene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Benzo(g,h,i)perylene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Benzo(k)fluoranthene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Chrysene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Dibenzo(a,h)anthracene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Fluoranthene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Fluorene	NELAP	0.0071	S UJ	ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Indeno(1,2,3-cd)pyrene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Phenanthrene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Pyrene	NELAP	0.0071		ND	mg/Kg-dry	1	06/14/2019 12:46	154223
Surr: 2-Fluorobiphenyl	*	8.85-90.5		49.5	%REC	1	06/14/2019 12:46	154223
Surr: Nitrobenzene-d5	*	5-102		51.3	%REC	1	06/14/2019 12:46	154223
Surr: p-Terphenyl-d14	*	18.4-103		68.8	%REC	1	06/14/2019 12:46	154223
Matrix spike did not recover within control limits due to sample composition.								
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2,4,6-Trichlorophenol	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2,4-Dichlorophenol	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2,4-Dimethylphenol	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2,4-Dinitrophenol	NELAP	2.09		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2,4-Dinitrotoluene	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2,6-Dinitrotoluene	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2-Chloronaphthalene	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2-Chlorophenol	NELAP	1.05	S	ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2-Nitroaniline	NELAP	2.09		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
2-Nitrophenol	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
3,3'-Dichlorobenzidine	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
3-Nitroaniline	NELAP	2.09		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4,6-Dinitro-2-methylphenol	NELAP	2.09		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4-Bromophenyl phenyl ether	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4-Chloro-3-methylphenol	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4-Chloroaniline	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4-Chlorophenyl phenyl ether	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4-Nitroaniline	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
4-Nitrophenol	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Aniline	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060884-001
Client Sample ID: PD-5-SB-17-061319
Matrix: SOLID
Collection Date: 06/13/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Azobenzene	*	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Benzoic acid	NELAP	3.14		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Benzyl alcohol	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Bis(2-chloroethoxy)methane	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Bis(2-chloroethyl)ether	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Bis(2-chloroisopropyl)ether	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Bis(2-ethylhexyl)phthalate	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Butyl benzyl phthalate	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Dibenzofuran	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Diethyl phthalate	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Dimethyl phthalate	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Di-n-butyl phthalate	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Di-n-octyl phthalate	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Hexachlorobenzene	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Hexachlorocyclopentadiene	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Hexachloroethane	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Isophorone	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
m,p-Cresol	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Nitrobenzene	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
N-Nitrosodimethylamine	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
N-Nitroso-di-n-propylamine	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
N-Nitrosodiphenylamine	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
o-Cresol	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Pentachlorophenol	NELAP	4.18		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Phenol	NELAP	0.732		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Pyridine	NELAP	1.05		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Quinoline	*	0.418		ND	mg/Kg-dry	1	06/17/2019 11:26	154219
Surr: 2,4,6-Tribromophenol	*	41.6-114		69.4	%REC	1	06/17/2019 11:26	154219
Surr: 2-Fluorobiphenyl	*	29.3-105		65.3	%REC	1	06/17/2019 11:26	154219
Surr: 2-Fluorophenol	*	35.8-97.2		70.8	%REC	1	06/17/2019 11:26	154219
Surr: Nitrobenzene-d5	*	36.2-95.2		71.8	%REC	1	06/17/2019 11:26	154219
Surr: Phenol-d5	*	38.8-103		73.0	%REC	1	06/17/2019 11:26	154219
Surr: p-Terphenyl-d14	*	43.2-116		79.8	%REC	1	06/17/2019 11:26	154219

Matrix spike did not recover within control limits due to sample composition.
Elevated reporting limit due to sample composition.

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,1,2-Trichloroethane	NELAP	5.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,1-Dichloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,1-Dichloroethene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,1-Dichloropropene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2,4-Trimethylbenzene	NELAP	2.0	J	0.9	µg/Kg-dry	1	06/14/2019 12:39	154290

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060884-001
Client Sample ID: PD-5-SB-17-061319
Matrix: SOLID
Collection Date: 06/13/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dibromo-3-chloropropane	NELAP	5.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2-Dibromoethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2-Dichloroethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,2-Dichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,3-Dichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
2,2-Dichloropropane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
2-Butanone	NELAP	25.6		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
2-Chloroethyl vinyl ether	*	5.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
2-Chlorotoluene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
2-Hexanone	NELAP	25.6		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
4-Chlorotoluene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
4-Methyl-2-pentanone	NELAP	25.6		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Acetone	NELAP	25.6		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Acrolein	NELAP	51.2		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Acrylonitrile	NELAP	5.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Benzene	NELAP	1.0	J	1.0	µg/Kg-dry	1	06/14/2019 12:39	154290
Bromobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Bromochloromethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Bromodichloromethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Bromoform	NELAP	5.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Bromomethane	NELAP	10.2		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Carbon disulfide	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Carbon tetrachloride	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Chlorobenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Chloroethane	NELAP	10.2		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Chloroform	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Chloromethane	NELAP	10.2		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Dibromochloromethane	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Dichlorodifluoromethane	NELAP	10.2		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Ethyl methacrylate	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Ethylbenzene	NELAP	2.0	J	1.1	µg/Kg-dry	1	06/14/2019 12:39	154290
Hexachlorobutadiene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Isopropylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
m,p-Xylenes	NELAP	4.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Methyl tert-butyl ether	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Methylene chloride	NELAP	10.2		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
Naphthalene	NELAP	5.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
n-Butylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
n-Propylbenzene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
o-Xylene	NELAP	4.1		ND	µg/Kg-dry	1	06/14/2019 12:39	154290
p-Isopropyltoluene	NELAP	2.0		ND	µg/Kg-dry	1	06/14/2019 12:39	154290

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060884-001
Client Sample ID: PD-5-SB-17-061319
Matrix: SOLID
Collection Date: 06/13/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
sec-Butylbenzene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Styrene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
tert-Butylbenzene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Tetrachloroethene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Toluene	NELAP	2.0	J	**1.2**	µg/Kg-dry	1	06/14/2019 12:39	154290
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Trichloroethene	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Trichlorofluoromethane	NELAP	5.1		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Vinyl acetate	NELAP	51.2		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Vinyl chloride	NELAP	2.0		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Xylenes, Total	NELAP	8.2		**ND**	µg/Kg-dry	1	06/14/2019 12:39	154290
Surr: 1,2-Dichloroethane-d4	*	74-124		**102.0**	%REC	1	06/14/2019 12:39	154290
Surr: 4-Bromofluorobenzene	*	79.4-123		**100.2**	%REC	1	06/14/2019 12:39	154290
Surr: Dibromofluoromethane	*	89.2-112		**98.1**	%REC	1	06/14/2019 12:39	154290
Surr: Toluene-d8	*	85-115		**98.9**	%REC	1	06/14/2019 12:39	154290

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060884-002
Client Sample ID: TB-PW-061319
Matrix: TRIP BLANK
Collection Date: 06/13/2019 16:31

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/14/2019 12:56	154283
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
2-Butanone	NELAP	10.0		ND	µg/L	1	06/14/2019 12:56	154283
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/14/2019 12:56	154283
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/14/2019 12:56	154283
Acetone	NELAP	10	J	4.6	µg/L	1	06/14/2019 12:56	154283
Acrolein	NELAP	20.0		ND	µg/L	1	06/14/2019 12:56	154283
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
Benzene	NELAP	0.5		ND	µg/L	1	06/14/2019 12:56	154283
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Bromoform	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Bromomethane	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Chloroethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Chloroform	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Chloromethane	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019
Lab ID: 19060884-002
Client Sample ID: TB-PW-061319
Matrix: TRIP BLANK
Collection Date: 06/13/2019 16:31

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Naphthalene	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
o-Xylene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Styrene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/14/2019 12:56	154283
Toluene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/14/2019 12:56	154283
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/14/2019 12:56	154283
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/14/2019 12:56	154283
Surr: 1,2-Dichloroethane-d4	*	79.6-118		101.9	%REC	1	06/14/2019 12:56	154283
Surr: 4-Bromofluorobenzene	*	83.9-115		98.6	%REC	1	06/14/2019 12:56	154283
Surr: Dibromofluoromethane	*	84.9-113		101.0	%REC	1	06/14/2019 12:56	154283
Surr: Toluene-d8	*	86.7-112		99.9	%REC	1	06/14/2019 12:56	154283

Teklab, Inc.
Environmental Laboratory

Sample Summary

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19060884-001	PD-5-SB-17-061319	Solid	4	06/13/2019 11:40
19060884-002	TB-PW-061319	Trip Blank	1	06/13/2019 16:31

Teklab, Inc.
Environmental Laboratory

Dates Report

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
19060884-001A	PD-5-SB-17-061319	06/13/2019 11:40	06/13/2019 16:31		
	EPA SW846 3550C, 5035A, ASTM D2974				06/13/2019 17:39
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/14/2019 9:09	06/14/2019 12:46
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/14/2019 9:18	06/17/2019 11:26
19060884-001D	PD-5-SB-17-061319	06/13/2019 11:40	06/13/2019 16:31		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/14/2019 12:39
19060884-002A	TB-PW-061319	06/13/2019 16:31	06/13/2019 16:31		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/14/2019 12:56

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R263132 **SampType:** LCS Units **%**
SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/13/2019

Batch R263132 **SampType:** LCSQC Units **%**
SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/13/2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MBLK Units **%REC**
SampID: MBLK-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.536**	0.8350		64.2	22.4	112	06/13/2019

Batch 154219 **SampType:** LCS Units **%REC**
SampID: LCS-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.627**	0.8350		75.1	22.4	112	06/13/2019

Batch 154219 **SampType:** LCSG Units **%REC**
SampID: LCSDRO-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: Nitrobenzene-d5			**0.477**	0.8350		57.1	22.4	112	06/13/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060884

Report Date: 17-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154223 **SampType:** MBLK Units mg/Kg

SampID: MBLK-154223

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340		ND						06/13/2019
1-Methylnaphthalene	0.0034		ND						06/13/2019
2-Methylnaphthalene	0.0034		ND						06/13/2019
Acenaphthene	0.0034		ND						06/13/2019
Acenaphthylene	0.0034		ND						06/13/2019
Anthracene	0.0034		ND						06/13/2019
Benzo(a)anthracene	0.0100		ND						06/13/2019
Benzo(a)pyrene	0.0034		ND						06/13/2019
Benzo(b)fluoranthene	0.0034		ND						06/13/2019
Benzo(g,h,i)perylene	0.0034		ND						06/13/2019
Benzo(k)fluoranthene	0.0034		ND						06/13/2019
Chrysene	0.0034		ND						06/13/2019
Dibenzo(a,h)anthracene	0.0034		ND						06/13/2019
Fluoranthene	0.0034		ND						06/13/2019
Fluorene	0.0034		ND						06/13/2019
Indeno(1,2,3-cd)pyrene	0.0034		ND						06/13/2019
Phenanthrene	0.0034		ND						06/13/2019
Pyrene	0.0034		ND						06/13/2019
Surr: 2-Fluorobiphenyl			**0.0620**	0.1670		37.1	21.6	105	06/13/2019
Surr: Nitrobenzene-d5			**0.0617**	0.1670		36.9	26.7	93	06/13/2019
Surr: p-Terphenyl-d14			**0.0780**	0.1670		46.7	42.6	115	06/13/2019

Batch 154223 **SampType:** LCS Units mg/Kg

SampID: LCS-154223-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340	J	**0.17**	0.3330	0	50.7	25.3	104	06/14/2019
1-Methylnaphthalene	0.0034		**0.0993**	0.1670	0	59.5	27.3	107	06/14/2019
2-Methylnaphthalene	0.0034		**0.0987**	0.1670	0	59.1	30	106	06/14/2019
Acenaphthene	0.0034		**0.0977**	0.1670	0	58.5	19.1	127	06/14/2019
Acenaphthylene	0.0034		**0.0983**	0.1670	0	58.9	30.2	115	06/14/2019
Anthracene	0.0034		**0.102**	0.1670	0	61.1	26.9	107	06/14/2019
Benzo(a)anthracene	0.0100		**0.111**	0.1670	0	66.5	27	116	06/14/2019
Benzo(a)pyrene	0.0034		**0.101**	0.1670	0	60.7	22.7	117	06/14/2019
Benzo(b)fluoranthene	0.0034		**0.110**	0.1670	0	66.1	23.8	125	06/14/2019
Benzo(g,h,i)perylene	0.0034		**0.0570**	0.1670	0	34.1	31.5	109	06/14/2019
Benzo(k)fluoranthene	0.0034		**0.114**	0.1670	0	68.5	28.1	121	06/14/2019
Chrysene	0.0034		**0.104**	0.1670	0	62.3	29.2	113	06/14/2019
Dibenzo(a,h)anthracene	0.0034		**0.0703**	0.1670	0	42.1	28.8	113	06/14/2019
Fluoranthene	0.0034		**0.102**	0.1670	0	61.1	24.9	115	06/14/2019
Fluorene	0.0034		**0.0963**	0.1670	0	57.7	30	116	06/14/2019
Indeno(1,2,3-cd)pyrene	0.0034		**0.0683**	0.1670	0	40.9	29.5	113	06/14/2019
Phenanthrene	0.0034		**0.102**	0.1670	0	61.1	16.5	122	06/14/2019
Pyrene	0.0034		**0.103**	0.1670	0	61.9	28	111	06/14/2019
Surr: 2-Fluorobiphenyl			**0.0733**	0.1670		43.9	21.6	105	06/14/2019
Surr: Nitrobenzene-d5			**0.0830**	0.1670		49.7	26.7	93	06/14/2019
Surr: p-Terphenyl-d14			**0.0943**	0.1670		56.5	42.6	115	06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154223 **SampType:** MS Units mg/Kg-dry

SampID: 19060884-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.708	J	**0.30**	0.6934	0	43.6	25	75	06/14/2019
1-Methylnaphthalene	0.0071		**0.155**	0.3477	0	44.5	6.16	134	06/14/2019
2-Methylnaphthalene	0.0071		**0.154**	0.3477	0	44.3	22.1	112	06/14/2019
Acenaphthene	0.0071		**0.154**	0.3477	0	44.3	30.6	109	06/14/2019
Acenaphthylene	0.0071		**0.153**	0.3477	0	44.1	28	110	06/14/2019
Anthracene	0.0071		**0.168**	0.3477	0	48.3	41.4	94.3	06/14/2019
Benzo(a)anthracene	0.0208		**0.202**	0.3477	0	58.1	28.6	113	06/14/2019
Benzo(a)pyrene	0.0071		**0.172**	0.3477	0	49.5	37.9	102	06/14/2019
Benzo(b)fluoranthene	0.0071		**0.187**	0.3477	0	53.7	37.1	112	06/14/2019
Benzo(g,h,i)perylene	0.0071		**0.0979**	0.3477	0	28.1	7.28	119	06/14/2019
Benzo(k)fluoranthene	0.0071		**0.196**	0.3477	0	56.5	34	115	06/14/2019
Chrysene	0.0071		**0.180**	0.3477	0	51.7	23.1	116	06/14/2019
Dibenzo(a,h)anthracene	0.0071		**0.121**	0.3477	0	34.7	23.9	110	06/14/2019
Fluoranthene	0.0071		**0.180**	0.3477	0	51.9	20.8	124	06/14/2019
Fluorene	0.0071	S	**0.151**	0.3477	0	43.3	44.3	96.6	06/14/2019
Indeno(1,2,3-cd)pyrene	0.0071		**0.115**	0.3477	0	33.1	12.6	119	06/14/2019
Phenanthrene	0.0071		**0.172**	0.3477	0	49.5	22.3	117	06/14/2019
Pyrene	0.0071		**0.182**	0.3477	0	52.3	20.6	121	06/14/2019
Surr: 2-Fluorobiphenyl			**0.0979**	0.3477		28.1	8.85	90.5	06/14/2019
Surr: Nitrobenzene-d5			**0.112**	0.3477		32.1	5	102	06/14/2019
Surr: p-Terphenyl-d14			**0.165**	0.3477		47.5	18.4	103	06/14/2019

Batch 154223 **SampType:** MSD Units mg/Kg-dry RPD Limit 40

SampID: 19060884-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	0.708	J	**0.32**	0.6939	0	46.3	0.3026	0.00	06/14/2019
1-Methylnaphthalene	0.0071		**0.165**	0.3480	0	47.3	0.1548	6.15	06/14/2019
2-Methylnaphthalene	0.0071		**0.163**	0.3480	0	46.9	0.1541	5.76	06/14/2019
Acenaphthene	0.0071		**0.160**	0.3480	0	46.1	0.1541	4.04	06/14/2019
Acenaphthylene	0.0071		**0.160**	0.3480	0	46.1	0.1534	4.49	06/14/2019
Anthracene	0.0071		**0.172**	0.3480	0	49.5	0.1680	2.52	06/14/2019
Benzo(a)anthracene	0.0208		**0.188**	0.3480	0	54.1	0.2020	7.05	06/14/2019
Benzo(a)pyrene	0.0071		**0.172**	0.3480	0	49.3	0.1721	0.34	06/14/2019
Benzo(b)fluoranthene	0.0071		**0.188**	0.3480	0	53.9	0.1867	0.44	06/14/2019
Benzo(g,h,i)perylene	0.0071		**0.0972**	0.3480	0	27.9	0.09787	0.65	06/14/2019
Benzo(k)fluoranthene	0.0071		**0.197**	0.3480	0	56.5	0.1964	0.07	06/14/2019
Chrysene	0.0071		**0.174**	0.3480	0	50.1	0.1798	3.07	06/14/2019
Dibenzo(a,h)anthracene	0.0071		**0.117**	0.3480	0	33.7	0.1208	2.85	06/14/2019
Fluoranthene	0.0071		**0.177**	0.3480	0	50.9	0.1805	1.88	06/14/2019
Fluorene	0.0071		**0.158**	0.3480	0	45.3	0.1506	4.57	06/14/2019
Indeno(1,2,3-cd)pyrene	0.0071		**0.116**	0.3480	0	33.3	0.1152	0.67	06/14/2019
Phenanthrene	0.0071		**0.174**	0.3480	0	50.1	0.1721	1.27	06/14/2019
Pyrene	0.0071		**0.178**	0.3480	0	51.1	0.1819	2.25	06/14/2019
Surr: 2-Fluorobiphenyl			**0.117**	0.3480		33.7			06/14/2019
Surr: Nitrobenzene-d5			**0.133**	0.3480		38.1			06/14/2019
Surr: p-Terphenyl-d14			**0.165**	0.3480		47.5			06/14/2019

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Quality Control Results

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Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MBLK Units **mg/Kg**
SampID: MBLK-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		ND						06/13/2019
2,4,6-Trichlorophenol	0.350		ND						06/13/2019
2,4-Dichlorophenol	0.500		ND						06/13/2019
2,4-Dimethylphenol	0.500		ND						06/13/2019
2,4-Dinitrophenol	1.00		ND						06/13/2019
2,4-Dinitrotoluene	0.350		ND						06/13/2019
2,6-Dinitrotoluene	0.350		ND						06/13/2019
2-Chloronaphthalene	0.350		ND						06/13/2019
2-Chlorophenol	0.500		ND						06/13/2019
2-Nitroaniline	1.00		ND						06/13/2019
2-Nitrophenol	0.350		ND						06/13/2019
3,3'-Dichlorobenzidine	0.350		ND						06/13/2019
3-Nitroaniline	1.00		ND						06/13/2019
4,6-Dinitro-2-methylphenol	1.00		ND						06/13/2019
4-Bromophenyl phenyl ether	0.350		ND						06/13/2019
4-Chloro-3-methylphenol	0.500		ND						06/13/2019
4-Chloroaniline	0.500		ND						06/13/2019
4-Chlorophenyl phenyl ether	0.350		ND						06/13/2019
4-Nitroaniline	0.500		ND						06/13/2019
4-Nitrophenol	0.350		ND						06/13/2019
Aniline	0.500		ND						06/13/2019
Azobenzene	0.350		ND						06/13/2019
Benzoic acid	1.50		ND						06/13/2019
Benzyl alcohol	0.500		ND						06/13/2019
Bis(2-chloroethoxy)methane	0.350		ND						06/13/2019
Bis(2-chloroethyl)ether	0.500		ND						06/13/2019
Bis(2-chloroisopropyl)ether	0.350		ND						06/13/2019
Bis(2-ethylhexyl)phthalate	0.350		ND						06/13/2019
Butyl benzyl phthalate	0.350		ND						06/13/2019
Dibenzofuran	0.350		ND						06/13/2019
Diethyl phthalate	0.500		ND						06/13/2019
Dimethyl phthalate	0.350		ND						06/13/2019
Di-n-butyl phthalate	0.350		ND						06/13/2019
Di-n-octyl phthalate	0.350		ND						06/13/2019
Hexachlorobenzene	0.350		ND						06/13/2019
Hexachlorocyclopentadiene	0.500		ND						06/13/2019
Hexachloroethane	0.500		ND						06/13/2019
Isophorone	0.350		ND						06/13/2019
m,p-Cresol	0.500		ND						06/13/2019
Nitrobenzene	0.500		ND						06/13/2019
N-Nitrosodimethylamine	0.500		ND						06/13/2019
N-Nitroso-di-n-propylamine	0.500		ND						06/13/2019
N-Nitrosodiphenylamine	0.500		ND						06/13/2019
o-Cresol	0.500		ND						06/13/2019
Pentachlorophenol	2.00		ND						06/13/2019
Phenol	0.350		ND						06/13/2019
Pyridine	0.500		ND						06/13/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

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Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MBLK Units mg/Kg

SampID: MBLK-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.200		ND						06/13/2019
Surr: 2,4,6-Tribromophenol			1.25	1.670		74.7	53.1	123	06/13/2019
Surr: 2-Fluorobiphenyl			0.617	0.8350		73.9	45.1	87	06/13/2019
Surr: 2-Fluorobiphenyl			0.559	0.8350		66.9	52.9	106	06/13/2019
Surr: 2-Fluorophenol			1.27	1.670		75.8	52.9	104	06/13/2019
Surr: Nitrobenzene-d5			0.607	0.8350		72.7	51.5	105	06/13/2019
Surr: Phenol-d5			1.26	1.670		75.5	53.9	111	06/13/2019
Surr: p-Terphenyl-d14			0.701	0.8350		84.0	58	122	06/13/2019
Surr: p-Terphenyl-d14			0.736	0.8350		88.1	51.1	117	06/13/2019

Batch 154219 **SampType:** LCS Units mg/Kg

SampID: LCS-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		1.32	1.670	0	79.0	53.5	106	06/13/2019
2,4,6-Trichlorophenol	0.350		1.32	1.670	0	78.8	50.8	106	06/13/2019
2,4-Dimethylphenol	0.500		1.29	1.670	0	77.2	35.6	99.6	06/13/2019
2,4-Dinitrophenol	1.00		1.30	1.670	0	77.7	13.9	107	06/13/2019
2,4-Dinitrotoluene	0.350		1.40	1.670	0	84.1	58.9	106	06/13/2019
2-Chlorophenol	0.500		1.45	1.670	0	86.9	41.1	99.2	06/13/2019
4-Chloro-3-methylphenol	0.500		1.37	1.670	0	81.9	50	103	06/13/2019
4-Nitrophenol	0.350		1.44	1.670	0	86.4	46.3	111	06/13/2019
Bis(2-ethylhexyl)phthalate	0.350		1.38	1.670	0	82.7	40.8	109	06/13/2019
Diethyl phthalate	0.500		1.32	1.670	0	79.2	53.8	99.6	06/13/2019
Dimethyl phthalate	0.350		1.35	1.670	0	81.1	53.8	101	06/13/2019
Di-n-butyl phthalate	0.350		1.36	1.670	0	81.3	45.8	108	06/13/2019
Hexachlorobenzene	0.350		1.30	1.670	0	78.0	55.2	101	06/13/2019
Hexachloroethane	0.500		1.27	1.670	0	75.9	41.8	91.5	06/13/2019
m,p-Cresol	0.500		1.39	1.670	0	83.3	47	100	06/13/2019
Nitrobenzene	0.500		1.16	1.670	0	69.5	41.4	99	06/13/2019
N-Nitroso-di-n-propylamine	0.500		1.34	1.670	0	80.0	46.5	97.4	06/13/2019
o-Cresol	0.500		1.37	1.670	0	82.1	44.2	100	06/13/2019
Pentachlorophenol	2.00	J	1.2	1.670	0	72.9	35.7	94.8	06/13/2019
Phenol	0.350		1.41	1.670	0	84.7	43	98.6	06/13/2019
Pyridine	0.500		0.774	1.670	0	46.3	24.7	78.4	06/13/2019
Quinoline	0.200		1.40	1.670	0	84.0	48.5	97.3	06/13/2019
Surr: 2,4,6-Tribromophenol			1.22	1.670		72.8	53.1	123	06/13/2019
Surr: 2-Fluorobiphenyl			0.506	0.8350		60.6	52.9	106	06/13/2019
Surr: 2-Fluorobiphenyl			0.549	0.8350		65.7	45.1	87	06/13/2019
Surr: 2-Fluorophenol			1.23	1.670		73.5	52.9	104	06/13/2019
Surr: Nitrobenzene-d5			0.513	0.8350		61.4	51.5	105	06/13/2019
Surr: Phenol-d5			1.29	1.670		77.1	53.9	111	06/13/2019
Surr: p-Terphenyl-d14			0.691	0.8350		82.7	51.1	117	06/13/2019
Surr: p-Terphenyl-d14			0.652	0.8350		78.0	58	122	06/13/2019

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Quality Control Results

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Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** LCSG Units %REC
SampID: LCSDRO-154219

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 2-Fluorobiphenyl			**0.586**	0.8350		70.2	45.1	87	06/13/2019
Surr: p-Terphenyl-d14			**0.740**	0.8350		88.6	51.1	117	06/13/2019

Batch 154219 **SampType:** MS Units mg/Kg-dry
SampID: 19060884-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.733		**3.18**	3.496	0	91.0	61.2	107	06/17/2019
2,4,6-Trichlorophenol	0.733		**3.46**	3.496	0	98.9	58.4	105	06/17/2019
2,4-Dimethylphenol	1.05		**2.74**	3.496	0	78.5	52.9	104	06/17/2019
2,4-Dinitrophenol	2.09		**2.97**	3.496	0	84.9	15.2	107	06/17/2019
2,4-Dinitrotoluene	0.733		**3.22**	3.496	0	92.1	66.7	118	06/17/2019
2-Chlorophenol	1.05		**3.12**	3.496	0	89.3	51.2	98.2	06/17/2019
4-Chloro-3-methylphenol	1.05		**3.09**	3.496	0	88.3	57.6	104	06/17/2019
4-Nitrophenol	0.733		**3.46**	3.496	0	99.0	55.1	110	06/17/2019
Bis(2-ethylhexyl)phthalate	0.733		**3.36**	3.496	0	96.2	66.2	128	06/17/2019
Diethyl phthalate	1.05		**3.05**	3.496	0	87.1	57.8	121	06/17/2019
Dimethyl phthalate	0.733		**3.18**	3.496	0	90.8	60.7	117	06/17/2019
Di-n-butyl phthalate	0.733		**3.05**	3.496	0	87.2	65.8	122	06/17/2019
Hexachlorobenzene	0.733		**2.99**	3.496	0	85.6	59.9	121	06/17/2019
Hexachloroethane	1.05		**2.97**	3.496	0	84.9	26.2	115	06/17/2019
m,p-Cresol	1.05		**3.06**	3.496	0	87.5	56.3	104	06/17/2019
Nitrobenzene	1.05		**2.74**	3.496	0	78.5	53.4	106	06/17/2019
N-Nitroso-di-n-propylamine	1.05		**3.04**	3.496	0	87.1	52.4	113	06/17/2019
o-Cresol	1.05		**3.08**	3.496	0	88.1	53.8	100	06/17/2019
Pentachlorophenol	4.19	J	**2.8**	3.496	0	79.1	38.3	99.4	06/17/2019
Phenol	0.733		**3.09**	3.496	0	88.3	53.2	103	06/17/2019
Pyridine	1.05		**2.45**	3.496	0	70.2	13.6	91.5	06/17/2019
Quinoline	0.419		**3.53**	3.496	0	101.0	48	105	06/17/2019
Surr: 2,4,6-Tribromophenol			**2.81**	3.496		80.5	41.6	114	06/17/2019
Surr: 2-Fluorobiphenyl			**1.22**	1.748		70.0	29.3	105	06/17/2019
Surr: 2-Fluorophenol			**2.62**	3.496		75.0	35.8	97.2	06/17/2019
Surr: Nitrobenzene-d5			**1.23**	1.748		70.2	36.2	95.2	06/17/2019
Surr: Phenol-d5			**2.75**	3.496		78.7	38.8	103	06/17/2019
Surr: p-Terphenyl-d14			**1.58**	1.748		90.1	43.2	116	06/17/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154219 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **40**

SampID: 19060884-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.730		**3.45**	3.484	0	99.1	3.183	8.11	06/17/2019
2,4,6-Trichlorophenol	0.730		**3.37**	3.484	0	96.7	3.458	2.54	06/17/2019
2,4-Dimethylphenol	1.04		**3.10**	3.484	0	88.8	2.743	12.08	06/17/2019
2,4-Dinitrophenol	2.09		**3.20**	3.484	0	91.9	2.966	7.60	06/17/2019
2,4-Dinitrotoluene	0.730		**3.51**	3.484	0	100.7	3.219	8.63	06/17/2019
2-Chlorophenol	1.04	S	**3.51**	3.484	0	100.8	3.121	11.75	06/17/2019
4-Chloro-3-methylphenol	1.04		**3.24**	3.484	0	93.1	3.086	4.97	06/17/2019
4-Nitrophenol	0.730		**3.71**	3.484	0	106.4	3.460	6.90	06/17/2019
Bis(2-ethylhexyl)phthalate	0.730		**3.39**	3.484	0	97.3	3.363	0.86	06/17/2019
Diethyl phthalate	1.04		**3.27**	3.484	0	94.0	3.045	7.27	06/17/2019
Dimethyl phthalate	0.730		**3.37**	3.484	0	96.7	3.176	5.95	06/17/2019
Di-n-butyl phthalate	0.730		**3.35**	3.484	0	96.3	3.048	9.59	06/17/2019
Hexachlorobenzene	0.730		**3.32**	3.484	0	95.3	2.994	10.33	06/17/2019
Hexachloroethane	1.04		**3.25**	3.484	0	93.2	2.969	8.95	06/17/2019
m,p-Cresol	1.04		**3.42**	3.484	0	98.0	3.058	11.05	06/17/2019
Nitrobenzene	1.04		**3.09**	3.484	0	88.7	2.744	11.89	06/17/2019
N-Nitroso-di-n-propylamine	1.04		**3.19**	3.484	0	91.4	3.044	4.52	06/17/2019
o-Cresol	1.04		**3.17**	3.484	0	90.9	3.080	2.75	06/17/2019
Pentachlorophenol	4.17	J	**2.8**	3.484	0	80.3	2.764	0.00	06/17/2019
Phenol	0.730		**3.43**	3.484	0	98.6	3.088	10.63	06/17/2019
Pyridine	1.04		**2.59**	3.484	0	74.5	2.455	5.54	06/17/2019
Quinoline	0.417		**3.66**	3.484	0	105.0	3.532	3.50	06/17/2019
Surr: 2,4,6-Tribromophenol			**2.97**	3.484		85.3			06/17/2019
Surr: 2-Fluorobiphenyl			**1.28**	1.742		73.6			06/17/2019
Surr: 2-Fluorophenol			**2.82**	3.484		80.8			06/17/2019
Surr: Nitrobenzene-d5			**1.30**	1.742		74.4			06/17/2019
Surr: Phenol-d5			**3.00**	3.484		86.0			06/17/2019
Surr: p-Terphenyl-d14			**1.64**	1.742		94.1			06/17/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154283 **SampType:** MBLK Units µg/L

SampID: MBLK-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/14/2019
1,1,1-Trichloroethane	2.0		ND						06/14/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/14/2019
1,1,2-Trichloroethane	0.5		ND						06/14/2019
1,1-Dichloroethane	2.0		ND						06/14/2019
1,1-Dichloroethene	2.0		ND						06/14/2019
1,1-Dichloropropene	2.0		ND						06/14/2019
1,2,3-Trichlorobenzene	2.0		ND						06/14/2019
1,2,3-Trichloropropane	2.0		ND						06/14/2019
1,2,4-Trichlorobenzene	2.0		ND						06/14/2019
1,2,4-Trimethylbenzene	2.0		ND						06/14/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/14/2019
1,2-Dibromoethane	2.0		ND						06/14/2019
1,2-Dichlorobenzene	2.0		ND						06/14/2019
1,2-Dichloroethane	2.0		ND						06/14/2019
1,2-Dichloropropane	2.0		ND						06/14/2019
1,3,5-Trimethylbenzene	2.0		ND						06/14/2019
1,3-Dichlorobenzene	2.0		ND						06/14/2019
1,3-Dichloropropane	2.0		ND						06/14/2019
1,4-Dichlorobenzene	2.0		ND						06/14/2019
2,2-Dichloropropane	2.0		ND						06/14/2019
2-Butanone	10.0		ND						06/14/2019
2-Chloroethyl vinyl ether	5.0		ND						06/14/2019
2-Chlorotoluene	2.0		ND						06/14/2019
2-Hexanone	10.0		ND						06/14/2019
4-Chlorotoluene	2.0		ND						06/14/2019
4-Methyl-2-pentanone	10.0		ND						06/14/2019
Acetone	10.0		ND						06/14/2019
Acrolein	20.0		ND						06/14/2019
Acrylonitrile	5.0		ND						06/14/2019
Benzene	0.5		ND						06/14/2019
Bromobenzene	2.0		ND						06/14/2019
Bromochloromethane	2.0		ND						06/14/2019
Bromodichloromethane	2.0		ND						06/14/2019
Bromoform	2.0		ND						06/14/2019
Bromomethane	5.0		ND						06/14/2019
Carbon disulfide	2.0		ND						06/14/2019
Carbon tetrachloride	2.0		ND						06/14/2019
Chlorobenzene	2.0		ND						06/14/2019
Chloroethane	2.0		ND						06/14/2019
Chloroform	2.0		ND						06/14/2019
Chloromethane	5.0		ND						06/14/2019
cis-1,2-Dichloroethene	2.0		ND						06/14/2019
cis-1,3-Dichloropropene	2.0		ND						06/14/2019
Dibromochloromethane	2.0		ND						06/14/2019
Dichlorodifluoromethane	2.0		ND						06/14/2019
Ethyl methacrylate	5.0		ND						06/14/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154283 **SampType:** MBLK Units µg/L
SampID: MBLK-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/14/2019
Hexachlorobutadiene	5.0		ND						06/14/2019
Isopropylbenzene	2.0		ND						06/14/2019
m,p-Xylenes	2.0		ND						06/14/2019
Methyl tert-butyl ether	2.0		ND						06/14/2019
Methylene chloride	10.0		ND						06/14/2019
Naphthalene	5.0		ND						06/14/2019
n-Butylbenzene	2.0		ND						06/14/2019
n-Propylbenzene	2.0		ND						06/14/2019
o-Xylene	2.0		ND						06/14/2019
p-Isopropyltoluene	2.0		ND						06/14/2019
sec-Butylbenzene	2.0		ND						06/14/2019
Styrene	2.0		ND						06/14/2019
tert-Butylbenzene	2.0		ND						06/14/2019
Tetrachloroethene	0.5		ND						06/14/2019
Toluene	2.0		ND						06/14/2019
trans-1,2-Dichloroethene	2.0		ND						06/14/2019
trans-1,3-Dichloropropene	2.0		ND						06/14/2019
Trichloroethene	2.0		ND						06/14/2019
Trichlorofluoromethane	5.0		ND						06/14/2019
Vinyl acetate	5.0		ND						06/14/2019
Vinyl chloride	2.0		ND						06/14/2019
Xylenes, Total	4.0		ND						06/14/2019
Surr: 1,2-Dichloroethane-d4			50.1	50.00		100.2	79.6	118	06/14/2019
Surr: 4-Bromofluorobenzene			50.2	50.00		100.5	83.9	115	06/14/2019
Surr: Dibromofluoromethane			49.4	50.00		98.8	84.9	113	06/14/2019
Surr: Toluene-d8			49.0	50.00		97.9	86.7	112	06/14/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154283 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**52.0**	50.00	0	104.0	52.26	0.54	06/14/2019
1,1,1-Trichloroethane	2.0		**50.8**	50.00	0	101.6	49.94	1.71	06/14/2019
1,1,2,2-Tetrachloroethane	2.0		**50.3**	50.00	0	100.6	48.83	2.99	06/14/2019
1,1,2-Trichloroethane	0.5		**51.1**	50.00	0	102.2	51.81	1.42	06/14/2019
1,1-Dichloroethane	2.0		**50.6**	50.00	0	101.1	48.68	3.79	06/14/2019
1,1-Dichloroethene	2.0		**48.3**	50.00	0	96.6	46.89	2.98	06/14/2019
1,1-Dichloropropene	2.0		**49.4**	50.00	0	98.8	47.43	4.09	06/14/2019
1,2,3-Trichlorobenzene	2.0		**51.4**	50.00	0	102.8	49.36	4.07	06/14/2019
1,2,3-Trichloropropane	2.0		**51.0**	50.00	0	102.1	49.23	3.59	06/14/2019
1,2,4-Trichlorobenzene	2.0		**52.7**	50.00	0	105.5	50.88	3.57	06/14/2019
1,2,4-Trimethylbenzene	2.0		**50.2**	50.00	0	100.4	48.00	4.50	06/14/2019
1,2-Dibromo-3-chloropropane	5.0		**55.1**	50.00	0	110.3	53.84	2.37	06/14/2019
1,2-Dibromoethane	2.0		**51.0**	50.00	0	102.1	51.26	0.43	06/14/2019
1,2-Dichlorobenzene	2.0		**47.8**	50.00	0	95.7	46.26	3.34	06/14/2019
1,2-Dichloroethane	2.0		**50.3**	50.00	0	100.6	47.75	5.24	06/14/2019
1,2-Dichloropropane	2.0		**48.2**	50.00	0	96.4	46.69	3.20	06/14/2019
1,3,5-Trimethylbenzene	2.0		**48.0**	50.00	0	96.0	44.77	6.92	06/14/2019
1,3-Dichlorobenzene	2.0		**46.6**	50.00	0	93.3	46.43	0.45	06/14/2019
1,3-Dichloropropane	2.0		**50.0**	50.00	0	100.1	48.29	3.56	06/14/2019
1,4-Dichlorobenzene	2.0		**48.2**	50.00	0	96.3	45.39	5.90	06/14/2019
2,2-Dichloropropane	2.0		**50.4**	50.00	0	100.9	47.76	5.46	06/14/2019
2-Butanone	10.0		**120**	125.0	0	96.2	119.4	0.77	06/14/2019
2-Chloroethyl vinyl ether	5.0		**47.4**	50.00	0	94.9	48.27	1.76	06/14/2019
2-Chlorotoluene	2.0		**46.5**	50.00	0	93.1	44.38	4.75	06/14/2019
2-Hexanone	10.0		**124**	125.0	0	99.0	122.0	1.46	06/14/2019
4-Chlorotoluene	2.0		**45.7**	50.00	0	91.4	45.01	1.50	06/14/2019
4-Methyl-2-pentanone	10.0		**123**	125.0	0	98.8	124.8	1.07	06/14/2019
Acetone	10.0		**115**	125.0	0	91.6	115.1	0.48	06/14/2019
Acrolein	20.0		**458**	500.0	0	91.6	478.2	4.34	06/14/2019
Acrylonitrile	5.0		**50.0**	50.00	0	99.9	49.06	1.80	06/14/2019
Benzene	0.5		**49.0**	50.00	0	98.1	47.28	3.67	06/14/2019
Bromobenzene	2.0		**49.6**	50.00	0	99.2	47.84	3.57	06/14/2019
Bromochloromethane	2.0		**50.2**	50.00	0	100.4	47.24	6.12	06/14/2019
Bromodichloromethane	2.0		**50.2**	50.00	0	100.5	48.73	3.05	06/14/2019
Bromoform	2.0		**55.8**	50.00	0	111.5	55.62	0.27	06/14/2019
Bromomethane	5.0		**52.6**	50.00	0	105.2	47.36	10.48	06/14/2019
Carbon disulfide	2.0		**50.2**	50.00	0	100.5	47.77	5.04	06/14/2019
Carbon tetrachloride	2.0		**49.7**	50.00	0	99.4	47.75	3.96	06/14/2019
Chlorobenzene	2.0		**48.9**	50.00	0	97.8	47.70	2.50	06/14/2019
Chloroethane	2.0		**43.3**	50.00	0	86.5	41.93	3.15	06/14/2019
Chloroform	2.0		**48.7**	50.00	0	97.5	46.40	4.90	06/14/2019
Chloromethane	5.0		**52.6**	50.00	0	105.3	50.15	4.83	06/14/2019
cis-1,2-Dichloroethene	2.0		**49.8**	50.00	0	99.7	47.30	5.25	06/14/2019
cis-1,3-Dichloropropene	2.0		**51.0**	50.00	0	102.0	49.42	3.13	06/14/2019
Dibromochloromethane	2.0		**56.0**	50.00	0	112.1	53.89	3.89	06/14/2019
Dichlorodifluoromethane	2.0		**43.4**	50.00	0	86.7	40.18	7.64	06/14/2019
Ethyl methacrylate	5.0		**50.1**	50.00	0	100.2	49.63	0.90	06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154283 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**48.6**	50.00	0	97.3	48.39	0.49	06/14/2019
Hexachlorobutadiene	5.0		**54.1**	50.00	0	108.2	51.00	5.88	06/14/2019
Isopropylbenzene	2.0		**49.7**	50.00	0	99.4	46.90	5.80	06/14/2019
m,p-Xylenes	2.0		**95.8**	100.0	0	95.8	93.32	2.57	06/14/2019
Methyl tert-butyl ether	2.0		**49.3**	50.00	0	98.7	47.80	3.17	06/14/2019
Methylene chloride	10.0		**47.5**	50.00	0	95.0	46.68	1.74	06/14/2019
Naphthalene	5.0		**49.2**	50.00	0	98.3	49.34	0.39	06/14/2019
n-Butylbenzene	2.0		**47.9**	50.00	0	95.9	46.63	2.75	06/14/2019
n-Propylbenzene	2.0		**48.9**	50.00	0	97.8	44.61	9.18	06/14/2019
o-Xylene	2.0		**46.7**	50.00	0	93.4	47.35	1.36	06/14/2019
p-Isopropyltoluene	2.0		**48.6**	50.00	0	97.1	46.25	4.87	06/14/2019
sec-Butylbenzene	2.0		**48.2**	50.00	0	96.4	47.08	2.39	06/14/2019
Styrene	2.0		**50.8**	50.00	0	101.6	50.53	0.57	06/14/2019
tert-Butylbenzene	2.0		**46.3**	50.00	0	92.7	44.66	3.67	06/14/2019
Tetrachloroethene	0.5		**49.4**	50.00	0	98.9	45.42	8.50	06/14/2019
Toluene	2.0		**49.5**	50.00	0	99.0	47.19	4.80	06/14/2019
trans-1,2-Dichloroethene	2.0		**51.5**	50.00	0	103.0	47.70	7.64	06/14/2019
trans-1,3-Dichloropropene	2.0		**52.1**	50.00	0	104.2	52.29	0.34	06/14/2019
Trichloroethene	2.0		**48.4**	50.00	0	96.7	47.03	2.81	06/14/2019
Trichlorofluoromethane	5.0		**48.2**	50.00	0	96.5	45.20	6.53	06/14/2019
Vinyl acetate	5.0		**54.0**	50.00	0	107.9	54.80	1.54	06/14/2019
Vinyl chloride	2.0		**52.1**	50.00	0	104.3	47.48	9.34	06/14/2019
Xylenes, Total	4.0		**142**	150.0	0	95.0	140.7	1.26	06/14/2019
Surr: 1,2-Dichloroethane-d4			**48.0**	50.00		96.0			06/14/2019
Surr: 4-Bromofluorobenzene			**49.7**	50.00		99.4			06/14/2019
Surr: Dibromofluoromethane			**48.8**	50.00		97.7			06/14/2019
Surr: Toluene-d8			**50.0**	50.00		100.0			06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154283 **SampType:** LCS Units µg/L

SampID: LCS-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**52.3**	50.00	0	104.5	83.4	118	06/14/2019
1,1,1-Trichloroethane	2.0		**49.9**	50.00	0	99.9	79.1	123	06/14/2019
1,1,2,2-Tetrachloroethane	2.0		**48.8**	50.00	0	97.7	70.7	121	06/14/2019
1,1,2-Trichloroethane	0.5		**51.8**	50.00	0	103.6	79.8	117	06/14/2019
1,1-Dichloroethane	2.0		**48.7**	50.00	0	97.4	75.1	122	06/14/2019
1,1-Dichloroethene	2.0		**46.9**	50.00	0	93.8	68.3	121	06/14/2019
1,1-Dichloropropene	2.0		**47.4**	50.00	0	94.9	76.7	122	06/14/2019
1,2,3-Trichlorobenzene	2.0		**49.4**	50.00	0	98.7	77.1	130	06/14/2019
1,2,3-Trichloropropane	2.0		**49.2**	50.00	0	98.5	70.6	114	06/14/2019
1,2,4-Trichlorobenzene	2.0		**50.9**	50.00	0	101.8	79.6	128	06/14/2019
1,2,4-Trimethylbenzene	2.0		**48.0**	50.00	0	96.0	78.9	117	06/14/2019
1,2-Dibromo-3-chloropropane	5.0		**53.8**	50.00	0	107.7	68.1	123	06/14/2019
1,2-Dibromoethane	2.0		**51.3**	50.00	0	102.5	82.9	114	06/14/2019
1,2-Dichlorobenzene	2.0		**46.3**	50.00	0	92.5	75.2	120	06/14/2019
1,2-Dichloroethane	2.0		**47.8**	50.00	0	95.5	76.9	117	06/14/2019
1,2-Dichloropropane	2.0		**46.7**	50.00	0	93.4	76.4	121	06/14/2019
1,3,5-Trimethylbenzene	2.0		**44.8**	50.00	0	89.5	79.8	118	06/14/2019
1,3-Dichlorobenzene	2.0		**46.4**	50.00	0	92.9	80.5	119	06/14/2019
1,3-Dichloropropane	2.0		**48.3**	50.00	0	96.6	77.5	113	06/14/2019
1,4-Dichlorobenzene	2.0		**45.4**	50.00	0	90.8	80.2	115	06/14/2019
2,2-Dichloropropane	2.0		**47.8**	50.00	0	95.5	62.4	151	06/14/2019
2-Butanone	10.0		**119**	125.0	0	95.5	65.7	120	06/14/2019
2-Chloroethyl vinyl ether	5.0		**48.3**	50.00	0	96.5	31.5	159	06/14/2019
2-Chlorotoluene	2.0		**44.4**	50.00	0	88.8	76	117	06/14/2019
2-Hexanone	10.0		**122**	125.0	0	97.6	65.1	121	06/14/2019
4-Chlorotoluene	2.0		**45.0**	50.00	0	90.0	77	117	06/14/2019
4-Methyl-2-pentanone	10.0		**125**	125.0	0	99.8	69.6	117	06/14/2019
Acetone	10.0		**115**	125.0	0	92.1	47.5	123	06/14/2019
Acrolein	20.0		**478**	500.0	0	95.6	27	164	06/14/2019
Acrylonitrile	5.0		**49.1**	50.00	0	98.1	74.8	127	06/14/2019
Benzene	0.5		**47.3**	50.00	0	94.6	75.8	121	06/14/2019
Bromobenzene	2.0		**47.8**	50.00	0	95.7	72.7	119	06/14/2019
Bromochloromethane	2.0		**47.2**	50.00	0	94.5	69	123	06/14/2019
Bromodichloromethane	2.0		**48.7**	50.00	0	97.5	80.8	128	06/14/2019
Bromoform	2.0		**55.6**	50.00	0	111.2	85.5	128	06/14/2019
Bromomethane	5.0		**47.4**	50.00	0	94.7	-36.7	277	06/14/2019
Carbon disulfide	2.0		**47.8**	50.00	0	95.5	64.9	133	06/14/2019
Carbon tetrachloride	2.0		**47.8**	50.00	0	95.5	79.5	129	06/14/2019
Chlorobenzene	2.0		**47.7**	50.00	0	95.4	82.1	113	06/14/2019
Chloroethane	2.0		**41.9**	50.00	0	83.9	43.9	138	06/14/2019
Chloroform	2.0		**46.4**	50.00	0	92.8	80.1	122	06/14/2019
Chloromethane	5.0		**50.2**	50.00	0	100.3	50.8	131	06/14/2019
cis-1,2-Dichloroethene	2.0		**47.3**	50.00	0	94.6	78.6	119	06/14/2019
cis-1,3-Dichloropropene	2.0		**49.4**	50.00	0	98.8	79	129	06/14/2019
Dibromochloromethane	2.0		**53.9**	50.00	0	107.8	88.1	123	06/14/2019
Dichlorodifluoromethane	2.0		**40.2**	50.00	0	80.4	35.7	155	06/14/2019
Ethyl methacrylate	5.0		**49.6**	50.00	0	99.3	80.6	123	06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154283 **SampType:** LCS Units µg/L

SampID: LCS-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**48.4**	50.00	0	96.8	80.7	114	06/14/2019
Hexachlorobutadiene	5.0		**51.0**	50.00	0	102.0	68.2	141	06/14/2019
Isopropylbenzene	2.0		**46.9**	50.00	0	93.8	81.3	116	06/14/2019
m,p-Xylenes	2.0		**93.3**	100.0	0	93.3	80.5	113	06/14/2019
Methyl tert-butyl ether	2.0		**47.8**	50.00	0	95.6	79.5	121	06/14/2019
Methylene chloride	10.0		**46.7**	50.00	0	93.4	76.2	119	06/14/2019
Naphthalene	5.0		**49.3**	50.00	0	98.7	76.1	129	06/14/2019
n-Butylbenzene	2.0		**46.6**	50.00	0	93.3	71.6	122	06/14/2019
n-Propylbenzene	2.0		**44.6**	50.00	0	89.2	76	120	06/14/2019
o-Xylene	2.0		**47.4**	50.00	0	94.7	79.7	112	06/14/2019
p-Isopropyltoluene	2.0		**46.2**	50.00	0	92.5	76.2	122	06/14/2019
sec-Butylbenzene	2.0		**47.1**	50.00	0	94.2	76.6	119	06/14/2019
Styrene	2.0		**50.5**	50.00	0	101.1	82.8	116	06/14/2019
tert-Butylbenzene	2.0		**44.7**	50.00	0	89.3	74.7	117	06/14/2019
Tetrachloroethene	0.5		**45.4**	50.00	0	90.8	80.6	122	06/14/2019
Toluene	2.0		**47.2**	50.00	0	94.4	78.3	112	06/14/2019
trans-1,2-Dichloroethene	2.0		**47.7**	50.00	0	95.4	73.5	124	06/14/2019
trans-1,3-Dichloropropene	2.0		**52.3**	50.00	0	104.6	83.4	124	06/14/2019
Trichloroethene	2.0		**47.0**	50.00	0	94.1	74.3	125	06/14/2019
Trichlorofluoromethane	5.0		**45.2**	50.00	0	90.4	71.5	136	06/14/2019
Vinyl acetate	5.0		**54.8**	50.00	0	109.6	65.9	136	06/14/2019
Vinyl chloride	2.0		**47.5**	50.00	0	95.0	55.8	135	06/14/2019
Xylenes, Total	4.0		**141**	150.0	0	93.8	80.2	113	06/14/2019
Surr: 1,2-Dichloroethane-d4			**48.4**	50.00		96.8	79.6	118	06/14/2019
Surr: 4-Bromofluorobenzene			**49.4**	50.00		98.9	83.9	115	06/14/2019
Surr: Dibromofluoromethane			**51.2**	50.00		102.4	84.9	113	06/14/2019
Surr: Toluene-d8			**51.5**	50.00		102.9	86.7	112	06/14/2019

Batch 154283 **SampType:** LCSGD Units %REC RPD Limit 0

SampID: LCSGD-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**50.3**	50.00		100.6			06/14/2019
Surr: 4-Bromofluorobenzene			**50.7**	50.00		101.3			06/14/2019
Surr: Dibromofluoromethane			**49.4**	50.00		98.9			06/14/2019
Surr: Toluene-d8			**50.2**	50.00		100.4			06/14/2019

Batch 154283 **SampType:** LCSG Units %REC

SampID: LCSG-N190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**50.1**	50.00		100.2	79.6	118	06/14/2019
Surr: 4-Bromofluorobenzene			**48.8**	50.00		97.6	83.9	115	06/14/2019
Surr: Dibromofluoromethane			**49.9**	50.00		99.8	84.9	113	06/14/2019
Surr: Toluene-d8			**48.8**	50.00		97.5	86.7	112	06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154290 **SampType:** MBLK Units µg/Kg

SampID: MBLK-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/14/2019
1,1,1-Trichloroethane	2.0		ND						06/14/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/14/2019
1,1,2-Trichloroethane	5.0		ND						06/14/2019
1,1-Dichloroethane	2.0		ND						06/14/2019
1,1-Dichloroethene	2.0		ND						06/14/2019
1,1-Dichloropropene	2.0		ND						06/14/2019
1,2,3-Trichlorobenzene	2.0		ND						06/14/2019
1,2,3-Trichloropropane	2.0		ND						06/14/2019
1,2,4-Trichlorobenzene	2.0		ND						06/14/2019
1,2,4-Trimethylbenzene	2.0		ND						06/14/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/14/2019
1,2-Dibromoethane	2.0		ND						06/14/2019
1,2-Dichlorobenzene	2.0		ND						06/14/2019
1,2-Dichloroethane	2.0		ND						06/14/2019
1,2-Dichloropropane	2.0		ND						06/14/2019
1,3,5-Trimethylbenzene	2.0		ND						06/14/2019
1,3-Dichlorobenzene	2.0		ND						06/14/2019
1,3-Dichloropropane	2.0		ND						06/14/2019
1,4-Dichlorobenzene	2.0		ND						06/14/2019
2,2-Dichloropropane	2.0		ND						06/14/2019
2-Butanone	25.0		ND						06/14/2019
2-Chloroethyl vinyl ether	5.0		ND						06/14/2019
2-Chlorotoluene	2.0		ND						06/14/2019
2-Hexanone	25.0		ND						06/14/2019
4-Chlorotoluene	2.0		ND						06/14/2019
4-Methyl-2-pentanone	25.0		ND						06/14/2019
Acetone	25.0		ND						06/14/2019
Acrolein	50.0		ND						06/14/2019
Acrylonitrile	5.0		ND						06/14/2019
Benzene	1.0		ND						06/14/2019
Bromobenzene	2.0		ND						06/14/2019
Bromochloromethane	2.0		ND						06/14/2019
Bromodichloromethane	2.0		ND						06/14/2019
Bromoform	5.0		ND						06/14/2019
Bromomethane	10.0		ND						06/14/2019
Carbon disulfide	2.0		ND						06/14/2019
Carbon tetrachloride	2.0		ND						06/14/2019
Chlorobenzene	2.0		ND						06/14/2019
Chloroethane	10.0		ND						06/14/2019
Chloroform	2.0		ND						06/14/2019
Chloromethane	10.0		ND						06/14/2019
cis-1,2-Dichloroethene	2.0		ND						06/14/2019
cis-1,3-Dichloropropene	2.0		ND						06/14/2019
Dibromochloromethane	2.0		ND						06/14/2019
Dichlorodifluoromethane	10.0		ND						06/14/2019
Ethyl methacrylate	2.0		ND						06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154290 **SampType:** MBLK Units µg/Kg

SampID: MBLK-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/14/2019
Hexachlorobutadiene	2.0		ND						06/14/2019
Isopropylbenzene	2.0		ND						06/14/2019
m,p-Xylenes	4.0		ND						06/14/2019
Methyl tert-butyl ether	2.0		ND						06/14/2019
Methylene chloride	10.0		ND						06/14/2019
Naphthalene	5.0		ND						06/14/2019
n-Butylbenzene	2.0		ND						06/14/2019
n-Propylbenzene	2.0		ND						06/14/2019
o-Xylene	4.0		ND						06/14/2019
p-Isopropyltoluene	2.0		ND						06/14/2019
sec-Butylbenzene	2.0		ND						06/14/2019
Styrene	2.0		ND						06/14/2019
tert-Butylbenzene	2.0		ND						06/14/2019
Tetrachloroethene	2.0		ND						06/14/2019
Toluene	2.0		ND						06/14/2019
trans-1,2-Dichloroethene	2.0		ND						06/14/2019
trans-1,3-Dichloropropene	2.0		ND						06/14/2019
Trichloroethene	2.0		ND						06/14/2019
Trichlorofluoromethane	5.0		ND						06/14/2019
Vinyl acetate	50.0		ND						06/14/2019
Vinyl chloride	2.0		ND						06/14/2019
Xylenes, Total	8.0		ND						06/14/2019
Surr: 1,2-Dichloroethane-d4			**49.9**	50.00		99.8	74	124	06/14/2019
Surr: 4-Bromofluorobenzene			**50.2**	50.00		100.3	79.4	123	06/14/2019
Surr: Dibromofluoromethane			**48.8**	50.00		97.6	89.2	112	06/14/2019
Surr: Toluene-d8			**50.3**	50.00		100.5	85	115	06/14/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM **Work Order:** 19060884

Client Project: PreDesign Invest. PW **Report Date:** 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154290 **SampType:** LCS Units µg/Kg

SampID: LCS-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**56.2**	50.00	0	112.4	84.3	128	06/14/2019
1,1,1-Trichloroethane	2.0		**59.6**	50.00	0	119.1	75.6	132	06/14/2019
1,1,2,2-Tetrachloroethane	2.0		**53.0**	50.00	0	106.1	81.4	126	06/14/2019
1,1,2-Trichloroethane	5.0		**54.6**	50.00	0	109.2	87.3	122	06/14/2019
1,1-Dichloroethane	2.0		**59.5**	50.00	0	118.9	84.6	123	06/14/2019
1,1-Dichloroethene	2.0		**56.7**	50.00	0	113.3	73.6	134	06/14/2019
1,1-Dichloropropene	2.0		**57.4**	50.00	0	114.8	76	132	06/14/2019
1,2,3-Trichlorobenzene	2.0		**57.6**	50.00	0	115.1	78.2	139	06/14/2019
1,2,3-Trichloropropane	2.0		**51.9**	50.00	0	103.8	81.5	125	06/14/2019
1,2,4-Trichlorobenzene	2.0		**60.0**	50.00	0	120.1	67.8	154	06/14/2019
1,2,4-Trimethylbenzene	2.0		**58.4**	50.00	0	116.7	79.6	129	06/14/2019
1,2-Dibromo-3-chloropropane	5.0		**49.2**	50.00	0	98.4	71.5	135	06/14/2019
1,2-Dibromoethane	2.0		**53.9**	50.00	0	107.7	86.2	127	06/14/2019
1,2-Dichlorobenzene	2.0		**56.6**	50.00	0	113.3	82	126	06/14/2019
1,2-Dichloroethane	2.0		**54.8**	50.00	0	109.7	77.1	130	06/14/2019
1,2-Dichloropropane	2.0		**54.5**	50.00	0	109.0	89.8	126	06/14/2019
1,3,5-Trimethylbenzene	2.0		**57.6**	50.00	0	115.3	79	129	06/14/2019
1,3-Dichlorobenzene	2.0		**57.7**	50.00	0	115.3	80.9	132	06/14/2019
1,3-Dichloropropane	2.0		**53.9**	50.00	0	107.9	84	123	06/14/2019
1,4-Dichlorobenzene	2.0		**57.9**	50.00	0	115.8	78.3	131	06/14/2019
2,2-Dichloropropane	2.0		**57.2**	50.00	0	114.3	74.8	133	06/14/2019
2-Butanone	25.0		**142**	125.0	0	113.7	75	140	06/14/2019
2-Chloroethyl vinyl ether	5.0		**50.7**	50.00	0	101.3	72	142	06/14/2019
2-Chlorotoluene	2.0		**56.6**	50.00	0	113.1	78.5	128	06/14/2019
2-Hexanone	25.0		**136**	125.0	0	109.0	74.9	131	06/14/2019
4-Chlorotoluene	2.0		**57.1**	50.00	0	114.2	77.1	132	06/14/2019
4-Methyl-2-pentanone	25.0		**129**	125.0	0	103.5	81.3	127	06/14/2019
Acetone	25.0		**187**	125.0	0	149.6	52.2	164	06/14/2019
Acrolein	50.0		**609**	500.0	0	121.9	1	211	06/14/2019
Acrylonitrile	5.0		**51.5**	50.00	0	103.0	82.8	135	06/14/2019
Benzene	1.0		**55.8**	50.00	0	111.6	85.2	124	06/14/2019
Bromobenzene	2.0		**56.6**	50.00	0	113.3	81.7	125	06/14/2019
Bromochloromethane	2.0		**55.4**	50.00	0	110.7	84.8	127	06/14/2019
Bromodichloromethane	2.0		**55.3**	50.00	0	110.6	88.9	129	06/14/2019
Bromoform	5.0		**53.2**	50.00	0	106.3	79.3	134	06/14/2019
Bromomethane	10.0		**49.9**	50.00	0	99.8	17	207	06/14/2019
Carbon disulfide	2.0		**57.1**	50.00	0	114.1	74.5	131	06/14/2019
Carbon tetrachloride	2.0		**55.6**	50.00	0	111.2	73.6	133	06/14/2019
Chlorobenzene	2.0		**57.2**	50.00	0	114.4	86.1	123	06/14/2019
Chloroethane	10.0		**54.4**	50.00	0	108.9	77.2	130	06/14/2019
Chloroform	2.0		**51.7**	50.00	0	103.4	86.8	123	06/14/2019
Chloromethane	10.0		**55.6**	50.00	0	111.2	59.5	149	06/14/2019
cis-1,2-Dichloroethene	2.0		**56.6**	50.00	0	113.1	85	125	06/14/2019
cis-1,3-Dichloropropene	2.0		**53.8**	50.00	0	107.6	89.6	130	06/14/2019
Dibromochloromethane	2.0		**53.7**	50.00	0	107.4	87	129	06/14/2019
Dichlorodifluoromethane	10.0		**60.2**	50.00	0	120.4	40.9	168	06/14/2019
Ethyl methacrylate	2.0		**54.2**	50.00	0	108.5	87.6	125	06/14/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154290 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**56.3**	50.00	0	112.6	82.3	125	06/14/2019
Hexachlorobutadiene	2.0		**61.0**	50.00	0	121.9	67.5	144	06/14/2019
Isopropylbenzene	2.0		**57.5**	50.00	0	115.0	78.5	129	06/14/2019
m,p-Xylenes	4.0		**113**	100.0	0	112.8	80.4	128	06/14/2019
Methyl tert-butyl ether	2.0		**51.6**	50.00	0	103.1	86.2	126	06/14/2019
Methylene chloride	10.0		**52.4**	50.00	0	104.7	79.4	125	06/14/2019
Naphthalene	5.0		**53.3**	50.00	0	106.6	81	127	06/14/2019
n-Butylbenzene	2.0		**59.3**	50.00	0	118.5	67.4	142	06/14/2019
n-Propylbenzene	2.0		**57.8**	50.00	0	115.6	72.3	133	06/14/2019
o-Xylene	4.0		**56.2**	50.00	0	112.4	85	124	06/14/2019
p-Isopropyltoluene	2.0		**56.7**	50.00	0	113.5	75.4	133	06/14/2019
sec-Butylbenzene	2.0		**57.9**	50.00	0	115.8	72.1	132	06/14/2019
Styrene	2.0		**56.6**	50.00	0	113.1	86.7	127	06/14/2019
tert-Butylbenzene	2.0		**56.4**	50.00	0	112.7	73.5	129	06/14/2019
Tetrachloroethene	2.0		**61.4**	50.00	0	122.8	75.8	131	06/14/2019
Toluene	2.0		**53.7**	50.00	0	107.4	81	123	06/14/2019
trans-1,2-Dichloroethene	2.0		**58.8**	50.00	0	117.6	80.8	130	06/14/2019
trans-1,3-Dichloropropene	2.0		**55.5**	50.00	0	111.0	82.8	133	06/14/2019
Trichloroethene	2.0		**57.1**	50.00	0	114.2	83.6	129	06/14/2019
Trichlorofluoromethane	5.0		**56.0**	50.00	0	112.0	63	136	06/14/2019
Vinyl acetate	50.0		**55.6**	50.00	0	111.1	81.6	133	06/14/2019
Vinyl chloride	2.0		**53.5**	50.00	0	107.0	55	149	06/14/2019
Xylenes, Total	8.0		**169**	150.0	0	112.7	82.2	127	06/14/2019
Surr: 1,2-Dichloroethane-d4			**49.4**	50.00		98.9	74	124	06/14/2019
Surr: 4-Bromofluorobenzene			**49.2**	50.00		98.4	79.4	123	06/14/2019
Surr: Dibromofluoromethane			**48.7**	50.00		97.5	89.2	112	06/14/2019
Surr: Toluene-d8			**49.6**	50.00		99.2	85	115	06/14/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154290 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**55.8**	50.00	0	111.6	56.19	0.71	06/14/2019
1,1,1-Trichloroethane	2.0		**58.3**	50.00	0	116.6	59.56	2.16	06/14/2019
1,1,2,2-Tetrachloroethane	2.0		**53.9**	50.00	0	107.8	53.03	1.63	06/14/2019
1,1,2-Trichloroethane	5.0		**55.1**	50.00	0	110.2	54.62	0.84	06/14/2019
1,1-Dichloroethane	2.0		**58.2**	50.00	0	116.4	59.46	2.11	06/14/2019
1,1-Dichloroethene	2.0		**55.5**	50.00	0	111.0	56.67	2.05	06/14/2019
1,1-Dichloropropene	2.0		**56.8**	50.00	0	113.6	57.41	1.07	06/14/2019
1,2,3-Trichlorobenzene	2.0		**57.3**	50.00	0	114.6	57.55	0.45	06/14/2019
1,2,3-Trichloropropane	2.0		**52.9**	50.00	0	105.8	51.90	1.87	06/14/2019
1,2,4-Trichlorobenzene	2.0		**58.3**	50.00	0	116.6	60.03	2.91	06/14/2019
1,2,4-Trimethylbenzene	2.0		**57.7**	50.00	0	115.4	58.36	1.10	06/14/2019
1,2-Dibromo-3-chloropropane	5.0		**50.2**	50.00	0	100.3	49.21	1.91	06/14/2019
1,2-Dibromoethane	2.0		**54.6**	50.00	0	109.2	53.87	1.31	06/14/2019
1,2-Dichlorobenzene	2.0		**56.3**	50.00	0	112.6	56.64	0.62	06/14/2019
1,2-Dichloroethane	2.0		**55.3**	50.00	0	110.5	54.83	0.80	06/14/2019
1,2-Dichloropropane	2.0		**54.5**	50.00	0	109.0	54.49	0.02	06/14/2019
1,3,5-Trimethylbenzene	2.0		**56.4**	50.00	0	112.8	57.63	2.16	06/14/2019
1,3-Dichlorobenzene	2.0		**56.5**	50.00	0	113.0	57.66	2.07	06/14/2019
1,3-Dichloropropane	2.0		**54.3**	50.00	0	108.7	53.93	0.76	06/14/2019
1,4-Dichlorobenzene	2.0		**56.5**	50.00	0	113.0	57.92	2.46	06/14/2019
2,2-Dichloropropane	2.0		**56.5**	50.00	0	112.9	57.16	1.21	06/14/2019
2-Butanone	25.0		**142**	125.0	0	113.3	142.1	0.32	06/14/2019
2-Chloroethyl vinyl ether	5.0		**51.1**	50.00	0	102.2	50.66	0.83	06/14/2019
2-Chlorotoluene	2.0		**56.2**	50.00	0	112.4	56.57	0.64	06/14/2019
2-Hexanone	25.0		**138**	125.0	0	110.4	136.2	1.28	06/14/2019
4-Chlorotoluene	2.0		**55.9**	50.00	0	111.8	57.09	2.11	06/14/2019
4-Methyl-2-pentanone	25.0		**133**	125.0	0	106.6	129.4	2.86	06/14/2019
Acetone	25.0		**176**	125.0	0	140.9	187.0	6.01	06/14/2019
Acrolein	50.0		**639**	500.0	0	127.8	609.4	4.77	06/14/2019
Acrylonitrile	5.0		**52.0**	50.00	0	103.9	51.51	0.87	06/14/2019
Benzene	1.0		**55.7**	50.00	0	111.5	55.81	0.14	06/14/2019
Bromobenzene	2.0		**55.9**	50.00	0	111.8	56.64	1.32	06/14/2019
Bromochloromethane	2.0		**55.0**	50.00	0	110.1	55.37	0.58	06/14/2019
Bromodichloromethane	2.0		**55.3**	50.00	0	110.6	55.28	0.07	06/14/2019
Bromoform	5.0		**54.4**	50.00	0	108.8	53.15	2.31	06/14/2019
Bromomethane	10.0		**52.4**	50.00	0	104.9	49.88	5.02	06/14/2019
Carbon disulfide	2.0		**56.8**	50.00	0	113.6	57.06	0.44	06/14/2019
Carbon tetrachloride	2.0		**54.9**	50.00	0	109.9	55.58	1.16	06/14/2019
Chlorobenzene	2.0		**56.7**	50.00	0	113.3	57.20	0.93	06/14/2019
Chloroethane	10.0		**54.4**	50.00	0	108.8	54.45	0.09	06/14/2019
Chloroform	2.0		**51.5**	50.00	0	103.1	51.70	0.33	06/14/2019
Chloromethane	10.0		**56.0**	50.00	0	112.0	55.59	0.72	06/14/2019
cis-1,2-Dichloroethene	2.0		**56.0**	50.00	0	112.1	56.55	0.89	06/14/2019
cis-1,3-Dichloropropene	2.0		**53.5**	50.00	0	107.0	53.80	0.54	06/14/2019
Dibromochloromethane	2.0		**54.1**	50.00	0	108.2	53.70	0.71	06/14/2019
Dichlorodifluoromethane	10.0		**59.1**	50.00	0	118.2	60.22	1.91	06/14/2019
Ethyl methacrylate	2.0		**54.5**	50.00	0	109.1	54.25	0.53	06/14/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060884
Report Date: 17-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154290 **SampType:** LCSD Units µg/Kg RPD Limit 40
SampID: LCSD-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**55.8**	50.00	0	111.5	56.32	1.02	06/14/2019
Hexachlorobutadiene	2.0		**59.3**	50.00	0	118.7	60.95	2.69	06/14/2019
Isopropylbenzene	2.0		**56.8**	50.00	0	113.6	57.51	1.21	06/14/2019
m,p-Xylenes	4.0		**112**	100.0	0	111.7	112.8	1.00	06/14/2019
Methyl tert-butyl ether	2.0		**52.0**	50.00	0	103.9	51.57	0.75	06/14/2019
Methylene chloride	10.0		**51.2**	50.00	0	102.5	52.37	2.16	06/14/2019
Naphthalene	5.0		**53.7**	50.00	0	107.3	53.32	0.65	06/14/2019
n-Butylbenzene	2.0		**58.0**	50.00	0	115.9	59.27	2.22	06/14/2019
n-Propylbenzene	2.0		**56.8**	50.00	0	113.5	57.82	1.85	06/14/2019
o-Xylene	4.0		**55.6**	50.00	0	111.2	56.21	1.11	06/14/2019
p-Isopropyltoluene	2.0		**56.0**	50.00	0	111.9	56.73	1.38	06/14/2019
sec-Butylbenzene	2.0		**57.3**	50.00	0	114.6	57.89	1.04	06/14/2019
Styrene	2.0		**56.0**	50.00	0	112.0	56.57	1.03	06/14/2019
tert-Butylbenzene	2.0		**55.2**	50.00	0	110.3	56.36	2.15	06/14/2019
Tetrachloroethene	2.0		**58.4**	50.00	0	116.7	61.42	5.13	06/14/2019
Toluene	2.0		**53.6**	50.00	0	107.2	53.70	0.19	06/14/2019
trans-1,2-Dichloroethene	2.0		**58.2**	50.00	0	116.4	58.82	1.04	06/14/2019
trans-1,3-Dichloropropene	2.0		**55.8**	50.00	0	111.6	55.51	0.49	06/14/2019
Trichloroethene	2.0		**56.8**	50.00	0	113.5	57.08	0.56	06/14/2019
Trichlorofluoromethane	5.0		**54.9**	50.00	0	109.7	56.00	2.06	06/14/2019
Vinyl acetate	50.0		**55.8**	50.00	0	111.7	55.57	0.47	06/14/2019
Vinyl chloride	2.0		**53.2**	50.00	0	106.3	53.52	0.66	06/14/2019
Xylenes, Total	8.0		**167**	150.0	0	111.5	169.0	1.03	06/14/2019
Surr: 1,2-Dichloroethane-d4			**49.0**	50.00		98.0			06/14/2019
Surr: 4-Bromofluorobenzene			**49.8**	50.00		99.6			06/14/2019
Surr: Dibromofluoromethane			**49.6**	50.00		99.1			06/14/2019
Surr: Toluene-d8			**50.4**	50.00		100.7			06/14/2019

Batch 154290 **SampType:** LCSG Units %REC
SampID: LCSG-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**49.5**	50.00		99.1	74	124	06/14/2019
Surr: 4-Bromofluorobenzene			**49.4**	50.00		98.8	79.4	123	06/14/2019
Surr: Dibromofluoromethane			**48.6**	50.00		97.3	89.2	112	06/14/2019
Surr: Toluene-d8			**50.4**	50.00		100.8	85	115	06/14/2019

Batch 154290 **SampType:** LCSGD Units %REC RPD Limit 0
SampID: LCSGD-AF190614A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**48.5**	50.00		97.0			06/14/2019
Surr: 4-Bromofluorobenzene			**50.0**	50.00		100.0			06/14/2019
Surr: Dibromofluoromethane			**48.4**	50.00		96.7			06/14/2019
Surr: Toluene-d8			**50.8**	50.00		101.6			06/14/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060884
Client Project: PreDesign Invest. PW
Report Date: 17-Jun-2019

Carrier: Robert Fleming
Received By: EEP

Completed by: Emily Pohlman
On: 13-Jun-2019

Reviewed by: Elizabeth A. Hurley
On: 13-Jun-2019

Pages to follow: Chain of custody [1] Extra pages included [10]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 8.0
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☑	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Headspace was present in the volatile vials. Elizabeth Kunkel was notified of this error via workorder summary. - epohlman - 6/13/2019 4:47:23 PM

Trip Blank collection date and time will be reported as the received date and time (end of trip). - ehurley - 6/13/2019 5:30:18 PM

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (Pensacola)
☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ UBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/13/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino

SAMPLER NAME(S) (Print): Bobby Fleming

LAB USE ONLY: 190600884

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST: 8260 Project list VOCs +TICs; 8270 SIM PAH; Moisture; 8270 Project List SVOCs +TICs

NON-UNIT COST

ONE DAY TAT

FIELD NOTES:
LTGT3
TEMPERATURE ON RECEIPT C°
8.0°C, ice
HS 2pk TB
EDD 6/13/19
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8260	8270 SIM PAH	Moisture	8270 SVOCs +TICs	Container PID Readings or Laboratory Notes
190600884															
-001	PD-5-SB-17-061319	06-13-2019	11:40	Soil	X			x	x	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve
-002	TB-PW-061319	06-13-2019	0:00	Water	X					2	X				

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Robert M. Sle		6/13/19	1631
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

TTP 6/13/19

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA029.D
Acq On : 17 Jun 19 11:26 am
Operator : DH
Sample : 19060884-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA029.D\data.ms

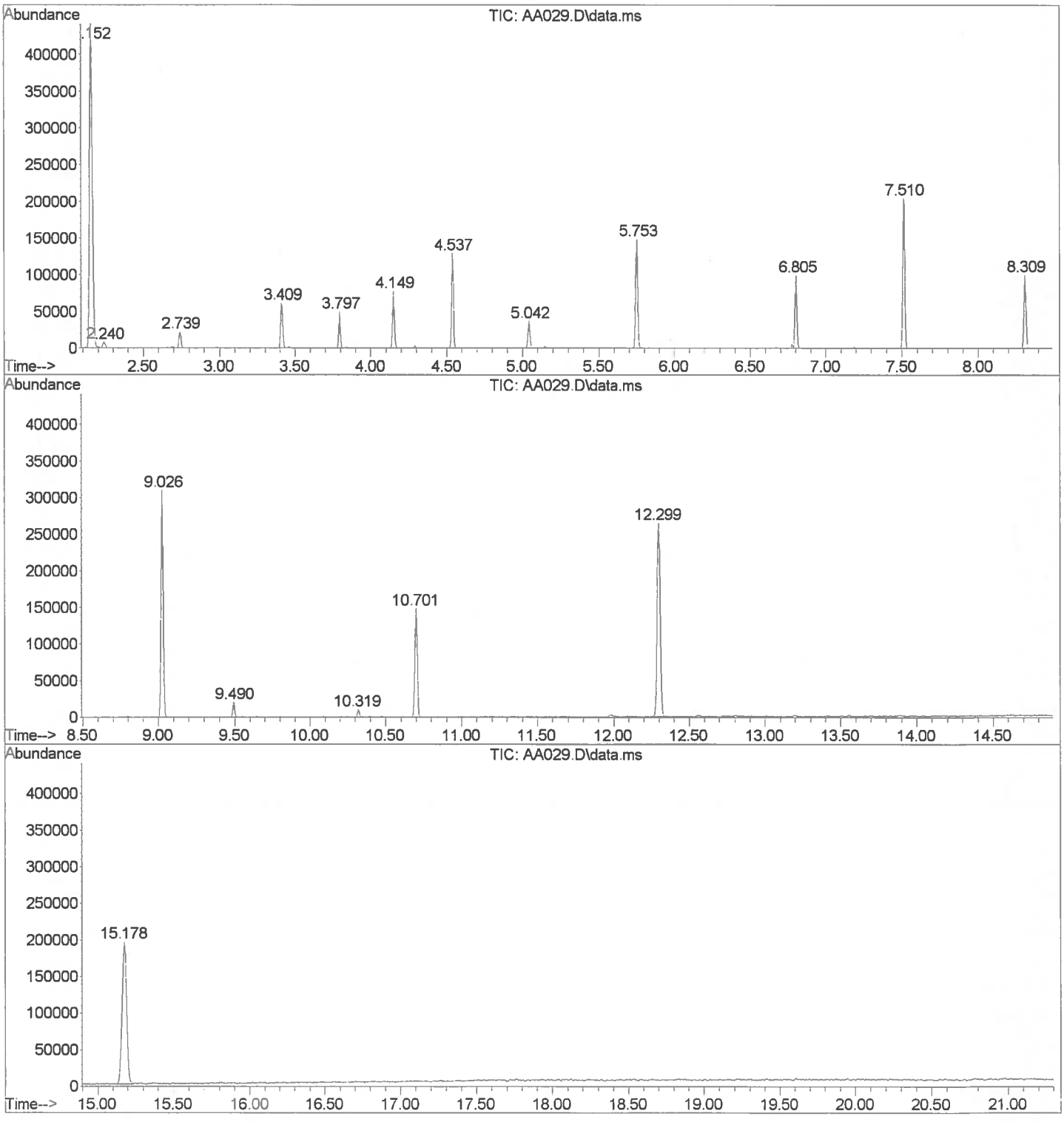
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.152	7	12	24	rVB	441853	595445	100.00%	22.052%
2	2.240	24	27	32	rBV	7836	8877	1.49%	0.329%
3	2.739	108	112	117	rVB	22055	22542	3.79%	0.835%
4	3.409	223	226	231	rVB	61081	59427	9.98%	2.201%
5	3.797	288	292	295	rBB	49527	44658	7.50%	1.654%
6	4.149	349	352	356	rBV	77318	65614	11.02%	2.430%
7	4.537	414	418	422	rBV	129364	112884	18.96%	4.181%
8	5.042	500	504	507	rBV	36424	31086	5.22%	1.151%
9	5.753	621	625	629	rBV	148220	136463	22.92%	5.054%
10	6.805	801	804	808	rVB	98624	81185	13.63%	3.007%
11	7.510	920	924	929	rBB	204230	202929	34.08%	7.515%
12	8.309	1057	1060	1064	rBB	99769	88199	14.81%	3.266%
13	9.026	1178	1182	1186	rBV	309595	279157	46.88%	10.339%
14	9.490	1258	1261	1265	rBV	20149	18562	3.12%	0.687%
15	10.319	1399	1402	1406	rVB3	9670	8889	1.49%	0.329%
16	10.701	1462	1467	1471	rBV	148222	159353	26.76%	5.902%
17	12.299	1731	1739	1746	rBV	264114	386079	64.84%	14.298%
18	15.178	2220	2229	2239	rBV	193653	398809	66.98%	14.770%

Sum of corrected areas: 2700158

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA029.D
Acq On : 17 Jun 19 11:26 am
Operator : DH
Sample : 19060884-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA029.D
Acq On : 17 Jun 19 11:26 am
Operator : DH
Sample : 19060884-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 6 Sample Multiplier: 1

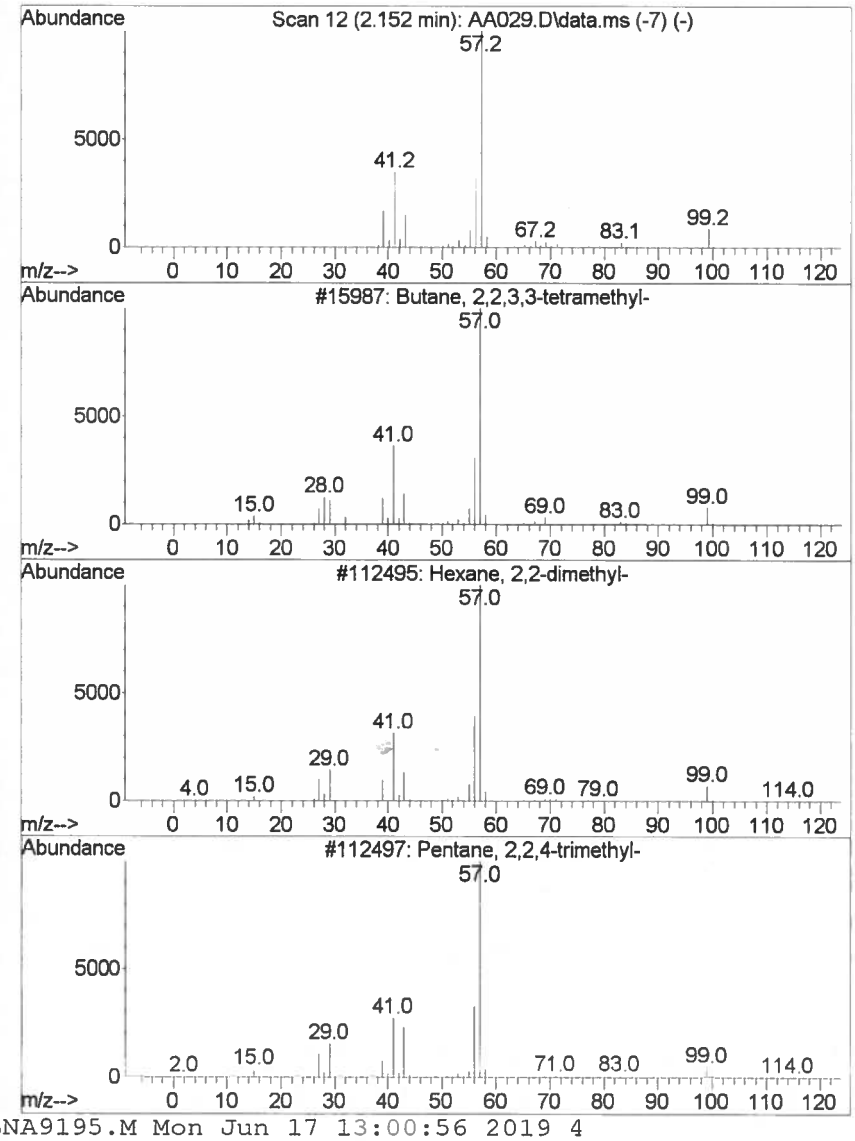
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

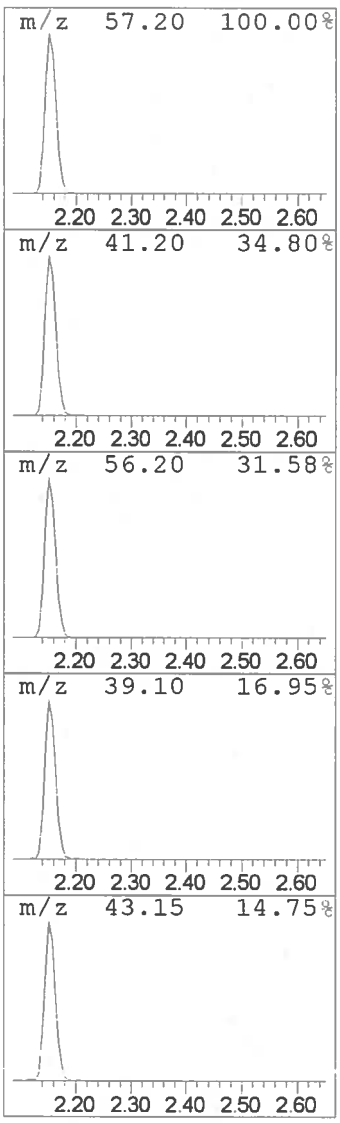
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Butane, 2,2,3,3-tetramethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.152	210.99 ug/ml	595445	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	78
2	Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	78
3	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	78
4	Pentane, 2,2,4,4-tetramethyl-	128	C9H20	001070-87-7	64
5	1-Propanol, 2,2-dimethyl-	88	C5H12O	000075-84-3	45





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA029.D
Acq On : 17 Jun 19 11:26 am
Operator : DH
Sample : 19060884-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 6 Sample Multiplier: 1

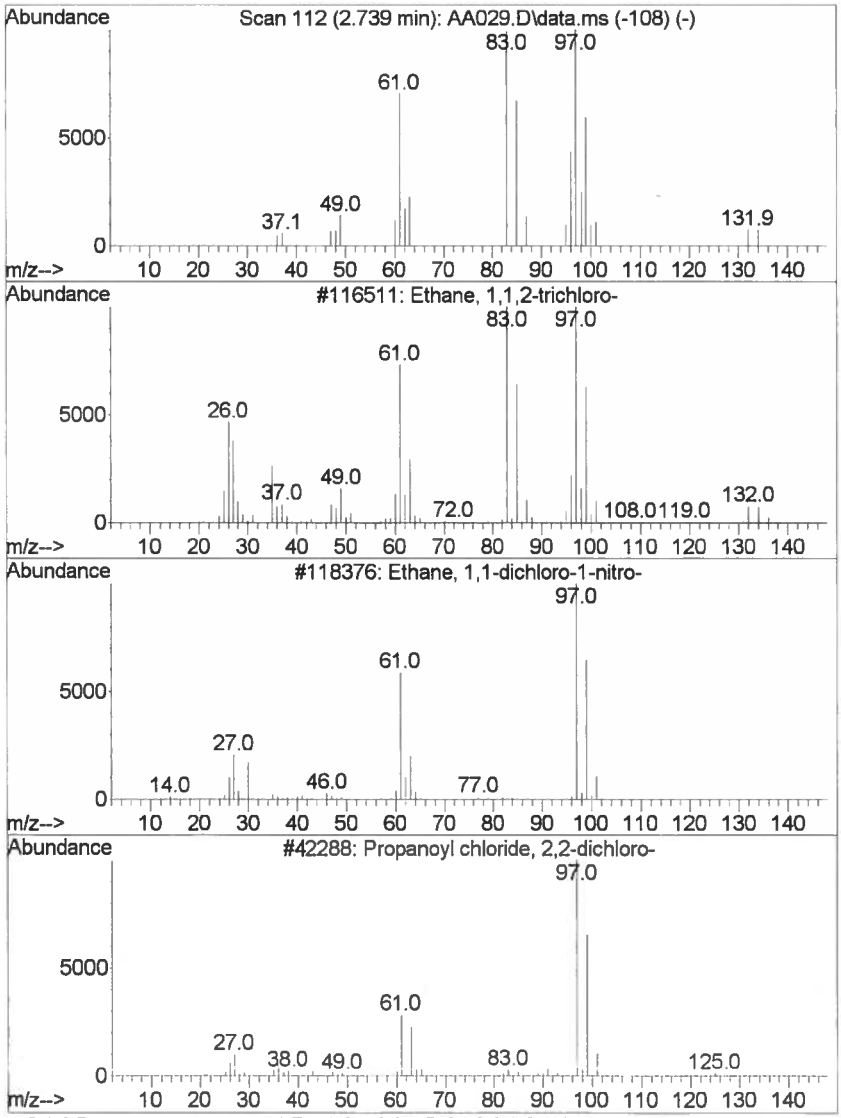
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

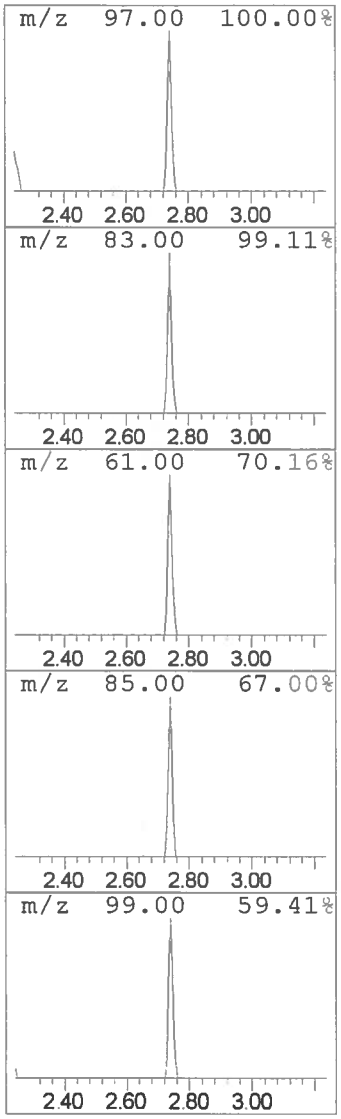
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,1,2-trichloro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.739	7.99 ug/ml	22542	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	96
2	Ethane, 1,1-dichloro-1-nitro-	143	C2H3Cl2NO2	000594-72-9	38
3	Propanoyl chloride, 2,2-dichloro-	160	C3H3Cl3O	026073-26-7	32
4	Ethane, 1,1,1-trichloro-	132	C2H3Cl3	000071-55-6	16
5	Aluminum, dichloroethyl-	126	C2H5AlCl2	000563-43-9	16





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA029.D
Acq On : 17 Jun 19 11:26 am
Operator : DH
Sample : 19060884-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 6 Sample Multiplier: 1

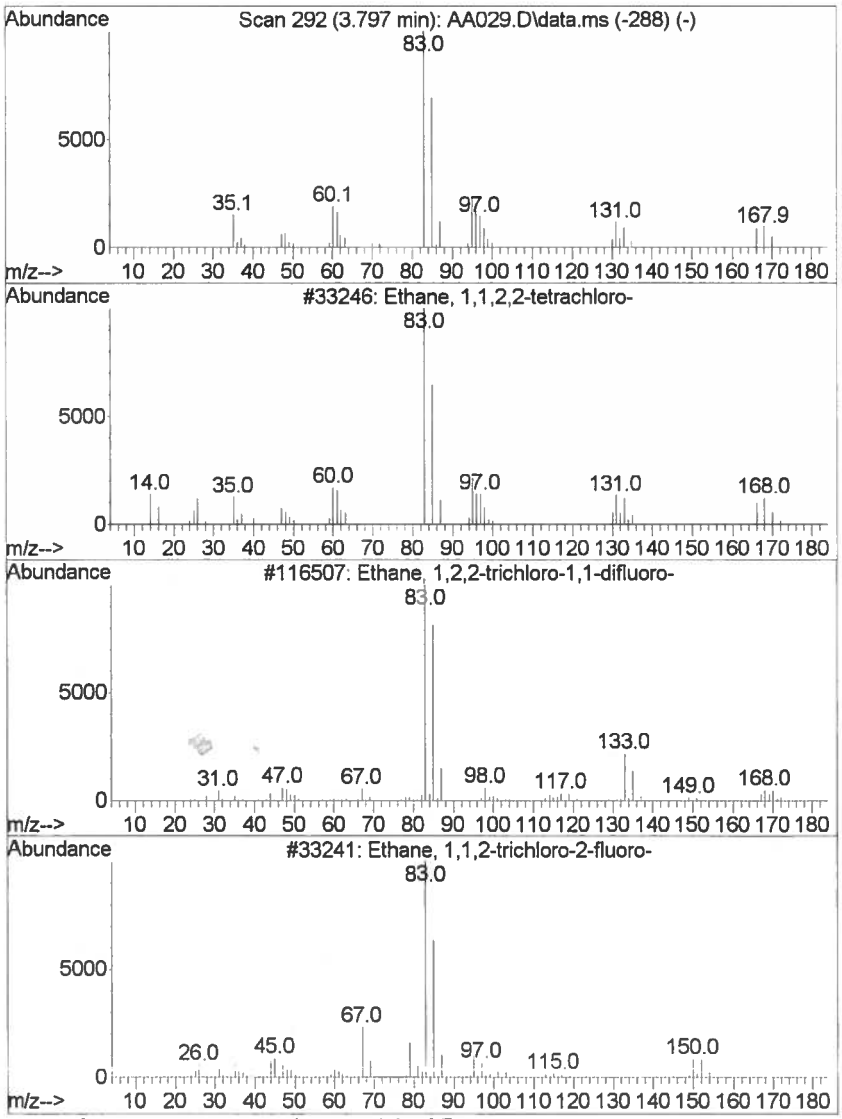
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

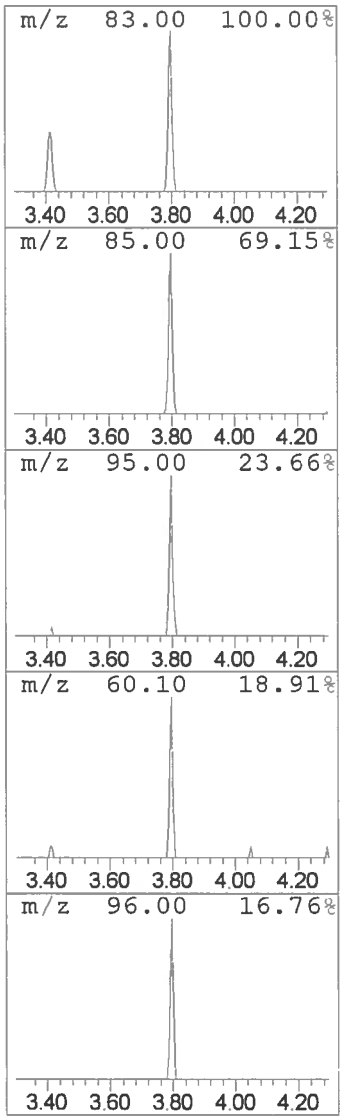
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.797	15.82 ug/ml	44658	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	98
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	58
3	Ethane, 1,1,2-trichloro-2-fluoro-	150	C2H2Cl3F	000359-28-4	42
4	Ethane, 2,2-dichloro-1,1,1-trifl...	152	C2HCl2F3	000306-83-2	40
5	Chloroform	118	CHCl3	000067-66-3	40





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA029.D
Acq On : 17 Jun 19 11:26 am
Operator : DH
Sample : 19060884-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Butane, 2,2,3,3...	2.152	211.0	ug/ml	595445	1	4.537	112884	40.0
Ethane, 1,1,2-t...	2.739	8.0	ug/ml	22542	1	4.537	112884	40.0
Ethane, 1,1,2,2...	3.797	15.8	ug/ml	44658	1	4.537	112884	40.0

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\data\AF190614A\
Data File : AF10.D
Acq On : 14 Jun 2019 12:39
Operator : R.Eaton
Sample : 19060884-001D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

Signal : TIC: AF10.D\data.ms

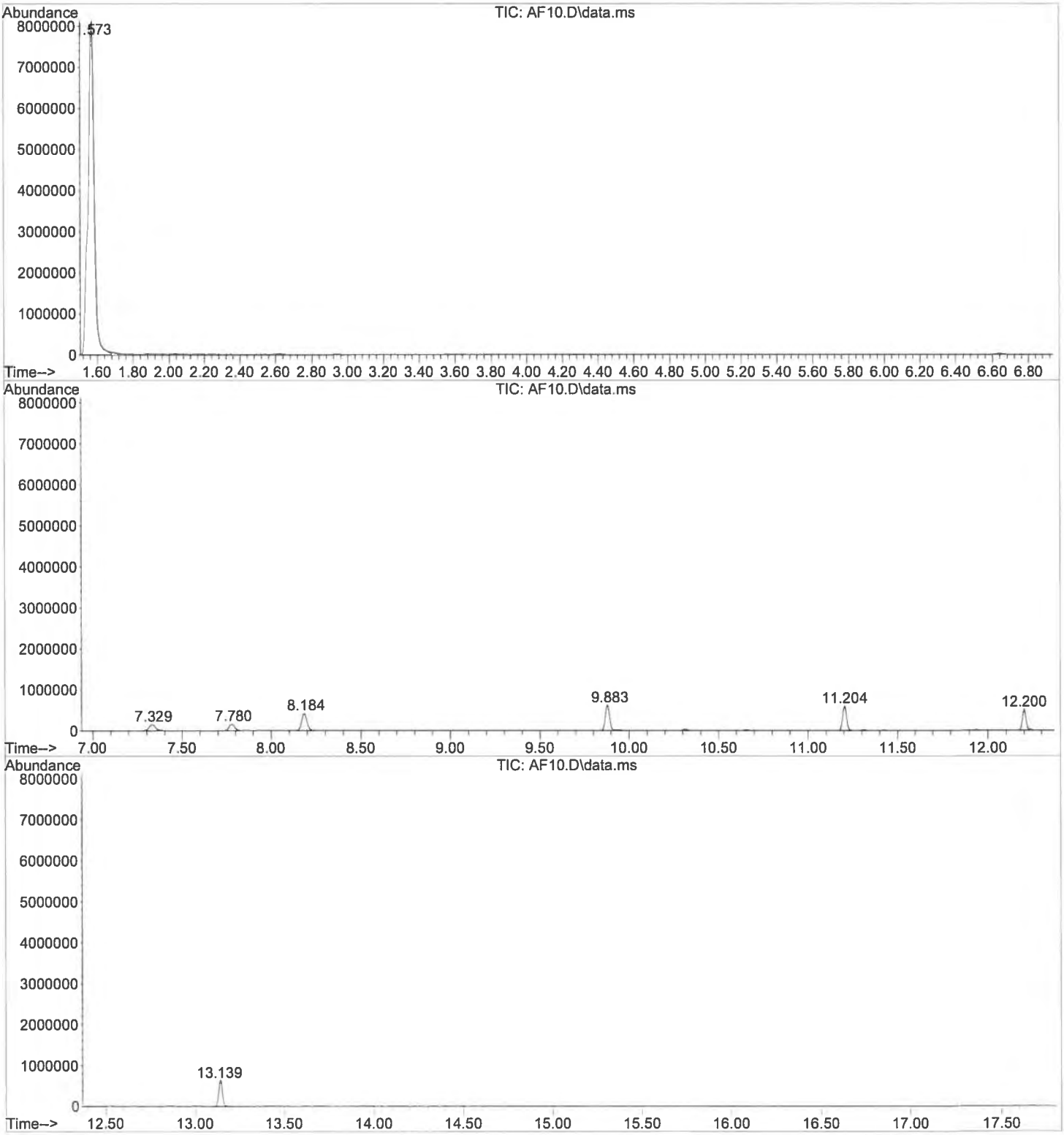
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.573	177	188	208	rBV	8113337	18508619	100.00%	78.574%
2	7.329	1276	1286	1306	rVB3	148945	371094	2.00%	1.575%
3	7.780	1362	1372	1382	rBV	159389	349084	1.89%	1.482%
4	8.184	1439	1449	1463	rBV	420248	853241	4.61%	3.622%
5	9.883	1764	1773	1781	rBV	612938	1010649	5.46%	4.290%
6	11.204	2016	2025	2037	rVB	595454	871254	4.71%	3.699%
7	12.200	2207	2215	2221	rBV	502475	706189	3.82%	2.998%
8	13.139	2387	2394	2405	rVB	622222	885538	4.78%	3.759%

Sum of corrected areas: 23555668

Data Path : C:\msdchem\1\data\AF190614A\
Data File : AF10.D
Acq On : 14 Jun 2019 12:39
Operator : R.Eaton
Sample : 19060884-001D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P



Data Path : C:\msdchem\1\data\AF190614A\
Data File : AF10.D
Acq On : 14 Jun 2019 12:39
Operator : R.Eaton
Sample : 19060884-001D
Misc : ,V 8260S S,SAMP,1,5,
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

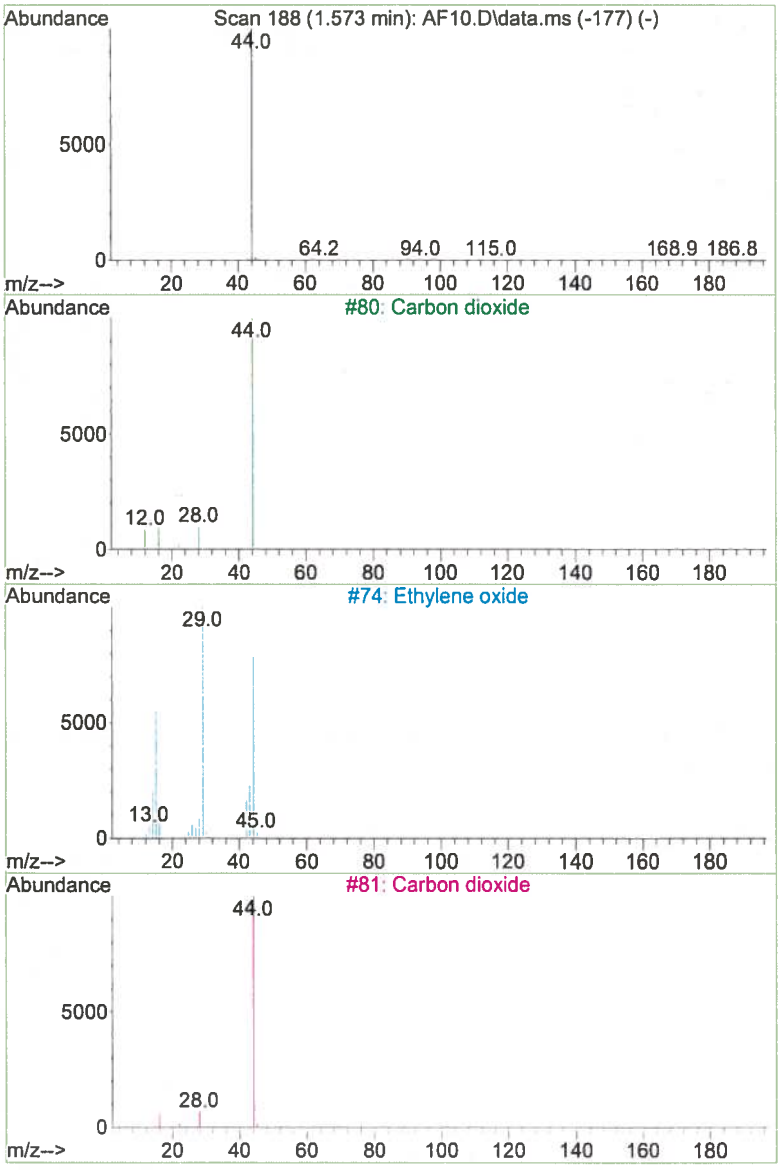
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

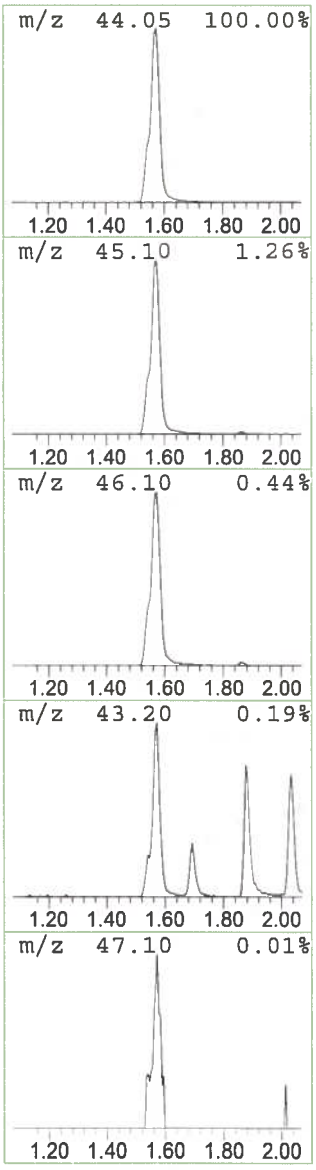
****

Peak Number 1 Carbon dioxide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.573	1084.61 ug/Kg	18508600	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3
5	Nitrous Oxide	44	N2O	010024-97-2	3





Data Path : C:\msdchem\1\data\AF190614A\
Data File : AF10.D
Acq On : 14 Jun 2019 12:39
Operator : R.Eaton
Sample : 19060884-001D
Misc : ,V_8260S_S,SAMP,1,5,
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.573	1084.6	ug/Kg	18508600	1	8.184	853241	50.0

Roxana Predesign Soil Data Review

Laboratory SDG: 19060980

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/19/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
PD-5-SB-62-061419	TB-PW-061419
PD-5-SB-061419-EB	PD-5-SB-43-061419
PD-5-SB-53-061419	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative analytes were detected in the blanks. SVOC LCS recovery for quinoline was outside evaluation criteria. VOC LCS/LCSD recoveries for acetone were outside evaluation criteria. SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-5-SB-53-061419. These issues are addressed further in the appropriate sections of this data review.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
Trip Blank	VOCs	Acetone	3.5 µg/L
PD-5-SB-061419-EB	VOCs	Benzene	3.2 µg/L
PD-5-SB-061419-EB	VOCs	Chloromethane	0.4 µg/L
PD-5-SB-061419-EB	VOCs	Ethylbenzene	0.2 µg/L
PD-5-SB-061419-EB	VOCs	m,p-Xylenes	0.5 µg/L
PD-5-SB-061419-EB	VOCs	o-Xylene	0.1 µg/L
PD-5-SB-061419-EB	VOCs	Xylenes, Total	0.6 µg/L
MBLK-T190617A-1	VOCs	Naphthalene	0.4 µg/L
PD-5-SB-061419-EB	PAHs	1-Methylnaphthalene	0.00005 mg/L

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-5-SB-061419-EB	PAHs	2-Methylnaphthalene	0.00009 mg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
LCS-54319	SVOCs	Quinoline	**98.4**	NA	48.5-97.3
LCS-AF190617A-1	VOCs	Acetone	**179.1**/**173.4**	223.9	52.2-164/40

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-5-SB-53-061419 was spiked and duplicated for SVOCs. Sample PD-5-SB-43-061419 was spiked and duplicated for PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-5-SB-53-061419	SVOCs	Hexachloroethane	**152.1**/**136.5**	9.02	26.2-115/40
PD-5-SB-53-061419	SVOCs	Pyridine	71.3/**0**	4.23	13.6-91.5/40
PD-5-SB-53-061419	SVOCs	Quinoline	97.9/**39.8**	5.81	48-105/40

Analytical data that required qualification based on MS/MSD data are included in the following table. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-5-SB-53-061419	SVOCs	Pyridine	**UJ**
PD-5-SB-53-061419	SVOCs	Quinoline	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Teklab, Inc.
Environmental Laboratory
http://www.teklabinc.com/

June 18, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19060980

Dear Elizabeth Kunkel:

TEKLAB, INC received 5 samples on 6/14/2019 4:51:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 6/19/2019

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

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Chain of Custody	Appended

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

Cooler Receipt Temp: 18.8 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	EHurley@teklabinc.com

Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
Fax	(217) 698-1005
Email	KKlostermann@teklabinc.com

Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-001
Client Sample ID: PD-5-SB-62-061419
Matrix: SOLID
Collection Date: 06/14/2019 14:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		16.4	%	1	06/17/2019 9:47	R263231
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
1-Methylnaphthalene	*	0.012	J	0.0060	mg/Kg-dry	1	06/17/2019 18:21	154321
2-Methylnaphthalene	NELAP	0.0122		0.0143	mg/Kg-dry	1	06/17/2019 18:21	154321
Acenaphthene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Acenaphthylene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Anthracene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Benzo(a)anthracene	NELAP	0.0358		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Benzo(a)pyrene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Benzo(b)fluoranthene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Benzo(g,h,i)perylene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Benzo(k)fluoranthene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Chrysene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Dibenzo(a,h)anthracene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Fluoranthene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Fluorene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Indeno(1,2,3-cd)pyrene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Phenanthrene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Pyrene	NELAP	0.0122		ND	mg/Kg-dry	1	06/17/2019 18:21	154321
Surr: 2-Fluorobiphenyl	*	8.85-90.5		59.0	%REC	1	06/17/2019 18:21	154321
Surr: Nitrobenzene-d5	*	5-102		48.7	%REC	1	06/17/2019 18:21	154321
Surr: p-Terphenyl-d14	*	18.4-103		69.6	%REC	1	06/17/2019 18:21	154321
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2,4,6-Trichlorophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2,4-Dichlorophenol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2,4-Dimethylphenol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2,4-Dinitrophenol	NELAP	3.58		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2,4-Dinitrotoluene	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2,6-Dinitrotoluene	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2-Chloronaphthalene	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2-Chlorophenol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2-Nitroaniline	NELAP	3.58		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
2-Nitrophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
3,3´-Dichlorobenzidine	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
3-Nitroaniline	NELAP	3.58		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4,6-Dinitro-2-methylphenol	NELAP	3.58		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4-Bromophenyl phenyl ether	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4-Chloro-3-methylphenol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4-Chloroaniline	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4-Chlorophenyl phenyl ether	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4-Nitroaniline	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
4-Nitrophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Aniline	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Azobenzene	*	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-001
Client Sample ID: PD-5-SB-62-061419
Matrix: SOLID
Collection Date: 06/14/2019 14:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	5.36		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Benzyl alcohol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Bis(2-chloroethoxy)methane	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Bis(2-chloroethyl)ether	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Bis(2-chloroisopropyl)ether	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Bis(2-ethylhexyl)phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Butyl benzyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Dibenzofuran	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Diethyl phthalate	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Dimethyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Di-n-butyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Di-n-octyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Hexachlorobenzene	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Hexachlorocyclopentadiene	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Hexachloroethane	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Isophorone	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
m,p-Cresol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Nitrobenzene	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
N-Nitrosodimethylamine	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
N-Nitroso-di-n-propylamine	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
N-Nitrosodiphenylamine	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
o-Cresol	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Pentachlorophenol	NELAP	7.15		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Phenol	NELAP	1.25		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Pyridine	NELAP	1.79		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Quinoline	*	0.715		ND	mg/Kg-dry	1	06/17/2019 15:37	154319
Surr: 2,4,6-Tribromophenol	*	41.6-114		79.2	%REC	1	06/17/2019 15:37	154319
Surr: 2-Fluorobiphenyl	*	29.3-105		72.1	%REC	1	06/17/2019 15:37	154319
Surr: 2-Fluorophenol	*	35.8-97.2		79.2	%REC	1	06/17/2019 15:37	154319
Surr: Nitrobenzene-d5	*	36.2-95.2		77.1	%REC	1	06/17/2019 15:37	154319
Surr: Phenol-d5	*	38.8-103		83.2	%REC	1	06/17/2019 15:37	154319
Surr: p-Terphenyl-d14	*	43.2-116		89.8	%REC	1	06/17/2019 15:37	154319

LCS recovered outside upper control limits for Quinoline. Sample results are below the reporting limit. Data is reportable per the TNI Standard. Elevated reporting limit due to sample composition.

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,1,1-Trichloroethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,1,2,2-Tetrachloroethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,1,2-Trichloroethane	NELAP	120		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,1-Dichloroethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,1-Dichloroethene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,1-Dichloropropene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2,3-Trichlorobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2,3-Trichloropropane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2,4-Trichlorobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2,4-Trimethylbenzene	NELAP	48.1		206	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2-Dibromo-3-chloropropane	NELAP	120		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-001
Client Sample ID: PD-5-SB-62-061419
Matrix: SOLID
Collection Date: 06/14/2019 14:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dibromoethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2-Dichlorobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2-Dichloroethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,2-Dichloropropane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,3,5-Trimethylbenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,3-Dichlorobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,3-Dichloropropane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
1,4-Dichlorobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
2,2-Dichloropropane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
2-Butanone	NELAP	601		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
2-Chloroethyl vinyl ether	*	120		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
2-Chlorotoluene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
2-Hexanone	NELAP	601		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
4-Chlorotoluene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
4-Methyl-2-pentanone	NELAP	601		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Acetone	NELAP	601		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Acrolein	NELAP	1200		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Acrylonitrile	NELAP	120		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Benzene	NELAP	24.1		4150	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Bromobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Bromochloromethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Bromodichloromethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Bromoform	NELAP	120		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Bromomethane	NELAP	241		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Carbon disulfide	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Carbon tetrachloride	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Chlorobenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Chloroethane	NELAP	241		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Chloroform	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Chloromethane	NELAP	241		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
cis-1,2-Dichloroethene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
cis-1,3-Dichloropropene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Dibromochloromethane	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Dichlorodifluoromethane	NELAP	241		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Ethyl methacrylate	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Ethylbenzene	NELAP	48.1		148	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Hexachlorobutadiene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Isopropylbenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
m,p-Xylenes	NELAP	96.2		373	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Methyl tert-butyl ether	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Methylene chloride	NELAP	241		282	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Naphthalene	NELAP	120	J	33	µg/Kg-dry	12.5	06/17/2019 12:27	154351
n-Butylbenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
n-Propylbenzene	NELAP	48	J	43	µg/Kg-dry	12.5	06/17/2019 12:27	154351
o-Xylene	NELAP	96	J	84	µg/Kg-dry	12.5	06/17/2019 12:27	154351
p-Isopropyltoluene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351
sec-Butylbenzene	NELAP	48.1		ND	µg/Kg-dry	12.5	06/17/2019 12:27	154351

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-001
Client Sample ID: PD-5-SB-62-061419
Matrix: SOLID
Collection Date: 06/14/2019 14:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Styrene	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
tert-Butylbenzene	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Tetrachloroethene	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Toluene	NELAP	48	J	**43**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
trans-1,2-Dichloroethene	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
trans-1,3-Dichloropropene	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Trichloroethene	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Trichlorofluoromethane	NELAP	120		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Vinyl acetate	NELAP	1200		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Vinyl chloride	NELAP	48.1		**ND**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Xylenes, Total	NELAP	192		**457**	µg/Kg-dry	12.5	06/17/2019 12:27	154351
Surr: 1,2-Dichloroethane-d4	*	74-124		**95.6**	%REC	12.5	06/17/2019 12:27	154351
Surr: 4-Bromofluorobenzene	*	79.4-123		**98.4**	%REC	12.5	06/17/2019 12:27	154351
Surr: Dibromofluoromethane	*	89.2-112		**96.1**	%REC	12.5	06/17/2019 12:27	154351
Surr: Toluene-d8	*	85-115		**102.1**	%REC	12.5	06/17/2019 12:27	154351

Elevated reporting limit due to high levels of target and/or non-target analytes.
Allowable Marginal Exceedance of acetone in the laboratory control sample and duplicate is verified per the TNI Standard.

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-002
Client Sample ID: TB-PW-061419
Matrix: TRIP BLANK
Collection Date: 06/14/2019 16:51

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/17/2019 11:48	154336
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
2-Butanone	NELAP	10.0		ND	µg/L	1	06/17/2019 11:48	154336
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/17/2019 11:48	154336
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/17/2019 11:48	154336
Acetone	NELAP	10	J	3.5	µg/L	1	06/17/2019 11:48	154336
Acrolein	NELAP	20.0		ND	µg/L	1	06/17/2019 11:48	154336
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
Benzene	NELAP	0.5		ND	µg/L	1	06/17/2019 11:48	154336
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Bromoform	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Bromomethane	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Chloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Chloroform	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Chloromethane	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-002
Client Sample ID: TB-PW-061419
Matrix: TRIP BLANK
Collection Date: 06/14/2019 16:51

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Naphthalene	NELAP	5.0	B	ND	µg/L	1	06/17/2019 11:48	154336
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
o-Xylene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Styrene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/17/2019 11:48	154336
Toluene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/17/2019 11:48	154336
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/17/2019 11:48	154336
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/17/2019 11:48	154336
Surr: 1,2-Dichloroethane-d4	*	79.6-118		103.6	%REC	1	06/17/2019 11:48	154336
Surr: 4-Bromofluorobenzene	*	83.9-115		102.8	%REC	1	06/17/2019 11:48	154336
Surr: Dibromofluoromethane	*	84.9-113		102.7	%REC	1	06/17/2019 11:48	154336
Surr: Toluene-d8	*	86.7-112		95.7	%REC	1	06/17/2019 11:48	154336

Naphthalene was detected in the MBLK at a level between the MDL and the RL. Sample result is less than the RL. Data is reportable.

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-003
Client Sample ID: PD-5-SB-061419-EB
Matrix: AQUEOUS
Collection Date: 06/14/2019 15:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00100		ND	mg/L	1	06/17/2019 14:41	154314
1-Methylnaphthalene	*	0.00010	J	0.00005	mg/L	1	06/17/2019 14:41	154314
2-Methylnaphthalene	NELAP	0.00010	J	0.00009	mg/L	1	06/17/2019 14:41	154314
Acenaphthene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Acenaphthylene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Anthracene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Benzo(a)anthracene	*	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Benzo(a)pyrene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Benzo(b)fluoranthene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Benzo(g,h,i)perylene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Benzo(k)fluoranthene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Chrysene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Dibenzo(a,h)anthracene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Fluoranthene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Fluorene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Indeno(1,2,3-cd)pyrene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Phenanthrene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Pyrene	NELAP	0.00010		ND	mg/L	1	06/17/2019 14:41	154314
Surr: 2-Fluorobiphenyl	*	13.8-99.2		70.3	%REC	1	06/17/2019 14:41	154314
Surr: Nitrobenzene-d5	*	15.3-96.2		61.9	%REC	1	06/17/2019 14:41	154314
Surr: p-Terphenyl-d14	*	10-109		81.6	%REC	1	06/17/2019 14:41	154314
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2,4,6-Trichlorophenol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2,4-Dichlorophenol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2,4-Dimethylphenol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2,4-Dinitrophenol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
2,4-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2,6-Dinitrotoluene	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2-Chloronaphthalene	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2-Chlorophenol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
2-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/17/2019 14:13	154315
2-Nitrophenol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
3,3´-Dichlorobenzidine	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
3-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/17/2019 14:13	154315
4,6-Dinitro-2-methylphenol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
4-Bromophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
4-Chloro-3-methylphenol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
4-Chloroaniline	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
4-Chlorophenyl phenyl ether	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
4-Nitroaniline	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
4-Nitrophenol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
Aniline	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
Azobenzene	*	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Benzoic acid	NELAP	0.050		ND	mg/L	1	06/17/2019 14:13	154315
Benzyl alcohol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
Bis(2-chloroethoxy)methane	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-003
Client Sample ID: PD-5-SB-061419-EB
Matrix: AQUEOUS
Collection Date: 06/14/2019 15:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethyl)ether	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Bis(2-chloroisopropyl)ether	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Bis(2-ethylhexyl)phthalate	NELAP	0.006		ND	mg/L	1	06/17/2019 14:13	154315
Butyl benzyl phthalate	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Dibenzofuran	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Diethyl phthalate	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Dimethyl phthalate	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Di-n-butyl phthalate	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Di-n-octyl phthalate	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Hexachlorobenzene	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Hexachlorocyclopentadiene	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
Hexachloroethane	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Isophorone	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
m,p-Cresol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Nitrobenzene	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
N-Nitrosodimethylamine	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
N-Nitroso-di-n-propylamine	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
N-Nitrosodiphenylamine	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
o-Cresol	NELAP	0.010		ND	mg/L	1	06/17/2019 14:13	154315
Pentachlorophenol	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
Phenol	NELAP	0.005		ND	mg/L	1	06/17/2019 14:13	154315
Pyridine	NELAP	0.020		ND	mg/L	1	06/17/2019 14:13	154315
Quinoline	*	0.005		ND	mg/L	1	06/17/2019 14:13	154315
Surr: 2,4,6-Tribromophenol	*	14.8-138		76.0	%REC	1	06/17/2019 14:13	154315
Surr: 2-Fluorobiphenyl	*	12.2-118		76.8	%REC	1	06/17/2019 14:13	154315
Surr: 2-Fluorophenol	*	11.1-70.8		52.0	%REC	1	06/17/2019 14:13	154315
Surr: Nitrobenzene-d5	*	14-118		84.6	%REC	1	06/17/2019 14:13	154315
Surr: Phenol-d5	*	10-49.2		36.8	%REC	1	06/17/2019 14:13	154315
Surr: p-Terphenyl-d14	*	11.3-110		79.9	%REC	1	06/17/2019 14:13	154315
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/17/2019 12:14	154336
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2,4-Trimethylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/17/2019 12:14	154336
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-003
Client Sample ID: PD-5-SB-061419-EB
Matrix: AQUEOUS
Collection Date: 06/14/2019 15:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
2-Butanone	NELAP	10.0		ND	µg/L	1	06/17/2019 12:14	154336
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/17/2019 12:14	154336
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/17/2019 12:14	154336
Acetone	NELAP	10.0		ND	µg/L	1	06/17/2019 12:14	154336
Acrolein	NELAP	20.0		ND	µg/L	1	06/17/2019 12:14	154336
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
Benzene	NELAP	0.5		3.2	µg/L	1	06/17/2019 12:14	154336
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Bromoform	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Bromomethane	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Chloroethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Chloroform	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Chloromethane	NELAP	5.0	J	0.4	µg/L	1	06/17/2019 12:14	154336
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
Ethylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/17/2019 12:14	154336
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
m,p-Xylenes	NELAP	2.0	J	0.5	µg/L	1	06/17/2019 12:14	154336
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Naphthalene	NELAP	5.0	B	ND	µg/L	1	06/17/2019 12:14	154336
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
o-Xylene	NELAP	2.0	J	0.1	µg/L	1	06/17/2019 12:14	154336
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Styrene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/17/2019 12:14	154336
Toluene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-003
Client Sample ID: PD-5-SB-061419-EB
Matrix: AQUEOUS
Collection Date: 06/14/2019 15:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/17/2019 12:14	154336
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/17/2019 12:14	154336
Xylenes, Total	NELAP	4.0	J	0.6	µg/L	1	06/17/2019 12:14	154336
Surr: 1,2-Dichloroethane-d4	*	79.6-118		103.8	%REC	1	06/17/2019 12:14	154336
Surr: 4-Bromofluorobenzene	*	83.9-115		99.5	%REC	1	06/17/2019 12:14	154336
Surr: Dibromofluoromethane	*	84.9-113		102.4	%REC	1	06/17/2019 12:14	154336
Surr: Toluene-d8	*	86.7-112		97.0	%REC	1	06/17/2019 12:14	154336

Naphthalene was detected in the MBLK at a level between the MDL and the RL. Sample result is less than the RL. Data is reportable.

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-004
Client Sample ID: PD-5-SB-43-061419
Matrix: SOLID
Collection Date: 06/14/2019 9:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**15.2**	%	1	06/17/2019 9:47	R263231
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	1.19		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
1-Methylnaphthalene	*	0.012	J	**0.0035**	mg/Kg-dry	1	06/17/2019 18:52	154321
2-Methylnaphthalene	NELAP	0.012	J	**0.0035**	mg/Kg-dry	1	06/17/2019 18:52	154321
Acenaphthene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Acenaphthylene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Anthracene	NELAP	0.012	J	**0.0035**	mg/Kg-dry	1	06/17/2019 18:52	154321
Benzo(a)anthracene	NELAP	0.035	J	**0.0082**	mg/Kg-dry	1	06/17/2019 18:52	154321
Benzo(a)pyrene	NELAP	0.012	J	**0.0023**	mg/Kg-dry	1	06/17/2019 18:52	154321
Benzo(b)fluoranthene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Benzo(g,h,i)perylene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Benzo(k)fluoranthene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Chrysene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Dibenzo(a,h)anthracene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Fluoranthene	NELAP	0.012	J	**0.0070**	mg/Kg-dry	1	06/17/2019 18:52	154321
Fluorene	NELAP	0.012	J	**0.0047**	mg/Kg-dry	1	06/17/2019 18:52	154321
Indeno(1,2,3-cd)pyrene	NELAP	0.0119		**ND**	mg/Kg-dry	1	06/17/2019 18:52	154321
Phenanthrene	NELAP	0.0119		**0.0186**	mg/Kg-dry	1	06/17/2019 18:52	154321
Pyrene	NELAP	0.012	J	**0.0070**	mg/Kg-dry	1	06/17/2019 18:52	154321
Surr: 2-Fluorobiphenyl	*	8.85-90.5		**62.7**	%REC	1	06/17/2019 18:52	154321
Surr: Nitrobenzene-d5	*	5-102		**51.7**	%REC	1	06/17/2019 18:52	154321
Surr: p-Terphenyl-d14	*	18.4-103		**74.0**	%REC	1	06/17/2019 18:52	154321
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2,4,6-Trichlorophenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2,4-Dichlorophenol	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2,4-Dimethylphenol	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2,4-Dinitrophenol	NELAP	3.50		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2,4-Dinitrotoluene	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2,6-Dinitrotoluene	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2-Chloronaphthalene	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2-Chlorophenol	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2-Nitroaniline	NELAP	3.50		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
2-Nitrophenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
3,3´-Dichlorobenzidine	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
3-Nitroaniline	NELAP	3.50		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4,6-Dinitro-2-methylphenol	NELAP	3.50		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4-Bromophenyl phenyl ether	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4-Chloro-3-methylphenol	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4-Chloroaniline	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4-Chlorophenyl phenyl ether	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4-Nitroaniline	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
4-Nitrophenol	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
Aniline	NELAP	1.75		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319
Azobenzene	*	1.22		**ND**	mg/Kg-dry	1	06/17/2019 16:04	154319

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-004
Client Sample ID: PD-5-SB-43-061419
Matrix: SOLID
Collection Date: 06/14/2019 9:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	5.24		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Benzyl alcohol	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Bis(2-chloroethoxy)methane	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Bis(2-chloroethyl)ether	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Bis(2-chloroisopropyl)ether	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Bis(2-ethylhexyl)phthalate	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Butyl benzyl phthalate	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Dibenzofuran	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Diethyl phthalate	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Dimethyl phthalate	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Di-n-butyl phthalate	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Di-n-octyl phthalate	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Hexachlorobenzene	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Hexachlorocyclopentadiene	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Hexachloroethane	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Isophorone	NELAP	1.22		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
m,p-Cresol	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Nitrobenzene	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
N-Nitrosodimethylamine	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
N-Nitroso-di-n-propylamine	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
N-Nitrosodiphenylamine	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
o-Cresol	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Pentachlorophenol	NELAP	6.99		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Phenol	NELAP	1.2	J	0.91	mg/Kg-dry	1	06/17/2019 16:04	154319
Pyridine	NELAP	1.75		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Quinoline	*	0.699		ND	mg/Kg-dry	1	06/17/2019 16:04	154319
Surr: 2,4,6-Tribromophenol	*	41.6-114		77.8	%REC	1	06/17/2019 16:04	154319
Surr: 2-Fluorobiphenyl	*	29.3-105		71.4	%REC	1	06/17/2019 16:04	154319
Surr: 2-Fluorophenol	*	35.8-97.2		82.4	%REC	1	06/17/2019 16:04	154319
Surr: Nitrobenzene-d5	*	36.2-95.2		80.8	%REC	1	06/17/2019 16:04	154319
Surr: Phenol-d5	*	38.8-103		87.1	%REC	1	06/17/2019 16:04	154319
Surr: p-Terphenyl-d14	*	43.2-116		95.2	%REC	1	06/17/2019 16:04	154319

LCS recovered outside upper control limits for Quinoline. Sample results are below the reporting limit. Data is reportable per the TNI Standard. Elevated reporting limit due to sample composition.

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,1,1-Trichloroethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,1,2,2-Tetrachloroethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,1,2-Trichloroethane	NELAP	44800		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,1-Dichloroethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,1-Dichloroethene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,1-Dichloropropene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2,3-Trichlorobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2,3-Trichloropropane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2,4-Trichlorobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2,4-Trimethylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2-Dibromo-3-chloropropane	NELAP	44800		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-004
Client Sample ID: PD-5-SB-43-061419
Matrix: SOLID
Collection Date: 06/14/2019 9:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dibromoethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2-Dichlorobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2-Dichloroethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,2-Dichloropropane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,3,5-Trimethylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,3-Dichlorobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,3-Dichloropropane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
1,4-Dichlorobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
2,2-Dichloropropane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
2-Butanone	NELAP	224000		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
2-Chloroethyl vinyl ether	*	44800		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
2-Chlorotoluene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
2-Hexanone	NELAP	224000		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
4-Chlorotoluene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
4-Methyl-2-pentanone	NELAP	224000		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Acetone	NELAP	224000		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Acrolein	NELAP	448000		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Acrylonitrile	NELAP	44800		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Benzene	NELAP	179000		7380000	µg/Kg-dry	1E+05	06/17/2019 13:54	154351
Bromobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Bromochloromethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Bromodichloromethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Bromoform	NELAP	44800		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Bromomethane	NELAP	89600		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Carbon disulfide	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Carbon tetrachloride	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Chlorobenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Chloroethane	NELAP	89600		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Chloroform	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Chloromethane	NELAP	89600		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
cis-1,2-Dichloroethene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
cis-1,3-Dichloropropene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Dibromochloromethane	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Dichlorodifluoromethane	NELAP	89600		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Ethyl methacrylate	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Ethylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Hexachlorobutadiene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Isopropylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
m,p-Xylenes	NELAP	35900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Methyl tert-butyl ether	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
Methylene chloride	NELAP	89600		94400	µg/Kg-dry	5000	06/17/2019 12:56	154351
Naphthalene	NELAP	44800		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
n-Butylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
n-Propylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
o-Xylene	NELAP	35900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
p-Isopropyltoluene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351
sec-Butylbenzene	NELAP	17900		ND	µg/Kg-dry	5000	06/17/2019 12:56	154351

Teklab, Inc.
Environmental Laboratory

Laboratory Results

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Work Order: 19060980
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Report Date: 18-Jun-2019
Lab ID: 19060980-004
Client Sample ID: PD-5-SB-43-061419
Matrix: SOLID
Collection Date: 06/14/2019 9:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Styrene	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
tert-Butylbenzene	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Tetrachloroethene	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Toluene	NELAP	18000	J	**3800**	µg/Kg-dry	5000	06/17/2019 12:56	154351
trans-1,2-Dichloroethene	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
trans-1,3-Dichloropropene	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Trichloroethene	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Trichlorofluoromethane	NELAP	44800		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Vinyl acetate	NELAP	448000		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Vinyl chloride	NELAP	17900		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Xylenes, Total	NELAP	71700		**ND**	µg/Kg-dry	5000	06/17/2019 12:56	154351
Surr: 1,2-Dichloroethane-d4	*	74-124		**90.5**	%REC	5000	06/17/2019 12:56	154351
Surr: 4-Bromofluorobenzene	*	79.4-123		**98.0**	%REC	5000	06/17/2019 12:56	154351
Surr: Dibromofluoromethane	*	89.2-112		**101.9**	%REC	5000	06/17/2019 12:56	154351
Surr: Toluene-d8	*	85-115		**99.2**	%REC	5000	06/17/2019 12:56	154351

Elevated reporting limit due to high levels of target and/or non-target analytes.
Allowable Marginal Exceedance of acetone in the laboratory control sample and duplicate is verified per the TNI Standard.

Teklab, Inc. Environmental Laboratory

Laboratory Results

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Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-005
Client Sample ID: PD-5-SB-53-061419
Matrix: SOLID
Collection Date: 06/14/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		**16.6**	%	1	06/17/2019 9:47	R263231
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	1.22		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
1-Methylnaphthalene	*	0.0122		**3.20**	mg/Kg-dry	1	06/17/2019 20:26	154321
2-Methylnaphthalene	NELAP	0.122		**7.09**	mg/Kg-dry	10	06/18/2019 10:24	154321
Acenaphthene	NELAP	0.0122		**0.0670**	mg/Kg-dry	1	06/17/2019 20:26	154321
Acenaphthylene	NELAP	0.0122		**0.0251**	mg/Kg-dry	1	06/17/2019 20:26	154321
Anthracene	NELAP	0.0122		**0.0311**	mg/Kg-dry	1	06/17/2019 20:26	154321
Benzo(a)anthracene	NELAP	0.036	J	**0.0096**	mg/Kg-dry	1	06/17/2019 20:26	154321
Benzo(a)pyrene	NELAP	0.012	J	**0.0024**	mg/Kg-dry	1	06/17/2019 20:26	154321
Benzo(b)fluoranthene	NELAP	0.0122		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
Benzo(g,h,i)perylene	NELAP	0.0122		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
Benzo(k)fluoranthene	NELAP	0.0122		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
Chrysene	NELAP	0.0122		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
Dibenzo(a,h)anthracene	NELAP	0.0122		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
Fluoranthene	NELAP	0.012	J	**0.0096**	mg/Kg-dry	1	06/17/2019 20:26	154321
Fluorene	NELAP	0.0122		**0.157**	mg/Kg-dry	1	06/17/2019 20:26	154321
Indeno(1,2,3-cd)pyrene	NELAP	0.0122		**ND**	mg/Kg-dry	1	06/17/2019 20:26	154321
Phenanthrene	NELAP	0.0122		**0.170**	mg/Kg-dry	1	06/17/2019 20:26	154321
Pyrene	NELAP	0.0122		**0.0204**	mg/Kg-dry	1	06/17/2019 20:26	154321
Surr: 2-Fluorobiphenyl	*	8.85-90.5		**50.5**	%REC	1	06/17/2019 20:26	154321
Surr: Nitrobenzene-d5	*	5-102		**40.6**	%REC	1	06/17/2019 20:26	154321
Surr: p-Terphenyl-d14	*	18.4-103		**64.0**	%REC	1	06/17/2019 20:26	154321

Elevated reporting limit due to sample composition.

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2,4,6-Trichlorophenol	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2,4-Dichlorophenol	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2,4-Dimethylphenol	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2,4-Dinitrophenol	NELAP	3.59		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2,4-Dinitrotoluene	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2,6-Dinitrotoluene	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2-Chloronaphthalene	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2-Chlorophenol	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2-Nitroaniline	NELAP	3.59		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
2-Nitrophenol	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
3,3´-Dichlorobenzidine	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
3-Nitroaniline	NELAP	3.59		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4,6-Dinitro-2-methylphenol	NELAP	3.59		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4-Bromophenyl phenyl ether	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4-Chloro-3-methylphenol	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4-Chloroaniline	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4-Chlorophenyl phenyl ether	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4-Nitroaniline	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
4-Nitrophenol	NELAP	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
Aniline	NELAP	1.80		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319
Azobenzene	*	1.26		**ND**	mg/Kg-dry	1	06/17/2019 16:32	154319

Teklab, Inc.
Environmental Laboratory

Laboratory Results

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Lab ID: 19060980-005
Client Sample ID: PD-5-SB-53-061419
Matrix: SOLID
Collection Date: 06/14/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	5.39		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Benzyl alcohol	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Bis(2-chloroethoxy)methane	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Bis(2-chloroethyl)ether	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Bis(2-chloroisopropyl)ether	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Bis(2-ethylhexyl)phthalate	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Butyl benzyl phthalate	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Dibenzofuran	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Diethyl phthalate	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Dimethyl phthalate	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Di-n-butyl phthalate	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Di-n-octyl phthalate	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Hexachlorobenzene	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Hexachlorocyclopentadiene	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Hexachloroethane	NELAP	1.80	S	ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Isophorone	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
m,p-Cresol	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Nitrobenzene	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
N-Nitrosodimethylamine	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
N-Nitroso-di-n-propylamine	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
N-Nitrosodiphenylamine	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
o-Cresol	NELAP	1.80		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Pentachlorophenol	NELAP	7.18		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Phenol	NELAP	1.26		ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Pyridine	NELAP	1.80	S UJ	ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Quinoline	*	0.718	SR UJ	ND	mg/Kg-dry	1	06/17/2019 16:32	154319
Surr: 2,4,6-Tribromophenol	*	41.6-114		74.3	%REC	1	06/17/2019 16:32	154319
Surr: 2-Fluorobiphenyl	*	29.3-105		72.0	%REC	1	06/17/2019 16:32	154319
Surr: 2-Fluorophenol	*	35.8-97.2		72.8	%REC	1	06/17/2019 16:32	154319
Surr: Nitrobenzene-d5	*	36.2-95.2		94.3	%REC	1	06/17/2019 16:32	154319
Surr: Phenol-d5	*	38.8-103		79.2	%REC	1	06/17/2019 16:32	154319
Surr: p-Terphenyl-d14	*	43.2-116		84.4	%REC	1	06/17/2019 16:32	154319

RPD for MS/MSD was outside control limits due to sample composition.
Matrix spike did not recover within control limits due to sample composition.
LCS recovered outside upper control limits for Quinoline. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Elevated reporting limit due to sample composition.

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,1,1-Trichloroethane	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,1,2,2-Tetrachloroethane	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,1,2-Trichloroethane	NELAP	38100		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,1-Dichloroethane	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,1-Dichloroethene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,1-Dichloropropene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2,3-Trichlorobenzene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2,3-Trichloropropane	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2,4-Trichlorobenzene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351

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Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2,4-Trimethylbenzene	NELAP	15200		**252000**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2-Dibromo-3-chloropropane	NELAP	38100		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2-Dibromoethane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2-Dichlorobenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2-Dichloroethane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,2-Dichloropropane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,3,5-Trimethylbenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,3-Dichlorobenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,3-Dichloropropane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
1,4-Dichlorobenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
2,2-Dichloropropane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
2-Butanone	NELAP	191000		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
2-Chloroethyl vinyl ether	*	38100		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
2-Chlorotoluene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
2-Hexanone	NELAP	191000		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
4-Chlorotoluene	NELAP	15000	J	**9700**	µg/Kg-dry	5000	06/17/2019 14:23	154351
4-Methyl-2-pentanone	NELAP	191000		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Acetone	NELAP	191000		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Acrolein	NELAP	381000		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Acrylonitrile	NELAP	38100		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Benzene	NELAP	30500		**982000**	µg/Kg-dry	20000	06/17/2019 15:20	154351
Bromobenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Bromochloromethane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Bromodichloromethane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Bromoform	NELAP	38100		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Bromomethane	NELAP	76200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Carbon disulfide	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Carbon tetrachloride	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Chlorobenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Chloroethane	NELAP	76200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Chloroform	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Chloromethane	NELAP	76200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
cis-1,2-Dichloroethene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
cis-1,3-Dichloropropene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Dibromochloromethane	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Dichlorodifluoromethane	NELAP	76200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Ethyl methacrylate	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Ethylbenzene	NELAP	15200		**186000**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Hexachlorobutadiene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Isopropylbenzene	NELAP	15000	J	**14000**	µg/Kg-dry	5000	06/17/2019 14:23	154351
m,p-Xylenes	NELAP	30500		**470000**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Methyl tert-butyl ether	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Methylene chloride	NELAP	76200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
Naphthalene	NELAP	38000	J	**24000**	µg/Kg-dry	5000	06/17/2019 14:23	154351
n-Butylbenzene	NELAP	15200		**ND**	µg/Kg-dry	5000	06/17/2019 14:23	154351
n-Propylbenzene	NELAP	15200		**54600**	µg/Kg-dry	5000	06/17/2019 14:23	154351
o-Xylene	NELAP	30500		**166000**	µg/Kg-dry	5000	06/17/2019 14:23	154351

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019
Lab ID: 19060980-005
Client Sample ID: PD-5-SB-53-061419
Matrix: SOLID
Collection Date: 06/14/2019 11:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
p-Isopropyltoluene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
sec-Butylbenzene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Styrene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
tert-Butylbenzene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Tetrachloroethene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Toluene	NELAP	15200		52300	µg/Kg-dry	5000	06/17/2019 14:23	154351
trans-1,2-Dichloroethene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
trans-1,3-Dichloropropene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Trichloroethene	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Trichlorofluoromethane	NELAP	38100		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Vinyl acetate	NELAP	381000		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Vinyl chloride	NELAP	15200		ND	µg/Kg-dry	5000	06/17/2019 14:23	154351
Xylenes, Total	NELAP	61000		636000	µg/Kg-dry	5000	06/17/2019 14:23	154351
Surr: 1,2-Dichloroethane-d4	*	74-124		95.3	%REC	5000	06/17/2019 14:23	154351
Surr: 4-Bromofluorobenzene	*	79.4-123		99.8	%REC	5000	06/17/2019 14:23	154351
Surr: Dibromofluoromethane	*	89.2-112		98.8	%REC	5000	06/17/2019 14:23	154351
Surr: Toluene-d8	*	85-115		101.3	%REC	5000	06/17/2019 14:23	154351

Elevated reporting limit due to high levels of target and/or non-target analytes.
Allowable Marginal Exceedance of acetone in the laboratory control sample and duplicate is verified per the TNI Standard.

Teklab, Inc.
Environmental Laboratory

Sample Summary

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19060980-001	PD-5-SB-62-061419	Solid	4	06/14/2019 14:20
19060980-002	TB-PW-061419	Trip Blank	1	06/14/2019 16:51
19060980-003	PD-5-SB-061419-EB	Aqueous	3	06/14/2019 15:45
19060980-004	PD-5-SB-43-061419	Solid	4	06/14/2019 9:40
19060980-005	PD-5-SB-53-061419	Solid	4	06/14/2019 11:40

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Environmental Laboratory

Dates Report

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
19060980-001A	PD-5-SB-62-061419	06/14/2019 14:20	06/14/2019 16:51		
	EPA SW846 3550C, 5035A, ASTM D2974				06/17/2019 9:47
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:50	06/17/2019 18:21
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:47	06/17/2019 15:37
19060980-001D	PD-5-SB-62-061419	06/14/2019 14:20	06/14/2019 16:51		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 12:27
19060980-002A	TB-PW-061419	06/14/2019 16:51	06/14/2019 16:51		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 11:48
19060980-003A	PD-5-SB-061419-EB	06/14/2019 15:45	06/14/2019 16:51		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:25	06/17/2019 14:41
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:28	06/17/2019 14:13
19060980-003C	PD-5-SB-061419-EB	06/14/2019 15:45	06/14/2019 16:51		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 12:14
19060980-004A	PD-5-SB-43-061419	06/14/2019 9:40	06/14/2019 16:51		
	EPA SW846 3550C, 5035A, ASTM D2974				06/17/2019 9:47
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:50	06/17/2019 18:52
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:47	06/17/2019 16:04
19060980-004D	PD-5-SB-43-061419	06/14/2019 9:40	06/14/2019 16:51		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 12:56
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 13:54
19060980-005A	PD-5-SB-53-061419	06/14/2019 11:40	06/14/2019 16:51		
	EPA SW846 3550C, 5035A, ASTM D2974				06/17/2019 9:47
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:50	06/17/2019 20:26
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:50	06/18/2019 10:24
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/17/2019 9:47	06/17/2019 16:32
19060980-005D	PD-5-SB-53-061419	06/14/2019 11:40	06/14/2019 16:51		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 14:23
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/17/2019 15:20

Teklab, Inc.
Environmental Laboratory

Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R263231 **SampType:** LCS Units %
SampID: LCS-R263231

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/17/2019

Batch R263231 **SampType:** LCSQC Units %
SampID: LCSQC-R263231

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/17/2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154314 **SampType:** MBLK Units mg/L
SampID: MBLK-154314

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		**ND**						06/17/2019
1-Methylnaphthalene	0.00010		**ND**						06/17/2019
2-Methylnaphthalene	0.00010		**ND**						06/17/2019
Acenaphthene	0.00010		**ND**						06/17/2019
Acenaphthylene	0.00010		**ND**						06/17/2019
Anthracene	0.00010		**ND**						06/17/2019
Benzo(a)anthracene	0.00010		**ND**						06/17/2019
Benzo(a)pyrene	0.00010		**ND**						06/17/2019
Benzo(b)fluoranthene	0.00010		**ND**						06/17/2019
Benzo(g,h,i)perylene	0.00010		**ND**						06/17/2019
Benzo(k)fluoranthene	0.00010		**ND**						06/17/2019
Chrysene	0.00010		**ND**						06/17/2019
Dibenzo(a,h)anthracene	0.00010		**ND**						06/17/2019
Fluoranthene	0.00010		**ND**						06/17/2019
Fluorene	0.00010		**ND**						06/17/2019
Indeno(1,2,3-cd)pyrene	0.00010		**ND**						06/17/2019
Phenanthrene	0.00010		**ND**						06/17/2019
Pyrene	0.00010		**ND**						06/17/2019
Surr: 2-Fluorobiphenyl			**0.00326**	0.00500		65.2	36.1	101	06/17/2019
Surr: Nitrobenzene-d5			**0.00290**	0.00500		58.0	40.1	94.4	06/17/2019
Surr: p-Terphenyl-d14			**0.00390**	0.00500		78.0	48.4	119	06/17/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154314 **SampType:** LCS Units mg/L
SampID: LCS-154314

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		**0.00416**	0.01000	0	41.6	22.6	63.4	06/17/2019
1-Methylnaphthalene	0.00010		**0.00352**	0.00500	0	70.4	37.8	87.8	06/17/2019
2-Methylnaphthalene	0.00010		**0.00369**	0.00500	0	73.8	37.1	85.3	06/17/2019
Acenaphthene	0.00010		**0.00334**	0.00500	0	66.8	38.4	93.5	06/17/2019
Acenaphthylene	0.00010		**0.00351**	0.00500	0	70.2	37.9	91.4	06/17/2019
Anthracene	0.00010		**0.00350**	0.00500	0	70.0	39.3	94	06/17/2019
Benzo(a)anthracene	0.00010		**0.00317**	0.00500	0	63.4	43.3	94.3	06/17/2019
Benzo(a)pyrene	0.00010		**0.00389**	0.00500	0	77.8	42.8	98.3	06/17/2019
Benzo(b)fluoranthene	0.00010		**0.00395**	0.00500	0	79.0	43	97.5	06/17/2019
Benzo(g,h,i)perylene	0.00010		**0.00374**	0.00500	0	74.8	32.3	102	06/17/2019
Benzo(k)fluoranthene	0.00010		**0.00365**	0.00500	0	73.0	40.3	99.1	06/17/2019
Chrysene	0.00010		**0.00362**	0.00500	0	72.4	42.1	96	06/17/2019
Dibenzo(a,h)anthracene	0.00010		**0.00392**	0.00500	0	78.4	39.3	97.6	06/17/2019
Fluoranthene	0.00010		**0.00376**	0.00500	0	75.2	42.4	96	06/17/2019
Fluorene	0.00010		**0.00366**	0.00500	0	73.2	40.6	93.2	06/17/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00394**	0.00500	0	78.8	35.9	103	06/17/2019
Phenanthrene	0.00010		**0.00387**	0.00500	0	77.4	42.3	96.5	06/17/2019
Pyrene	0.00010		**0.00366**	0.00500	0	73.2	40.1	95.4	06/17/2019
Surr: 2-Fluorobiphenyl			**0.00321**	0.00500		64.2	36.1	101	06/17/2019
Surr: Nitrobenzene-d5			**0.00332**	0.00500		66.4	40.1	94.4	06/17/2019
Surr: p-Terphenyl-d14			**0.00368**	0.00500		73.6	48.4	119	06/17/2019

Batch 154314 **SampType:** LCSD Units mg/L RPD Limit 40
SampID: LCSD-154314

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	0.00100		**0.00391**	0.01000	0	39.1	0.004160	6.20	06/17/2019
1-Methylnaphthalene	0.00010		**0.00352**	0.00500	0	70.4	0.003520	0.00	06/17/2019
2-Methylnaphthalene	0.00010		**0.00339**	0.00500	0	67.8	0.003690	8.47	06/17/2019
Acenaphthene	0.00010		**0.00347**	0.00500	0	69.4	0.003340	3.82	06/17/2019
Acenaphthylene	0.00010		**0.00352**	0.00500	0	70.4	0.003510	0.28	06/17/2019
Anthracene	0.00010		**0.00357**	0.00500	0	71.4	0.003500	1.98	06/17/2019
Benzo(a)anthracene	0.00010		**0.00393**	0.00500	0	78.6	0.003170	21.41	06/17/2019
Benzo(a)pyrene	0.00010		**0.00388**	0.00500	0	77.6	0.003890	0.26	06/17/2019
Benzo(b)fluoranthene	0.00010		**0.00375**	0.00500	0	75.0	0.003950	5.19	06/17/2019
Benzo(g,h,i)perylene	0.00010		**0.00380**	0.00500	0	76.0	0.003740	1.59	06/17/2019
Benzo(k)fluoranthene	0.00010		**0.00360**	0.00500	0	72.0	0.003650	1.38	06/17/2019
Chrysene	0.00010		**0.00365**	0.00500	0	73.0	0.003620	0.83	06/17/2019
Dibenzo(a,h)anthracene	0.00010		**0.00394**	0.00500	0	78.8	0.003920	0.51	06/17/2019
Fluoranthene	0.00010		**0.00367**	0.00500	0	73.4	0.003760	2.42	06/17/2019
Fluorene	0.00010		**0.00361**	0.00500	0	72.2	0.003660	1.38	06/17/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00399**	0.00500	0	79.8	0.003940	1.26	06/17/2019
Phenanthrene	0.00010		**0.00378**	0.00500	0	75.6	0.003870	2.35	06/17/2019
Pyrene	0.00010		**0.00373**	0.00500	0	74.6	0.003660	1.89	06/17/2019
Surr: 2-Fluorobiphenyl			**0.00305**	0.00500		61.0			06/17/2019
Surr: Nitrobenzene-d5			**0.00309**	0.00500		61.8			06/17/2019
Surr: p-Terphenyl-d14			**0.00354**	0.00500		70.8			06/17/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154315 **SampType:** MBLK Units mg/L
SampID: MBLK-154315

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		ND						06/17/2019
2,4,6-Trichlorophenol	0.010		ND						06/17/2019
2,4-Dichlorophenol	0.010		ND						06/17/2019
2,4-Dimethylphenol	0.010		ND						06/17/2019
2,4-Dinitrophenol	0.020		ND						06/17/2019
2,4-Dinitrotoluene	0.010		ND						06/17/2019
2,6-Dinitrotoluene	0.010		ND						06/17/2019
2-Chloronaphthalene	0.010		ND						06/17/2019
2-Chlorophenol	0.010		ND						06/17/2019
2-Nitroaniline	0.040		ND						06/17/2019
2-Nitrophenol	0.020		ND						06/17/2019
3,3´-Dichlorobenzidine	0.010		ND						06/17/2019
3-Nitroaniline	0.040		ND						06/17/2019
4,6-Dinitro-2-methylphenol	0.020		ND						06/17/2019
4-Bromophenyl phenyl ether	0.010		ND						06/17/2019
4-Chloro-3-methylphenol	0.020		ND						06/17/2019
4-Chloroaniline	0.020		ND						06/17/2019
4-Chlorophenyl phenyl ether	0.010		ND						06/17/2019
4-Nitroaniline	0.020		ND						06/17/2019
4-Nitrophenol	0.020		ND						06/17/2019
Aniline	0.020		ND						06/17/2019
Azobenzene	0.010		ND						06/17/2019
Benzoic acid	0.050		ND						06/17/2019
Benzyl alcohol	0.020		ND						06/17/2019
Bis(2-chloroethoxy)methane	0.010		ND						06/17/2019
Bis(2-chloroethyl)ether	0.010		ND						06/17/2019
Bis(2-chloroisopropyl)ether	0.010		ND						06/17/2019
Bis(2-ethylhexyl)phthalate	0.006		ND						06/17/2019
Butyl benzyl phthalate	0.010		ND						06/17/2019
Dibenzofuran	0.010		ND						06/17/2019
Diethyl phthalate	0.010		ND						06/17/2019
Dimethyl phthalate	0.010		ND						06/17/2019
Di-n-butyl phthalate	0.010		ND						06/17/2019
Di-n-octyl phthalate	0.010		ND						06/17/2019
Hexachlorobenzene	0.010		ND						06/17/2019
Hexachlorocyclopentadiene	0.020		ND						06/17/2019
Hexachloroethane	0.010		ND						06/17/2019
Isophorone	0.010		ND						06/17/2019
m,p-Cresol	0.010		ND						06/17/2019
Nitrobenzene	0.010		ND						06/17/2019
N-Nitrosodimethylamine	0.020		ND						06/17/2019
N-Nitroso-di-n-propylamine	0.010		ND						06/17/2019
N-Nitrosodiphenylamine	0.010		ND						06/17/2019
o-Cresol	0.010		ND						06/17/2019
Pentachlorophenol	0.020		ND						06/17/2019
Phenol	0.005		ND						06/17/2019
Pyridine	0.020		ND						06/17/2019

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154315 **SampType:** MBLK Units mg/L
SampID: MBLK-154315

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.005		ND						06/17/2019
Surr: 2,4,6-Tribromophenol			0.044	0.05000		88.1	52	118	06/17/2019
Surr: 2-Fluorobiphenyl			0.019	0.02500		75.4	42.2	104	06/17/2019
Surr: 2-Fluorophenol			0.029	0.05000		57.8	28.8	76.3	06/17/2019
Surr: Nitrobenzene-d5			0.021	0.02500		82.4	41.9	107	06/17/2019
Surr: Phenol-d5			0.020	0.05000		40.7	19.6	53.3	06/17/2019
Surr: p-Terphenyl-d14			0.023	0.02500		91.6	45.4	119	06/17/2019

Batch 154315 **SampType:** LCS Units mg/L
SampID: LCS-154315

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		0.052	0.05000	0	104.0	42.4	135	06/17/2019
2,4,6-Trichlorophenol	0.010		0.053	0.05000	0	105.2	40.9	131	06/17/2019
2,4-Dimethylphenol	0.010		0.054	0.05000	0	107.4	29.7	135	06/17/2019
2,4-Dinitrophenol	0.020		0.047	0.05000	0	94.9	30.5	115	06/17/2019
2,4-Dinitrotoluene	0.010		0.048	0.05000	0	95.3	45.8	165	06/17/2019
2-Chlorophenol	0.010		0.050	0.05000	0	100.4	33.8	122	06/17/2019
4-Chloro-3-methylphenol	0.020		0.051	0.05000	0	101.5	40.6	128	06/17/2019
4-Nitrophenol	0.020		0.021	0.05000	0	42.1	17.6	66.5	06/17/2019
Bis(2-ethylhexyl)phthalate	0.006		0.047	0.05000	0	93.4	32.6	166	06/17/2019
Diethyl phthalate	0.010		0.045	0.05000	0	90.4	47.2	157	06/17/2019
Dimethyl phthalate	0.010		0.044	0.05000	0	87.2	47.7	147	06/17/2019
Di-n-butyl phthalate	0.010		0.046	0.05000	0	91.2	38	169	06/17/2019
Hexachlorobenzene	0.010		0.045	0.05000	0	89.1	46	154	06/17/2019
Hexachloroethane	0.010		0.046	0.05000	0	91.5	22.8	127	06/17/2019
m,p-Cresol	0.010		0.042	0.05000	0	84.2	32.4	115	06/17/2019
Nitrobenzene	0.010		0.043	0.05000	0	85.2	33.5	136	06/17/2019
N-Nitroso-di-n-propylamine	0.010		0.047	0.05000	0	93.1	42.7	138	06/17/2019
o-Cresol	0.010		0.046	0.05000	0	92.9	33.7	119	06/17/2019
Pentachlorophenol	0.020		0.043	0.05000	0	86.6	32.8	126	06/17/2019
Phenol	0.005		0.024	0.05000	0	47.0	19.5	66.9	06/17/2019
Pyridine	0.020		0.026	0.05000	0	52.6	19	84.3	06/17/2019
Quinoline	0.005		0.053	0.05000	0	105.8	45.3	133	06/17/2019
Surr: 2,4,6-Tribromophenol			0.041	0.05000		82.6	52	118	06/17/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		78.9	42.2	104	06/17/2019
Surr: 2-Fluorophenol			0.031	0.05000		61.3	28.8	76.3	06/17/2019
Surr: Nitrobenzene-d5			0.020	0.02500		79.5	41.9	107	06/17/2019
Surr: Phenol-d5			0.021	0.05000		42.4	19.6	53.3	06/17/2019
Surr: p-Terphenyl-d14			0.022	0.02500		86.7	45.4	119	06/17/2019

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Work Order: 19060980

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SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154315 **SampType:** LCSD Units **mg/L** RPD Limit **40**

SampID: LCSD-154315

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.010		**0.047**	0.05000	0	94.2	0.05200	9.87	06/17/2019
2,4,6-Trichlorophenol	0.010		**0.046**	0.05000	0	92.8	0.05258	12.53	06/17/2019
2,4-Dimethylphenol	0.010		**0.044**	0.05000	0	87.2	0.05368	20.72	06/17/2019
2,4-Dinitrophenol	0.020		**0.043**	0.05000	0	86.2	0.04743	9.59	06/17/2019
2,4-Dinitrotoluene	0.010		**0.049**	0.05000	0	98.0	0.04764	2.77	06/17/2019
2-Chlorophenol	0.010		**0.042**	0.05000	0	83.7	0.05018	18.13	06/17/2019
4-Chloro-3-methylphenol	0.020		**0.043**	0.05000	0	85.3	0.05076	17.36	06/17/2019
4-Nitrophenol	0.020		**0.021**	0.05000	0	42.9	0.02104	1.88	06/17/2019
Bis(2-ethylhexyl)phthalate	0.006		**0.047**	0.05000	0	94.2	0.04668	0.92	06/17/2019
Diethyl phthalate	0.010		**0.047**	0.05000	0	94.7	0.04518	4.67	06/17/2019
Dimethyl phthalate	0.010		**0.044**	0.05000	0	88.4	0.04361	1.37	06/17/2019
Di-n-butyl phthalate	0.010		**0.046**	0.05000	0	91.6	0.04558	0.53	06/17/2019
Hexachlorobenzene	0.010		**0.045**	0.05000	0	90.6	0.04453	1.69	06/17/2019
Hexachloroethane	0.010		**0.043**	0.05000	0	85.9	0.04573	6.22	06/17/2019
m,p-Cresol	0.010		**0.036**	0.05000	0	72.7	0.04209	14.61	06/17/2019
Nitrobenzene	0.010		**0.042**	0.05000	0	83.9	0.04258	1.49	06/17/2019
N-Nitroso-di-n-propylamine	0.010		**0.048**	0.05000	0	95.0	0.04657	1.98	06/17/2019
o-Cresol	0.010		**0.039**	0.05000	0	78.6	0.04645	16.68	06/17/2019
Pentachlorophenol	0.020		**0.041**	0.05000	0	82.2	0.04332	5.21	06/17/2019
Phenol	0.005		**0.022**	0.05000	0	43.1	0.02351	8.70	06/17/2019
Pyridine	0.020		**0.027**	0.05000	0	54.7	0.02631	3.84	06/17/2019
Quinoline	0.005		**0.051**	0.05000	0	101.4	0.05290	4.21	06/17/2019
Surr: 2,4,6-Tribromophenol			**0.039**	0.05000		78.2			06/17/2019
Surr: 2-Fluorobiphenyl			**0.018**	0.02500		72.9			06/17/2019
Surr: 2-Fluorophenol			**0.027**	0.05000		53.5			06/17/2019
Surr: Nitrobenzene-d5			**0.020**	0.02500		78.3			06/17/2019
Surr: Phenol-d5			**0.019**	0.05000		38.4			06/17/2019
Surr: p-Terphenyl-d14			**0.020**	0.02500		79.0			06/17/2019

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Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154321 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154321

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340		ND						06/17/2019
1-Methylnaphthalene	0.0034		ND						06/17/2019
2-Methylnaphthalene	0.0034		ND						06/17/2019
Acenaphthene	0.0034		ND						06/17/2019
Acenaphthylene	0.0034		ND						06/17/2019
Anthracene	0.0034		ND						06/17/2019
Benzo(a)anthracene	0.0100		ND						06/17/2019
Benzo(a)pyrene	0.0034		ND						06/17/2019
Benzo(b)fluoranthene	0.0034		ND						06/17/2019
Benzo(g,h,i)perylene	0.0034		ND						06/17/2019
Benzo(k)fluoranthene	0.0034		ND						06/17/2019
Chrysene	0.0034		ND						06/17/2019
Dibenzo(a,h)anthracene	0.0034		ND						06/17/2019
Fluoranthene	0.0034		ND						06/17/2019
Fluorene	0.0034		ND						06/17/2019
Indeno(1,2,3-cd)pyrene	0.0034		ND						06/17/2019
Phenanthrene	0.0034		ND						06/17/2019
Pyrene	0.0034		ND						06/17/2019
Surr: 2-Fluorobiphenyl			0.0990	0.1670		59.3	21.6	105	06/17/2019
Surr: Nitrobenzene-d5			0.0807	0.1670		48.3	26.7	93	06/17/2019
Surr: p-Terphenyl-d14			0.113	0.1670		67.7	42.6	115	06/17/2019

Batch 154321 **SampType:** LCS Units mg/Kg
SampID: LCS-154321

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340	J	0.16	0.3330	0	47.4	25.3	104	06/17/2019
1-Methylnaphthalene	0.0034		0.118	0.1670	0	70.9	27.3	107	06/17/2019
2-Methylnaphthalene	0.0034		0.109	0.1670	0	65.5	30	106	06/17/2019
Acenaphthene	0.0034		0.112	0.1670	0	67.1	19.1	127	06/17/2019
Acenaphthylene	0.0034		0.112	0.1670	0	67.3	30.2	115	06/17/2019
Anthracene	0.0034		0.108	0.1670	0	64.7	26.9	107	06/17/2019
Benzo(a)anthracene	0.0100		0.122	0.1670	0	73.1	27	116	06/17/2019
Benzo(a)pyrene	0.0034		0.117	0.1670	0	70.1	22.7	117	06/17/2019
Benzo(b)fluoranthene	0.0034		0.128	0.1670	0	76.4	23.8	125	06/17/2019
Benzo(g,h,i)perylene	0.0034		0.119	0.1670	0	71.3	31.5	109	06/17/2019
Benzo(k)fluoranthene	0.0034		0.111	0.1670	0	66.3	28.1	121	06/17/2019
Chrysene	0.0034		0.115	0.1670	0	68.9	29.2	113	06/17/2019
Dibenzo(a,h)anthracene	0.0034		0.125	0.1670	0	74.9	28.8	113	06/17/2019
Fluoranthene	0.0034		0.117	0.1670	0	69.9	24.9	115	06/17/2019
Fluorene	0.0034		0.115	0.1670	0	68.7	30	116	06/17/2019
Indeno(1,2,3-cd)pyrene	0.0034		0.123	0.1670	0	73.9	29.5	113	06/17/2019
Phenanthrene	0.0034		0.119	0.1670	0	71.5	16.5	122	06/17/2019
Pyrene	0.0034		0.114	0.1670	0	68.5	28	111	06/17/2019
Surr: 2-Fluorobiphenyl			0.101	0.1670		60.3	21.6	105	06/17/2019
Surr: Nitrobenzene-d5			0.0950	0.1670		56.9	26.7	93	06/17/2019
Surr: p-Terphenyl-d14			0.115	0.1670		69.1	42.6	115	06/17/2019

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Client: AECOM
Client Project: PreDesign Invest. PW

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SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154321 **SampType:** MS Units mg/Kg-dry
SampID: 19060980-004AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	1.18	J	**0.56**	1.156	0	48.3	25	75	06/17/2019
1-Methylnaphthalene	0.0118		**0.420**	0.5799	0.003497	71.9	6.16	134	06/17/2019
2-Methylnaphthalene	0.0118		**0.406**	0.5799	0.003497	69.5	22.1	112	06/17/2019
Acenaphthene	0.0118		**0.416**	0.5799	0	71.7	30.6	109	06/17/2019
Acenaphthylene	0.0118		**0.410**	0.5799	0	70.7	28	110	06/17/2019
Anthracene	0.0118		**0.405**	0.5799	0.003497	69.3	41.4	94.3	06/17/2019
Benzo(a)anthracene	0.0347		**0.379**	0.5799	0.008159	63.9	28.6	113	06/17/2019
Benzo(a)pyrene	0.0118		**0.464**	0.5799	0.002331	79.6	37.9	102	06/17/2019
Benzo(b)fluoranthene	0.0118		**0.498**	0.5799	0	85.8	37.1	112	06/17/2019
Benzo(g,h,i)perylene	0.0118		**0.383**	0.5799	0	66.1	7.28	119	06/17/2019
Benzo(k)fluoranthene	0.0118		**0.428**	0.5799	0	73.9	34	115	06/17/2019
Chrysene	0.0118		**0.446**	0.5799	0	76.8	23.1	116	06/17/2019
Dibenzo(a,h)anthracene	0.0118		**0.439**	0.5799	0	75.6	23.9	110	06/17/2019
Fluoranthene	0.0118		**0.426**	0.5799	0.006993	72.2	20.8	124	06/17/2019
Fluorene	0.0118		**0.449**	0.5799	0.004662	76.6	44.3	96.6	06/17/2019
Indeno(1,2,3-cd)pyrene	0.0118		**0.427**	0.5799	0	73.7	12.6	119	06/17/2019
Phenanthrene	0.0118		**0.470**	0.5799	0.01865	77.8	22.3	117	06/17/2019
Pyrene	0.0118		**0.455**	0.5799	0.006993	77.2	20.6	121	06/17/2019
Surr: 2-Fluorobiphenyl			**0.333**	0.5799		57.5	8.85	90.5	06/17/2019
Surr: Nitrobenzene-d5			**0.332**	0.5799		57.3	5	102	06/17/2019
Surr: p-Terphenyl-d14			**0.428**	0.5799		73.9	18.4	103	06/17/2019

Batch 154321 **SampType:** MSD Units mg/Kg-dry RPD Limit 40
SampID: 19060980-004AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	1.19	J	**0.55**	1.166	0	47.2	0.5591	0.00	06/17/2019
1-Methylnaphthalene	0.0119		**0.440**	0.5845	0.003497	74.7	0.4202	4.57	06/17/2019
2-Methylnaphthalene	0.0119		**0.425**	0.5845	0.003497	72.1	0.4063	4.42	06/17/2019
Acenaphthene	0.0119		**0.428**	0.5845	0	73.3	0.4156	2.99	06/17/2019
Acenaphthylene	0.0119		**0.436**	0.5845	0	74.7	0.4098	6.28	06/17/2019
Anthracene	0.0119		**0.414**	0.5845	0.003497	70.3	0.4051	2.21	06/17/2019
Benzo(a)anthracene	0.0350		**0.513**	0.5845	0.008159	86.4	0.3785	30.24	06/17/2019
Benzo(a)pyrene	0.0119		**0.495**	0.5845	0.002331	84.2	0.4642	6.36	06/17/2019
Benzo(b)fluoranthene	0.0119		**0.495**	0.5845	0	84.6	0.4977	0.62	06/17/2019
Benzo(g,h,i)perylene	0.0119		**0.398**	0.5845	0	68.1	0.3831	3.76	06/17/2019
Benzo(k)fluoranthene	0.0119		**0.429**	0.5845	0	73.5	0.4283	0.25	06/17/2019
Chrysene	0.0119		**0.464**	0.5845	0	79.4	0.4456	4.11	06/17/2019
Dibenzo(a,h)anthracene	0.0119		**0.459**	0.5845	0	78.4	0.4387	4.41	06/17/2019
Fluoranthene	0.0119		**0.455**	0.5845	0.006993	76.6	0.4260	6.59	06/17/2019
Fluorene	0.0119		**0.461**	0.5845	0.004662	78.0	0.4491	2.58	06/17/2019
Indeno(1,2,3-cd)pyrene	0.0119		**0.468**	0.5845	0	80.0	0.4271	9.10	06/17/2019
Phenanthrene	0.0119		**0.491**	0.5845	0.01865	80.8	0.4700	4.42	06/17/2019
Pyrene	0.0119		**0.477**	0.5845	0.006993	80.4	0.4549	4.78	06/17/2019
Surr: 2-Fluorobiphenyl			**0.338**	0.5845		57.9			06/17/2019
Surr: Nitrobenzene-d5			**0.338**	0.5845		57.9			06/17/2019
Surr: p-Terphenyl-d14			**0.448**	0.5845		76.6			06/17/2019

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SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154319 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154319

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		ND						06/17/2019
2,4,6-Trichlorophenol	0.350		ND						06/17/2019
2,4-Dichlorophenol	0.500		ND						06/17/2019
2,4-Dimethylphenol	0.500		ND						06/17/2019
2,4-Dinitrophenol	1.00		ND						06/17/2019
2,4-Dinitrotoluene	0.350		ND						06/17/2019
2,6-Dinitrotoluene	0.350		ND						06/17/2019
2-Chloronaphthalene	0.350		ND						06/17/2019
2-Chlorophenol	0.500		ND						06/17/2019
2-Nitroaniline	1.00		ND						06/17/2019
2-Nitrophenol	0.350		ND						06/17/2019
3,3´-Dichlorobenzidine	0.350		ND						06/17/2019
3-Nitroaniline	1.00		ND						06/17/2019
4,6-Dinitro-2-methylphenol	1.00		ND						06/17/2019
4-Bromophenyl phenyl ether	0.350		ND						06/17/2019
4-Chloro-3-methylphenol	0.500		ND						06/17/2019
4-Chloroaniline	0.500		ND						06/17/2019
4-Chlorophenyl phenyl ether	0.350		ND						06/17/2019
4-Nitroaniline	0.500		ND						06/17/2019
4-Nitrophenol	0.350		ND						06/17/2019
Aniline	0.500		ND						06/17/2019
Azobenzene	0.350		ND						06/17/2019
Benzoic acid	1.50		ND						06/17/2019
Benzyl alcohol	0.500		ND						06/17/2019
Bis(2-chloroethoxy)methane	0.350		ND						06/17/2019
Bis(2-chloroethyl)ether	0.500		ND						06/17/2019
Bis(2-chloroisopropyl)ether	0.350		ND						06/17/2019
Bis(2-ethylhexyl)phthalate	0.350		ND						06/17/2019
Butyl benzyl phthalate	0.350		ND						06/17/2019
Dibenzofuran	0.350		ND						06/17/2019
Diethyl phthalate	0.500		ND						06/17/2019
Dimethyl phthalate	0.350		ND						06/17/2019
Di-n-butyl phthalate	0.350		ND						06/17/2019
Di-n-octyl phthalate	0.350		ND						06/17/2019
Hexachlorobenzene	0.350		ND						06/17/2019
Hexachlorocyclopentadiene	0.500		ND						06/17/2019
Hexachloroethane	0.500		ND						06/17/2019
Isophorone	0.350		ND						06/17/2019
m,p-Cresol	0.500		ND						06/17/2019
Nitrobenzene	0.500		ND						06/17/2019
N-Nitrosodimethylamine	0.500		ND						06/17/2019
N-Nitroso-di-n-propylamine	0.500		ND						06/17/2019
N-Nitrosodiphenylamine	0.500		ND						06/17/2019
o-Cresol	0.500		ND						06/17/2019
Pentachlorophenol	2.00		ND						06/17/2019
Phenol	0.350		ND						06/17/2019
Pyridine	0.500		ND						06/17/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154319 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154319

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.200		ND						06/17/2019
Surr: 2,4,6-Tribromophenol			1.45	1.670		86.8	53.1	123	06/17/2019
Surr: 2-Fluorobiphenyl			0.656	0.8350		78.6	52.9	106	06/17/2019
Surr: 2-Fluorophenol			1.47	1.670		87.9	52.9	104	06/17/2019
Surr: Nitrobenzene-d5			0.710	0.8350		85.0	51.5	105	06/17/2019
Surr: Phenol-d5			1.56	1.670		93.6	53.9	111	06/17/2019
Surr: p-Terphenyl-d14			0.795	0.8350		95.2	58	122	06/17/2019

Batch 154319 **SampType:** LCS Units mg/Kg
SampID: LCS-154319

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		1.63	1.670	0	97.6	53.5	106	06/17/2019
2,4,6-Trichlorophenol	0.350		1.57	1.670	0	94.1	50.8	106	06/17/2019
2,4-Dimethylphenol	0.500		1.51	1.670	0	90.3	35.6	99.6	06/17/2019
2,4-Dinitrophenol	1.00		1.42	1.670	0	84.9	13.9	107	06/17/2019
2,4-Dinitrotoluene	0.350		1.54	1.670	0	92.3	58.9	106	06/17/2019
2-Chlorophenol	0.500		1.44	1.670	0	86.1	41.1	99.2	06/17/2019
4-Chloro-3-methylphenol	0.500		1.42	1.670	0	85.1	50	103	06/17/2019
4-Nitrophenol	0.350		1.69	1.670	0	101.0	46.3	111	06/17/2019
Bis(2-ethylhexyl)phthalate	0.350		1.60	1.670	0	95.6	40.8	109	06/17/2019
Diethyl phthalate	0.500		1.44	1.670	0	86.4	53.8	99.6	06/17/2019
Dimethyl phthalate	0.350		1.45	1.670	0	86.7	53.8	101	06/17/2019
Di-n-butyl phthalate	0.350		1.51	1.670	0	90.5	45.8	108	06/17/2019
Hexachlorobenzene	0.350		1.39	1.670	0	83.5	55.2	101	06/17/2019
Hexachloroethane	0.500		1.34	1.670	0	80.3	41.8	91.5	06/17/2019
m,p-Cresol	0.500		1.46	1.670	0	87.5	47	100	06/17/2019
Nitrobenzene	0.500		1.40	1.670	0	83.6	41.4	99	06/17/2019
N-Nitroso-di-n-propylamine	0.500		1.52	1.670	0	91.1	46.5	97.4	06/17/2019
o-Cresol	0.500		1.47	1.670	0	88.2	44.2	100	06/17/2019
Pentachlorophenol	2.00	J	1.3	1.670	0	77.4	35.7	94.8	06/17/2019
Phenol	0.350		1.45	1.670	0	86.6	43	98.6	06/17/2019
Pyridine	0.500		0.904	1.670	0	54.2	24.7	78.4	06/17/2019
Quinoline	0.200	S	1.64	1.670	0	98.4	48.5	97.3	06/17/2019
Surr: 2,4,6-Tribromophenol			1.36	1.670		81.5	53.1	123	06/17/2019
Surr: 2-Fluorobiphenyl			0.603	0.8350		72.2	52.9	106	06/17/2019
Surr: 2-Fluorophenol			1.27	1.670		76.2	52.9	104	06/17/2019
Surr: Nitrobenzene-d5			0.651	0.8350		77.9	51.5	105	06/17/2019
Surr: Phenol-d5			1.41	1.670		84.7	53.9	111	06/17/2019
Surr: p-Terphenyl-d14			0.761	0.8350		91.1	58	122	06/17/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154319 **SampType:** MS Units **mg/Kg-dry**
SampID: 19060980-005AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	1.24		**5.53**	5.932	0	93.2	61.2	107	06/17/2019
2,4,6-Trichlorophenol	1.24		**5.04**	5.932	0	85.0	58.4	105	06/17/2019
2,4-Dimethylphenol	1.78		**5.31**	5.932	0	89.5	52.9	104	06/17/2019
2,4-Dinitrophenol	3.55		**4.79**	5.932	0	80.7	15.2	107	06/17/2019
2,4-Dinitrotoluene	1.24		**5.37**	5.932	0	90.5	66.7	118	06/17/2019
2-Chlorophenol	1.78		**5.55**	5.932	0	93.6	51.2	98.2	06/17/2019
4-Chloro-3-methylphenol	1.78		**5.27**	5.932	0	88.8	57.6	104	06/17/2019
4-Nitrophenol	1.24		**5.26**	5.932	0	88.6	55.1	110	06/17/2019
Bis(2-ethylhexyl)phthalate	1.24		**5.52**	5.932	0	93.1	66.2	128	06/17/2019
Diethyl phthalate	1.78		**4.90**	5.932	0	82.5	57.8	121	06/17/2019
Dimethyl phthalate	1.24		**4.98**	5.932	0	83.9	60.7	117	06/17/2019
Di-n-butyl phthalate	1.24		**5.29**	5.932	0	89.1	65.8	122	06/17/2019
Hexachlorobenzene	1.24		**4.99**	5.932	0	84.2	59.9	121	06/17/2019
Hexachloroethane	1.78	S	**9.02**	5.932	0	152.1	26.2	115	06/17/2019
m,p-Cresol	1.78		**5.66**	5.932	0	95.4	56.3	104	06/17/2019
Nitrobenzene	1.78		**4.89**	5.932	0	82.5	53.4	106	06/17/2019
N-Nitroso-di-n-propylamine	1.78		**5.94**	5.932	0	100.1	52.4	113	06/17/2019
o-Cresol	1.78		**5.64**	5.932	0	95.1	53.8	100	06/17/2019
Pentachlorophenol	7.10	J	**4.7**	5.932	0	79.2	38.3	99.4	06/17/2019
Phenol	1.24		**5.67**	5.932	0	95.6	53.2	103	06/17/2019
Pyridine	1.78		**4.23**	5.932	0	71.3	13.6	91.5	06/17/2019
Quinoline	0.710		**5.81**	5.932	0	97.9	48	105	06/17/2019
Surr: 2,4,6-Tribromophenol			**4.41**	5.932		74.3	41.6	114	06/17/2019
Surr: 2-Fluorobiphenyl			**2.08**	2.966		70.2	29.3	105	06/17/2019
Surr: 2-Fluorophenol			**4.80**	5.932		80.9	35.8	97.2	06/17/2019
Surr: Nitrobenzene-d5			**2.23**	2.966		75.1	36.2	95.2	06/17/2019
Surr: Phenol-d5			**4.90**	5.932		82.6	38.8	103	06/17/2019
Surr: p-Terphenyl-d14			**2.76**	2.966		93.2	43.2	116	06/17/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154319 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **40**
SampID: 19060980-005AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	1.24		**5.01**	5.938	0	84.3	5.530	9.93	06/17/2019
2,4,6-Trichlorophenol	1.24		**5.14**	5.938	0	86.5	5.044	1.87	06/17/2019
2,4-Dimethylphenol	1.78		**4.96**	5.938	0	83.5	5.310	6.85	06/17/2019
2,4-Dinitrophenol	3.56		**5.13**	5.938	0	86.4	4.785	7.00	06/17/2019
2,4-Dinitrotoluene	1.24		**5.27**	5.938	0	88.7	5.369	1.93	06/17/2019
2-Chlorophenol	1.78		**5.12**	5.938	0	86.2	5.550	8.12	06/17/2019
4-Chloro-3-methylphenol	1.78		**4.84**	5.938	0	81.5	5.266	8.48	06/17/2019
4-Nitrophenol	1.24		**5.67**	5.938	0	95.5	5.256	7.58	06/17/2019
Bis(2-ethylhexyl)phthalate	1.24		**5.09**	5.938	0	85.8	5.522	8.05	06/17/2019
Diethyl phthalate	1.78		**4.87**	5.938	0	82.1	4.896	0.46	06/17/2019
Dimethyl phthalate	1.24		**4.70**	5.938	0	79.2	4.979	5.68	06/17/2019
Di-n-butyl phthalate	1.24		**5.01**	5.938	0	84.4	5.287	5.35	06/17/2019
Hexachlorobenzene	1.24		**4.77**	5.938	0	80.3	4.993	4.63	06/17/2019
Hexachloroethane	1.78	S	**8.10**	5.938	0	136.5	9.022	10.72	06/17/2019
m,p-Cresol	1.78		**5.08**	5.938	0	85.6	5.662	10.82	06/17/2019
Nitrobenzene	1.78		**4.37**	5.938	0	73.6	4.893	11.26	06/17/2019
N-Nitroso-di-n-propylamine	1.78		**5.25**	5.938	0	88.4	5.940	12.33	06/17/2019
o-Cresol	1.78		**5.12**	5.938	0	86.3	5.640	9.61	06/17/2019
Pentachlorophenol	7.11	J	**5.2**	5.938	0	87.4	4.697	0.00	06/17/2019
Phenol	1.24		**5.35**	5.938	0	90.1	5.672	5.88	06/17/2019
Pyridine	1.78	S	**ND**	5.938	0	0	4.231	0.00	06/17/2019
Quinoline	0.711	SR	**2.36**	5.938	0	39.8	5.810	84.34	06/17/2019
Surr: 2,4,6-Tribromophenol			**4.43**	5.938		74.5			06/17/2019
Surr: 2-Fluorobiphenyl			**1.97**	2.969		66.3			06/17/2019
Surr: 2-Fluorophenol			**4.21**	5.938		71.0			06/17/2019
Surr: Nitrobenzene-d5			**2.03**	2.969		68.5			06/17/2019
Surr: Phenol-d5			**4.47**	5.938		75.2			06/17/2019
Surr: p-Terphenyl-d14			**2.50**	2.969		84.2			06/17/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154336 **SampType:** MBLK Units µg/L
SampID: MBLK-T190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/17/2019
1,1,1-Trichloroethane	2.0		ND						06/17/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/17/2019
1,1,2-Trichloroethane	0.5		ND						06/17/2019
1,1-Dichloroethane	2.0		ND						06/17/2019
1,1-Dichloroethene	2.0		ND						06/17/2019
1,1-Dichloropropene	2.0		ND						06/17/2019
1,2,3-Trichlorobenzene	2.0		ND						06/17/2019
1,2,3-Trichloropropane	2.0		ND						06/17/2019
1,2,4-Trichlorobenzene	2.0		ND						06/17/2019
1,2,4-Trimethylbenzene	2.0		ND						06/17/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/17/2019
1,2-Dibromoethane	2.0		ND						06/17/2019
1,2-Dichlorobenzene	2.0		ND						06/17/2019
1,2-Dichloroethane	2.0		ND						06/17/2019
1,2-Dichloropropane	2.0		ND						06/17/2019
1,3,5-Trimethylbenzene	2.0		ND						06/17/2019
1,3-Dichlorobenzene	2.0		ND						06/17/2019
1,3-Dichloropropane	2.0		ND						06/17/2019
1,4-Dichlorobenzene	2.0		ND						06/17/2019
2,2-Dichloropropane	2.0		ND						06/17/2019
2-Butanone	10.0		ND						06/17/2019
2-Chloroethyl vinyl ether	5.0		ND						06/17/2019
2-Chlorotoluene	2.0		ND						06/17/2019
2-Hexanone	10.0		ND						06/17/2019
4-Chlorotoluene	2.0		ND						06/17/2019
4-Methyl-2-pentanone	10.0		ND						06/17/2019
Acetone	10.0		ND						06/17/2019
Acrolein	20.0		ND						06/17/2019
Acrylonitrile	5.0		ND						06/17/2019
Benzene	0.5		ND						06/17/2019
Bromobenzene	2.0		ND						06/17/2019
Bromochloromethane	2.0		ND						06/17/2019
Bromodichloromethane	2.0		ND						06/17/2019
Bromoform	2.0		ND						06/17/2019
Bromomethane	5.0		ND						06/17/2019
Carbon disulfide	2.0		ND						06/17/2019
Carbon tetrachloride	2.0		ND						06/17/2019
Chlorobenzene	2.0		ND						06/17/2019
Chloroethane	2.0		ND						06/17/2019
Chloroform	2.0		ND						06/17/2019
Chloromethane	5.0		ND						06/17/2019
cis-1,2-Dichloroethene	2.0		ND						06/17/2019
cis-1,3-Dichloropropene	2.0		ND						06/17/2019
Dibromochloromethane	2.0		ND						06/17/2019
Dichlorodifluoromethane	2.0		ND						06/17/2019
Ethyl methacrylate	5.0		ND						06/17/2019

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154336 **SampType:** MBLK Units µg/L
SampID: MBLK-T190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/17/2019
Hexachlorobutadiene	5.0		ND						06/17/2019
Isopropylbenzene	2.0		ND						06/17/2019
m,p-Xylenes	2.0		ND						06/17/2019
Methyl tert-butyl ether	2.0		ND						06/17/2019
Methylene chloride	10.0		ND						06/17/2019
Naphthalene	5.0	J	0.4						06/17/2019
n-Butylbenzene	2.0		ND						06/17/2019
n-Propylbenzene	2.0		ND						06/17/2019
o-Xylene	2.0		ND						06/17/2019
p-Isopropyltoluene	2.0		ND						06/17/2019
sec-Butylbenzene	2.0		ND						06/17/2019
Styrene	2.0		ND						06/17/2019
tert-Butylbenzene	2.0		ND						06/17/2019
Tetrachloroethene	0.5		ND						06/17/2019
Toluene	2.0		ND						06/17/2019
trans-1,2-Dichloroethene	2.0		ND						06/17/2019
trans-1,3-Dichloropropene	2.0		ND						06/17/2019
Trichloroethene	2.0		ND						06/17/2019
Trichlorofluoromethane	5.0		ND						06/17/2019
Vinyl acetate	5.0		ND						06/17/2019
Vinyl chloride	2.0		ND						06/17/2019
Xylenes, Total	4.0		ND						06/17/2019
Surr: 1,2-Dichloroethane-d4			51.9	50.00		103.8	79.6	118	06/17/2019
Surr: 4-Bromofluorobenzene			52.0	50.00		103.9	83.9	115	06/17/2019
Surr: Dibromofluoromethane			51.2	50.00		102.5	84.9	113	06/17/2019
Surr: Toluene-d8			47.4	50.00		94.8	86.7	112	06/17/2019

Teklab, Inc.
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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154336 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**50.9**	50.00	0	101.8	50.00	1.78	06/17/2019
1,1,1-Trichloroethane	2.0		**58.5**	50.00	0	117.0	56.03	4.30	06/17/2019
1,1,2,2-Tetrachloroethane	2.0		**45.6**	50.00	0	91.2	46.96	2.92	06/17/2019
1,1,2-Trichloroethane	0.5		**48.7**	50.00	0	97.4	48.95	0.47	06/17/2019
1,1-Dichloroethane	2.0		**56.6**	50.00	0	113.1	54.77	3.23	06/17/2019
1,1-Dichloroethene	2.0		**48.0**	50.00	0	96.0	54.86	13.34	06/17/2019
1,1-Dichloropropene	2.0		**56.2**	50.00	0	112.3	53.16	5.51	06/17/2019
1,2,3-Trichlorobenzene	2.0		**50.4**	50.00	0	100.7	51.14	1.56	06/17/2019
1,2,3-Trichloropropane	2.0		**43.6**	50.00	0	87.2	46.65	6.80	06/17/2019
1,2,4-Trichlorobenzene	2.0		**52.9**	50.00	0	105.7	53.06	0.36	06/17/2019
1,2,4-Trimethylbenzene	2.0		**48.6**	50.00	0	97.2	49.52	1.92	06/17/2019
1,2-Dibromo-3-chloropropane	5.0		**49.7**	50.00	0	99.4	51.58	3.69	06/17/2019
1,2-Dibromoethane	2.0		**49.1**	50.00	0	98.2	49.26	0.35	06/17/2019
1,2-Dichlorobenzene	2.0		**46.7**	50.00	0	93.4	46.82	0.24	06/17/2019
1,2-Dichloroethane	2.0		**51.4**	50.00	0	102.8	51.28	0.23	06/17/2019
1,2-Dichloropropane	2.0		**52.4**	50.00	0	104.7	52.26	0.17	06/17/2019
1,3,5-Trimethylbenzene	2.0		**48.5**	50.00	0	97.0	48.70	0.45	06/17/2019
1,3-Dichlorobenzene	2.0		**49.3**	50.00	0	98.6	49.81	1.05	06/17/2019
1,3-Dichloropropane	2.0		**48.4**	50.00	0	96.8	48.85	0.93	06/17/2019
1,4-Dichlorobenzene	2.0		**47.9**	50.00	0	95.7	48.01	0.29	06/17/2019
2,2-Dichloropropane	2.0		**59.0**	50.00	0	118.0	57.48	2.64	06/17/2019
2-Butanone	10.0		**138**	125.0	0	110.4	141.3	2.40	06/17/2019
2-Chloroethyl vinyl ether	5.0		**56.5**	50.00	0	113.0	56.02	0.85	06/17/2019
2-Chlorotoluene	2.0		**47.4**	50.00	0	94.7	47.95	1.26	06/17/2019
2-Hexanone	10.0		**121**	125.0	0	97.0	126.4	4.18	06/17/2019
4-Chlorotoluene	2.0		**48.3**	50.00	0	96.6	49.30	2.07	06/17/2019
4-Methyl-2-pentanone	10.0		**123**	125.0	0	98.1	123.9	1.04	06/17/2019
Acetone	10.0		**106**	125.0	0	85.0	132.2	21.79	06/17/2019
Acrolein	20.0		**494**	500.0	0	98.8	622.5	22.98	06/17/2019
Acrylonitrile	5.0		**52.9**	50.00	0	105.7	54.76	3.53	06/17/2019
Benzene	0.5		**53.6**	50.00	0	107.2	52.49	2.13	06/17/2019
Bromobenzene	2.0		**47.8**	50.00	0	95.6	49.00	2.44	06/17/2019
Bromochloromethane	2.0		**52.4**	50.00	0	104.7	52.90	1.05	06/17/2019
Bromodichloromethane	2.0		**54.8**	50.00	0	109.6	53.69	2.01	06/17/2019
Bromoform	2.0		**54.4**	50.00	0	108.7	53.58	1.45	06/17/2019
Bromomethane	5.0		**57.4**	50.00	0	114.8	53.89	6.33	06/17/2019
Carbon disulfide	2.0		**46.3**	50.00	0	92.6	53.25	13.98	06/17/2019
Carbon tetrachloride	2.0		**57.0**	50.00	0	114.0	54.14	5.16	06/17/2019
Chlorobenzene	2.0		**50.9**	50.00	0	101.8	49.75	2.30	06/17/2019
Chloroethane	2.0		**44.1**	50.00	0	88.2	43.67	1.03	06/17/2019
Chloroform	2.0		**53.7**	50.00	0	107.4	52.82	1.63	06/17/2019
Chloromethane	5.0		**53.7**	50.00	0	107.5	53.28	0.84	06/17/2019
cis-1,2-Dichloroethene	2.0		**55.0**	50.00	0	109.9	53.85	2.06	06/17/2019
cis-1,3-Dichloropropene	2.0		**57.5**	50.00	0	115.0	56.85	1.12	06/17/2019
Dibromochloromethane	2.0		**51.2**	50.00	0	102.5	50.80	0.88	06/17/2019
Dichlorodifluoromethane	2.0		**57.5**	50.00	0	114.9	57.42	0.09	06/17/2019
Ethyl methacrylate	5.0		**51.1**	50.00	0	102.3	50.37	1.52	06/17/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060980

Report Date: 18-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154336 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**50.9**	50.00	0	101.8	48.68	4.42	06/17/2019
Hexachlorobutadiene	5.0		**51.8**	50.00	0	103.7	51.83	0.00	06/17/2019
Isopropylbenzene	2.0		**52.0**	50.00	0	104.0	50.95	2.02	06/17/2019
m,p-Xylenes	2.0		**104**	100.0	0	103.5	99.55	3.91	06/17/2019
Methyl tert-butyl ether	2.0		**57.5**	50.00	0	115.1	56.36	2.05	06/17/2019
Methylene chloride	10.0		**45.4**	50.00	0	90.8	51.99	13.53	06/17/2019
Naphthalene	5.0	B	**50.5**	50.00	0	101.0	53.30	5.43	06/17/2019
n-Butylbenzene	2.0		**49.1**	50.00	0	98.2	48.45	1.33	06/17/2019
n-Propylbenzene	2.0		**49.0**	50.00	0	97.9	47.74	2.52	06/17/2019
o-Xylene	2.0		**51.5**	50.00	0	103.0	49.48	3.96	06/17/2019
p-Isopropyltoluene	2.0		**49.0**	50.00	0	97.9	48.87	0.18	06/17/2019
sec-Butylbenzene	2.0		**48.8**	50.00	0	97.6	48.44	0.76	06/17/2019
Styrene	2.0		**53.5**	50.00	0	107.0	51.35	4.10	06/17/2019
tert-Butylbenzene	2.0		**48.3**	50.00	0	96.6	47.14	2.45	06/17/2019
Tetrachloroethene	0.5		**48.4**	50.00	0	96.9	46.58	3.94	06/17/2019
Toluene	2.0		**49.1**	50.00	0	98.2	47.97	2.33	06/17/2019
trans-1,2-Dichloroethene	2.0		**59.4**	50.00	0	118.7	57.16	3.76	06/17/2019
trans-1,3-Dichloropropene	2.0		**52.8**	50.00	0	105.6	53.17	0.74	06/17/2019
Trichloroethene	2.0		**54.0**	50.00	0	108.0	52.76	2.34	06/17/2019
Trichlorofluoromethane	5.0		**46.6**	50.00	0	93.2	49.20	5.43	06/17/2019
Vinyl acetate	5.0		**55.6**	50.00	0	111.1	56.10	0.97	06/17/2019
Vinyl chloride	2.0		**62.7**	50.00	0	125.4	62.49	0.34	06/17/2019
Xylenes, Total	4.0		**155**	150.0	0	103.3	149.0	3.93	06/17/2019
Surr: 1,2-Dichloroethane-d4			**49.6**	50.00		99.1			06/17/2019
Surr: 4-Bromofluorobenzene			**47.9**	50.00		95.8			06/17/2019
Surr: Dibromofluoromethane			**51.5**	50.00		102.9			06/17/2019
Surr: Toluene-d8			**47.7**	50.00		95.3			06/17/2019

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Environmental Laboratory

Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19060980

Report Date: 18-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154336 **SampType:** LCS Units µg/L

SampID: LCS-T190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**50.0**	50.00	0	100.0	83.4	118	06/17/2019
1,1,1-Trichloroethane	2.0		**56.0**	50.00	0	112.1	79.1	123	06/17/2019
1,1,2,2-Tetrachloroethane	2.0		**47.0**	50.00	0	93.9	70.7	121	06/17/2019
1,1,2-Trichloroethane	0.5		**49.0**	50.00	0	97.9	79.8	117	06/17/2019
1,1-Dichloroethane	2.0		**54.8**	50.00	0	109.5	75.1	122	06/17/2019
1,1-Dichloroethene	2.0		**54.9**	50.00	0	109.7	68.3	121	06/17/2019
1,1-Dichloropropene	2.0		**53.2**	50.00	0	106.3	76.7	122	06/17/2019
1,2,3-Trichlorobenzene	2.0		**51.1**	50.00	0	102.3	77.1	130	06/17/2019
1,2,3-Trichloropropane	2.0		**46.6**	50.00	0	93.3	70.6	114	06/17/2019
1,2,4-Trichlorobenzene	2.0		**53.1**	50.00	0	106.1	79.6	128	06/17/2019
1,2,4-Trimethylbenzene	2.0		**49.5**	50.00	0	99.0	78.9	117	06/17/2019
1,2-Dibromo-3-chloropropane	5.0		**51.6**	50.00	0	103.2	68.1	123	06/17/2019
1,2-Dibromoethane	2.0		**49.3**	50.00	0	98.5	82.9	114	06/17/2019
1,2-Dichlorobenzene	2.0		**46.8**	50.00	0	93.6	75.2	120	06/17/2019
1,2-Dichloroethane	2.0		**51.3**	50.00	0	102.6	76.9	117	06/17/2019
1,2-Dichloropropane	2.0		**52.3**	50.00	0	104.5	76.4	121	06/17/2019
1,3,5-Trimethylbenzene	2.0		**48.7**	50.00	0	97.4	79.8	118	06/17/2019
1,3-Dichlorobenzene	2.0		**49.8**	50.00	0	99.6	80.5	119	06/17/2019
1,3-Dichloropropane	2.0		**48.8**	50.00	0	97.7	77.5	113	06/17/2019
1,4-Dichlorobenzene	2.0		**48.0**	50.00	0	96.0	80.2	115	06/17/2019
2,2-Dichloropropane	2.0		**57.5**	50.00	0	115.0	62.4	151	06/17/2019
2-Butanone	10.0		**141**	125.0	0	113.0	65.7	120	06/17/2019
2-Chloroethyl vinyl ether	5.0		**56.0**	50.00	0	112.0	31.5	159	06/17/2019
2-Chlorotoluene	2.0		**48.0**	50.00	0	95.9	76	117	06/17/2019
2-Hexanone	10.0		**126**	125.0	0	101.1	65.1	121	06/17/2019
4-Chlorotoluene	2.0		**49.3**	50.00	0	98.6	77	117	06/17/2019
4-Methyl-2-pentanone	10.0		**124**	125.0	0	99.1	69.6	117	06/17/2019
Acetone	10.0		**132**	125.0	0	105.8	47.5	123	06/17/2019
Acrolein	20.0		**622**	500.0	0	124.5	27	164	06/17/2019
Acrylonitrile	5.0		**54.8**	50.00	0	109.5	74.8	127	06/17/2019
Benzene	0.5		**52.5**	50.00	0	105.0	75.8	121	06/17/2019
Bromobenzene	2.0		**49.0**	50.00	0	98.0	72.7	119	06/17/2019
Bromochloromethane	2.0		**52.9**	50.00	0	105.8	69	123	06/17/2019
Bromodichloromethane	2.0		**53.7**	50.00	0	107.4	80.8	128	06/17/2019
Bromoform	2.0		**53.6**	50.00	0	107.2	85.5	128	06/17/2019
Bromomethane	5.0		**53.9**	50.00	0	107.8	-36.7	277	06/17/2019
Carbon disulfide	2.0		**53.2**	50.00	0	106.5	64.9	133	06/17/2019
Carbon tetrachloride	2.0		**54.1**	50.00	0	108.3	79.5	129	06/17/2019
Chlorobenzene	2.0		**49.8**	50.00	0	99.5	82.1	113	06/17/2019
Chloroethane	2.0		**43.7**	50.00	0	87.3	43.9	138	06/17/2019
Chloroform	2.0		**52.8**	50.00	0	105.6	80.1	122	06/17/2019
Chloromethane	5.0		**53.3**	50.00	0	106.6	50.8	131	06/17/2019
cis-1,2-Dichloroethene	2.0		**53.8**	50.00	0	107.7	78.6	119	06/17/2019
cis-1,3-Dichloropropene	2.0		**56.8**	50.00	0	113.7	79	129	06/17/2019
Dibromochloromethane	2.0		**50.8**	50.00	0	101.6	88.1	123	06/17/2019
Dichlorodifluoromethane	2.0		**57.4**	50.00	0	114.8	35.7	155	06/17/2019
Ethyl methacrylate	5.0		**50.4**	50.00	0	100.7	80.6	123	06/17/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154336 **SampType:** LCS Units µg/L
SampID: LCS-T190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**48.7**	50.00	0	97.4	80.7	114	06/17/2019
Hexachlorobutadiene	5.0		**51.8**	50.00	0	103.7	68.2	141	06/17/2019
Isopropylbenzene	2.0		**51.0**	50.00	0	101.9	81.3	116	06/17/2019
m,p-Xylenes	2.0		**99.6**	100.0	0	99.6	80.5	113	06/17/2019
Methyl tert-butyl ether	2.0		**56.4**	50.00	0	112.7	79.5	121	06/17/2019
Methylene chloride	10.0		**52.0**	50.00	0	104.0	76.2	119	06/17/2019
Naphthalene	5.0	B	**53.3**	50.00	0	106.6	76.1	129	06/17/2019
n-Butylbenzene	2.0		**48.4**	50.00	0	96.9	71.6	122	06/17/2019
n-Propylbenzene	2.0		**47.7**	50.00	0	95.5	76	120	06/17/2019
o-Xylene	2.0		**49.5**	50.00	0	99.0	79.7	112	06/17/2019
p-Isopropyltoluene	2.0		**48.9**	50.00	0	97.7	76.2	122	06/17/2019
sec-Butylbenzene	2.0		**48.4**	50.00	0	96.9	76.6	119	06/17/2019
Styrene	2.0		**51.4**	50.00	0	102.7	82.8	116	06/17/2019
tert-Butylbenzene	2.0		**47.1**	50.00	0	94.3	74.7	117	06/17/2019
Tetrachloroethene	0.5		**46.6**	50.00	0	93.2	80.6	122	06/17/2019
Toluene	2.0		**48.0**	50.00	0	95.9	78.3	112	06/17/2019
trans-1,2-Dichloroethene	2.0		**57.2**	50.00	0	114.3	73.5	124	06/17/2019
trans-1,3-Dichloropropene	2.0		**53.2**	50.00	0	106.3	83.4	124	06/17/2019
Trichloroethene	2.0		**52.8**	50.00	0	105.5	74.3	125	06/17/2019
Trichlorofluoromethane	5.0		**49.2**	50.00	0	98.4	71.5	136	06/17/2019
Vinyl acetate	5.0		**56.1**	50.00	0	112.2	65.9	136	06/17/2019
Vinyl chloride	2.0		**62.5**	50.00	0	125.0	55.8	135	06/17/2019
Xylenes, Total	4.0		**149**	150.0	0	99.4	80.2	113	06/17/2019
Surr: 1,2-Dichloroethane-d4			**49.6**	50.00		99.3	79.6	118	06/17/2019
Surr: 4-Bromofluorobenzene			**49.6**	50.00		99.3	83.9	115	06/17/2019
Surr: Dibromofluoromethane			**51.2**	50.00		102.5	84.9	113	06/17/2019
Surr: Toluene-d8			**47.0**	50.00		93.9	86.7	112	06/17/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154351 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/17/2019
1,1,1-Trichloroethane	2.0		ND						06/17/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/17/2019
1,1,2-Trichloroethane	5.0		ND						06/17/2019
1,1-Dichloroethane	2.0		ND						06/17/2019
1,1-Dichloroethene	2.0		ND						06/17/2019
1,1-Dichloropropene	2.0		ND						06/17/2019
1,2,3-Trichlorobenzene	2.0		ND						06/17/2019
1,2,3-Trichloropropane	2.0		ND						06/17/2019
1,2,4-Trichlorobenzene	2.0		ND						06/17/2019
1,2,4-Trimethylbenzene	2.0		ND						06/17/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/17/2019
1,2-Dibromoethane	2.0		ND						06/17/2019
1,2-Dichlorobenzene	2.0		ND						06/17/2019
1,2-Dichloroethane	2.0		ND						06/17/2019
1,2-Dichloropropane	2.0		ND						06/17/2019
1,3,5-Trimethylbenzene	2.0		ND						06/17/2019
1,3-Dichlorobenzene	2.0		ND						06/17/2019
1,3-Dichloropropane	2.0		ND						06/17/2019
1,4-Dichlorobenzene	2.0		ND						06/17/2019
2,2-Dichloropropane	2.0		ND						06/17/2019
2-Butanone	25.0		ND						06/17/2019
2-Chloroethyl vinyl ether	5.0		ND						06/17/2019
2-Chlorotoluene	2.0		ND						06/17/2019
2-Hexanone	25.0		ND						06/17/2019
4-Chlorotoluene	2.0		ND						06/17/2019
4-Methyl-2-pentanone	25.0		ND						06/17/2019
Acetone	25.0		ND						06/17/2019
Acrolein	50.0		ND						06/17/2019
Acrylonitrile	5.0		ND						06/17/2019
Benzene	1.0		ND						06/17/2019
Bromobenzene	2.0		ND						06/17/2019
Bromochloromethane	2.0		ND						06/17/2019
Bromodichloromethane	2.0		ND						06/17/2019
Bromoform	5.0		ND						06/17/2019
Bromomethane	10.0		ND						06/17/2019
Carbon disulfide	2.0		ND						06/17/2019
Carbon tetrachloride	2.0		ND						06/17/2019
Chlorobenzene	2.0		ND						06/17/2019
Chloroethane	10.0		ND						06/17/2019
Chloroform	2.0		ND						06/17/2019
Chloromethane	10.0		ND						06/17/2019
cis-1,2-Dichloroethene	2.0		ND						06/17/2019
cis-1,3-Dichloropropene	2.0		ND						06/17/2019
Dibromochloromethane	2.0		ND						06/17/2019
Dichlorodifluoromethane	10.0		ND						06/17/2019
Ethyl methacrylate	2.0		ND						06/17/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154351 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/17/2019
Hexachlorobutadiene	2.0		ND						06/17/2019
Isopropylbenzene	2.0		ND						06/17/2019
m,p-Xylenes	4.0		ND						06/17/2019
Methyl tert-butyl ether	2.0		ND						06/17/2019
Methylene chloride	10.0		ND						06/17/2019
Naphthalene	5.0		ND						06/17/2019
n-Butylbenzene	2.0		ND						06/17/2019
n-Propylbenzene	2.0		ND						06/17/2019
o-Xylene	4.0		ND						06/17/2019
p-Isopropyltoluene	2.0		ND						06/17/2019
sec-Butylbenzene	2.0		ND						06/17/2019
Styrene	2.0		ND						06/17/2019
tert-Butylbenzene	2.0		ND						06/17/2019
Tetrachloroethene	2.0		ND						06/17/2019
Toluene	2.0		ND						06/17/2019
trans-1,2-Dichloroethene	2.0		ND						06/17/2019
trans-1,3-Dichloropropene	2.0		ND						06/17/2019
Trichloroethene	2.0		ND						06/17/2019
Trichlorofluoromethane	5.0		ND						06/17/2019
Vinyl acetate	50.0		ND						06/17/2019
Vinyl chloride	2.0		ND						06/17/2019
Xylenes, Total	8.0		ND						06/17/2019
Surr: 1,2-Dichloroethane-d4			**48.5**	50.00		97.1	74	124	06/17/2019
Surr: 4-Bromofluorobenzene			**49.6**	50.00		99.3	79.4	123	06/17/2019
Surr: Dibromofluoromethane			**48.4**	50.00		96.9	89.2	112	06/17/2019
Surr: Toluene-d8			**50.1**	50.00		100.2	85	115	06/17/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154351 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**52.5**	50.00	0	105.0	84.3	128	06/17/2019
1,1,1-Trichloroethane	2.0		**55.3**	50.00	0	110.5	75.6	132	06/17/2019
1,1,2,2-Tetrachloroethane	2.0		**49.8**	50.00	0	99.6	81.4	126	06/17/2019
1,1,2-Trichloroethane	5.0		**51.0**	50.00	0	102.0	87.3	122	06/17/2019
1,1-Dichloroethane	2.0		**55.1**	50.00	0	110.2	84.6	123	06/17/2019
1,1-Dichloroethene	2.0		**53.5**	50.00	0	107.0	73.6	134	06/17/2019
1,1-Dichloropropene	2.0		**52.6**	50.00	0	105.3	76	132	06/17/2019
1,2,3-Trichlorobenzene	2.0		**53.7**	50.00	0	107.4	78.2	139	06/17/2019
1,2,3-Trichloropropane	2.0		**47.6**	50.00	0	95.2	81.5	125	06/17/2019
1,2,4-Trichlorobenzene	2.0		**55.6**	50.00	0	111.2	67.8	154	06/17/2019
1,2,4-Trimethylbenzene	2.0		**54.3**	50.00	0	108.6	79.6	129	06/17/2019
1,2-Dibromo-3-chloropropane	5.0		**46.0**	50.00	0	92.1	71.5	135	06/17/2019
1,2-Dibromoethane	2.0		**50.9**	50.00	0	101.7	86.2	127	06/17/2019
1,2-Dichlorobenzene	2.0		**52.2**	50.00	0	104.4	82	126	06/17/2019
1,2-Dichloroethane	2.0		**50.4**	50.00	0	100.7	77.1	130	06/17/2019
1,2-Dichloropropane	2.0		**50.7**	50.00	0	101.3	89.8	126	06/17/2019
1,3,5-Trimethylbenzene	2.0		**53.3**	50.00	0	106.6	79	129	06/17/2019
1,3-Dichlorobenzene	2.0		**53.2**	50.00	0	106.3	80.9	132	06/17/2019
1,3-Dichloropropane	2.0		**50.5**	50.00	0	101.1	84	123	06/17/2019
1,4-Dichlorobenzene	2.0		**53.3**	50.00	0	106.5	78.3	131	06/17/2019
2,2-Dichloropropane	2.0		**53.1**	50.00	0	106.2	74.8	133	06/17/2019
2-Butanone	25.0		**151**	125.0	0	120.8	75	140	06/17/2019
2-Chloroethyl vinyl ether	5.0		**48.7**	50.00	0	97.5	72	142	06/17/2019
2-Chlorotoluene	2.0		**52.9**	50.00	0	105.7	78.5	128	06/17/2019
2-Hexanone	25.0		**141**	125.0	0	113.2	74.9	131	06/17/2019
4-Chlorotoluene	2.0		**52.6**	50.00	0	105.1	77.1	132	06/17/2019
4-Methyl-2-pentanone	25.0		**124**	125.0	0	98.8	81.3	127	06/17/2019
Acetone	25.0	S	**224**	125.0	0	179.1	52.2	164	06/17/2019
Acrolein	50.0		**589**	500.0	0	117.7	1	211	06/17/2019
Acrylonitrile	5.0		**48.6**	50.00	0	97.3	82.8	135	06/17/2019
Benzene	1.0		**52.1**	50.00	0	104.2	85.2	124	06/17/2019
Bromobenzene	2.0		**52.3**	50.00	0	104.6	81.7	125	06/17/2019
Bromochloromethane	2.0		**51.2**	50.00	0	102.4	84.8	127	06/17/2019
Bromodichloromethane	2.0		**51.7**	50.00	0	103.3	88.9	129	06/17/2019
Bromoform	5.0		**50.9**	50.00	0	101.9	79.3	134	06/17/2019
Bromomethane	10.0		**44.4**	50.00	0	88.8	17	207	06/17/2019
Carbon disulfide	2.0		**53.5**	50.00	0	107.0	74.5	131	06/17/2019
Carbon tetrachloride	2.0		**51.4**	50.00	0	102.7	73.6	133	06/17/2019
Chlorobenzene	2.0		**52.6**	50.00	0	105.3	86.1	123	06/17/2019
Chloroethane	10.0		**53.3**	50.00	0	106.6	77.2	130	06/17/2019
Chloroform	2.0		**47.7**	50.00	0	95.4	86.8	123	06/17/2019
Chloromethane	10.0		**54.0**	50.00	0	108.0	59.5	149	06/17/2019
cis-1,2-Dichloroethene	2.0		**51.8**	50.00	0	103.5	85	125	06/17/2019
cis-1,3-Dichloropropene	2.0		**49.9**	50.00	0	99.8	89.6	130	06/17/2019
Dibromochloromethane	2.0		**49.9**	50.00	0	99.8	87	129	06/17/2019
Dichlorodifluoromethane	10.0		**55.8**	50.00	0	111.6	40.9	168	06/17/2019
Ethyl methacrylate	2.0		**48.5**	50.00	0	97.0	87.6	125	06/17/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154351 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**52.8**	50.00	0	105.5	82.3	125	06/17/2019
Hexachlorobutadiene	2.0		**55.1**	50.00	0	110.1	67.5	144	06/17/2019
Isopropylbenzene	2.0		**53.6**	50.00	0	107.1	78.5	129	06/17/2019
m,p-Xylenes	4.0		**105**	100.0	0	105.1	80.4	128	06/17/2019
Methyl tert-butyl ether	2.0		**49.7**	50.00	0	99.4	86.2	126	06/17/2019
Methylene chloride	10.0		**50.6**	50.00	0	101.2	79.4	125	06/17/2019
Naphthalene	5.0		**50.7**	50.00	0	101.3	81	127	06/17/2019
n-Butylbenzene	2.0		**54.7**	50.00	0	109.5	67.4	142	06/17/2019
n-Propylbenzene	2.0		**53.5**	50.00	0	107.0	72.3	133	06/17/2019
o-Xylene	4.0		**52.4**	50.00	0	104.9	85	124	06/17/2019
p-Isopropyltoluene	2.0		**52.4**	50.00	0	104.8	75.4	133	06/17/2019
sec-Butylbenzene	2.0		**53.2**	50.00	0	106.5	72.1	132	06/17/2019
Styrene	2.0		**53.2**	50.00	0	106.3	86.7	127	06/17/2019
tert-Butylbenzene	2.0		**51.8**	50.00	0	103.7	73.5	129	06/17/2019
Tetrachloroethene	2.0		**54.0**	50.00	0	108.1	75.8	131	06/17/2019
Toluene	2.0		**50.2**	50.00	0	100.3	81	123	06/17/2019
trans-1,2-Dichloroethene	2.0		**54.9**	50.00	0	109.8	80.8	130	06/17/2019
trans-1,3-Dichloropropene	2.0		**51.7**	50.00	0	103.3	82.8	133	06/17/2019
Trichloroethene	2.0		**53.0**	50.00	0	106.1	83.6	129	06/17/2019
Trichlorofluoromethane	5.0		**53.0**	50.00	0	105.9	63	136	06/17/2019
Vinyl acetate	50.0	J	**47**	50.00	0	93.4	81.6	133	06/17/2019
Vinyl chloride	2.0		**52.3**	50.00	0	104.6	55	149	06/17/2019
Xylenes, Total	8.0		**158**	150.0	0	105.1	82.2	127	06/17/2019
Surr: 1,2-Dichloroethane-d4			**48.7**	50.00		97.4	74	124	06/17/2019
Surr: 4-Bromofluorobenzene			**49.2**	50.00		98.4	79.4	123	06/17/2019
Surr: Dibromofluoromethane			**49.0**	50.00		97.9	89.2	112	06/17/2019
Surr: Toluene-d8			**50.1**	50.00		100.2	85	115	06/17/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154351 **SampType:** LCSD Units µg/Kg RPD Limit 40
SampID: LCSD-AF190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**52.0**	50.00	0	104.1	52.49	0.86	06/17/2019
1,1,1-Trichloroethane	2.0		**53.6**	50.00	0	107.2	55.26	3.03	06/17/2019
1,1,2,2-Tetrachloroethane	2.0		**50.1**	50.00	0	100.1	49.78	0.56	06/17/2019
1,1,2-Trichloroethane	5.0		**50.6**	50.00	0	101.2	50.99	0.75	06/17/2019
1,1-Dichloroethane	2.0		**53.8**	50.00	0	107.6	55.11	2.39	06/17/2019
1,1-Dichloroethene	2.0		**51.0**	50.00	0	102.1	53.52	4.74	06/17/2019
1,1-Dichloropropene	2.0		**50.5**	50.00	0	101.0	52.64	4.11	06/17/2019
1,2,3-Trichlorobenzene	2.0		**53.4**	50.00	0	106.7	53.70	0.64	06/17/2019
1,2,3-Trichloropropane	2.0		**47.8**	50.00	0	95.6	47.60	0.46	06/17/2019
1,2,4-Trichlorobenzene	2.0		**54.0**	50.00	0	107.9	55.58	2.98	06/17/2019
1,2,4-Trimethylbenzene	2.0		**52.9**	50.00	0	105.9	54.30	2.56	06/17/2019
1,2-Dibromo-3-chloropropane	5.0		**47.2**	50.00	0	94.5	46.03	2.57	06/17/2019
1,2-Dibromoethane	2.0		**50.3**	50.00	0	100.6	50.86	1.09	06/17/2019
1,2-Dichlorobenzene	2.0		**51.9**	50.00	0	103.7	52.20	0.65	06/17/2019
1,2-Dichloroethane	2.0		**51.3**	50.00	0	102.6	50.37	1.85	06/17/2019
1,2-Dichloropropane	2.0		**50.6**	50.00	0	101.2	50.67	0.16	06/17/2019
1,3,5-Trimethylbenzene	2.0		**51.5**	50.00	0	103.0	53.29	3.42	06/17/2019
1,3-Dichlorobenzene	2.0		**51.8**	50.00	0	103.6	53.15	2.55	06/17/2019
1,3-Dichloropropane	2.0		**50.1**	50.00	0	100.1	50.54	0.95	06/17/2019
1,4-Dichlorobenzene	2.0		**51.9**	50.00	0	103.9	53.27	2.55	06/17/2019
2,2-Dichloropropane	2.0		**52.1**	50.00	0	104.2	53.10	1.88	06/17/2019
2-Butanone	25.0		**151**	125.0	0	121.2	151.0	0.33	06/17/2019
2-Chloroethyl vinyl ether	5.0		**48.5**	50.00	0	97.0	48.73	0.45	06/17/2019
2-Chlorotoluene	2.0		**51.2**	50.00	0	102.4	52.86	3.17	06/17/2019
2-Hexanone	25.0		**140**	125.0	0	112.1	141.5	1.01	06/17/2019
4-Chlorotoluene	2.0		**51.2**	50.00	0	102.4	52.57	2.68	06/17/2019
4-Methyl-2-pentanone	25.0		**123**	125.0	0	98.1	123.5	0.68	06/17/2019
Acetone	25.0	S	**217**	125.0	0	173.4	223.9	3.24	06/17/2019
Acrolein	50.0		**572**	500.0	0	114.5	588.7	2.79	06/17/2019
Acrylonitrile	5.0		**48.4**	50.00	0	96.7	48.65	0.58	06/17/2019
Benzene	1.0		**51.4**	50.00	0	102.8	52.12	1.43	06/17/2019
Bromobenzene	2.0		**51.3**	50.00	0	102.7	52.29	1.83	06/17/2019
Bromochloromethane	2.0		**50.9**	50.00	0	101.9	51.21	0.55	06/17/2019
Bromodichloromethane	2.0		**51.7**	50.00	0	103.3	51.66	0.02	06/17/2019
Bromoform	5.0		**50.6**	50.00	0	101.3	50.93	0.59	06/17/2019
Bromomethane	10.0		**45.3**	50.00	0	90.6	44.40	1.96	06/17/2019
Carbon disulfide	2.0		**51.8**	50.00	0	103.6	53.51	3.27	06/17/2019
Carbon tetrachloride	2.0		**49.6**	50.00	0	99.1	51.36	3.55	06/17/2019
Chlorobenzene	2.0		**51.8**	50.00	0	103.7	52.63	1.51	06/17/2019
Chloroethane	10.0		**53.1**	50.00	0	106.2	53.28	0.34	06/17/2019
Chloroform	2.0		**47.4**	50.00	0	94.7	47.71	0.76	06/17/2019
Chloromethane	10.0		**52.6**	50.00	0	105.1	53.98	2.67	06/17/2019
cis-1,2-Dichloroethene	2.0		**51.9**	50.00	0	103.8	51.75	0.31	06/17/2019
cis-1,3-Dichloropropene	2.0		**49.4**	50.00	0	98.9	49.88	0.89	06/17/2019
Dibromochloromethane	2.0		**50.1**	50.00	0	100.1	49.91	0.32	06/17/2019
Dichlorodifluoromethane	10.0		**53.3**	50.00	0	106.6	55.80	4.62	06/17/2019
Ethyl methacrylate	2.0		**48.4**	50.00	0	96.8	48.49	0.17	06/17/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19060980
Report Date: 18-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154351 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190617A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**51.1**	50.00	0	102.2	52.77	3.22	06/17/2019
Hexachlorobutadiene	2.0		**52.4**	50.00	0	104.9	55.06	4.87	06/17/2019
Isopropylbenzene	2.0		**51.7**	50.00	0	103.3	53.57	3.63	06/17/2019
m,p-Xylenes	4.0		**102**	100.0	0	102.3	105.1	2.78	06/17/2019
Methyl tert-butyl ether	2.0		**50.6**	50.00	0	101.3	49.72	1.83	06/17/2019
Methylene chloride	10.0		**50.4**	50.00	0	100.8	50.61	0.40	06/17/2019
Naphthalene	5.0		**50.2**	50.00	0	100.3	50.67	1.01	06/17/2019
n-Butylbenzene	2.0		**51.5**	50.00	0	103.1	54.73	6.00	06/17/2019
n-Propylbenzene	2.0		**51.0**	50.00	0	102.0	53.51	4.82	06/17/2019
o-Xylene	4.0		**51.2**	50.00	0	102.5	52.45	2.33	06/17/2019
p-Isopropyltoluene	2.0		**51.0**	50.00	0	101.9	52.41	2.79	06/17/2019
sec-Butylbenzene	2.0		**51.5**	50.00	0	103.0	53.25	3.30	06/17/2019
Styrene	2.0		**51.8**	50.00	0	103.7	53.15	2.50	06/17/2019
tert-Butylbenzene	2.0		**50.2**	50.00	0	100.4	51.83	3.16	06/17/2019
Tetrachloroethene	2.0		**51.8**	50.00	0	103.6	54.03	4.23	06/17/2019
Toluene	2.0		**48.4**	50.00	0	96.8	50.15	3.59	06/17/2019
trans-1,2-Dichloroethene	2.0		**53.9**	50.00	0	107.7	54.91	1.91	06/17/2019
trans-1,3-Dichloropropene	2.0		**52.0**	50.00	0	104.0	51.67	0.64	06/17/2019
Trichloroethene	2.0		**51.4**	50.00	0	102.8	53.04	3.10	06/17/2019
Trichlorofluoromethane	5.0		**50.6**	50.00	0	101.1	52.97	4.64	06/17/2019
Vinyl acetate	50.0	J	**45**	50.00	0	89.9	46.71	0.00	06/17/2019
Vinyl chloride	2.0		**49.9**	50.00	0	99.8	52.29	4.64	06/17/2019
Xylenes, Total	8.0		**154**	150.0	0	102.3	157.6	2.63	06/17/2019
Surr: 1,2-Dichloroethane-d4			**49.1**	50.00		98.2			06/17/2019
Surr: 4-Bromofluorobenzene			**49.1**	50.00		98.2			06/17/2019
Surr: Dibromofluoromethane			**49.3**	50.00		98.6			06/17/2019
Surr: Toluene-d8			**49.6**	50.00		99.3			06/17/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Work Order: 19060980
Client Project: PreDesign Invest. PW
Report Date: 18-Jun-2019

Carrier: Robert Fleming
Received By: AMD

Completed by: Amber M. Dilallo
On: 14-Jun-2019

Reviewed by: Elizabeth A. Hurley
On: 14-Jun-2019

Pages to follow: Chain of custody [1] Extra pages included [78]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 18.8
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☐	No ☑	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Headspace was present in the TB-PW-061419 volatile. Elizabeth Kunkel, was notified of this error via work order summary. - adilallo - 6/14/2019 5:02:16 PM

Trip Blank collection date and time will be reported as the received date and time (end of trip). - ehurley - 6/14/2019 5:29:20 PM

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (___Pensacola_____)
☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/14/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794.1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print):

LAB USE ONLY: 19060980

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST: 8260 Project list VOCs +TICs; 8270 SIM PAH; Moisture; 8270 Project List SVOCs +TICs

NON-UNIT COST

One Day TAT

FIELD NOTES:

TEMPERATURE ON RECEIPT C°: 18.8°ice

GG3

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8260 Project list VOCs +TICs	8270 SIM PAH	Moisture	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
															19060980
	PD-5-SB-62-061419	6/14/2019	14:20	Soil	X			x	x	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve 001
	TB-PW-061419	6/14/2019	0:00	Water	X					2	X				002
	PD-5-SB-061419-EB	6/14/2019	15:45	Water	x			x		4	x	x		x	003
	PD-5-SB-43-061419	6/14/2019	9:40	Soil	x			x	x	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve 004
	PD-5-SB-53-061419	6/14/2019	11:40	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve 005

Relinquished by: (Signature) Robert M. Slein	Received by: (Signature)	Date: 6/14/19	Time: 1651
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) HS in TB-PW-061419. 0m 6/14/19	Date:	Time:

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA038.D
Acq On : 17 Jun 19 3:37 pm
Operator : DH
Sample : 19060980-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA038.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.246	24	28	32	rVB3	7185	8803	2.41%	0.430%
2	2.739	109	112	116	rVB	27451	31183	8.52%	1.523%
3	3.415	223	227	231	rVV	69085	67946	18.57%	3.319%
4	3.797	288	292	296	rVB	71223	63207	17.27%	3.087%
5	4.149	348	352	358	rBV	87809	76459	20.90%	3.735%
6	4.296	373	377	380	rBB2	4629	4377	1.20%	0.214%
7	4.537	414	418	423	rBV	121613	108387	29.62%	5.294%
8	5.042	500	504	509	rBB	38054	33887	9.26%	1.655%
9	5.753	621	625	635	rBB	141354	132356	36.17%	6.465%
10	6.805	801	804	808	rVB	105692	87157	23.82%	4.257%
11	7.510	920	924	930	rBB	188916	189898	51.90%	9.276%
12	8.309	1056	1060	1064	rVB	100683	94179	25.74%	4.600%
13	9.026	1178	1182	1186	rBV	270523	246934	67.48%	12.062%
14	9.490	1258	1261	1264	rBV	11793	9918	2.71%	0.484%
15	10.319	1397	1402	1406	rVB	5166	4676	1.28%	0.228%
16	10.701	1462	1467	1472	rBV	156716	158341	43.27%	7.734%
17	12.299	1731	1739	1746	rBV2	246705	365915	100.00%	17.874%
18	15.172	2221	2228	2238	rBV	180650	363589	99.36%	17.760%

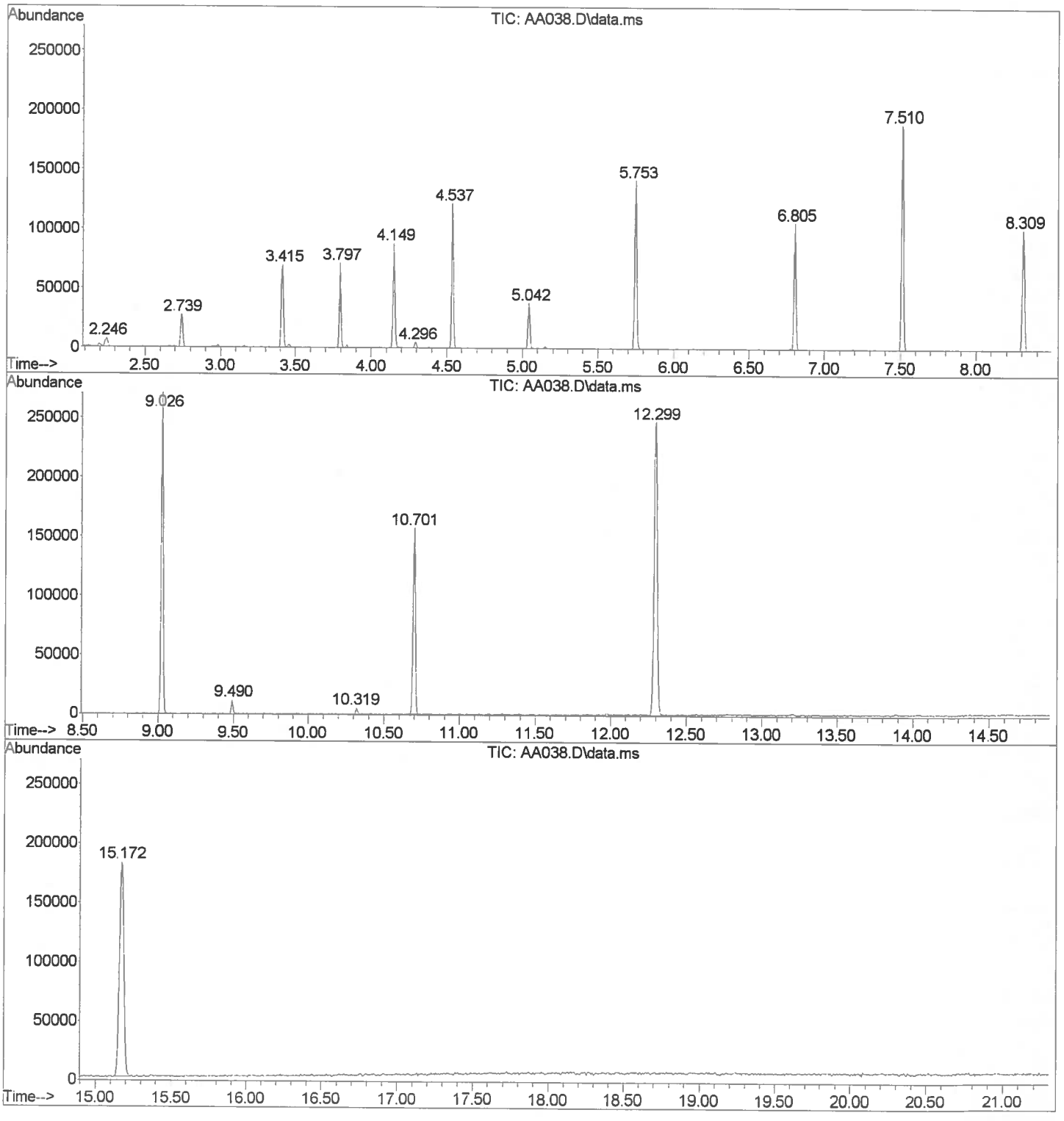
Sum of corrected areas: 2047212

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA038.D
Acq On : 17 Jun 19 3:37 pm
Operator : DH
Sample : 19060980-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA038.D
Acq On : 17 Jun 19 3:37 pm
Operator : DH
Sample : 19060980-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

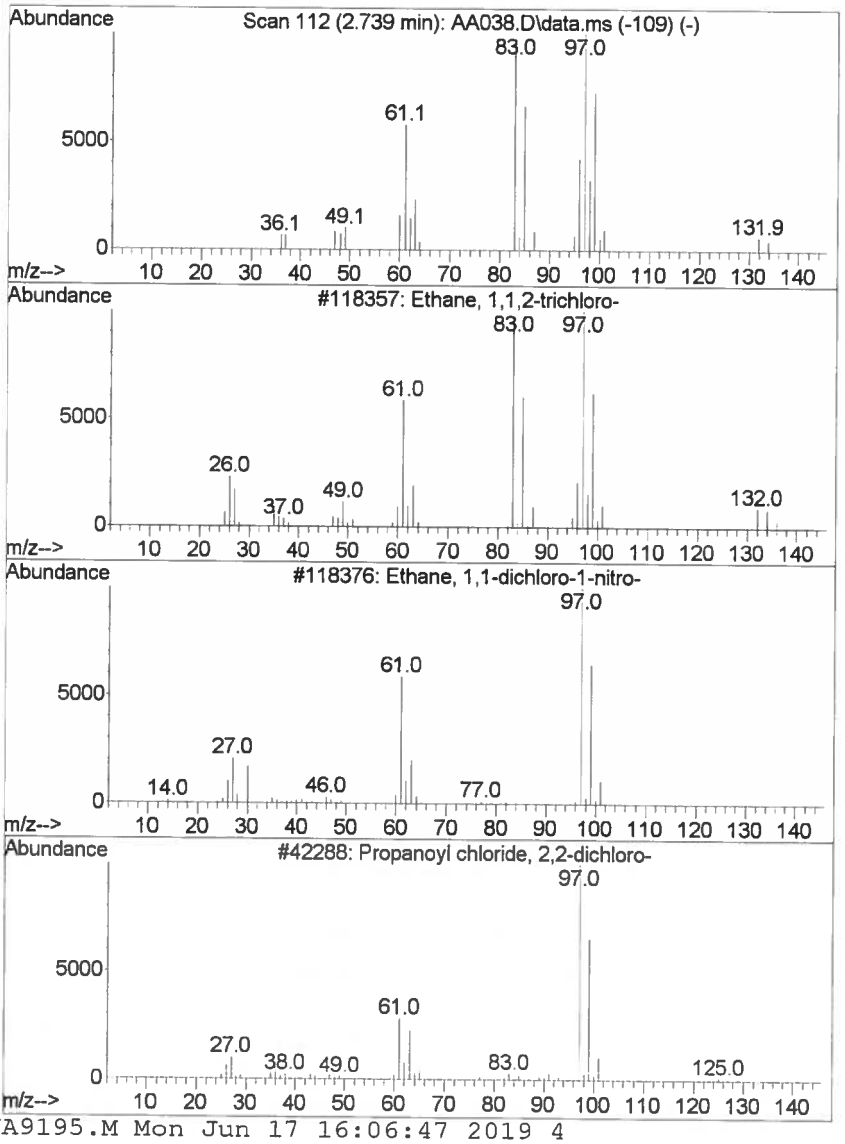
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

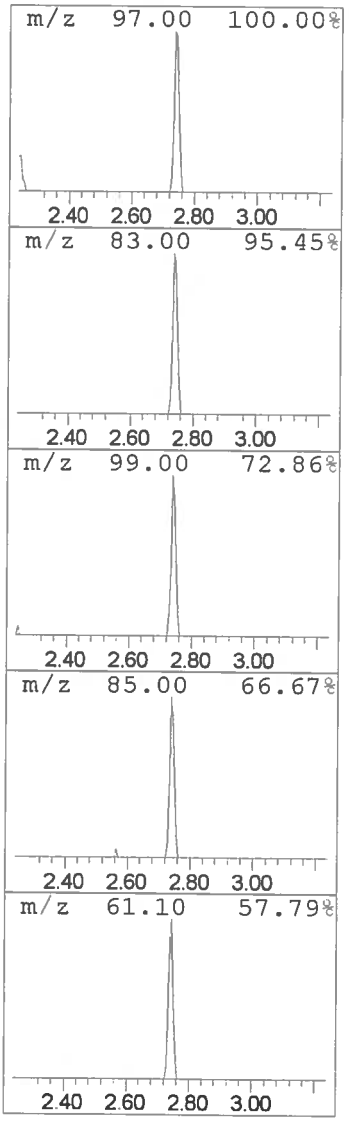
****

Peak Number 1 Ethane, 1,1,2-trichloro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.739	11.51 ug/ml	31183	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	86
2	Ethane, 1,1-dichloro-1-nitro-	143	C2H3Cl2NO2	000594-72-9	38
3	Propanoyl chloride, 2,2-dichloro-	160	C3H3Cl3O	026073-26-7	38
4	Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	35
5	Ethene, 1,2-dichloro-, (E)-	96	C2H2Cl2	000156-60-5	25





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA038.D
Acq On : 17 Jun 19 3:37 pm
Operator : DH
Sample : 19060980-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 15 Sample Multiplier: 1

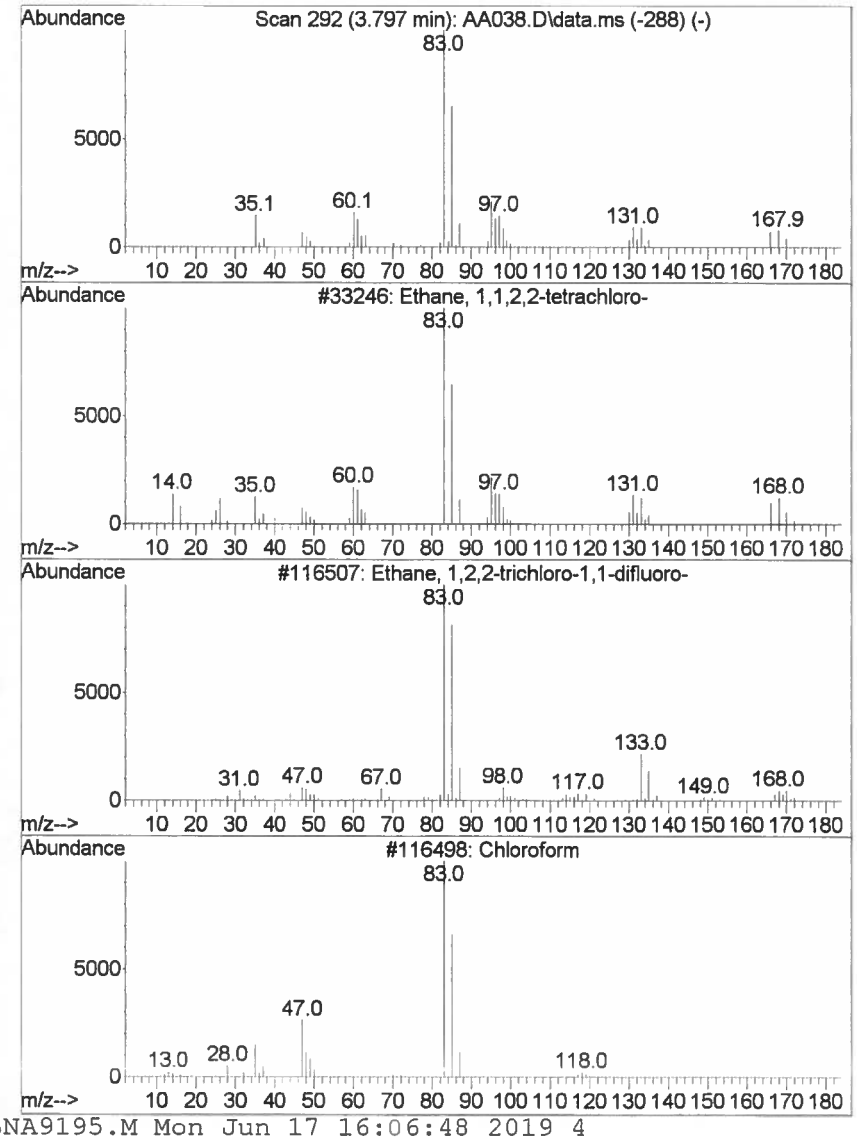
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

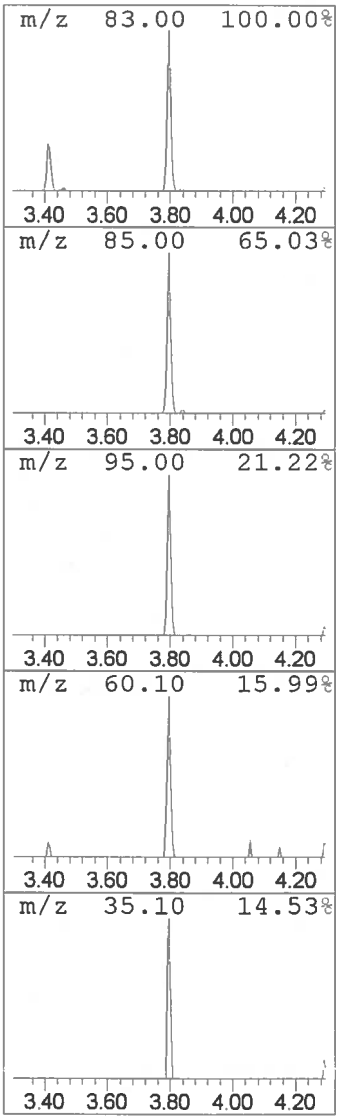
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.797	23.33 ug/ml	63207	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	97
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	70
3	Chloroform	118	CHCl3	000067-66-3	42
4	Methane, oxybis[dichloro-	182	C2H2Cl4O	020524-86-1	42
5	Ethane, 1,1-dichloro-2,2-difluoro-	134	C2H2Cl2F2	000471-43-2	40





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA038.D
Acq On : 17 Jun 19 3:37 pm
Operator : DH
Sample : 19060980-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,1,2-t...	2.739	11.5	ug/ml	31183	1	4.537	108387	40.0
Ethane, 1,1,2,2...	3.797	23.3	ug/ml	63207	1	4.537	108387	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA035.D
Acq On : 17 Jun 2019 2:13 pm
Operator : DH
Sample : 19060980-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA035.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.409	223	226	235	rVB	47954	46655	3.13%	0.930%
2	4.149	349	352	358	rBB	41323	34113	2.29%	0.680%
3	4.537	414	418	423	rBB	131353	125389	8.40%	2.499%
4	5.042	500	504	509	rBB	45009	38508	2.58%	0.768%
5	5.753	621	625	629	rBV	144993	137969	9.24%	2.750%
6	6.805	801	804	807	rVB	113333	96996	6.50%	1.933%
7	7.510	920	924	929	rBV	211350	212183	14.22%	4.229%
8	8.309	1056	1060	1064	rBV	118832	104866	7.03%	2.090%
9	9.026	1178	1182	1186	rBV	315212	278224	18.64%	5.546%
10	9.514	1258	1265	1273	rBV	1197363	1450456	97.19%	28.911%
11	10.242	1380	1389	1399	rBV	42824	80115	5.37%	1.597%
12	10.342	1399	1406	1419	rBV	1090631	1492407	100.00%	29.747%
13	10.701	1463	1467	1471	rVB	151738	163350	10.95%	3.256%
14	12.299	1733	1739	1748	rVB	248724	377075	25.27%	7.516%
15	15.178	2220	2229	2237	rBV2	187965	378748	25.38%	7.549%

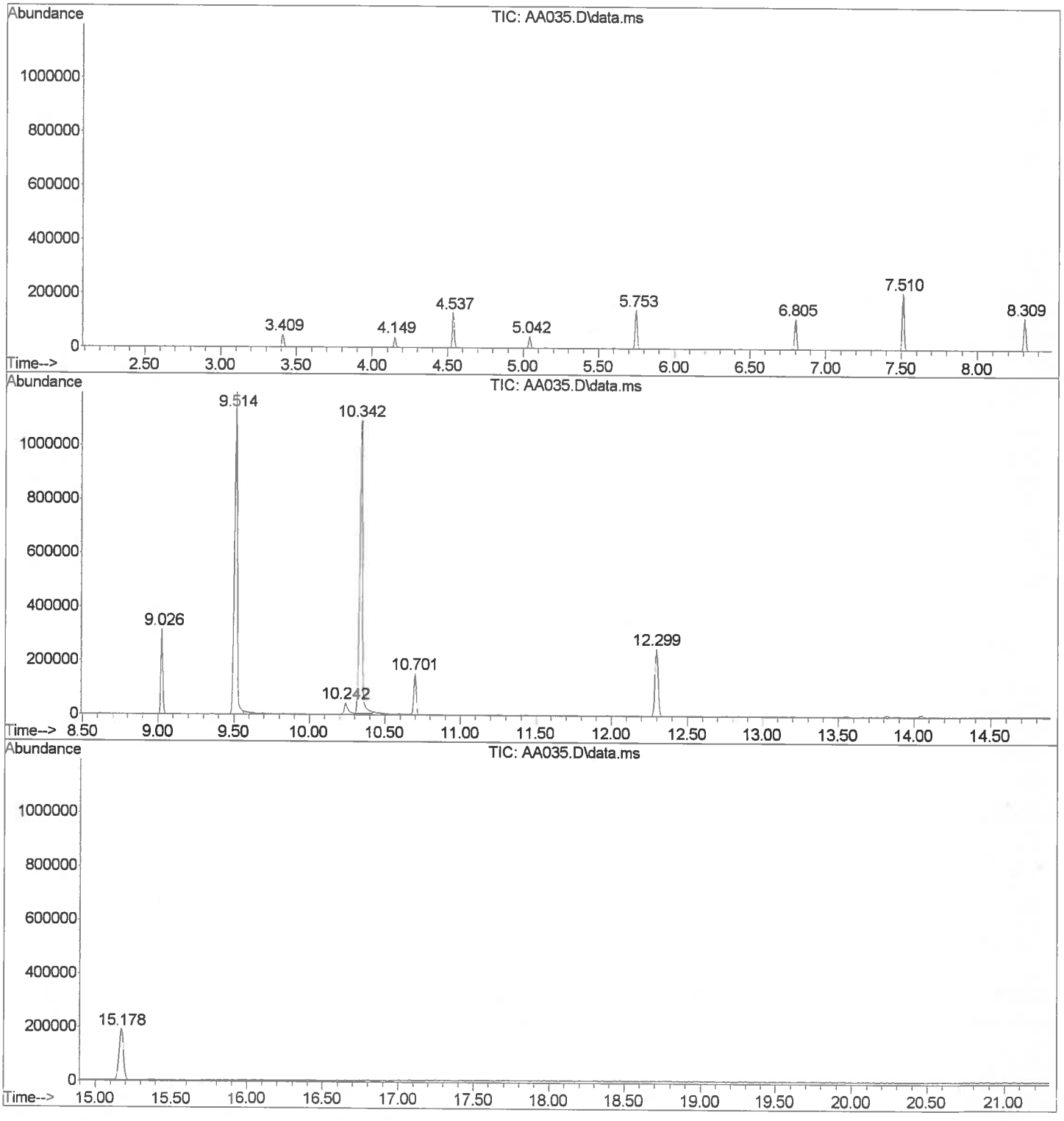
Sum of corrected areas: 5017054

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA035.D
Acq On : 17 Jun 2019 2:13 pm
Operator : DH
Sample : 19060980-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA035.D
Acq On : 17 Jun 2019 2:13 pm
Operator : DH
Sample : 19060980-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

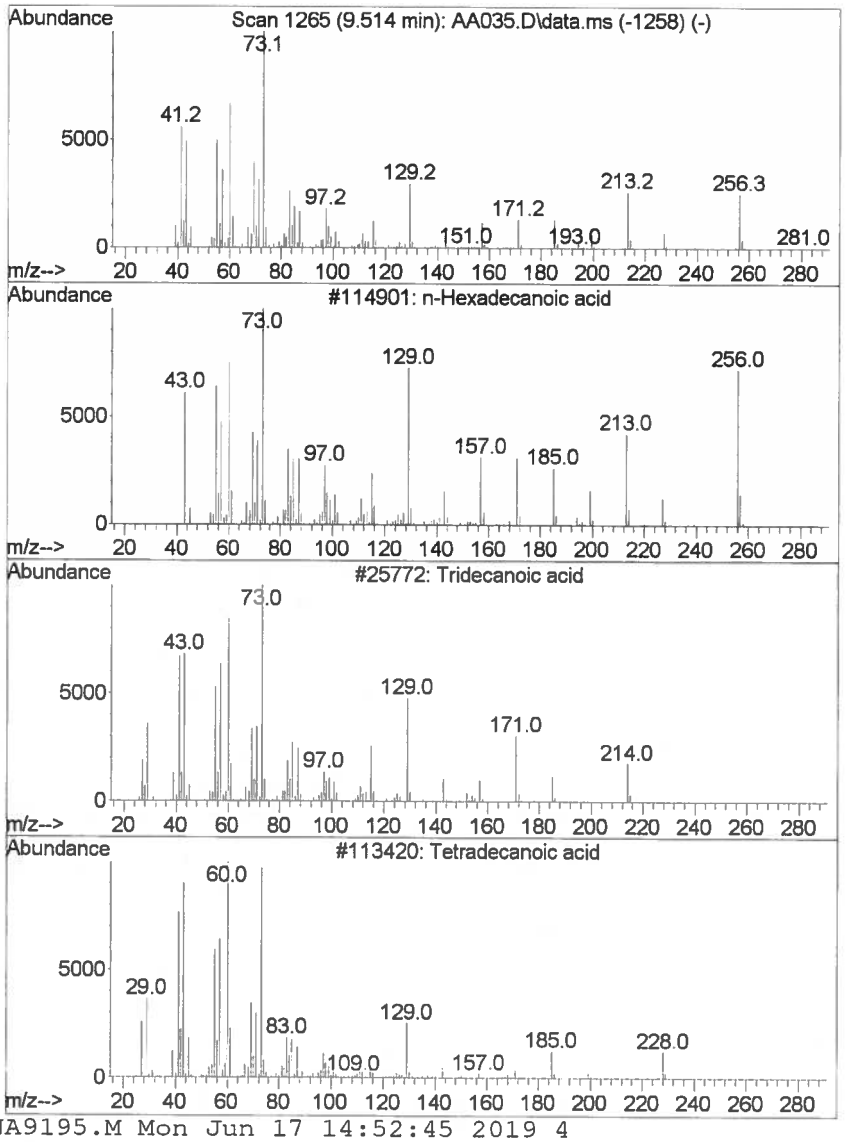
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

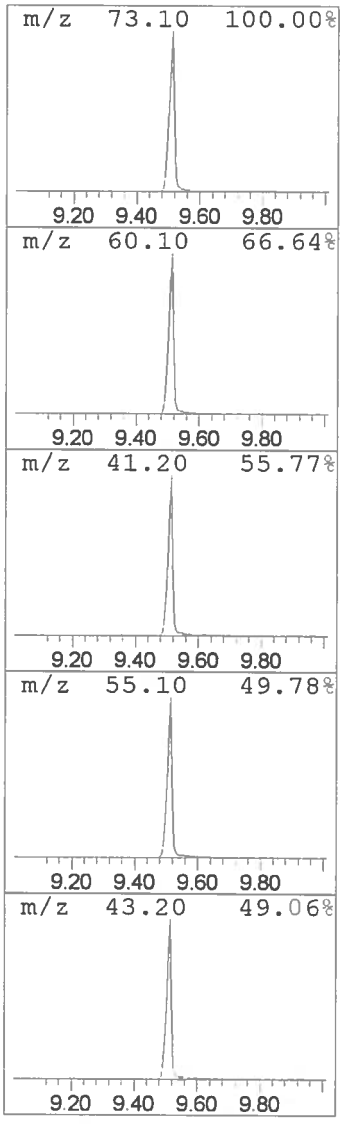
****

Peak Number 1 n-Hexadecanoic acid Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.514	208.53 ug/ml	1450460	Phenanthrene-d10*	9.026

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	96
2	Tridecanoic acid	214	C13H26O2	000638-53-9	91
3	Tetradecanoic acid	228	C14H28O2	000544-63-8	70
4	Pentadecanoic acid	242	C15H30O2	001002-84-2	47
5	Dodecanoic acid	200	C12H24O2	000143-07-7	43





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA035.D
Acq On : 17 Jun 2019 2:13 pm
Operator : DH
Sample : 19060980-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

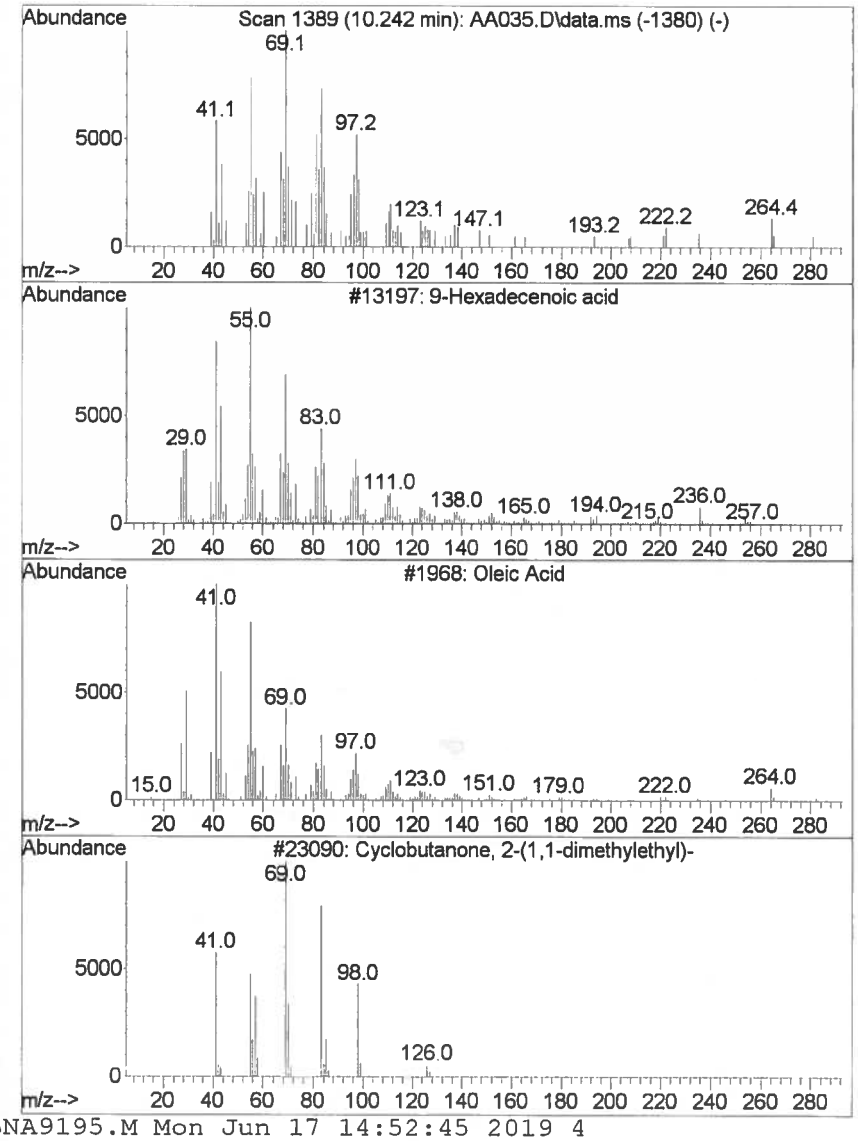
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

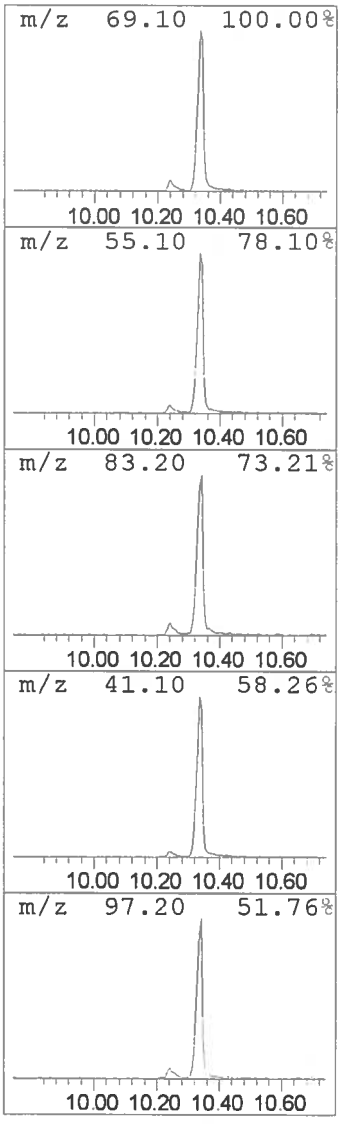
****

Peak Number 2 9-Hexadecenoic acid Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.242	11.52 ug/ml	80115	Phenanthrene-d10*	9.026

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	9-Hexadecenoic acid	254	C16H30O2	002091-29-4	53
2	Oleic Acid	282	C18H34O2	000112-80-1	49
3	Cyclobutanone, 2-(1,1-dimethylet...	126	C8H14O	004579-31-1	49
4	3-Methylpenta-1,3-diene-5-ol, (E)-	98	C6H10O	001572-08-3	49
5	14-Pentadecenoic acid	240	C15H28O2	017351-34-7	46





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA035.D
Acq On : 17 Jun 2019 2:13 pm
Operator : DH
Sample : 19060980-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

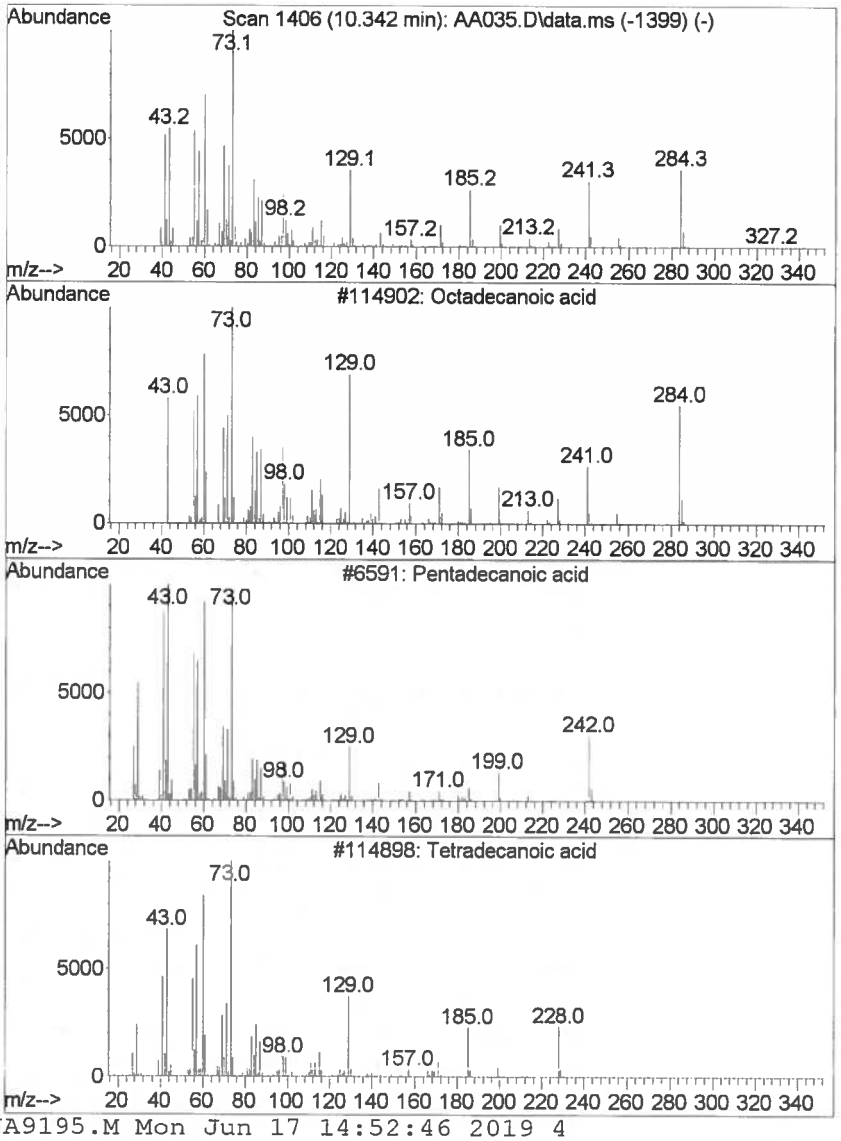
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

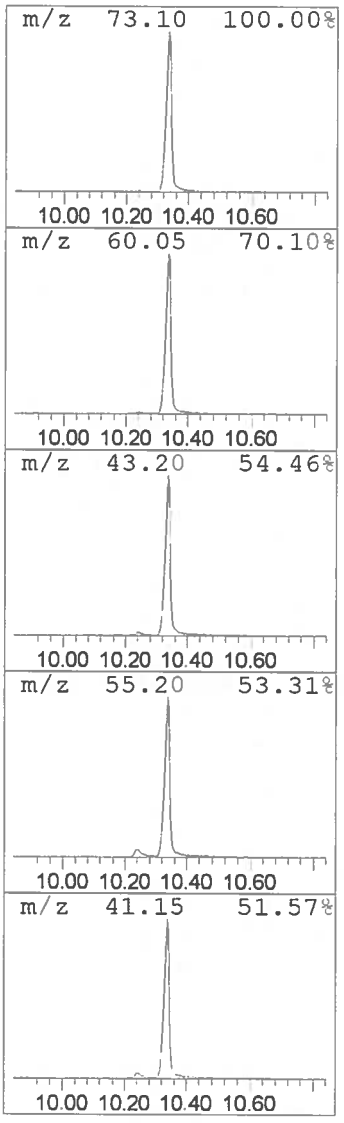
****

Peak Number 3 Octadecanoic acid Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.342	214.56 ug/ml	1492410	Phenanthrene-d10*	9.026

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octadecanoic acid	284	C18H36O2	000057-11-4	87
2	Pentadecanoic acid	242	C15H30O2	001002-84-2	86
3	Tetradecanoic acid	228	C14H28O2	000544-63-8	58
4	Heptadecanoic acid	270	C17H34O2	000506-12-7	52
5	Tridecanoic acid	214	C13H26O2	000638-53-9	50





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA035.D
Acq On : 17 Jun 2019 2:13 pm
Operator : DH
Sample : 19060980-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
n-Hexadecanoic ...	9.514	208.5	ug/ml	1450460	7	9.026	278224	40.0
9-Hexadecenoic ...	10.242	11.5	ug/ml	80115	7	9.026	278224	40.0
Octadecanoic acid	10.342	214.6	ug/ml	1492410	7	9.026	278224	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA039.D
Acq On : 17 Jun 2019 4:04 pm
Operator : DH
Sample : 19060980-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA039.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.122	3	7	10	rVB	8404	9171	2.44%	0.445%
2	2.240	24	27	31	rVB	5555	6331	1.69%	0.307%
3	2.739	108	112	117	rBV	24737	24541	6.54%	1.192%
4	3.409	223	226	232	rVB	71325	67260	17.93%	3.266%
5	3.797	288	292	296	rBB	57981	51444	13.71%	2.498%
6	4.149	348	352	360	rBV2	88332	87788	23.40%	4.263%
7	4.537	414	418	422	rBV	131629	111243	29.65%	5.402%
8	5.042	500	504	509	rBB	40765	35240	9.39%	1.711%
9	5.753	621	625	629	rBV	139839	131919	35.16%	6.406%
10	6.805	800	804	808	rBV	97476	85390	22.76%	4.146%
11	7.510	920	924	929	rBV	203480	192708	51.37%	9.358%
12	8.309	1057	1060	1064	rBV	105566	96620	25.76%	4.692%
13	9.026	1178	1182	1186	rBV	269657	244813	65.26%	11.888%
14	9.490	1258	1261	1265	rBV2	12851	11017	2.94%	0.535%
15	10.319	1397	1402	1405	rBV2	5458	5027	1.34%	0.244%
16	10.701	1463	1467	1472	rVB	149608	163816	43.67%	7.955%
17	12.299	1732	1739	1745	rBV	238407	359884	95.93%	17.476%
18	15.172	2219	2228	2238	rBV2	176607	375146	100.00%	18.217%

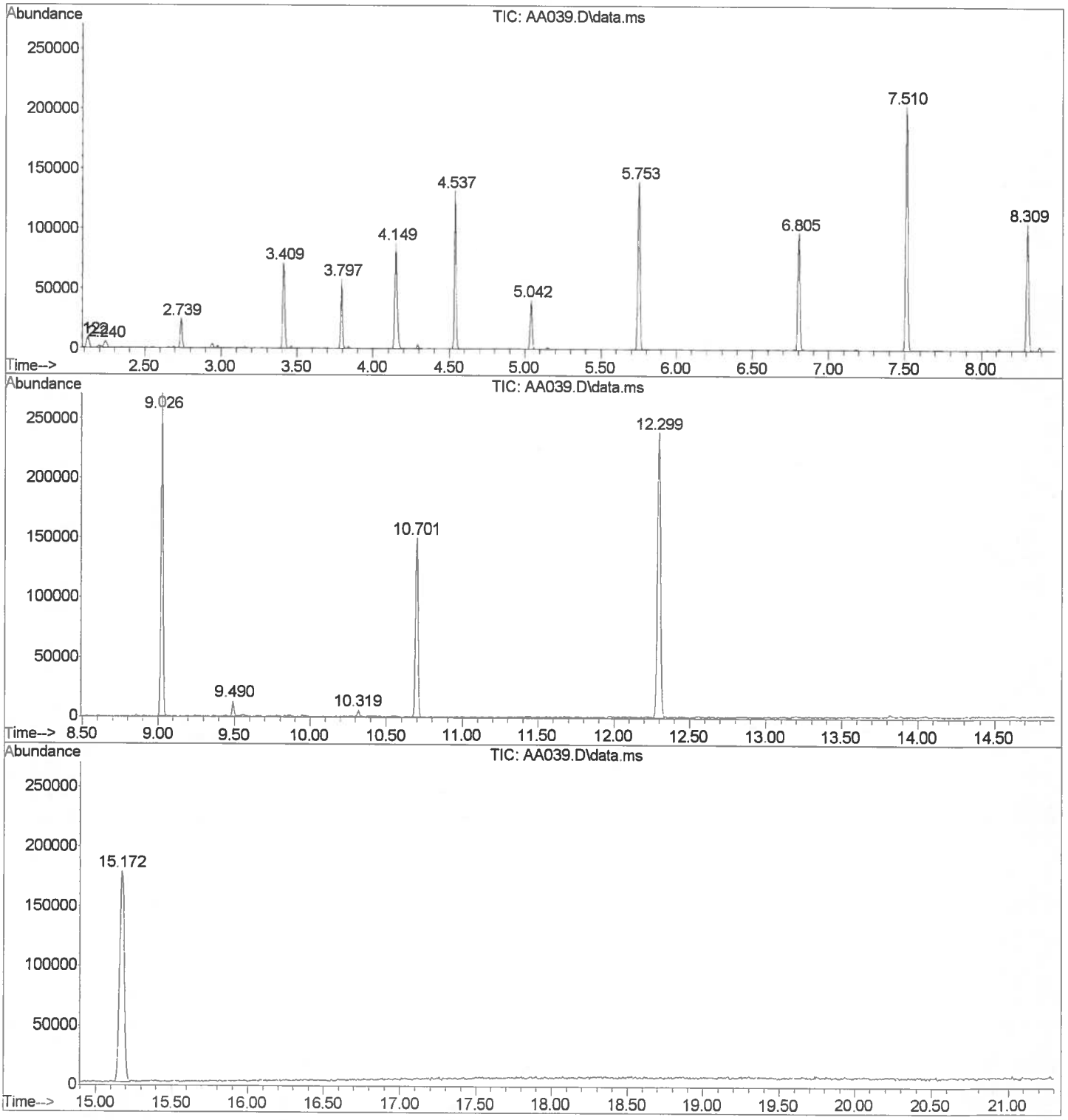
Sum of corrected areas: 2059358

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA039.D
Acq On : 17 Jun 2019 4:04 pm
Operator : DH
Sample : 19060980-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA039.D
Acq On : 17 Jun 2019 4:04 pm
Operator : DH
Sample : 19060980-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

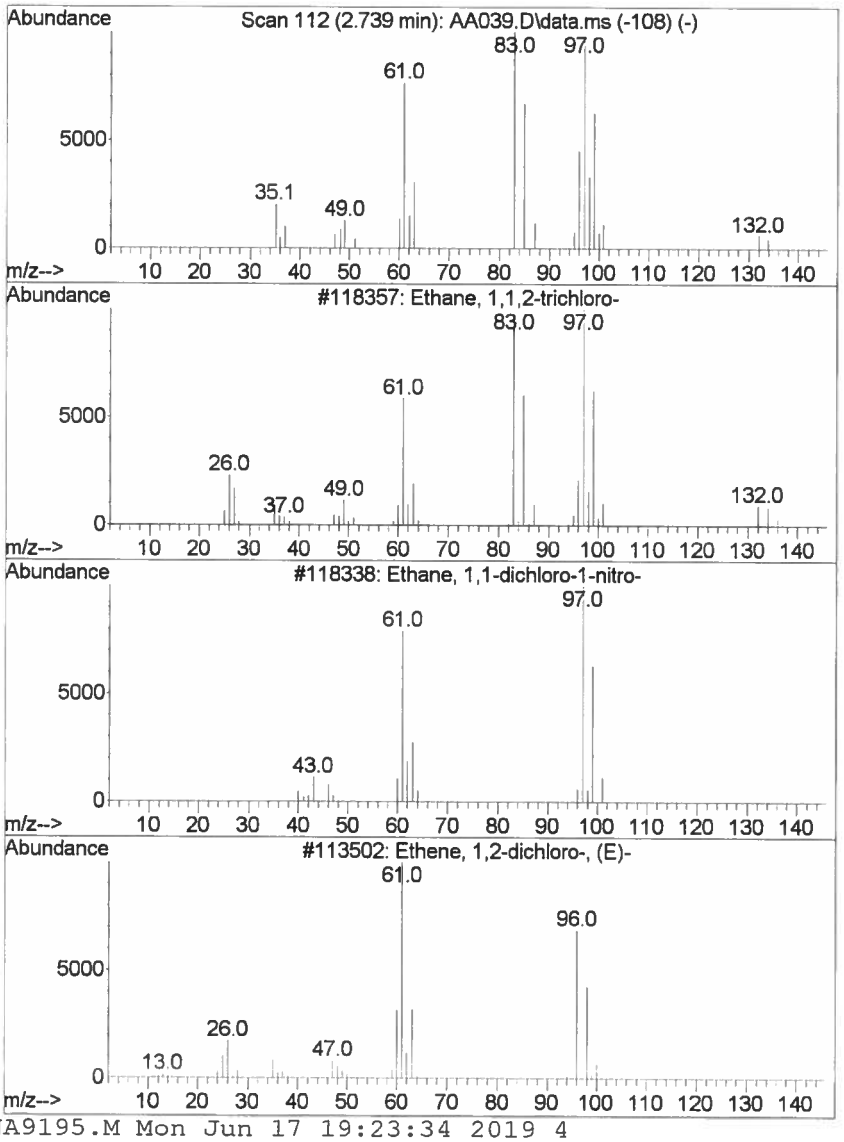
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

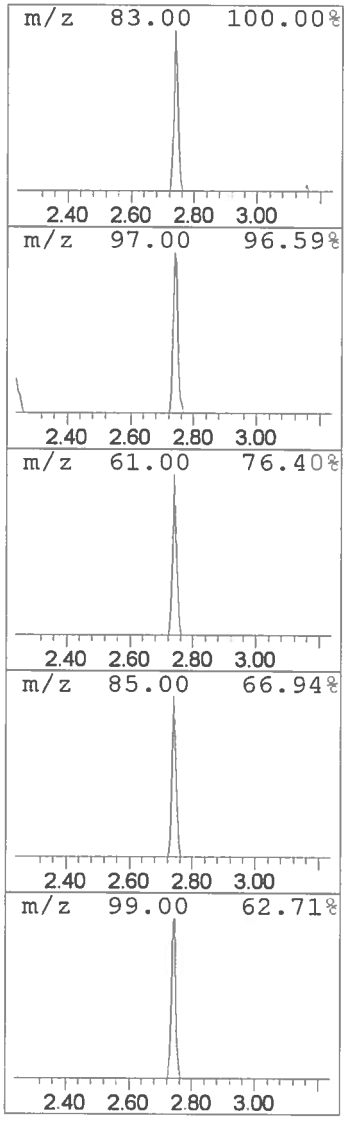
****

Peak Number 1 Ethane, 1,1,2-trichloro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.739	8.82 ug/ml	24541	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	53
2	Ethane, 1,1-dichloro-1-nitro-	143	C2H3Cl2NO2	000594-72-9	47
3	Ethene, 1,2-dichloro-, (E)-	96	C2H2Cl2	000156-60-5	30
4	Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	18
5	Ethene, 1,1-dichloro-	96	C2H2Cl2	000075-35-4	15





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA039.D
Acq On : 17 Jun 2019 4:04 pm
Operator : DH
Sample : 19060980-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

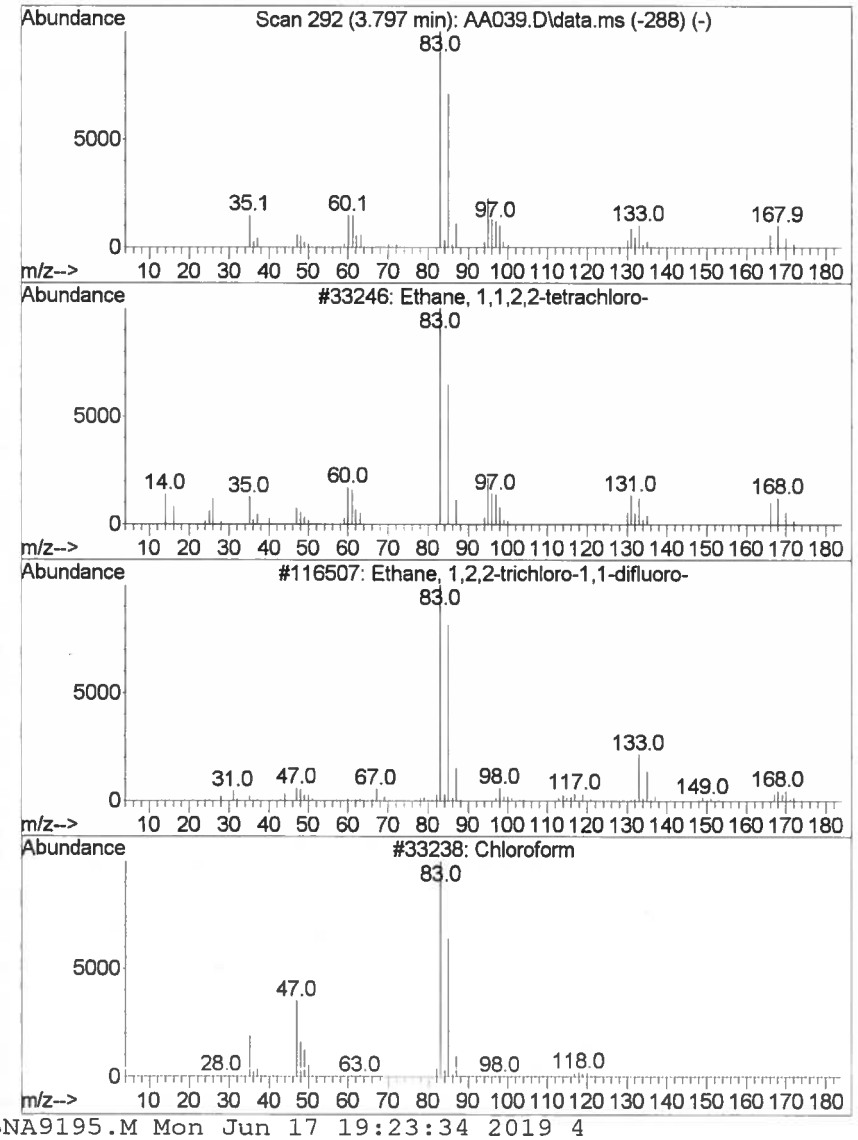
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

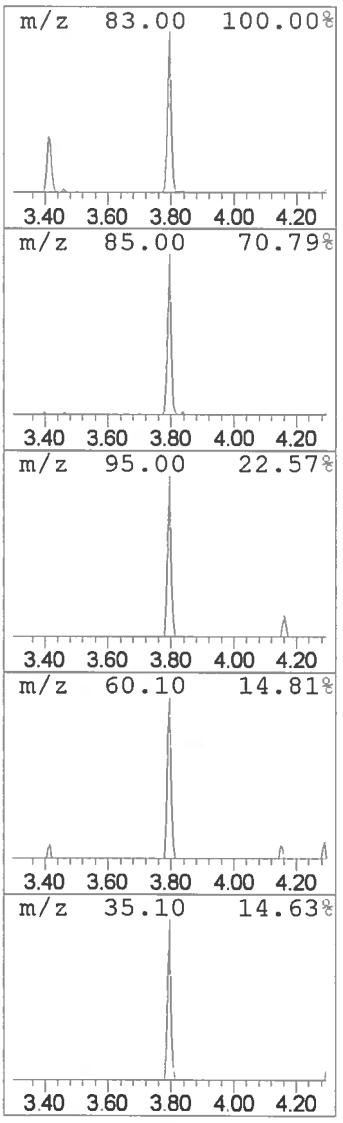
****

Peak Number 2 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.797	18.50 ug/ml	51444	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	97
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	70
3	Chloroform	118	CHCl3	000067-66-3	50
4	Ethane, 1,1,2-trichloro-2-fluoro-	150	C2H2Cl3F	000359-28-4	45
5	Ethane, 1,1-dichloro-2,2-difluoro-	134	C2H2Cl2F2	000471-43-2	42





LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA040.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.686	98	103	109	rBV3	25039	34818	6.19%	0.270%
2	2.869	127	134	140	rBV4	44832	60184	10.71%	0.467%
3	3.345	211	215	218	rVV2	26251	36378	6.47%	0.282%
4	3.380	218	221	224	rVV	89747	94255	16.77%	0.731%
5	3.409	224	226	229	rVV2	72784	74398	13.24%	0.577%
6	3.444	229	232	237	rVB	174231	208855	37.15%	1.620%
7	3.609	256	260	261	rBV2	54497	57553	10.24%	0.446%
8	3.627	261	263	270	rVB	93089	82972	14.76%	0.644%
9	3.797	286	292	296	rVV	66735	69043	12.28%	0.536%
10	4.073	332	339	343	rBV2	51474	79173	14.08%	0.614%
11	4.120	343	347	349	rBV	147300	132839	23.63%	1.030%
12	4.149	349	352	355	rVV	151052	144658	25.73%	1.122%
13	4.179	355	357	361	rVB	85405	73973	13.16%	0.574%
14	4.261	368	371	373	rBV	51798	45995	8.18%	0.357%
15	4.337	382	384	387	rVB	89893	73401	13.06%	0.569%
16	4.373	387	390	394	rVB	273429	249145	44.32%	1.933%
17	4.496	408	411	415	rVB	29682	30401	5.41%	0.236%
18	4.537	415	418	422	rVB	148566	133481	23.75%	1.035%
19	4.584	422	426	429	rBV	91658	86607	15.41%	0.672%
20	4.708	443	447	449	rBV	39372	37988	6.76%	0.295%
21	4.737	449	452	454	rBV2	44193	42128	7.49%	0.327%
22	4.761	454	456	459	rVB	98186	86613	15.41%	0.672%
23	4.802	459	463	466	rBV3	180104	187450	33.35%	1.454%
24	4.837	466	469	474	rVB	33598	32766	5.83%	0.254%
25	4.937	484	486	488	rBV	55531	49879	8.87%	0.387%
26	4.960	488	490	495	rVB	64119	62676	11.15%	0.486%
27	5.007	495	498	500	rBV	148518	143745	25.57%	1.115%
28	5.031	500	502	509	rVB3	299806	345481	61.46%	2.680%
29	5.113	509	516	519	rBV4	36560	63259	11.25%	0.491%
30	5.154	519	523	526	rBV5	28537	33627	5.98%	0.261%
31	5.213	530	533	534	rBV2	34452	32024	5.70%	0.248%
32	5.231	534	536	538	rBV	100203	72574	12.91%	0.563%
33	5.260	538	541	544	rVB	157273	135459	24.10%	1.051%
34	5.348	551	556	559	rBV2	106448	121541	21.62%	0.943%
35	5.377	559	561	566	rBV2	107534	155089	27.59%	1.203%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

36	5.424	566	569	571	rVV2	143749	170475	30.33%	1.322%
37	5.448	571	573	576	rVB3	111355	110359	19.63%	0.856%
38	5.489	576	580	585	rVB2	274296	370958	65.99%	2.878%
39	5.542	585	589	594	rVB2	79441	114337	20.34%	0.887%
40	5.595	594	598	601	rBV	122332	116524	20.73%	0.904%
41	5.630	601	604	605	rBV	29073	30311	5.39%	0.235%
42	5.683	609	613	616	rBV	463801	440519	78.37%	3.417%
43	5.724	616	620	622	rVV2	108144	172598	30.70%	1.339%
44	5.753	622	625	627	rVV2	314515	356996	63.51%	2.769%
45	5.777	627	629	632	rVV2	186983	174417	31.03%	1.353%
46	5.812	632	635	640	rVB2	100352	111776	19.88%	0.867%
47	5.883	644	647	653	rBV2	62442	82234	14.63%	0.638%
48	5.936	653	656	659	rBV4	39720	31416	5.59%	0.244%
49	5.971	659	662	663	rBV	33677	30093	5.35%	0.233%
50	6.006	663	668	671	rBV3	174370	197296	35.10%	1.530%
51	6.071	676	679	683	rVB3	76178	86163	15.33%	0.668%
52	6.118	683	687	691	rVB3	289497	281019	49.99%	2.180%
53	6.159	691	694	698	rBV4	35055	50573	9.00%	0.392%
54	6.200	698	701	703	rBV	59858	50396	8.97%	0.391%
55	6.241	703	708	711	rVB4	98656	125071	22.25%	0.970%
56	6.288	711	716	720	rBV	617233	562128	100.00%	4.361%
57	6.323	720	722	725	rVV3	58713	53188	9.46%	0.413%
58	6.382	729	732	735	rBV2	41600	37933	6.75%	0.294%
59	6.453	741	744	747	rBV	370474	363035	64.58%	2.816%
60	6.558	758	762	765	rBV	190226	221757	39.45%	1.720%
61	6.623	769	773	776	rVV4	75730	81346	14.47%	0.631%
62	6.652	776	778	783	rVV4	60941	58834	10.47%	0.456%
63	6.694	783	785	787	rVV	40788	31517	5.61%	0.244%
64	6.717	787	789	793	rVB	148715	136456	24.27%	1.059%
65	6.805	801	804	809	rVB	113099	122020	21.71%	0.947%
66	6.852	809	812	816	rBV	449657	450083	80.07%	3.491%
67	6.893	816	819	821	rBV3	39449	41352	7.36%	0.321%
68	7.017	837	840	847	rVB2	44434	61212	10.89%	0.475%
69	7.081	847	851	855	rBV2	99922	149610	26.61%	1.161%
70	7.158	861	864	866	rBV	122078	148749	26.46%	1.154%
71	7.181	866	868	876	rVV3	257900	323526	57.55%	2.510%
72	7.281	881	885	890	rVB3	79110	99612	17.72%	0.773%
73	7.363	896	899	900	rBV3	26971	28873	5.14%	0.224%
74	7.387	900	903	906	rVB	345453	311128	55.35%	2.413%
75	7.516	920	925	928	rBV	294279	320557	57.03%	2.487%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

76	7.563	931	933	936	rVB4	32037	31711	5.64%	0.246%
77	7.616	936	942	945	rBV3	51367	107511	19.13%	0.834%
78	7.651	945	948	951	rVV3	47051	61062	10.86%	0.474%
79	7.681	951	953	955	rVV	29351	30304	5.39%	0.235%
80	7.716	955	959	961	rVV2	81391	120894	21.51%	0.938%
81	7.745	961	964	968	rVB2	99291	105432	18.76%	0.818%
82	7.828	974	978	980	rBV2	41776	59314	10.55%	0.460%
83	7.851	980	982	986	rVV2	42822	42301	7.53%	0.328%
84	7.892	986	989	993	rVV	220399	212578	37.82%	1.649%
85	7.933	994	996	999	rVB3	36857	33980	6.04%	0.264%
86	8.027	1009	1012	1015	rBV2	57318	49326	8.77%	0.383%
87	8.074	1015	1020	1023	rVB5	23913	30939	5.50%	0.240%
88	8.115	1023	1027	1030	rBV	85148	93745	16.68%	0.727%
89	8.309	1056	1060	1063	rVV2	122701	126713	22.54%	0.983%
90	8.374	1067	1071	1076	rVV	121156	175831	31.28%	1.364%
91	8.421	1076	1079	1082	rVB4	25860	28924	5.15%	0.224%
92	8.509	1090	1094	1101	rVB4	32405	51732	9.20%	0.401%
93	8.656	1116	1119	1125	rVB4	38929	50602	9.00%	0.393%
94	8.826	1144	1148	1151	rBV	49695	50952	9.06%	0.395%
95	8.862	1151	1154	1157	rVB	39178	40008	7.12%	0.310%
96	9.026	1178	1182	1185	rBV	317925	283399	50.42%	2.198%
97	9.255	1218	1221	1229	rVB4	32541	42666	7.59%	0.331%
98	10.701	1462	1467	1471	rVB	163482	182552	32.48%	1.416%
99	12.299	1732	1739	1745	rBV	282369	404783	72.01%	3.140%
100	15.178	2220	2229	2237	rBV	195486	397179	70.66%	3.081%

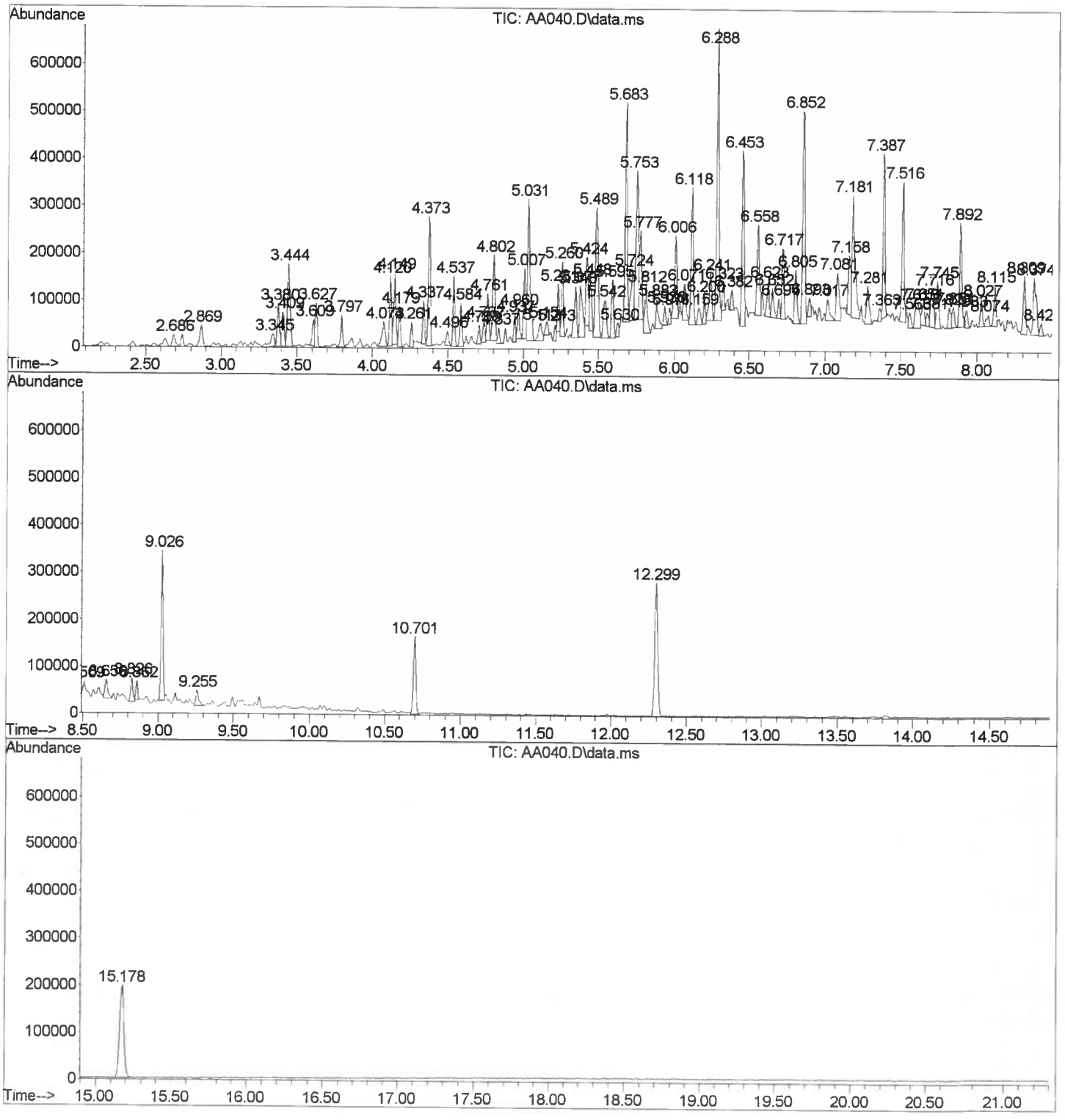
Sum of corrected areas: 12891313

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

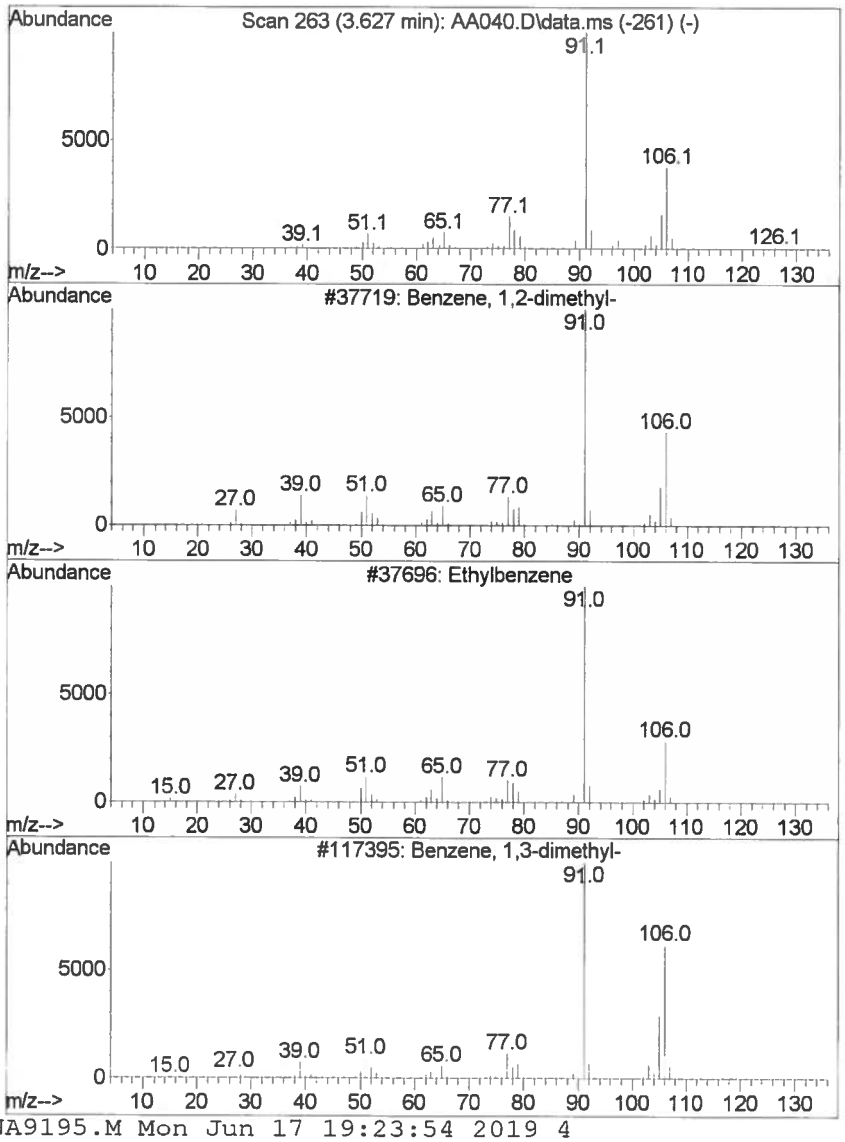
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

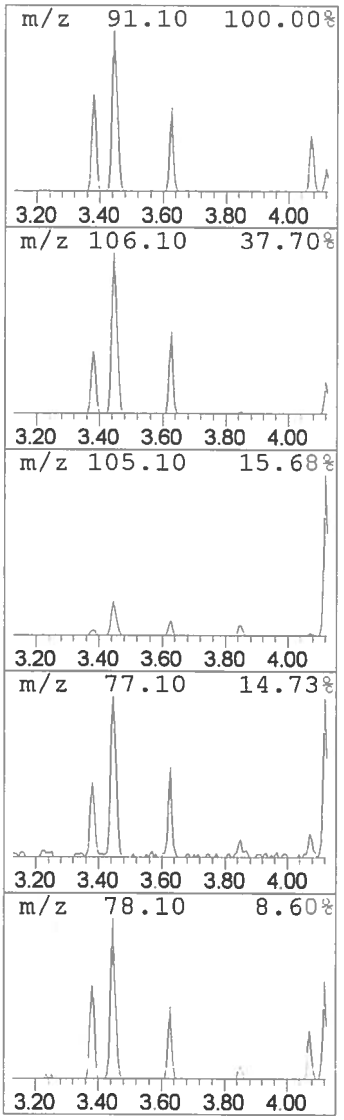
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Benzene, 1,2-dimethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.627	24.86 ug/ml	82972	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,2-dimethyl-	106	C8H10	000095-47-6	91
2	Ethylbenzene	106	C8H10	000100-41-4	91
3	Benzene, 1,3-dimethyl-	106	C8H10	000108-38-3	90
4	p-Xylene	106	C8H10	000106-42-3	90
5	1,3-Cyclopentadiene, 5-(1-methyl...	106	C8H10	002175-91-9	87





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

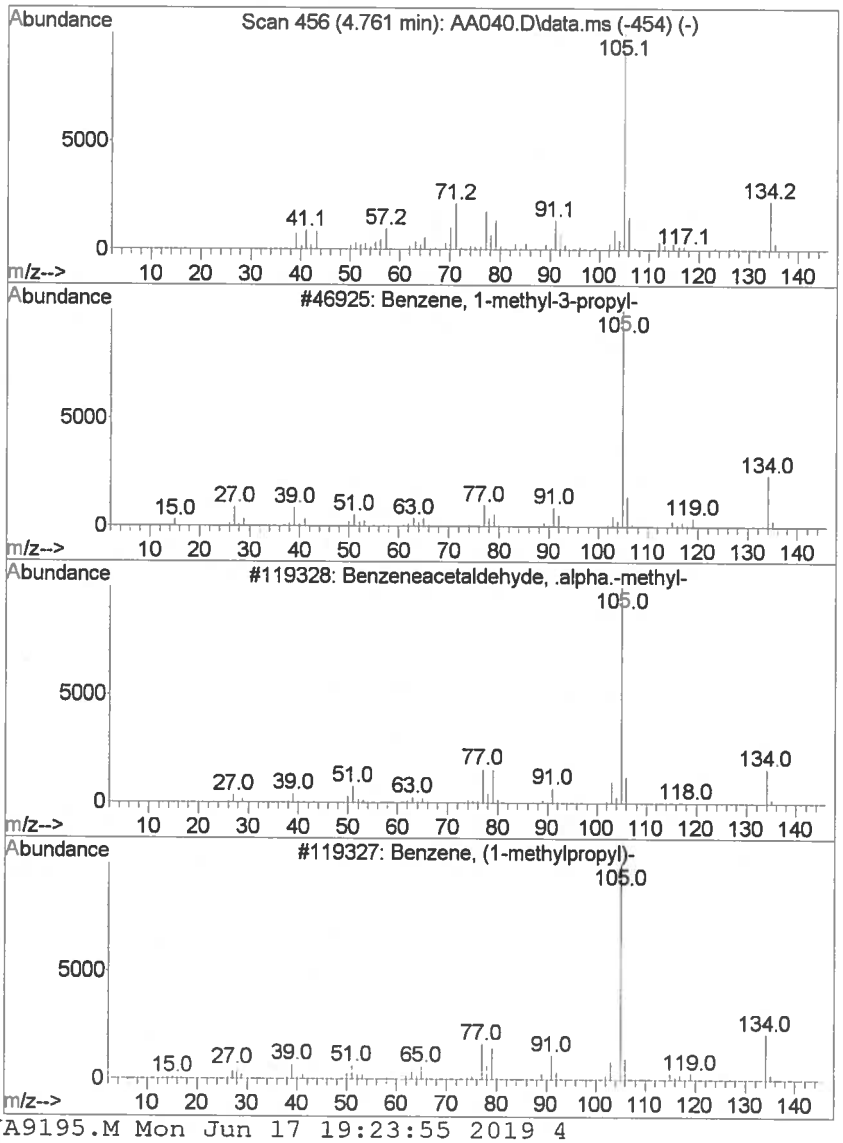
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

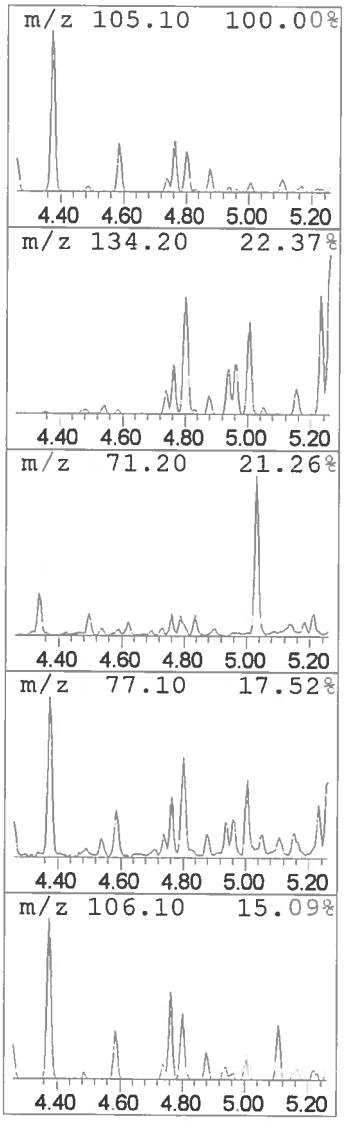
****

Peak Number 2 Benzene, 1-methyl-3-propyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.761	25.96 ug/ml	86613	1,4-Dichlorobenzene-d4*	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-methyl-3-propyl-	134	C10H14	001074-43-7	76
2	Benzeneacetaldehyde, .alpha.-met...	134	C9H10O	000093-53-8	70
3	Benzene, (1-methylpropyl)-	134	C10H14	000135-98-8	70
4	Benzeneacetaldehyde, 4-methyl-	134	C9H10O	000104-09-6	53
5	Benzene, 1-methyl-2-propyl-	134	C10H14	001074-17-5	52





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

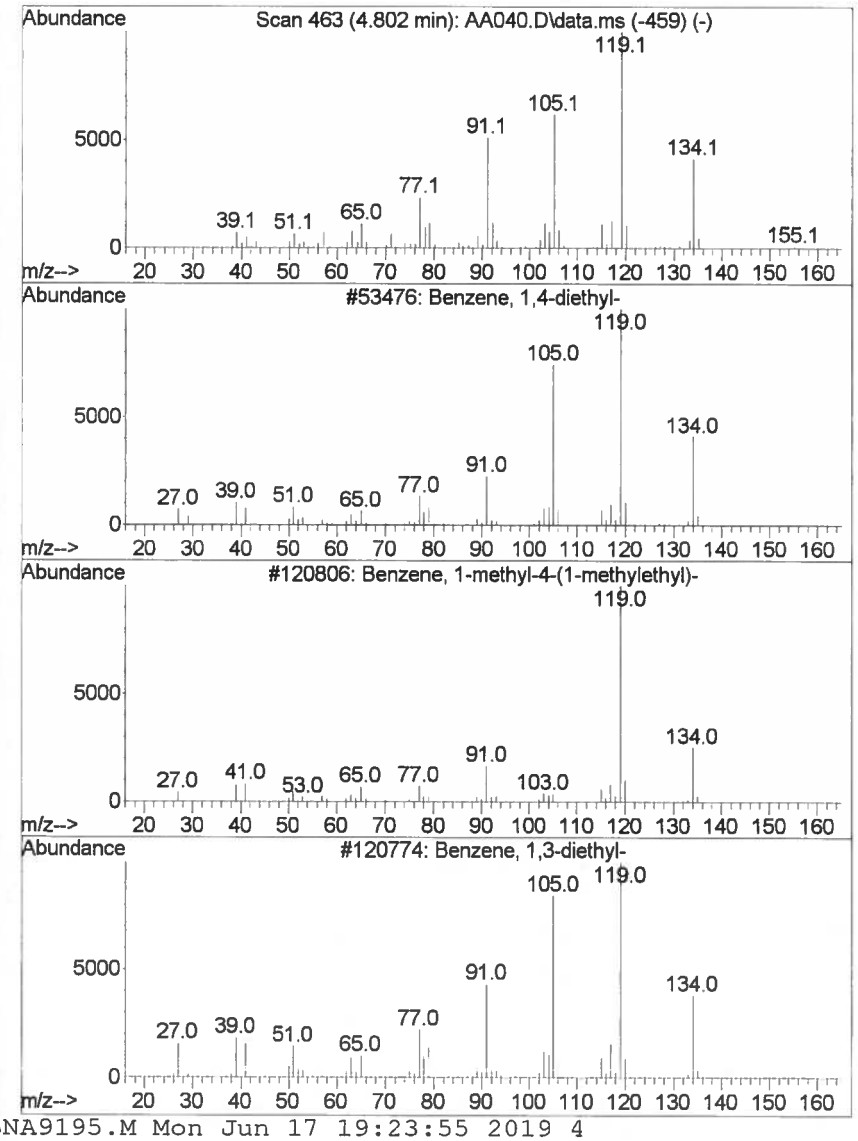
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

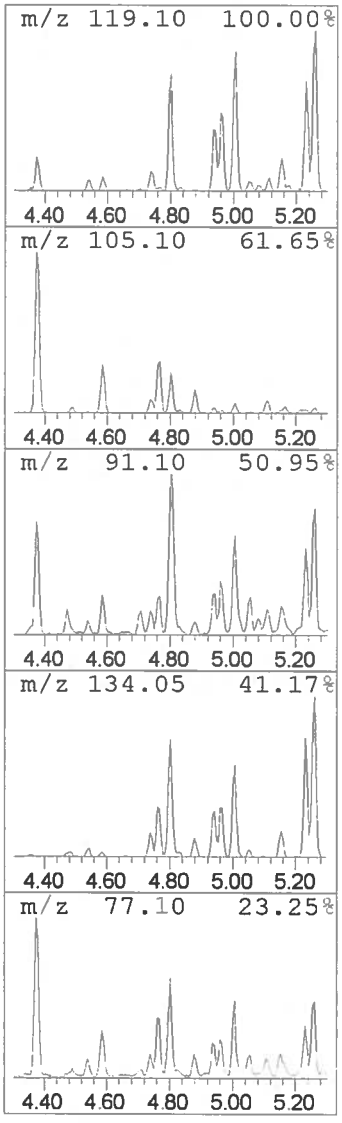
****

Peak Number 3 Benzene, 1,4-diethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.802	56.17 ug/ml	187450	1,4-Dichlorobenzene-d4*	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-diethyl-	134	C10H14	000105-05-5	93
2	Benzene, 1-methyl-4-(1-methyleth...	134	C10H14	000099-87-6	91
3	Benzene, 1,3-diethyl-	134	C10H14	000141-93-5	91
4	Benzene, 1,2-diethyl-	134	C10H14	000135-01-3	91
5	Benzene, 2-ethyl-1,4-dimethyl-	134	C10H14	001758-88-9	91





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

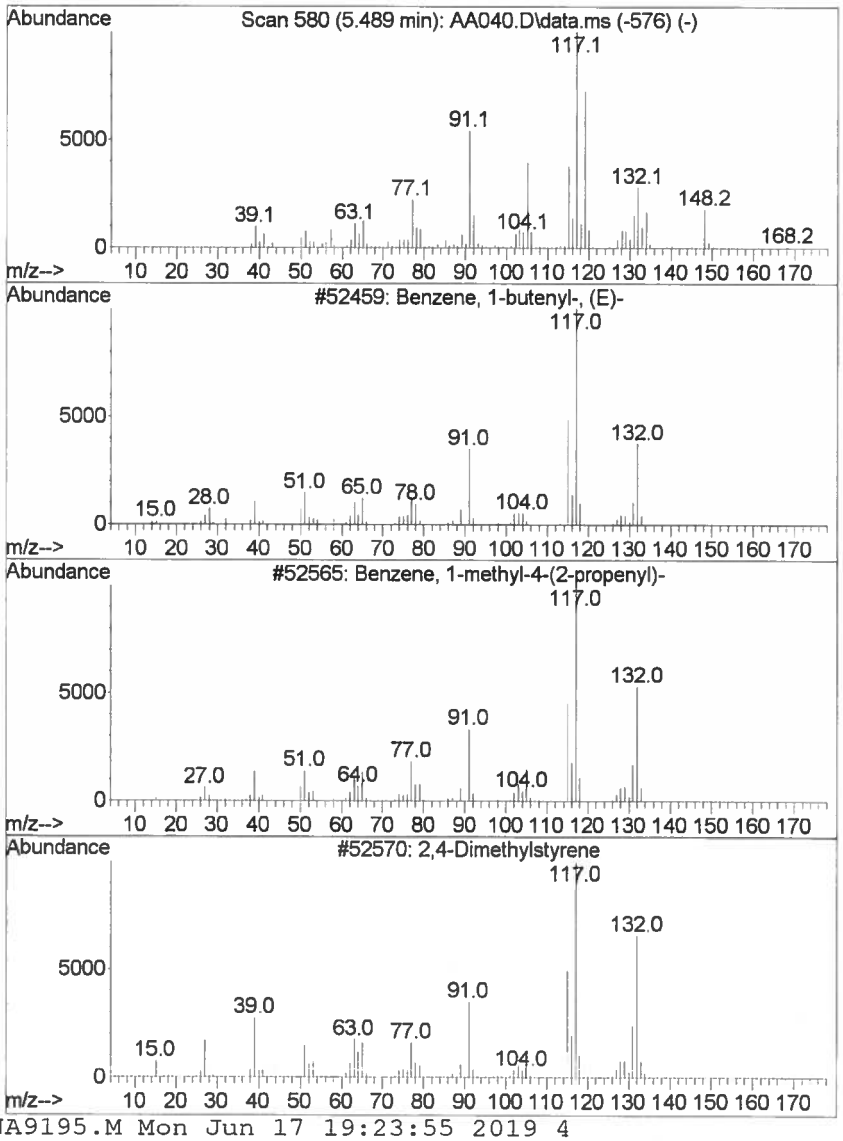
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

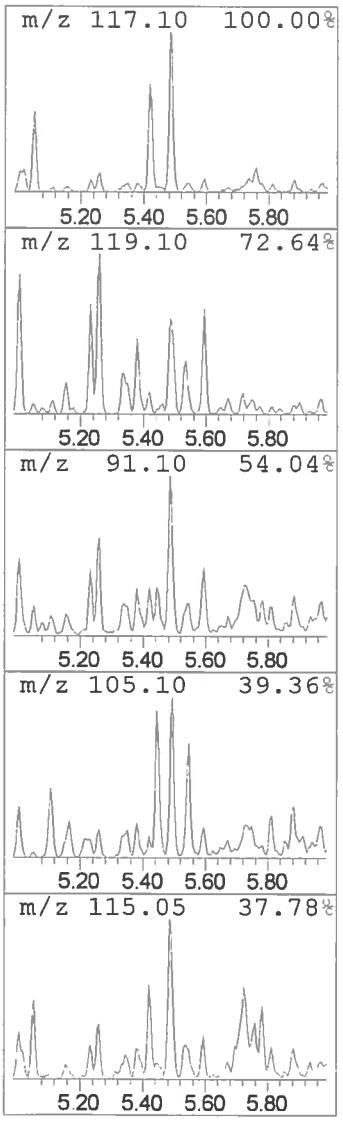
****

Peak Number 4 Benzene, 1-butenyl-, (E)- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.489	41.56 ug/ml	370958	Naphthalene-d8	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-butenyl-, (E)-	132	C10H12	001005-64-7	92
2	Benzene, 1-methyl-4-(2-propenyl)-	132	C10H12	003333-13-9	70
3	2,4-Dimethylstyrene	132	C10H12	002234-20-0	70
4	Benzene, 1-methyl-2-(2-propenyl)-	132	C10H12	001587-04-8	70
5	1-Phenyl-1-butene	132	C10H12	000824-90-8	70





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

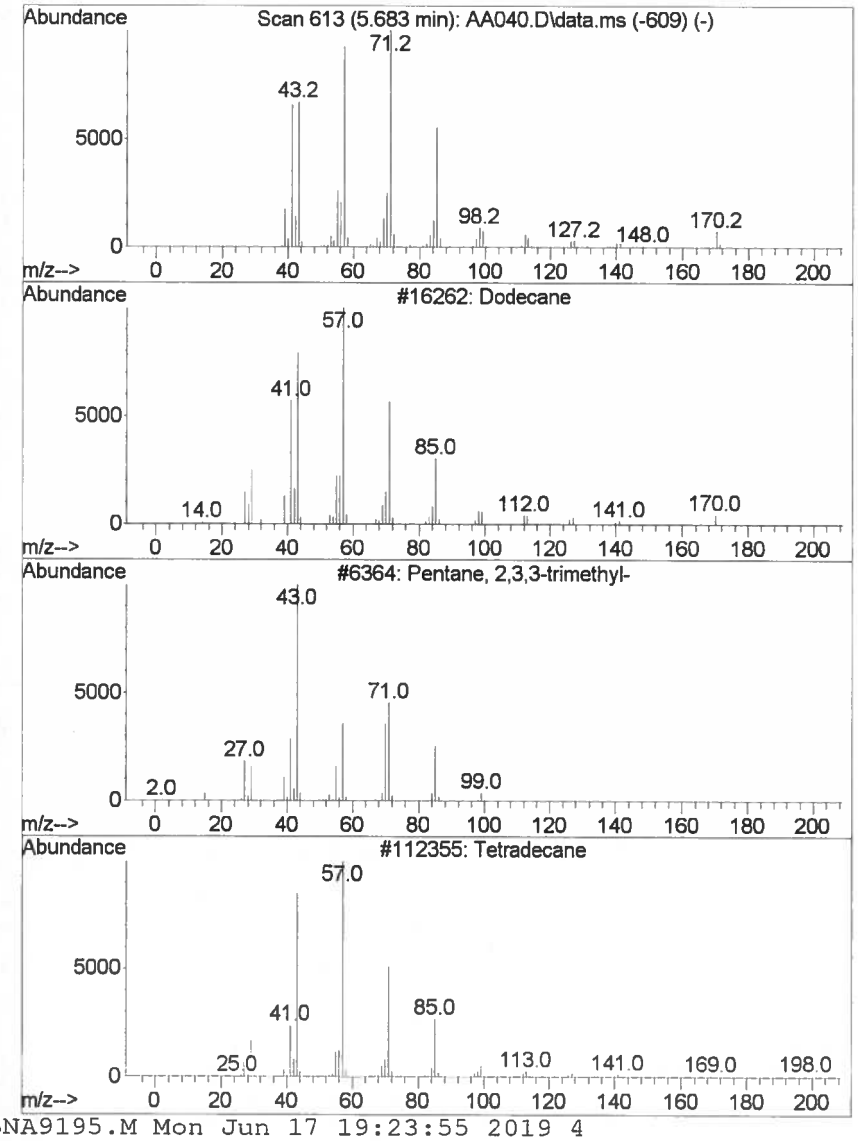
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

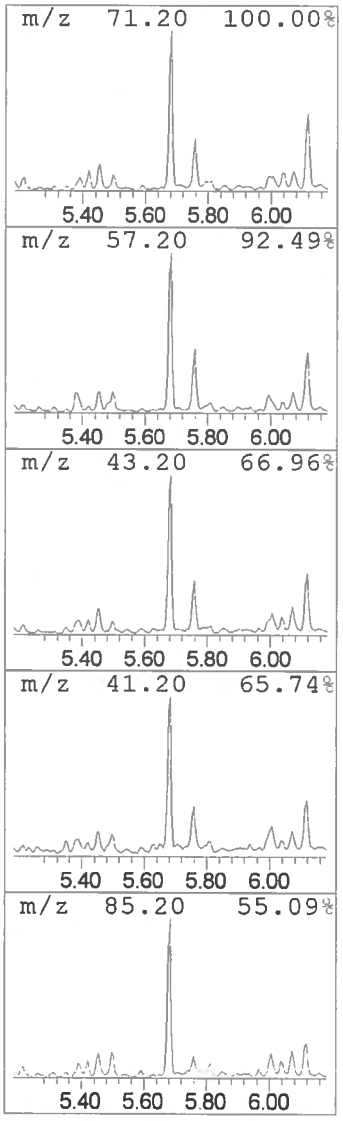
****

Peak Number 5 Dodecane Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.683	49.36 ug/ml	440519	Naphthalene-d8	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dodecane	170	C12H26	000112-40-3	64
2	Pentane, 2,3,3-trimethyl-	114	C8H18	000560-21-4	59
3	Tetradecane	198	C14H30	000629-59-4	59
4	Octane, 2,3,7-trimethyl-	156	C11H24	062016-34-6	53
5	Undecane	156	C11H24	001120-21-4	50





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

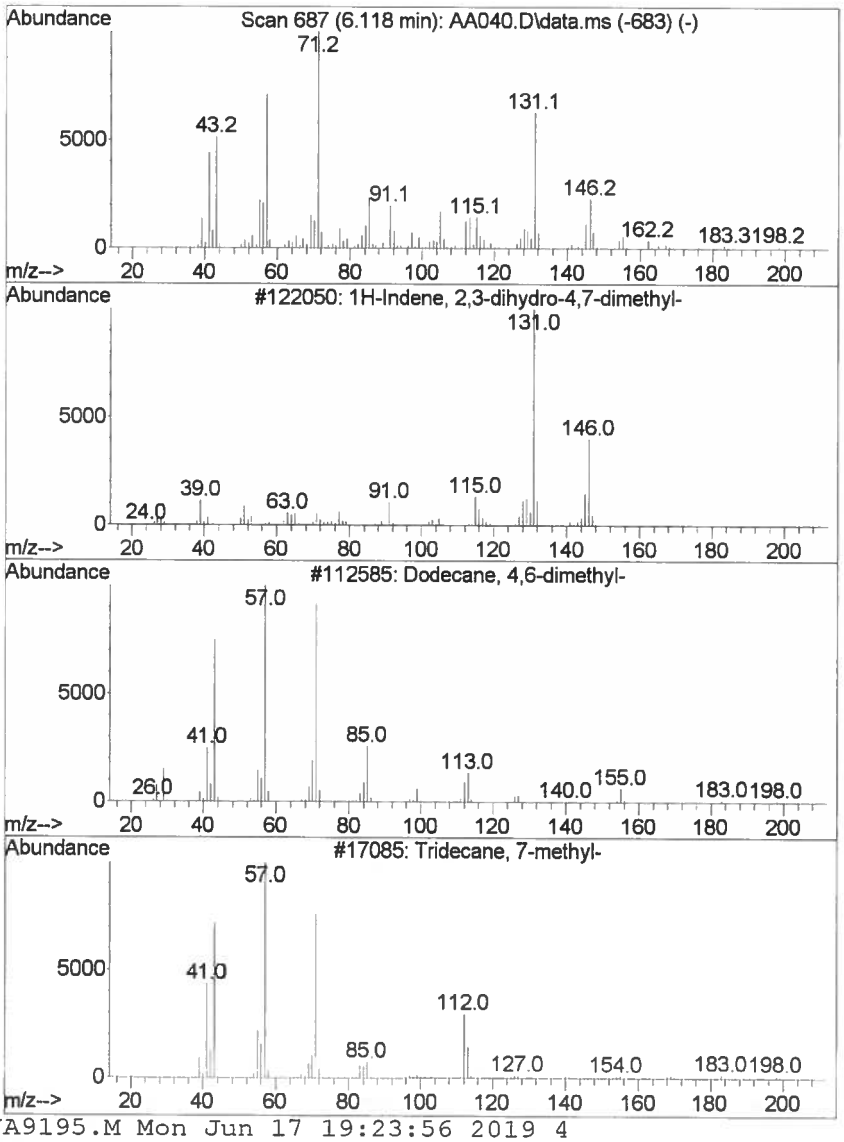
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

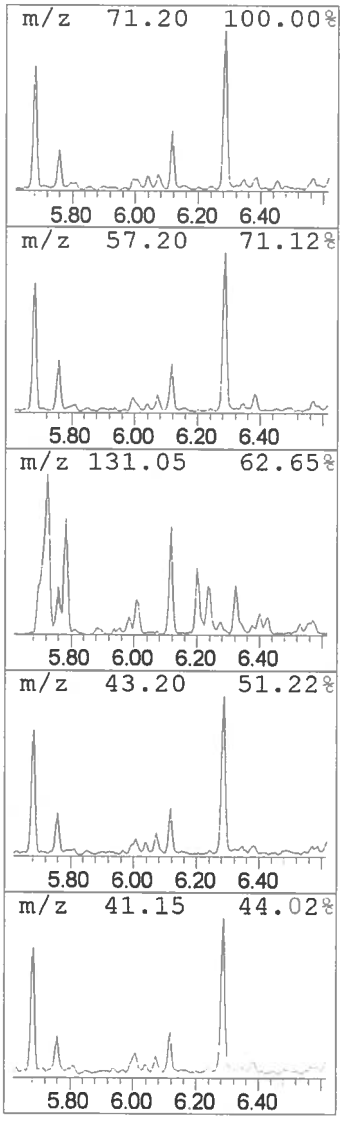
****

Peak Number 6 1H-Indene, 2,3-dihydro-4,7-... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.118	31.49 ug/ml	281019	Naphthalene-d8*	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-4,7-dimet...	146	C11H14	006682-71-9	60
2	Dodecane, 4,6-dimethyl-	198	C14H30	061141-72-8	49
3	Tridecane, 7-methyl-	198	C14H30	026730-14-3	49
4	1H-Indene, 2,3-dihydro-4,6-dimet...	146	C11H14	001685-82-1	35
5	Benzene, 1-methyl-3-(1-methyl-2-...	146	C11H14	052161-57-6	35





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

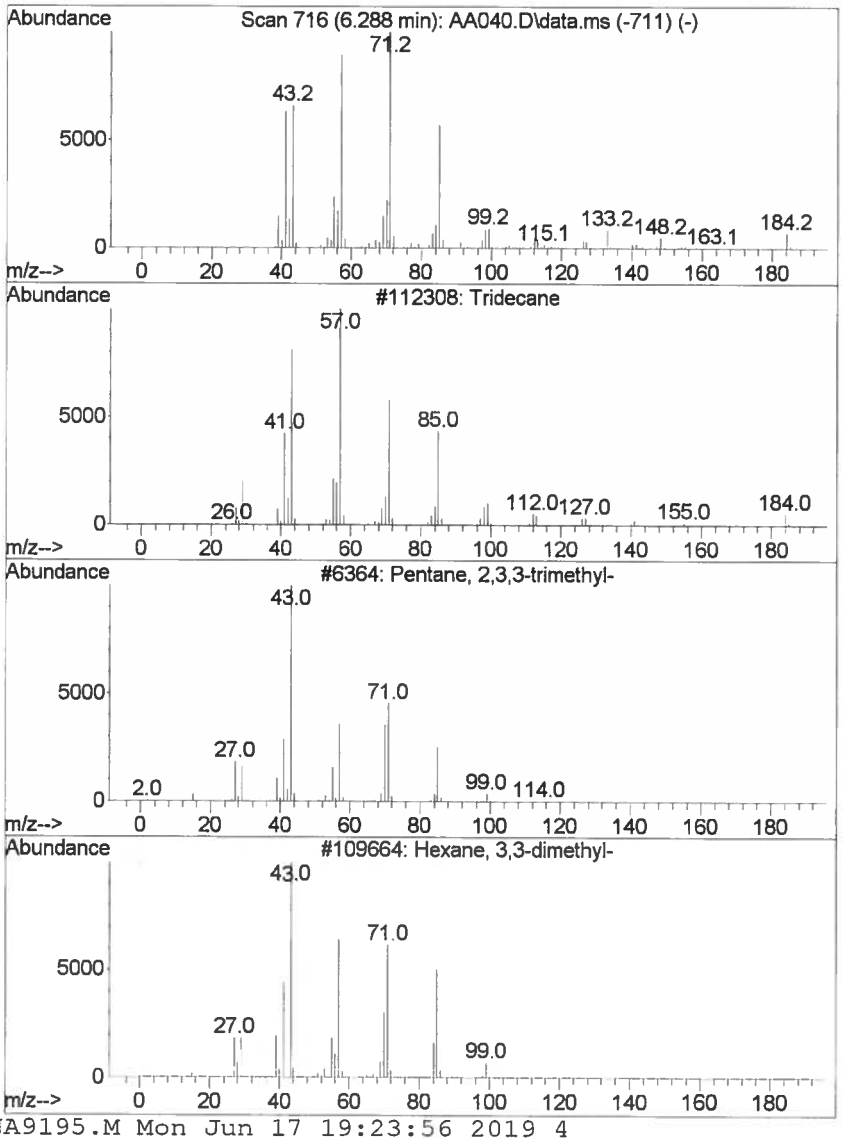
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

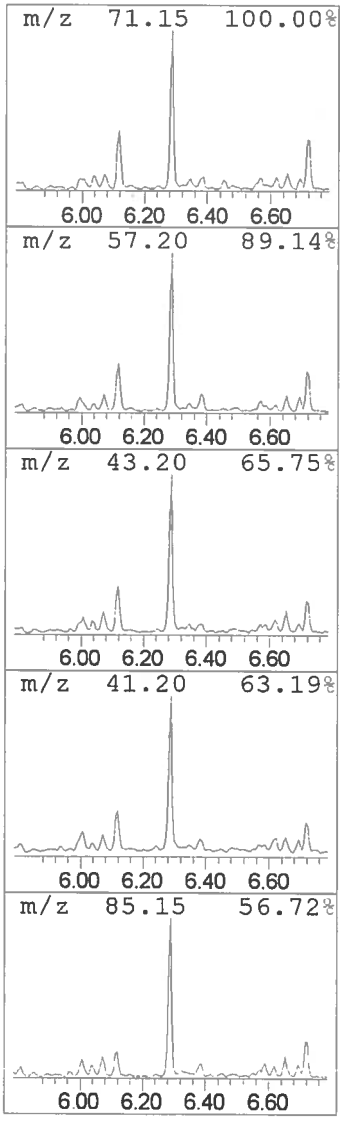
****

Peak Number 7 Tridecane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.288	62.98 ug/ml	562128	Naphthalene-d8*	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tridecane	184	C13H28	000629-50-5	90
2	Pentane, 2,3,3-trimethyl-	114	C8H18	000560-21-4	59
3	Hexane, 3,3-dimethyl-	114	C8H18	000563-16-6	53
4	Undecane, 4,6-dimethyl-	184	C13H28	017312-82-2	53
5	Octane, 2,3,7-trimethyl-	156	C11H24	062016-34-6	50





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

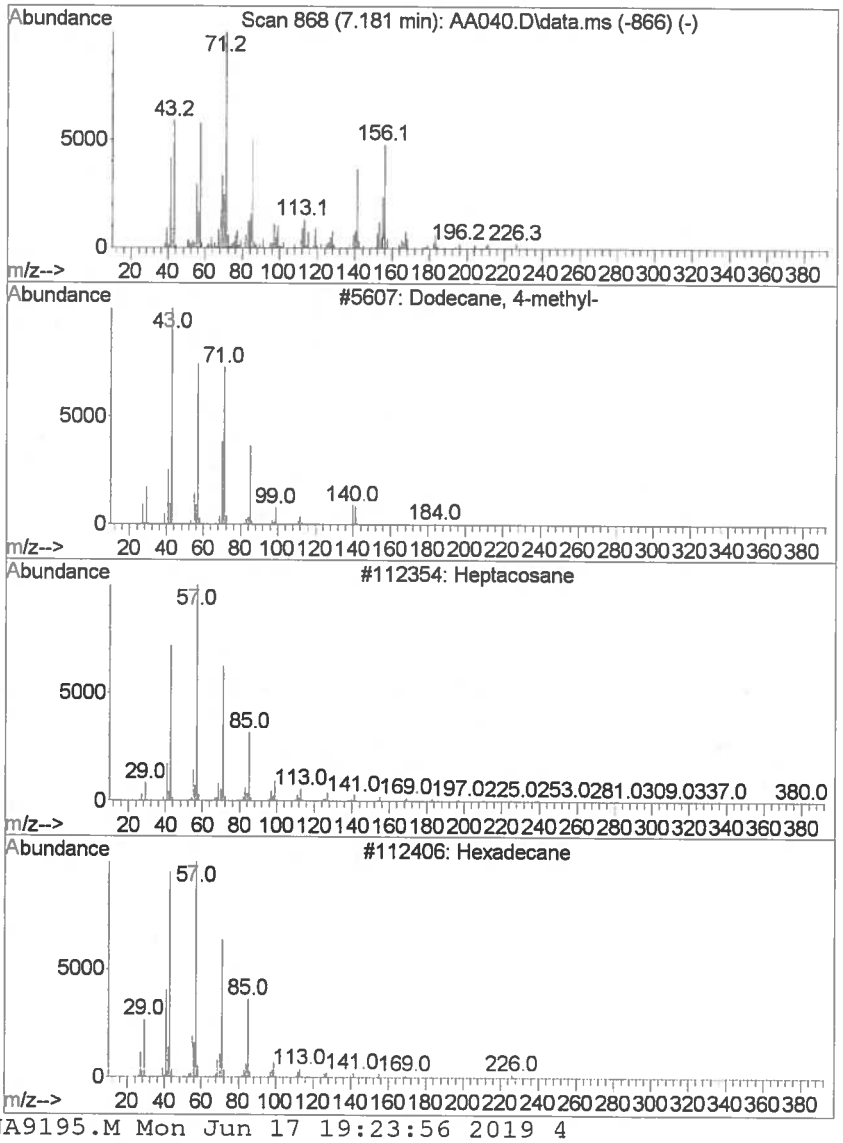
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

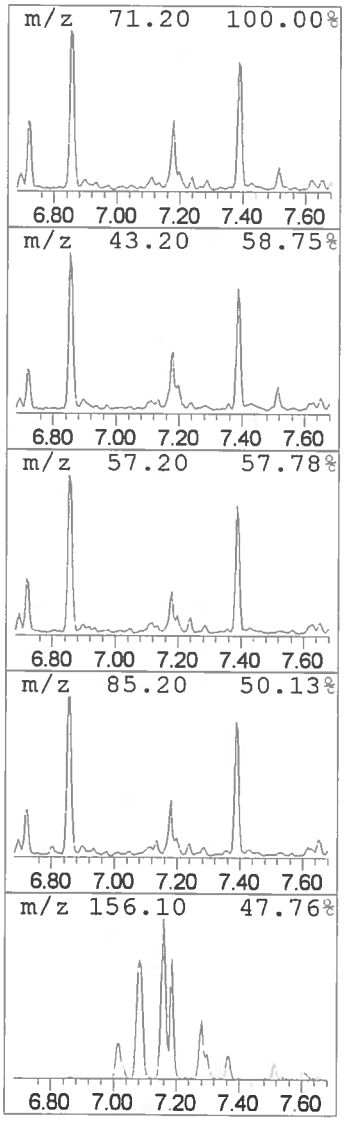
****

Peak Number 8 Dodecane, 4-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.181	40.37 ug/ml	323526	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dodecane, 4-methyl-	184	C13H28	006117-97-1	49
2	Heptacosane	380	C27H56	000593-49-7	47
3	Hexadecane	226	C16H34	000544-76-3	46
4	Undecane, 2,6-dimethyl-	184	C13H28	017301-23-4	35
5	Tetradecane, 2,6,10-trimethyl-	240	C17H36	014905-56-7	35





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

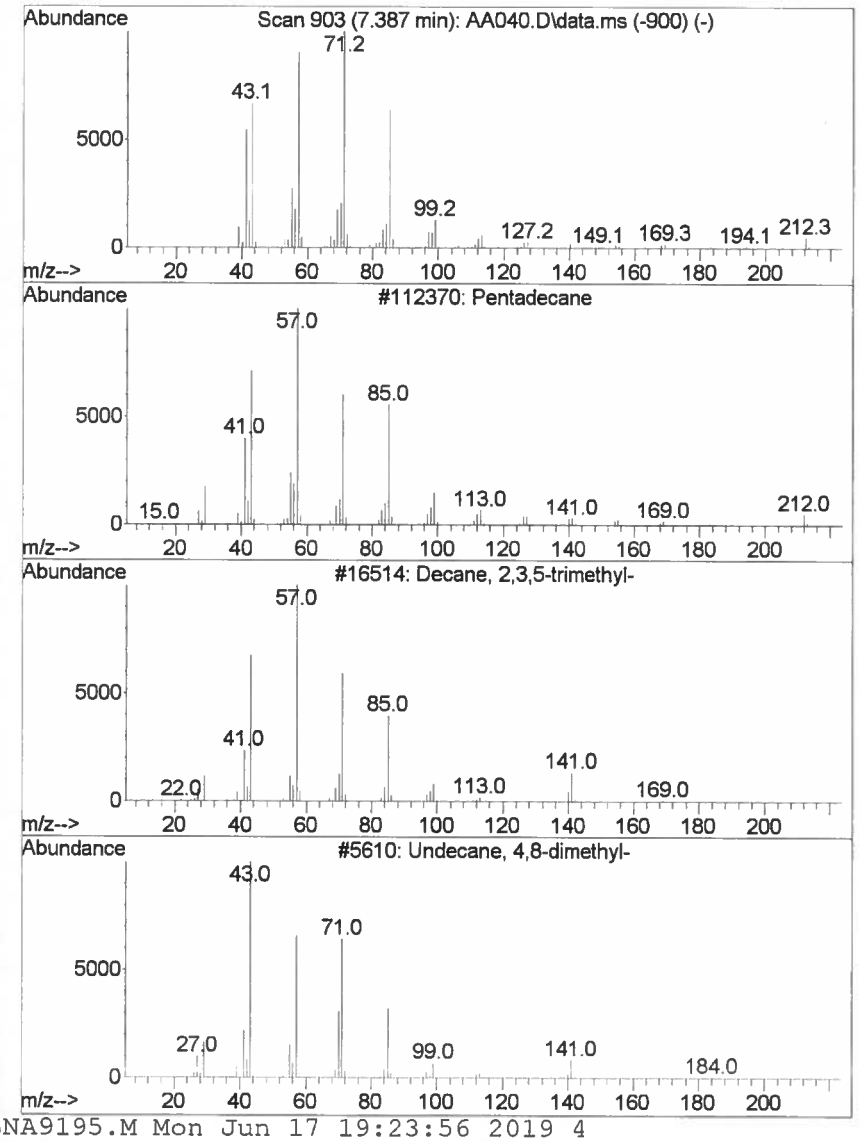
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

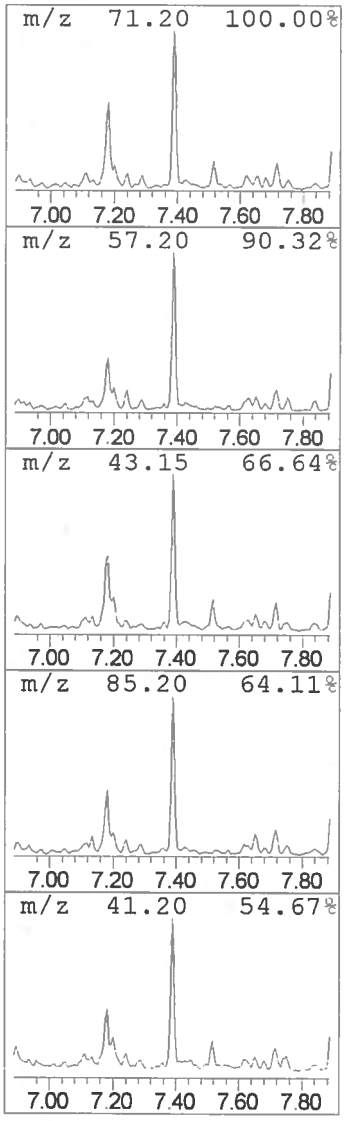
****

Peak Number 9 Pentadecane Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.387	38.82 ug/ml	311128	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentadecane	212	C15H32	000629-62-9	90
2	Decane, 2,3,5-trimethyl-	184	C13H28	062238-11-3	78
3	Undecane, 4,8-dimethyl-	184	C13H28	017301-33-6	72
4	Hexadecane	226	C16H34	000544-76-3	64
5	Decane, 2,4,6-trimethyl-	184	C13H28	062108-27-4	64





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

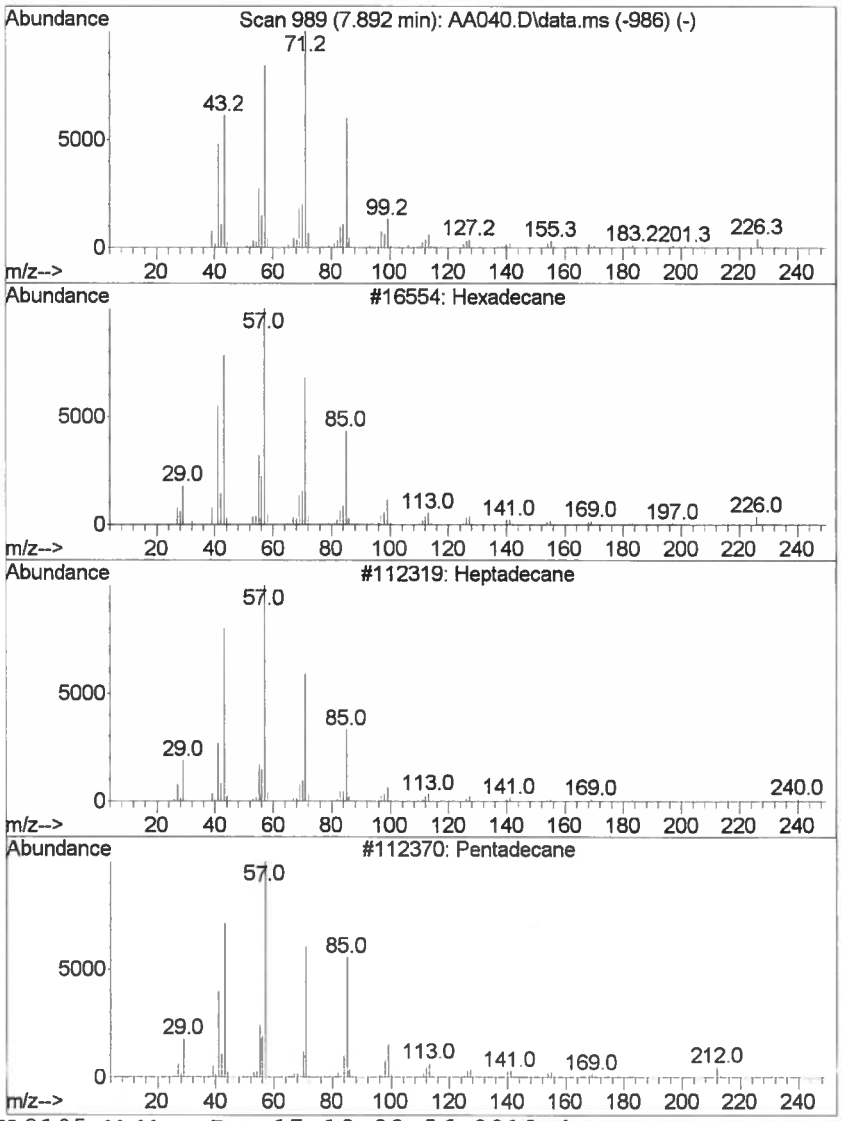
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

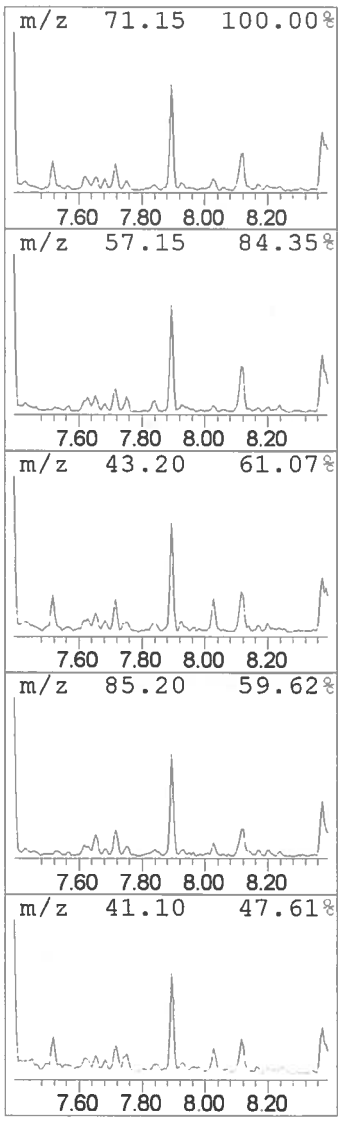
****

Peak Number 10 Hexadecane Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.892	26.53 ug/ml	212578	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexadecane	226	C16H34	000544-76-3	91
2	Heptadecane	240	C17H36	000629-78-7	80
3	Pentadecane	212	C15H32	000629-62-9	62
4	Nonadecane	268	C19H40	000629-92-5	53
5	1-Decene, 4-methyl-	154	C11H22	013151-29-6	52





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA040.D
Acq On : 17 Jun 2019 4:32 pm
Operator : DH
Sample : 19060980-005A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Benzene, 1,2-di...	3.627	24.9	ug/ml	82972	1	4.537	133481	40.0
Benzene, 1-meth...	4.761	26.0	ug/ml	86613	2	4.537	133481	40.0
Benzene, 1,4-di...	4.802	56.2	ug/ml	187450	2	4.537	133481	40.0
Benzene, 1-bute...	5.489	41.6	ug/ml	370958	3	5.753	356996	40.0
Dodecane	5.683	49.4	ug/ml	440519	3	5.753	356996	40.0
1H-Indene, 2,3-...	6.118	31.5	ug/ml	281019	4	5.753	356996	40.0
Tridecane	6.288	63.0	ug/ml	562128	4	5.753	356996	40.0
Dodecane, 4-met...	7.181	40.4	ug/ml	323526	5	7.510	320557	40.0
Pentadecane	7.387	38.8	ug/ml	311128	5	7.510	320557	40.0
Hexadecane	7.892	26.5	ug/ml	212578	5	7.510	320557	40.0

Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190617B\
Data File : AA039.D
Acq On : 17 Jun 2019 4:04 pm
Operator : DH
Sample : 19060980-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,1,2-t...	2.739	8.8	ug/ml	24541	1	4.537	111243	40.0
Ethane, 1,1,2,2...	3.797	18.5	ug/ml	51444	1	4.537	111243	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

Signal : TIC: AF09.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.536	177	181	183	rBV	55008	65392	1.71%	0.492%
2	1.562	183	186	198	rVB	108033	145165	3.80%	1.093%
3	2.799	415	422	433	rBV2	53742	115222	3.02%	0.868%
4	3.229	495	504	515	rVB3	15724	38964	1.02%	0.293%
5	4.225	684	694	713	rVB3	91264	314863	8.25%	2.371%
6	4.666	763	778	792	rBV	41108	141271	3.70%	1.064%
7	5.190	865	878	895	rVB2	76667	244446	6.40%	1.841%
8	6.275	1074	1085	1097	rVB	57160	168394	4.41%	1.268%
9	7.083	1231	1239	1249	rVB4	13832	38377	1.01%	0.289%
10	7.329	1269	1286	1302	rBV3	162586	572683	15.00%	4.313%
11	7.460	1303	1311	1322	rVB3	21285	60919	1.60%	0.459%
12	7.602	1328	1338	1347	rBV2	55598	140600	3.68%	1.059%
13	7.775	1358	1371	1387	rBV	1703024	3818136	100.00%	28.754%
14	7.895	1387	1394	1400	rVV4	35559	93054	2.44%	0.701%
15	7.969	1401	1408	1414	rVV4	26459	70540	1.85%	0.531%
16	8.037	1415	1421	1434	rVB2	30438	72896	1.91%	0.549%
17	8.173	1436	1447	1461	rBV	447992	998642	26.16%	7.521%
18	8.336	1470	1478	1485	rBV3	17130	39465	1.03%	0.297%
19	8.839	1559	1574	1583	rBV3	82241	218476	5.72%	1.645%
20	9.516	1695	1703	1707	rBV	54561	92694	2.43%	0.698%
21	9.657	1717	1730	1742	rBV	53054	121285	3.18%	0.913%
22	9.877	1764	1772	1780	rBV	596855	993004	26.01%	7.478%
23	9.940	1780	1784	1789	rVB	28307	45096	1.18%	0.340%
24	10.077	1799	1810	1819	rBV	100199	178627	4.68%	1.345%
25	10.313	1843	1855	1866	rBV	167803	317605	8.32%	2.392%
26	10.999	1981	1986	1997	rVB3	47776	94255	2.47%	0.710%
27	11.104	1999	2006	2015	rBV	41759	69190	1.81%	0.521%
28	11.204	2017	2025	2033	rBV	537467	809726	21.21%	6.098%
29	11.309	2038	2045	2055	rVB	110328	171321	4.49%	1.290%
30	11.419	2055	2066	2077	rBV2	227254	498083	13.05%	3.751%
31	11.744	2116	2128	2134	rBV	61126	109061	2.86%	0.821%
32	12.200	2206	2215	2221	rBV	412940	646107	16.92%	4.866%
33	12.394	2247	2252	2257	rVB	29471	40175	1.05%	0.303%
34	12.457	2257	2264	2268	rBV	84163	123390	3.23%	0.929%
35	12.488	2268	2270	2274	rVV	41836	52997	1.39%	0.399%
36	12.536	2274	2279	2285	rVB	100278	136582	3.58%	1.029%
37	12.693	2302	2309	2314	rBV	30306	47927	1.26%	0.361%
38	12.840	2331	2337	2344	rVB	139536	196904	5.16%	1.483%
39	13.144	2388	2395	2408	rBV	547570	844097	22.11%	6.357%
40	13.343	2429	2433	2437	rVB2	37628	47313	1.24%	0.356%

LSC Area Percent Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

41	13.390	2437	2442	2451	rVB3	32756	55169	1.44%	0.415%
42	13.479	2452	2459	2464	rVB	41305	52042	1.36%	0.392%
43	13.694	2494	2500	2506	rBV2	58263	92126	2.41%	0.694%
44	14.329	2617	2621	2626	rVB	30658	39732	1.04%	0.299%
45	14.392	2626	2633	2640	rBV4	24855	46743	1.22%	0.352%

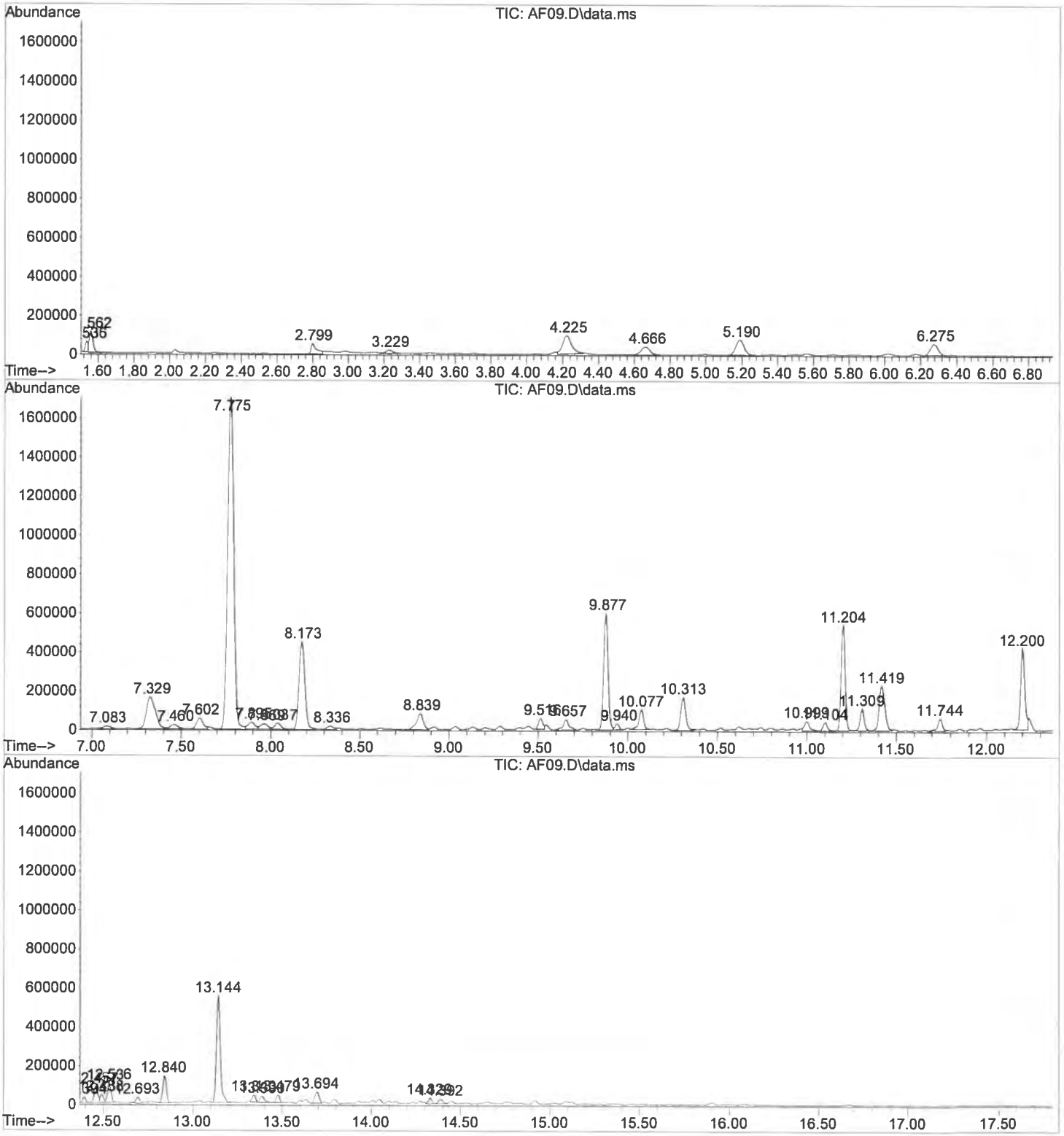
Sum of corrected areas: 13278756

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

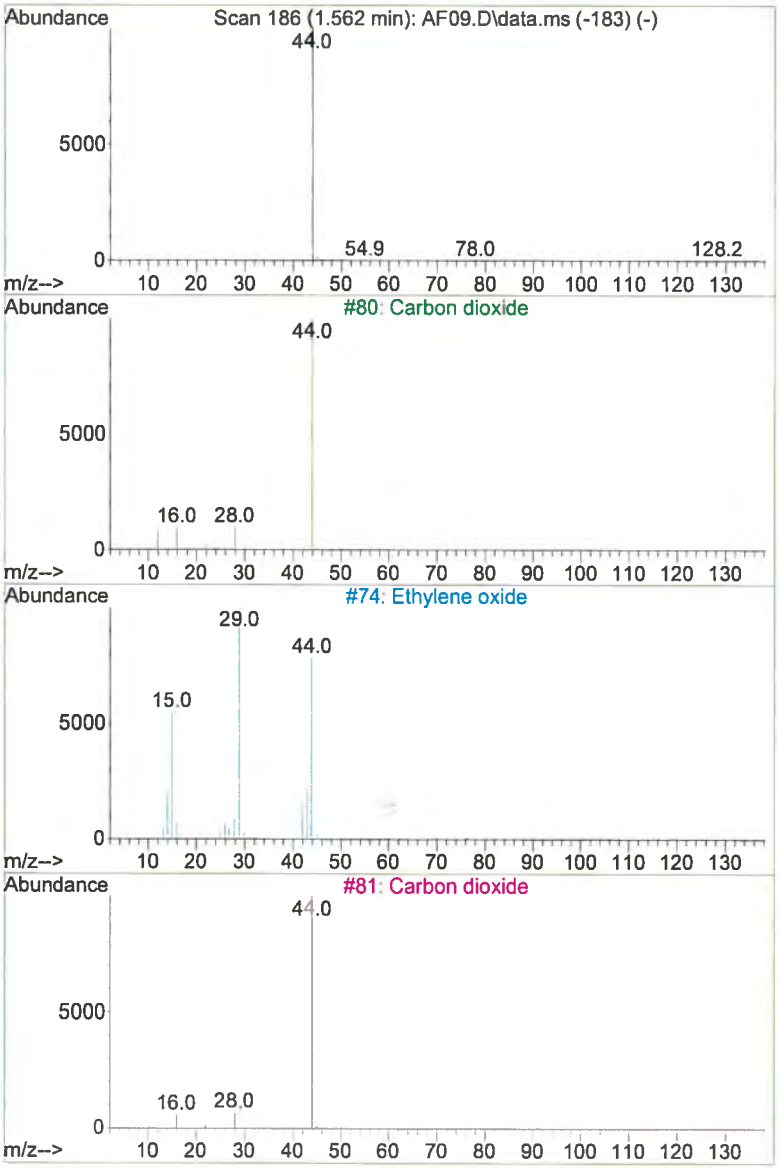
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

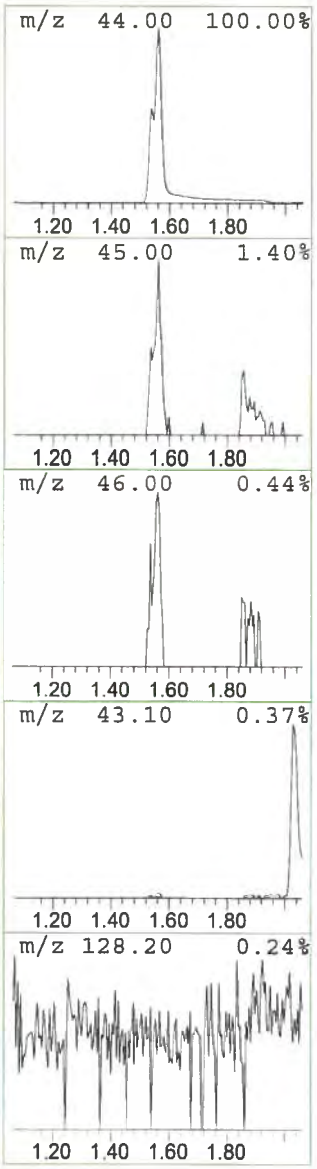
****

Peak Number 1 Carbon dioxide Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.562	7.27 ug/Kg	145165	Fluorobenzene	8.173

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3
5	Nitrous Oxide	44	N2O	010024-97-2	3





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

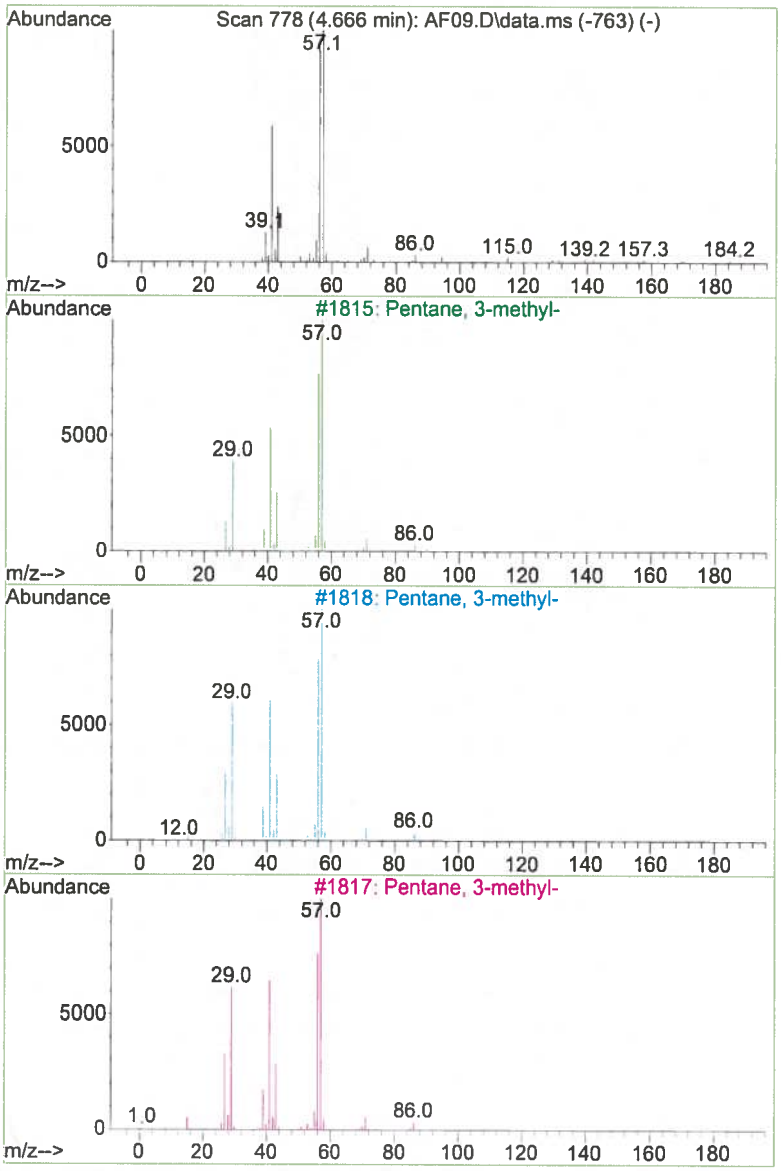
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

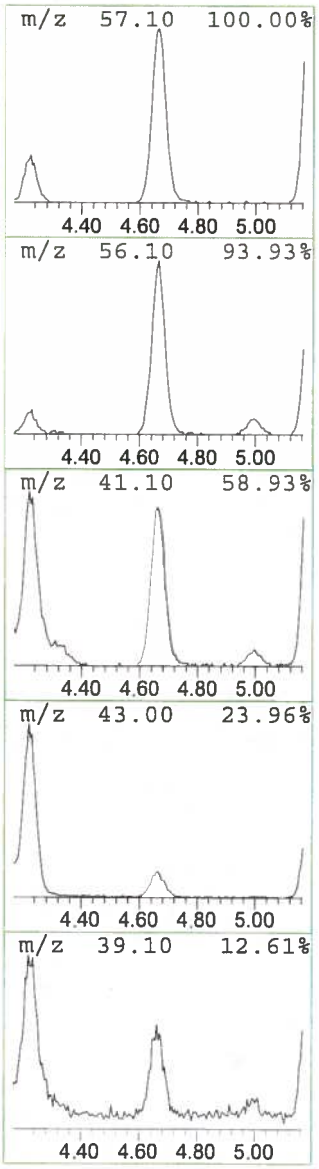
****

Peak Number 2 Pentane, 3-methyl- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.666	7.07 ug/Kg	141271	Fluorobenzene	8.173

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 3-methyl-	86	C6H14	000096-14-0	87
2	Pentane, 3-methyl-	86	C6H14	000096-14-0	87
3	Pentane, 3-methyl-	86	C6H14	000096-14-0	86
4	Pentane, 2,2,3-trimethyl-	114	C8H18	000564-02-3	39
5	Pentane, 2,2,4,4-tetramethyl-	128	C9H20	001070-87-7	36





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

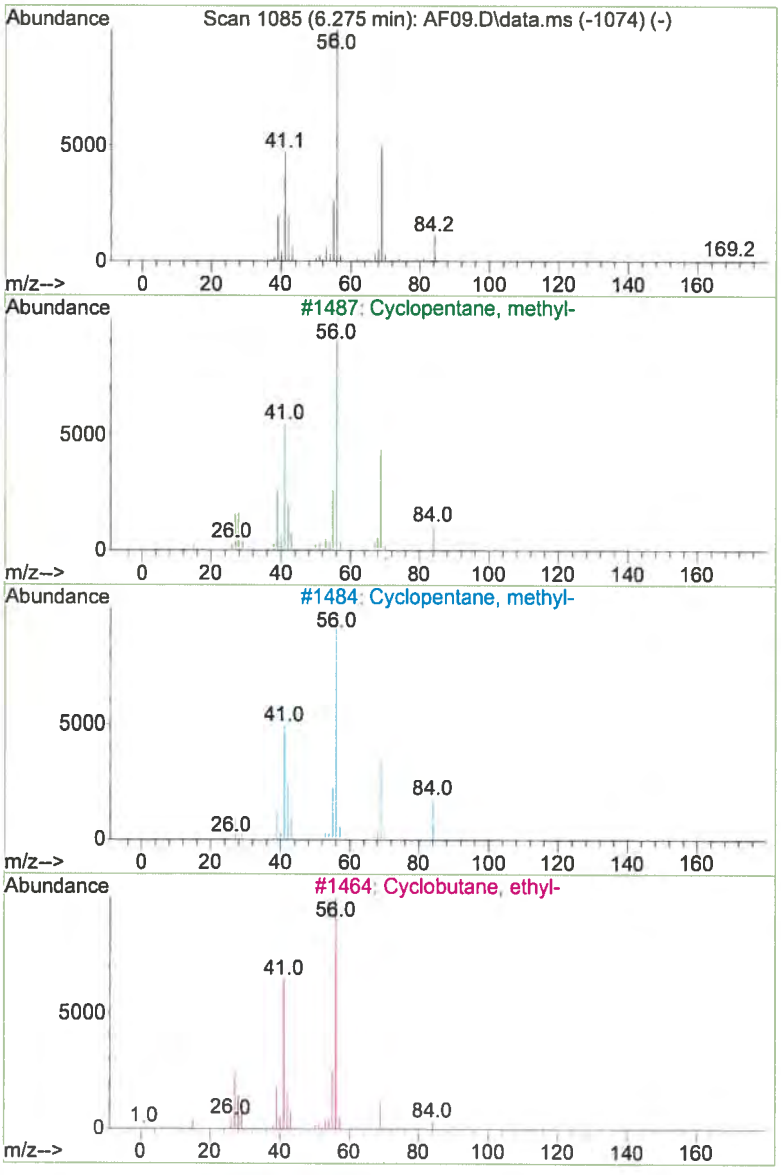
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

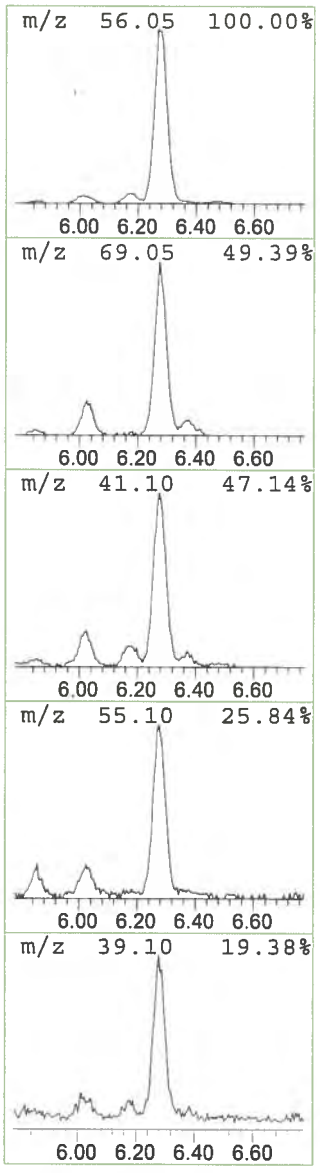
****

Peak Number 3 Cyclopentane, methyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.275	8.43 ug/Kg	168394	Fluorobenzene	8.173

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, methyl-	84	C6H12	000096-37-7	91
2	Cyclopentane, methyl-	84	C6H12	000096-37-7	80
3	Cyclobutane, ethyl-	84	C6H12	004806-61-5	64
4	Cyclopentane, methyl-	84	C6H12	000096-37-7	64
5	1H-Tetrazole, 5-methyl-	84	C2H4N4	004076-36-2	50





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

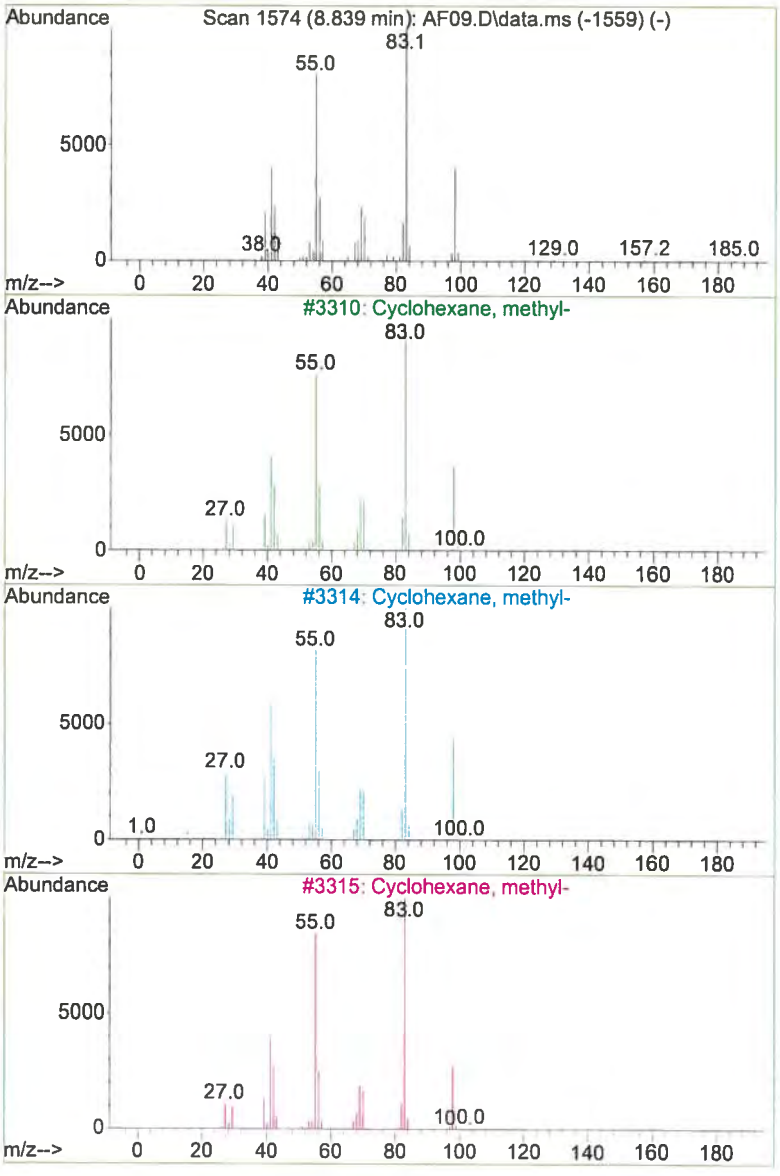
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

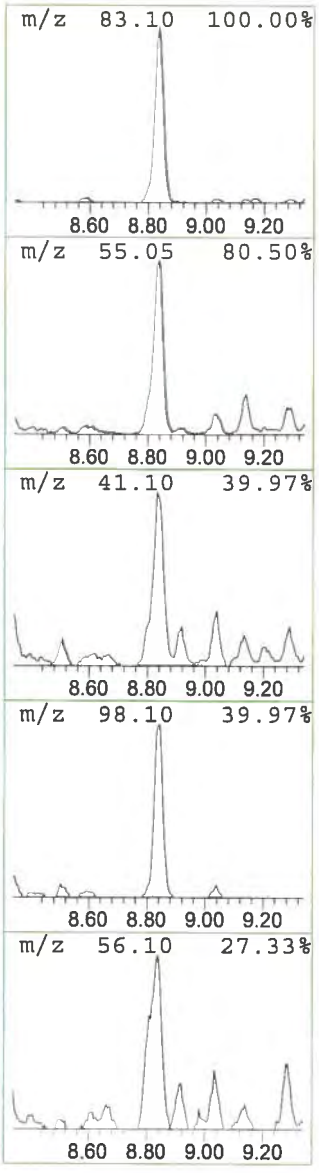
****

Peak Number 4 Cyclohexane, methyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.839	6.96 ug/Kg	139062	Fluorobenzene	8.173

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, methyl-	98	C7H14	000108-87-2	97
2	Cyclohexane, methyl-	98	C7H14	000108-87-2	93
3	Cyclohexane, methyl-	98	C7H14	000108-87-2	91
4	Cyclohexane, methyl-	98	C7H14	000108-87-2	90
5	2-Pentene, 2,3-dimethyl-	98	C7H14	010574-37-5	72





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

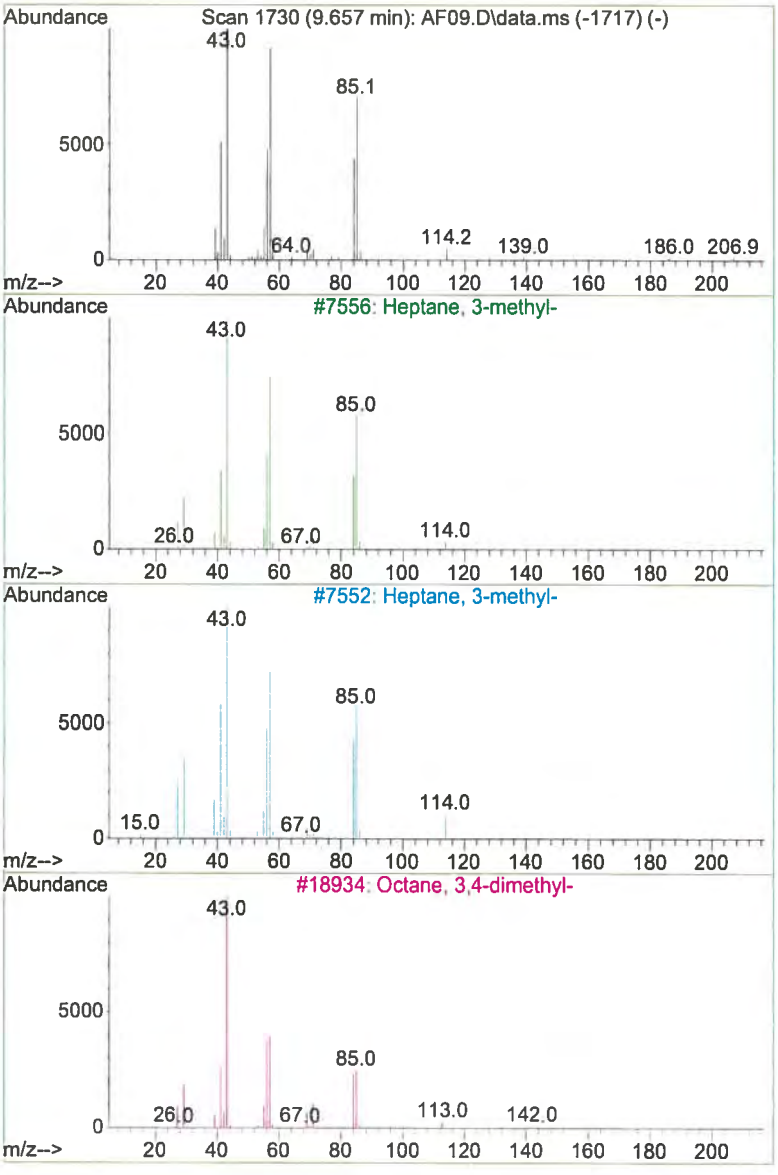
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

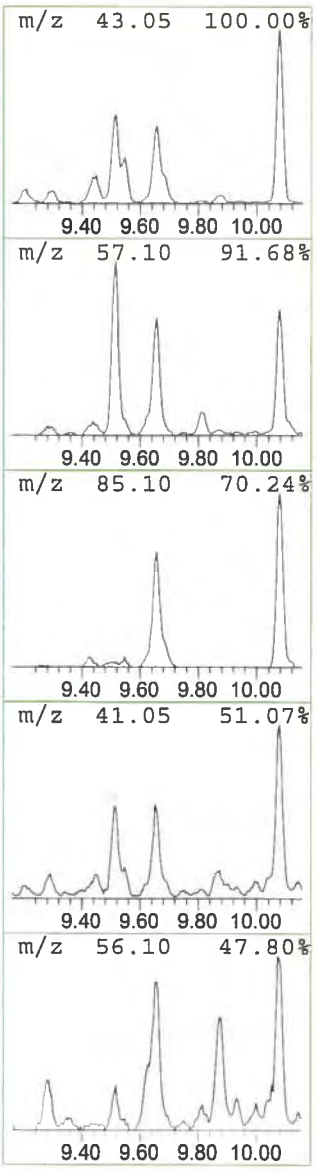
****

Peak Number 5 Heptane, 3-methyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.657	6.07 ug/Kg	121285	Fluorobenzene	8.173

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptane, 3-methyl-	114	C8H18	000589-81-1	91
2	Heptane, 3-methyl-	114	C8H18	000589-81-1	90
3	Octane, 3,4-dimethyl-	142	C10H22	015869-92-8	72
4	Hexane, 2,4-dimethyl-	114	C8H18	000589-43-5	64
5	Heptane, 4-ethyl-	128	C9H20	002216-32-2	64





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

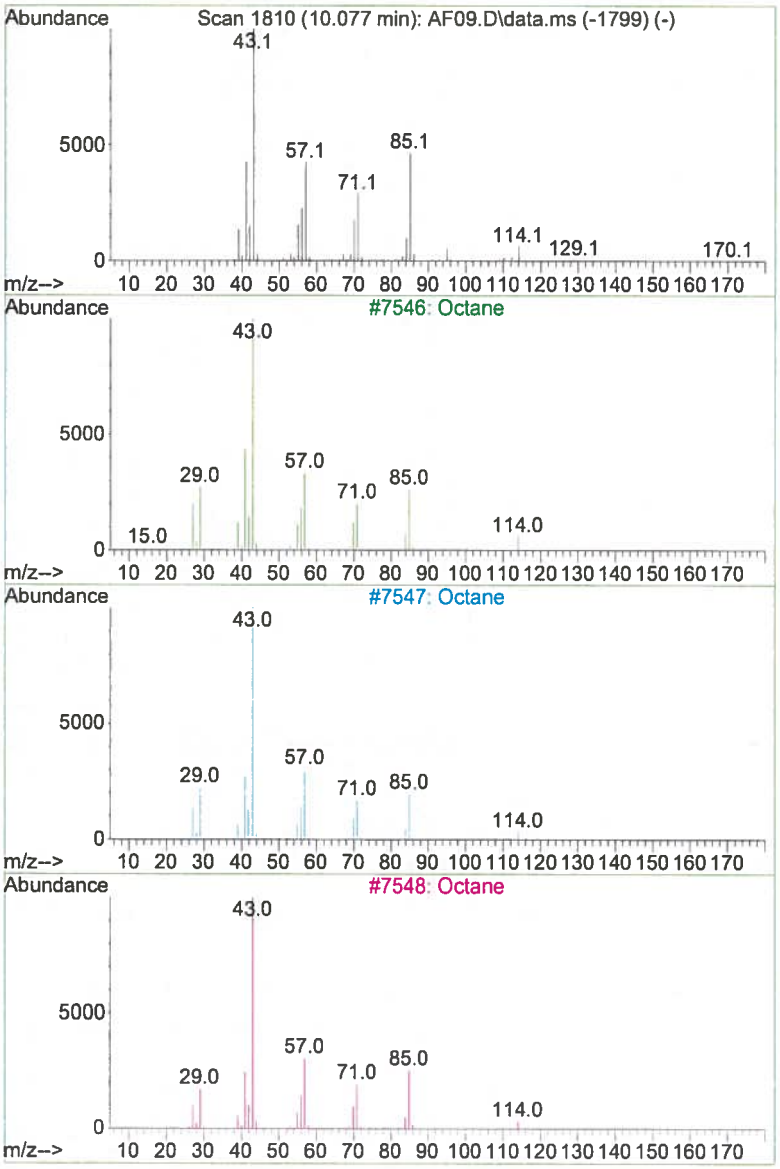
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

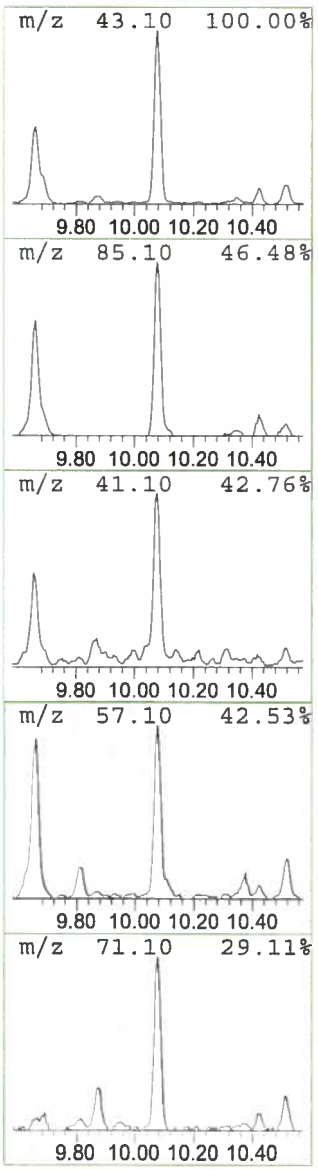
****

Peak Number 6 Octane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.077	11.03 ug/Kg	178627	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane	114	C8H18	000111-65-9	94
2	Octane	114	C8H18	000111-65-9	91
3	Octane	114	C8H18	000111-65-9	81
4	Heptane, 2,4-dimethyl-	128	C9H20	002213-23-2	64
5	Heptane, 2,4-dimethyl-	128	C9H20	002213-23-2	64





Library Search Compound Report

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Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On    : 17 Jun 2019  12:27
Operator  : R.Eaton
Sample    : 19060980-001D
Misc      : ,V 8260S S,SAMP,12.5,5,
ALS Vial  : 9   Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title  : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

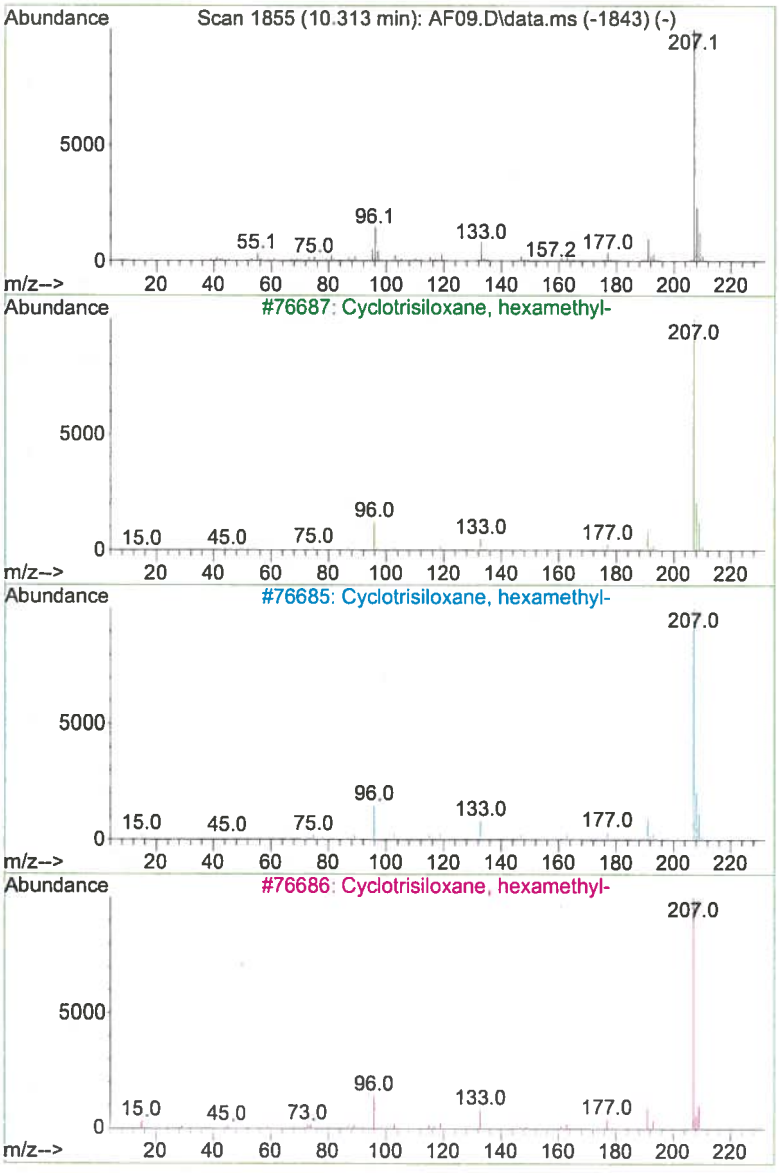
TIC Library   : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P
```

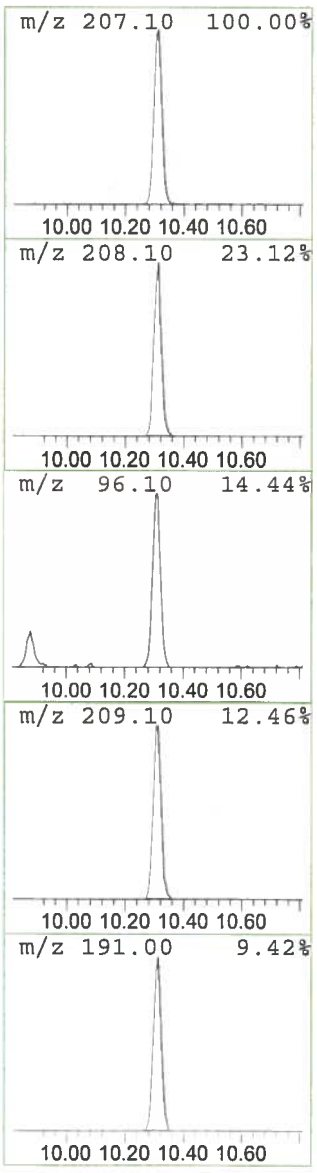
****

Peak Number 7 Cyclotrisiloxane, hexamethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.313	19.61 ug/Kg	317605	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	72
4	Benzo[h]quinoline, 2,4-dimethyl-	207	C15H13N	000605-67-4	38
5	Benzo[h]quinoline, 2,4-dimethyl-	207	C15H13N	000605-67-4	38





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

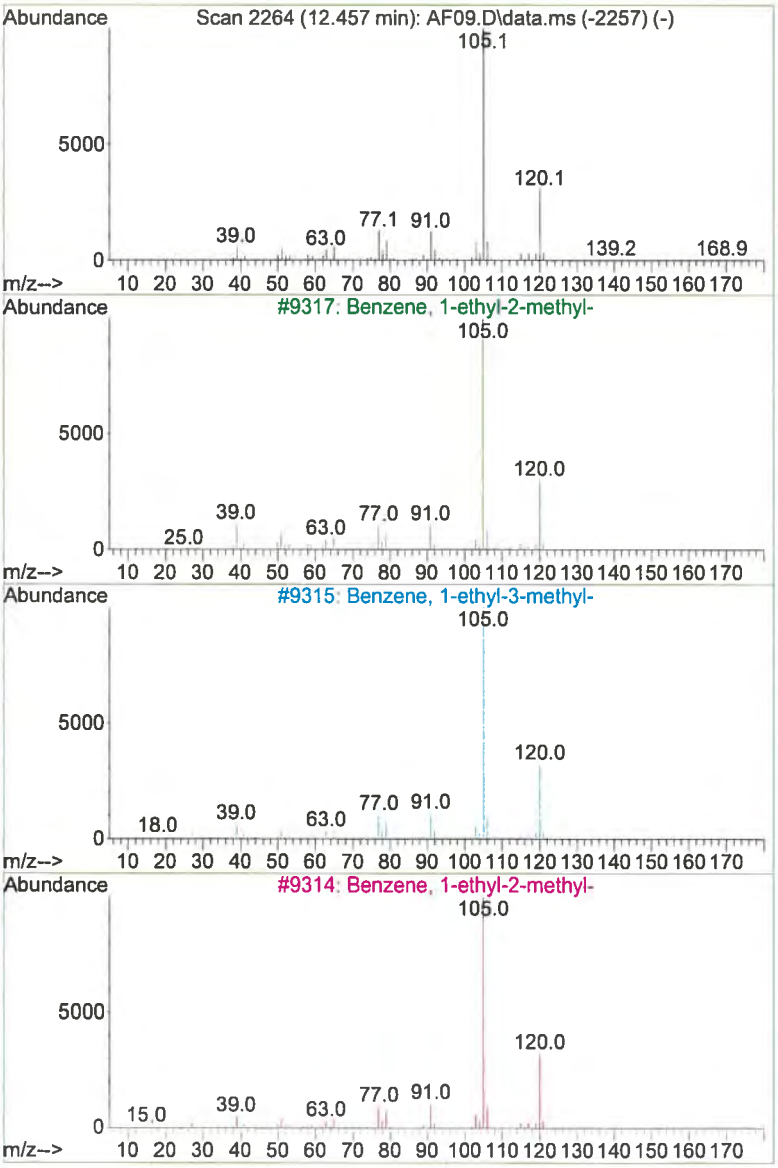
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

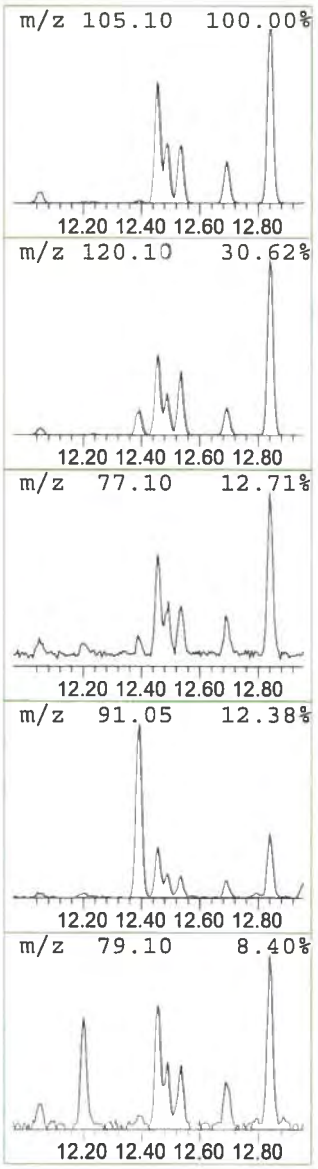
****

Peak Number 8 Benzene, 1-ethyl-2-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.457	7.31 ug/Kg	123390	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	95
2	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	95
3	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	94
4	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	94
5	Benzene, 1,3,5-trimethyl-	120	C9H12	000108-67-8	91





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V 8260S S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

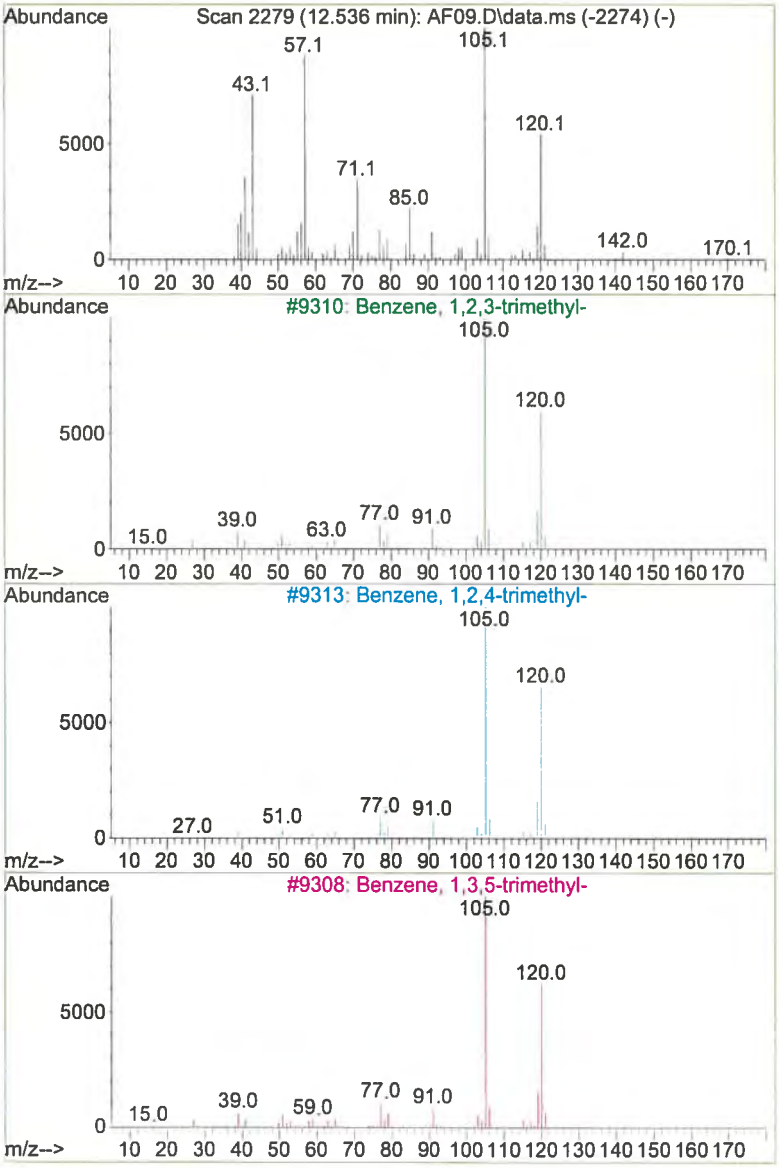
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

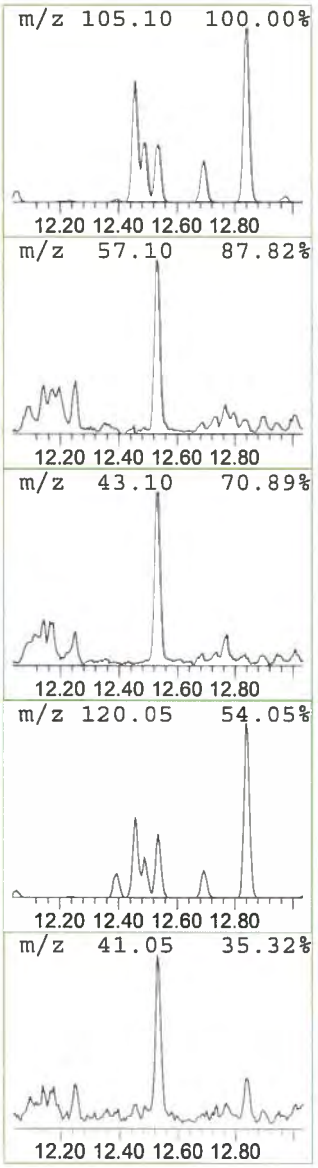
****

Peak Number 9 Benzene, 1,2,3-trimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.536	8.09 ug/Kg	136582	1,4-Dichlorobenzene-d4	13.144

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,2,3-trimethyl-	120	C9H12	000526-73-8	91
2	Benzene, 1,2,4-trimethyl-	120	C9H12	000095-63-6	91
3	Benzene, 1,3,5-trimethyl-	120	C9H12	000108-67-8	90
4	Benzene, 1,2,3-trimethyl-	120	C9H12	000526-73-8	90
5	Benzene, 1,3,5-trimethyl-	120	C9H12	000108-67-8	78





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF09.D
Acq On : 17 Jun 2019 12:27
Operator : R.Eaton
Sample : 19060980-001D
Misc : ,V_8260S_S,SAMP,12.5,5,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--- #	RT	Resp	Conc
Carbon dioxide	1.562	7.3	ug/Kg	145165	1	8.173	998642	50.0
Pentane, 3-methyl-	4.666	7.1	ug/Kg	141271	1	8.173	998642	50.0
Cyclopentane, m...	6.275	8.4	ug/Kg	168394	1	8.173	998642	50.0
Cyclohexane, me...	8.839	7.0	ug/Kg	139062	1	8.173	998642	50.0
Heptane, 3-methyl-	9.657	6.1	ug/Kg	121285	1	8.173	998642	50.0
Octane	10.077	11.0	ug/Kg	178627	2	11.204	809726	50.0
Cyclotrisiloxan...	10.313	19.6	ug/Kg	317605	2	11.204	809726	50.0
Benzene, 1-ethy...	12.457	7.3	ug/Kg	123390	4	13.144	844097	50.0
Benzene, 1,2,3-...	12.536	8.1	ug/Kg	136582	4	13.144	844097	50.0

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190617A\T08.D Vial: 8
Acq On : 17 Jun 2019 12:14 Operator: Kelly Senci
Sample : 19060980-003C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

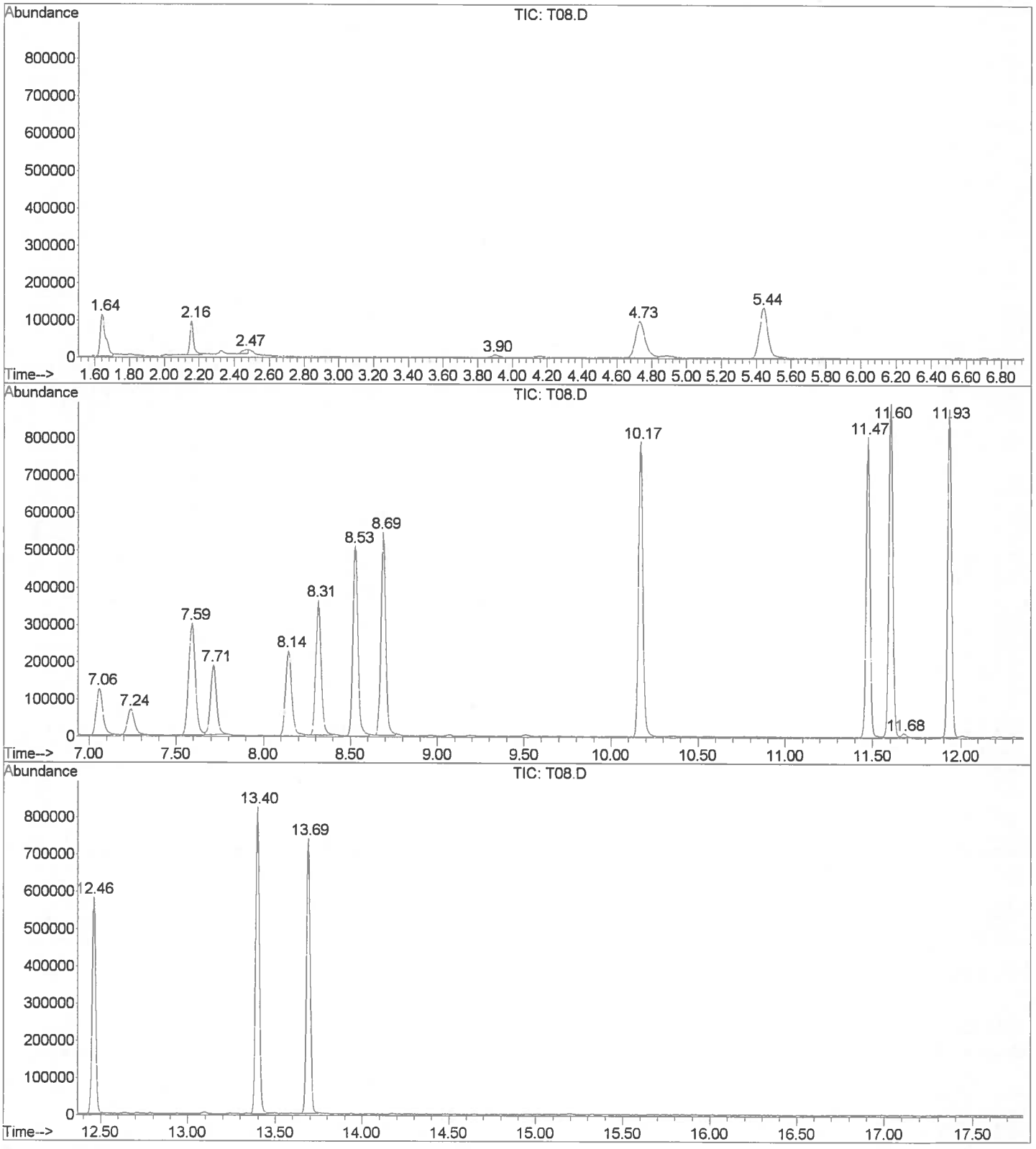
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.641	195	201	213	rBV	111717	221555	15.39%	1.462%
2	2.159	293	300	311	rBV	90469	136894	9.51%	0.903%
3	2.473	351	360	361	rBV2	11222	23393	1.62%	0.154%
4	3.895	625	632	639	rBV	7185	18320	1.27%	0.121%
5	4.732	777	792	812	rBV2	98460	386104	26.81%	2.547%
6	5.443	913	928	949	rBV2	135826	456162	31.68%	3.010%
7	7.060	1228	1237	1252	rBV2	125911	325604	22.61%	2.148%
8	7.243	1259	1272	1289	rBV2	69090	192073	13.34%	1.267%
9	7.593	1326	1339	1353	rBV	300913	812610	56.43%	5.362%
10	7.713	1353	1362	1378	rVB2	186882	449391	31.21%	2.965%
11	8.142	1434	1444	1462	rBV2	228411	562591	39.07%	3.712%
12	8.315	1467	1477	1493	rBV	362356	779389	54.12%	5.142%
13	8.529	1507	1518	1533	rBV	509238	1062697	73.79%	7.012%
14	8.686	1539	1548	1562	rBV	545266	1054283	73.21%	6.956%
15	10.171	1823	1832	1846	rBV	791796	1372106	95.28%	9.053%
16	11.474	2071	2081	2096	rBV	805799	1249390	86.76%	8.243%
17	11.605	2096	2106	2115	rVV	894619	1440070	100.00%	9.502%
18	11.678	2115	2120	2130	rVB3	9238	20345	1.41%	0.134%
19	11.934	2157	2169	2178	rBV	880066	1374826	95.47%	9.071%
20	12.457	2262	2269	2282	rBV	581326	878014	60.97%	5.793%
21	13.398	2441	2449	2461	rBV	824605	1221107	84.79%	8.057%
22	13.691	2497	2505	2516	rBV	738744	1119310	77.73%	7.385%

Sum of corrected areas: 15156234

LSC Report - Integrated Chromatogram

File : C:\MSDCHEM\1\DATA\TEKLAB\T190617A\T08.D
Operator : Kelly Senci
Acquired : 17 Jun 2019 12:14 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19060980-003C
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 8
Quant File :VOCT1907.RES (RTE Integrator)



Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190617A\T08.D Vial: 8
Acq On : 17 Jun 2019 12:14 Operator: Kelly Senci
Sample : 19060980-003C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

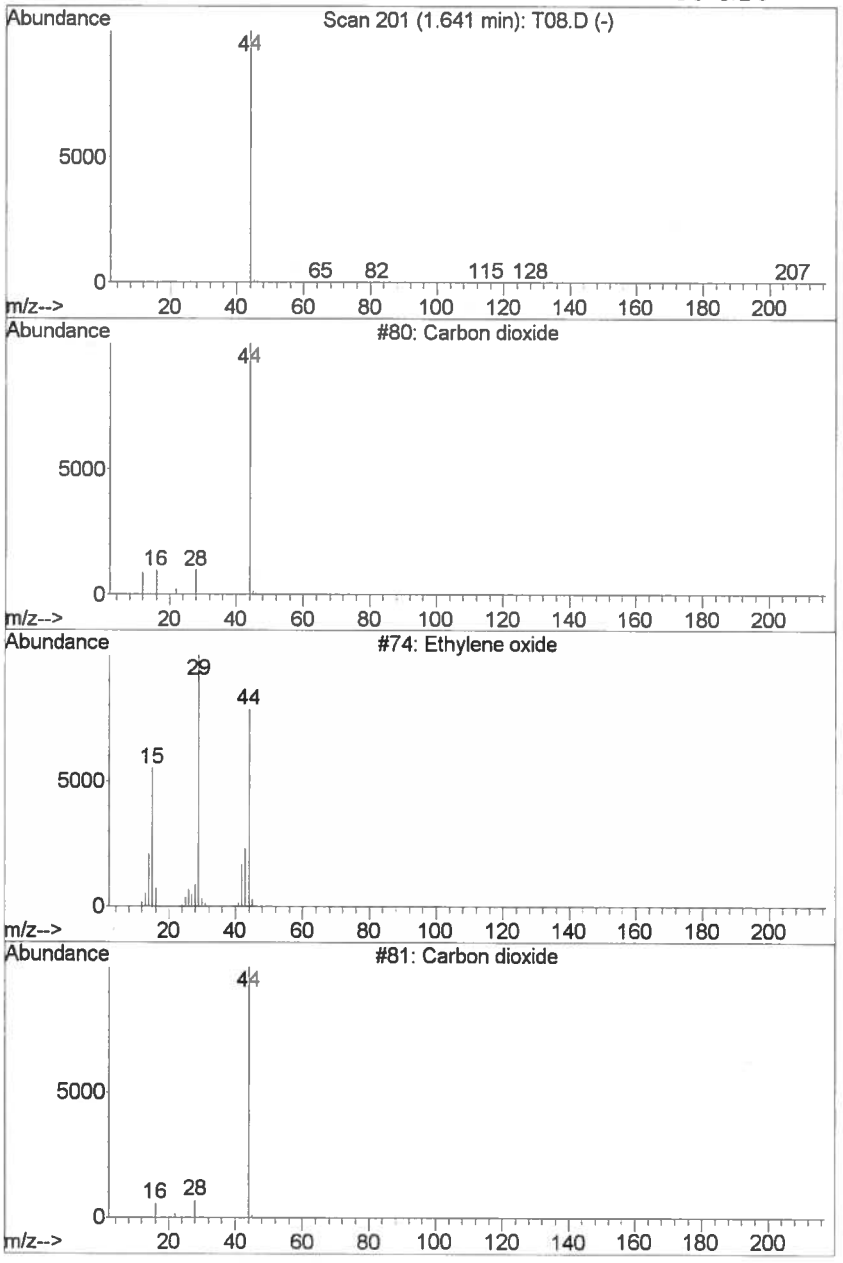
Quant Method : C:\MSDCHEM\1...\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

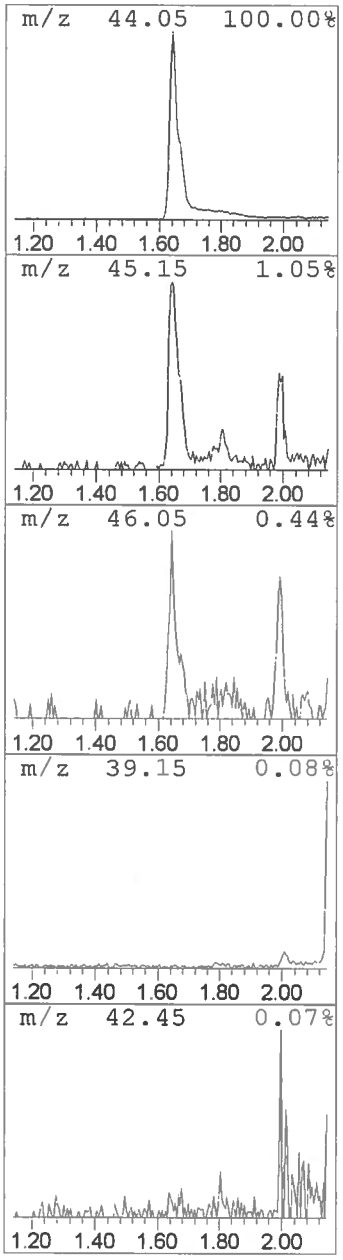
****

Peak Number 1 Carbon dioxide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.64	10.42 ug/L	221555	Fluorobenzene	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3





Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190617A\T08.D Vial: 8
Acq On : 17 Jun 2019 12:14 Operator: Kelly Senci
Sample : 19060980-003C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

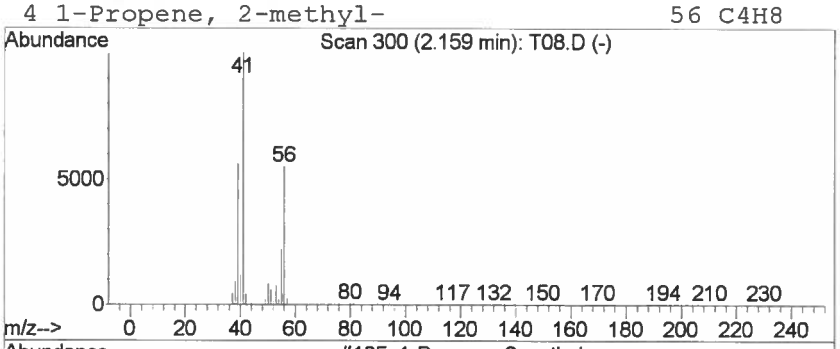
Quant Method : C:\MSDCHEM\1...\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

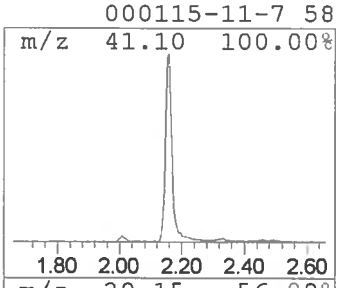
****

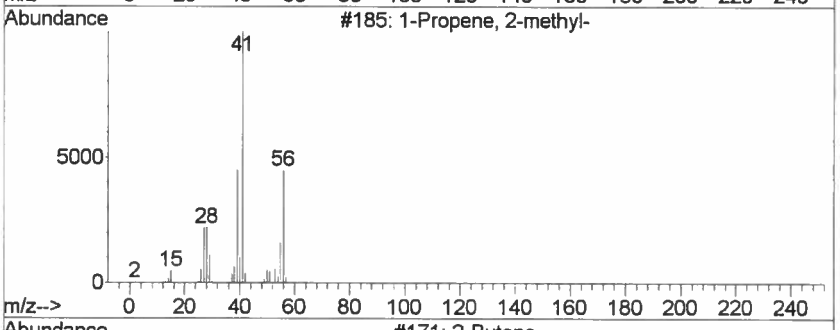
Peak Number 2 1-Propene, 2-methyl- Concentration Rank 3

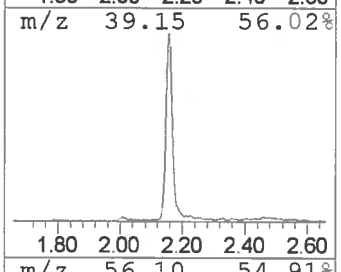
R.T.	EstConc	Area	Relative to ISTD	R.T.
2.16	6.44 ug/L	136894	Fluorobenzene	8.53

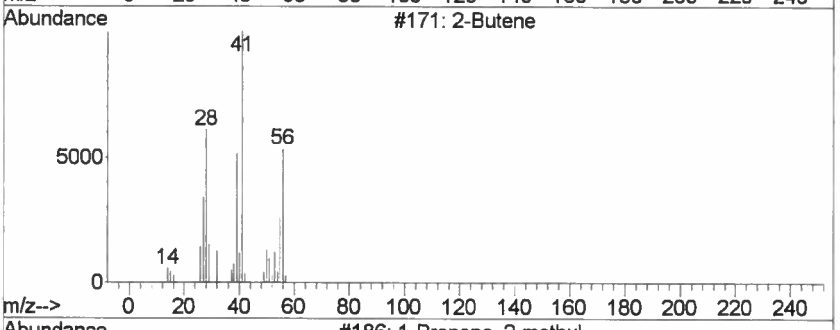
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Propene, 2-methyl-	56	C4H8	000115-11-7	91
2	2-Butene	56	C4H8	000107-01-7	80
3	1-Propene, 2-methyl-	56	C4H8	000115-11-7	72
4	1-Propene, 2-methyl-	56	C4H8	000115-11-7	58

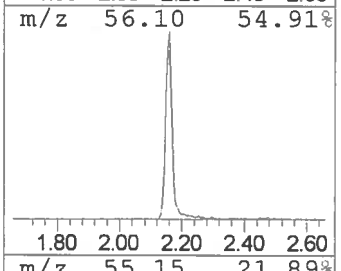


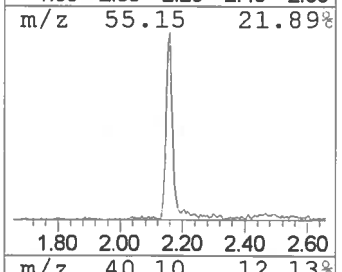


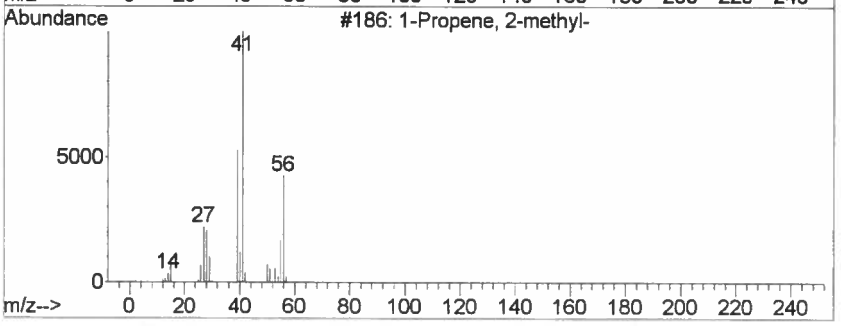


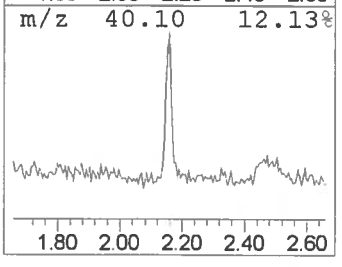












Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190617A\T08.D Vial: 8
Acq On : 17 Jun 2019 12:14 Operator: Kelly Senci
Sample : 19060980-003C Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

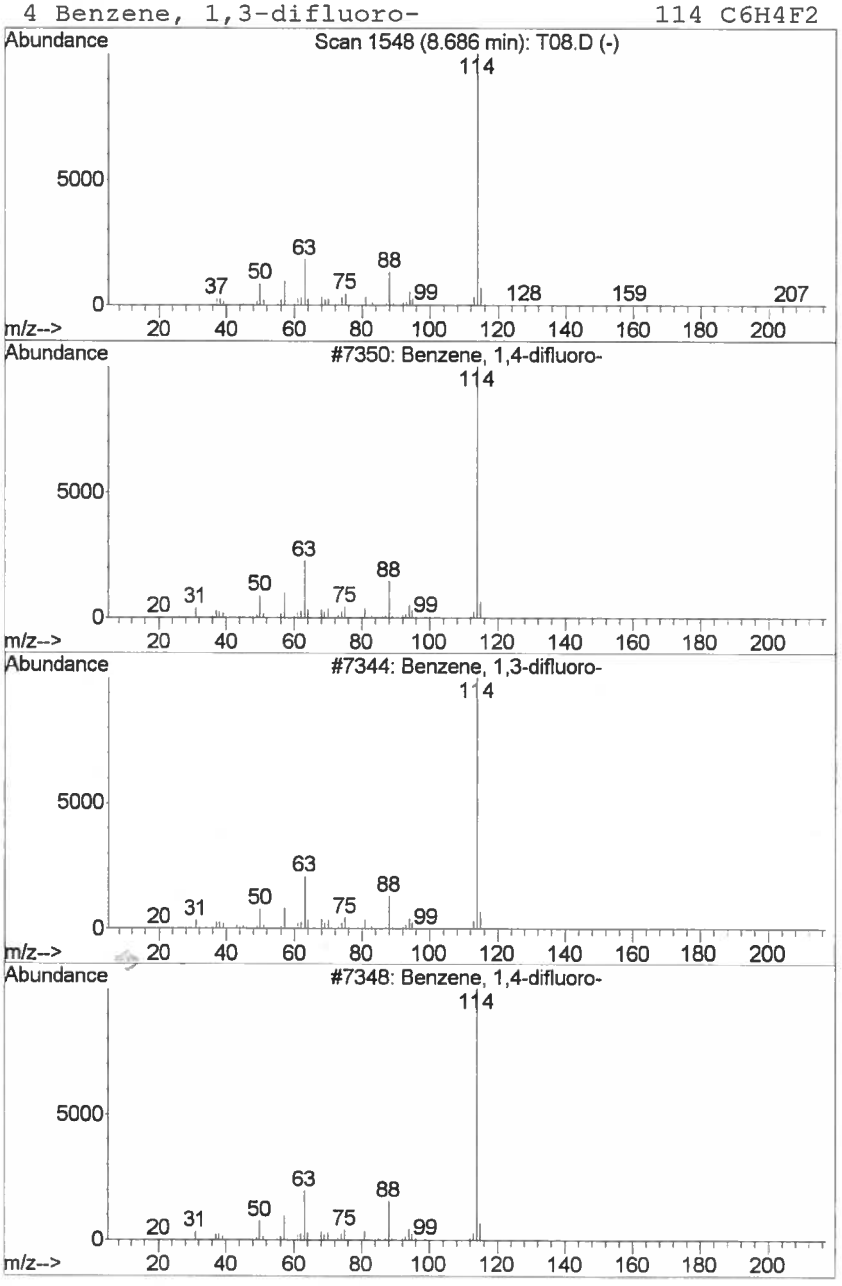
Quant Method : C:\MSDCHEM\1...\VOCT1907.M (RTE Integrator)
Title : 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

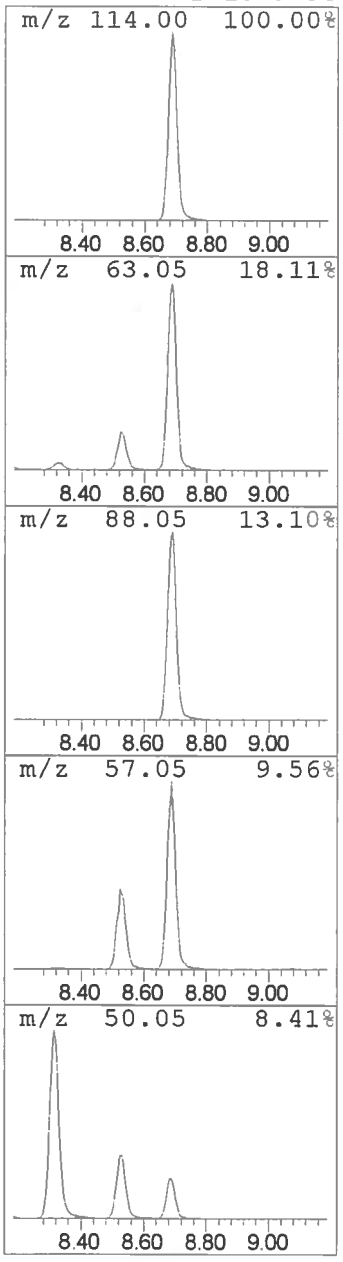
****

Peak Number 3 Benzene, 1,4-difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.69	49.60 ug/L	1054280	Fluorobenzene*	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	97
2	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
3	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	95
4	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 17 Jun 2019 12:14
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190617A\T08.D
Name: 19060980-003C
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1907.M (RTE Integrator)
Title: 05/22/19 8260 ICAL 9157 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.64	10.4	ug/L	221555	1	8.53	1062700	50.0
1-Propene, 2-methyl-	2.16	6.4	ug/L	136894	1	8.53	1062700	50.0
Benzene, 1,4-difl...	8.69	49.6	ug/L	1054280	2	8.53	1062700	50.0

LSC Area Percent Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF10.D
Acq On : 17 Jun 2019 12:56
Operator : R.Eaton
Sample : 19060980-004D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

Signal : TIC: AF10.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	7.329	1276	1286	1297	rBV	145964	352821	1.50%	1.246%
2	7.791	1360	1374	1413	rBV	9615042	23518008	100.00%	83.053%
3	8.184	1439	1449	1465	rBV	404115	810411	3.45%	2.862%
4	9.877	1764	1772	1782	rBV	583915	974965	4.15%	3.443%
5	10.313	1846	1855	1866	rBV	133048	238384	1.01%	0.842%
6	11.204	2016	2025	2035	rBV	577937	851550	3.62%	3.007%
7	12.200	2208	2215	2220	rBV	491347	693312	2.95%	2.448%
8	13.139	2384	2394	2403	rBV	637150	877480	3.73%	3.099%

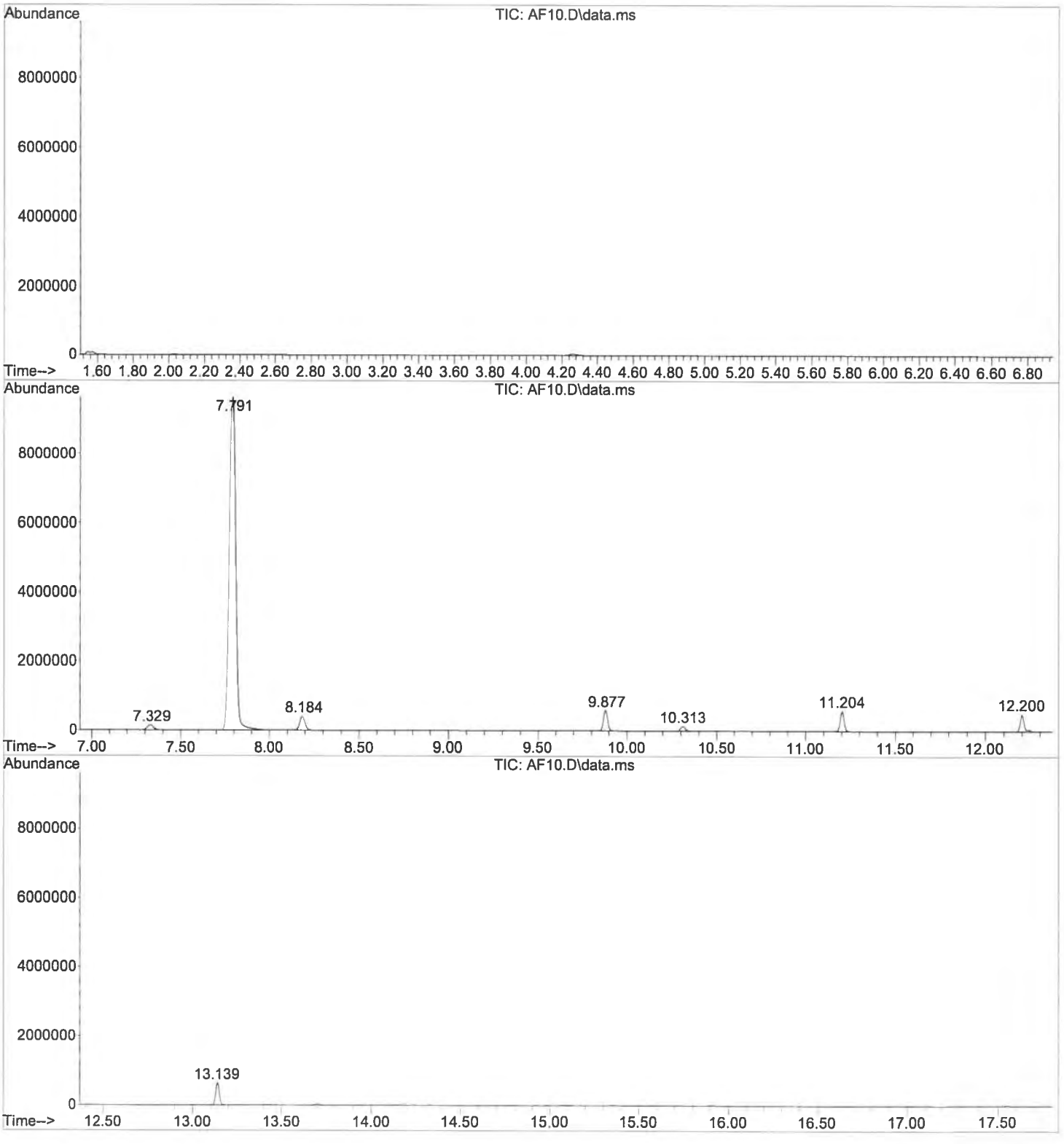
Sum of corrected areas: 28316931

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF10.D
Acq On : 17 Jun 2019 12:56
Operator : R.Eaton
Sample : 19060980-004D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF10.D
Acq On : 17 Jun 2019 12:56
Operator : R.Eaton
Sample : 19060980-004D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 10 Sample Multiplier: 1

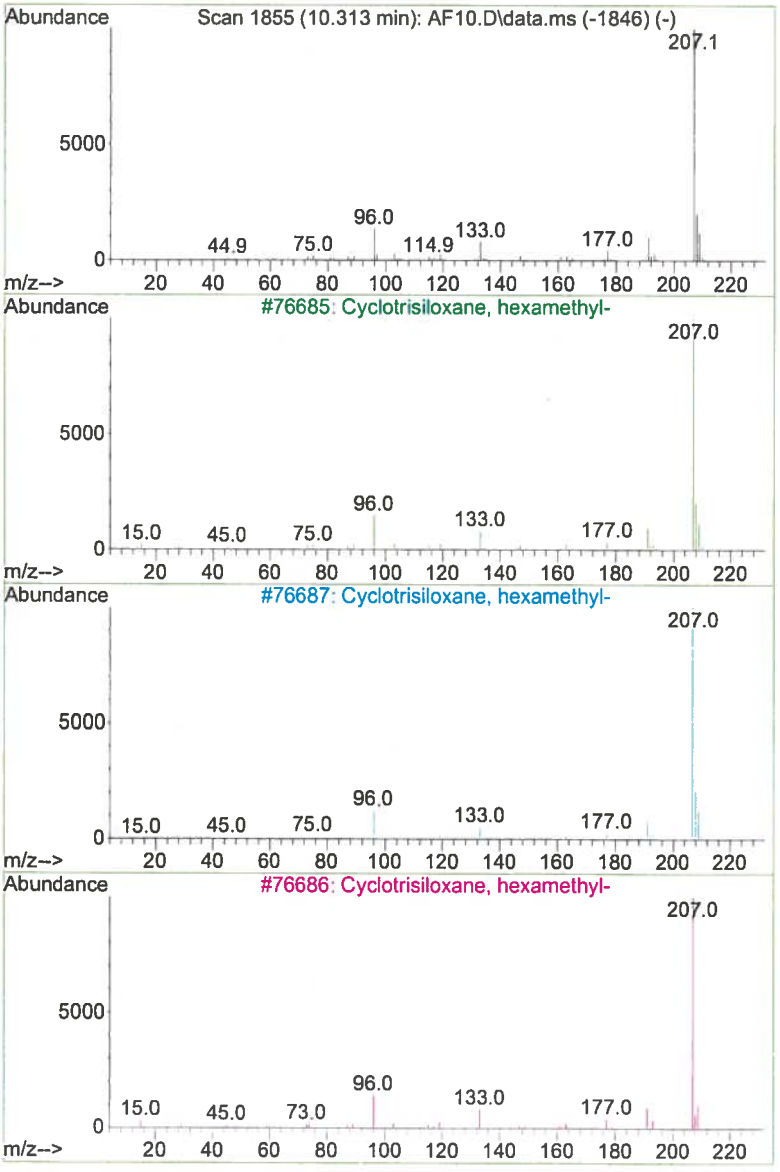
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

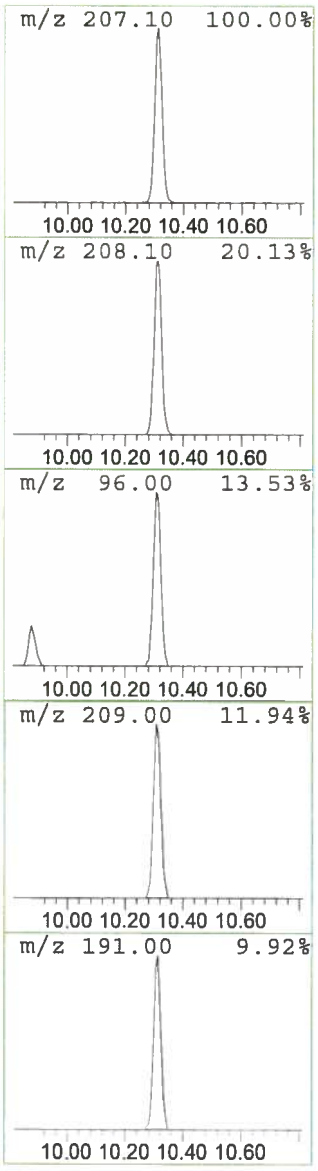
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Cyclotrisiloxane, hexamethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.313	14.00 ug/Kg	238384	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
4	Benzo[h]quinoline, 2,4-dimethyl-	207	C15H13N	000605-67-4	39
5	Anthracene, 9-ethyl-9,10-dihydro...	264	C20H24	1000154-57-7	39





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF10.D
Acq On : 17 Jun 2019 12:56
Operator : R.Eaton
Sample : 19060980-004D
Misc : ,V_8260S_S,SAMP,5000,5,
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Cyclotrisiloxan...	10.313	14.0	ug/Kg	238384	2	11.204	851550	50.0

LSC Area Percent Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

Signal : TIC: AF13.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.546	178	183	185	rBV	71502	91733	1.63%	0.288%
2	1.567	185	187	198	rVB	67118	94728	1.68%	0.298%
3	2.034	268	276	285	rBV	175313	248349	4.40%	0.780%
4	2.621	379	388	401	rVB	193891	391136	6.93%	1.229%
5	2.936	440	448	468	rVV2	280644	639907	11.34%	2.011%
6	3.109	471	481	492	rVB	53979	109663	1.94%	0.345%
7	3.334	516	524	537	rVB	86889	196836	3.49%	0.619%
8	4.294	686	707	739	rVB2	274667	1188422	21.05%	3.735%
9	4.729	774	790	811	rBV	172565	580081	10.28%	1.823%
10	5.049	842	851	867	rVB3	18725	67084	1.19%	0.211%
11	5.243	872	888	907	rBV2	329270	1032188	18.28%	3.244%
12	5.542	932	945	951	rVV4	24209	74969	1.33%	0.236%
13	5.610	951	958	969	rVB2	35013	103966	1.84%	0.327%
14	5.751	973	985	995	rBV3	18515	59019	1.05%	0.185%
15	6.061	1030	1044	1058	rVB6	42161	134060	2.37%	0.421%
16	6.213	1061	1073	1081	rBV3	30372	92945	1.65%	0.292%
17	6.312	1081	1092	1105	rVV	258685	786841	13.94%	2.473%
18	7.109	1236	1244	1260	rVB4	60921	155071	2.75%	0.487%
19	7.371	1275	1294	1306	rBV4	344465	1235301	21.88%	3.882%
20	7.487	1307	1316	1326	rVB4	83885	237951	4.22%	0.748%
21	7.623	1330	1342	1349	rBV2	222051	539336	9.55%	1.695%
22	7.791	1362	1374	1388	rBV	2523280	5645010	100.00%	17.739%
23	7.906	1389	1396	1404	rVV3	132064	343377	6.08%	1.079%
24	7.985	1404	1411	1418	rVV3	109248	288552	5.11%	0.907%
25	8.058	1418	1425	1439	rVB2	127997	314370	5.57%	0.988%
26	8.194	1439	1451	1467	rBV3	596868	1595485	28.26%	5.014%
27	8.347	1472	1480	1485	rBV2	75013	161763	2.87%	0.508%
28	8.630	1522	1534	1539	rVV6	34539	92589	1.64%	0.291%
29	8.850	1560	1576	1585	rBV2	341843	891312	15.79%	2.801%
30	8.923	1585	1590	1599	rVB2	58226	110373	1.96%	0.347%
31	9.044	1607	1613	1621	rVB	70221	124394	2.20%	0.391%
32	9.143	1621	1632	1641	rBV4	53216	131078	2.32%	0.412%
33	9.296	1654	1661	1668	rBV3	63602	120446	2.13%	0.378%
34	9.400	1675	1681	1685	rBV	50263	88147	1.56%	0.277%
35	9.453	1685	1691	1697	rVB3	60173	104263	1.85%	0.328%
36	9.521	1697	1704	1708	rBV	186823	324632	5.75%	1.020%
37	9.663	1719	1731	1743	rVB	189919	435814	7.72%	1.370%
38	9.752	1743	1748	1753	rBV	38340	66662	1.18%	0.209%
39	9.877	1764	1772	1780	rBV	633893	1129847	20.01%	3.550%
40	9.946	1780	1785	1790	rVV	111070	180457	3.20%	0.567%

LSC Area Percent Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

41	10.082	1800	1811	1818	rVB	381671	675614	11.97%	2.123%
42	10.218	1833	1837	1843	rVB3	37197	64460	1.14%	0.203%
43	10.313	1849	1855	1871	rVB3	182674	342541	6.07%	1.076%
44	10.522	1882	1895	1899	rBV2	43520	82653	1.46%	0.260%
45	10.622	1910	1914	1920	rBV	50915	73012	1.29%	0.229%
46	10.743	1934	1937	1942	rVB	50994	67235	1.19%	0.211%
47	10.800	1942	1948	1954	rVB3	38294	65698	1.16%	0.206%
48	11.005	1981	1987	1999	rVB3	156718	321009	5.69%	1.009%
49	11.104	1999	2006	2016	rBV	140743	241047	4.27%	0.757%
50	11.204	2018	2025	2034	rBV	549147	842522	14.93%	2.648%
51	11.309	2037	2045	2055	rVB	439075	668113	11.84%	2.100%
52	11.419	2055	2066	2078	rBV2	925867	1903735	33.72%	5.982%
53	11.749	2116	2129	2135	rBV	372713	599941	10.63%	1.885%
54	12.200	2207	2215	2220	rBV	456223	657108	11.64%	2.065%
55	12.394	2247	2252	2257	rVB	127169	170316	3.02%	0.535%
56	12.457	2257	2264	2268	rBV	380677	557263	9.87%	1.751%
57	12.489	2268	2270	2274	rVV	178503	213787	3.79%	0.672%
58	12.536	2274	2279	2285	rVB	329614	451967	8.01%	1.420%
59	12.693	2301	2309	2314	rBV	121593	175723	3.11%	0.552%
60	12.840	2331	2337	2344	rBV	581930	789563	13.99%	2.481%
61	13.039	2366	2375	2380	rVB4	37941	77215	1.37%	0.243%
62	13.139	2388	2394	2399	rBV	600535	873597	15.48%	2.745%
63	13.170	2399	2400	2407	rVB	122975	129407	2.29%	0.407%
64	13.343	2428	2433	2437	rVB	158420	206526	3.66%	0.649%
65	13.385	2437	2441	2450	rVB3	140217	235904	4.18%	0.741%
66	13.479	2450	2459	2463	rVB2	80699	122143	2.16%	0.384%
67	13.605	2478	2483	2485	rBV	56264	71573	1.27%	0.225%
68	13.632	2485	2488	2494	rVB	64432	87961	1.56%	0.276%
69	13.689	2494	2499	2506	rBV2	120432	174109	3.08%	0.547%
70	13.794	2513	2519	2525	rVB	85165	123610	2.19%	0.388%
71	14.046	2564	2567	2572	rVB	81390	105404	1.87%	0.331%
72	14.271	2607	2610	2615	rVV2	46867	74511	1.32%	0.234%
73	14.329	2618	2621	2626	rVB2	54313	63852	1.13%	0.201%
74	14.387	2626	2632	2640	rBV4	88903	166056	2.94%	0.522%
75	14.759	2697	2703	2710	rVB	31829	63639	1.13%	0.200%
76	14.916	2728	2733	2741	rVB	43570	75470	1.34%	0.237%

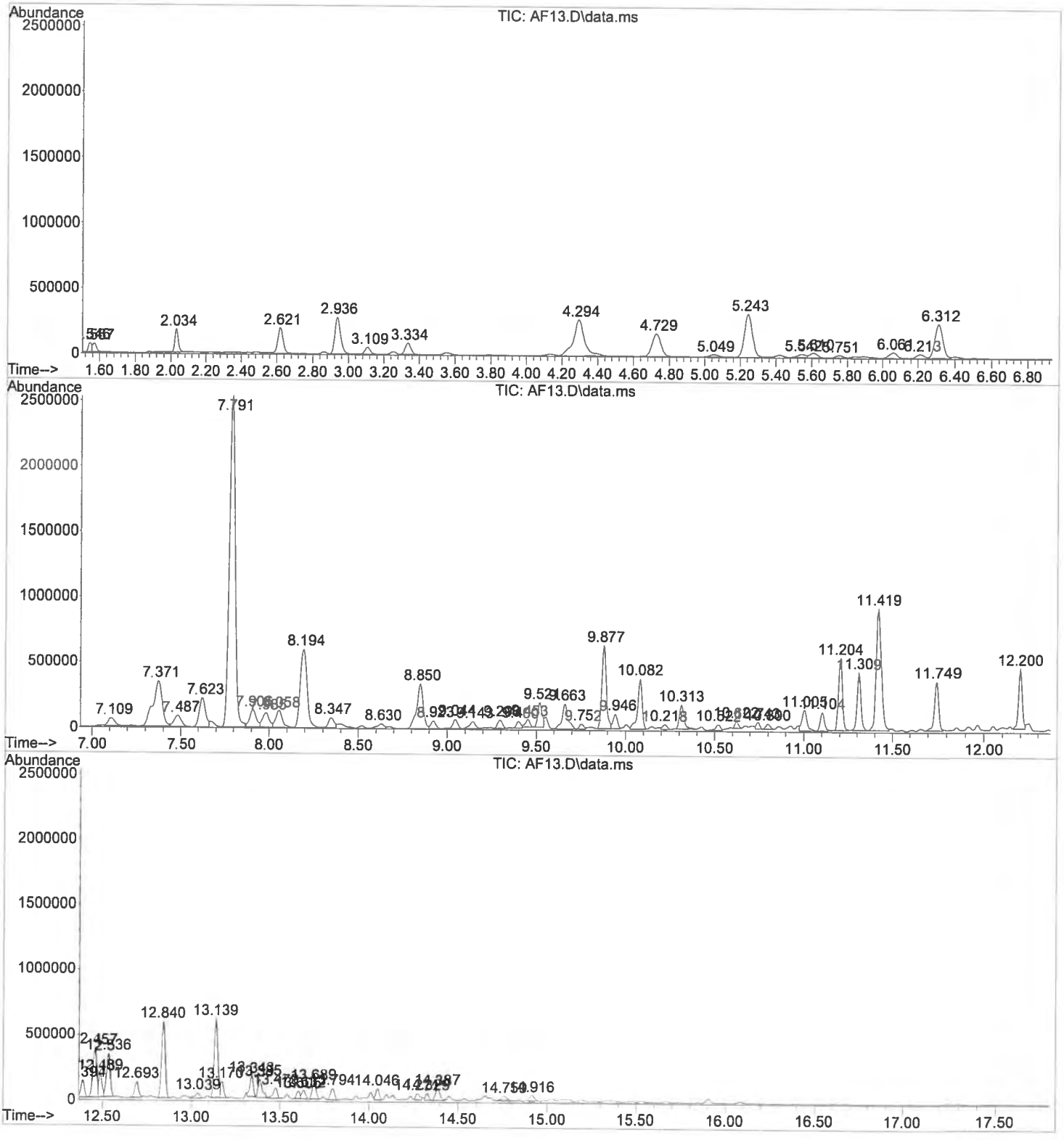
Sum of corrected areas: 31822441

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

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Acq On : 17 Jun 2019 14:23
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Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

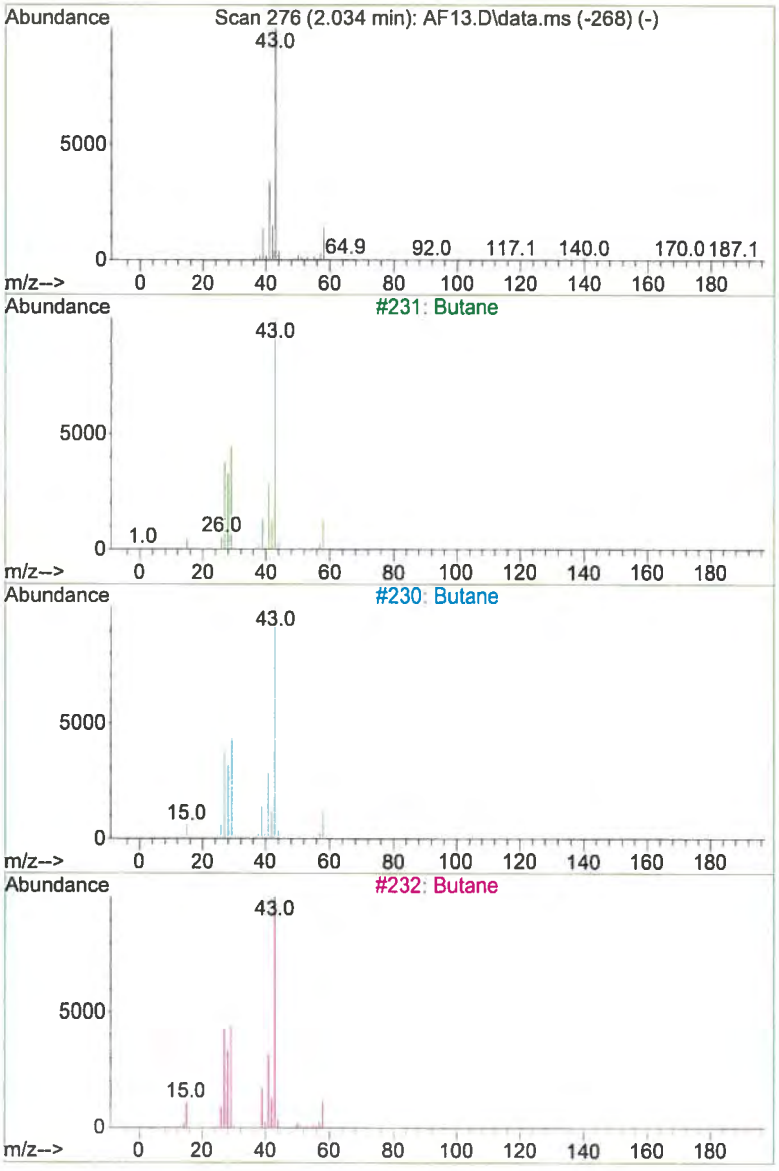
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

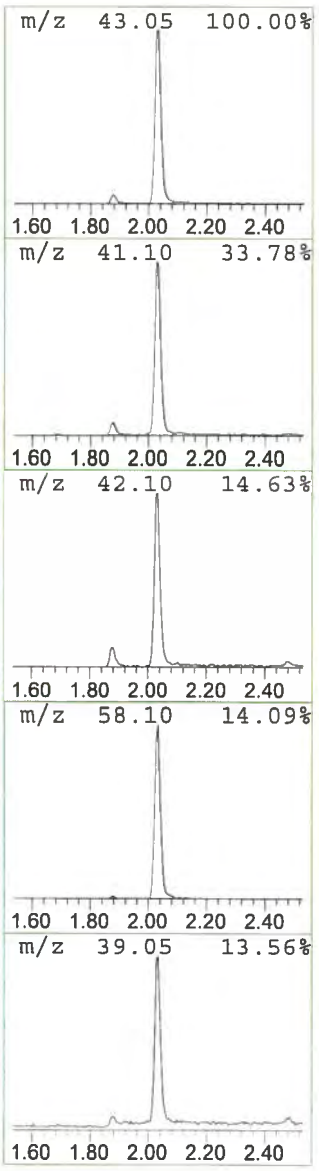
****

Peak Number 1 Butane Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.034	7.78 ug/Kg	248349	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane	58	C4H10	000106-97-8	80
2	Butane	58	C4H10	000106-97-8	80
3	Butane	58	C4H10	000106-97-8	58
4	Formic acid, chloro-, (3,4,4-tri...	194	C7H11ClO4	107323-92-2	39
5	1-Butanol	74	C4H10O	000071-36-3	9





Library Search Compound Report

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Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

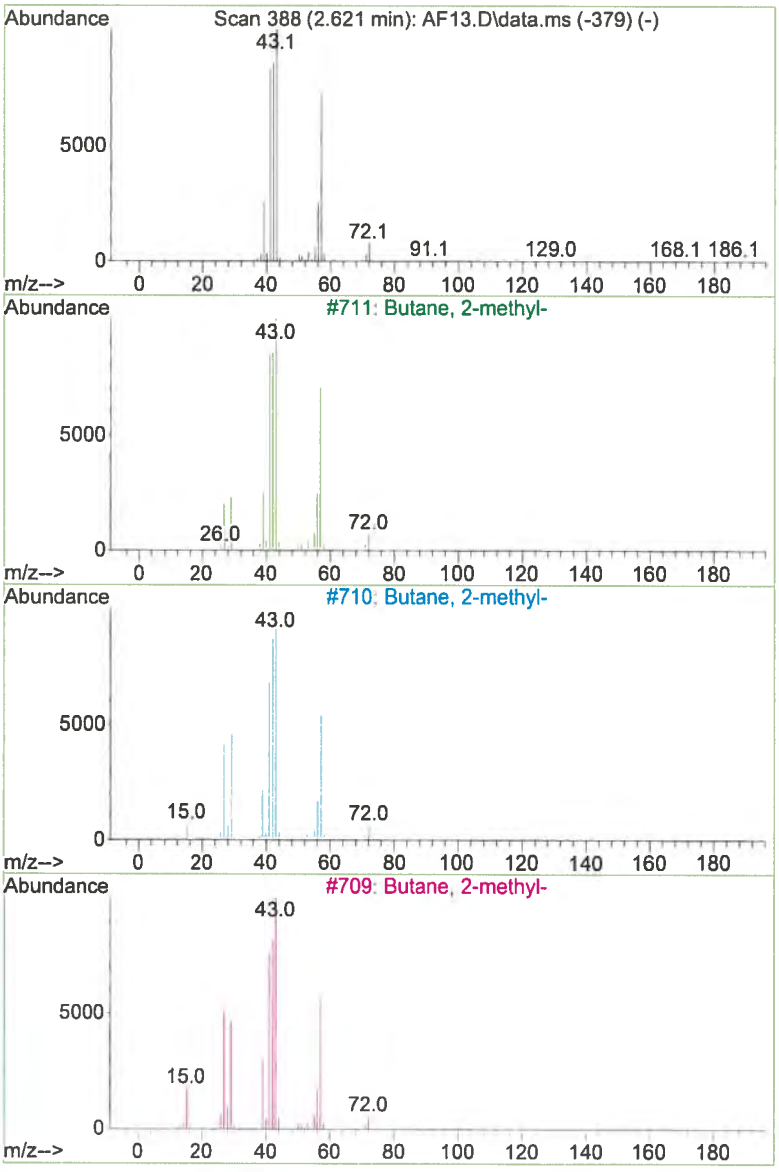
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

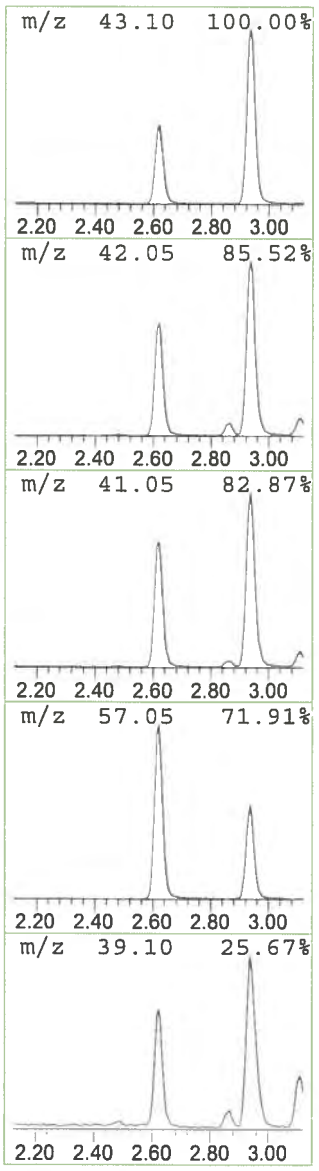
****

Peak Number 2 Butane, 2-methyl- Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.621	12.26 ug/Kg	391136	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	91
2	Butane, 2-methyl-	72	C5H12	000078-78-4	91
3	Butane, 2-methyl-	72	C5H12	000078-78-4	90
4	Pentane	72	C5H12	000109-66-0	39
5	3-Buten-1-ol	72	C4H8O	000627-27-0	38





Library Search Compound Report

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Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

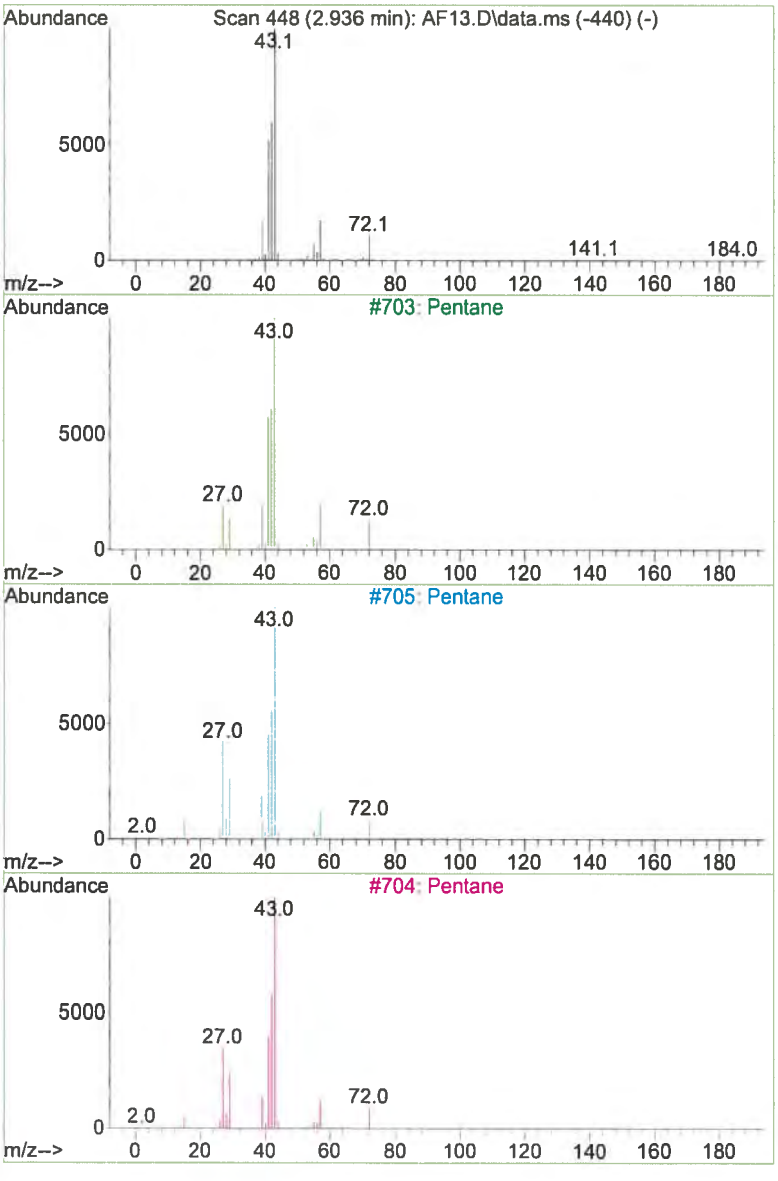
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

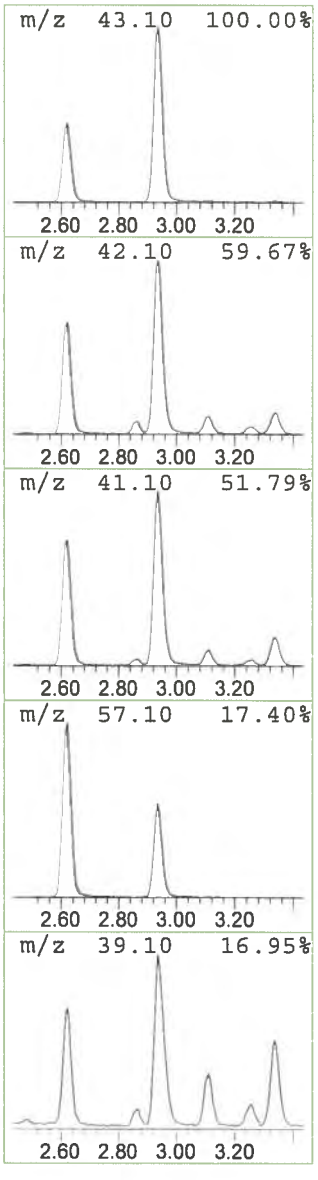
****

Peak Number 3 Pentane Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.936	17.30 ug/Kg	551880	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane	72	C5H12	000109-66-0	91
2	Pentane	72	C5H12	000109-66-0	86
3	Pentane	72	C5H12	000109-66-0	86
4	Pentane	72	C5H12	000109-66-0	72
5	Butane, 2-methyl-	72	C5H12	000078-78-4	40





Library Search Compound Report

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Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

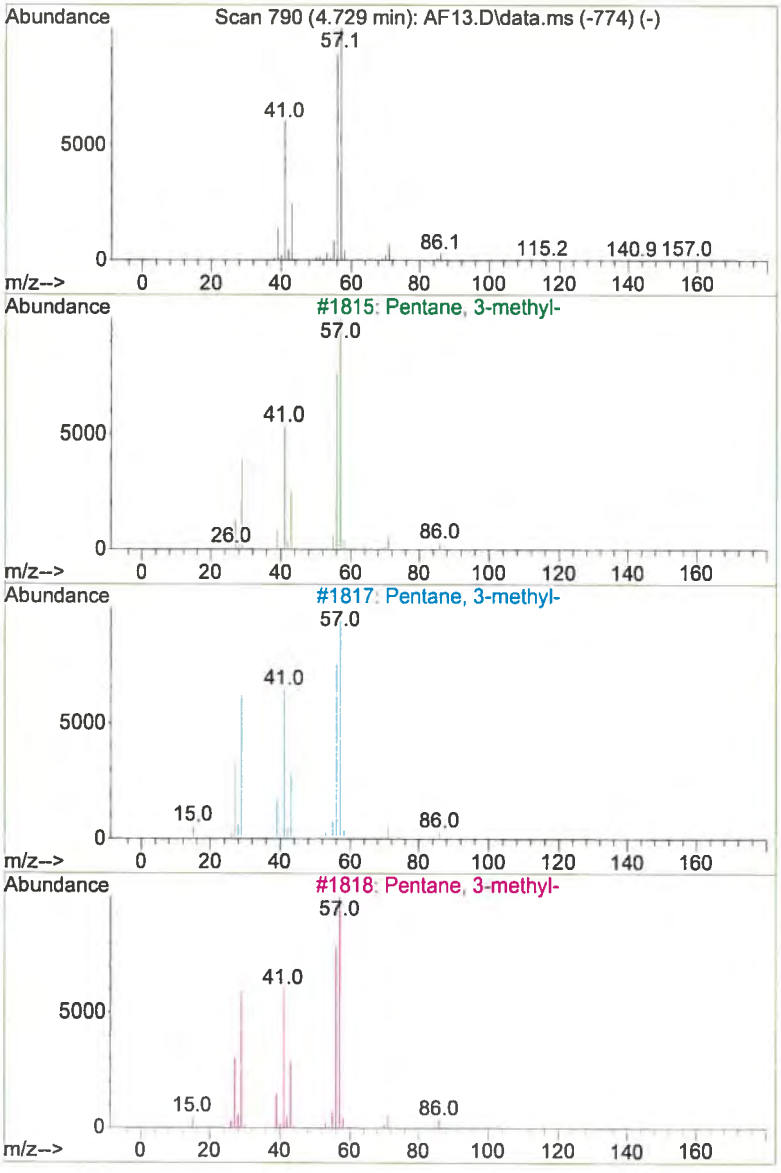
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

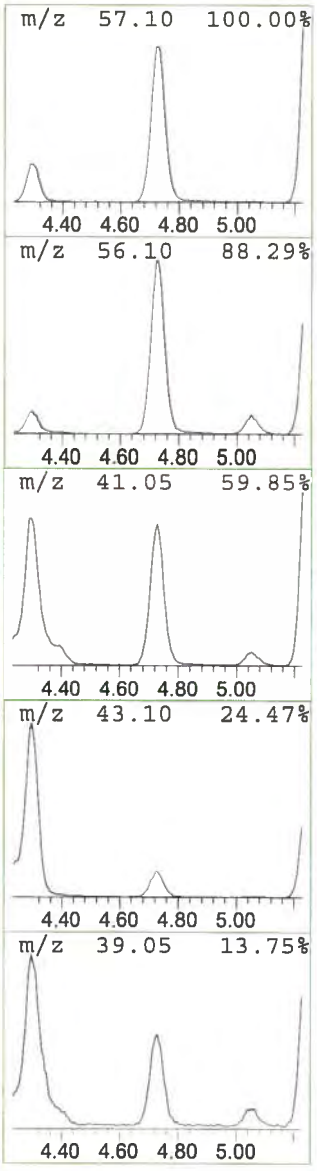
****

Peak Number 4 Pentane, 3-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.729	18.18 ug/Kg	580081	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 3-methyl-	86	C6H14	000096-14-0	91
2	Pentane, 3-methyl-	86	C6H14	000096-14-0	91
3	Pentane, 3-methyl-	86	C6H14	000096-14-0	91
4	Hexane, 2,2,3-trimethyl-	128	C9H20	016747-25-4	64
5	3,4-Dimethyldihydrofuran-2,5-dione	128	C6H8O3	007475-92-5	59





Library Search Compound Report

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Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

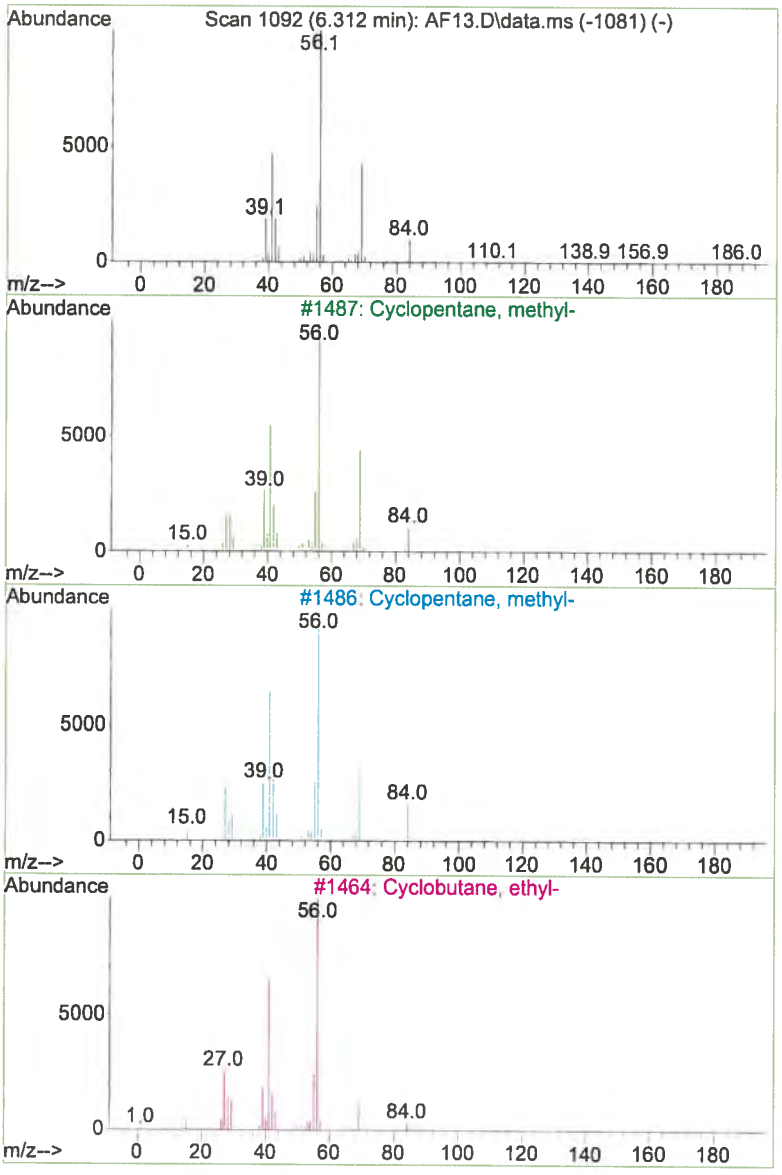
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

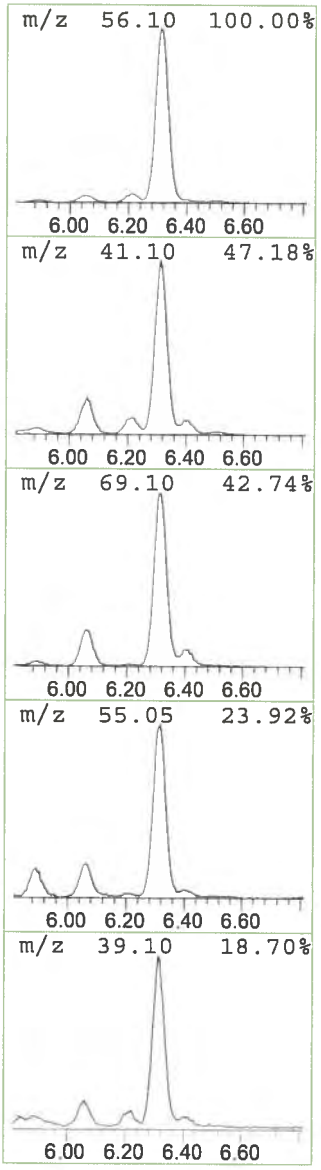
****

Peak Number 5 Cyclopentane, methyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.312	24.66 ug/Kg	786841	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, methyl-	84	C6H12	000096-37-7	94
2	Cyclopentane, methyl-	84	C6H12	000096-37-7	86
3	Cyclobutane, ethyl-	84	C6H12	004806-61-5	78
4	Propane, 2-cyclopropyl-	84	C6H12	003638-35-5	72
5	1H-Tetrazole, 5-methyl-	84	C2H4N4	004076-36-2	64





Library Search Compound Report

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Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

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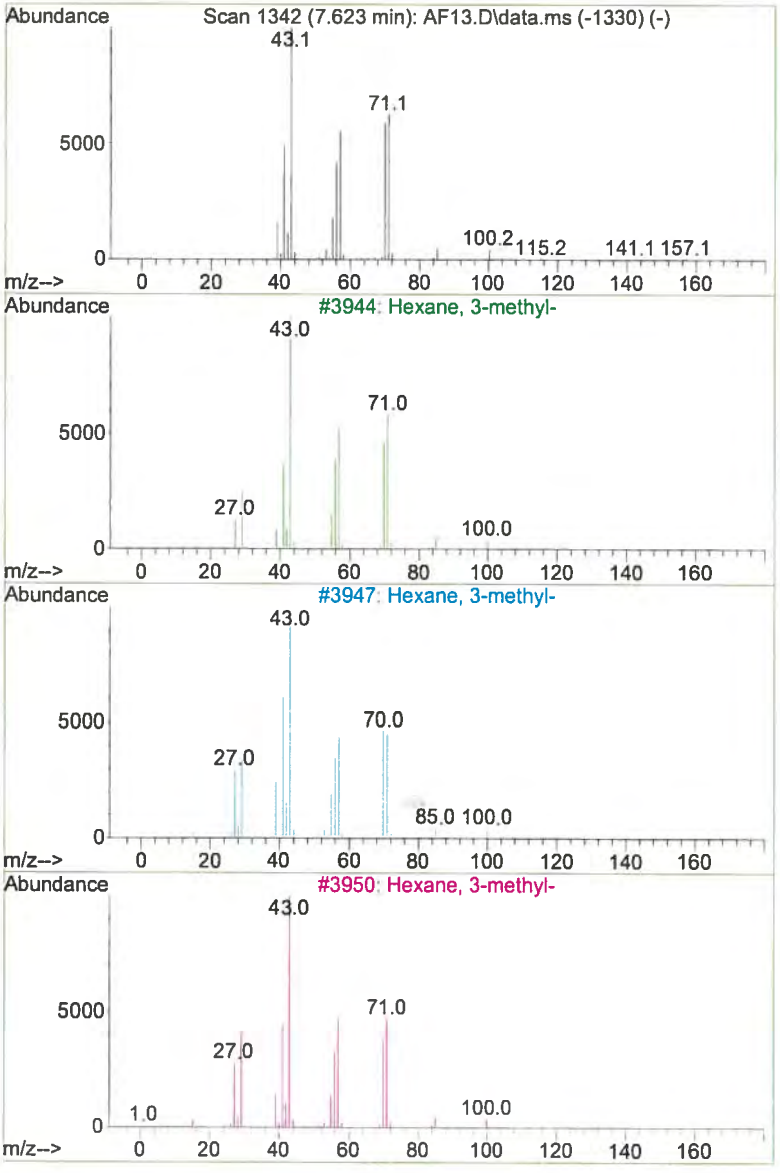
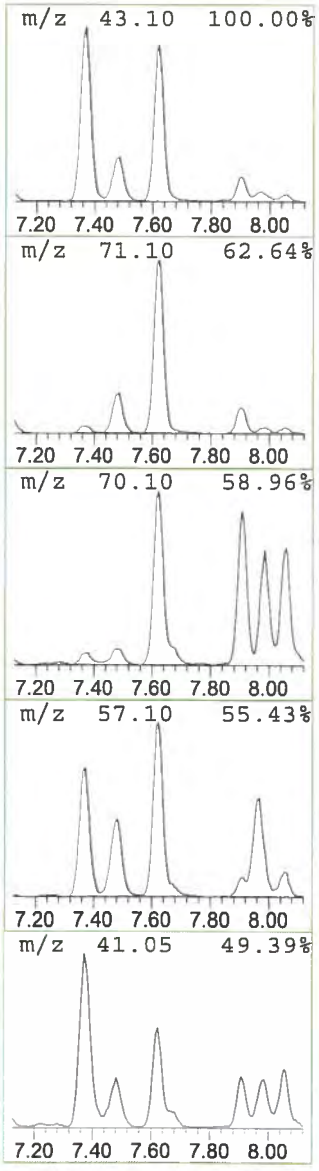
Peak Number 6 Hexane, 3-methyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.623	14.22 ug/Kg	453719	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 3-methyl-	100	C7H16	000589-34-4	91
2	Hexane, 3-methyl-	100	C7H16	000589-34-4	91
3	Hexane, 3-methyl-	100	C7H16	000589-34-4	87
4	Heptane, 4-methyl-	114	C8H18	000589-53-7	59
5	Pentane, 3-ethyl-	100	C7H16	000617-78-7	58





Library Search Compound Report

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Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

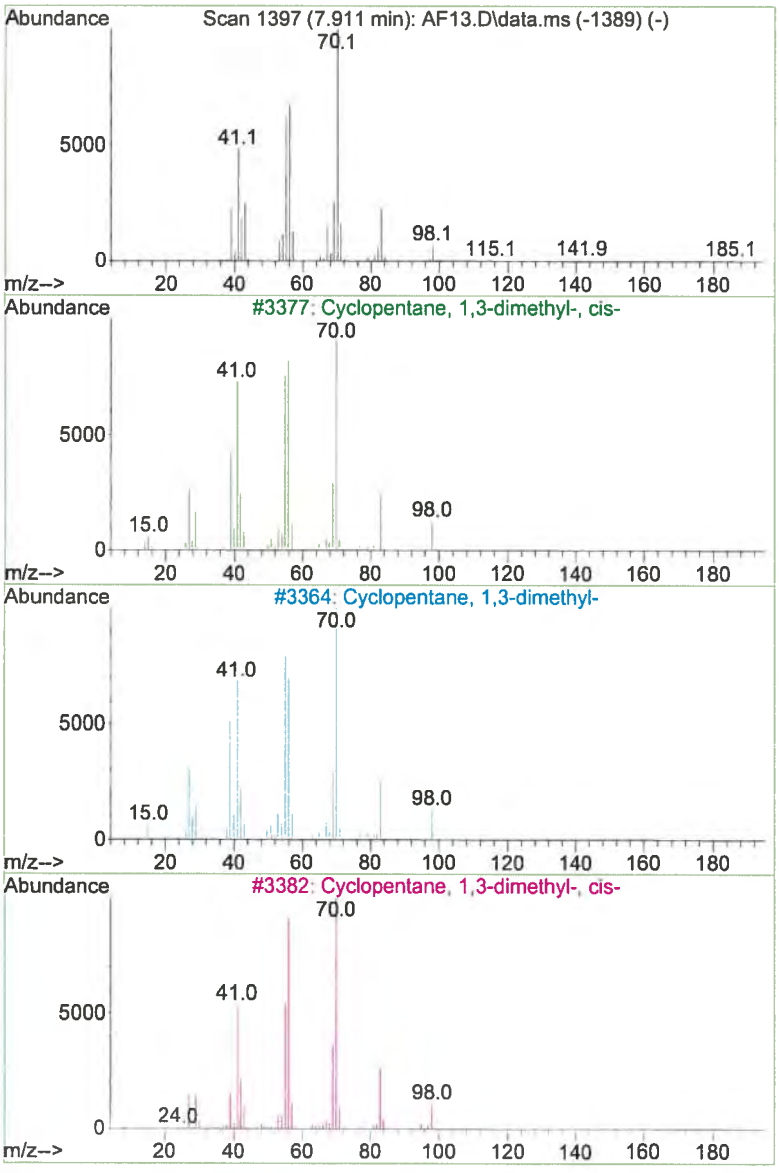
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

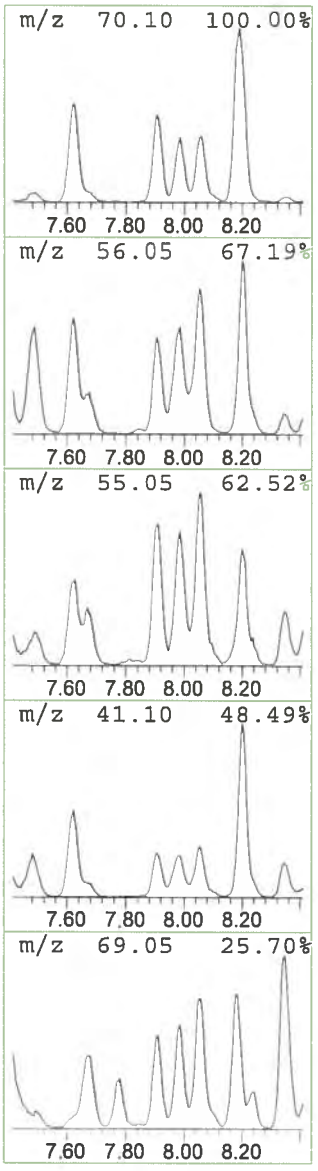
****

Peak Number 7 Cyclopentane, 1,3-dimethyl-... Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.911	7.18 ug/Kg	229183	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, 1,3-dimethyl-, cis-	98	C7H14	002532-58-3	90
2	Cyclopentane, 1,3-dimethyl-	98	C7H14	002453-00-1	86
3	Cyclopentane, 1,3-dimethyl-, cis-	98	C7H14	002532-58-3	78
4	Undecane, 3-methylene-	168	C12H24	071138-64-2	59
5	Cyclopentane, 1,2,3-trimethyl-, ...	112	C8H16	002613-69-6	53





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Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

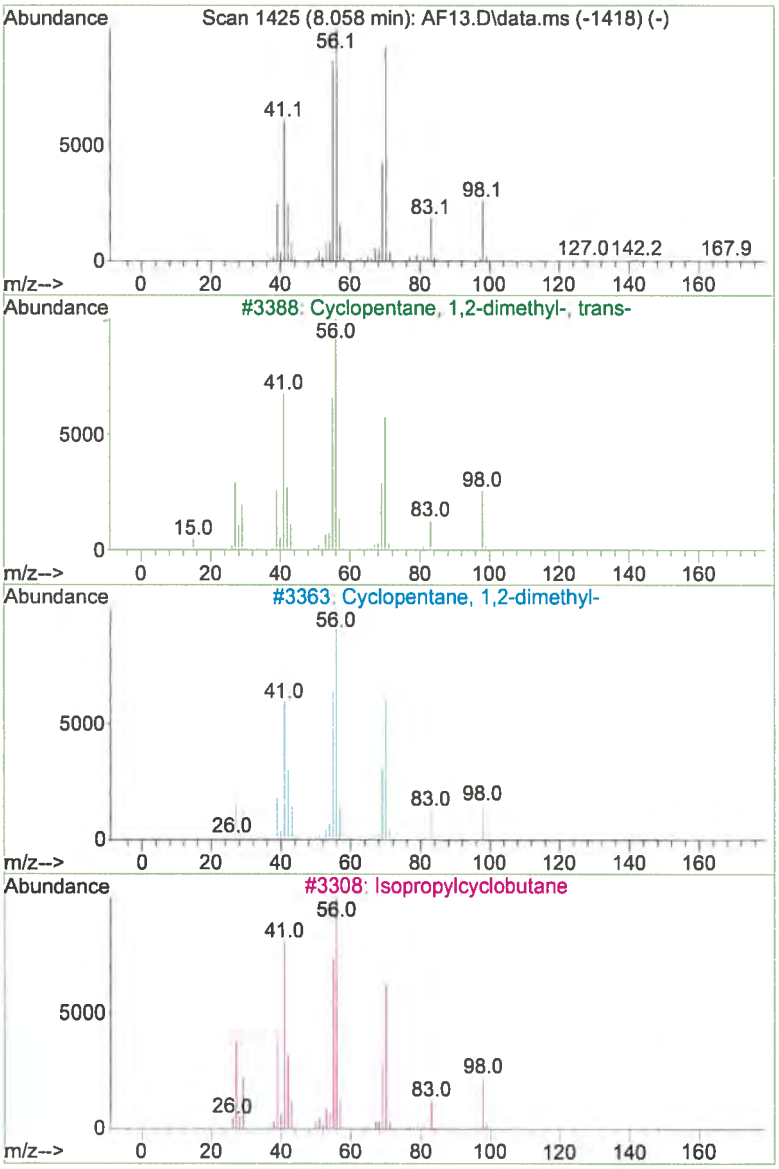
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

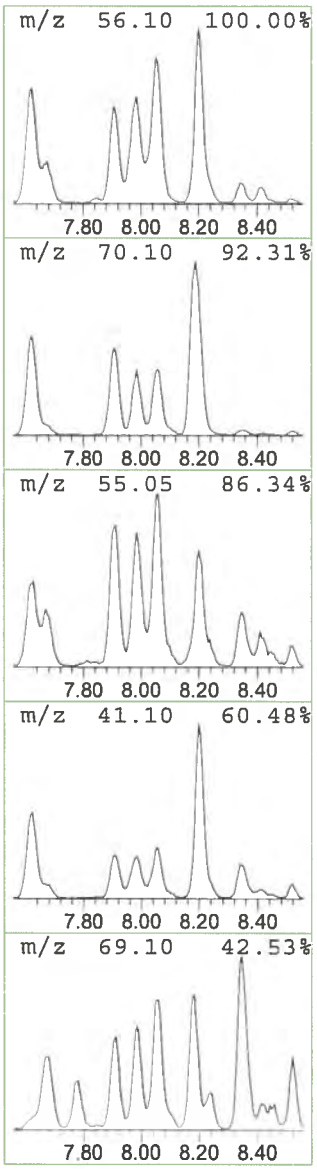
****

Peak Number 8 Cyclopentane, 1,2-dimethyl-... Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.058	8.38 ug/Kg	267526	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, 1,2-dimethyl-, trans-	98	C7H14	000822-50-4	94
2	Cyclopentane, 1,2-dimethyl-	98	C7H14	002452-99-5	94
3	Isopropylcyclobutane	98	C7H14	000872-56-0	94
4	Cyclopentane, 1,2-dimethyl-, cis-	98	C7H14	001192-18-3	87
5	Cyclopentane, 1,3-dimethyl-	98	C7H14	002453-00-1	72





Library Search Compound Report

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Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

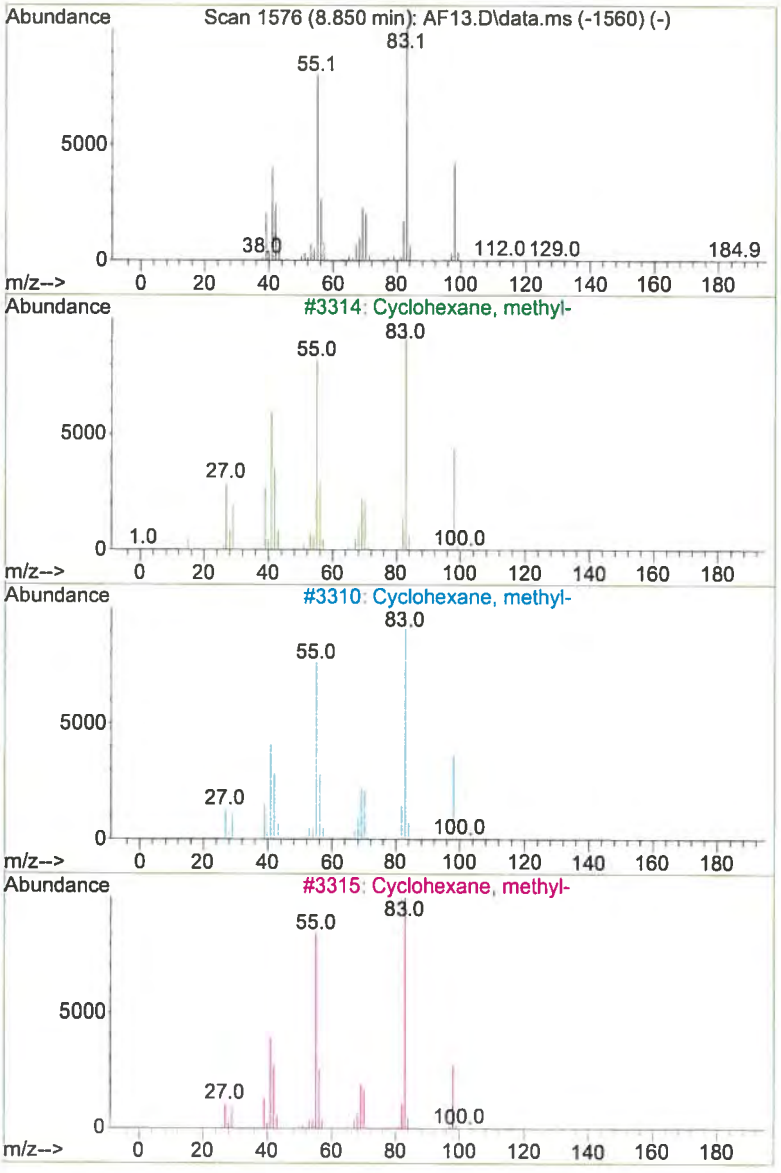
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

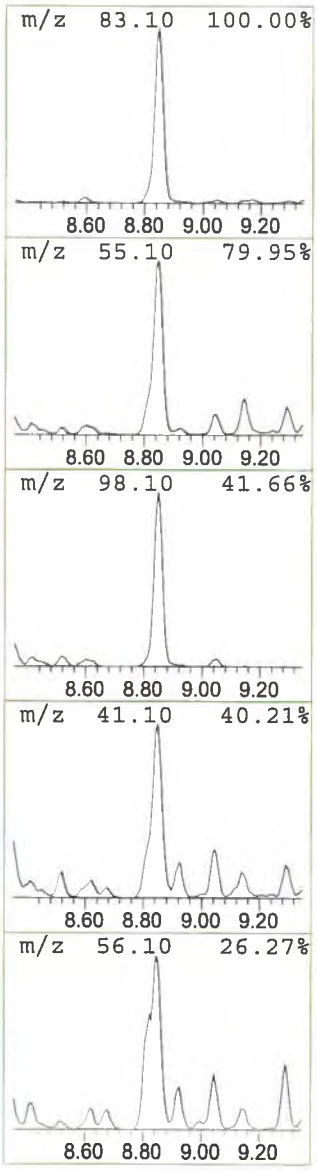
****

Peak Number 9 Cyclohexane, methyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.850	24.12 ug/Kg	769806	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, methyl-	98	C7H14	000108-87-2	96
2	Cyclohexane, methyl-	98	C7H14	000108-87-2	96
3	Cyclohexane, methyl-	98	C7H14	000108-87-2	91
4	Cyclohexane, methyl-	98	C7H14	000108-87-2	91
5	1H-Pyrazole, 4,5-dihydro-4,5-dim...	98	C5H10N2	028019-94-5	59





Library Search Compound Report

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Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

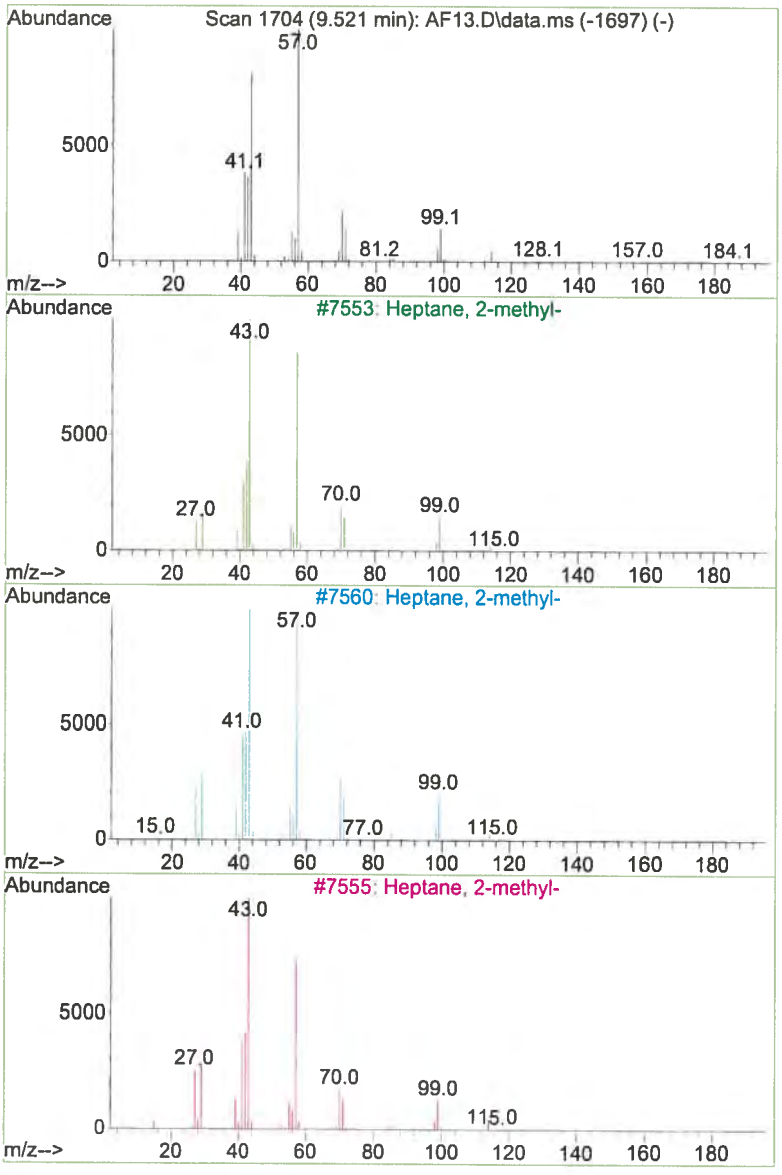
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

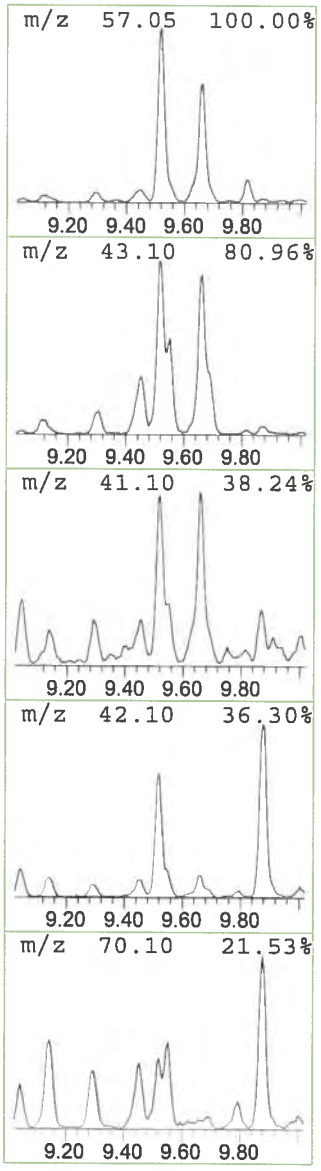
****

Peak Number 10 Heptane, 2-methyl- Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.521	10.17 ug/Kg	324632	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptane, 2-methyl-	114	C8H18	000592-27-8	94
2	Heptane, 2-methyl-	114	C8H18	000592-27-8	90
3	Heptane, 2-methyl-	114	C8H18	000592-27-8	81
4	Hexane, 2,5-dimethyl-	114	C8H18	000592-13-2	62
5	Heptane, 3-ethyl-	128	C9H20	015869-80-4	47





Library Search Compound Report

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Operator : R.Eaton
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ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

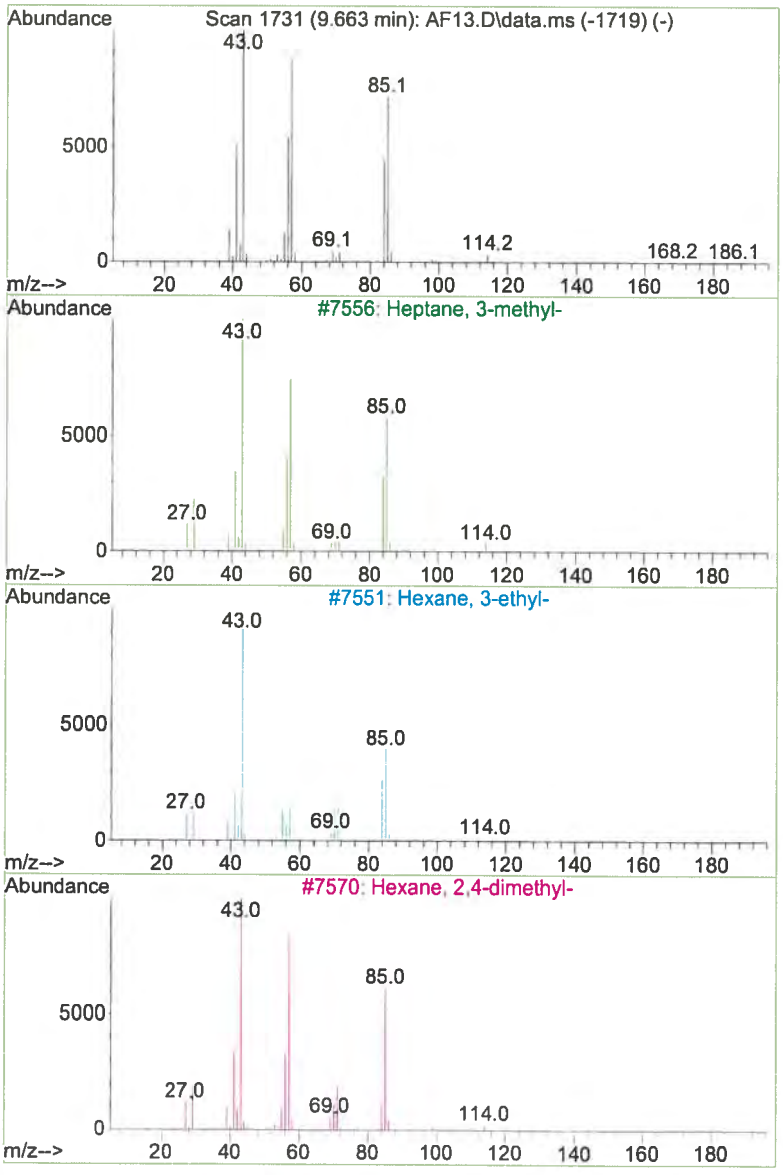
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

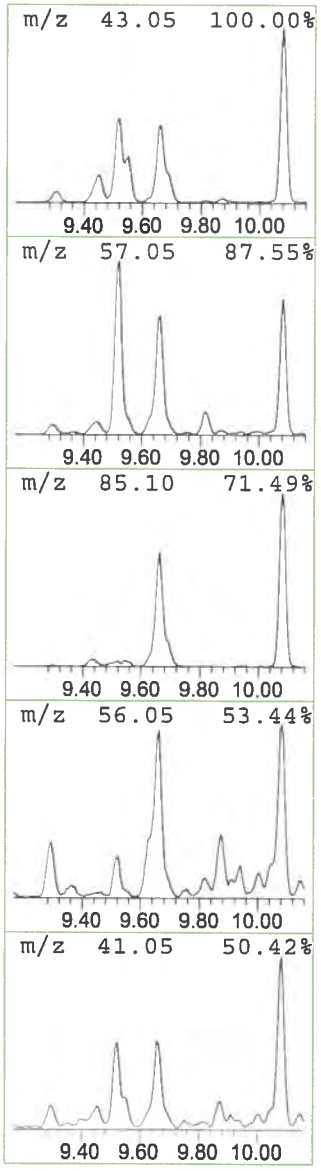
****

Peak Number 11 Heptane, 3-methyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.663	13.66 ug/Kg	435814	Fluorobenzene	8.184

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptane, 3-methyl-	114	C8H18	000589-81-1	91
2	Hexane, 3-ethyl-	114	C8H18	000619-99-8	58
3	Hexane, 2,4-dimethyl-	114	C8H18	000589-43-5	52
4	Hexane, 2,4-dimethyl-	114	C8H18	000589-43-5	50
5	Hexane, 2,4-dimethyl-	114	C8H18	000589-43-5	50





Library Search Compound Report

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Data File : AF13.D
Acq On    : 17 Jun 2019  14:23
Operator  : R.Eaton
Sample    : 19060980-005D
Misc      : ,V 8260S S,SAMP,5000,5,
ALS Vial  : 13   Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title  : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library   : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P
```
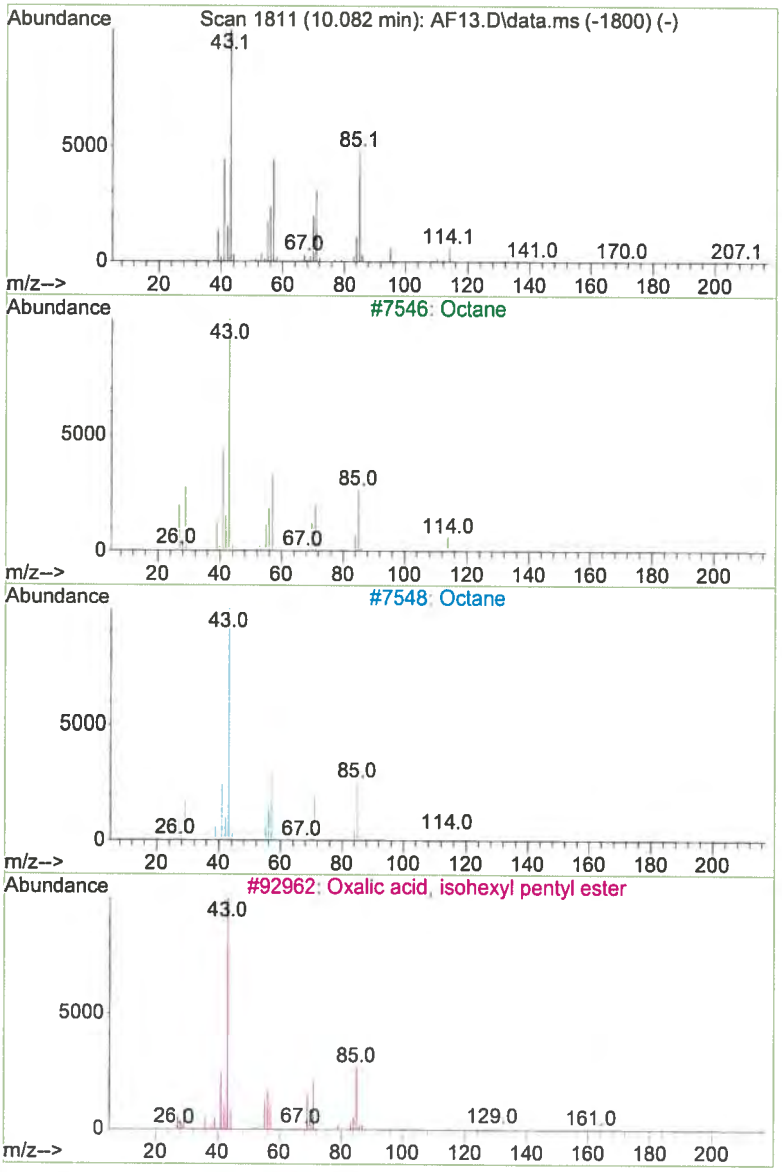
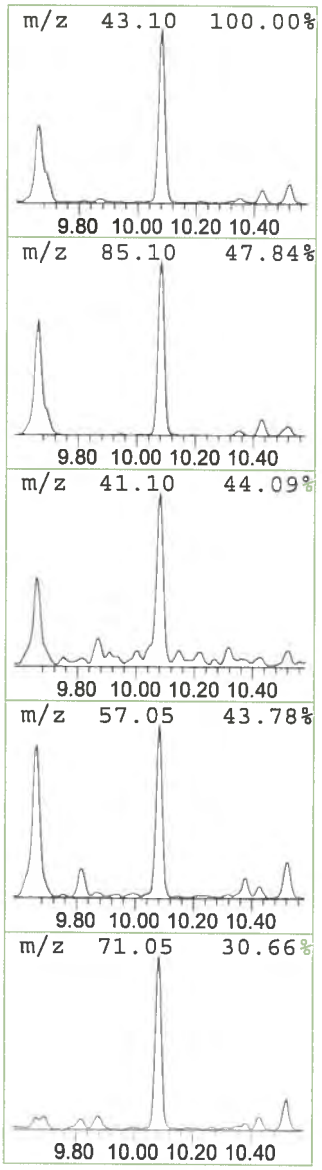

****

Peak Number 12 Octane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.082	40.09 ug/Kg	675614	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane	114	C8H18	000111-65-9	94
2	Octane	114	C8H18	000111-65-9	87
3	Oxalic acid, isohexyl pentyl ester	244	C13H24O4	1000309-32-8	72
4	Heptane, 2,4-dimethyl-	128	C9H20	002213-23-2	72
5	Heptane, 2,4-dimethyl-	128	C9H20	002213-23-2	72





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

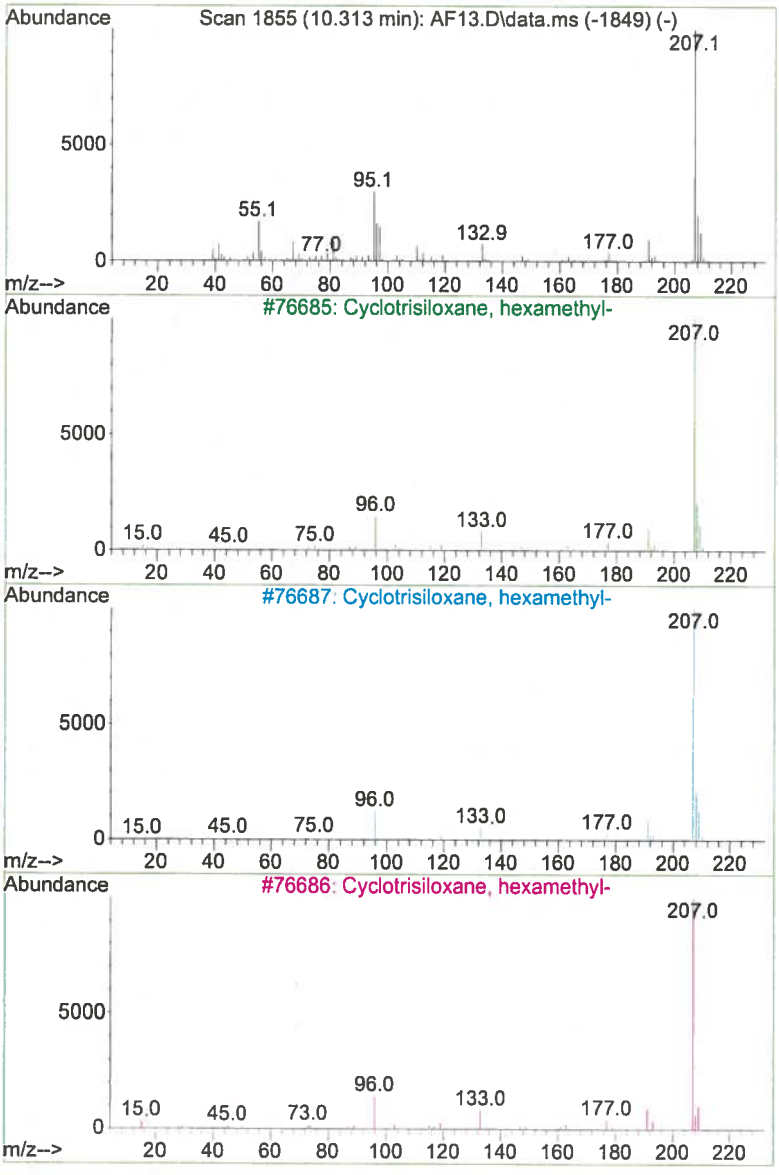
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

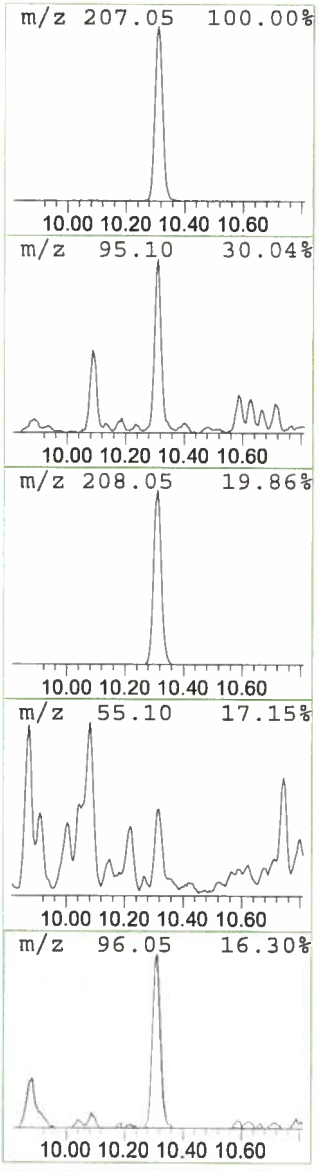
****

Peak Number 13 Cyclotrisiloxane, hexamethyl- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.313	14.83 ug/Kg	249824	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	81
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	74
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	52
4	5-Methyl-2-phenylindolizine	207	C15H13N	036944-99-7	38
5	4-Cyclohexene-1,2-dicarboximide,...	207	C12H17NO2	028916-00-9	38





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

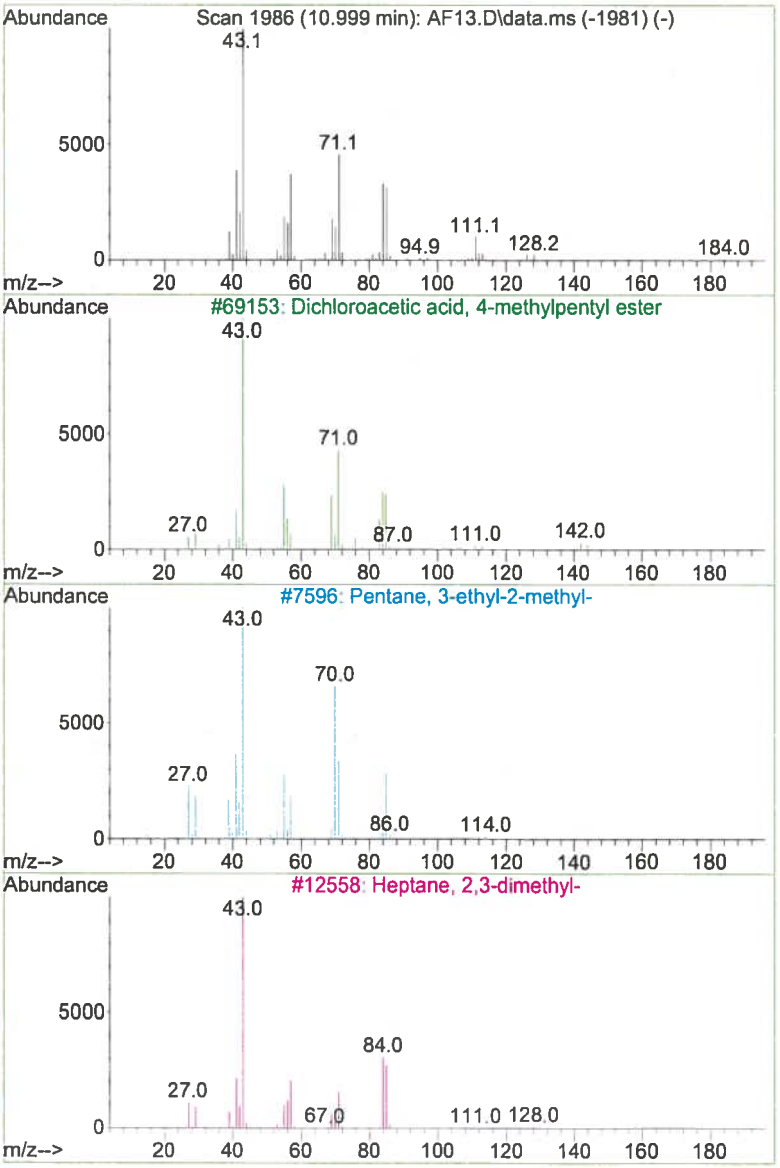
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

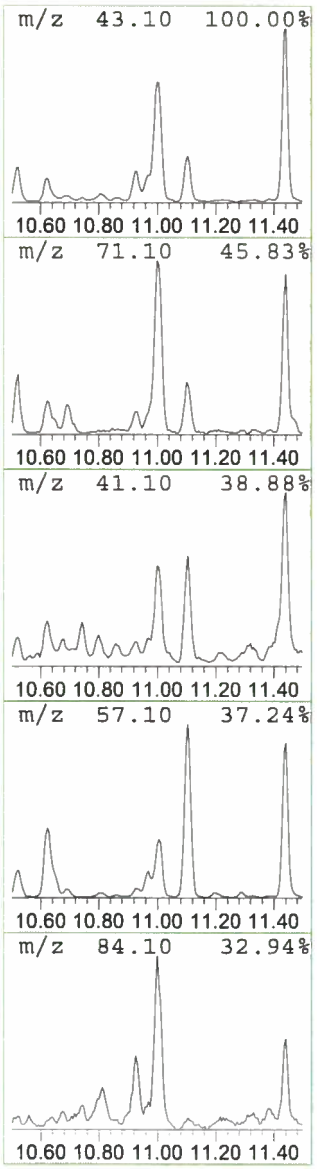
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 14 Dichloroacetic acid, 4-meth... Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.999	10.82 ug/Kg	182405	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dichloroacetic acid, 4-methylpen...	212	C8H14Cl2O2	1000282-43-7	59
2	Pentane, 3-ethyl-2-methyl-	114	C8H18	000609-26-7	53
3	Heptane, 2,3-dimethyl-	128	C9H20	003074-71-3	50
4	Oxalic acid, isohexyl neopentyl ...	244	C13H24O4	1000309-73-0	47
5	Hexane, 3-ethyl-	114	C8H18	000619-99-8	47





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

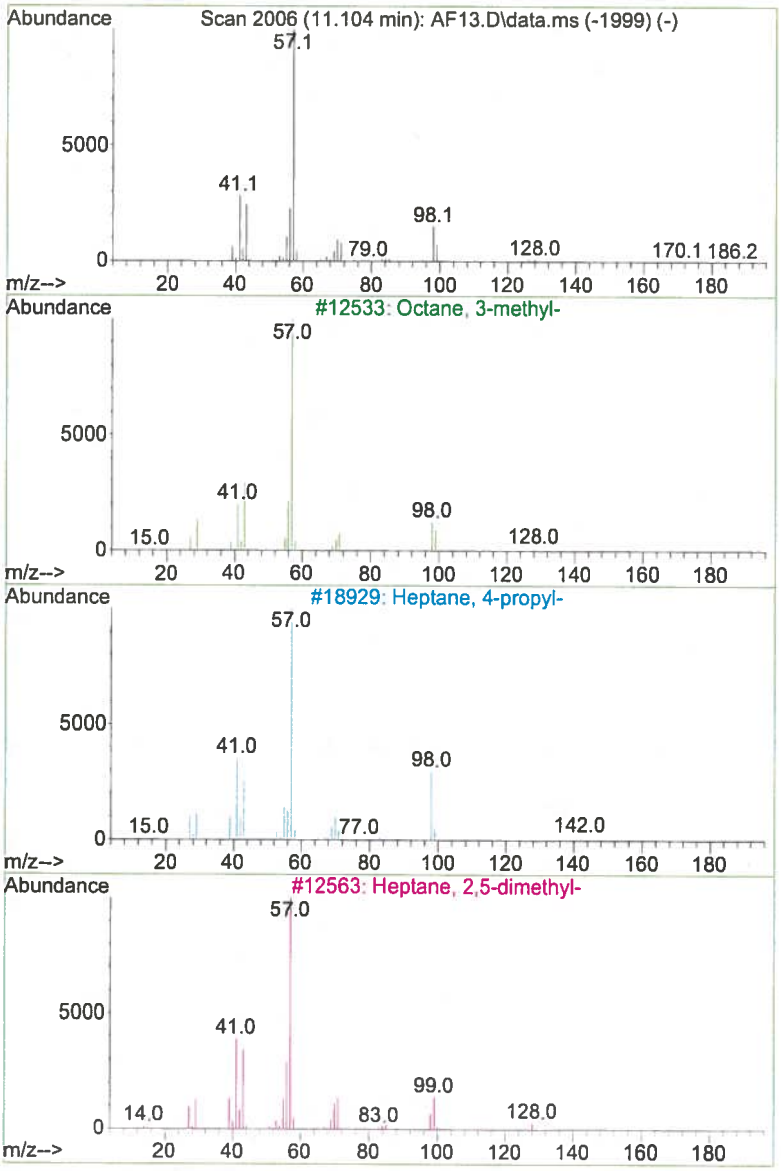
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

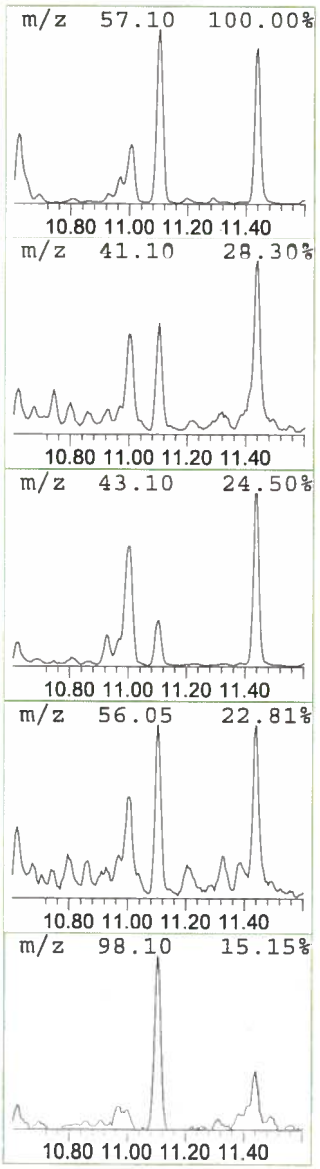
****

Peak Number 15 Octane, 3-methyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.104	14.31 ug/Kg	241047	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane, 3-methyl-	128	C9H20	002216-33-3	80
2	Heptane, 4-propyl-	142	C10H22	003178-29-8	64
3	Heptane, 2,5-dimethyl-	128	C9H20	002216-30-0	59
4	Heptane, 2,5-dimethyl-	128	C9H20	002216-30-0	59
5	Decane, 2,6,6-trimethyl-	184	C13H28	062108-24-1	59





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

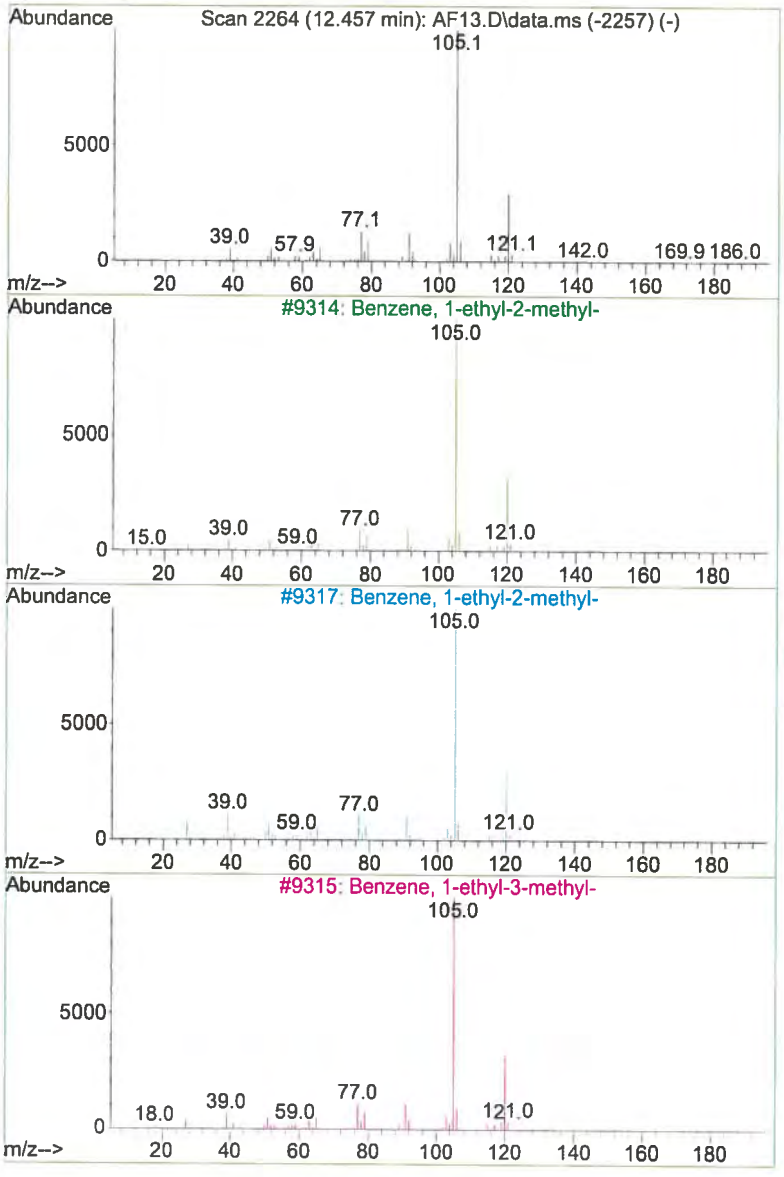
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

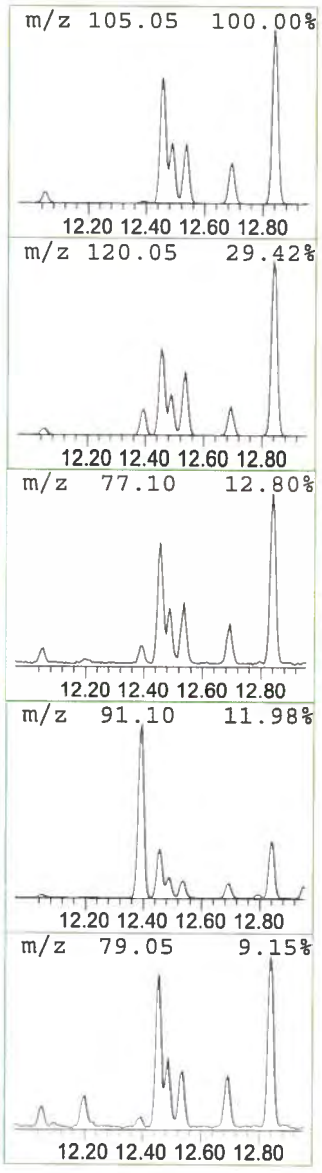
****

Peak Number 16 Benzene, 1-ethyl-2-methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.457	31.89 ug/Kg	557263	1,4-Dichlorobenzene-d4	13.139

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	95
2	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	95
3	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	95
4	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	94
5	Benzene, 1-ethyl-4-methyl-	120	C9H12	000622-96-8	91





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****

Peak Number 17 Benzene, 1-ethyl-2-methyl- Concentration Rank 15

R.T.	EstConc	Area	Relative to ISTD	R.T.
12.693	10.06 ug/Kg	175723	1,4-Dichlorobenzene-d4	13.139

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	94
2	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	94
3	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	94
4	Benzene, 1-ethyl-4-methyl-	120	C9H12	000622-96-8	91
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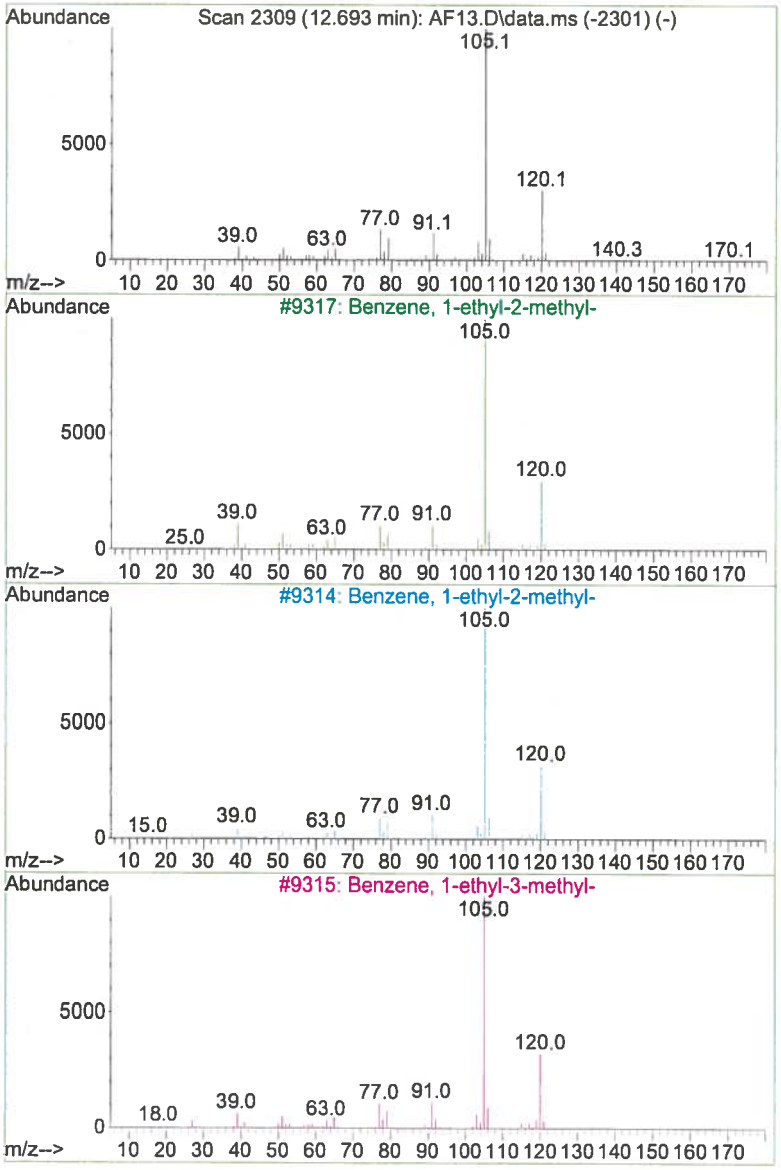
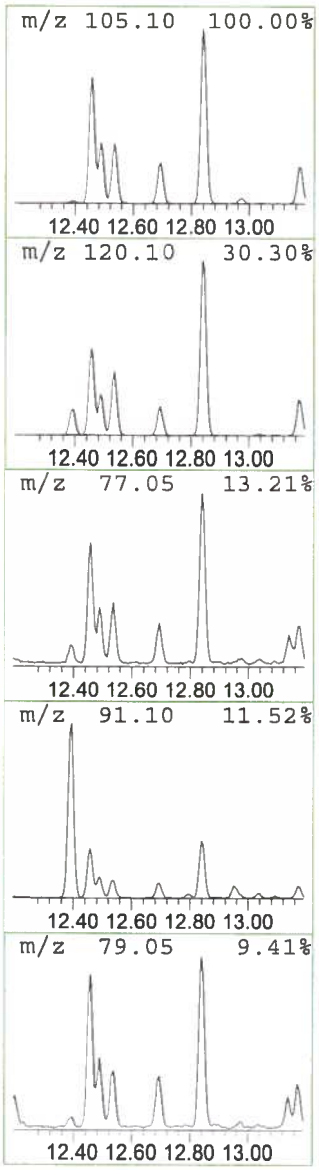




Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

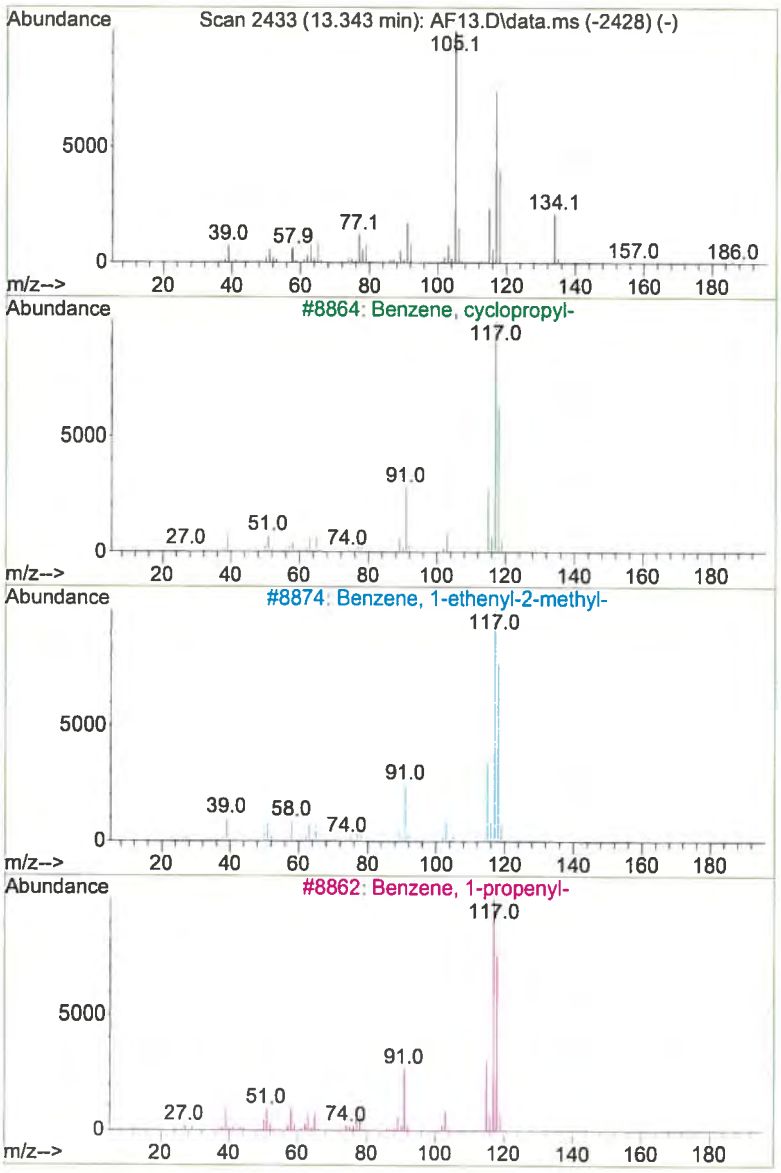
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

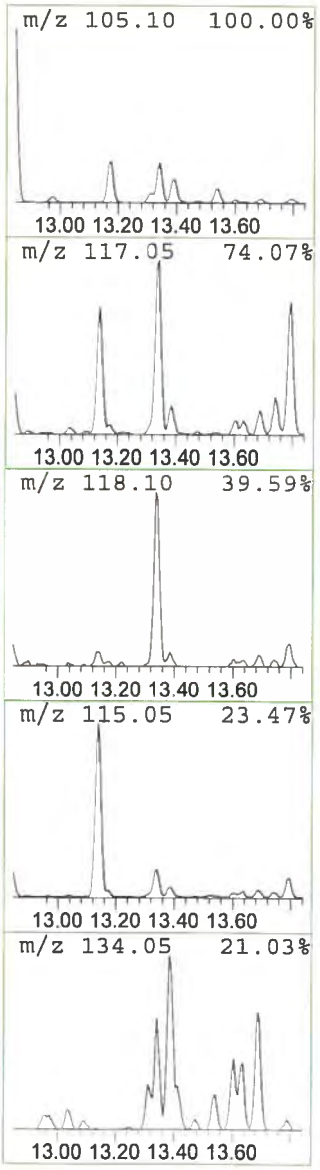
****

Peak Number 18 Benzene, cyclopropyl- Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.343	11.82 ug/Kg	206526	1,4-Dichlorobenzene-d4	13.139

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, cyclopropyl-	118	C9H10	000873-49-4	64
2	Benzene, 1-ethenyl-2-methyl-	118	C9H10	000611-15-4	64
3	Benzene, 1-propenyl-	118	C9H10	000637-50-3	64
4	Benzene, 2-propenyl-	118	C9H10	000300-57-2	64
5	cis-.beta.-Methylstyrene	118	C9H10	000766-90-5	53





Library Search Compound Report

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Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

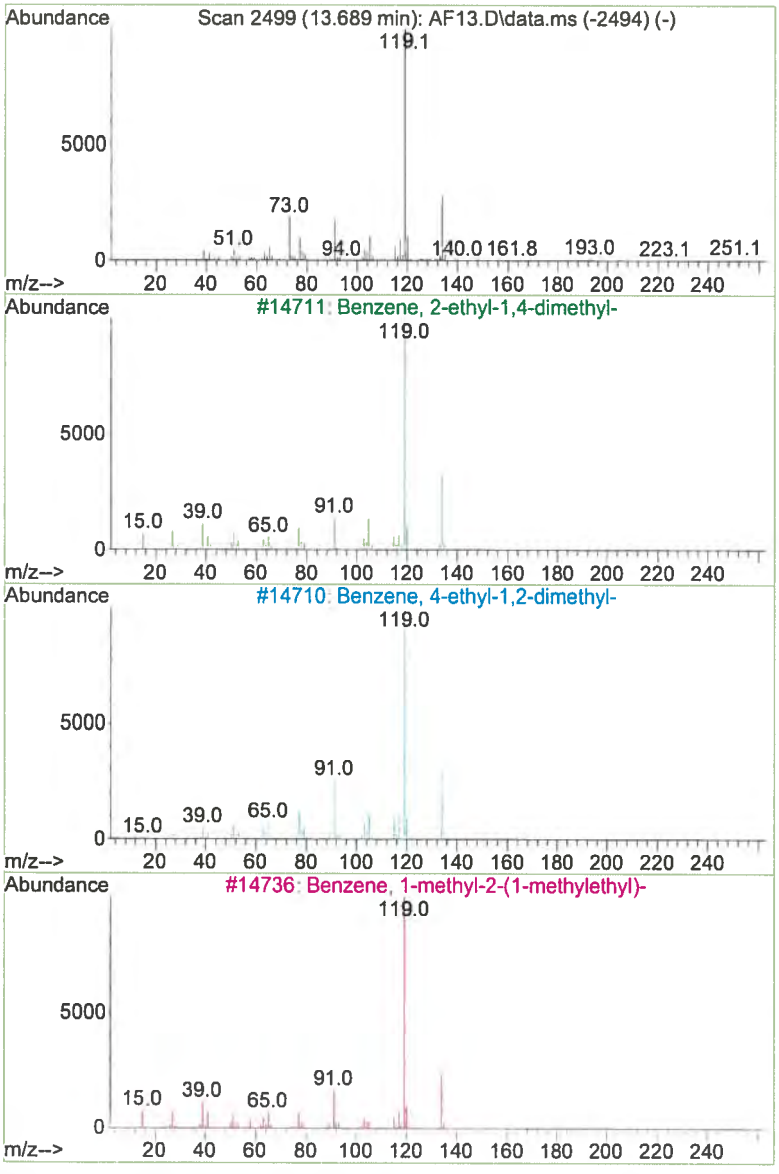
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

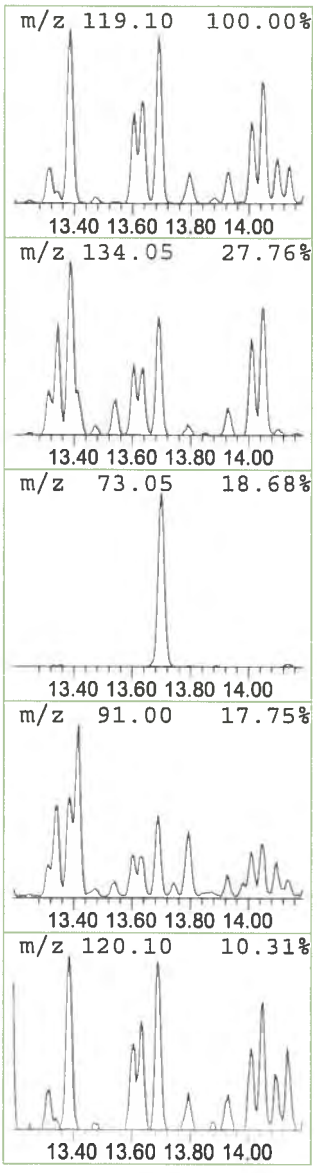
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 19 Benzene, 2-ethyl-1,4-dimethyl- Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.689	7.53 ug/Kg	131567	1,4-Dichlorobenzene-d4	13.139

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 2-ethyl-1,4-dimethyl-	134	C10H14	001758-88-9	95
2	Benzene, 4-ethyl-1,2-dimethyl-	134	C10H14	000934-80-5	95
3	Benzene, 1-methyl-2-(1-methyleth...	134	C10H14	000527-84-4	94
4	Benzene, 1-methyl-3-(1-methyleth...	134	C10H14	000535-77-3	94
5	Benzene, 2-ethyl-1,4-dimethyl-	134	C10H14	001758-88-9	94





Library Search Compound Report

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V 8260S S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

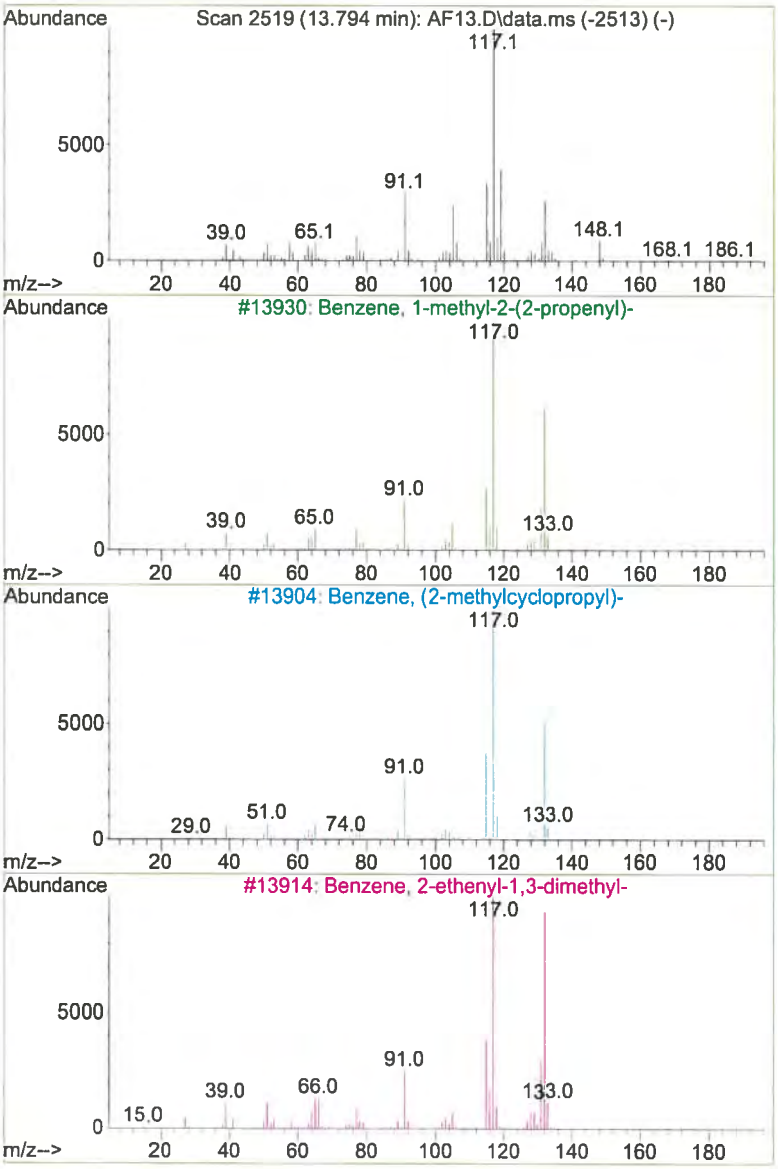
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

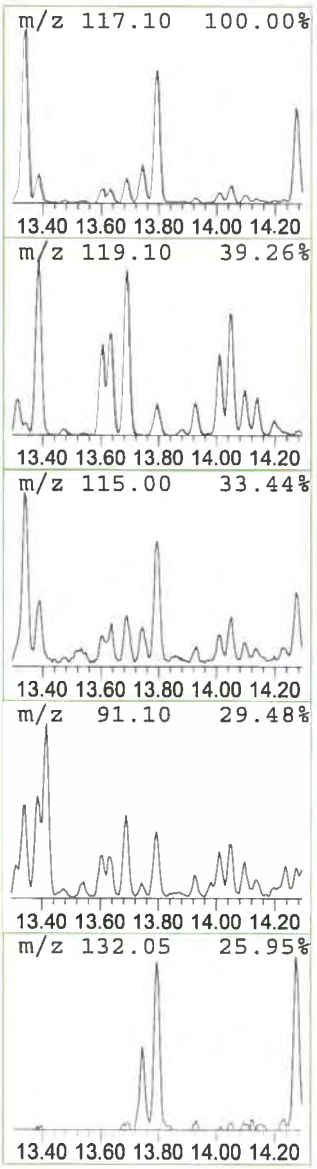
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 20 Benzene, 1-methyl-2-(2-prop... Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.794	7.07 ug/Kg	123610	1,4-Dichlorobenzene-d4	13.139

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-methyl-2-(2-propenyl)-	132	C10H12	001587-04-8	70
2	Benzene, (2-methylcyclopropyl)-	132	C10H12	1000327-39-0	64
3	Benzene, 2-ethenyl-1,3-dimethyl-	132	C10H12	002039-90-9	64
4	Indan, 1-methyl-	132	C10H12	000767-58-8	64
5	Benzene, 1-methyl-4-(2-propenyl)-	132	C10H12	003333-13-9	62





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\data\AF190617A\
Data File : AF13.D
Acq On : 17 Jun 2019 14:23
Operator : R.Eaton
Sample : 19060980-005D
Misc : ,V_8260S_S,SAMP,5000,5,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--- #	RT	Resp	Conc
Butane	2.034	7.8	ug/Kg	248349	1	8.184	1595490	50.0
Butane, 2-methyl-	2.621	12.3	ug/Kg	391136	1	8.184	1595490	50.0
Pentane	2.936	17.3	ug/Kg	551880	1	8.184	1595490	50.0
Pentane, 3-methyl-	4.729	18.2	ug/Kg	580081	1	8.184	1595490	50.0
Cyclopentane, m...	6.312	24.7	ug/Kg	786841	1	8.184	1595490	50.0
Hexane, 3-methyl-	7.623	14.2	ug/Kg	453719	1	8.184	1595490	50.0
Cyclopentane, 1...	7.911	7.2	ug/Kg	229183	1	8.184	1595490	50.0
Cyclopentane, 1...	8.058	8.4	ug/Kg	267526	1	8.184	1595490	50.0
Cyclohexane, me...	8.850	24.1	ug/Kg	769806	1	8.184	1595490	50.0
Heptane, 2-methyl-	9.521	10.2	ug/Kg	324632	1	8.184	1595490	50.0
Heptane, 3-methyl-	9.663	13.7	ug/Kg	435814	1	8.184	1595490	50.0
Octane	10.082	40.1	ug/Kg	675614	2	11.204	842522	50.0
Cyclotrisiloxan...	10.313	14.8	ug/Kg	249824	2	11.204	842522	50.0
Dichloroacetic ...	10.999	10.8	ug/Kg	182405	2	11.204	842522	50.0
Octane, 3-methyl-	11.104	14.3	ug/Kg	241047	2	11.204	842522	50.0
Benzene, 1-ethy...	12.457	31.9	ug/Kg	557263	4	13.139	873597	50.0
Benzene, 1-ethy...	12.693	10.1	ug/Kg	175723	4	13.139	873597	50.0
Benzene, cyclop...	13.343	11.8	ug/Kg	206526	4	13.139	873597	50.0
Benzene, 2-ethy...	13.689	7.5	ug/Kg	131567	4	13.139	873597	50.0
Benzene, 1-meth...	13.794	7.1	ug/Kg	123610	4	13.139	873597	50.0

Roxana Predesign Soil Data Review

Laboratory SDG: 19061180R1

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/19/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
PD-1-SB-53-061819	TB-PW-061819
PD-1-SB-55-061819	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

The laboratory case narrative indicated the report was revised on 6/20/2019 to include tentatively identified compounds (TICs) for the Methods 8260 and 8270 analyses.

The cooler receipt form indicated headspace was present in one of the two trip blank vials; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-1-SB-55-061819 was spiked and duplicated for PAHs. Sample PD-1-SB-53-061819 was spiked and duplicated for SVOCs

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Teklab, Inc.
Environmental Laboratory

http://www.teklabinc.com/

June 20, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19061180

Dear Elizabeth Kunkel:

TEKLAB, INC received 3 samples on 6/18/2019 5:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 6/20/2019

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

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Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

Cooler Receipt Temp: 5.8 °C

This report was revised on June 20, 2019. The reason for the revision is to include TICs for 8260 and 8270 analyses (see attached). Please replace report dated June 19, 2019 with this report. EAH 6/20/19

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	EHurley@teklabinc.com

Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
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Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-001
Client Sample ID: PD-1-SB-53-061819
Matrix: SOLID
Collection Date: 06/18/2019 15:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		16.9	%	1	06/18/2019 18:00	R263306
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	2.44		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
1-Methylnaphthalene	*	0.0244		1.50	mg/Kg-dry	1	06/19/2019 13:21	154414
2-Methylnaphthalene	NELAP	0.0244		2.66	mg/Kg-dry	1	06/19/2019 13:21	154414
Acenaphthene	NELAP	0.0244		0.136	mg/Kg-dry	1	06/19/2019 13:21	154414
Acenaphthylene	NELAP	0.0244		0.0287	mg/Kg-dry	1	06/19/2019 13:21	154414
Anthracene	NELAP	0.0244		0.0502	mg/Kg-dry	1	06/19/2019 13:21	154414
Benzo(a)anthracene	NELAP	0.0716		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Benzo(a)pyrene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Benzo(b)fluoranthene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Benzo(g,h,i)perylene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Benzo(k)fluoranthene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Chrysene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Dibenzo(a,h)anthracene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Fluoranthene	NELAP	0.024	J	0.019	mg/Kg-dry	1	06/19/2019 13:21	154414
Fluorene	NELAP	0.0244		0.193	mg/Kg-dry	1	06/19/2019 13:21	154414
Indeno(1,2,3-cd)pyrene	NELAP	0.0244		ND	mg/Kg-dry	1	06/19/2019 13:21	154414
Phenanthrene	NELAP	0.0244		0.363	mg/Kg-dry	1	06/19/2019 13:21	154414
Pyrene	NELAP	0.0244		0.0382	mg/Kg-dry	1	06/19/2019 13:21	154414
Surr: 2-Fluorobiphenyl	*	8.85-90.5		52.7	%REC	1	06/19/2019 13:21	154414
Surr: Nitrobenzene-d5	*	5-102		44.2	%REC	1	06/19/2019 13:21	154414
Surr: p-Terphenyl-d14	*	18.4-103		69.7	%REC	1	06/19/2019 13:21	154414
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2,4,6-Trichlorophenol	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2,4-Dichlorophenol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2,4-Dimethylphenol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2,4-Dinitrophenol	NELAP	7.16		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2,4-Dinitrotoluene	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2,6-Dinitrotoluene	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2-Chloronaphthalene	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2-Chlorophenol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2-Nitroaniline	NELAP	7.16		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
2-Nitrophenol	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
3,3'-Dichlorobenzidine	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
3-Nitroaniline	NELAP	7.16		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4,6-Dinitro-2-methylphenol	NELAP	7.16		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4-Bromophenyl phenyl ether	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4-Chloro-3-methylphenol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4-Chloroaniline	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4-Chlorophenyl phenyl ether	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4-Nitroaniline	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
4-Nitrophenol	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Aniline	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Azobenzene	*	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-001
Client Sample ID: PD-1-SB-53-061819
Matrix: SOLID
Collection Date: 06/18/2019 15:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	10.7		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Benzyl alcohol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Bis(2-chloroethoxy)methane	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Bis(2-chloroethyl)ether	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Bis(2-chloroisopropyl)ether	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Bis(2-ethylhexyl)phthalate	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Butyl benzyl phthalate	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Dibenzofuran	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Diethyl phthalate	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Dimethyl phthalate	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Di-n-butyl phthalate	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Di-n-octyl phthalate	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Hexachlorobenzene	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Hexachlorocyclopentadiene	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Hexachloroethane	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Isophorone	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
m,p-Cresol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Nitrobenzene	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
N-Nitrosodimethylamine	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
N-Nitroso-di-n-propylamine	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
N-Nitrosodiphenylamine	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
o-Cresol	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Pentachlorophenol	NELAP	14.3		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Phenol	NELAP	2.51		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Pyridine	NELAP	3.58		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Quinoline	*	1.43		ND	mg/Kg-dry	1	06/19/2019 13:44	154412
Surr: 2,4,6-Tribromophenol	*	41.6-114		70.8	%REC	1	06/19/2019 13:44	154412
Surr: 2-Fluorobiphenyl	*	29.3-105		64.7	%REC	1	06/19/2019 13:44	154412
Surr: 2-Fluorophenol	*	35.8-97.2		66.8	%REC	1	06/19/2019 13:44	154412
Surr: Nitrobenzene-d5	*	36.2-95.2		69.7	%REC	1	06/19/2019 13:44	154412
Surr: Phenol-d5	*	38.8-103		73.8	%REC	1	06/19/2019 13:44	154412
Surr: p-Terphenyl-d14	*	43.2-116		88.5	%REC	1	06/19/2019 13:44	154412

Elevated reporting limit due to sample composition.

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,1,1-Trichloroethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,1,2,2-Tetrachloroethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,1,2-Trichloroethane	NELAP	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,1-Dichloroethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,1-Dichloroethene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,1-Dichloropropene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2,3-Trichlorobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2,3-Trichloropropane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2,4-Trichlorobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2,4-Trimethylbenzene	NELAP	46.1		128	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2-Dibromo-3-chloropropane	NELAP	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2-Dibromoethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-001
Client Sample ID: PD-1-SB-53-061819
Matrix: SOLID
Collection Date: 06/18/2019 15:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2-Dichloroethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,2-Dichloropropane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,3,5-Trimethylbenzene	NELAP	46	J	44	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,3-Dichlorobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,3-Dichloropropane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
1,4-Dichlorobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
2,2-Dichloropropane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
2-Butanone	NELAP	576		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
2-Chloroethyl vinyl ether	*	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
2-Chlorotoluene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
2-Hexanone	NELAP	576		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
4-Chlorotoluene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
4-Methyl-2-pentanone	NELAP	576		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Acetone	NELAP	576		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Acrolein	NELAP	1150		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Acrylonitrile	NELAP	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Benzene	NELAP	23.0		2310	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Bromobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Bromochloromethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Bromodichloromethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Bromoform	NELAP	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Bromomethane	NELAP	230		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Carbon disulfide	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Carbon tetrachloride	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Chlorobenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Chloroethane	NELAP	230		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Chloroform	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Chloromethane	NELAP	230		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
cis-1,2-Dichloroethene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
cis-1,3-Dichloropropene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Dibromochloromethane	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Dichlorodifluoromethane	NELAP	230		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Ethyl methacrylate	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Ethylbenzene	NELAP	46.1		79.3	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Hexachlorobutadiene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Isopropylbenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
m,p-Xylenes	NELAP	92.2		206	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Methyl tert-butyl ether	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Methylene chloride	NELAP	230		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Naphthalene	NELAP	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
n-Butylbenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
n-Propylbenzene	NELAP	46	J	27	µg/Kg-dry	12.5	06/19/2019 12:51	154443
o-Xylene	NELAP	92	J	64	µg/Kg-dry	12.5	06/19/2019 12:51	154443
p-Isopropyltoluene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
sec-Butylbenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Styrene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-001
Client Sample ID: PD-1-SB-53-061819
Matrix: SOLID
Collection Date: 06/18/2019 15:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
tert-Butylbenzene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Tetrachloroethene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Toluene	NELAP	46	J	42	µg/Kg-dry	12.5	06/19/2019 12:51	154443
trans-1,2-Dichloroethene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
trans-1,3-Dichloropropene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Trichloroethene	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Trichlorofluoromethane	NELAP	115		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Vinyl acetate	NELAP	1150		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Vinyl chloride	NELAP	46.1		ND	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Xylenes, Total	NELAP	184		271	µg/Kg-dry	12.5	06/19/2019 12:51	154443
Surr: 1,2-Dichloroethane-d4	*	74-124		114.7	%REC	12.5	06/19/2019 12:51	154443
Surr: 4-Bromofluorobenzene	*	79.4-123		94.8	%REC	12.5	06/19/2019 12:51	154443
Surr: Dibromofluoromethane	*	89.2-112		97.3	%REC	12.5	06/19/2019 12:51	154443
Surr: Toluene-d8	*	85-115		100.1	%REC	12.5	06/19/2019 12:51	154443

Elevated reporting limit due to high levels of target and/or non-target analytes.

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-002
Client Sample ID: TB-PW-061819
Matrix: TRIP BLANK
Collection Date: 06/18/2019 17:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/19/2019 12:40	154437
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
2-Butanone	NELAP	10.0		ND	µg/L	1	06/19/2019 12:40	154437
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/19/2019 12:40	154437
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/19/2019 12:40	154437
Acetone	NELAP	10.0		ND	µg/L	1	06/19/2019 12:40	154437
Acrolein	NELAP	20.0		ND	µg/L	1	06/19/2019 12:40	154437
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
Benzene	NELAP	0.5		ND	µg/L	1	06/19/2019 12:40	154437
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Bromoform	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Bromomethane	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Chloroethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Chloroform	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Chloromethane	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-002
Client Sample ID: TB-PW-061819
Matrix: TRIP BLANK
Collection Date: 06/18/2019 17:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Naphthalene	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
o-Xylene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Styrene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/19/2019 12:40	154437
Toluene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/19/2019 12:40	154437
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/19/2019 12:40	154437
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/19/2019 12:40	154437
Surr: 1,2-Dichloroethane-d4	*	79.6-118		99.7	%REC	1	06/19/2019 12:40	154437
Surr: 4-Bromofluorobenzene	*	83.9-115		100.6	%REC	1	06/19/2019 12:40	154437
Surr: Dibromofluoromethane	*	84.9-113		100.0	%REC	1	06/19/2019 12:40	154437
Surr: Toluene-d8	*	86.7-112		101.6	%REC	1	06/19/2019 12:40	154437

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-003
Client Sample ID: PD-1-SB-55-061819
Matrix: SOLID
Collection Date: 06/18/2019 16:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		16.2	%	1	06/18/2019 18:00	R263306
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	2.38		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
1-Methylnaphthalene	*	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
2-Methylnaphthalene	NELAP	0.024	J	0.0047	mg/Kg-dry	1	06/19/2019 13:52	154414
Acenaphthene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Acenaphthylene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Anthracene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Benzo(a)anthracene	NELAP	0.0699		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Benzo(a)pyrene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Benzo(b)fluoranthene	NELAP	0.024	J	0.0070	mg/Kg-dry	1	06/19/2019 13:52	154414
Benzo(g,h,i)perylene	NELAP	0.024	J	0.0047	mg/Kg-dry	1	06/19/2019 13:52	154414
Benzo(k)fluoranthene	NELAP	0.024	J	0.0047	mg/Kg-dry	1	06/19/2019 13:52	154414
Chrysene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Dibenzo(a,h)anthracene	NELAP	0.024	J	0.0047	mg/Kg-dry	1	06/19/2019 13:52	154414
Fluoranthene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Fluorene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Indeno(1,2,3-cd)pyrene	NELAP	0.024	J	0.0047	mg/Kg-dry	1	06/19/2019 13:52	154414
Phenanthrene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Pyrene	NELAP	0.0238		ND	mg/Kg-dry	1	06/19/2019 13:52	154414
Surr: 2-Fluorobiphenyl	*	8.85-90.5		57.8	%REC	1	06/19/2019 13:52	154414
Surr: Nitrobenzene-d5	*	5-102		50.9	%REC	1	06/19/2019 13:52	154414
Surr: p-Terphenyl-d14	*	18.4-103		72.8	%REC	1	06/19/2019 13:52	154414
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2,4,6-Trichlorophenol	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2,4-Dichlorophenol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2,4-Dimethylphenol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2,4-Dinitrophenol	NELAP	7.15		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2,4-Dinitrotoluene	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2,6-Dinitrotoluene	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2-Chloronaphthalene	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2-Chlorophenol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2-Nitroaniline	NELAP	7.15		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
2-Nitrophenol	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
3,3'-Dichlorobenzidine	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
3-Nitroaniline	NELAP	7.15		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4,6-Dinitro-2-methylphenol	NELAP	7.15		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4-Bromophenyl phenyl ether	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4-Chloro-3-methylphenol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4-Chloroaniline	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4-Chlorophenyl phenyl ether	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4-Nitroaniline	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
4-Nitrophenol	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Aniline	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Azobenzene	*	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW
Lab ID: 19061180-003
Matrix: SOLID

Work Order: 19061180
Report Date: 20-Jun-2019
Client Sample ID: PD-1-SB-55-061819
Collection Date: 06/18/2019 16:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	10.7		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Benzyl alcohol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Bis(2-chloroethoxy)methane	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Bis(2-chloroethyl)ether	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Bis(2-chloroisopropyl)ether	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Bis(2-ethylhexyl)phthalate	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Butyl benzyl phthalate	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Dibenzofuran	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Diethyl phthalate	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Dimethyl phthalate	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Di-n-butyl phthalate	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Di-n-octyl phthalate	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Hexachlorobenzene	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Hexachlorocyclopentadiene	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Hexachloroethane	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Isophorone	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
m,p-Cresol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Nitrobenzene	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
N-Nitrosodimethylamine	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
N-Nitroso-di-n-propylamine	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
N-Nitrosodiphenylamine	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
o-Cresol	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Pentachlorophenol	NELAP	14.3		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Phenol	NELAP	2.50		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Pyridine	NELAP	3.57		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Quinoline	*	1.43		ND	mg/Kg-dry	1	06/19/2019 15:08	154412
Surr: 2,4,6-Tribromophenol	*	41.6-114		79.6	%REC	1	06/19/2019 15:08	154412
Surr: 2-Fluorobiphenyl	*	29.3-105		73.3	%REC	1	06/19/2019 15:08	154412
Surr: 2-Fluorophenol	*	35.8-97.2		72.9	%REC	1	06/19/2019 15:08	154412
Surr: Nitrobenzene-d5	*	36.2-95.2		78.2	%REC	1	06/19/2019 15:08	154412
Surr: Phenol-d5	*	38.8-103		79.8	%REC	1	06/19/2019 15:08	154412
Surr: p-Terphenyl-d14	*	43.2-116		84.3	%REC	1	06/19/2019 15:08	154412
Elevated reporting limit due to sample composition.								
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,1,1-Trichloroethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,1,2,2-Tetrachloroethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,1,2-Trichloroethane	NELAP	74.6		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,1-Dichloroethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,1-Dichloroethene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,1-Dichloropropene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2,3-Trichlorobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2,3-Trichloropropane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2,4-Trichlorobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2,4-Trimethylbenzene	NELAP	29.8		93.7	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2-Dibromo-3-chloropropane	NELAP	74.6		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2-Dibromoethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-003
Client Sample ID: PD-1-SB-55-061819
Matrix: SOLID
Collection Date: 06/18/2019 16:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichlorobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2-Dichloroethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,2-Dichloropropane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,3,5-Trimethylbenzene	NELAP	29.8		31.3	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,3-Dichlorobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,3-Dichloropropane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
1,4-Dichlorobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
2,2-Dichloropropane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
2-Butanone	NELAP	373		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
2-Chloroethyl vinyl ether	*	74.6		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
2-Chlorotoluene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
2-Hexanone	NELAP	373		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
4-Chlorotoluene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
4-Methyl-2-pentanone	NELAP	373		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Acetone	NELAP	373		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Acrolein	NELAP	746		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Acrylonitrile	NELAP	74.6		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Benzene	NELAP	14.9		1580	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Bromobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Bromochloromethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Bromodichloromethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Bromoform	NELAP	74.6		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Bromomethane	NELAP	149		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Carbon disulfide	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Carbon tetrachloride	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Chlorobenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Chloroethane	NELAP	149		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Chloroform	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Chloromethane	NELAP	149		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
cis-1,2-Dichloroethene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
cis-1,3-Dichloropropene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Dibromochloromethane	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Dichlorodifluoromethane	NELAP	149		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Ethyl methacrylate	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Ethylbenzene	NELAP	29.8		89.8	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Hexachlorobutadiene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Isopropylbenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
m,p-Xylenes	NELAP	59.7		215	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Methyl tert-butyl ether	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Methylene chloride	NELAP	149		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Naphthalene	NELAP	75	J	33	µg/Kg-dry	12.5	06/19/2019 13:17	154443
n-Butylbenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
n-Propylbenzene	NELAP	30	J	23	µg/Kg-dry	12.5	06/19/2019 13:17	154443
o-Xylene	NELAP	60	J	60	µg/Kg-dry	12.5	06/19/2019 13:17	154443
p-Isopropyltoluene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
sec-Butylbenzene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Styrene	NELAP	29.8		ND	µg/Kg-dry	12.5	06/19/2019 13:17	154443

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019
Lab ID: 19061180-003
Client Sample ID: PD-1-SB-55-061819
Matrix: SOLID
Collection Date: 06/18/2019 16:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
tert-Butylbenzene	NELAP	29.8		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Tetrachloroethene	NELAP	29.8		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Toluene	NELAP	29.8		**48.6**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
trans-1,2-Dichloroethene	NELAP	29.8		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
trans-1,3-Dichloropropene	NELAP	29.8		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Trichloroethene	NELAP	29.8		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Trichlorofluoromethane	NELAP	74.6		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Vinyl acetate	NELAP	746		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Vinyl chloride	NELAP	29.8		**ND**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Xylenes, Total	NELAP	119		**274**	µg/Kg-dry	12.5	06/19/2019 13:17	154443
Surr: 1,2-Dichloroethane-d4	*	74-124		**116.5**	%REC	12.5	06/19/2019 13:17	154443
Surr: 4-Bromofluorobenzene	*	79.4-123		**96.1**	%REC	12.5	06/19/2019 13:17	154443
Surr: Dibromofluoromethane	*	89.2-112		**99.1**	%REC	12.5	06/19/2019 13:17	154443
Surr: Toluene-d8	*	85-115		**97.6**	%REC	12.5	06/19/2019 13:17	154443

Elevated reporting limit due to high levels of target and/or non-target analytes.

Teklab, Inc.
Environmental Laboratory

Sample Summary

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19061180-001	PD-1-SB-53-061819	Solid	4	06/18/2019 15:30
19061180-002	TB-PW-061819	Trip Blank	1	06/18/2019 17:00
19061180-003	PD-1-SB-55-061819	Solid	4	06/18/2019 16:00

Teklab, Inc.
Environmental Laboratory

Dates Report

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
19061180-001A	PD-1-SB-53-061819	06/18/2019 15:30	06/18/2019 17:00		
	EPA SW846 3550C, 5035A, ASTM D2974				06/18/2019 18:00
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/19/2019 9:45	06/19/2019 13:21
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/19/2019 9:28	06/19/2019 13:44
19061180-001D	PD-1-SB-53-061819	06/18/2019 15:30	06/18/2019 17:00		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/19/2019 12:51
19061180-002A	TB-PW-061819	06/18/2019 17:00	06/18/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/19/2019 12:40
19061180-003A	PD-1-SB-55-061819	06/18/2019 16:00	06/18/2019 17:00		
	EPA SW846 3550C, 5035A, ASTM D2974				06/18/2019 18:00
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/19/2019 9:45	06/19/2019 13:52
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/19/2019 9:28	06/19/2019 15:08
19061180-003D	PD-1-SB-55-061819	06/18/2019 16:00	06/18/2019 17:00		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/19/2019 13:17

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R263306 **SampType:** LCS Units %

SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/18/2019

Batch R263306 **SampType:** LCSQC Units %

SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/18/2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154414 **SampType:** MBLK Units mg/Kg

SampID: MBLK-154414

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340		**ND**						06/19/2019
1-Methylnaphthalene	0.0034		**ND**						06/19/2019
2-Methylnaphthalene	0.0034		**ND**						06/19/2019
Acenaphthene	0.0034		**ND**						06/19/2019
Acenaphthylene	0.0034		**ND**						06/19/2019
Anthracene	0.0034		**ND**						06/19/2019
Benzo(a)anthracene	0.0100		**ND**						06/19/2019
Benzo(a)pyrene	0.0034		**ND**						06/19/2019
Benzo(b)fluoranthene	0.0034		**ND**						06/19/2019
Benzo(g,h,i)perylene	0.0034		**ND**						06/19/2019
Benzo(k)fluoranthene	0.0034		**ND**						06/19/2019
Chrysene	0.0034		**ND**						06/19/2019
Dibenzo(a,h)anthracene	0.0034		**ND**						06/19/2019
Fluoranthene	0.0034		**ND**						06/19/2019
Fluorene	0.0034		**ND**						06/19/2019
Indeno(1,2,3-cd)pyrene	0.0034		**ND**						06/19/2019
Phenanthrene	0.0034		**ND**						06/19/2019
Pyrene	0.0034		**ND**						06/19/2019
Surr: 2-Fluorobiphenyl			**0.0813**	0.1670		48.7	21.6	105	06/19/2019
Surr: Nitrobenzene-d5			**0.0700**	0.1670		41.9	26.7	93	06/19/2019
Surr: p-Terphenyl-d14			**0.113**	0.1670		67.5	42.6	115	06/19/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154414 **SampType:** LCS Units mg/Kg

SampID: LCS-154414

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340	J	**0.20**	0.3330	0	60.7	25.3	104	06/19/2019
1-Methylnaphthalene	0.0034		**0.119**	0.1670	0	71.3	27.3	107	06/19/2019
2-Methylnaphthalene	0.0034		**0.119**	0.1670	0	71.3	30	106	06/19/2019
Acenaphthene	0.0034		**0.119**	0.1670	0	71.1	19.1	127	06/19/2019
Acenaphthylene	0.0034		**0.116**	0.1670	0	69.7	30.2	115	06/19/2019
Anthracene	0.0034		**0.121**	0.1670	0	72.3	26.9	107	06/19/2019
Benzo(a)anthracene	0.0100		**0.134**	0.1670	0	80.0	27	116	06/19/2019
Benzo(a)pyrene	0.0034		**0.124**	0.1670	0	74.3	22.7	117	06/19/2019
Benzo(b)fluoranthene	0.0034		**0.142**	0.1670	0	84.8	23.8	125	06/19/2019
Benzo(g,h,i)perylene	0.0034		**0.123**	0.1670	0	73.9	31.5	109	06/19/2019
Benzo(k)fluoranthene	0.0034		**0.136**	0.1670	0	81.2	28.1	121	06/19/2019
Chrysene	0.0034		**0.129**	0.1670	0	77.0	29.2	113	06/19/2019
Dibenzo(a,h)anthracene	0.0034		**0.129**	0.1670	0	77.4	28.8	113	06/19/2019
Fluoranthene	0.0034		**0.133**	0.1670	0	79.4	24.9	115	06/19/2019
Fluorene	0.0034		**0.123**	0.1670	0	73.9	30	116	06/19/2019
Indeno(1,2,3-cd)pyrene	0.0034		**0.127**	0.1670	0	75.8	29.5	113	06/19/2019
Phenanthrene	0.0034		**0.124**	0.1670	0	74.3	16.5	122	06/19/2019
Pyrene	0.0034		**0.131**	0.1670	0	78.2	28	111	06/19/2019
Surr: 2-Fluorobiphenyl			**0.0857**	0.1670		51.3	21.6	105	06/19/2019
Surr: Nitrobenzene-d5			**0.0837**	0.1670		50.1	26.7	93	06/19/2019
Surr: p-Terphenyl-d14			**0.118**	0.1670		70.9	42.6	115	06/19/2019

Batch 154414 **SampType:** MS Units mg/Kg-dry

SampID: 19061180-003AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	2.37	J	**1.4**	2.324	0	60.7	25	75	06/19/2019
1-Methylnaphthalene	0.0237		**0.800**	1.165	0	68.7	6.16	134	06/19/2019
2-Methylnaphthalene	0.0237		**0.796**	1.165	0.004661	67.9	22.1	112	06/19/2019
Acenaphthene	0.0237		**0.770**	1.165	0	66.1	30.6	109	06/19/2019
Acenaphthylene	0.0237		**0.775**	1.165	0	66.5	28	110	06/19/2019
Anthracene	0.0237		**0.828**	1.165	0	71.1	41.4	94.3	06/19/2019
Benzo(a)anthracene	0.0698		**0.879**	1.165	0	75.4	28.6	113	06/19/2019
Benzo(a)pyrene	0.0237		**0.823**	1.165	0	70.7	37.9	102	06/19/2019
Benzo(b)fluoranthene	0.0237		**0.910**	1.165	0.006992	77.4	37.1	112	06/19/2019
Benzo(g,h,i)perylene	0.0237		**0.786**	1.165	0.004661	67.1	7.28	119	06/19/2019
Benzo(k)fluoranthene	0.0237		**0.886**	1.165	0.004661	75.6	34	115	06/19/2019
Chrysene	0.0237		**0.851**	1.165	0	73.1	23.1	116	06/19/2019
Dibenzo(a,h)anthracene	0.0237		**0.816**	1.165	0.004661	69.7	23.9	110	06/19/2019
Fluoranthene	0.0237		**0.912**	1.165	0	78.2	20.8	124	06/19/2019
Fluorene	0.0237		**0.828**	1.165	0	71.1	44.3	96.6	06/19/2019
Indeno(1,2,3-cd)pyrene	0.0237		**0.812**	1.165	0.004661	69.3	12.6	119	06/19/2019
Phenanthrene	0.0237		**0.851**	1.165	0	73.1	22.3	117	06/19/2019
Pyrene	0.0237		**0.896**	1.165	0	76.8	20.6	121	06/19/2019
Surr: 2-Fluorobiphenyl			**0.598**	1.165		51.3	8.85	90.5	06/19/2019
Surr: Nitrobenzene-d5			**0.598**	1.165		51.3	5	102	06/19/2019
Surr: p-Terphenyl-d14			**0.861**	1.165		73.9	18.4	103	06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154414 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **40**

SampID: 19061180-003AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	2.39	J	**1.4**	2.342	0	61.0	1.410	0.00	06/19/2019
1-Methylnaphthalene	0.0239		**0.830**	1.175	0	70.7	0.8002	3.65	06/19/2019
2-Methylnaphthalene	0.0239		**0.832**	1.175	0.004661	70.5	0.7955	4.51	06/19/2019
Acenaphthene	0.0239		**0.814**	1.175	0	69.3	0.7700	5.50	06/19/2019
Acenaphthylene	0.0239		**0.846**	1.175	0	72.1	0.7746	8.85	06/19/2019
Anthracene	0.0239		**0.891**	1.175	0	75.8	0.8281	7.30	06/19/2019
Benzo(a)anthracene	0.0703		**0.926**	1.175	0	78.8	0.8793	5.18	06/19/2019
Benzo(a)pyrene	0.0239		**0.839**	1.175	0	71.5	0.8235	1.91	06/19/2019
Benzo(b)fluoranthene	0.0239		**0.905**	1.175	0.006992	76.5	0.9095	0.50	06/19/2019
Benzo(g,h,i)perylene	0.0239		**0.776**	1.175	0.004661	65.7	0.7862	1.31	06/19/2019
Benzo(k)fluoranthene	0.0239		**0.896**	1.175	0.004661	75.9	0.8863	1.04	06/19/2019
Chrysene	0.0239		**0.893**	1.175	0	76.0	0.8514	4.80	06/19/2019
Dibenzo(a,h)anthracene	0.0239		**0.806**	1.175	0.004661	68.3	0.8165	1.23	06/19/2019
Fluoranthene	0.0239		**0.971**	1.175	0	82.6	0.9119	6.24	06/19/2019
Fluorene	0.0239		**0.858**	1.175	0	73.1	0.8281	3.55	06/19/2019
Indeno(1,2,3-cd)pyrene	0.0239		**0.811**	1.175	0.004661	68.7	0.8118	0.08	06/19/2019
Phenanthrene	0.0239		**0.914**	1.175	0	77.8	0.8514	7.13	06/19/2019
Pyrene	0.0239		**0.940**	1.175	0	80.0	0.8956	4.85	06/19/2019
Surr: 2-Fluorobiphenyl			**0.586**	1.175		49.9			06/19/2019
Surr: Nitrobenzene-d5			**0.593**	1.175		50.5			06/19/2019
Surr: p-Terphenyl-d14			**0.825**	1.175		70.3			06/19/2019

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Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154412 **SampType:** MBLK Units mg/Kg

SampID: MBLK-154412

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		ND						06/19/2019
2,4,6-Trichlorophenol	0.350		ND						06/19/2019
2,4-Dichlorophenol	0.500		ND						06/19/2019
2,4-Dimethylphenol	0.500		ND						06/19/2019
2,4-Dinitrophenol	1.00		ND						06/19/2019
2,4-Dinitrotoluene	0.350		ND						06/19/2019
2,6-Dinitrotoluene	0.350		ND						06/19/2019
2-Chloronaphthalene	0.350		ND						06/19/2019
2-Chlorophenol	0.500		ND						06/19/2019
2-Nitroaniline	1.00		ND						06/19/2019
2-Nitrophenol	0.350		ND						06/19/2019
3,3´-Dichlorobenzidine	0.350		ND						06/19/2019
3-Nitroaniline	1.00		ND						06/19/2019
4,6-Dinitro-2-methylphenol	1.00		ND						06/19/2019
4-Bromophenyl phenyl ether	0.350		ND						06/19/2019
4-Chloro-3-methylphenol	0.500		ND						06/19/2019
4-Chloroaniline	0.500		ND						06/19/2019
4-Chlorophenyl phenyl ether	0.350		ND						06/19/2019
4-Nitroaniline	0.500		ND						06/19/2019
4-Nitrophenol	0.350		ND						06/19/2019
Aniline	0.500		ND						06/19/2019
Azobenzene	0.350		ND						06/19/2019
Benzoic acid	1.50		ND						06/19/2019
Benzyl alcohol	0.500		ND						06/19/2019
Bis(2-chloroethoxy)methane	0.350		ND						06/19/2019
Bis(2-chloroethyl)ether	0.500		ND						06/19/2019
Bis(2-chloroisopropyl)ether	0.350		ND						06/19/2019
Bis(2-ethylhexyl)phthalate	0.350		ND						06/19/2019
Butyl benzyl phthalate	0.350		ND						06/19/2019
Dibenzofuran	0.350		ND						06/19/2019
Diethyl phthalate	0.500		ND						06/19/2019
Dimethyl phthalate	0.350		ND						06/19/2019
Di-n-butyl phthalate	0.350		ND						06/19/2019
Di-n-octyl phthalate	0.350		ND						06/19/2019
Hexachlorobenzene	0.350		ND						06/19/2019
Hexachlorocyclopentadiene	0.500		ND						06/19/2019
Hexachloroethane	0.500		ND						06/19/2019
Isophorone	0.350		ND						06/19/2019
m,p-Cresol	0.500		ND						06/19/2019
Nitrobenzene	0.500		ND						06/19/2019
N-Nitrosodimethylamine	0.500		ND						06/19/2019
N-Nitroso-di-n-propylamine	0.500		ND						06/19/2019
N-Nitrosodiphenylamine	0.500		ND						06/19/2019
o-Cresol	0.500		ND						06/19/2019
Pentachlorophenol	2.00		ND						06/19/2019
Phenol	0.350		ND						06/19/2019
Pyridine	0.500		ND						06/19/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154412 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154412

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.200		ND						06/19/2019
Surr: 2,4,6-Tribromophenol			1.37	1.670		82.0	53.1	123	06/19/2019
Surr: 2-Fluorobiphenyl			0.611	0.8350		73.2	52.9	106	06/19/2019
Surr: 2-Fluorophenol			1.47	1.670		88.0	52.9	104	06/19/2019
Surr: Nitrobenzene-d5			0.689	0.8350		82.5	51.5	105	06/19/2019
Surr: Phenol-d5			1.44	1.670		85.9	53.9	111	06/19/2019
Surr: p-Terphenyl-d14			0.726	0.8350		86.9	58	122	06/19/2019

Batch 154412 **SampType:** LCS Units mg/Kg
SampID: LCS-154412

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		1.49	1.670	0	89.4	53.5	106	06/19/2019
2,4,6-Trichlorophenol	0.350		1.44	1.670	0	86.4	50.8	106	06/19/2019
2,4-Dimethylphenol	0.500		1.48	1.670	0	88.4	35.6	99.6	06/19/2019
2,4-Dinitrophenol	1.00		1.33	1.670	0	79.7	13.9	107	06/19/2019
2,4-Dinitrotoluene	0.350		1.38	1.670	0	82.8	58.9	106	06/19/2019
2-Chlorophenol	0.500		1.29	1.670	0	77.0	41.1	99.2	06/19/2019
4-Chloro-3-methylphenol	0.500		1.44	1.670	0	86.1	50	103	06/19/2019
4-Nitrophenol	0.350		1.34	1.670	0	80.2	46.3	111	06/19/2019
Bis(2-ethylhexyl)phthalate	0.350		1.40	1.670	0	83.6	40.8	109	06/19/2019
Diethyl phthalate	0.500		1.31	1.670	0	78.6	53.8	99.6	06/19/2019
Dimethyl phthalate	0.350		1.31	1.670	0	78.3	53.8	101	06/19/2019
Di-n-butyl phthalate	0.350		1.30	1.670	0	77.7	45.8	108	06/19/2019
Hexachlorobenzene	0.350		1.30	1.670	0	78.1	55.2	101	06/19/2019
Hexachloroethane	0.500		1.33	1.670	0	79.6	41.8	91.5	06/19/2019
m,p-Cresol	0.500		1.41	1.670	0	84.7	47	100	06/19/2019
Nitrobenzene	0.500		1.32	1.670	0	78.9	41.4	99	06/19/2019
N-Nitroso-di-n-propylamine	0.500		1.33	1.670	0	79.8	46.5	97.4	06/19/2019
o-Cresol	0.500		1.38	1.670	0	82.5	44.2	100	06/19/2019
Pentachlorophenol	2.00	J	1.2	1.670	0	74.5	35.7	94.8	06/19/2019
Phenol	0.350		1.37	1.670	0	81.9	43	98.6	06/19/2019
Pyridine	0.500		1.13	1.670	0	67.5	24.7	78.4	06/19/2019
Quinoline	0.200		1.61	1.670	0	96.6	48.5	97.3	06/19/2019
Surr: 2,4,6-Tribromophenol			1.15	1.670		69.1	53.1	123	06/19/2019
Surr: 2-Fluorobiphenyl			0.555	0.8350		66.5	52.9	106	06/19/2019
Surr: 2-Fluorophenol			1.18	1.670		70.5	52.9	104	06/19/2019
Surr: Nitrobenzene-d5			0.557	0.8350		66.7	51.5	105	06/19/2019
Surr: Phenol-d5			1.25	1.670		74.7	53.9	111	06/19/2019
Surr: p-Terphenyl-d14			0.679	0.8350		81.4	58	122	06/19/2019

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Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154412 **SampType:** MS Units **mg/Kg-dry**

SampID: 19061180-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	2.47		**9.90**	11.78	0	84.1	61.2	107	06/19/2019
2,4,6-Trichlorophenol	2.47		**9.64**	11.78	0	81.8	58.4	105	06/19/2019
2,4-Dimethylphenol	3.53		**9.60**	11.78	0	81.5	52.9	104	06/19/2019
2,4-Dinitrophenol	7.05		**10.0**	11.78	0	85.3	15.2	107	06/19/2019
2,4-Dinitrotoluene	2.47		**10.7**	11.78	0	90.6	66.7	118	06/19/2019
2-Chlorophenol	3.53		**9.31**	11.78	0	79.0	51.2	98.2	06/19/2019
4-Chloro-3-methylphenol	3.53		**10.2**	11.78	0	86.4	57.6	104	06/19/2019
4-Nitrophenol	2.47		**10.5**	11.78	0	89.5	55.1	110	06/19/2019
Bis(2-ethylhexyl)phthalate	2.47		**10.5**	11.78	0	89.0	66.2	128	06/19/2019
Diethyl phthalate	3.53		**10.0**	11.78	0	85.0	57.8	121	06/19/2019
Dimethyl phthalate	2.47		**10.2**	11.78	0	86.3	60.7	117	06/19/2019
Di-n-butyl phthalate	2.47		**10.3**	11.78	0	87.8	65.8	122	06/19/2019
Hexachlorobenzene	2.47		**9.73**	11.78	0	82.6	59.9	121	06/19/2019
Hexachloroethane	3.53		**9.74**	11.78	0	82.7	26.2	115	06/19/2019
m,p-Cresol	3.53		**10.0**	11.78	0	85.2	56.3	104	06/19/2019
Nitrobenzene	3.53		**9.55**	11.78	0	81.1	53.4	106	06/19/2019
N-Nitroso-di-n-propylamine	3.53		**10.7**	11.78	0	90.6	52.4	113	06/19/2019
o-Cresol	3.53		**10.1**	11.78	0	86.1	53.8	100	06/19/2019
Pentachlorophenol	14.1	J	**8.8**	11.78	0	75.1	38.3	99.4	06/19/2019
Phenol	2.47		**9.62**	11.78	0	81.7	53.2	103	06/19/2019
Pyridine	3.53		**5.46**	11.78	0	46.4	13.6	91.5	06/19/2019
Quinoline	1.41		**9.44**	11.78	0	80.1	48	105	06/19/2019
Surr: 2,4,6-Tribromophenol			**8.85**	11.78		75.1	41.6	114	06/19/2019
Surr: 2-Fluorobiphenyl			**4.04**	5.889		68.5	29.3	105	06/19/2019
Surr: 2-Fluorophenol			**8.48**	11.78		72.0	35.8	97.2	06/19/2019
Surr: Nitrobenzene-d5			**3.83**	5.889		65.1	36.2	95.2	06/19/2019
Surr: Phenol-d5			**9.15**	11.78		77.7	38.8	103	06/19/2019
Surr: p-Terphenyl-d14			**4.95**	5.889		84.0	43.2	116	06/19/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154412 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **40**
SampID: 19061180-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	2.46		**10.2**	11.76	0	86.7	9.902	2.94	06/19/2019
2,4,6-Trichlorophenol	2.46		**10.7**	11.76	0	91.0	9.636	10.39	06/19/2019
2,4-Dimethylphenol	3.52		**10.3**	11.76	0	87.6	9.599	7.03	06/19/2019
2,4-Dinitrophenol	7.04		**9.83**	11.76	0	83.6	10.04	2.13	06/19/2019
2,4-Dinitrotoluene	2.46		**10.6**	11.76	0	90.5	10.67	0.28	06/19/2019
2-Chlorophenol	3.52		**9.35**	11.76	0	79.5	9.307	0.41	06/19/2019
4-Chloro-3-methylphenol	3.52		**10.6**	11.76	0	90.2	10.18	4.10	06/19/2019
4-Nitrophenol	2.46		**10.8**	11.76	0	91.8	10.55	2.31	06/19/2019
Bis(2-ethylhexyl)phthalate	2.46		**10.5**	11.76	0	89.6	10.48	0.45	06/19/2019
Diethyl phthalate	3.52		**10.2**	11.76	0	86.4	10.01	1.48	06/19/2019
Dimethyl phthalate	2.46		**10.0**	11.76	0	85.4	10.17	1.22	06/19/2019
Di-n-butyl phthalate	2.46		**10.2**	11.76	0	87.1	10.34	0.99	06/19/2019
Hexachlorobenzene	2.46		**9.53**	11.76	0	81.1	9.730	2.10	06/19/2019
Hexachloroethane	3.52		**9.97**	11.76	0	84.9	9.744	2.33	06/19/2019
m,p-Cresol	3.52		**9.53**	11.76	0	81.0	10.03	5.19	06/19/2019
Nitrobenzene	3.52		**9.78**	11.76	0	83.2	9.549	2.43	06/19/2019
N-Nitroso-di-n-propylamine	3.52		**9.87**	11.76	0	84.0	10.67	7.79	06/19/2019
o-Cresol	3.52		**8.90**	11.76	0	75.7	10.14	13.00	06/19/2019
Pentachlorophenol	14.1	J	**8.8**	11.76	0	74.9	8.849	0.00	06/19/2019
Phenol	2.46		**9.86**	11.76	0	83.9	9.620	2.46	06/19/2019
Pyridine	3.52		**6.72**	11.76	0	57.2	5.463	20.66	06/19/2019
Quinoline	1.41		**10.2**	11.76	0	86.8	9.439	7.75	06/19/2019
Surr: 2,4,6-Tribromophenol			**8.67**	11.76		73.8			06/19/2019
Surr: 2-Fluorobiphenyl			**4.01**	5.878		68.3			06/19/2019
Surr: 2-Fluorophenol			**8.15**	11.76		69.3			06/19/2019
Surr: Nitrobenzene-d5			**4.01**	5.878		68.2			06/19/2019
Surr: Phenol-d5			**8.62**	11.76		73.4			06/19/2019
Surr: p-Terphenyl-d14			**4.88**	5.878		83.0			06/19/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154437 **SampType:** MBLK Units µg/L

SampID: MBLK-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/19/2019
1,1,1-Trichloroethane	2.0		ND						06/19/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/19/2019
1,1,2-Trichloroethane	0.5		ND						06/19/2019
1,1-Dichloroethane	2.0		ND						06/19/2019
1,1-Dichloroethene	2.0		ND						06/19/2019
1,1-Dichloropropene	2.0		ND						06/19/2019
1,2,3-Trichlorobenzene	2.0		ND						06/19/2019
1,2,3-Trichloropropane	2.0		ND						06/19/2019
1,2,4-Trichlorobenzene	2.0		ND						06/19/2019
1,2,4-Trimethylbenzene	2.0		ND						06/19/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/19/2019
1,2-Dibromoethane	2.0		ND						06/19/2019
1,2-Dichlorobenzene	2.0		ND						06/19/2019
1,2-Dichloroethane	2.0		ND						06/19/2019
1,2-Dichloropropane	2.0		ND						06/19/2019
1,3,5-Trimethylbenzene	2.0		ND						06/19/2019
1,3-Dichlorobenzene	2.0		ND						06/19/2019
1,3-Dichloropropane	2.0		ND						06/19/2019
1,4-Dichlorobenzene	2.0		ND						06/19/2019
2,2-Dichloropropane	2.0		ND						06/19/2019
2-Butanone	10.0		ND						06/19/2019
2-Chloroethyl vinyl ether	5.0		ND						06/19/2019
2-Chlorotoluene	2.0		ND						06/19/2019
2-Hexanone	10.0		ND						06/19/2019
4-Chlorotoluene	2.0		ND						06/19/2019
4-Methyl-2-pentanone	10.0		ND						06/19/2019
Acetone	10.0		ND						06/19/2019
Acrolein	20.0		ND						06/19/2019
Acrylonitrile	5.0		ND						06/19/2019
Benzene	0.5		ND						06/19/2019
Bromobenzene	2.0		ND						06/19/2019
Bromochloromethane	2.0		ND						06/19/2019
Bromodichloromethane	2.0		ND						06/19/2019
Bromoform	2.0		ND						06/19/2019
Bromomethane	5.0		ND						06/19/2019
Carbon disulfide	2.0		ND						06/19/2019
Carbon tetrachloride	2.0		ND						06/19/2019
Chlorobenzene	2.0		ND						06/19/2019
Chloroethane	2.0		ND						06/19/2019
Chloroform	2.0		ND						06/19/2019
Chloromethane	5.0		ND						06/19/2019
cis-1,2-Dichloroethene	2.0		ND						06/19/2019
cis-1,3-Dichloropropene	2.0		ND						06/19/2019
Dibromochloromethane	2.0		ND						06/19/2019
Dichlorodifluoromethane	2.0		ND						06/19/2019
Ethyl methacrylate	5.0		ND						06/19/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154437 **SampType:** MBLK Units µg/L
SampID: MBLK-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/19/2019
Hexachlorobutadiene	5.0		ND						06/19/2019
Isopropylbenzene	2.0		ND						06/19/2019
m,p-Xylenes	2.0		ND						06/19/2019
Methyl tert-butyl ether	2.0		ND						06/19/2019
Methylene chloride	10.0		ND						06/19/2019
Naphthalene	5.0		ND						06/19/2019
n-Butylbenzene	2.0		ND						06/19/2019
n-Propylbenzene	2.0		ND						06/19/2019
o-Xylene	2.0		ND						06/19/2019
p-Isopropyltoluene	2.0		ND						06/19/2019
sec-Butylbenzene	2.0		ND						06/19/2019
Styrene	2.0		ND						06/19/2019
tert-Butylbenzene	2.0		ND						06/19/2019
Tetrachloroethene	0.5		ND						06/19/2019
Toluene	2.0		ND						06/19/2019
trans-1,2-Dichloroethene	2.0		ND						06/19/2019
trans-1,3-Dichloropropene	2.0		ND						06/19/2019
Trichloroethene	2.0		ND						06/19/2019
Trichlorofluoromethane	5.0		ND						06/19/2019
Vinyl acetate	5.0		ND						06/19/2019
Vinyl chloride	2.0		ND						06/19/2019
Xylenes, Total	4.0		ND						06/19/2019
Surr: 1,2-Dichloroethane-d4			**49.9**	50.00		99.8	79.6	118	06/19/2019
Surr: 4-Bromofluorobenzene			**49.9**	50.00		99.8	83.9	115	06/19/2019
Surr: Dibromofluoromethane			**49.4**	50.00		98.8	84.9	113	06/19/2019
Surr: Toluene-d8			**48.2**	50.00		96.4	86.7	112	06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154437 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**54.2**	50.00	0	108.3	53.01	2.15	06/19/2019
1,1,1-Trichloroethane	2.0		**54.2**	50.00	0	108.5	54.28	0.09	06/19/2019
1,1,2,2-Tetrachloroethane	2.0		**52.0**	50.00	0	103.9	51.72	0.46	06/19/2019
1,1,2-Trichloroethane	0.5		**55.0**	50.00	0	110.0	53.88	2.04	06/19/2019
1,1-Dichloroethane	2.0		**52.1**	50.00	0	104.2	51.82	0.54	06/19/2019
1,1-Dichloroethene	2.0		**49.8**	50.00	0	99.6	49.11	1.36	06/19/2019
1,1-Dichloropropene	2.0		**51.2**	50.00	0	102.3	49.83	2.61	06/19/2019
1,2,3-Trichlorobenzene	2.0		**52.8**	50.00	0	105.6	52.96	0.26	06/19/2019
1,2,3-Trichloropropane	2.0		**50.9**	50.00	0	101.8	51.42	1.00	06/19/2019
1,2,4-Trichlorobenzene	2.0		**54.3**	50.00	0	108.6	52.48	3.37	06/19/2019
1,2,4-Trimethylbenzene	2.0		**52.3**	50.00	0	104.5	48.62	7.24	06/19/2019
1,2-Dibromo-3-chloropropane	5.0		**56.2**	50.00	0	112.4	56.49	0.55	06/19/2019
1,2-Dibromoethane	2.0		**54.5**	50.00	0	108.9	54.12	0.64	06/19/2019
1,2-Dichlorobenzene	2.0		**51.4**	50.00	0	102.8	48.24	6.30	06/19/2019
1,2-Dichloroethane	2.0		**50.8**	50.00	0	101.7	51.80	1.85	06/19/2019
1,2-Dichloropropane	2.0		**51.0**	50.00	0	102.1	51.23	0.35	06/19/2019
1,3,5-Trimethylbenzene	2.0		**51.0**	50.00	0	102.0	46.56	9.14	06/19/2019
1,3-Dichlorobenzene	2.0		**50.5**	50.00	0	101.1	47.45	6.29	06/19/2019
1,3-Dichloropropane	2.0		**53.7**	50.00	0	107.4	52.22	2.78	06/19/2019
1,4-Dichlorobenzene	2.0		**48.8**	50.00	0	97.5	47.44	2.72	06/19/2019
2,2-Dichloropropane	2.0		**50.9**	50.00	0	101.9	51.29	0.68	06/19/2019
2-Butanone	10.0		**126**	125.0	0	101.0	132.4	4.69	06/19/2019
2-Chloroethyl vinyl ether	5.0		**52.2**	50.00	0	104.4	53.87	3.11	06/19/2019
2-Chlorotoluene	2.0		**49.8**	50.00	0	99.6	45.91	8.15	06/19/2019
2-Hexanone	10.0		**130**	125.0	0	104.1	124.8	4.19	06/19/2019
4-Chlorotoluene	2.0		**47.4**	50.00	0	94.9	47.33	0.21	06/19/2019
4-Methyl-2-pentanone	10.0		**125**	125.0	0	100.1	128.9	2.98	06/19/2019
Acetone	10.0		**125**	125.0	0	100.4	125.0	0.38	06/19/2019
Acrolein	20.0		**397**	500.0	0	79.4	399.3	0.57	06/19/2019
Acrylonitrile	5.0		**53.4**	50.00	0	106.8	54.19	1.43	06/19/2019
Benzene	0.5		**49.8**	50.00	0	99.6	50.47	1.30	06/19/2019
Bromobenzene	2.0		**51.6**	50.00	0	103.1	49.65	3.75	06/19/2019
Bromochloromethane	2.0		**51.4**	50.00	0	102.8	51.13	0.53	06/19/2019
Bromodichloromethane	2.0		**53.2**	50.00	0	106.4	52.87	0.62	06/19/2019
Bromoform	2.0		**57.7**	50.00	0	115.4	58.71	1.74	06/19/2019
Bromomethane	5.0		**52.1**	50.00	0	104.2	49.00	6.09	06/19/2019
Carbon disulfide	2.0		**52.3**	50.00	0	104.5	50.00	4.44	06/19/2019
Carbon tetrachloride	2.0		**51.3**	50.00	0	102.6	50.47	1.67	06/19/2019
Chlorobenzene	2.0		**49.2**	50.00	0	98.4	49.58	0.75	06/19/2019
Chloroethane	2.0		**47.2**	50.00	0	94.5	46.61	1.36	06/19/2019
Chloroform	2.0		**50.4**	50.00	0	100.8	50.48	0.14	06/19/2019
Chloromethane	5.0		**55.0**	50.00	0	109.9	51.77	5.96	06/19/2019
cis-1,2-Dichloroethene	2.0		**50.9**	50.00	0	101.7	51.89	2.00	06/19/2019
cis-1,3-Dichloropropene	2.0		**54.6**	50.00	0	109.1	53.67	1.64	06/19/2019
Dibromochloromethane	2.0		**57.8**	50.00	0	115.6	55.75	3.63	06/19/2019
Dichlorodifluoromethane	2.0		**41.8**	50.00	0	83.7	40.24	3.87	06/19/2019
Ethyl methacrylate	5.0		**52.2**	50.00	0	104.4	53.35	2.16	06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154437 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**50.9**	50.00	0	101.7	48.87	4.01	06/19/2019
Hexachlorobutadiene	5.0		**51.9**	50.00	0	103.7	49.68	4.29	06/19/2019
Isopropylbenzene	2.0		**50.8**	50.00	0	101.5	48.58	4.37	06/19/2019
m,p-Xylenes	2.0		**103**	100.0	0	103.1	96.55	6.58	06/19/2019
Methyl tert-butyl ether	2.0		**51.9**	50.00	0	103.9	51.37	1.08	06/19/2019
Methylene chloride	10.0		**49.7**	50.00	0	99.4	50.60	1.77	06/19/2019
Naphthalene	5.0		**51.5**	50.00	0	103.0	51.64	0.23	06/19/2019
n-Butylbenzene	2.0		**50.8**	50.00	0	101.6	47.81	6.04	06/19/2019
n-Propylbenzene	2.0		**49.0**	50.00	0	98.1	46.75	4.80	06/19/2019
o-Xylene	2.0		**49.6**	50.00	0	99.1	49.56	0.02	06/19/2019
p-Isopropyltoluene	2.0		**50.8**	50.00	0	101.5	47.80	6.03	06/19/2019
sec-Butylbenzene	2.0		**48.6**	50.00	0	97.2	48.25	0.74	06/19/2019
Styrene	2.0		**53.4**	50.00	0	106.8	52.60	1.47	06/19/2019
tert-Butylbenzene	2.0		**48.7**	50.00	0	97.4	46.16	5.38	06/19/2019
Tetrachloroethene	0.5		**50.2**	50.00	0	100.3	48.28	3.82	06/19/2019
Toluene	2.0		**52.3**	50.00	0	104.5	49.24	5.95	06/19/2019
trans-1,2-Dichloroethene	2.0		**52.8**	50.00	0	105.7	51.93	1.76	06/19/2019
trans-1,3-Dichloropropene	2.0		**53.1**	50.00	0	106.2	53.98	1.66	06/19/2019
Trichloroethene	2.0		**50.7**	50.00	0	101.4	50.21	1.01	06/19/2019
Trichlorofluoromethane	5.0		**48.8**	50.00	0	97.5	47.62	2.39	06/19/2019
Vinyl acetate	5.0		**58.2**	50.00	0	116.3	60.11	3.30	06/19/2019
Vinyl chloride	2.0		**51.1**	50.00	0	102.2	49.88	2.42	06/19/2019
Xylenes, Total	4.0		**153**	150.0	0	101.8	146.1	4.40	06/19/2019
Surr: 1,2-Dichloroethane-d4			**47.9**	50.00		95.8			06/19/2019
Surr: 4-Bromofluorobenzene			**51.1**	50.00		102.1			06/19/2019
Surr: Dibromofluoromethane			**51.3**	50.00		102.5			06/19/2019
Surr: Toluene-d8			**51.7**	50.00		103.4			06/19/2019

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Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154437 **SampType:** LCS Units µg/L

SampID: LCS-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**53.0**	50.00	0	106.0	83.4	118	06/19/2019
1,1,1-Trichloroethane	2.0		**54.3**	50.00	0	108.6	79.1	123	06/19/2019
1,1,2,2-Tetrachloroethane	2.0		**51.7**	50.00	0	103.4	70.7	121	06/19/2019
1,1,2-Trichloroethane	0.5		**53.9**	50.00	0	107.8	79.8	117	06/19/2019
1,1-Dichloroethane	2.0		**51.8**	50.00	0	103.6	75.1	122	06/19/2019
1,1-Dichloroethene	2.0		**49.1**	50.00	0	98.2	68.3	121	06/19/2019
1,1-Dichloropropene	2.0		**49.8**	50.00	0	99.7	76.7	122	06/19/2019
1,2,3-Trichlorobenzene	2.0		**53.0**	50.00	0	105.9	77.1	130	06/19/2019
1,2,3-Trichloropropane	2.0		**51.4**	50.00	0	102.8	70.6	114	06/19/2019
1,2,4-Trichlorobenzene	2.0		**52.5**	50.00	0	105.0	79.6	128	06/19/2019
1,2,4-Trimethylbenzene	2.0		**48.6**	50.00	0	97.2	78.9	117	06/19/2019
1,2-Dibromo-3-chloropropane	5.0		**56.5**	50.00	0	113.0	68.1	123	06/19/2019
1,2-Dibromoethane	2.0		**54.1**	50.00	0	108.2	82.9	114	06/19/2019
1,2-Dichlorobenzene	2.0		**48.2**	50.00	0	96.5	75.2	120	06/19/2019
1,2-Dichloroethane	2.0		**51.8**	50.00	0	103.6	76.9	117	06/19/2019
1,2-Dichloropropane	2.0		**51.2**	50.00	0	102.5	76.4	121	06/19/2019
1,3,5-Trimethylbenzene	2.0		**46.6**	50.00	0	93.1	79.8	118	06/19/2019
1,3-Dichlorobenzene	2.0		**47.4**	50.00	0	94.9	80.5	119	06/19/2019
1,3-Dichloropropane	2.0		**52.2**	50.00	0	104.4	77.5	113	06/19/2019
1,4-Dichlorobenzene	2.0		**47.4**	50.00	0	94.9	80.2	115	06/19/2019
2,2-Dichloropropane	2.0		**51.3**	50.00	0	102.6	62.4	151	06/19/2019
2-Butanone	10.0		**132**	125.0	0	105.9	65.7	120	06/19/2019
2-Chloroethyl vinyl ether	5.0		**53.9**	50.00	0	107.7	31.5	159	06/19/2019
2-Chlorotoluene	2.0		**45.9**	50.00	0	91.8	76	117	06/19/2019
2-Hexanone	10.0		**125**	125.0	0	99.9	65.1	121	06/19/2019
4-Chlorotoluene	2.0		**47.3**	50.00	0	94.7	77	117	06/19/2019
4-Methyl-2-pentanone	10.0		**129**	125.0	0	103.1	69.6	117	06/19/2019
Acetone	10.0		**125**	125.0	0	100.0	47.5	123	06/19/2019
Acrolein	20.0		**399**	500.0	0	79.9	27	164	06/19/2019
Acrylonitrile	5.0		**54.2**	50.00	0	108.4	74.8	127	06/19/2019
Benzene	0.5		**50.5**	50.00	0	100.9	75.8	121	06/19/2019
Bromobenzene	2.0		**49.6**	50.00	0	99.3	72.7	119	06/19/2019
Bromochloromethane	2.0		**51.1**	50.00	0	102.3	69	123	06/19/2019
Bromodichloromethane	2.0		**52.9**	50.00	0	105.7	80.8	128	06/19/2019
Bromoform	2.0		**58.7**	50.00	0	117.4	85.5	128	06/19/2019
Bromomethane	5.0		**49.0**	50.00	0	98.0	-36.7	277	06/19/2019
Carbon disulfide	2.0		**50.0**	50.00	0	100.0	64.9	133	06/19/2019
Carbon tetrachloride	2.0		**50.5**	50.00	0	100.9	79.5	129	06/19/2019
Chlorobenzene	2.0		**49.6**	50.00	0	99.2	82.1	113	06/19/2019
Chloroethane	2.0		**46.6**	50.00	0	93.2	43.9	138	06/19/2019
Chloroform	2.0		**50.5**	50.00	0	101.0	80.1	122	06/19/2019
Chloromethane	5.0		**51.8**	50.00	0	103.5	50.8	131	06/19/2019
cis-1,2-Dichloroethene	2.0		**51.9**	50.00	0	103.8	78.6	119	06/19/2019
cis-1,3-Dichloropropene	2.0		**53.7**	50.00	0	107.3	79	129	06/19/2019
Dibromochloromethane	2.0		**55.8**	50.00	0	111.5	88.1	123	06/19/2019
Dichlorodifluoromethane	2.0		**40.2**	50.00	0	80.5	35.7	155	06/19/2019
Ethyl methacrylate	5.0		**53.4**	50.00	0	106.7	80.6	123	06/19/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154437 **SampType:** LCS Units µg/L

SampID: LCS-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**48.9**	50.00	0	97.7	80.7	114	06/19/2019
Hexachlorobutadiene	5.0		**49.7**	50.00	0	99.4	68.2	141	06/19/2019
Isopropylbenzene	2.0		**48.6**	50.00	0	97.2	81.3	116	06/19/2019
m,p-Xylenes	2.0		**96.6**	100.0	0	96.6	80.5	113	06/19/2019
Methyl tert-butyl ether	2.0		**51.4**	50.00	0	102.7	79.5	121	06/19/2019
Methylene chloride	10.0		**50.6**	50.00	0	101.2	76.2	119	06/19/2019
Naphthalene	5.0		**51.6**	50.00	0	103.3	76.1	129	06/19/2019
n-Butylbenzene	2.0		**47.8**	50.00	0	95.6	71.6	122	06/19/2019
n-Propylbenzene	2.0		**46.8**	50.00	0	93.5	76	120	06/19/2019
o-Xylene	2.0		**49.6**	50.00	0	99.1	79.7	112	06/19/2019
p-Isopropyltoluene	2.0		**47.8**	50.00	0	95.6	76.2	122	06/19/2019
sec-Butylbenzene	2.0		**48.2**	50.00	0	96.5	76.6	119	06/19/2019
Styrene	2.0		**52.6**	50.00	0	105.2	82.8	116	06/19/2019
tert-Butylbenzene	2.0		**46.2**	50.00	0	92.3	74.7	117	06/19/2019
Tetrachloroethene	0.5		**48.3**	50.00	0	96.6	80.6	122	06/19/2019
Toluene	2.0		**49.2**	50.00	0	98.5	78.3	112	06/19/2019
trans-1,2-Dichloroethene	2.0		**51.9**	50.00	0	103.9	73.5	124	06/19/2019
trans-1,3-Dichloropropene	2.0		**54.0**	50.00	0	108.0	83.4	124	06/19/2019
Trichloroethene	2.0		**50.2**	50.00	0	100.4	74.3	125	06/19/2019
Trichlorofluoromethane	5.0		**47.6**	50.00	0	95.2	71.5	136	06/19/2019
Vinyl acetate	5.0		**60.1**	50.00	0	120.2	65.9	136	06/19/2019
Vinyl chloride	2.0		**49.9**	50.00	0	99.8	55.8	135	06/19/2019
Xylenes, Total	4.0		**146**	150.0	0	97.4	80.2	113	06/19/2019
Surr: 1,2-Dichloroethane-d4			**49.0**	50.00		97.9	79.6	118	06/19/2019
Surr: 4-Bromofluorobenzene			**48.7**	50.00		97.3	83.9	115	06/19/2019
Surr: Dibromofluoromethane			**51.3**	50.00		102.6	84.9	113	06/19/2019
Surr: Toluene-d8			**50.0**	50.00		100.0	86.7	112	06/19/2019

Batch 154437 **SampType:** LCSGD Units %REC RPD Limit 0

SampID: LCSGD-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**47.9**	50.00		95.8			06/19/2019
Surr: 4-Bromofluorobenzene			**51.4**	50.00		102.8			06/19/2019
Surr: Dibromofluoromethane			**49.2**	50.00		98.4			06/19/2019
Surr: Toluene-d8			**49.5**	50.00		98.9			06/19/2019

Batch 154437 **SampType:** LCSG Units %REC

SampID: LCSG-N190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**51.9**	50.00		103.8	79.6	118	06/19/2019
Surr: 4-Bromofluorobenzene			**51.8**	50.00		103.5	83.9	115	06/19/2019
Surr: Dibromofluoromethane			**51.5**	50.00		103.0	84.9	113	06/19/2019
Surr: Toluene-d8			**51.6**	50.00		103.1	86.7	112	06/19/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154443 **SampType:** MBLK Units µg/Kg

SampID: MBLK-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/19/2019
1,1,1-Trichloroethane	2.0		ND						06/19/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/19/2019
1,1,2-Trichloroethane	5.0		ND						06/19/2019
1,1-Dichloroethane	2.0		ND						06/19/2019
1,1-Dichloroethene	2.0		ND						06/19/2019
1,1-Dichloropropene	2.0		ND						06/19/2019
1,2,3-Trichlorobenzene	2.0		ND						06/19/2019
1,2,3-Trichloropropane	2.0		ND						06/19/2019
1,2,4-Trichlorobenzene	2.0		ND						06/19/2019
1,2,4-Trimethylbenzene	2.0		ND						06/19/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/19/2019
1,2-Dibromoethane	2.0		ND						06/19/2019
1,2-Dichlorobenzene	2.0		ND						06/19/2019
1,2-Dichloroethane	2.0		ND						06/19/2019
1,2-Dichloropropane	2.0		ND						06/19/2019
1,3,5-Trimethylbenzene	2.0		ND						06/19/2019
1,3-Dichlorobenzene	2.0		ND						06/19/2019
1,3-Dichloropropane	2.0		ND						06/19/2019
1,4-Dichlorobenzene	2.0		ND						06/19/2019
2,2-Dichloropropane	2.0		ND						06/19/2019
2-Butanone	25.0		ND						06/19/2019
2-Chloroethyl vinyl ether	5.0		ND						06/19/2019
2-Chlorotoluene	2.0		ND						06/19/2019
2-Hexanone	25.0		ND						06/19/2019
4-Chlorotoluene	2.0		ND						06/19/2019
4-Methyl-2-pentanone	25.0		ND						06/19/2019
Acetone	25.0		ND						06/19/2019
Acrolein	50.0		ND						06/19/2019
Acrylonitrile	5.0		ND						06/19/2019
Benzene	1.0		ND						06/19/2019
Bromobenzene	2.0		ND						06/19/2019
Bromochloromethane	2.0		ND						06/19/2019
Bromodichloromethane	2.0		ND						06/19/2019
Bromoform	5.0		ND						06/19/2019
Bromomethane	10.0		ND						06/19/2019
Carbon disulfide	2.0		ND						06/19/2019
Carbon tetrachloride	2.0		ND						06/19/2019
Chlorobenzene	2.0		ND						06/19/2019
Chloroethane	10.0		ND						06/19/2019
Chloroform	2.0		ND						06/19/2019
Chloromethane	10.0		ND						06/19/2019
cis-1,2-Dichloroethene	2.0		ND						06/19/2019
cis-1,3-Dichloropropene	2.0		ND						06/19/2019
Dibromochloromethane	2.0		ND						06/19/2019
Dichlorodifluoromethane	10.0		ND						06/19/2019
Ethyl methacrylate	2.0		ND						06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154443 **SampType:** MBLK Units µg/Kg
SampID: MBLK-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/19/2019
Hexachlorobutadiene	2.0		ND						06/19/2019
Isopropylbenzene	2.0		ND						06/19/2019
m,p-Xylenes	4.0		ND						06/19/2019
Methyl tert-butyl ether	2.0		ND						06/19/2019
Methylene chloride	10.0		ND						06/19/2019
Naphthalene	5.0		ND						06/19/2019
n-Butylbenzene	2.0		ND						06/19/2019
n-Propylbenzene	2.0		ND						06/19/2019
o-Xylene	4.0		ND						06/19/2019
p-Isopropyltoluene	2.0		ND						06/19/2019
sec-Butylbenzene	2.0		ND						06/19/2019
Styrene	2.0		ND						06/19/2019
tert-Butylbenzene	2.0		ND						06/19/2019
Tetrachloroethene	2.0		ND						06/19/2019
Toluene	2.0		ND						06/19/2019
trans-1,2-Dichloroethene	2.0		ND						06/19/2019
trans-1,3-Dichloropropene	2.0		ND						06/19/2019
Trichloroethene	2.0		ND						06/19/2019
Trichlorofluoromethane	5.0		ND						06/19/2019
Vinyl acetate	50.0		ND						06/19/2019
Vinyl chloride	2.0		ND						06/19/2019
Xylenes, Total	8.0		ND						06/19/2019
Surr: 1,2-Dichloroethane-d4			**55.5**	50.00		110.9	74	124	06/19/2019
Surr: 4-Bromofluorobenzene			**47.4**	50.00		94.8	79.4	123	06/19/2019
Surr: Dibromofluoromethane			**50.7**	50.00		101.4	89.2	112	06/19/2019
Surr: Toluene-d8			**49.5**	50.00		99.0	85	115	06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061180
Report Date: 20-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154443 **SampType:** LCSD Units µg/Kg RPD Limit 40
SampID: LCSD-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**55.6**	50.00	0	111.2	54.76	1.52	06/19/2019
1,1,1-Trichloroethane	2.0		**58.7**	50.00	0	117.4	58.70	0.02	06/19/2019
1,1,2,2-Tetrachloroethane	2.0		**46.5**	50.00	0	93.1	45.70	1.80	06/19/2019
1,1,2-Trichloroethane	5.0		**50.1**	50.00	0	100.2	50.18	0.14	06/19/2019
1,1-Dichloroethane	2.0		**59.0**	50.00	0	118.0	59.51	0.86	06/19/2019
1,1-Dichloroethene	2.0		**57.4**	50.00	0	114.7	57.22	0.26	06/19/2019
1,1-Dichloropropene	2.0		**55.4**	50.00	0	110.8	55.68	0.54	06/19/2019
1,2,3-Trichlorobenzene	2.0		**52.9**	50.00	0	105.8	53.78	1.61	06/19/2019
1,2,3-Trichloropropane	2.0		**45.7**	50.00	0	91.4	47.40	3.65	06/19/2019
1,2,4-Trichlorobenzene	2.0		**55.0**	50.00	0	109.9	56.36	2.52	06/19/2019
1,2,4-Trimethylbenzene	2.0		**49.5**	50.00	0	98.9	50.45	1.98	06/19/2019
1,2-Dibromo-3-chloropropane	5.0		**44.8**	50.00	0	89.7	45.08	0.51	06/19/2019
1,2-Dibromoethane	2.0		**52.0**	50.00	0	103.9	51.81	0.31	06/19/2019
1,2-Dichlorobenzene	2.0		**52.4**	50.00	0	104.8	53.22	1.57	06/19/2019
1,2-Dichloroethane	2.0		**61.4**	50.00	0	122.8	61.73	0.57	06/19/2019
1,2-Dichloropropane	2.0		**54.3**	50.00	0	108.6	54.83	0.97	06/19/2019
1,3,5-Trimethylbenzene	2.0		**48.7**	50.00	0	97.4	49.26	1.12	06/19/2019
1,3-Dichlorobenzene	2.0		**52.3**	50.00	0	104.7	53.07	1.39	06/19/2019
1,3-Dichloropropane	2.0		**52.8**	50.00	0	105.7	52.17	1.29	06/19/2019
1,4-Dichlorobenzene	2.0		**51.6**	50.00	0	103.2	52.56	1.80	06/19/2019
2,2-Dichloropropane	2.0		**58.4**	50.00	0	116.8	57.33	1.87	06/19/2019
2-Butanone	25.0		**132**	125.0	0	105.7	133.1	0.73	06/19/2019
2-Chloroethyl vinyl ether	5.0		**49.4**	50.00	0	98.9	49.82	0.77	06/19/2019
2-Chlorotoluene	2.0		**48.5**	50.00	0	96.9	49.05	1.19	06/19/2019
2-Hexanone	25.0		**125**	125.0	0	100.1	122.4	2.18	06/19/2019
4-Chlorotoluene	2.0		**51.0**	50.00	0	102.1	51.68	1.27	06/19/2019
4-Methyl-2-pentanone	25.0		**119**	125.0	0	95.3	115.4	3.16	06/19/2019
Acetone	25.0		**129**	125.0	0	103.4	139.4	7.53	06/19/2019
Acrolein	50.0		**383**	500.0	0	76.6	384.2	0.28	06/19/2019
Acrylonitrile	5.0		**47.8**	50.00	0	95.6	47.62	0.40	06/19/2019
Benzene	1.0		**55.1**	50.00	0	110.2	54.88	0.42	06/19/2019
Bromobenzene	2.0		**47.9**	50.00	0	95.9	48.36	0.89	06/19/2019
Bromochloromethane	2.0		**55.1**	50.00	0	110.3	55.70	1.03	06/19/2019
Bromodichloromethane	2.0		**56.6**	50.00	0	113.1	57.29	1.28	06/19/2019
Bromoform	5.0		**54.1**	50.00	0	108.1	52.34	3.23	06/19/2019
Bromomethane	10.0		**72.5**	50.00	0	145.0	74.18	2.32	06/19/2019
Carbon disulfide	2.0		**54.8**	50.00	0	109.7	54.99	0.29	06/19/2019
Carbon tetrachloride	2.0		**57.0**	50.00	0	114.0	56.17	1.45	06/19/2019
Chlorobenzene	2.0		**50.4**	50.00	0	100.8	50.25	0.32	06/19/2019
Chloroethane	10.0		**46.8**	50.00	0	93.6	46.94	0.30	06/19/2019
Chloroform	2.0		**54.1**	50.00	0	108.3	54.26	0.22	06/19/2019
Chloromethane	10.0		**63.4**	50.00	0	126.8	63.37	0.05	06/19/2019
cis-1,2-Dichloroethene	2.0		**56.0**	50.00	0	112.1	56.14	0.16	06/19/2019
cis-1,3-Dichloropropene	2.0		**57.2**	50.00	0	114.5	58.07	1.42	06/19/2019
Dibromochloromethane	2.0		**52.7**	50.00	0	105.5	52.20	1.03	06/19/2019
Dichlorodifluoromethane	10.0		**51.7**	50.00	0	103.3	49.50	4.29	06/19/2019
Ethyl methacrylate	2.0		**51.7**	50.00	0	103.3	50.62	2.05	06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154443 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**53.1**	50.00	0	106.3	52.92	0.40	06/19/2019
Hexachlorobutadiene	2.0		**54.7**	50.00	0	109.3	52.98	3.12	06/19/2019
Isopropylbenzene	2.0		**53.0**	50.00	0	106.1	53.02	0.04	06/19/2019
m,p-Xylenes	4.0		**109**	100.0	0	109.3	108.7	0.50	06/19/2019
Methyl tert-butyl ether	2.0		**53.4**	50.00	0	106.8	54.15	1.43	06/19/2019
Methylene chloride	10.0		**51.6**	50.00	0	103.2	52.27	1.33	06/19/2019
Naphthalene	5.0		**47.6**	50.00	0	95.2	47.09	1.06	06/19/2019
n-Butylbenzene	2.0		**52.4**	50.00	0	104.8	53.58	2.25	06/19/2019
n-Propylbenzene	2.0		**48.9**	50.00	0	97.9	49.27	0.69	06/19/2019
o-Xylene	4.0		**54.7**	50.00	0	109.4	53.41	2.35	06/19/2019
p-Isopropyltoluene	2.0		**50.2**	50.00	0	100.3	50.81	1.31	06/19/2019
sec-Butylbenzene	2.0		**48.0**	50.00	0	96.1	47.85	0.38	06/19/2019
Styrene	2.0		**55.0**	50.00	0	109.9	54.06	1.65	06/19/2019
tert-Butylbenzene	2.0		**48.1**	50.00	0	96.3	47.94	0.42	06/19/2019
Tetrachloroethene	2.0		**55.6**	50.00	0	111.1	54.15	2.55	06/19/2019
Toluene	2.0		**50.7**	50.00	0	101.4	50.46	0.45	06/19/2019
trans-1,2-Dichloroethene	2.0		**57.9**	50.00	0	115.8	58.46	0.93	06/19/2019
trans-1,3-Dichloropropene	2.0		**55.3**	50.00	0	110.7	54.36	1.79	06/19/2019
Trichloroethene	2.0		**56.1**	50.00	0	112.1	55.95	0.20	06/19/2019
Trichlorofluoromethane	5.0		**51.7**	50.00	0	103.3	51.22	0.87	06/19/2019
Vinyl acetate	50.0		**53.9**	50.00	0	107.9	55.71	3.25	06/19/2019
Vinyl chloride	2.0		**63.9**	50.00	0	127.8	62.16	2.73	06/19/2019
Xylenes, Total	8.0		**164**	150.0	0	109.3	162.1	1.12	06/19/2019
Surr: 1,2-Dichloroethane-d4			**56.8**	50.00		113.5			06/19/2019
Surr: 4-Bromofluorobenzene			**45.6**	50.00		91.2			06/19/2019
Surr: Dibromofluoromethane			**51.1**	50.00		102.2			06/19/2019
Surr: Toluene-d8			**48.8**	50.00		97.5			06/19/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154443 **SampType:** LCS Units µg/Kg

SampID: LCS-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**54.8**	50.00	0	109.5	84.3	128	06/19/2019
1,1,1-Trichloroethane	2.0		**58.7**	50.00	0	117.4	75.6	132	06/19/2019
1,1,2,2-Tetrachloroethane	2.0		**45.7**	50.00	0	91.4	81.4	126	06/19/2019
1,1,2-Trichloroethane	5.0		**50.2**	50.00	0	100.4	87.3	122	06/19/2019
1,1-Dichloroethane	2.0		**59.5**	50.00	0	119.0	84.6	123	06/19/2019
1,1-Dichloroethene	2.0		**57.2**	50.00	0	114.4	73.6	134	06/19/2019
1,1-Dichloropropene	2.0		**55.7**	50.00	0	111.4	76	132	06/19/2019
1,2,3-Trichlorobenzene	2.0		**53.8**	50.00	0	107.6	78.2	139	06/19/2019
1,2,3-Trichloropropane	2.0		**47.4**	50.00	0	94.8	81.5	125	06/19/2019
1,2,4-Trichlorobenzene	2.0		**56.4**	50.00	0	112.7	67.8	154	06/19/2019
1,2,4-Trimethylbenzene	2.0		**50.4**	50.00	0	100.9	79.6	129	06/19/2019
1,2-Dibromo-3-chloropropane	5.0		**45.1**	50.00	0	90.2	71.5	135	06/19/2019
1,2-Dibromoethane	2.0		**51.8**	50.00	0	103.6	86.2	127	06/19/2019
1,2-Dichlorobenzene	2.0		**53.2**	50.00	0	106.4	82	126	06/19/2019
1,2-Dichloroethane	2.0		**61.7**	50.00	0	123.5	77.1	130	06/19/2019
1,2-Dichloropropane	2.0		**54.8**	50.00	0	109.7	89.8	126	06/19/2019
1,3,5-Trimethylbenzene	2.0		**49.3**	50.00	0	98.5	79	129	06/19/2019
1,3-Dichlorobenzene	2.0		**53.1**	50.00	0	106.1	80.9	132	06/19/2019
1,3-Dichloropropane	2.0		**52.2**	50.00	0	104.3	84	123	06/19/2019
1,4-Dichlorobenzene	2.0		**52.6**	50.00	0	105.1	78.3	131	06/19/2019
2,2-Dichloropropane	2.0		**57.3**	50.00	0	114.7	74.8	133	06/19/2019
2-Butanone	25.0		**133**	125.0	0	106.5	75	140	06/19/2019
2-Chloroethyl vinyl ether	5.0		**49.8**	50.00	0	99.6	72	142	06/19/2019
2-Chlorotoluene	2.0		**49.0**	50.00	0	98.1	78.5	128	06/19/2019
2-Hexanone	25.0		**122**	125.0	0	97.9	74.9	131	06/19/2019
4-Chlorotoluene	2.0		**51.7**	50.00	0	103.4	77.1	132	06/19/2019
4-Methyl-2-pentanone	25.0		**115**	125.0	0	92.3	81.3	127	06/19/2019
Acetone	25.0		**139**	125.0	0	111.5	52.2	164	06/19/2019
Acrolein	50.0		**384**	500.0	0	76.8	1	211	06/19/2019
Acrylonitrile	5.0		**47.6**	50.00	0	95.2	82.8	135	06/19/2019
Benzene	1.0		**54.9**	50.00	0	109.8	85.2	124	06/19/2019
Bromobenzene	2.0		**48.4**	50.00	0	96.7	81.7	125	06/19/2019
Bromochloromethane	2.0		**55.7**	50.00	0	111.4	84.8	127	06/19/2019
Bromodichloromethane	2.0		**57.3**	50.00	0	114.6	88.9	129	06/19/2019
Bromoform	5.0		**52.3**	50.00	0	104.7	79.3	134	06/19/2019
Bromomethane	10.0		**74.2**	50.00	0	148.4	17	207	06/19/2019
Carbon disulfide	2.0		**55.0**	50.00	0	110.0	74.5	131	06/19/2019
Carbon tetrachloride	2.0		**56.2**	50.00	0	112.3	73.6	133	06/19/2019
Chlorobenzene	2.0		**50.2**	50.00	0	100.5	86.1	123	06/19/2019
Chloroethane	10.0		**46.9**	50.00	0	93.9	77.2	130	06/19/2019
Chloroform	2.0		**54.3**	50.00	0	108.5	86.8	123	06/19/2019
Chloromethane	10.0		**63.4**	50.00	0	126.7	59.5	149	06/19/2019
cis-1,2-Dichloroethene	2.0		**56.1**	50.00	0	112.3	85	125	06/19/2019
cis-1,3-Dichloropropene	2.0		**58.1**	50.00	0	116.1	89.6	130	06/19/2019
Dibromochloromethane	2.0		**52.2**	50.00	0	104.4	87	129	06/19/2019
Dichlorodifluoromethane	10.0		**49.5**	50.00	0	99.0	40.9	168	06/19/2019
Ethyl methacrylate	2.0		**50.6**	50.00	0	101.2	87.6	125	06/19/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061180

Report Date: 20-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154443 **SampType:** LCS Units µg/Kg

SampID: LCS-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**52.9**	50.00	0	105.8	82.3	125	06/19/2019
Hexachlorobutadiene	2.0		**53.0**	50.00	0	106.0	67.5	144	06/19/2019
Isopropylbenzene	2.0		**53.0**	50.00	0	106.0	78.5	129	06/19/2019
m,p-Xylenes	4.0		**109**	100.0	0	108.7	80.4	128	06/19/2019
Methyl tert-butyl ether	2.0		**54.2**	50.00	0	108.3	86.2	126	06/19/2019
Methylene chloride	10.0		**52.3**	50.00	0	104.5	79.4	125	06/19/2019
Naphthalene	5.0		**47.1**	50.00	0	94.2	81	127	06/19/2019
n-Butylbenzene	2.0		**53.6**	50.00	0	107.2	67.4	142	06/19/2019
n-Propylbenzene	2.0		**49.3**	50.00	0	98.5	72.3	133	06/19/2019
o-Xylene	4.0		**53.4**	50.00	0	106.8	85	124	06/19/2019
p-Isopropyltoluene	2.0		**50.8**	50.00	0	101.6	75.4	133	06/19/2019
sec-Butylbenzene	2.0		**47.8**	50.00	0	95.7	72.1	132	06/19/2019
Styrene	2.0		**54.1**	50.00	0	108.1	86.7	127	06/19/2019
tert-Butylbenzene	2.0		**47.9**	50.00	0	95.9	73.5	129	06/19/2019
Tetrachloroethene	2.0		**54.2**	50.00	0	108.3	75.8	131	06/19/2019
Toluene	2.0		**50.5**	50.00	0	100.9	81	123	06/19/2019
trans-1,2-Dichloroethene	2.0		**58.5**	50.00	0	116.9	80.8	130	06/19/2019
trans-1,3-Dichloropropene	2.0		**54.4**	50.00	0	108.7	82.8	133	06/19/2019
Trichloroethene	2.0		**56.0**	50.00	0	111.9	83.6	129	06/19/2019
Trichlorofluoromethane	5.0		**51.2**	50.00	0	102.4	63	136	06/19/2019
Vinyl acetate	50.0		**55.7**	50.00	0	111.4	81.6	133	06/19/2019
Vinyl chloride	2.0		**62.2**	50.00	0	124.3	55	149	06/19/2019
Xylenes, Total	8.0		**162**	150.0	0	108.1	82.2	127	06/19/2019
Surr: 1,2-Dichloroethane-d4			**57.4**	50.00		114.8	74	124	06/19/2019
Surr: 4-Bromofluorobenzene			**46.2**	50.00		92.4	79.4	123	06/19/2019
Surr: Dibromofluoromethane			**51.3**	50.00		102.5	89.2	112	06/19/2019
Surr: Toluene-d8			**48.0**	50.00		96.0	85	115	06/19/2019

Batch 154443 **SampType:** LCSGD Units %REC RPD Limit 0

SampID: LCSGD-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**55.4**	50.00		110.9			06/19/2019
Surr: 4-Bromofluorobenzene			**48.2**	50.00		96.4			06/19/2019
Surr: Dibromofluoromethane			**49.6**	50.00		99.1			06/19/2019
Surr: Toluene-d8			**50.0**	50.00		99.9			06/19/2019

Batch 154443 **SampType:** LCSG Units %REC

SampID: LCSG-Y190619A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**55.3**	50.00		110.6	74	124	06/19/2019
Surr: 4-Bromofluorobenzene			**47.8**	50.00		95.6	79.4	123	06/19/2019
Surr: Dibromofluoromethane			**50.3**	50.00		100.5	89.2	112	06/19/2019
Surr: Toluene-d8			**50.2**	50.00		100.4	85	115	06/19/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061180
Client Project: PreDesign Invest. PW
Report Date: 20-Jun-2019

Carrier: Robert Fleming
Received By: LG

Completed by: Marvin L. Darling II
On: 18-Jun-2019
Marvin L. Darling

Reviewed by: Elizabeth A. Hurley
On: 18-Jun-2019
Elizabeth A. Hurley

Pages to follow: Chain of custody [1] Extra pages included [36]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 5.8
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Trip Blank collection date and time will be reported as the received date and time (end of trip). - MDarling - 6/18/2019 5:50:22 PM

Headspace was present in one of the TB-PW-061819 volatile vials. - MLDII/ehurley - 6/18/2019 6:59:18 PM

19061180

LAB (LOCATION)

☐ACCUTEST (_____)

☐CALSCIENCE (_____)

☐TESTAMERICA (Pensacola)

☑Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:		
☐SGW FDG	☐PIPELINE	☐RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/18/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford, State: IL

AECOM Project / Task Number: PreDesign Invest. PW

EOF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel

PHONE NO.: 3144290100

E-MAIL: elizabeth.kunkel@aecom.com

AECOM Other ID

SAMPLER NAME(S) (Print):

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☐STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☑24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST: 8260 Project list VOCs +TICs; 8270 SIM PAH; Moisture; 8270 Project List SVOCs +TICs

NON-UNIT COST

FIELD NOTES:

TEMPERATURE ON RECEIPT C° 5.8 ICE

Headspace in 2 TB. must

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8260	8270 SIM PAH	Moisture	8270 SVOCs +TICs	Container PID Readings or Laboratory Notes
	19061180 PD-1-SB-53-061819 -cc1	6/18/2019	15:30	Soil	X			x	x	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	TB-PW-061819 -cc2	6/18/2019	0:00	Water	X					2	X				
	PD-1-SB-55-061819 -cc3	6/18/2019	16:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

ONE DAY TAT

Relinquished by: (Signature) Robert M.	Received by: (Signature) Dogen Idsuno	Date: 6/18/19	Time: 5:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

6/18/19

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA031.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.152	7	12	23	rVV	797582	1167601	100.00%	11.282%
2	2.240	23	27	34	rVB2	12060	16623	1.42%	0.161%
3	2.739	109	112	117	rVB	33534	34810	2.98%	0.336%
4	3.380	218	221	224	rBV	20947	22345	1.91%	0.216%
5	3.421	224	228	230	rVV	101792	103505	8.86%	1.000%
6	3.444	230	232	237	rVB2	46385	56270	4.82%	0.544%
7	3.626	261	263	266	rVB	24215	20700	1.77%	0.200%
8	3.797	288	292	295	rBV	77448	69246	5.93%	0.669%
9	4.073	334	339	343	rVB2	12631	18309	1.57%	0.177%
10	4.120	343	347	349	rBV	34727	32213	2.76%	0.311%
11	4.161	349	354	360	rVB2	124724	149742	12.82%	1.447%
12	4.373	387	390	394	rVB	68475	57996	4.97%	0.560%
13	4.537	414	418	422	rBV	220078	192948	16.53%	1.864%
14	4.584	422	426	429	rBV	18971	16315	1.40%	0.158%
15	4.760	454	456	459	rVV	18965	17169	1.47%	0.166%
16	4.802	459	463	466	rVB2	31896	35068	3.00%	0.339%
17	5.001	494	497	499	rVV	21346	19961	1.71%	0.193%
18	5.042	499	504	509	rVB2	67770	97279	8.33%	0.940%
19	5.254	538	540	543	rVB	24279	19312	1.65%	0.187%
20	5.348	551	556	558	rBV2	16723	19496	1.67%	0.188%
21	5.377	558	561	565	rVV3	17613	22960	1.97%	0.222%
22	5.419	565	568	571	rVV2	23612	27617	2.37%	0.267%
23	5.448	571	573	576	rVV4	22399	19135	1.64%	0.185%
24	5.483	576	579	585	rVV3	36516	48486	4.15%	0.469%
25	5.542	585	589	594	rVB3	11980	17638	1.51%	0.170%
26	5.589	594	597	600	rBV2	18278	20451	1.75%	0.198%
27	5.677	609	612	615	rVV	141546	121406	10.40%	1.173%
28	5.724	615	620	621	rVV5	17799	29528	2.53%	0.285%
29	5.753	621	625	628	rVV	307075	322114	27.59%	3.113%
30	5.806	632	634	639	rVB3	18798	19151	1.64%	0.185%
31	5.883	644	647	650	rBV3	12879	17660	1.51%	0.171%
32	6.006	663	668	671	rBV4	52225	68733	5.89%	0.664%
33	6.065	675	678	683	rVB4	39599	44968	3.85%	0.435%
34	6.112	683	686	691	rBV	121198	126044	10.80%	1.218%
35	6.159	691	694	698	rBV5	12891	16633	1.42%	0.161%

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

36	6.235	704	707	711	rVB5	24340	29766	2.55%	0.288%
37	6.282	711	715	720	rBV	349005	323812	27.73%	3.129%
38	6.323	720	722	724	rVV2	20819	20825	1.78%	0.201%
39	6.353	724	727	729	rVV4	14746	18770	1.61%	0.181%
40	6.382	729	732	735	rVB3	30920	31799	2.72%	0.307%
41	6.453	741	744	747	rBV	115672	110100	9.43%	1.064%
42	6.553	758	761	765	rBV2	71539	106607	9.13%	1.030%
43	6.617	768	772	775	rVV3	54244	64702	5.54%	0.625%
44	6.652	775	778	781	rVV2	48850	47035	4.03%	0.454%
45	6.694	782	785	786	rVV	33338	25960	2.22%	0.251%
46	6.717	786	789	792	rVB	129262	106486	9.12%	1.029%
47	6.805	800	804	808	rBV	167930	167302	14.33%	1.617%
48	6.852	808	812	816	rVV	421110	376593	32.25%	3.639%
49	6.893	816	819	821	rVV2	41394	56485	4.84%	0.546%
50	6.934	824	826	828	rVV2	24022	19738	1.69%	0.191%
51	6.958	828	830	834	rVV4	25939	32800	2.81%	0.317%
52	7.011	837	839	843	rVV	33857	43030	3.69%	0.416%
53	7.081	847	851	857	rVV4	70795	150322	12.87%	1.453%
54	7.158	861	864	865	rVV	104446	112991	9.68%	1.092%
55	7.175	865	867	876	rVV3	207123	356101	30.50%	3.441%
56	7.234	876	877	881	rVV	38642	30818	2.64%	0.298%
57	7.281	881	885	890	rVB4	63213	86102	7.37%	0.832%
58	7.363	896	899	900	rBV2	23174	23954	2.05%	0.231%
59	7.387	900	903	906	rVB	333167	276061	23.64%	2.668%
60	7.510	921	924	931	rVB	381510	413337	35.40%	3.994%
61	7.563	931	933	936	rVB3	27127	21434	1.84%	0.207%
62	7.616	936	942	946	rBV4	50682	111300	9.53%	1.075%
63	7.651	946	948	951	rVV3	48927	49637	4.25%	0.480%
64	7.681	951	953	954	rVV2	36158	29725	2.55%	0.287%
65	7.710	954	958	961	rVV4	90206	134877	11.55%	1.303%
66	7.745	961	964	968	rVB2	102008	108863	9.32%	1.052%
67	7.822	974	977	980	rBV2	43853	62692	5.37%	0.606%
68	7.851	980	982	986	rVV3	46832	49287	4.22%	0.476%
69	7.892	986	989	993	rVV	289144	249715	21.39%	2.413%
70	7.933	993	996	999	rVB4	39540	49686	4.26%	0.480%
71	7.963	999	1001	1005	rBV4	19249	23617	2.02%	0.228%
72	8.115	1023	1027	1030	rBV	99701	108507	9.29%	1.048%
73	8.168	1034	1036	1039	rVB3	24958	22529	1.93%	0.218%
74	8.198	1039	1041	1043	rBV3	24954	24957	2.14%	0.241%
75	8.221	1043	1045	1047	rVB2	24408	19832	1.70%	0.192%

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

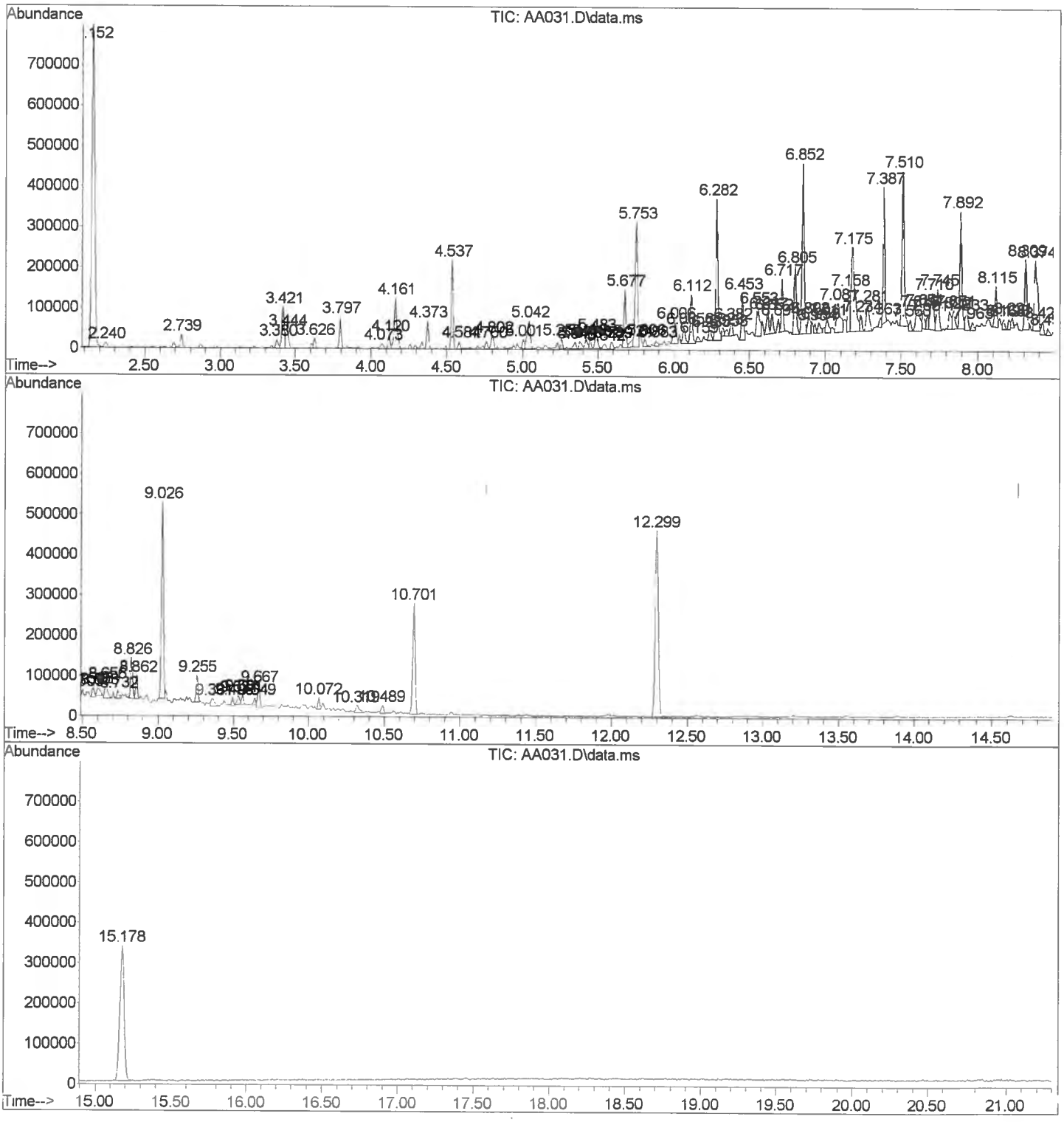
76	8.309	1057	1060	1064	rBV	172684	170932	14.64%	1.652%
77	8.374	1067	1071	1076	rVB	171496	246838	21.14%	2.385%
78	8.421	1076	1079	1082	rVB4	31429	37973	3.25%	0.367%
79	8.456	1083	1085	1089	rVB4	17134	17534	1.50%	0.169%
80	8.503	1089	1093	1095	rBV4	22934	24817	2.13%	0.240%
81	8.568	1101	1104	1107	rBV4	23855	25864	2.22%	0.250%
82	8.603	1107	1110	1116	rVB6	19150	30055	2.57%	0.290%
83	8.656	1116	1119	1125	rVB6	40055	50852	4.36%	0.491%
84	8.732	1130	1132	1136	rBV4	17417	19017	1.63%	0.184%
85	8.826	1144	1148	1151	rBV	100301	87887	7.53%	0.849%
86	8.862	1151	1154	1157	rVB	56986	56166	4.81%	0.543%
87	9.026	1178	1182	1185	rBV	486873	445887	38.19%	4.309%
88	9.255	1218	1221	1224	rBV	66554	62759	5.38%	0.606%
89	9.361	1237	1239	1248	rVB4	18148	28433	2.44%	0.275%
90	9.496	1259	1262	1264	rBV2	17697	15896	1.36%	0.154%
91	9.531	1265	1268	1271	rVV	22003	28059	2.40%	0.271%
92	9.561	1271	1273	1276	rVB	24561	18959	1.62%	0.183%
93	9.649	1284	1288	1289	rBV2	15966	17402	1.49%	0.168%
94	9.667	1289	1291	1295	rVB2	54261	52902	4.53%	0.511%
95	10.072	1357	1360	1362	rBV	29375	23271	1.99%	0.225%
96	10.319	1399	1402	1410	rVB8	16942	27584	2.36%	0.267%
97	10.489	1428	1431	1435	rVB3	19645	22546	1.93%	0.218%
98	10.701	1462	1467	1471	rVB	274875	302673	25.92%	2.925%
99	12.299	1732	1739	1749	rVB	460249	689420	59.05%	6.662%
100	15.178	2221	2229	2240	rBV2	334480	657591	56.32%	6.354%

Sum of corrected areas: 10348903

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

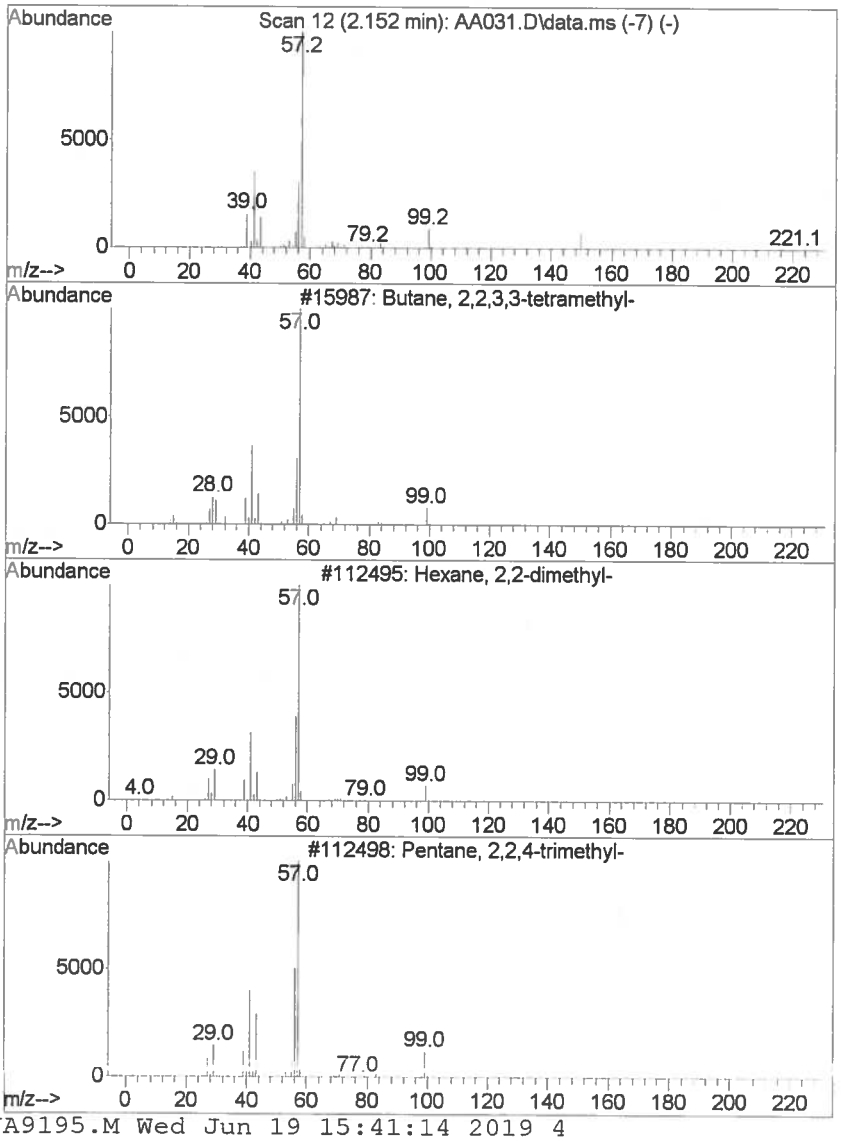
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

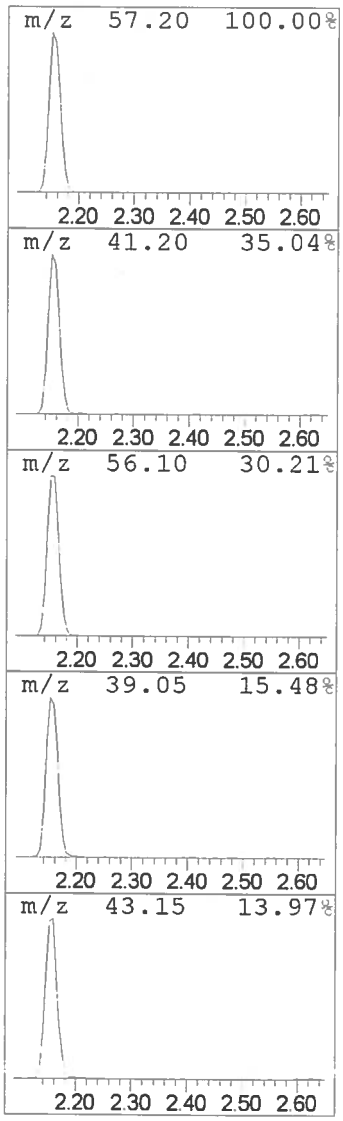
****

Peak Number 1 Butane, 2,2,3,3-tetramethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.152	242.06 ug/ml	1167600	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	78
2	Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	78
3	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	64
4	Pentane, 2,2,4,4-tetramethyl-	128	C9H20	001070-87-7	64
5	1-Propanol, 2,2-dimethyl-	88	C5H12O	000075-84-3	45





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

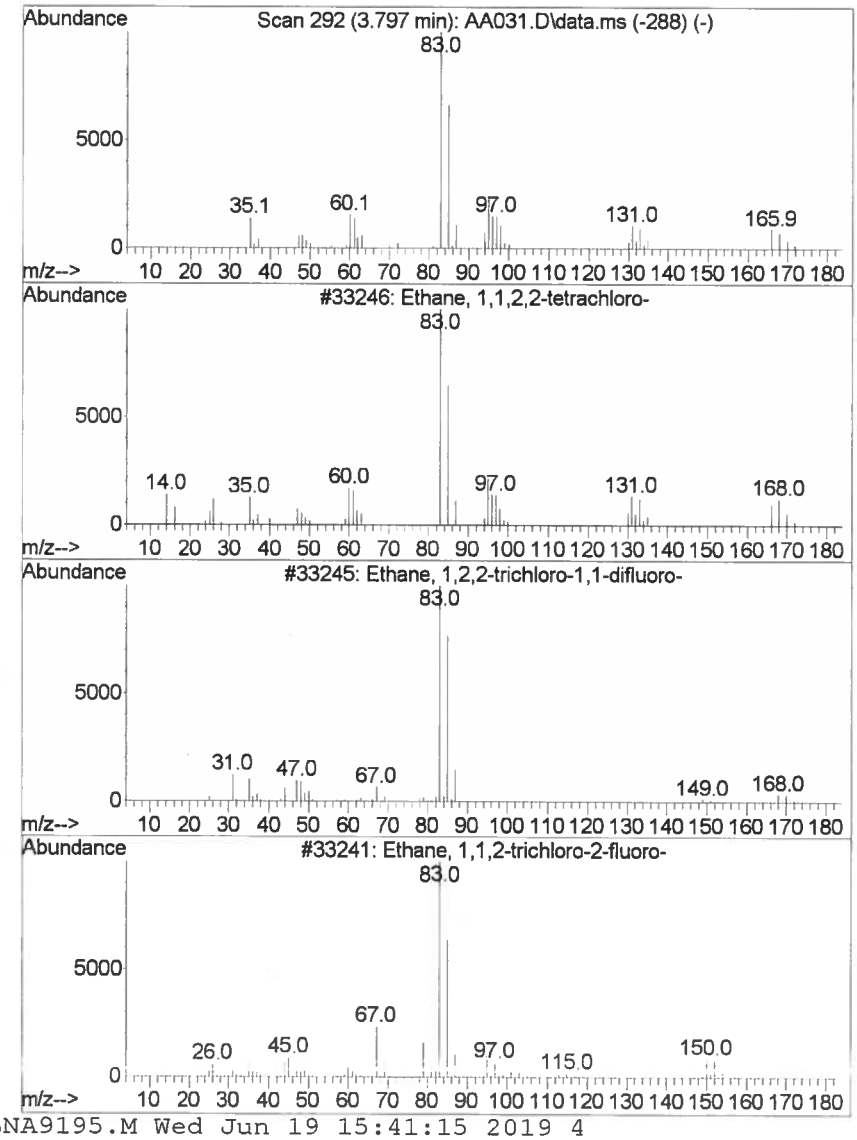
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

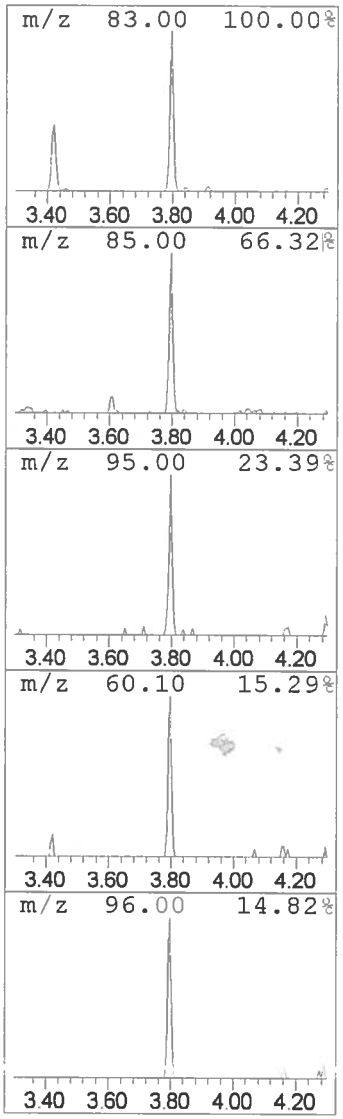
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.797	14.36 ug/ml	69246	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	97
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	62
3	Ethane, 1,1,2-trichloro-2-fluoro-	150	C2H2Cl3F	000359-28-4	53
4	Chloroform	118	CHCl3	000067-66-3	50
5	Ethane, 1,1-dichloro-2,2-difluoro-	134	C2H2Cl2F2	000471-43-2	42





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Data File : AA031.D
Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

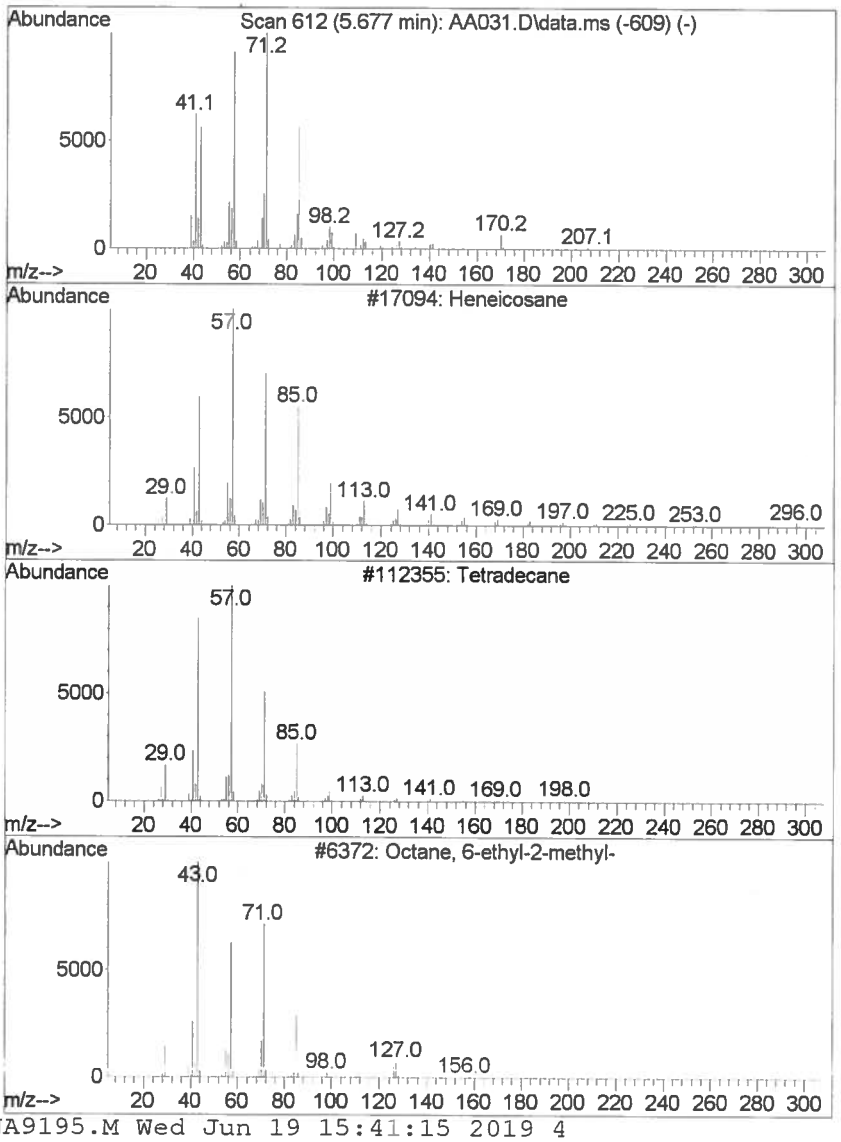
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

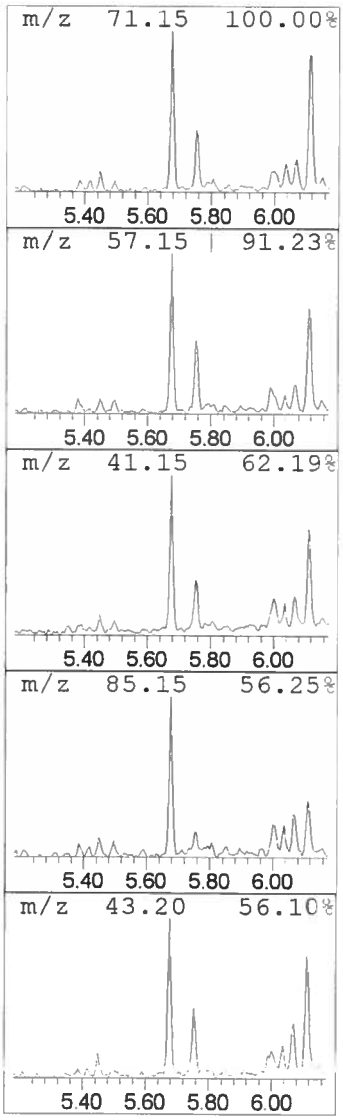
****

Peak Number 3 Heneicosane Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.677	15.08 ug/ml	121406	Naphthalene-d8	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heneicosane	296	C21H44	000629-94-7	72
2	Tetradecane	198	C14H30	000629-59-4	53
3	Octane, 6-ethyl-2-methyl-	156	C11H24	062016-19-7	53
4	Heptane, 2,4-dimethyl-	128	C9H20	002213-23-2	47
5	Undecane	156	C11H24	001120-21-4	47





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ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

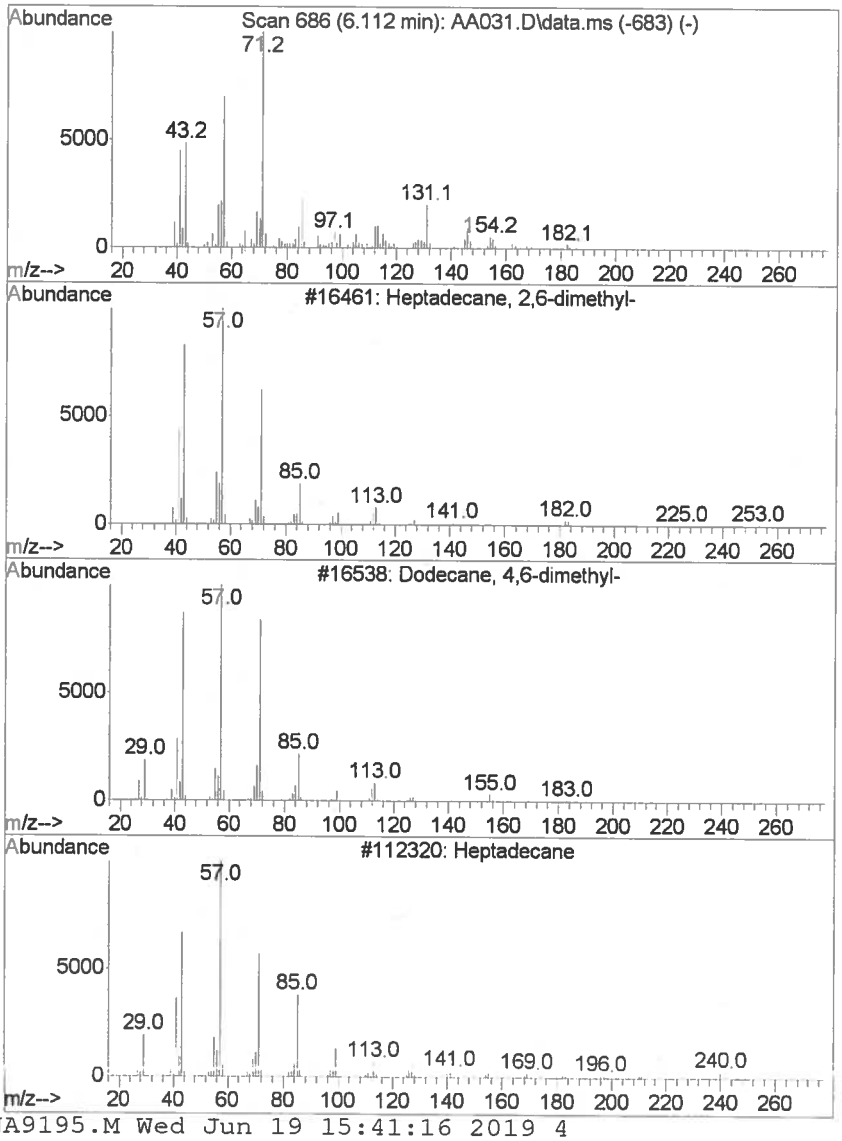
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

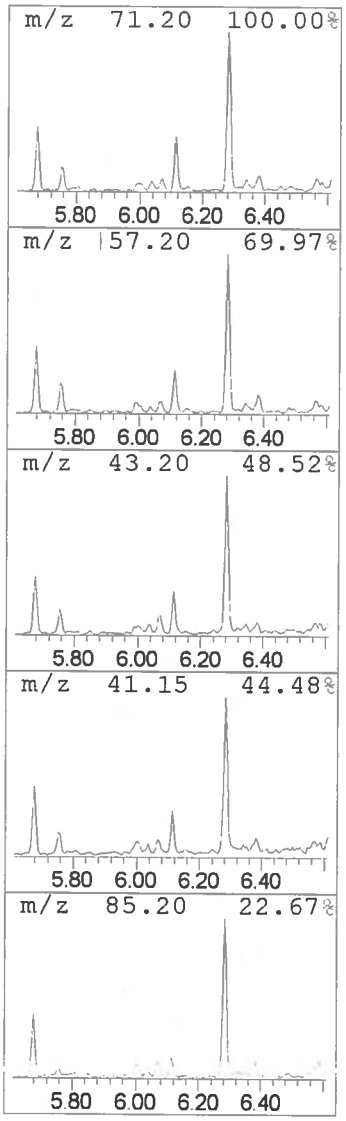
****

Peak Number 4 Heptadecane, 2,6-dimethyl- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.112	15.65 ug/ml	126044	Naphthalene-d8*	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptadecane, 2,6-dimethyl-	268	C19H40	054105-67-8	72
2	Dodecane, 4,6-dimethyl-	198	C14H30	061141-72-8	59
3	Heptadecane	240	C17H36	000629-78-7	53
4	Decane, 2-methyl-	156	C11H24	006975-98-0	50
5	Heptacosane	380	C27H56	000593-49-7	43





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Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

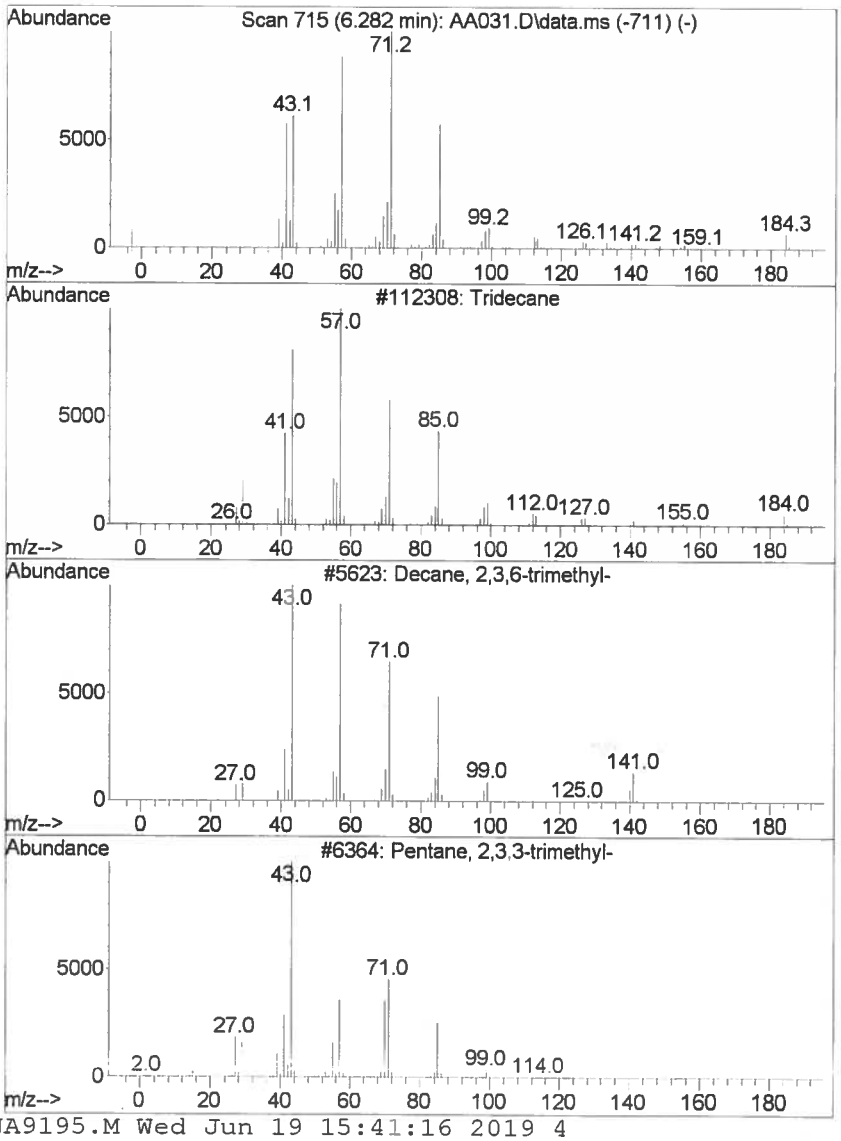
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

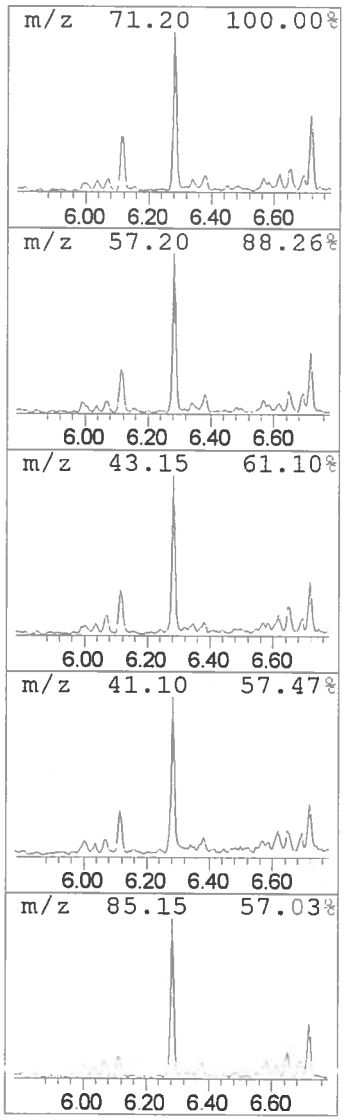
****

Peak Number 5 Tridecane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.282	40.21 ug/ml	323812	Naphthalene-d8*	5.753

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tridecane	184	C13H28	000629-50-5	92
2	Decane, 2,3,6-trimethyl-	184	C13H28	062238-12-4	78
3	Pentane, 2,3,3-trimethyl-	114	C8H18	000560-21-4	64
4	Hexadecane	226	C16H34	000544-76-3	64
5	Tetradecane	198	C14H30	000629-59-4	49





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Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

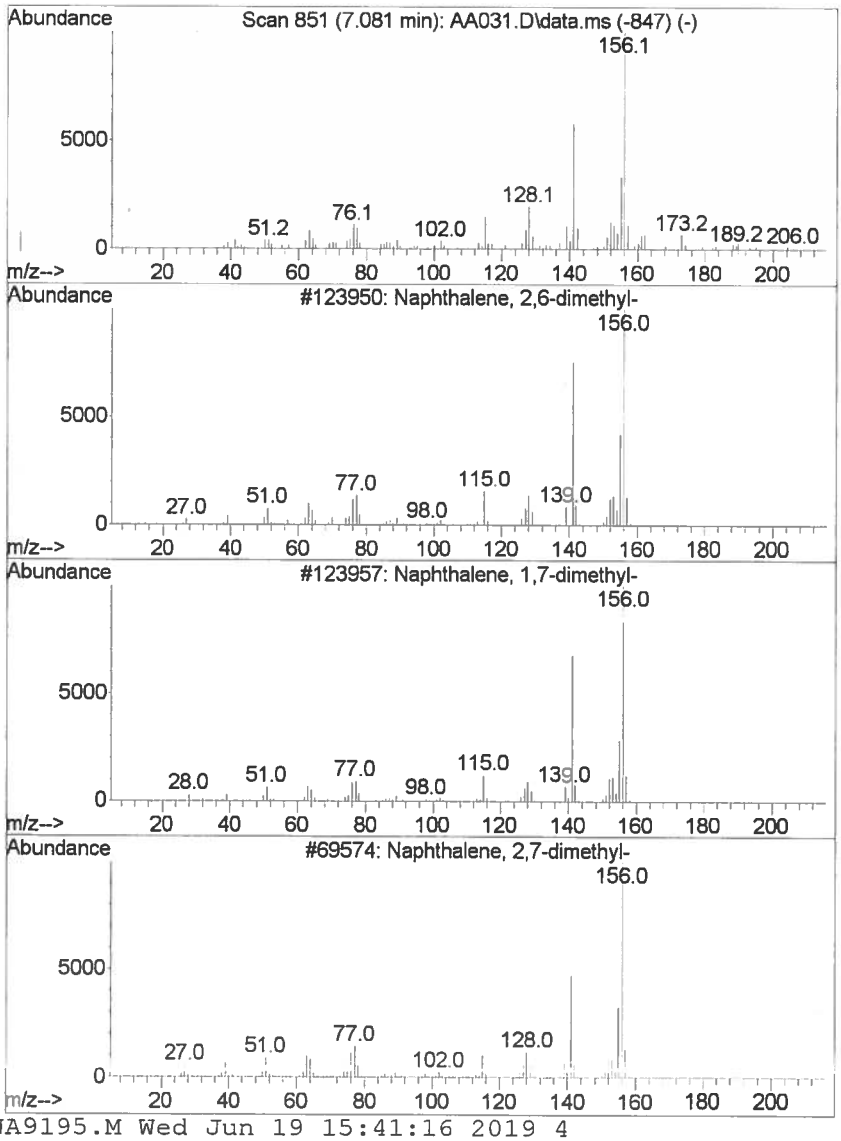
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

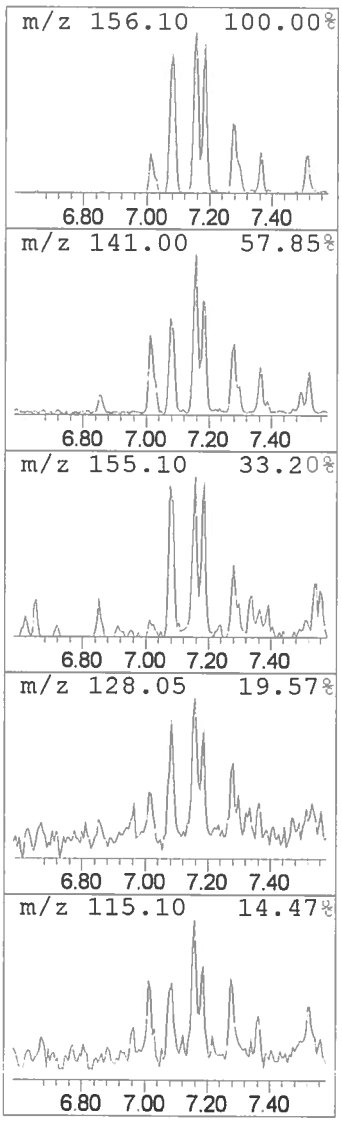
****

Peak Number 6 Naphthalene, 2,6-dimethyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.081	14.55 ug/ml	150322	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, 2,6-dimethyl-	156	C12H12	000581-42-0	97
2	Naphthalene, 1,7-dimethyl-	156	C12H12	000575-37-1	96
3	Naphthalene, 2,7-dimethyl-	156	C12H12	000582-16-1	95
4	Naphthalene, 1,5-dimethyl-	156	C12H12	000571-61-9	94
5	Naphthalene, 1,6-dimethyl-	156	C12H12	000575-43-9	94





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Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

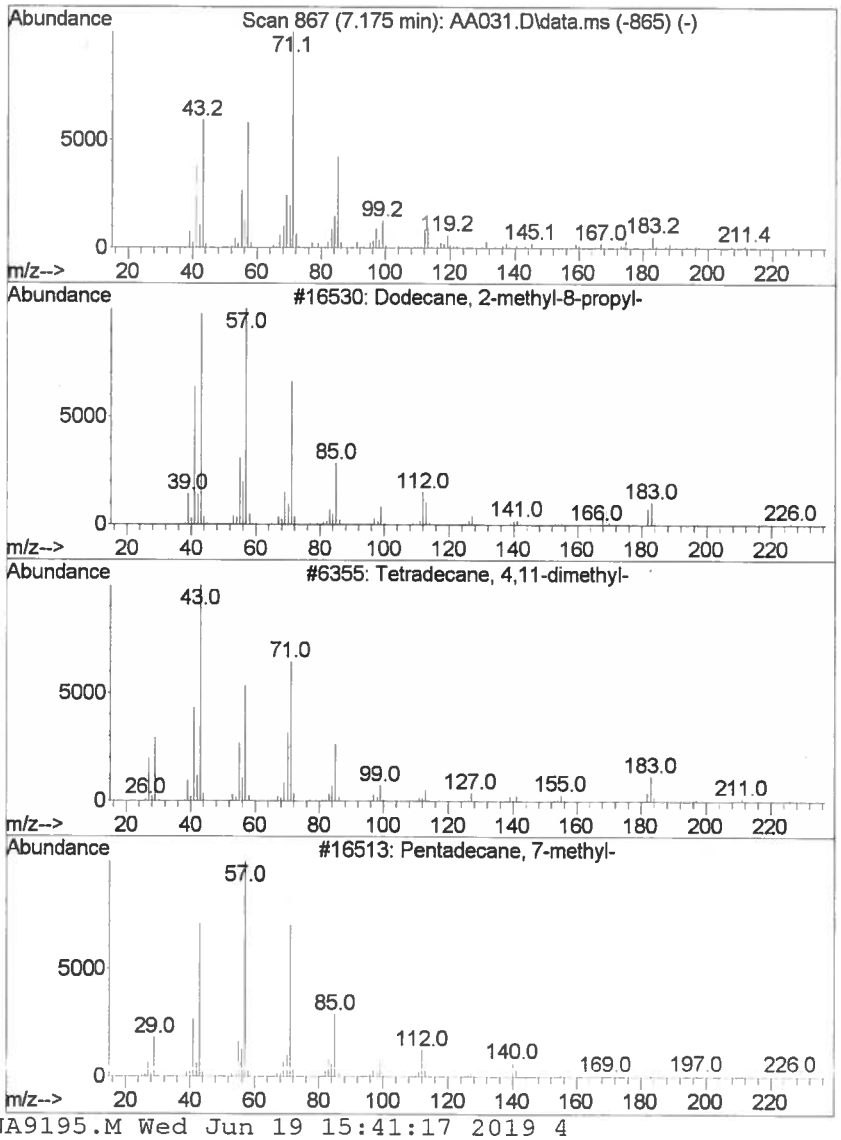
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

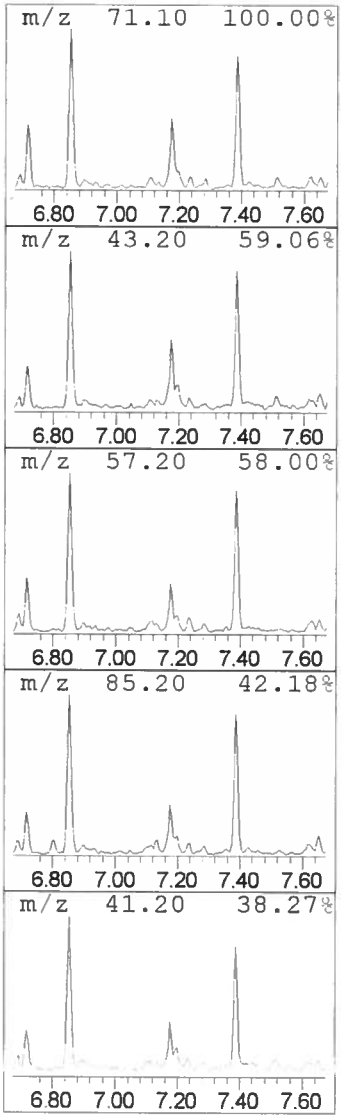
****

Peak Number 7 Dodecane, 2-methyl-8-propyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.175	34.46 ug/ml	356101	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dodecane, 2-methyl-8-propyl-	226	C16H34	055045-07-3	80
2	Tetradecane, 4,11-dimethyl-	226	C16H34	055045-12-0	74
3	Pentadecane, 7-methyl-	226	C16H34	006165-40-8	72
4	Undecane, 6-ethyl-	184	C13H28	017312-60-6	64
5	Undecane, 3,8-dimethyl-	184	C13H28	017301-30-3	50





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Acq On : 19 Jun 2019 1:44 pm
Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

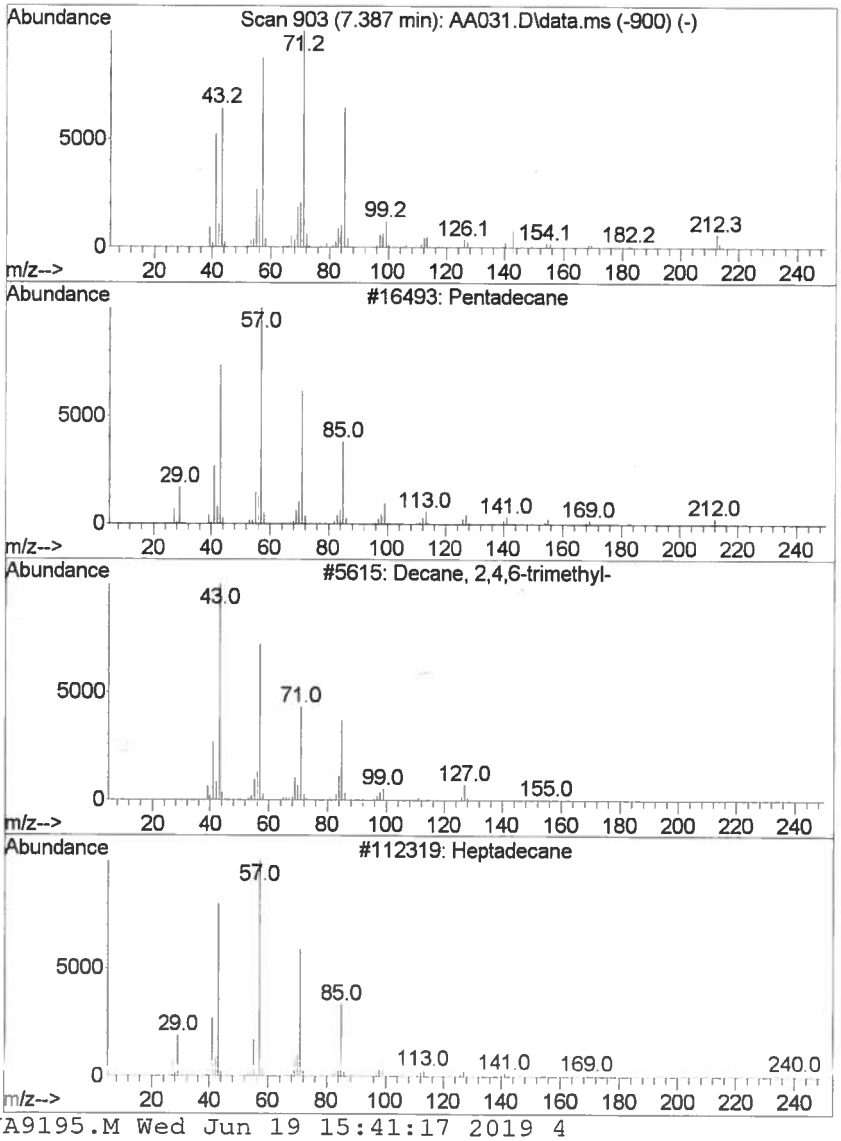
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

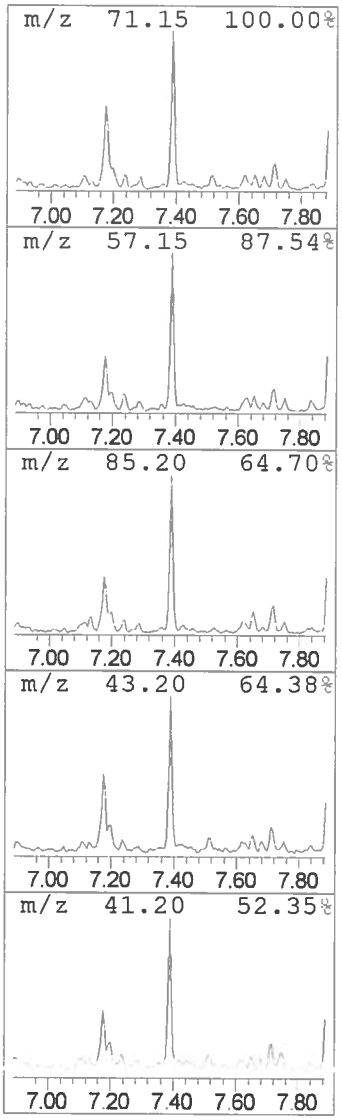
****

Peak Number 8 Pentadecane Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.387	26.72 ug/ml	276061	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentadecane	212	C15H32	000629-62-9	72
2	Decane, 2,4,6-trimethyl-	184	C13H28	062108-27-4	72
3	Heptadecane	240	C17H36	000629-78-7	72
4	Nonadecane	268	C19H40	000629-92-5	58
5	1-Decene, 4-methyl-	154	C11H22	013151-29-6	49





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Acq On : 19 Jun 2019 1:44 pm
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Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

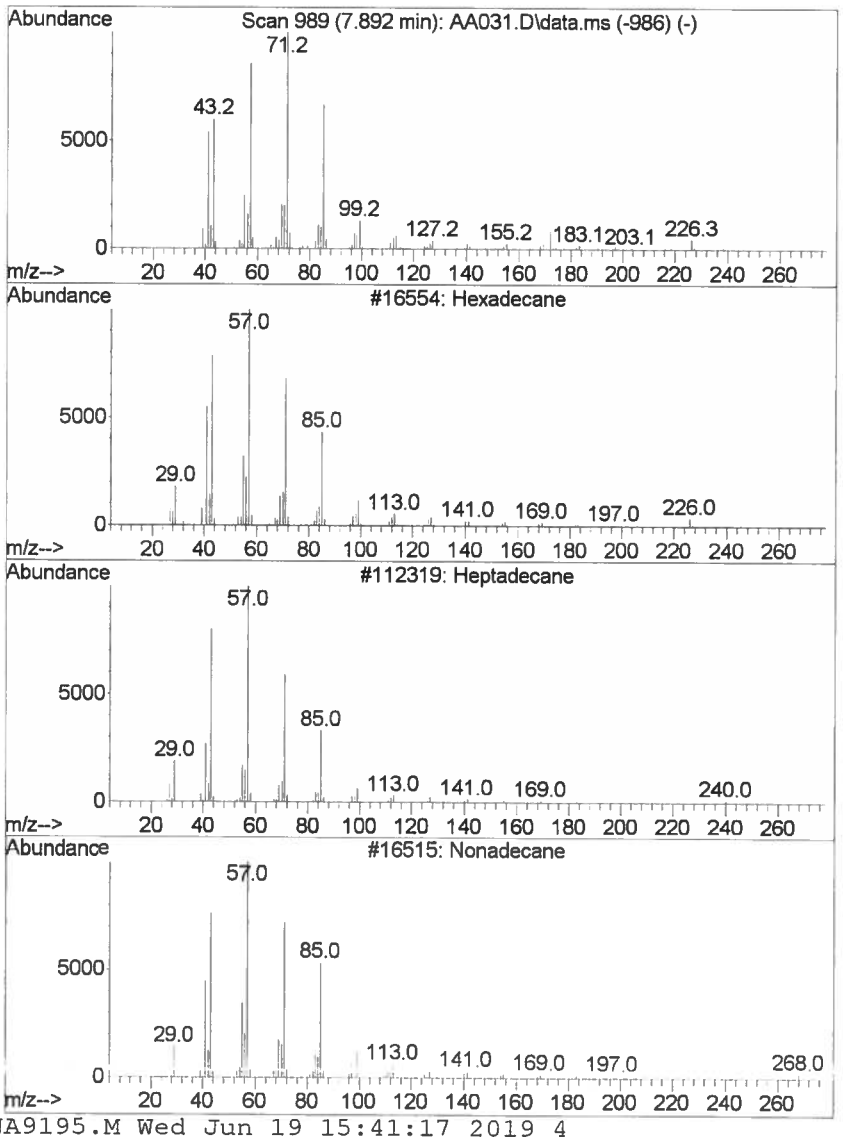
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

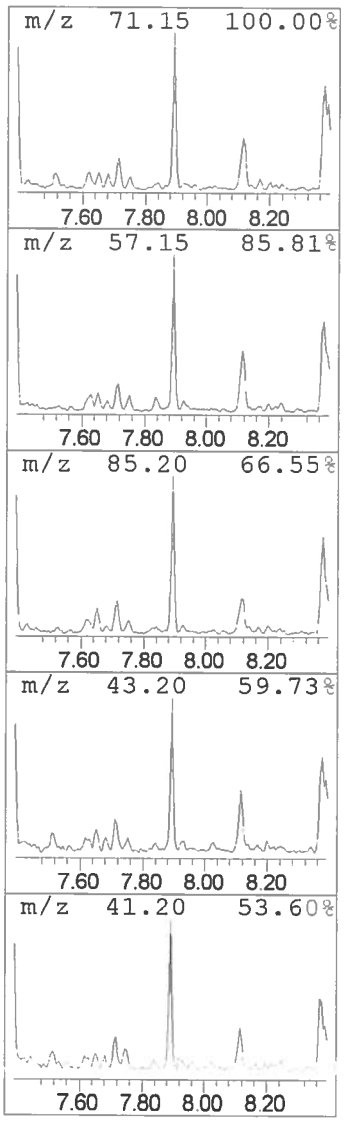
****

Peak Number 9 Hexadecane Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.892	24.17 ug/ml	249715	Acenaphthene-d10	7.510

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexadecane	226	C16H34	000544-76-3	91
2	Heptadecane	240	C17H36	000629-78-7	72
3	Nonadecane	268	C19H40	000629-92-5	62
4	Octacosane	394	C28H58	000630-02-4	53
5	Decane, 2,3,6-trimethyl-	184	C13H28	062238-12-4	50





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Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

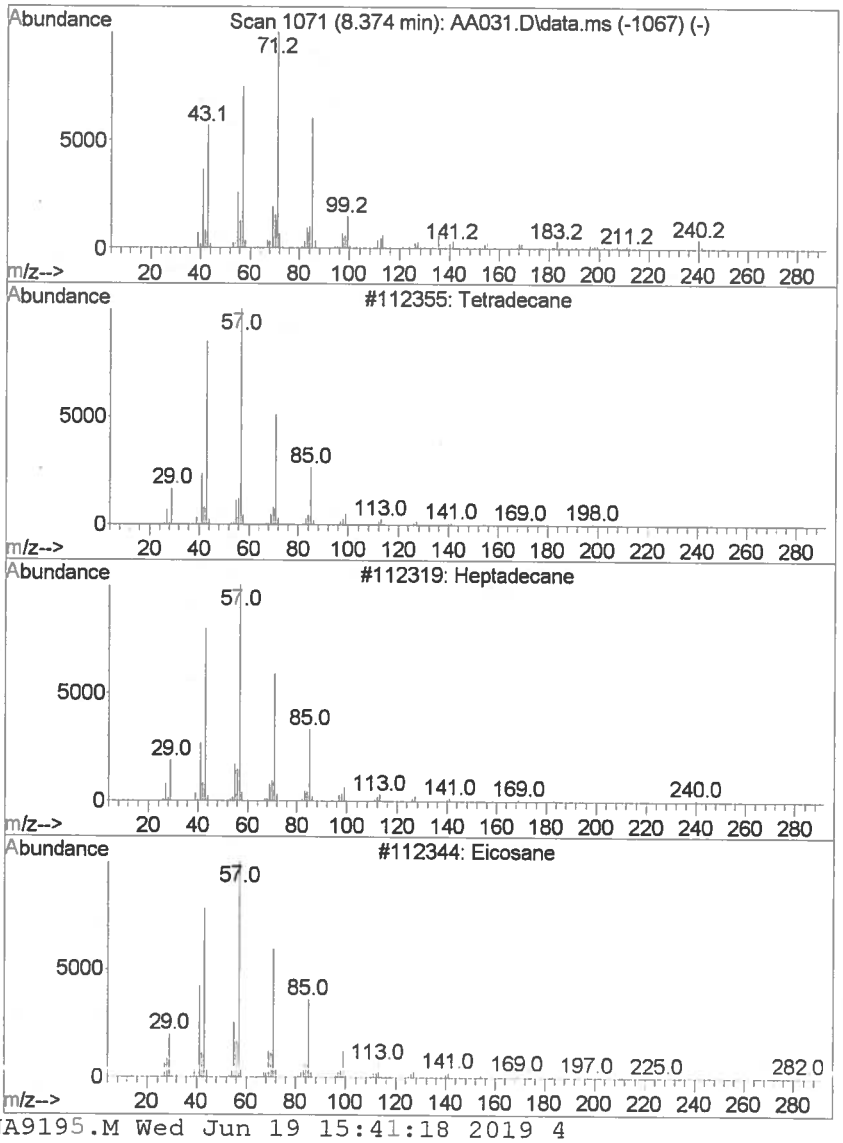
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

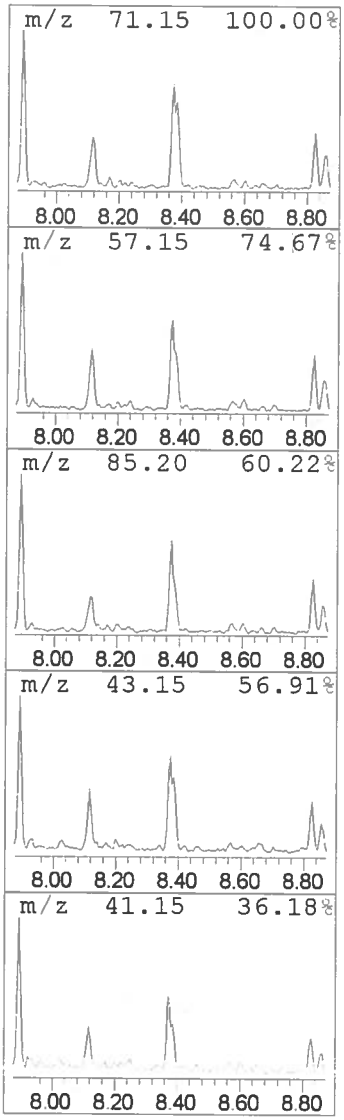
****

Peak Number 10 Tetradecane Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.374	22.14 ug/ml	246838	Phenanthrene-d10	9.026

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetradecane	198	C14H30	000629-59-4	87
2	Heptadecane	240	C17H36	000629-78-7	80
3	Eicosane	282	C20H42	000112-95-8	72
4	Decane, 2,3,5-trimethyl-	184	C13H28	062238-11-3	52
5	1-Decene, 4-methyl-	154	C11H22	013151-29-6	49





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Operator : DH
Sample : 19061180-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Butane, 2,2,3,3...	2.152	242.1	ug/ml	1167600	1	4.537	192948	40.0
Ethane, 1,1,2,2...	3.797	14.4	ug/ml	69246	1	4.537	192948	40.0
Heneicosane	5.677	15.1	ug/ml	121406	3	5.753	322114	40.0
Heptadecane, 2,...	6.112	15.7	ug/ml	126044	4	5.753	322114	40.0
Tridecane	6.282	40.2	ug/ml	323812	4	5.753	322114	40.0
Naphthalene, 2,...	7.081	14.5	ug/ml	150322	5	7.510	413337	40.0
Dodecane, 2-met...	7.175	34.5	ug/ml	356101	5	7.510	413337	40.0
Pentadecane	7.387	26.7	ug/ml	276061	5	7.510	413337	40.0
Hexadecane	7.892	24.2	ug/ml	249715	5	7.510	413337	40.0
Tetradecane	8.374	22.1	ug/ml	246838	6	9.026	445887	40.0

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA034.D
Acq On : 19 Jun 2019 3:08 pm
Operator : DH
Sample : 19061180-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA034.D\data.ms

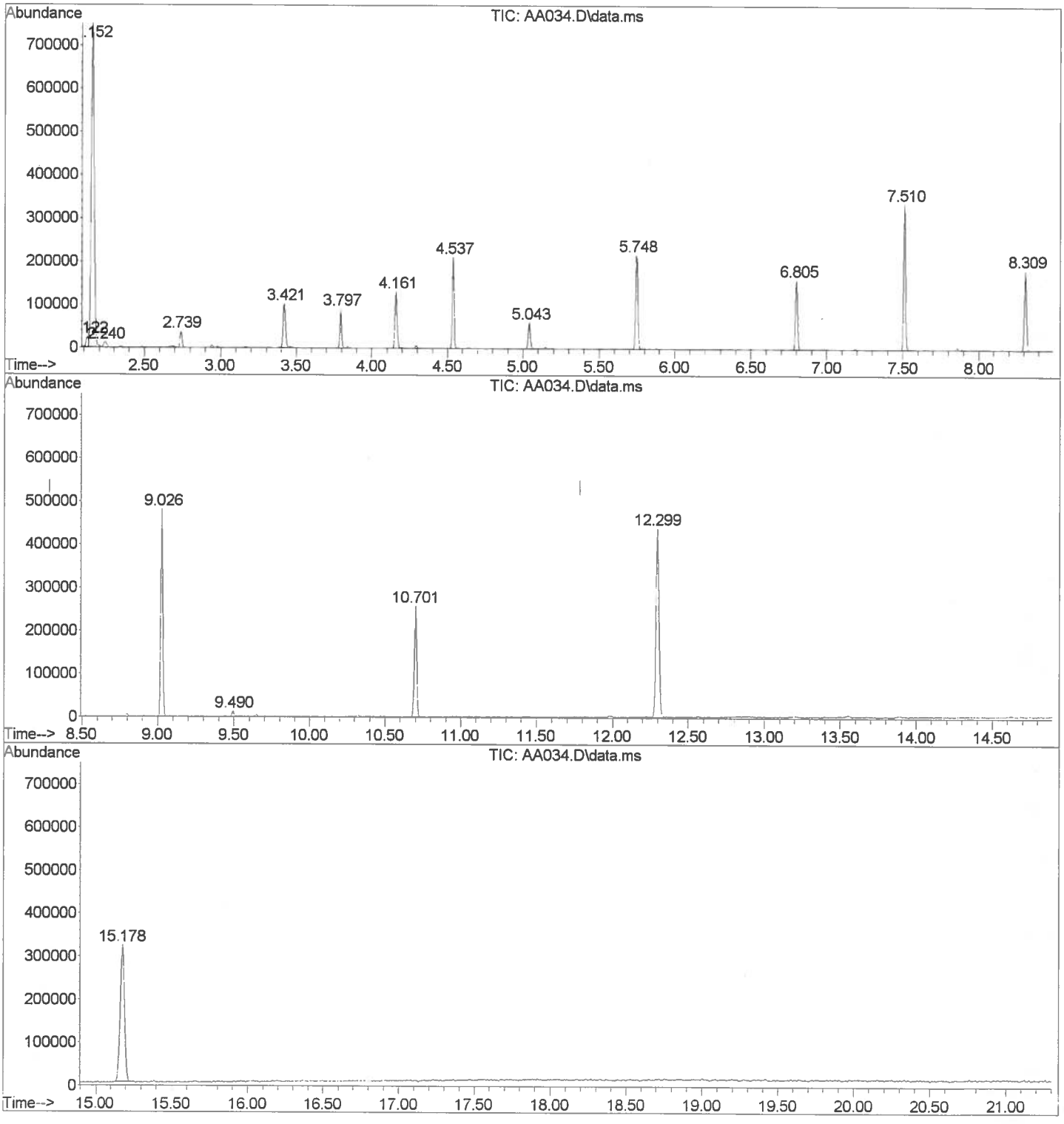
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.122	3	7	8	rBV	22509	22417	2.08%	0.500%
2	2.152	8	12	23	rVV	749169	1075972	100.00%	24.022%
3	2.240	23	27	34	rVB3	11156	16828	1.56%	0.376%
4	2.739	108	112	117	rVB2	37218	39816	3.70%	0.889%
5	3.421	224	228	232	rVB	99922	100659	9.36%	2.247%
6	3.797	288	292	296	rVB	89631	81027	7.53%	1.809%
7	4.161	350	354	359	rBV	130381	117543	10.92%	2.624%
8	4.537	414	418	422	rBV	210828	181121	16.83%	4.044%
9	5.043	500	504	510	rVB	59715	54688	5.08%	1.221%
10	5.748	620	624	629	rBV	216944	209603	19.48%	4.680%
11	6.805	800	804	807	rVB	158910	141598	13.16%	3.161%
12	7.510	920	924	929	rBV	336371	314626	29.24%	7.024%
13	8.309	1057	1060	1064	rBV	183674	165958	15.42%	3.705%
14	9.026	1178	1182	1186	rBV	481093	432010	40.15%	9.645%
15	9.490	1258	1261	1267	rBV	12160	12502	1.16%	0.279%
16	10.701	1462	1467	1471	rVB	256551	264688	24.60%	5.909%
17	12.299	1732	1739	1748	rBV2	437966	632055	58.74%	14.111%
18	15.178	2221	2229	2237	rVB	317982	616046	57.25%	13.754%

Sum of corrected areas: 4479157

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA034.D
Acq On : 19 Jun 2019 3:08 pm
Operator : DH
Sample : 19061180-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



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Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

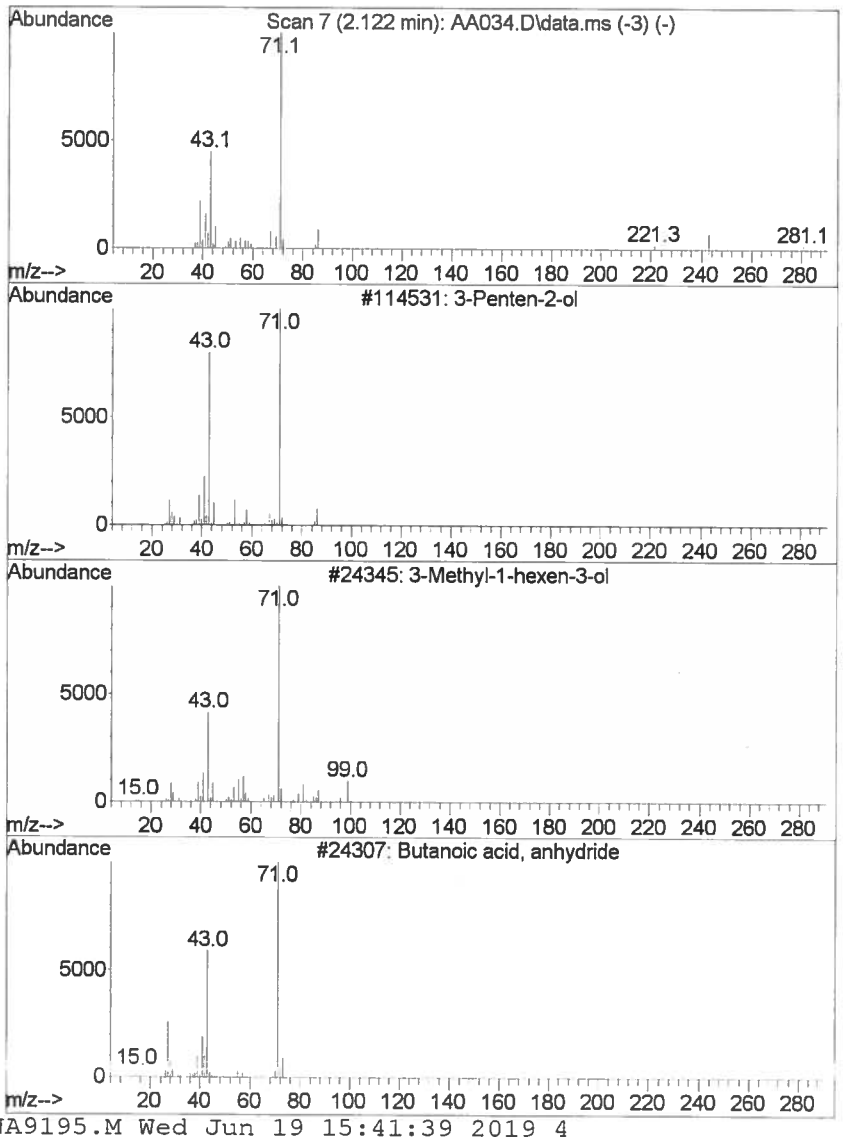
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

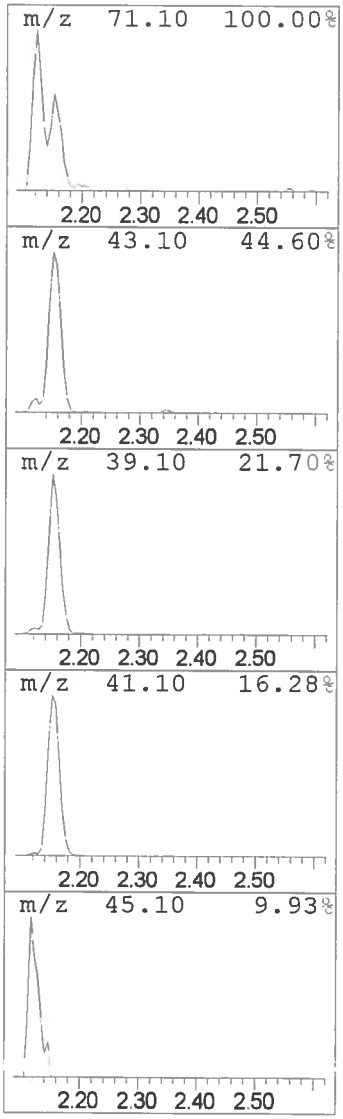
****

Peak Number 1 3-Penten-2-ol Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.122	4.95 ug/ml	22417	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Penten-2-ol	86	C5H10O	001569-50-2	86
2	3-Methyl-1-hexen-3-ol	114	C7H14O	055145-28-3	56
3	Butanoic acid, anhydride	158	C8H14O3	000106-31-0	53
4	3-Buten-2-ol, 2-methyl-	86	C5H10O	000115-18-4	50
5	Butanoic acid, 2-butoxy-1-methyl...	216	C11H20O4	007492-70-8	50





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Data File : AA034.D
Acq On : 19 Jun 2019 3:08 pm
Operator : DH
Sample : 19061180-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

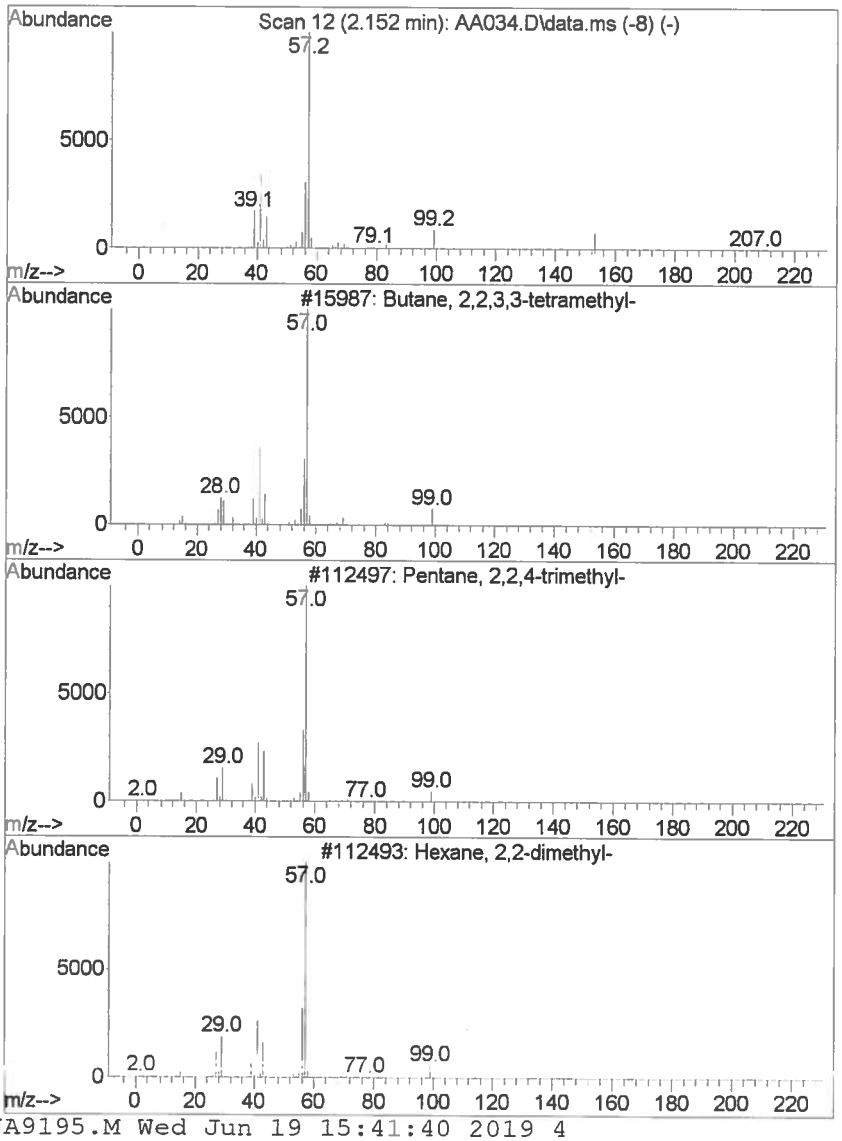
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

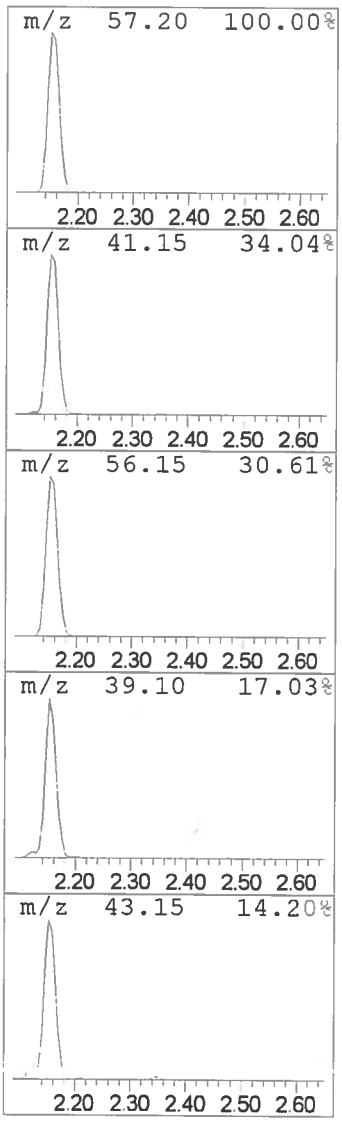
****

Peak Number 2 Butane, 2,2,3,3-tetramethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.152	237.63 ug/ml	1075970	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	78
2	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	78
3	Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	72
4	Heptane, 2,2,3,5-tetramethyl-	156	C11H24	061868-42-6	45
5	Pentane, 2,2,4,4-tetramethyl-	128	C9H20	001070-87-7	45





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA034.D
Acq On : 19 Jun 2019 3:08 pm
Operator : DH
Sample : 19061180-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

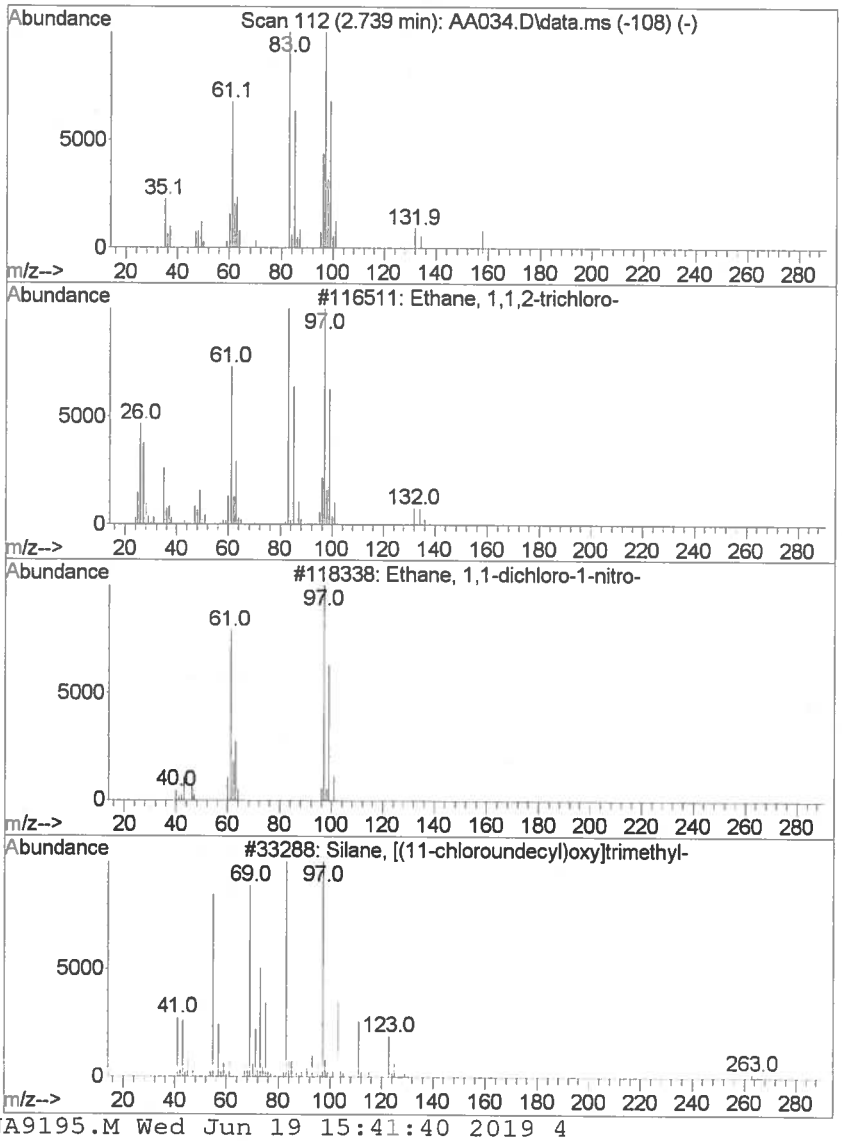
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

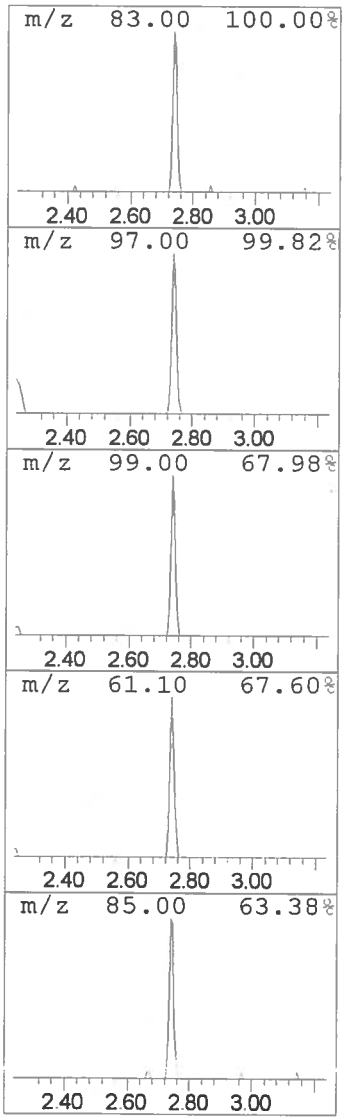
****

Peak Number 3 Ethane, 1,1,2-trichloro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.739	8.79 ug/ml	39816	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	96
2	Ethane, 1,1-dichloro-1-nitro-	143	C2H3Cl2NO2	000594-72-9	47
3	Silane, [(11-chloroundecyl)oxy]t...	278	C14H31ClOSi	026305-82-8	27
4	Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	25
5	Ethene, 1,2-dichloro-, (E)-	96	C2H2Cl2	000156-60-5	25





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA034.D
Acq On : 19 Jun 2019 3:08 pm
Operator : DH
Sample : 19061180-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

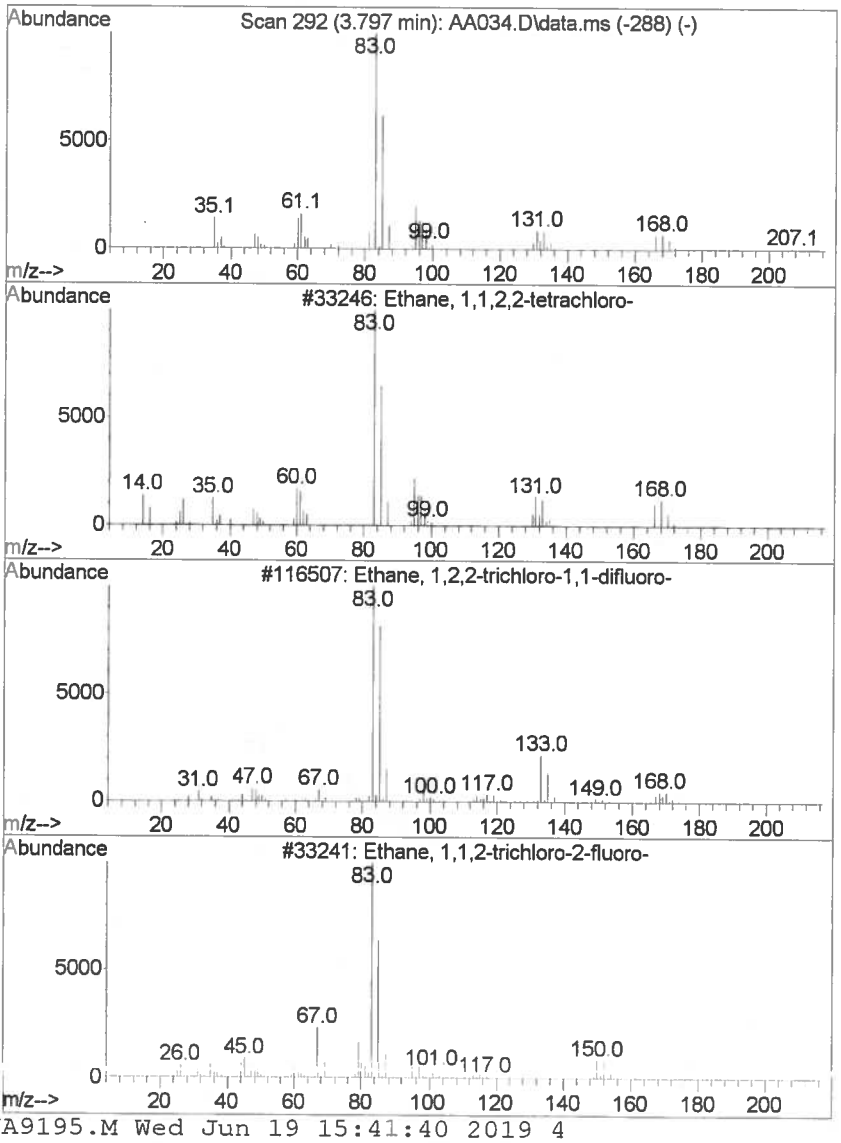
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

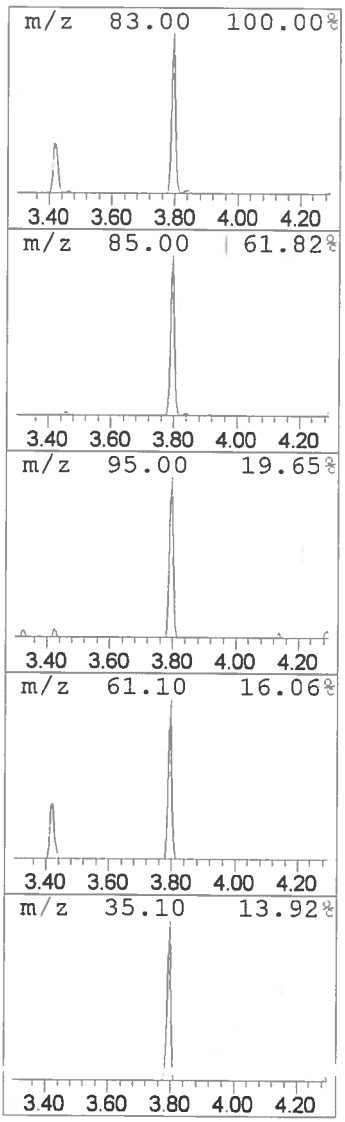
****

Peak Number 4 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.797	17.89 ug/ml	81027	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	97
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	62
3	Ethane, 1,1,2-trichloro-2-fluoro-	150	C2H2Cl3F	000359-28-4	45
4	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	45
5	Ethane, 1,1-dichloro-2,2-difluoro-	134	C2H2Cl2F2	000471-43-2	40





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190619\
Data File : AA034.D
Acq On : 19 Jun 2019 3:08 pm
Operator : DH
Sample : 19061180-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
3-Penten-2-ol	2.122	5.0	ug/ml	22417	1	4.537	181121	40.0
Butane, 2,2,3,3...	2.152	237.6	ug/ml	1075970	1	4.537	181121	40.0
Ethane, 1,1,2-t...	2.739	8.8	ug/ml	39816	1	4.537	181121	40.0
Ethane, 1,1,2,2...	3.797	17.9	ug/ml	81027	1	4.537	181121	40.0

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.895	258	262	267	rBV	48563	70997	1.50%	0.367%
2	2.154	300	312	313	rBV4	28578	65958	1.39%	0.341%
3	2.345	344	349	355	rVB2	46246	70955	1.50%	0.367%
4	2.619	395	402	415	rVB	159071	335212	7.08%	1.732%
5	3.023	473	480	490	rVB3	26987	60528	1.28%	0.313%
6	3.933	637	656	672	rBV2	130975	513716	10.84%	2.654%
7	4.337	719	734	745	rBV3	73133	234327	4.95%	1.210%
8	4.818	816	827	842	rVB3	120781	383932	8.10%	1.983%
9	5.951	1032	1046	1058	rBV2	92539	293644	6.20%	1.517%
10	6.773	1195	1205	1216	rBV3	17180	48183	1.02%	0.249%
11	7.027	1242	1254	1261	rBV	218886	665844	14.06%	3.440%
12	7.187	1277	1285	1298	rVB3	34544	103673	2.19%	0.536%
13	7.337	1305	1314	1324	rBV2	74565	204447	4.32%	1.056%
14	7.518	1337	1349	1362	rBV	2065717	4737082	100.00%	24.471%
15	7.652	1367	1375	1382	rVV4	37888	99059	2.09%	0.512%
16	7.813	1397	1406	1416	rVB3	39597	101140	2.14%	0.522%
17	7.942	1421	1431	1448	rBV	784361	1886226	39.82%	9.744%
18	8.646	1552	1567	1576	rBV4	115522	322278	6.80%	1.665%
19	9.339	1694	1701	1705	rBV	69014	126304	2.67%	0.652%
20	9.478	1715	1728	1742	rVB2	69163	167968	3.55%	0.868%
21	9.701	1763	1771	1780	rBV	1178008	1946416	41.09%	10.055%
22	9.763	1780	1783	1791	rVB	58534	96063	2.03%	0.496%
23	9.913	1800	1812	1821	rVB	128258	240414	5.08%	1.242%
24	10.146	1851	1857	1864	rBV5	25108	48893	1.03%	0.253%
25	10.849	1987	1993	2005	rVB2	59068	121289	2.56%	0.627%
26	10.947	2005	2012	2019	rBV2	50461	85748	1.81%	0.443%
27	11.041	2023	2030	2043	rBV	1077150	1688923	35.65%	8.725%
28	11.154	2043	2052	2062	rBV	105523	180863	3.82%	0.934%
29	11.263	2063	2073	2085	rVV3	222381	526938	11.12%	2.722%
30	11.589	2126	2136	2143	rBV	89771	148578	3.14%	0.768%
31	12.049	2217	2225	2233	rBV	822493	1203275	25.40%	6.216%
32	12.241	2257	2262	2268	rVB	36956	50407	1.06%	0.260%
33	12.308	2268	2275	2279	rBV2	102901	145445	3.07%	0.751%
34	12.339	2279	2281	2286	rVV2	45336	61200	1.29%	0.316%
35	12.385	2286	2290	2297	rVB	120720	161489	3.41%	0.834%
36	12.541	2312	2320	2325	rBV4	33678	56569	1.19%	0.292%
37	12.691	2344	2349	2354	rBV	163481	219947	4.64%	1.136%
38	12.991	2401	2407	2419	rBV	1120472	1597533	33.72%	8.253%
39	13.192	2442	2446	2451	rVB3	38933	49105	1.04%	0.254%
40	13.239	2451	2455	2464	rVB5	35097	60388	1.27%	0.312%

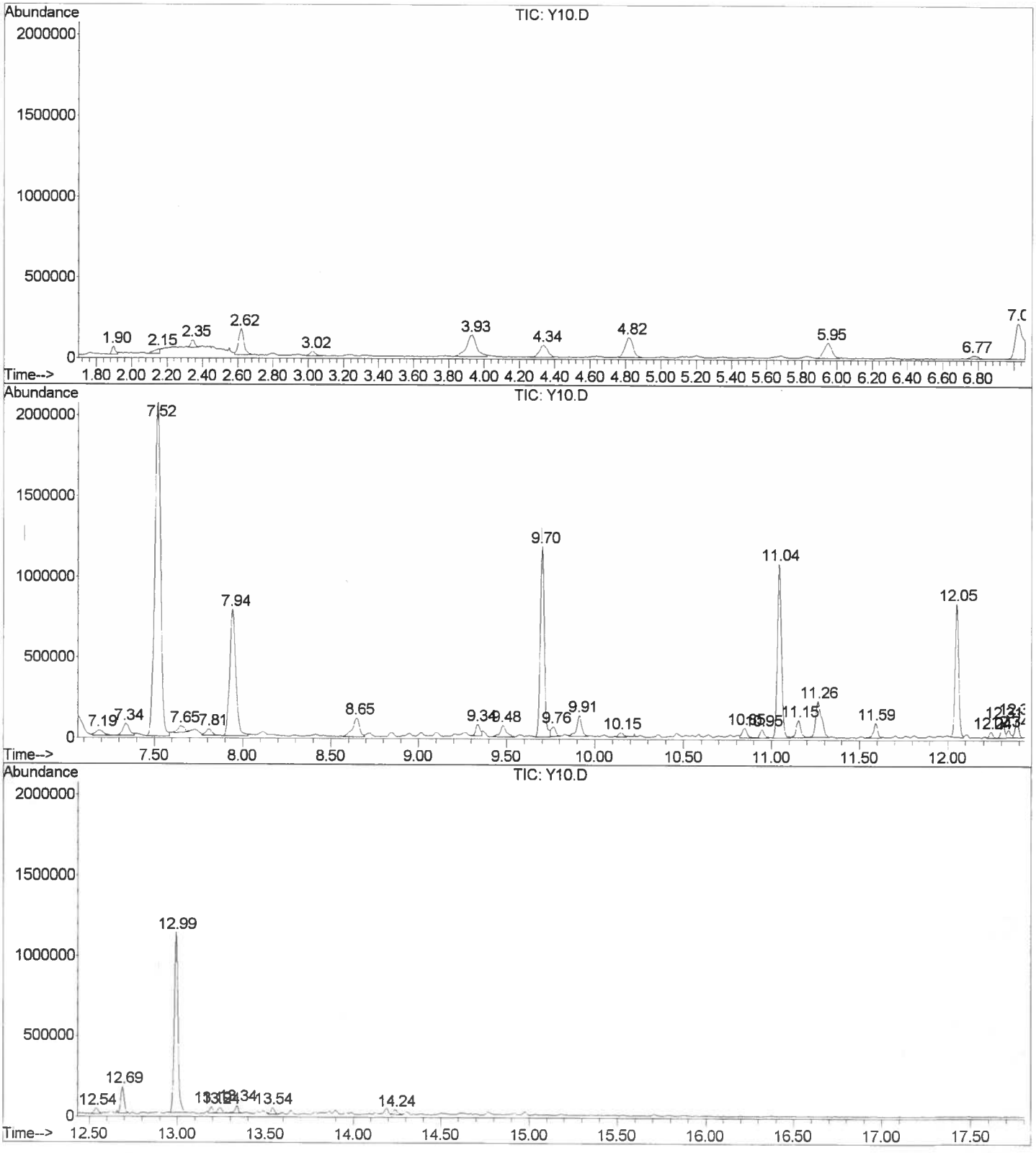
CONFIDENTIAL SETTLEMENT COMMUNICATION

41	13.337	2465	2474	2480	rBV	51266	68688	1.[illegible]	[illegible]
42	13.539	2508	2513	2520	rVB3	38028	57499	1.21%	0.297%
43	14.237	2643	2648	2656	rVV6	27806	50849	1.07%	0.263%

Sum of corrected areas: 19357992

Y10.D VOCY1906.M Wed Jun 19 14:24:00 2019

File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D
Operator : KK
Acquired : 19 Jun 2019 12:51 pm using AcqMethod ACQY8260
Instrument : GC/MS Ins
Sample Name: 19061180-001D
Misc Info : ,V_8260S_S,SAMP,12.5,0.4-5.00
Vial Number: 10
Quant File :VOCY1906.RES (RTE Integrator)



Y10.D VOCY1906.M Wed Jun 19 14:24:00 2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

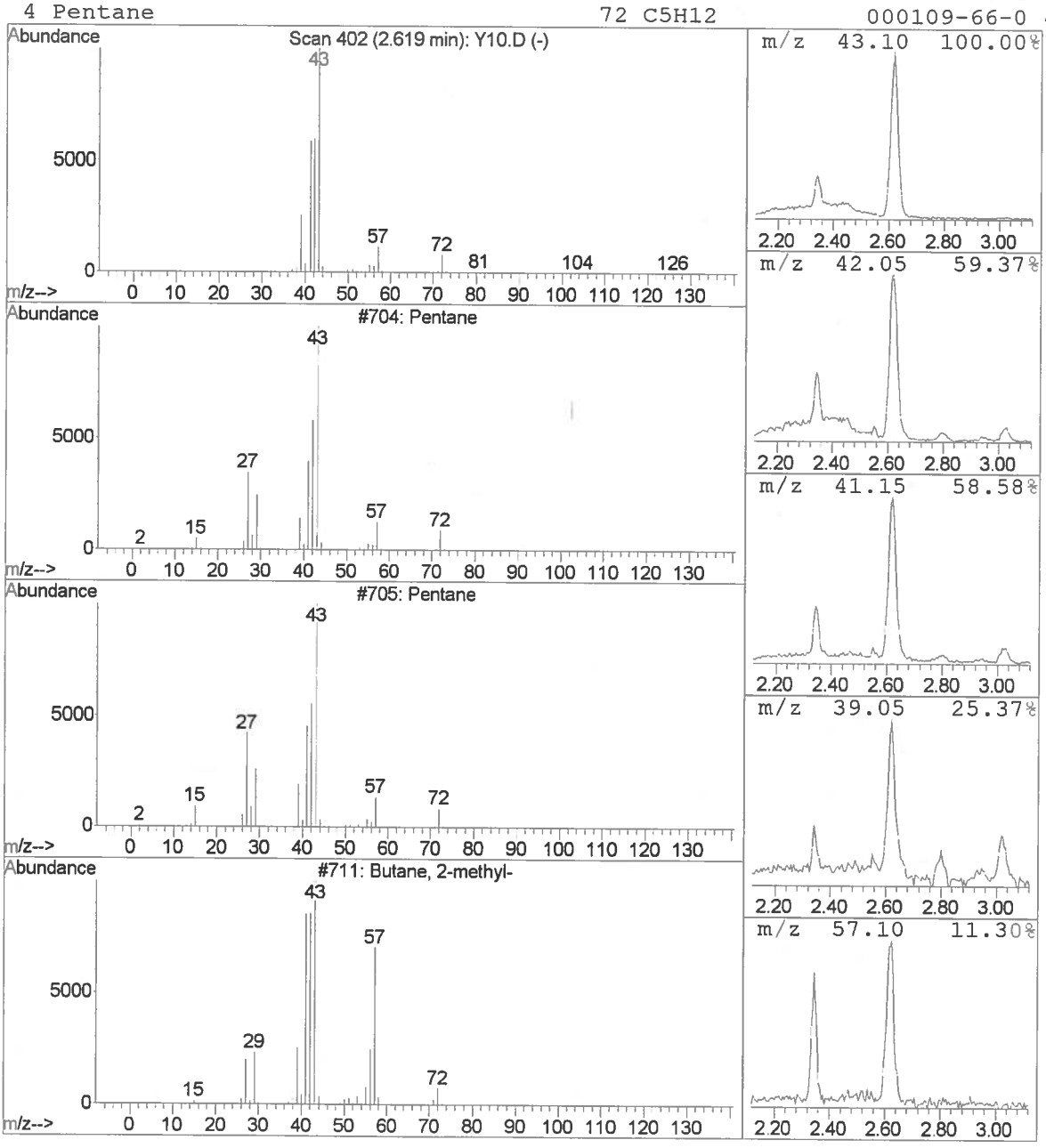
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 1 Pentane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.62	8.89 ug/Kg	335212	Fluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane	72	C5H12	000109-66-0	72
2	Pentane	72	C5H12	000109-66-0	72
3	Butane, 2-methyl-	72	C5H12	000078-78-4	45
4	Pentane	72	C5H12	000109-66-0	43



Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

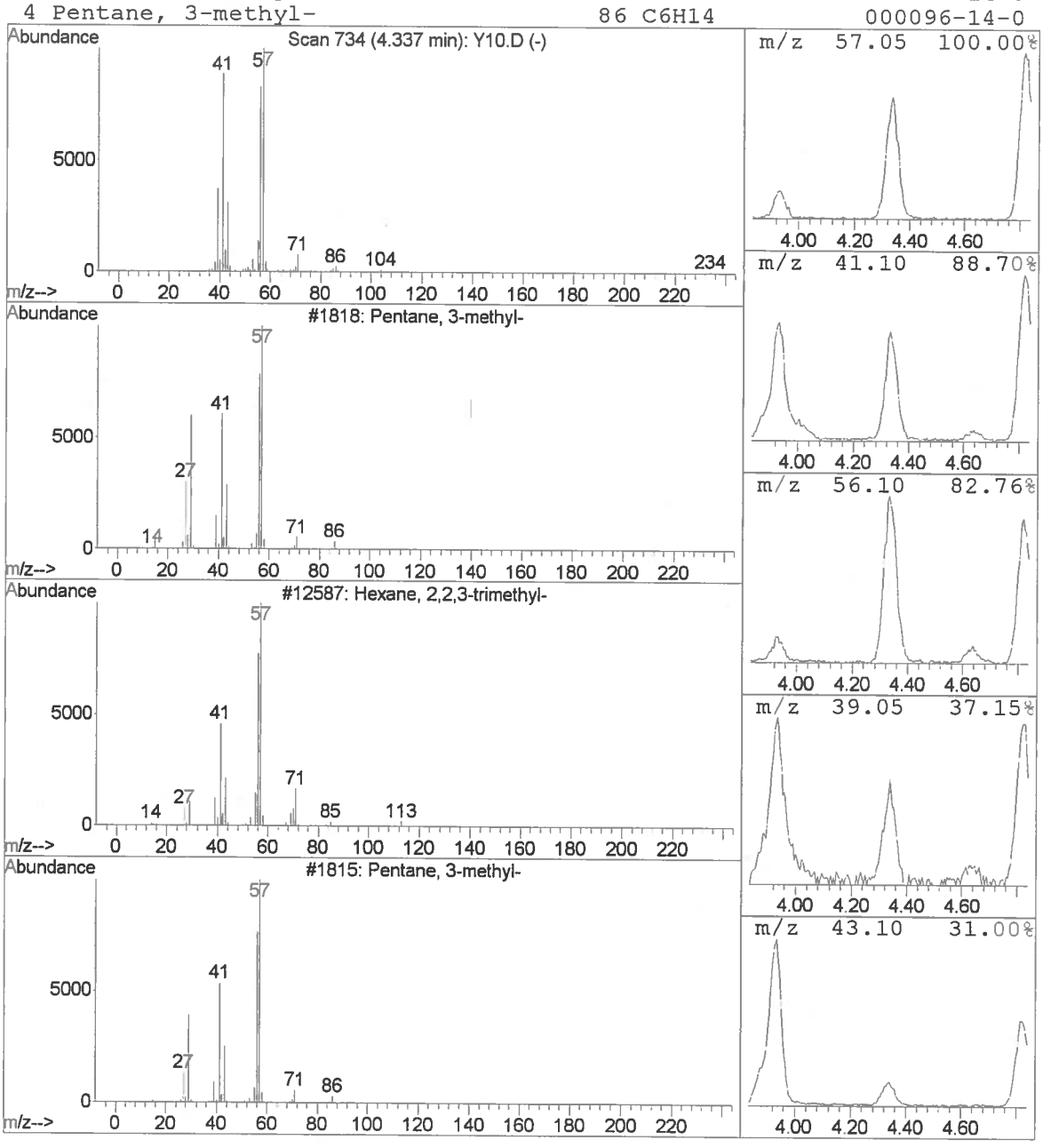
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 2 Pentane, 3-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.34	6.21 ug/Kg	234327	Fluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 3-methyl-	86	C6H14	000096-14-0	64
2	Hexane, 2,2,3-trimethyl-	128	C9H20	016747-25-4	64
3	Pentane, 3-methyl-	86	C6H14	000096-14-0	64
4	Pentane, 3-methyl-	86	C6H14	000096-14-0	64



Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

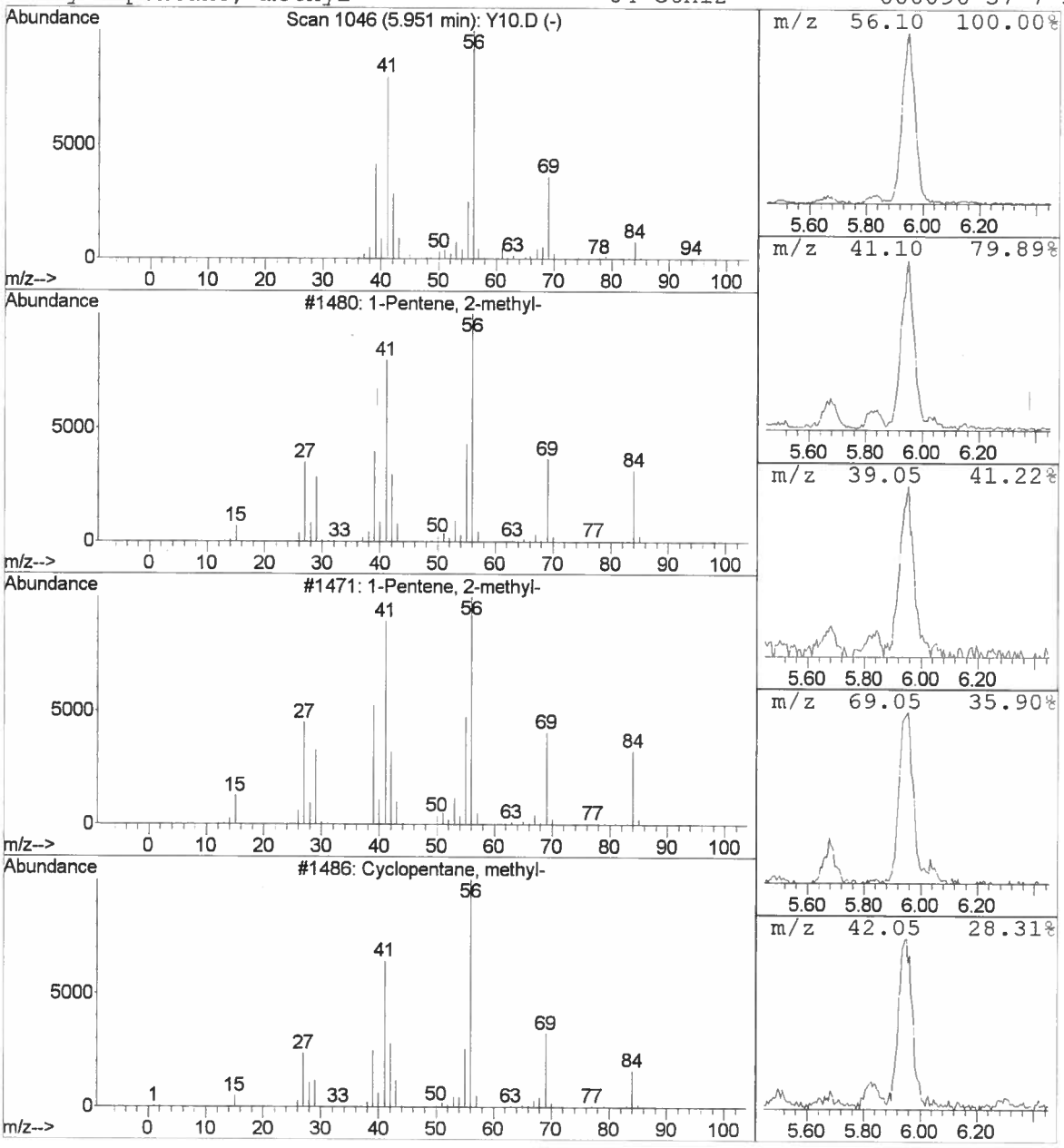
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 3 1-Pentene, 2-methyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.95	7.78 ug/Kg	293644	Fluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	86
2	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	86
3	Cyclopentane, methyl-	84	C6H12	000096-37-7	58
4	Cyclopentane, methyl-	84	C6H12	000096-37-7	53



Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

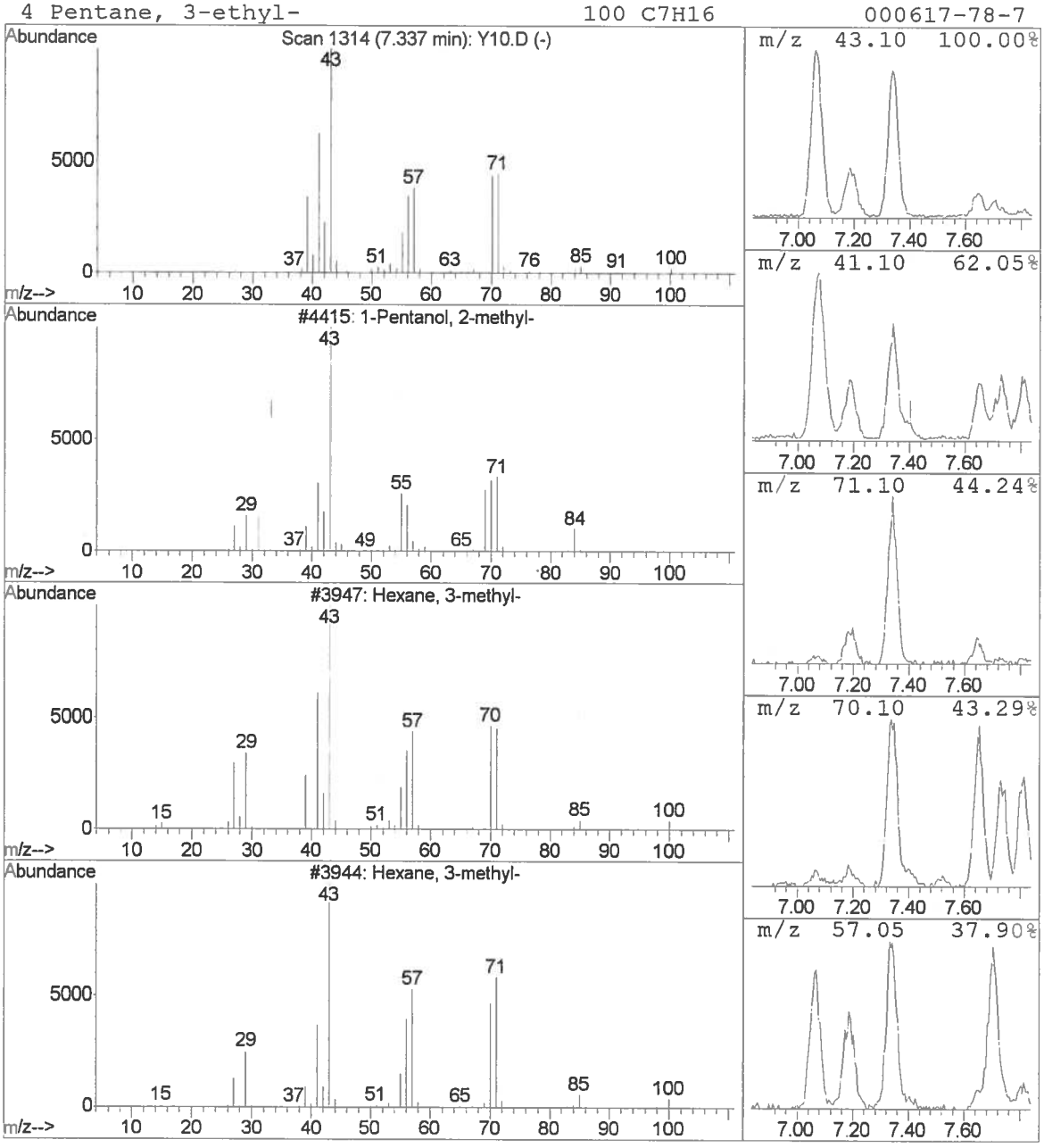
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 4 1-Pentanol, 2-methyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.34	5.42 ug/Kg	204447	Fluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Pentanol, 2-methyl-	102	C6H14O	000105-30-6	83
2	Hexane, 3-methyl-	100	C7H16	000589-34-4	72
3	Hexane, 3-methyl-	100	C7H16	000589-34-4	72
4	Pentane, 3-ethyl-	100	C7H16	000617-78-7	64



Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

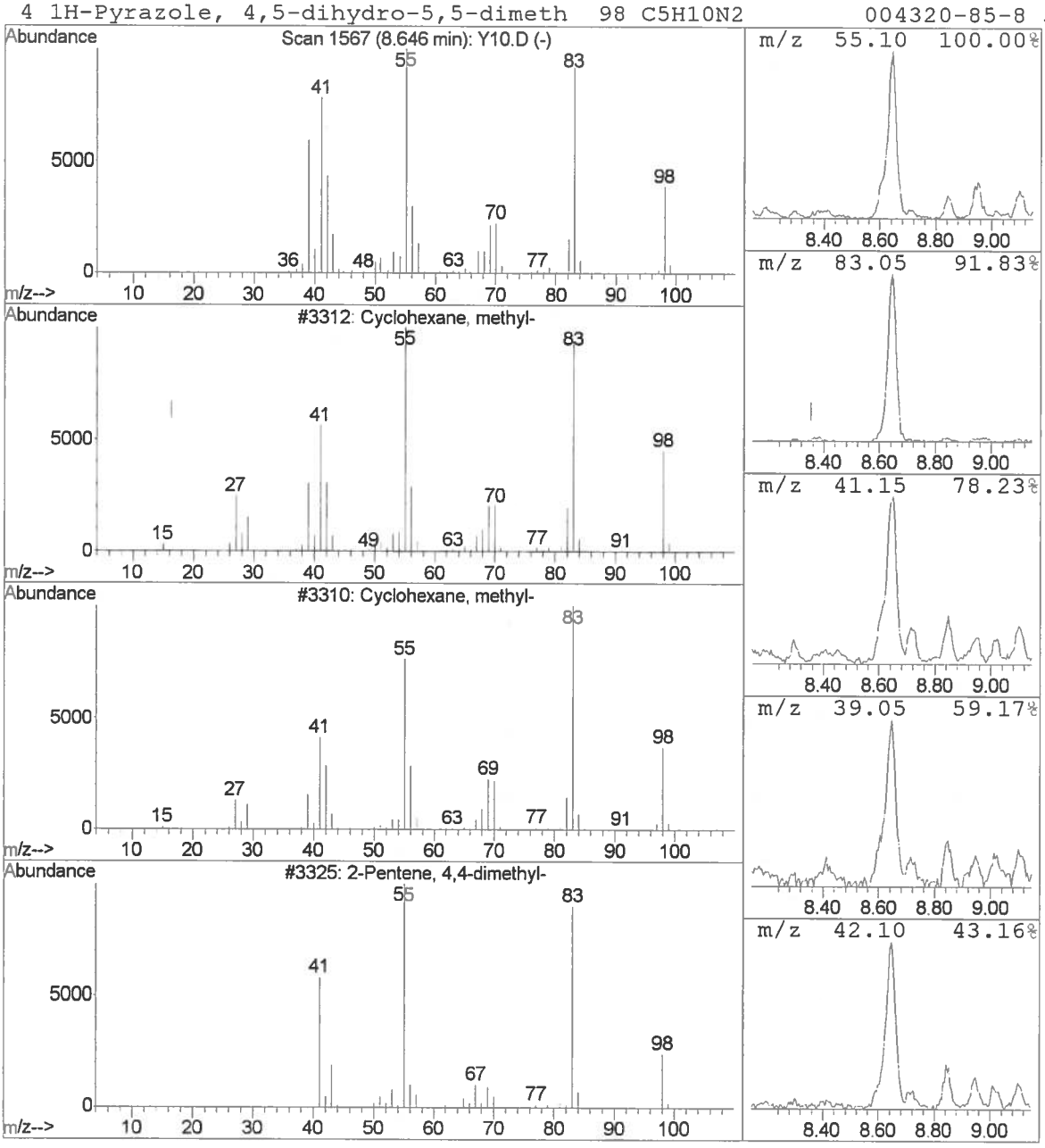
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 5 Cyclohexane, methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.65	8.54 ug/Kg	322278	Fluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, methyl-	98	C7H14	000108-87-2	94
2	Cyclohexane, methyl-	98	C7H14	000108-87-2	68
3	2-Pentene, 4,4-dimethyl-	98	C7H14	026232-98-4	52
4	1H-Pyrazole, 4,5-dihydro-5,5-dimeth	98	C5H10N2	004320-85-8	52



Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D Vial: 10
Acq On : 19 Jun 2019 12:51 pm Operator: KK
Sample : 19061180-001D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

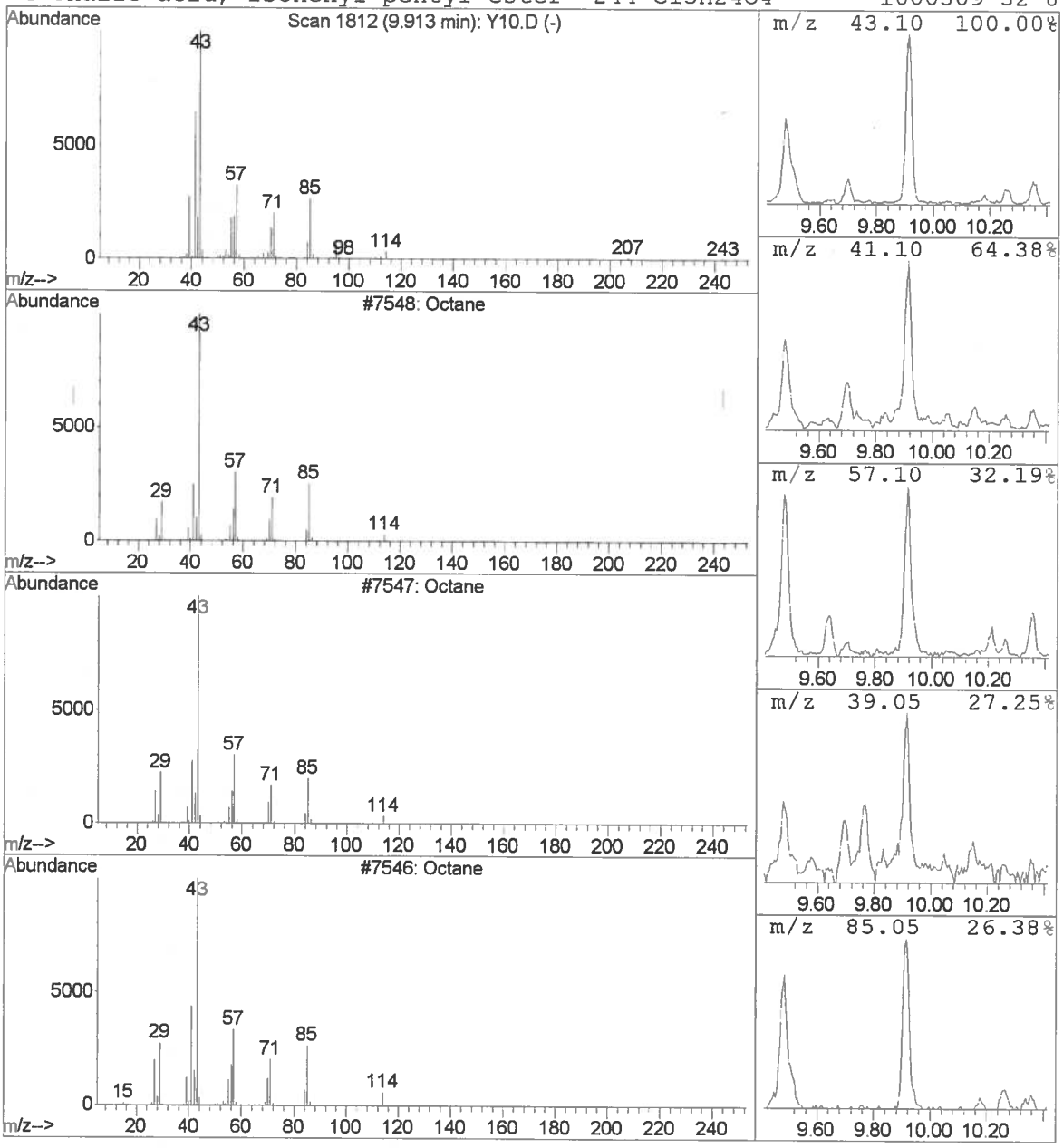
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 6 Octane Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.91	7.12 ug/Kg	240414	Chlorobenzene-d5	11.05

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane	114	C8H18	000111-65-9	90
2	Octane	114	C8H18	000111-65-9	90
3	Octane	114	C8H18	000111-65-9	78
4	Oxalic acid, isohexyl pentyl ester	244	C13H24O4	1000309-32-8	78



Operator ID: KK Date Acquired: 19 Jun 2019 12:51 pm
Data File: C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y10.D
Name: 19061180-001D
Misc: ,V_8260S_S,SAMP,12.5,0.4-5.00
Method: C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title: 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Pentane	2.62	8.9	ug/Kg	335212	ISTD01	7.94	1886230	50.0
Pentane, 3-methyl-	4.34	6.2	ug/Kg	234327	ISTD01	7.94	1886230	50.0
1-Pentene, 2-methyl-	5.95	7.8	ug/Kg	293644	ISTD01	7.94	1886230	50.0
1-Pentanol, 2-methyl	7.34	5.4	ug/Kg	204447	ISTD01	7.94	1886230	50.0
Cyclohexane, methyl-	8.65	8.5	ug/Kg	322278	ISTD01	7.94	1886230	50.0
Octane	9.91	7.1	ug/Kg	240414	ISTD02	11.05	1688920	50.0

Y10.D VOCY1906.M Wed Jun 19 14:24:01 2019

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y11.D
Acq On : 19 Jun 2019 1:17 pm
Sample : 19061180-003D
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00
MS Integration Params: LSCINT.P

Vial: 11
Operator: KK
Inst : GC/MS Ins
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Smoothing : OFF
Filtering: 5
Sampling : 1
Min Area: 1 % of largest Peak
Start Thrs: 0.2
Max Peaks: 100
Stop Thrs : 0
Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

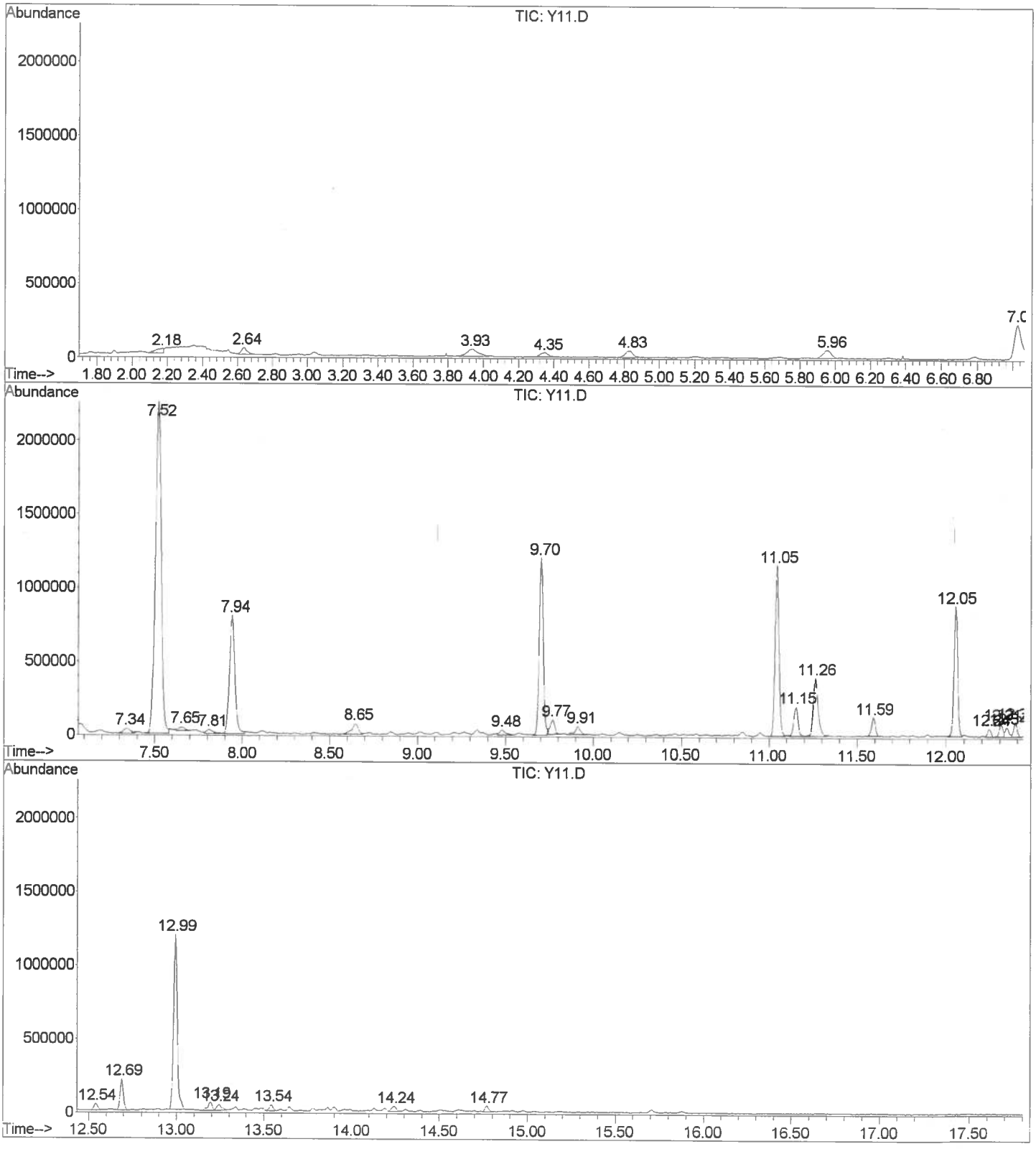
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.175	301	317	318	rBV10	31561	99522	1.92%	0.540%
2	2.635	400	406	420	rVB3	45983	109465	2.11%	0.594%
3	3.934	638	657	676	rBV5	49350	226085	4.35%	1.226%
4	4.348	726	737	747	rVB4	26837	83234	1.60%	0.452%
5	4.829	817	830	840	rBV3	45741	145633	2.80%	0.790%
6	5.961	1036	1049	1059	rVB4	52329	169940	3.27%	0.922%
7	7.027	1243	1255	1276	rBV4	233629	782968	15.08%	4.247%
8	7.343	1307	1316	1325	rBV3	32163	84327	1.62%	0.457%
9	7.518	1337	1350	1362	rBV	2248392	5193309	100.00%	28.172%
10	7.653	1370	1376	1386	rVB6	26340	61233	1.18%	0.332%
11	7.808	1401	1406	1420	rVB4	26084	66700	1.28%	0.362%
12	7.943	1420	1432	1446	rBV	801794	1775373	34.19%	9.631%
13	8.646	1554	1568	1576	rBV5	69494	189369	3.65%	1.027%
14	9.484	1724	1730	1742	rVB3	31434	66785	1.29%	0.362%
15	9.701	1763	1772	1779	rBV	1199045	1975052	38.03%	10.714%
16	9.769	1780	1785	1793	rVB	95910	171495	3.30%	0.930%
17	9.913	1802	1813	1822	rVB2	53724	108080	2.08%	0.586%
18	11.046	2024	2032	2042	rBV	1153626	1771763	34.12%	9.611%
19	11.155	2044	2053	2063	rVV	194950	307860	5.93%	1.670%
20	11.263	2063	2074	2086	rVV	387009	730878	14.07%	3.965%
21	11.589	2129	2137	2144	rBV	122300	184825	3.56%	1.003%
22	12.050	2218	2226	2234	rBV	880752	1283772	24.72%	6.964%
23	12.241	2258	2263	2269	rVB	51805	72421	1.39%	0.393%
24	12.308	2269	2276	2279	rBV	88050	129739	2.50%	0.704%
25	12.339	2279	2282	2287	rVV2	60211	89471	1.72%	0.485%
26	12.386	2287	2291	2298	rVB	95851	132991	2.56%	0.721%
27	12.541	2315	2321	2327	rBV3	43378	62402	1.20%	0.339%
28	12.691	2344	2350	2358	rVB	209936	275412	5.30%	1.494%
29	12.991	2402	2408	2421	rVB	1187726	1726243	33.24%	9.364%
30	13.193	2437	2447	2452	rBV4	57178	103713	2.00%	0.563%
31	13.245	2452	2457	2465	rVB3	38256	72526	1.40%	0.393%
32	13.545	2508	2515	2521	rVB2	40534	63143	1.22%	0.343%
33	14.243	2643	2650	2657	rVB6	33350	63913	1.23%	0.347%
34	14.771	2747	2752	2759	rBV2	36307	54634	1.05%	0.296%

Sum of corrected areas: 18434276

Y11.D VOCY1906.M Wed Jun 19 14:24:46 2019

File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y11.D
Operator : KK
Acquired : 19 Jun 2019 1:17 pm using AcqMethod ACQY8260
Instrument : GC/MS Ins
Sample Name: 19061180-003D
Misc Info : ,V_8260S_S,SAMP,12.5,0.4-5.00
Vial Number: 11
Quant File :VOCY1906.RES (RTE Integrator)



Y11.D VOCY1906.M Wed Jun 19 14:24:46 2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data File : C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y11.D Vial: 11
Acq On : 19 Jun 2019 1:17 pm Operator: KK
Sample : 19061180-003D Inst : GC/MS Ins
Misc : ,V_8260S_S,SAMP,12.5,0.4-5.00 Multiplr: 1.00
MS Integration Params: LSCINT.P

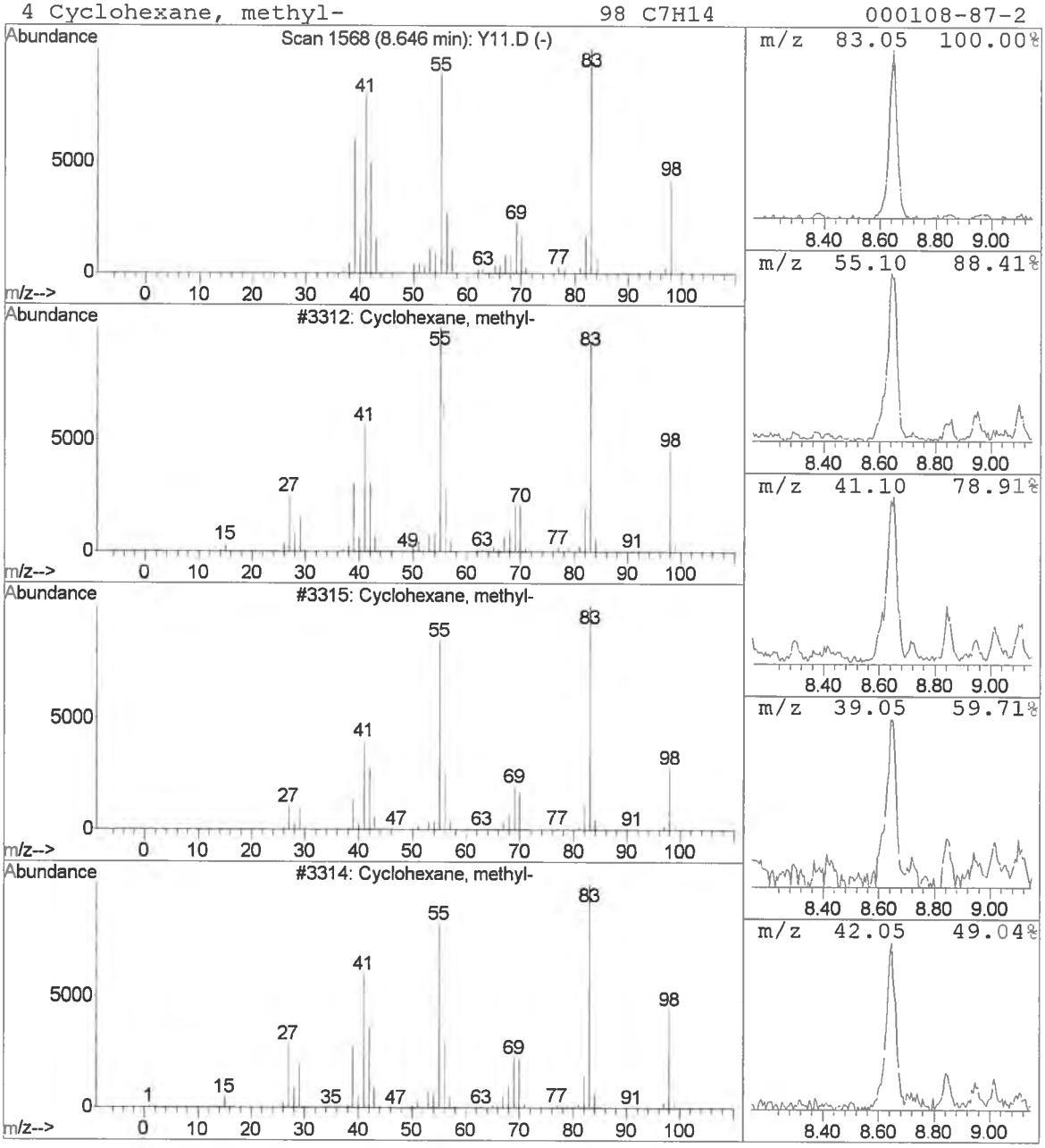
Quant Method : C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title : 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 1 Cyclohexane, methyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.65	5.33 ug/Kg	189369	Fluorobenzene	7.94

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, methyl-	98	C7H14	000108-87-2	94
2	Cyclohexane, methyl-	98	C7H14	000108-87-2	87
3	Cyclohexane, methyl-	98	C7H14	000108-87-2	76
4	Cyclohexane, methyl-	98	C7H14	000108-87-2	68



Tentatively Identified Compound (LSC) summary

Operator ID: KK Date Acquired: 19 Jun 2019 1:17 pm
Data File: C:\HPCHEM\1\DATA\TEKLAB\Y190619A\Y11.D
Name: 19061180-003D
Misc: ,V_8260S_S,SAMP,12.5,0.4-5.00
Method: C:\HPCHEM\1\METHODS\VOCY1906.M (RTE Integrator)
Title: 6/11/2019 8260 ICAL 9181 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Cyclohexane, methyl-	8.65	5.3	ug/Kg	189369	ISTD01	7.94	1775370	50.0

Y11.D VOCY1906.M Wed Jun 19 14:24:47 2019

Roxana Predesign Soil Data Review

Laboratory SDG: 19061444

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/25/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
PD-4-SB-35-062119	TB-PW-062119

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOC LCS recoveries were outside evaluation criteria. MSD recovery for quinoline was outside evaluation criteria in sample PD-4-SB-35-062119. These issues are addressed further in the appropriate sections of this data review.

The cooler receipt form indicated headspace was present in one of the two trip blank vials; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
LCS-154595	SVOCs	4-Chloro-3-methylphenol	**107.7**	NA	50-103
LCS-154595	SVOCs	4-Nitrophenol	**113.8**	NA	46.3-111
LCS-154595	SVOCs	Quinoline	**110.1**	NA	48.5-97.3

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
LCS-AE 190621A-1	VOCs	2-Chloroethyl vinyl ether	**230.7/238.4**	3.27	31.5-159/40

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-4-SB-35-062119 was spiked and duplicated for PAHs and SVOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-4-SB-35-062119	SVOCs	Quinoline	101.9/105.1	6.07	48-105/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Teklab, Inc.
Environmental Laboratory
http://www.teklabinc.com/

June 25, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19061444

Dear Elizabeth Kunkel:

TEKLAB, INC received 2 samples on 6/21/2019 1:30:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Revitwed
on
6/25/2019

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Accreditations	5
Laboratory Results	6
Sample Summary	12
Dates Report	13
Quality Control Results	14
Receiving Check List	33
Chain of Custody	Appended

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061444

Client Project: PreDesign Invest. PW
Report Date: 25-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

Cooler Receipt Temp: 8.2 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	EHurley@teklabinc.com

Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
Fax	(217) 698-1005
Email	KKlostermann@teklabinc.com

Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061444
Client Project: PreDesign Invest. PW
Report Date: 25-Jun-2019
Lab ID: 19061444-001
Client Sample ID: PD-4-SB-35-062119
Matrix: SOLID
Collection Date: 06/21/2019 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA SW846 3550C, 5035A, ASTM D2974								
Percent Moisture	*	0.1		16.8	%	1	06/21/2019 17:53	R263498
SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	1.21		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
1-Methylnaphthalene	*	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
2-Methylnaphthalene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Acenaphthene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Acenaphthylene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Anthracene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Benzo(a)anthracene	NELAP	0.0357		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Benzo(a)pyrene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Benzo(b)fluoranthene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Benzo(g,h,i)perylene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Benzo(k)fluoranthene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Chrysene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Dibenzo(a,h)anthracene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Fluoranthene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Fluorene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Indeno(1,2,3-cd)pyrene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Phenanthrene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Pyrene	NELAP	0.0121		ND	mg/Kg-dry	1	06/24/2019 17:45	154593
Surr: 2-Fluorobiphenyl	*	8.85-90.5		46.3	%REC	1	06/24/2019 17:45	154593
Surr: Nitrobenzene-d5	*	5-102		43.3	%REC	1	06/24/2019 17:45	154593
Surr: p-Terphenyl-d14	*	18.4-103		61.6	%REC	1	06/24/2019 17:45	154593
Elevated reporting limit due to sample composition.								
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2,4,6-Trichlorophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2,4-Dichlorophenol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2,4-Dimethylphenol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2,4-Dinitrophenol	NELAP	3.57		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2,4-Dinitrotoluene	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2,6-Dinitrotoluene	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2-Chloronaphthalene	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2-Chlorophenol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2-Nitroaniline	NELAP	3.57		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
2-Nitrophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
3,3´-Dichlorobenzidine	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
3-Nitroaniline	NELAP	3.57		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4,6-Dinitro-2-methylphenol	NELAP	3.57		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4-Bromophenyl phenyl ether	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4-Chloro-3-methylphenol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4-Chloroaniline	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4-Chlorophenyl phenyl ether	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4-Nitroaniline	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
4-Nitrophenol	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Aniline	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Azobenzene	*	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061444
Client Project: PreDesign Invest. PW
Report Date: 25-Jun-2019
Lab ID: 19061444-001
Client Sample ID: PD-4-SB-35-062119
Matrix: SOLID
Collection Date: 06/21/2019 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzoic acid	NELAP	5.36		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Benzyl alcohol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Bis(2-chloroethoxy)methane	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Bis(2-chloroethyl)ether	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Bis(2-chloroisopropyl)ether	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Bis(2-ethylhexyl)phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Butyl benzyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Dibenzofuran	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Diethyl phthalate	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Dimethyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Di-n-butyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Di-n-octyl phthalate	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Hexachlorobenzene	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Hexachlorocyclopentadiene	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Hexachloroethane	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Isophorone	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
m,p-Cresol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Nitrobenzene	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
N-Nitrosodimethylamine	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
N-Nitroso-di-n-propylamine	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
N-Nitrosodiphenylamine	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
o-Cresol	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Pentachlorophenol	NELAP	7.14		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Phenol	NELAP	1.25		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Pyridine	NELAP	1.79		ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Quinoline	*	0.714	S	ND	mg/Kg-dry	1	06/24/2019 18:06	154595
Surr: 2,4,6-Tribromophenol	*	41.6-114		73.0	%REC	1	06/24/2019 18:06	154595
Surr: 2-Fluorobiphenyl	*	29.3-105		69.2	%REC	1	06/24/2019 18:06	154595
Surr: 2-Fluorophenol	*	35.8-97.2		77.2	%REC	1	06/24/2019 18:06	154595
Surr: Nitrobenzene-d5	*	36.2-95.2		81.3	%REC	1	06/24/2019 18:06	154595
Surr: Phenol-d5	*	38.8-103		85.3	%REC	1	06/24/2019 18:06	154595
Surr: p-Terphenyl-d14	*	43.2-116		92.1	%REC	1	06/24/2019 18:06	154595

Matrix spike did not recover within control limits due to matrix interference.
LCS recovered outside upper control limits. Sample results are below the reporting limit. Data is reportable per the TNI Standard.
Elevated reporting limit due to sample composition.

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,1,1-Trichloroethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,1,2,2-Tetrachloroethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,1,2-Trichloroethane	NELAP	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,1-Dichloroethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,1-Dichloroethene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,1-Dichloropropene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2,3-Trichlorobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2,3-Trichloropropane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2,4-Trichlorobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2,4-Trimethylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601

Teklab, Inc.
Environmental Laboratory

Laboratory Results

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Client: AECOM
Work Order: 19061444
Client Project: PreDesign Invest. PW
Report Date: 25-Jun-2019
Lab ID: 19061444-001
Client Sample ID: PD-4-SB-35-062119
Matrix: SOLID
Collection Date: 06/21/2019 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dibromo-3-chloropropane	NELAP	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2-Dibromoethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2-Dichlorobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2-Dichloroethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,2-Dichloropropane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,3,5-Trimethylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,3-Dichlorobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,3-Dichloropropane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
1,4-Dichlorobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
2,2-Dichloropropane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
2-Butanone	NELAP	26.4		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
2-Chloroethyl vinyl ether	*	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
2-Chlorotoluene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
2-Hexanone	NELAP	26.4		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
4-Chlorotoluene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
4-Methyl-2-pentanone	NELAP	26.4		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Acetone	NELAP	26	J	13	µg/Kg-dry	1	06/24/2019 11:32	154601
Acrolein	NELAP	52.8		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Acrylonitrile	NELAP	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Benzene	NELAP	1.1		5.0	µg/Kg-dry	1	06/24/2019 11:32	154601
Bromobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Bromochloromethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Bromodichloromethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Bromoform	NELAP	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Bromomethane	NELAP	10.6		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Carbon disulfide	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Carbon tetrachloride	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Chlorobenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Chloroethane	NELAP	10.6		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Chloroform	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Chloromethane	NELAP	10.6		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
cis-1,2-Dichloroethene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
cis-1,3-Dichloropropene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Dibromochloromethane	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Dichlorodifluoromethane	NELAP	10.6		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Ethyl methacrylate	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Ethylbenzene	NELAP	2.1	J	1.1	µg/Kg-dry	1	06/24/2019 11:32	154601
Hexachlorobutadiene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Isopropylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
m,p-Xylenes	NELAP	4.2		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Methyl tert-butyl ether	NELAP	2.1		12.7	µg/Kg-dry	1	06/24/2019 11:32	154601
Methylene chloride	NELAP	10.6		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Naphthalene	NELAP	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
n-Butylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
n-Propylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
o-Xylene	NELAP	4.2		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
p-Isopropyltoluene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061444
Client Project: PreDesign Invest. PW
Report Date: 25-Jun-2019
Lab ID: 19061444-001
Client Sample ID: PD-4-SB-35-062119
Matrix: SOLID
Collection Date: 06/21/2019 8:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
sec-Butylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Styrene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
tert-Butylbenzene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Tetrachloroethene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Toluene	NELAP	2.1	J	1.3	µg/Kg-dry	1	06/24/2019 11:32	154601
trans-1,2-Dichloroethene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
trans-1,3-Dichloropropene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Trichloroethene	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Trichlorofluoromethane	NELAP	5.3		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Vinyl acetate	NELAP	52.8		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Vinyl chloride	NELAP	2.1		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Xylenes, Total	NELAP	8.4		ND	µg/Kg-dry	1	06/24/2019 11:32	154601
Surr: 1,2-Dichloroethane-d4	*	74-124		99.9	%REC	1	06/24/2019 11:32	154601
Surr: 4-Bromofluorobenzene	*	79.4-123		99.5	%REC	1	06/24/2019 11:32	154601
Surr: Dibromofluoromethane	*	89.2-112		101.1	%REC	1	06/24/2019 11:32	154601
Surr: Toluene-d8	*	85-115		97.7	%REC	1	06/24/2019 11:32	154601

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: AECOM
Work Order: 19061444
Client Project: PreDesign Invest. PW
Report Date: 25-Jun-2019
Lab ID: 19061444-002
Client Sample ID: TB-PW-062119
Matrix: TRIP BLANK
Collection Date: 06/21/2019 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/21/2019 16:36	154594
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
2-Butanone	NELAP	10.0		ND	µg/L	1	06/21/2019 16:36	154594
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/21/2019 16:36	154594
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/21/2019 16:36	154594
Acetone	NELAP	10.0		ND	µg/L	1	06/21/2019 16:36	154594
Acrolein	NELAP	20.0		ND	µg/L	1	06/21/2019 16:36	154594
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
Benzene	NELAP	0.5		ND	µg/L	1	06/21/2019 16:36	154594
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Bromoform	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Bromomethane	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Chloroethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Chloroform	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Chloromethane	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594

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Client: AECOM
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Report Date: 25-Jun-2019
Lab ID: 19061444-002
Client Sample ID: TB-PW-062119
Matrix: TRIP BLANK
Collection Date: 06/21/2019 13:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Naphthalene	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
o-Xylene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Styrene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/21/2019 16:36	154594
Toluene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/21/2019 16:36	154594
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/21/2019 16:36	154594
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/21/2019 16:36	154594
Surr: 1,2-Dichloroethane-d4	*	79.6-118		100.2	%REC	1	06/21/2019 16:36	154594
Surr: 4-Bromofluorobenzene	*	83.9-115		102.6	%REC	1	06/21/2019 16:36	154594
Surr: Dibromofluoromethane	*	84.9-113		94.4	%REC	1	06/21/2019 16:36	154594
Surr: Toluene-d8	*	86.7-112		95.9	%REC	1	06/21/2019 16:36	154594

LCS recovered outside upper control limits for 2-Chloroethyl vinyl ether. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Teklab, Inc.
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Sample Summary

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19061444-001	PD-4-SB-35-062119	Solid	3	06/21/2019 8:45
19061444-002	TB-PW-062119	Trip Blank	1	06/21/2019 13:30

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Dates Report

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
19061444-001A	PD-4-SB-35-062119	06/21/2019 8:45	06/21/2019 13:30		
	EPA SW846 3550C, 5035A, ASTM D2974				06/21/2019 17:53
	SW-846 3550B, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/24/2019 11:05	06/24/2019 17:45
	SW-846 3550B, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/24/2019 11:26	06/24/2019 18:06
19061444-001C	PD-4-SB-35-062119	06/21/2019 8:45	06/21/2019 13:30		
	SW-846 5035, 8260B, Volatile Organic Compounds by GC/MS				06/24/2019 11:32
19061444-002A	TB-PW-062119	06/21/2019 13:30	06/21/2019 13:30		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/21/2019 16:36

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

EPA SW846 3550C, 5035A, ASTM D2974

Batch R263498 **SampType:** LCS Units %
SampID: LCS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/21/2019

Batch R263498 **SampType:** LCSQC Units %
SampID: LCSQC

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Percent Moisture	0.1		**99.0**	99.00	0	100.0	90	110	06/21/2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154593 **SampType:** MBLK Units mg/Kg
SampID: MBLK2-154593

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340		**ND**						06/25/2019
1-Methylnaphthalene	0.0034		**ND**						06/25/2019
2-Methylnaphthalene	0.0034		**ND**						06/25/2019
Acenaphthene	0.0034		**ND**						06/25/2019
Acenaphthylene	0.0034		**ND**						06/25/2019
Anthracene	0.0034		**ND**						06/25/2019
Benzo(a)anthracene	0.0100		**ND**						06/25/2019
Benzo(a)pyrene	0.0034		**ND**						06/25/2019
Benzo(b)fluoranthene	0.0034		**ND**						06/25/2019
Benzo(g,h,i)perylene	0.0034		**ND**						06/25/2019
Benzo(k)fluoranthene	0.0034		**ND**						06/25/2019
Chrysene	0.0034		**ND**						06/25/2019
Dibenzo(a,h)anthracene	0.0034		**ND**						06/25/2019
Fluoranthene	0.0034		**ND**						06/25/2019
Fluorene	0.0034		**ND**						06/25/2019
Indeno(1,2,3-cd)pyrene	0.0034		**ND**						06/25/2019
Phenanthrene	0.0034		**ND**						06/25/2019
Pyrene	0.0034		**ND**						06/25/2019
Surr: 2-Fluorobiphenyl			**0.0750**	0.1670		44.9	21.6	105	06/25/2019
Surr: Nitrobenzene-d5			**0.0687**	0.1670		41.1	26.7	93	06/25/2019
Surr: p-Terphenyl-d14			**0.0897**	0.1670		53.7	42.6	115	06/25/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154593 **SampType:** LCS Units **mg/Kg**
SampID: LCS-154593

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.340	J	**0.16**	0.3330	0	49.0	25.3	104	06/24/2019
1-Methylnaphthalene	0.0034		**0.0957**	0.1670	0	57.3	27.3	107	06/24/2019
2-Methylnaphthalene	0.0034		**0.0943**	0.1670	0	56.5	30	106	06/24/2019
Acenaphthene	0.0034		**0.0957**	0.1670	0	57.3	19.1	127	06/24/2019
Acenaphthylene	0.0034		**0.0963**	0.1670	0	57.7	30.2	115	06/24/2019
Anthracene	0.0034		**0.103**	0.1670	0	61.7	26.9	107	06/24/2019
Benzo(a)anthracene	0.0100		**0.117**	0.1670	0	69.9	27	116	06/24/2019
Benzo(a)pyrene	0.0034		**0.105**	0.1670	0	63.1	22.7	117	06/24/2019
Benzo(b)fluoranthene	0.0034		**0.113**	0.1670	0	67.9	23.8	125	06/24/2019
Benzo(g,h,i)perylene	0.0034		**0.104**	0.1670	0	62.5	31.5	109	06/24/2019
Benzo(k)fluoranthene	0.0034		**0.114**	0.1670	0	68.3	28.1	121	06/24/2019
Chrysene	0.0034		**0.112**	0.1670	0	67.3	29.2	113	06/24/2019
Dibenzo(a,h)anthracene	0.0034		**0.105**	0.1670	0	62.7	28.8	113	06/24/2019
Fluoranthene	0.0034		**0.119**	0.1670	0	71.1	24.9	115	06/24/2019
Fluorene	0.0034		**0.107**	0.1670	0	64.1	30	116	06/24/2019
Indeno(1,2,3-cd)pyrene	0.0034		**0.105**	0.1670	0	62.9	29.5	113	06/24/2019
Phenanthrene	0.0034		**0.106**	0.1670	0	63.7	16.5	122	06/24/2019
Pyrene	0.0034		**0.114**	0.1670	0	68.1	28	111	06/24/2019
Surr: 2-Fluorobiphenyl			**0.0697**	0.1670		41.7	21.6	105	06/24/2019
Surr: Nitrobenzene-d5			**0.0703**	0.1670		42.1	26.7	93	06/24/2019
Surr: p-Terphenyl-d14			**0.109**	0.1670		65.3	42.6	115	06/24/2019

Batch 154593 **SampType:** MS Units **mg/Kg-dry**
SampID: 19061444-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	1.22	J	**0.51**	1.193	0	42.5	25	75	06/24/2019
1-Methylnaphthalene	0.0122		**0.282**	0.5984	0	47.1	6.16	134	06/24/2019
2-Methylnaphthalene	0.0122		**0.279**	0.5984	0	46.7	22.1	112	06/24/2019
Acenaphthene	0.0122		**0.276**	0.5984	0	46.1	30.6	109	06/24/2019
Acenaphthylene	0.0122		**0.281**	0.5984	0	46.9	28	110	06/24/2019
Anthracene	0.0122		**0.312**	0.5984	0	52.1	41.4	94.3	06/24/2019
Benzo(a)anthracene	0.0358		**0.368**	0.5984	0	61.5	28.6	113	06/24/2019
Benzo(a)pyrene	0.0122		**0.331**	0.5984	0	55.3	37.9	102	06/24/2019
Benzo(b)fluoranthene	0.0122		**0.357**	0.5984	0	59.7	37.1	112	06/24/2019
Benzo(g,h,i)perylene	0.0122		**0.305**	0.5984	0	50.9	7.28	119	06/24/2019
Benzo(k)fluoranthene	0.0122		**0.346**	0.5984	0	57.9	34	115	06/24/2019
Chrysene	0.0122		**0.352**	0.5984	0	58.9	23.1	116	06/24/2019
Dibenzo(a,h)anthracene	0.0122		**0.315**	0.5984	0	52.7	23.9	110	06/24/2019
Fluoranthene	0.0122		**0.376**	0.5984	0	62.9	20.8	124	06/24/2019
Fluorene	0.0122		**0.300**	0.5984	0	50.1	44.3	96.6	06/24/2019
Indeno(1,2,3-cd)pyrene	0.0122		**0.315**	0.5984	0	52.7	12.6	119	06/24/2019
Phenanthrene	0.0122		**0.324**	0.5984	0	54.1	22.3	117	06/24/2019
Pyrene	0.0122		**0.362**	0.5984	0	60.5	20.6	121	06/24/2019
Surr: 2-Fluorobiphenyl			**0.226**	0.5984		37.7	8.85	90.5	06/24/2019
Surr: Nitrobenzene-d5			**0.231**	0.5984		38.5	5	102	06/24/2019
Surr: p-Terphenyl-d14			**0.345**	0.5984		57.7	18.4	103	06/24/2019

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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 3550B, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154593 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **40**
SampID: 19061444-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	1.22	J	**0.58**	1.192	0	48.4	0.5076	0.00	06/24/2019
1-Methylnaphthalene	0.0122		**0.315**	0.5978	0	52.7	0.2819	11.10	06/24/2019
2-Methylnaphthalene	0.0122		**0.314**	0.5978	0	52.5	0.2795	11.57	06/24/2019
Acenaphthene	0.0122		**0.296**	0.5978	0	49.5	0.2759	7.00	06/24/2019
Acenaphthylene	0.0122		**0.298**	0.5978	0	49.9	0.2807	6.09	06/24/2019
Anthracene	0.0122		**0.334**	0.5978	0	55.9	0.3117	6.92	06/24/2019
Benzo(a)anthracene	0.0358		**0.399**	0.5978	0	66.7	0.3679	8.00	06/24/2019
Benzo(a)pyrene	0.0122		**0.356**	0.5978	0	59.5	0.3308	7.21	06/24/2019
Benzo(b)fluoranthene	0.0122		**0.364**	0.5978	0	60.9	0.3571	1.89	06/24/2019
Benzo(g,h,i)perylene	0.0122		**0.296**	0.5978	0	49.5	0.3046	2.88	06/24/2019
Benzo(k)fluoranthene	0.0122		**0.393**	0.5978	0	65.7	0.3464	12.50	06/24/2019
Chrysene	0.0122		**0.378**	0.5978	0	63.3	0.3523	7.09	06/24/2019
Dibenzo(a,h)anthracene	0.0122		**0.316**	0.5978	0	52.9	0.3153	0.28	06/24/2019
Fluoranthene	0.0122		**0.394**	0.5978	0	65.9	0.3762	4.55	06/24/2019
Fluorene	0.0122		**0.319**	0.5978	0	53.3	0.2998	6.08	06/24/2019
Indeno(1,2,3-cd)pyrene	0.0122		**0.315**	0.5978	0	52.7	0.3153	0.10	06/24/2019
Phenanthrene	0.0122		**0.341**	0.5978	0	57.1	0.3237	5.29	06/24/2019
Pyrene	0.0122		**0.387**	0.5978	0	64.7	0.3619	6.60	06/24/2019
Surr: 2-Fluorobiphenyl			**0.242**	0.5978		40.5			06/24/2019
Surr: Nitrobenzene-d5			**0.258**	0.5978		43.1			06/24/2019
Surr: p-Terphenyl-d14			**0.353**	0.5978		59.1			06/24/2019

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Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154595 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154595

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		ND						06/24/2019
2,4,6-Trichlorophenol	0.350		ND						06/24/2019
2,4-Dichlorophenol	0.500		ND						06/24/2019
2,4-Dimethylphenol	0.500		ND						06/24/2019
2,4-Dinitrophenol	1.00		ND						06/24/2019
2,4-Dinitrotoluene	0.350		ND						06/24/2019
2,6-Dinitrotoluene	0.350		ND						06/24/2019
2-Chloronaphthalene	0.350		ND						06/24/2019
2-Chlorophenol	0.500		ND						06/24/2019
2-Nitroaniline	1.00		ND						06/24/2019
2-Nitrophenol	0.350		ND						06/24/2019
3,3'-Dichlorobenzidine	0.350		ND						06/24/2019
3-Nitroaniline	1.00		ND						06/24/2019
4,6-Dinitro-2-methylphenol	1.00		ND						06/24/2019
4-Bromophenyl phenyl ether	0.350		ND						06/24/2019
4-Chloro-3-methylphenol	0.500		ND						06/24/2019
4-Chloroaniline	0.500		ND						06/24/2019
4-Chlorophenyl phenyl ether	0.350		ND						06/24/2019
4-Nitroaniline	0.500		ND						06/24/2019
4-Nitrophenol	0.350		ND						06/24/2019
Aniline	0.500		ND						06/24/2019
Azobenzene	0.350		ND						06/24/2019
Benzoic acid	1.50		ND						06/24/2019
Benzyl alcohol	0.500		ND						06/24/2019
Bis(2-chloroethoxy)methane	0.350		ND						06/24/2019
Bis(2-chloroethyl)ether	0.500		ND						06/24/2019
Bis(2-chloroisopropyl)ether	0.350		ND						06/24/2019
Bis(2-ethylhexyl)phthalate	0.350		ND						06/24/2019
Butyl benzyl phthalate	0.350		ND						06/24/2019
Dibenzofuran	0.350		ND						06/24/2019
Diethyl phthalate	0.500		ND						06/24/2019
Dimethyl phthalate	0.350		ND						06/24/2019
Di-n-butyl phthalate	0.350		ND						06/24/2019
Di-n-octyl phthalate	0.350		ND						06/24/2019
Hexachlorobenzene	0.350		ND						06/24/2019
Hexachlorocyclopentadiene	0.500		ND						06/24/2019
Hexachloroethane	0.500		ND						06/24/2019
Isophorone	0.350		ND						06/24/2019
m,p-Cresol	0.500		ND						06/24/2019
Nitrobenzene	0.500		ND						06/24/2019
N-Nitrosodimethylamine	0.500		ND						06/24/2019
N-Nitroso-di-n-propylamine	0.500		ND						06/24/2019
N-Nitrosodiphenylamine	0.500		ND						06/24/2019
o-Cresol	0.500		ND						06/24/2019
Pentachlorophenol	2.00		ND						06/24/2019
Phenol	0.350		ND						06/24/2019
Pyridine	0.500		ND						06/24/2019

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Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154595 **SampType:** MBLK Units mg/Kg
SampID: MBLK-154595

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.200		ND						06/24/2019
Surr: 2,4,6-Tribromophenol			1.28	1.670		76.7	53.1	123	06/24/2019
Surr: 2-Fluorobiphenyl			0.500	0.8350		59.9	52.9	106	06/24/2019
Surr: 2-Fluorophenol			1.20	1.670		71.8	52.9	104	06/24/2019
Surr: Nitrobenzene-d5			0.636	0.8350		76.2	51.5	105	06/24/2019
Surr: Phenol-d5			1.36	1.670		81.7	53.9	111	06/24/2019
Surr: p-Terphenyl-d14			0.861	0.8350		103.1	58	122	06/24/2019

Batch 154595 **SampType:** LCS Units mg/Kg
SampID: LCS-154595

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.350		1.73	1.670	0	103.5	53.5	106	06/24/2019
2,4,6-Trichlorophenol	0.350		1.68	1.670	0	100.8	50.8	106	06/24/2019
2,4-Dimethylphenol	0.500		1.60	1.670	0	95.6	35.6	99.6	06/24/2019
2,4-Dinitrophenol	1.00		1.63	1.670	0	97.9	13.9	107	06/24/2019
2,4-Dinitrotoluene	0.350		1.70	1.670	0	101.7	58.9	106	06/24/2019
2-Chlorophenol	0.500		1.39	1.670	0	83.5	41.1	99.2	06/24/2019
4-Chloro-3-methylphenol	0.500	S	1.80	1.670	0	107.7	50	103	06/24/2019
4-Nitrophenol	0.350	S	1.90	1.670	0	113.8	46.3	111	06/24/2019
Bis(2-ethylhexyl)phthalate	0.350		1.74	1.670	0	104.1	40.8	109	06/24/2019
Diethyl phthalate	0.500		1.65	1.670	0	98.8	53.8	99.6	06/24/2019
Dimethyl phthalate	0.350		1.61	1.670	0	96.7	53.8	101	06/24/2019
Di-n-butyl phthalate	0.350		1.75	1.670	0	105.0	45.8	108	06/24/2019
Hexachlorobenzene	0.350		1.55	1.670	0	93.1	55.2	101	06/24/2019
Hexachloroethane	0.500		1.46	1.670	0	87.2	41.8	91.5	06/24/2019
m,p-Cresol	0.500		1.51	1.670	0	90.6	47	100	06/24/2019
Nitrobenzene	0.500		1.49	1.670	0	89.0	41.4	99	06/24/2019
N-Nitroso-di-n-propylamine	0.500		1.59	1.670	0	95.0	46.5	97.4	06/24/2019
o-Cresol	0.500		1.52	1.670	0	91.1	44.2	100	06/24/2019
Pentachlorophenol	2.00	J	1.6	1.670	0	94.7	35.7	94.8	06/24/2019
Phenol	0.350		1.56	1.670	0	93.3	43	98.6	06/24/2019
Pyridine	0.500		1.25	1.670	0	75.0	24.7	78.4	06/24/2019
Quinoline	0.200	S	1.84	1.670	0	110.1	48.5	97.3	06/24/2019
Surr: 2,4,6-Tribromophenol			1.47	1.670		87.8	53.1	123	06/24/2019
Surr: 2-Fluorobiphenyl			0.631	0.8350		75.5	52.9	106	06/24/2019
Surr: 2-Fluorophenol			1.34	1.670		79.9	52.9	104	06/24/2019
Surr: Nitrobenzene-d5			0.708	0.8350		84.8	51.5	105	06/24/2019
Surr: Phenol-d5			1.52	1.670		91.2	53.9	111	06/24/2019
Surr: p-Terphenyl-d14			0.845	0.8350		101.2	58	122	06/24/2019

Teklab, Inc.
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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154595 **SampType:** MS Units **mg/Kg-dry**
SampID: 19061444-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	1.25		**5.61**	5.960	0	94.1	61.2	107	06/24/2019
2,4,6-Trichlorophenol	1.25		**5.46**	5.960	0	91.6	58.4	105	06/24/2019
2,4-Dimethylphenol	1.78		**5.36**	5.960	0	89.9	52.9	104	06/24/2019
2,4-Dinitrophenol	3.57		**5.26**	5.960	0	88.3	15.2	107	06/24/2019
2,4-Dinitrotoluene	1.25		**5.47**	5.960	0	91.7	66.7	118	06/24/2019
2-Chlorophenol	1.78		**4.52**	5.960	0	75.8	51.2	98.2	06/24/2019
4-Chloro-3-methylphenol	1.78		**5.54**	5.960	0	92.9	57.6	104	06/24/2019
4-Nitrophenol	1.25		**6.23**	5.960	0	104.6	55.1	110	06/24/2019
Bis(2-ethylhexyl)phthalate	1.25		**6.32**	5.960	0	106.0	66.2	128	06/24/2019
Diethyl phthalate	1.78		**5.70**	5.960	0	95.6	57.8	121	06/24/2019
Dimethyl phthalate	1.25		**5.74**	5.960	0	96.4	60.7	117	06/24/2019
Di-n-butyl phthalate	1.25		**5.81**	5.960	0	97.5	65.8	122	06/24/2019
Hexachlorobenzene	1.25		**5.57**	5.960	0	93.5	59.9	121	06/24/2019
Hexachloroethane	1.78		**5.18**	5.960	0	87.0	26.2	115	06/24/2019
m,p-Cresol	1.78		**5.24**	5.960	0	88.0	56.3	104	06/24/2019
Nitrobenzene	1.78		**5.21**	5.960	0	87.4	53.4	106	06/24/2019
N-Nitroso-di-n-propylamine	1.78		**5.78**	5.960	0	96.9	52.4	113	06/24/2019
o-Cresol	1.78		**4.91**	5.960	0	82.3	53.8	100	06/24/2019
Pentachlorophenol	7.14	J	**5.0**	5.960	0	84.6	38.3	99.4	06/24/2019
Phenol	1.25		**5.06**	5.960	0	84.9	53.2	103	06/24/2019
Pyridine	1.78		**4.33**	5.960	0	72.6	13.6	91.5	06/24/2019
Quinoline	0.714		**6.07**	5.960	0	101.9	48	105	06/24/2019
Surr: 2,4,6-Tribromophenol			**4.76**	5.960		79.9	41.6	114	06/24/2019
Surr: 2-Fluorobiphenyl			**2.13**	2.980		71.4	29.3	105	06/24/2019
Surr: 2-Fluorophenol			**4.38**	5.960		73.6	35.8	97.2	06/24/2019
Surr: Nitrobenzene-d5			**2.37**	2.980		79.4	36.2	95.2	06/24/2019
Surr: Phenol-d5			**5.21**	5.960		87.4	38.8	103	06/24/2019
Surr: p-Terphenyl-d14			**2.87**	2.980		96.2	43.2	116	06/24/2019

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Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061444

Report Date: 25-Jun-2019

SW-846 3550B, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154595 **SampType:** MSD Units **mg/Kg-dry** RPD Limit **40**

SampID: 19061444-001AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	1.25		**5.79**	5.978	0	96.9	5.608	3.24	06/24/2019
2,4,6-Trichlorophenol	1.25		**5.74**	5.978	0	96.0	5.461	5.00	06/24/2019
2,4-Dimethylphenol	1.79		**5.64**	5.978	0	94.3	5.359	5.02	06/24/2019
2,4-Dinitrophenol	3.58		**5.53**	5.978	0	92.5	5.262	4.98	06/24/2019
2,4-Dinitrotoluene	1.25		**5.71**	5.978	0	95.5	5.467	4.28	06/24/2019
2-Chlorophenol	1.79		**5.01**	5.978	0	83.7	4.517	10.26	06/24/2019
4-Chloro-3-methylphenol	1.79		**6.13**	5.978	0	102.6	5.535	10.22	06/24/2019
4-Nitrophenol	1.25		**6.50**	5.978	0	108.7	6.231	4.15	06/24/2019
Bis(2-ethylhexyl)phthalate	1.25		**6.30**	5.978	0	105.4	6.316	0.23	06/24/2019
Diethyl phthalate	1.79		**5.49**	5.978	0	91.8	5.701	3.83	06/24/2019
Dimethyl phthalate	1.25		**5.43**	5.978	0	90.8	5.745	5.63	06/24/2019
Di-n-butyl phthalate	1.25		**6.15**	5.978	0	103.0	5.812	5.71	06/24/2019
Hexachlorobenzene	1.25		**5.46**	5.978	0	91.3	5.573	2.08	06/24/2019
Hexachloroethane	1.79		**5.26**	5.978	0	88.1	5.184	1.53	06/24/2019
m,p-Cresol	1.79		**5.53**	5.978	0	92.6	5.243	5.38	06/24/2019
Nitrobenzene	1.79		**5.58**	5.978	0	93.3	5.210	6.79	06/24/2019
N-Nitroso-di-n-propylamine	1.79		**5.64**	5.978	0	94.4	5.775	2.35	06/24/2019
o-Cresol	1.79		**5.38**	5.978	0	89.9	4.906	9.15	06/24/2019
Pentachlorophenol	7.16	J	**5.4**	5.978	0	90.1	5.044	0.00	06/24/2019
Phenol	1.25		**5.43**	5.978	0	90.8	5.059	7.04	06/24/2019
Pyridine	1.79		**4.38**	5.978	0	73.4	4.328	1.31	06/24/2019
Quinoline	0.716	S	**6.28**	5.978	0	105.1	6.072	3.44	06/24/2019
Surr: 2,4,6-Tribromophenol			**4.81**	5.978		80.4			06/24/2019
Surr: 2-Fluorobiphenyl			**2.16**	2.989		72.3			06/24/2019
Surr: 2-Fluorophenol			**4.85**	5.978		81.1			06/24/2019
Surr: Nitrobenzene-d5			**2.35**	2.989		78.5			06/24/2019
Surr: Phenol-d5			**5.31**	5.978		88.9			06/24/2019
Surr: p-Terphenyl-d14			**2.84**	2.989		95.2			06/24/2019

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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154594 **SampType:** MBLK Units µg/L
SampID: MBLK-AE190621A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/21/2019
1,1,1-Trichloroethane	2.0		ND						06/21/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/21/2019
1,1,2-Trichloroethane	0.5		ND						06/21/2019
1,1-Dichloroethane	2.0		ND						06/21/2019
1,1-Dichloroethene	2.0		ND						06/21/2019
1,1-Dichloropropene	2.0		ND						06/21/2019
1,2,3-Trichlorobenzene	2.0		ND						06/21/2019
1,2,3-Trichloropropane	2.0		ND						06/21/2019
1,2,4-Trichlorobenzene	2.0		ND						06/21/2019
1,2,4-Trimethylbenzene	2.0		ND						06/21/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/21/2019
1,2-Dibromoethane	2.0		ND						06/21/2019
1,2-Dichlorobenzene	2.0		ND						06/21/2019
1,2-Dichloroethane	2.0		ND						06/21/2019
1,2-Dichloropropane	2.0		ND						06/21/2019
1,3,5-Trimethylbenzene	2.0		ND						06/21/2019
1,3-Dichlorobenzene	2.0		ND						06/21/2019
1,3-Dichloropropane	2.0		ND						06/21/2019
1,4-Dichlorobenzene	2.0		ND						06/21/2019
2,2-Dichloropropane	2.0		ND						06/21/2019
2-Butanone	10.0		ND						06/21/2019
2-Chloroethyl vinyl ether	5.0		ND						06/21/2019
2-Chlorotoluene	2.0		ND						06/21/2019
2-Hexanone	10.0		ND						06/21/2019
4-Chlorotoluene	2.0		ND						06/21/2019
4-Methyl-2-pentanone	10.0		ND						06/21/2019
Acetone	10.0		ND						06/21/2019
Acrolein	20.0		ND						06/21/2019
Acrylonitrile	5.0		ND						06/21/2019
Benzene	0.5		ND						06/21/2019
Bromobenzene	2.0		ND						06/21/2019
Bromochloromethane	2.0		ND						06/21/2019
Bromodichloromethane	2.0		ND						06/21/2019
Bromoform	2.0		ND						06/21/2019
Bromomethane	5.0		ND						06/21/2019
Carbon disulfide	2.0		ND						06/21/2019
Carbon tetrachloride	2.0		ND						06/21/2019
Chlorobenzene	2.0		ND						06/21/2019
Chloroethane	2.0		ND						06/21/2019
Chloroform	2.0		ND						06/21/2019
Chloromethane	5.0		ND						06/21/2019
cis-1,2-Dichloroethene	2.0		ND						06/21/2019
cis-1,3-Dichloropropene	2.0		ND						06/21/2019
Dibromochloromethane	2.0		ND						06/21/2019
Dichlorodifluoromethane	2.0		ND						06/21/2019
Ethyl methacrylate	5.0		ND						06/21/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154594 **SampType:** MBLK Units µg/L
SampID: MBLK-AE190621A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/21/2019
Hexachlorobutadiene	5.0		ND						06/21/2019
Isopropylbenzene	2.0		ND						06/21/2019
m,p-Xylenes	2.0		ND						06/21/2019
Methyl tert-butyl ether	2.0		ND						06/21/2019
Methylene chloride	10.0		ND						06/21/2019
Naphthalene	5.0		ND						06/21/2019
n-Butylbenzene	2.0		ND						06/21/2019
n-Propylbenzene	2.0		ND						06/21/2019
o-Xylene	2.0		ND						06/21/2019
p-Isopropyltoluene	2.0		ND						06/21/2019
sec-Butylbenzene	2.0		ND						06/21/2019
Styrene	2.0		ND						06/21/2019
tert-Butylbenzene	2.0		ND						06/21/2019
Tetrachloroethene	0.5		ND						06/21/2019
Toluene	2.0		ND						06/21/2019
trans-1,2-Dichloroethene	2.0		ND						06/21/2019
trans-1,3-Dichloropropene	2.0		ND						06/21/2019
Trichloroethene	2.0		ND						06/21/2019
Trichlorofluoromethane	5.0		ND						06/21/2019
Vinyl acetate	5.0		ND						06/21/2019
Vinyl chloride	2.0		ND						06/21/2019
Xylenes, Total	4.0		ND						06/21/2019
Surr: 1,2-Dichloroethane-d4			**50.7**	50.00		101.5	79.6	118	06/21/2019
Surr: 4-Bromofluorobenzene			**51.5**	50.00		102.9	83.9	115	06/21/2019
Surr: Dibromofluoromethane			**47.7**	50.00		95.4	84.9	113	06/21/2019
Surr: Toluene-d8			**47.7**	50.00		95.4	86.7	112	06/21/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154594 **SampType:** LCS Units µg/L
SampID: LCS-AE190621A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**47.9**	50.00	0	95.9	83.4	118	06/21/2019
1,1,1-Trichloroethane	2.0		**54.0**	50.00	0	108.0	79.1	123	06/21/2019
1,1,2,2-Tetrachloroethane	2.0		**45.6**	50.00	0	91.2	70.7	121	06/21/2019
1,1,2-Trichloroethane	0.5		**47.4**	50.00	0	94.7	79.8	117	06/21/2019
1,1-Dichloroethane	2.0		**51.2**	50.00	0	102.3	75.1	122	06/21/2019
1,1-Dichloroethene	2.0		**50.9**	50.00	0	101.9	68.3	121	06/21/2019
1,1-Dichloropropene	2.0		**52.0**	50.00	0	104.0	76.7	122	06/21/2019
1,2,3-Trichlorobenzene	2.0		**48.8**	50.00	0	97.5	77.1	130	06/21/2019
1,2,3-Trichloropropane	2.0		**44.4**	50.00	0	88.8	70.6	114	06/21/2019
1,2,4-Trichlorobenzene	2.0		**46.0**	50.00	0	92.0	79.6	128	06/21/2019
1,2,4-Trimethylbenzene	2.0		**46.3**	50.00	0	92.5	78.9	117	06/21/2019
1,2-Dibromo-3-chloropropane	5.0		**46.3**	50.00	0	92.5	68.1	123	06/21/2019
1,2-Dibromoethane	2.0		**47.2**	50.00	0	94.5	82.9	114	06/21/2019
1,2-Dichlorobenzene	2.0		**44.0**	50.00	0	88.0	75.2	120	06/21/2019
1,2-Dichloroethane	2.0		**47.9**	50.00	0	95.8	76.9	117	06/21/2019
1,2-Dichloropropane	2.0		**49.9**	50.00	0	99.8	76.4	121	06/21/2019
1,3,5-Trimethylbenzene	2.0		**46.4**	50.00	0	92.8	79.8	118	06/21/2019
1,3-Dichlorobenzene	2.0		**44.3**	50.00	0	88.6	80.5	119	06/21/2019
1,3-Dichloropropane	2.0		**46.4**	50.00	0	92.7	77.5	113	06/21/2019
1,4-Dichlorobenzene	2.0		**44.1**	50.00	0	88.1	80.2	115	06/21/2019
2,2-Dichloropropane	2.0		**52.4**	50.00	0	104.8	62.4	151	06/21/2019
2-Butanone	10.0		**123**	125.0	0	98.2	65.7	120	06/21/2019
2-Chloroethyl vinyl ether	5.0	S	**115**	50.00	0	230.7	31.5	159	06/21/2019
2-Chlorotoluene	2.0		**44.9**	50.00	0	89.9	76	117	06/21/2019
2-Hexanone	10.0		**117**	125.0	0	93.3	65.1	121	06/21/2019
4-Chlorotoluene	2.0		**44.9**	50.00	0	89.9	77	117	06/21/2019
4-Methyl-2-pentanone	10.0		**118**	125.0	0	94.1	69.6	117	06/21/2019
Acetone	10.0		**118**	125.0	0	94.5	47.5	123	06/21/2019
Acrolein	20.0		**485**	500.0	0	97.0	27	164	06/21/2019
Acrylonitrile	5.0		**48.7**	50.00	0	97.3	74.8	127	06/21/2019
Benzene	0.5		**49.6**	50.00	0	99.3	75.8	121	06/21/2019
Bromobenzene	2.0		**46.3**	50.00	0	92.7	72.7	119	06/21/2019
Bromochloromethane	2.0		**48.6**	50.00	0	97.3	69	123	06/21/2019
Bromodichloromethane	2.0		**50.7**	50.00	0	101.4	80.8	128	06/21/2019
Bromoform	2.0		**49.8**	50.00	0	99.5	85.5	128	06/21/2019
Bromomethane	5.0		**47.7**	50.00	0	95.4	-36.7	277	06/21/2019
Carbon disulfide	2.0		**48.6**	50.00	0	97.1	64.9	133	06/21/2019
Carbon tetrachloride	2.0		**53.3**	50.00	0	106.5	79.5	129	06/21/2019
Chlorobenzene	2.0		**46.3**	50.00	0	92.7	82.1	113	06/21/2019
Chloroethane	2.0		**49.2**	50.00	0	98.4	43.9	138	06/21/2019
Chloroform	2.0		**49.6**	50.00	0	99.1	80.1	122	06/21/2019
Chloromethane	5.0		**51.1**	50.00	0	102.2	50.8	131	06/21/2019
cis-1,2-Dichloroethene	2.0		**50.6**	50.00	0	101.2	78.6	119	06/21/2019
cis-1,3-Dichloropropene	2.0		**51.7**	50.00	0	103.4	79	129	06/21/2019
Dibromochloromethane	2.0		**49.2**	50.00	0	98.4	88.1	123	06/21/2019
Dichlorodifluoromethane	2.0		**51.5**	50.00	0	103.0	35.7	155	06/21/2019
Ethyl methacrylate	5.0		**46.8**	50.00	0	93.6	80.6	123	06/21/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154594 **SampType:** LCS Units µg/L
SampID: LCS-AE190621A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**46.3**	50.00	0	92.6	80.7	114	06/21/2019
Hexachlorobutadiene	5.0		**48.3**	50.00	0	96.5	68.2	141	06/21/2019
Isopropylbenzene	2.0		**48.2**	50.00	0	96.3	81.3	116	06/21/2019
m,p-Xylenes	2.0		**93.6**	100.0	0	93.6	80.5	113	06/21/2019
Methyl tert-butyl ether	2.0		**50.9**	50.00	0	101.8	79.5	121	06/21/2019
Methylene chloride	10.0		**46.0**	50.00	0	92.1	76.2	119	06/21/2019
Naphthalene	5.0		**48.9**	50.00	0	97.7	76.1	129	06/21/2019
n-Butylbenzene	2.0		**45.6**	50.00	0	91.2	71.6	122	06/21/2019
n-Propylbenzene	2.0		**45.6**	50.00	0	91.2	76	120	06/21/2019
o-Xylene	2.0		**45.7**	50.00	0	91.3	79.7	112	06/21/2019
p-Isopropyltoluene	2.0		**46.9**	50.00	0	93.7	76.2	122	06/21/2019
sec-Butylbenzene	2.0		**47.3**	50.00	0	94.6	76.6	119	06/21/2019
Styrene	2.0		**48.4**	50.00	0	96.8	82.8	116	06/21/2019
tert-Butylbenzene	2.0		**45.1**	50.00	0	90.2	74.7	117	06/21/2019
Tetrachloroethene	0.5		**46.8**	50.00	0	93.6	80.6	122	06/21/2019
Toluene	2.0		**45.7**	50.00	0	91.4	78.3	112	06/21/2019
trans-1,2-Dichloroethene	2.0		**52.4**	50.00	0	104.9	73.5	124	06/21/2019
trans-1,3-Dichloropropene	2.0		**47.8**	50.00	0	95.7	83.4	124	06/21/2019
Trichloroethene	2.0		**49.5**	50.00	0	99.0	74.3	125	06/21/2019
Trichlorofluoromethane	5.0		**54.0**	50.00	0	108.0	71.5	136	06/21/2019
Vinyl acetate	5.0		**50.1**	50.00	0	100.2	65.9	136	06/21/2019
Vinyl chloride	2.0		**48.4**	50.00	0	96.8	55.8	135	06/21/2019
Xylenes, Total	4.0		**139**	150.0	0	92.8	80.2	113	06/21/2019
Surr: 1,2-Dichloroethane-d4			**47.7**	50.00		95.4	79.6	118	06/21/2019
Surr: 4-Bromofluorobenzene			**48.2**	50.00		96.5	83.9	115	06/21/2019
Surr: Dibromofluoromethane			**47.9**	50.00		95.8	84.9	113	06/21/2019
Surr: Toluene-d8			**47.5**	50.00		95.0	86.7	112	06/21/2019

Teklab, Inc.
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Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061444

Report Date: 25-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154594 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-AE190621A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**46.8**	50.00	0	93.6	47.93	2.41	06/21/2019
1,1,1-Trichloroethane	2.0		**52.6**	50.00	0	105.1	53.99	2.70	06/21/2019
1,1,2,2-Tetrachloroethane	2.0		**43.9**	50.00	0	87.8	45.60	3.75	06/21/2019
1,1,2-Trichloroethane	0.5		**46.9**	50.00	0	93.8	47.35	0.98	06/21/2019
1,1-Dichloroethane	2.0		**49.8**	50.00	0	99.7	51.15	2.57	06/21/2019
1,1-Dichloroethene	2.0		**49.7**	50.00	0	99.4	50.93	2.46	06/21/2019
1,1-Dichloropropene	2.0		**50.1**	50.00	0	100.1	52.01	3.82	06/21/2019
1,2,3-Trichlorobenzene	2.0		**47.1**	50.00	0	94.2	48.75	3.42	06/21/2019
1,2,3-Trichloropropane	2.0		**43.2**	50.00	0	86.5	44.41	2.69	06/21/2019
1,2,4-Trichlorobenzene	2.0		**45.1**	50.00	0	90.1	45.99	2.02	06/21/2019
1,2,4-Trimethylbenzene	2.0		**44.2**	50.00	0	88.4	46.26	4.51	06/21/2019
1,2-Dibromo-3-chloropropane	5.0		**46.0**	50.00	0	92.1	46.27	0.52	06/21/2019
1,2-Dibromoethane	2.0		**46.4**	50.00	0	92.7	47.24	1.90	06/21/2019
1,2-Dichlorobenzene	2.0		**43.0**	50.00	0	85.9	43.98	2.37	06/21/2019
1,2-Dichloroethane	2.0		**47.9**	50.00	0	95.8	47.89	0.06	06/21/2019
1,2-Dichloropropane	2.0		**48.9**	50.00	0	97.9	49.91	1.98	06/21/2019
1,3,5-Trimethylbenzene	2.0		**44.5**	50.00	0	89.0	46.41	4.18	06/21/2019
1,3-Dichlorobenzene	2.0		**42.6**	50.00	0	85.2	44.32	3.91	06/21/2019
1,3-Dichloropropane	2.0		**45.7**	50.00	0	91.3	46.35	1.50	06/21/2019
1,4-Dichlorobenzene	2.0		**43.3**	50.00	0	86.6	44.07	1.79	06/21/2019
2,2-Dichloropropane	2.0		**50.1**	50.00	0	100.2	52.39	4.43	06/21/2019
2-Butanone	10.0		**125**	125.0	0	99.9	122.8	1.66	06/21/2019
2-Chloroethyl vinyl ether	5.0	S	**119**	50.00	0	238.4	115.4	3.27	06/21/2019
2-Chlorotoluene	2.0		**42.8**	50.00	0	85.7	44.94	4.76	06/21/2019
2-Hexanone	10.0		**118**	125.0	0	94.0	116.7	0.74	06/21/2019
4-Chlorotoluene	2.0		**43.3**	50.00	0	86.6	44.94	3.72	06/21/2019
4-Methyl-2-pentanone	10.0		**117**	125.0	0	93.3	117.7	0.92	06/21/2019
Acetone	10.0		**117**	125.0	0	93.3	118.2	1.30	06/21/2019
Acrolein	20.0		**496**	500.0	0	99.1	484.8	2.18	06/21/2019
Acrylonitrile	5.0		**48.8**	50.00	0	97.6	48.67	0.27	06/21/2019
Benzene	0.5		**48.6**	50.00	0	97.3	49.63	2.04	06/21/2019
Bromobenzene	2.0		**44.0**	50.00	0	88.0	46.34	5.18	06/21/2019
Bromochloromethane	2.0		**47.6**	50.00	0	95.2	48.64	2.12	06/21/2019
Bromodichloromethane	2.0		**49.5**	50.00	0	99.0	50.72	2.43	06/21/2019
Bromoform	2.0		**49.2**	50.00	0	98.4	49.75	1.09	06/21/2019
Bromomethane	5.0		**54.0**	50.00	0	107.9	47.71	12.31	06/21/2019
Carbon disulfide	2.0		**47.2**	50.00	0	94.5	48.56	2.73	06/21/2019
Carbon tetrachloride	2.0		**51.9**	50.00	0	103.8	53.26	2.59	06/21/2019
Chlorobenzene	2.0		**45.1**	50.00	0	90.3	46.34	2.62	06/21/2019
Chloroethane	2.0		**47.5**	50.00	0	95.1	49.22	3.47	06/21/2019
Chloroform	2.0		**48.9**	50.00	0	97.7	49.57	1.42	06/21/2019
Chloromethane	5.0		**52.0**	50.00	0	104.0	51.12	1.73	06/21/2019
cis-1,2-Dichloroethene	2.0		**49.0**	50.00	0	98.0	50.59	3.21	06/21/2019
cis-1,3-Dichloropropene	2.0		**51.0**	50.00	0	102.1	51.68	1.23	06/21/2019
Dibromochloromethane	2.0		**48.0**	50.00	0	96.0	49.18	2.47	06/21/2019
Dichlorodifluoromethane	2.0		**50.4**	50.00	0	100.9	51.49	2.08	06/21/2019
Ethyl methacrylate	5.0		**47.0**	50.00	0	94.0	46.80	0.43	06/21/2019

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Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154594 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-AE190621A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**44.9**	50.00	0	89.8	46.29	3.05	06/21/2019
Hexachlorobutadiene	5.0		**46.3**	50.00	0	92.6	48.26	4.17	06/21/2019
Isopropylbenzene	2.0		**47.0**	50.00	0	94.1	48.17	2.35	06/21/2019
m,p-Xylenes	2.0		**90.8**	100.0	0	90.8	93.58	3.03	06/21/2019
Methyl tert-butyl ether	2.0		**51.0**	50.00	0	101.9	50.89	0.16	06/21/2019
Methylene chloride	10.0		**45.4**	50.00	0	90.8	46.04	1.40	06/21/2019
Naphthalene	5.0		**48.2**	50.00	0	96.3	48.86	1.42	06/21/2019
n-Butylbenzene	2.0		**44.0**	50.00	0	88.0	45.60	3.62	06/21/2019
n-Propylbenzene	2.0		**43.5**	50.00	0	87.0	45.59	4.65	06/21/2019
o-Xylene	2.0		**44.7**	50.00	0	89.4	45.66	2.10	06/21/2019
p-Isopropyltoluene	2.0		**44.6**	50.00	0	89.2	46.87	4.94	06/21/2019
sec-Butylbenzene	2.0		**45.0**	50.00	0	90.0	47.31	5.05	06/21/2019
Styrene	2.0		**46.9**	50.00	0	93.8	48.38	3.11	06/21/2019
tert-Butylbenzene	2.0		**43.4**	50.00	0	86.9	45.12	3.79	06/21/2019
Tetrachloroethene	0.5		**45.1**	50.00	0	90.3	46.78	3.57	06/21/2019
Toluene	2.0		**44.4**	50.00	0	88.9	45.72	2.84	06/21/2019
trans-1,2-Dichloroethene	2.0		**50.8**	50.00	0	101.6	52.44	3.18	06/21/2019
trans-1,3-Dichloropropene	2.0		**47.0**	50.00	0	94.1	47.83	1.67	06/21/2019
Trichloroethene	2.0		**48.6**	50.00	0	97.1	49.52	1.96	06/21/2019
Trichlorofluoromethane	5.0		**52.2**	50.00	0	104.4	54.02	3.43	06/21/2019
Vinyl acetate	5.0		**51.0**	50.00	0	102.0	50.11	1.80	06/21/2019
Vinyl chloride	2.0		**47.4**	50.00	0	94.9	48.38	1.94	06/21/2019
Xylenes, Total	4.0		**136**	150.0	0	90.3	139.2	2.72	06/21/2019
Surr: 1,2-Dichloroethane-d4			**48.2**	50.00		96.3			06/21/2019
Surr: 4-Bromofluorobenzene			**47.4**	50.00		94.8			06/21/2019
Surr: Dibromofluoromethane			**47.6**	50.00		95.3			06/21/2019
Surr: Toluene-d8			**47.3**	50.00		94.7			06/21/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

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Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061444

Report Date: 25-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154601 **SampType:** MBLK Units µg/Kg

SampID: MBLK-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/24/2019
1,1,1-Trichloroethane	2.0		ND						06/24/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/24/2019
1,1,2-Trichloroethane	5.0		ND						06/24/2019
1,1-Dichloroethane	2.0		ND						06/24/2019
1,1-Dichloroethene	2.0		ND						06/24/2019
1,1-Dichloropropene	2.0		ND						06/24/2019
1,2,3-Trichlorobenzene	2.0		ND						06/24/2019
1,2,3-Trichloropropane	2.0		ND						06/24/2019
1,2,4-Trichlorobenzene	2.0		ND						06/24/2019
1,2,4-Trimethylbenzene	2.0		ND						06/24/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/24/2019
1,2-Dibromoethane	2.0		ND						06/24/2019
1,2-Dichlorobenzene	2.0		ND						06/24/2019
1,2-Dichloroethane	2.0		ND						06/24/2019
1,2-Dichloropropane	2.0		ND						06/24/2019
1,3,5-Trimethylbenzene	2.0		ND						06/24/2019
1,3-Dichlorobenzene	2.0		ND						06/24/2019
1,3-Dichloropropane	2.0		ND						06/24/2019
1,4-Dichlorobenzene	2.0		ND						06/24/2019
2,2-Dichloropropane	2.0		ND						06/24/2019
2-Butanone	25.0		ND						06/24/2019
2-Chloroethyl vinyl ether	5.0		ND						06/24/2019
2-Chlorotoluene	2.0		ND						06/24/2019
2-Hexanone	25.0		ND						06/24/2019
4-Chlorotoluene	2.0		ND						06/24/2019
4-Methyl-2-pentanone	25.0		ND						06/24/2019
Acetone	25.0		ND						06/24/2019
Acrolein	50.0		ND						06/24/2019
Acrylonitrile	5.0		ND						06/24/2019
Benzene	1.0		ND						06/24/2019
Bromobenzene	2.0		ND						06/24/2019
Bromochloromethane	2.0		ND						06/24/2019
Bromodichloromethane	2.0		ND						06/24/2019
Bromoform	5.0		ND						06/24/2019
Bromomethane	10.0		ND						06/24/2019
Carbon disulfide	2.0		ND						06/24/2019
Carbon tetrachloride	2.0		ND						06/24/2019
Chlorobenzene	2.0		ND						06/24/2019
Chloroethane	10.0		ND						06/24/2019
Chloroform	2.0		ND						06/24/2019
Chloromethane	10.0		ND						06/24/2019
cis-1,2-Dichloroethene	2.0		ND						06/24/2019
cis-1,3-Dichloropropene	2.0		ND						06/24/2019
Dibromochloromethane	2.0		ND						06/24/2019
Dichlorodifluoromethane	10.0		ND						06/24/2019
Ethyl methacrylate	2.0		ND						06/24/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154601 **SampType:** MBLK Units µg/Kg
SampID: MBLK-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/24/2019
Hexachlorobutadiene	2.0		ND						06/24/2019
Isopropylbenzene	2.0		ND						06/24/2019
m,p-Xylenes	4.0		ND						06/24/2019
Methyl tert-butyl ether	2.0		ND						06/24/2019
Methylene chloride	10.0		ND						06/24/2019
Naphthalene	5.0		ND						06/24/2019
n-Butylbenzene	2.0		ND						06/24/2019
n-Propylbenzene	2.0		ND						06/24/2019
o-Xylene	4.0		ND						06/24/2019
p-Isopropyltoluene	2.0		ND						06/24/2019
sec-Butylbenzene	2.0		ND						06/24/2019
Styrene	2.0		ND						06/24/2019
tert-Butylbenzene	2.0		ND						06/24/2019
Tetrachloroethene	2.0		ND						06/24/2019
Toluene	2.0		ND						06/24/2019
trans-1,2-Dichloroethene	2.0		ND						06/24/2019
trans-1,3-Dichloropropene	2.0		ND						06/24/2019
Trichloroethene	2.0		ND						06/24/2019
Trichlorofluoromethane	5.0		ND						06/24/2019
Vinyl acetate	50.0		ND						06/24/2019
Vinyl chloride	2.0		ND						06/24/2019
Xylenes, Total	8.0		ND						06/24/2019
Surr: 1,2-Dichloroethane-d4			**48.3**	50.00		96.7	74	124	06/24/2019
Surr: 4-Bromofluorobenzene			**48.4**	50.00		96.9	79.4	123	06/24/2019
Surr: Dibromofluoromethane			**50.1**	50.00		100.2	89.2	112	06/24/2019
Surr: Toluene-d8			**49.0**	50.00		97.9	85	115	06/24/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061444

Report Date: 25-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154601 **SampType:** LCS Units µg/Kg

SampID: LCS-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**53.2**	50.00	0	106.5	84.3	128	06/24/2019
1,1,1-Trichloroethane	2.0		**56.8**	50.00	0	113.7	75.6	132	06/24/2019
1,1,2,2-Tetrachloroethane	2.0		**49.3**	50.00	0	98.7	81.4	126	06/24/2019
1,1,2-Trichloroethane	5.0		**52.6**	50.00	0	105.1	87.3	122	06/24/2019
1,1-Dichloroethane	2.0		**56.9**	50.00	0	113.9	84.6	123	06/24/2019
1,1-Dichloroethene	2.0		**53.6**	50.00	0	107.1	73.6	134	06/24/2019
1,1-Dichloropropene	2.0		**53.6**	50.00	0	107.1	76	132	06/24/2019
1,2,3-Trichlorobenzene	2.0		**53.6**	50.00	0	107.2	78.2	139	06/24/2019
1,2,3-Trichloropropane	2.0		**47.5**	50.00	0	94.9	81.5	125	06/24/2019
1,2,4-Trichlorobenzene	2.0		**54.6**	50.00	0	109.1	67.8	154	06/24/2019
1,2,4-Trimethylbenzene	2.0		**52.7**	50.00	0	105.3	79.6	129	06/24/2019
1,2-Dibromo-3-chloropropane	5.0		**44.9**	50.00	0	89.7	71.5	135	06/24/2019
1,2-Dibromoethane	2.0		**52.0**	50.00	0	104.0	86.2	127	06/24/2019
1,2-Dichlorobenzene	2.0		**52.0**	50.00	0	103.9	82	126	06/24/2019
1,2-Dichloroethane	2.0		**53.5**	50.00	0	107.0	77.1	130	06/24/2019
1,2-Dichloropropane	2.0		**53.8**	50.00	0	107.7	89.8	126	06/24/2019
1,3,5-Trimethylbenzene	2.0		**51.6**	50.00	0	103.3	79	129	06/24/2019
1,3-Dichlorobenzene	2.0		**52.5**	50.00	0	104.9	80.9	132	06/24/2019
1,3-Dichloropropane	2.0		**51.2**	50.00	0	102.4	84	123	06/24/2019
1,4-Dichlorobenzene	2.0		**53.0**	50.00	0	105.9	78.3	131	06/24/2019
2,2-Dichloropropane	2.0		**54.5**	50.00	0	108.9	74.8	133	06/24/2019
2-Butanone	25.0		**130**	125.0	0	104.3	75	140	06/24/2019
2-Chloroethyl vinyl ether	5.0		**50.5**	50.00	0	100.9	72	142	06/24/2019
2-Chlorotoluene	2.0		**50.9**	50.00	0	101.7	78.5	128	06/24/2019
2-Hexanone	25.0		**124**	125.0	0	99.5	74.9	131	06/24/2019
4-Chlorotoluene	2.0		**50.9**	50.00	0	101.8	77.1	132	06/24/2019
4-Methyl-2-pentanone	25.0		**123**	125.0	0	98.6	81.3	127	06/24/2019
Acetone	25.0		**152**	125.0	0	121.5	52.2	164	06/24/2019
Acrolein	50.0		**479**	500.0	0	95.8	1	211	06/24/2019
Acrylonitrile	5.0		**50.6**	50.00	0	101.3	82.8	135	06/24/2019
Benzene	1.0		**54.5**	50.00	0	109.1	85.2	124	06/24/2019
Bromobenzene	2.0		**52.1**	50.00	0	104.2	81.7	125	06/24/2019
Bromochloromethane	2.0		**53.5**	50.00	0	107.1	84.8	127	06/24/2019
Bromodichloromethane	2.0		**55.0**	50.00	0	110.1	88.9	129	06/24/2019
Bromoform	5.0		**52.3**	50.00	0	104.6	79.3	134	06/24/2019
Bromomethane	10.0		**38.1**	50.00	0	76.3	17	207	06/24/2019
Carbon disulfide	2.0		**53.8**	50.00	0	107.6	74.5	131	06/24/2019
Carbon tetrachloride	2.0		**53.3**	50.00	0	106.5	73.6	133	06/24/2019
Chlorobenzene	2.0		**53.3**	50.00	0	106.6	86.1	123	06/24/2019
Chloroethane	10.0		**52.6**	50.00	0	105.3	77.2	130	06/24/2019
Chloroform	2.0		**50.3**	50.00	0	100.6	86.8	123	06/24/2019
Chloromethane	10.0		**51.7**	50.00	0	103.4	59.5	149	06/24/2019
cis-1,2-Dichloroethene	2.0		**54.6**	50.00	0	109.2	85	125	06/24/2019
cis-1,3-Dichloropropene	2.0		**53.2**	50.00	0	106.3	89.6	130	06/24/2019
Dibromochloromethane	2.0		**51.7**	50.00	0	103.3	87	129	06/24/2019
Dichlorodifluoromethane	10.0		**55.6**	50.00	0	111.1	40.9	168	06/24/2019
Ethyl methacrylate	2.0		**51.1**	50.00	0	102.2	87.6	125	06/24/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154601 **SampType:** LCS Units µg/Kg
SampID: LCS-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**52.0**	50.00	0	104.0	82.3	125	06/24/2019
Hexachlorobutadiene	2.0		**54.9**	50.00	0	109.7	67.5	144	06/24/2019
Isopropylbenzene	2.0		**53.2**	50.00	0	106.4	78.5	129	06/24/2019
m,p-Xylenes	4.0		**105**	100.0	0	104.9	80.4	128	06/24/2019
Methyl tert-butyl ether	2.0		**52.0**	50.00	0	103.9	86.2	126	06/24/2019
Methylene chloride	10.0		**48.5**	50.00	0	97.0	79.4	125	06/24/2019
Naphthalene	5.0		**49.2**	50.00	0	98.4	81	127	06/24/2019
n-Butylbenzene	2.0		**51.9**	50.00	0	103.9	67.4	142	06/24/2019
n-Propylbenzene	2.0		**51.5**	50.00	0	102.9	72.3	133	06/24/2019
o-Xylene	4.0		**52.2**	50.00	0	104.4	85	124	06/24/2019
p-Isopropyltoluene	2.0		**51.8**	50.00	0	103.5	75.4	133	06/24/2019
sec-Butylbenzene	2.0		**52.2**	50.00	0	104.4	72.1	132	06/24/2019
Styrene	2.0		**53.2**	50.00	0	106.4	86.7	127	06/24/2019
tert-Butylbenzene	2.0		**50.2**	50.00	0	100.4	73.5	129	06/24/2019
Tetrachloroethene	2.0		**53.9**	50.00	0	107.8	75.8	131	06/24/2019
Toluene	2.0		**49.9**	50.00	0	99.9	81	123	06/24/2019
trans-1,2-Dichloroethene	2.0		**55.9**	50.00	0	111.9	80.8	130	06/24/2019
trans-1,3-Dichloropropene	2.0		**52.4**	50.00	0	104.7	82.8	133	06/24/2019
Trichloroethene	2.0		**55.5**	50.00	0	111.0	83.6	129	06/24/2019
Trichlorofluoromethane	5.0		**52.8**	50.00	0	105.6	63	136	06/24/2019
Vinyl acetate	50.0		**53.4**	50.00	0	106.8	81.6	133	06/24/2019
Vinyl chloride	2.0		**51.6**	50.00	0	103.3	55	149	06/24/2019
Xylenes, Total	8.0		**157**	150.0	0	104.7	82.2	127	06/24/2019
Surr: 1,2-Dichloroethane-d4			**48.4**	50.00		96.8	74	124	06/24/2019
Surr: 4-Bromofluorobenzene			**48.9**	50.00		97.8	79.4	123	06/24/2019
Surr: Dibromofluoromethane			**49.8**	50.00		99.7	89.2	112	06/24/2019
Surr: Toluene-d8			**48.2**	50.00		96.4	85	115	06/24/2019

Teklab, Inc.
Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154601 **SampType:** LCSD Units µg/Kg RPD Limit 40
SampID: LCSD-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**53.8**	50.00	0	107.6	53.25	0.99	06/24/2019
1,1,1-Trichloroethane	2.0		**56.9**	50.00	0	113.8	56.83	0.09	06/24/2019
1,1,2,2-Tetrachloroethane	2.0		**49.2**	50.00	0	98.4	49.34	0.28	06/24/2019
1,1,2-Trichloroethane	5.0		**52.8**	50.00	0	105.5	52.55	0.42	06/24/2019
1,1-Dichloroethane	2.0		**56.9**	50.00	0	113.9	56.93	0.00	06/24/2019
1,1-Dichloroethene	2.0		**53.4**	50.00	0	106.7	53.57	0.41	06/24/2019
1,1-Dichloropropene	2.0		**54.3**	50.00	0	108.6	53.57	1.34	06/24/2019
1,2,3-Trichlorobenzene	2.0		**53.5**	50.00	0	107.0	53.61	0.17	06/24/2019
1,2,3-Trichloropropane	2.0		**47.4**	50.00	0	94.7	47.47	0.21	06/24/2019
1,2,4-Trichlorobenzene	2.0		**54.4**	50.00	0	108.9	54.55	0.20	06/24/2019
1,2,4-Trimethylbenzene	2.0		**52.5**	50.00	0	105.0	52.67	0.32	06/24/2019
1,2-Dibromo-3-chloropropane	5.0		**45.2**	50.00	0	90.4	44.87	0.75	06/24/2019
1,2-Dibromoethane	2.0		**52.0**	50.00	0	104.1	51.99	0.10	06/24/2019
1,2-Dichlorobenzene	2.0		**52.6**	50.00	0	105.3	51.97	1.28	06/24/2019
1,2-Dichloroethane	2.0		**53.8**	50.00	0	107.7	53.48	0.67	06/24/2019
1,2-Dichloropropane	2.0		**54.4**	50.00	0	108.7	53.84	0.94	06/24/2019
1,3,5-Trimethylbenzene	2.0		**51.7**	50.00	0	103.3	51.65	0.02	06/24/2019
1,3-Dichlorobenzene	2.0		**52.9**	50.00	0	105.8	52.46	0.80	06/24/2019
1,3-Dichloropropane	2.0		**51.3**	50.00	0	102.5	51.21	0.10	06/24/2019
1,4-Dichlorobenzene	2.0		**52.8**	50.00	0	105.6	52.96	0.30	06/24/2019
2,2-Dichloropropane	2.0		**54.9**	50.00	0	109.8	54.47	0.80	06/24/2019
2-Butanone	25.0		**130**	125.0	0	103.9	130.3	0.32	06/24/2019
2-Chloroethyl vinyl ether	5.0		**50.9**	50.00	0	101.8	50.47	0.85	06/24/2019
2-Chlorotoluene	2.0		**50.9**	50.00	0	101.8	50.86	0.04	06/24/2019
2-Hexanone	25.0		**122**	125.0	0	98.0	124.3	1.51	06/24/2019
4-Chlorotoluene	2.0		**50.8**	50.00	0	101.7	50.90	0.14	06/24/2019
4-Methyl-2-pentanone	25.0		**121**	125.0	0	96.8	123.3	1.86	06/24/2019
Acetone	25.0		**151**	125.0	0	120.5	151.8	0.80	06/24/2019
Acrolein	50.0		**478**	500.0	0	95.6	479.2	0.26	06/24/2019
Acrylonitrile	5.0		**48.9**	50.00	0	97.7	50.63	3.54	06/24/2019
Benzene	1.0		**54.6**	50.00	0	109.1	54.54	0.02	06/24/2019
Bromobenzene	2.0		**52.8**	50.00	0	105.6	52.11	1.28	06/24/2019
Bromochloromethane	2.0		**54.1**	50.00	0	108.1	53.53	1.00	06/24/2019
Bromodichloromethane	2.0		**55.1**	50.00	0	110.1	55.05	0.04	06/24/2019
Bromoform	5.0		**52.9**	50.00	0	105.9	52.28	1.25	06/24/2019
Bromomethane	10.0		**41.6**	50.00	0	83.2	38.13	8.75	06/24/2019
Carbon disulfide	2.0		**54.0**	50.00	0	107.9	53.80	0.30	06/24/2019
Carbon tetrachloride	2.0		**53.9**	50.00	0	107.8	53.26	1.21	06/24/2019
Chlorobenzene	2.0		**53.6**	50.00	0	107.2	53.28	0.58	06/24/2019
Chloroethane	10.0		**54.0**	50.00	0	108.0	52.64	2.55	06/24/2019
Chloroform	2.0		**50.4**	50.00	0	100.9	50.29	0.28	06/24/2019
Chloromethane	10.0		**52.7**	50.00	0	105.4	51.71	1.86	06/24/2019
cis-1,2-Dichloroethene	2.0		**55.3**	50.00	0	110.5	54.62	1.18	06/24/2019
cis-1,3-Dichloropropene	2.0		**53.1**	50.00	0	106.1	53.15	0.15	06/24/2019
Dibromochloromethane	2.0		**51.9**	50.00	0	103.8	51.66	0.44	06/24/2019
Dichlorodifluoromethane	10.0		**54.6**	50.00	0	109.2	55.57	1.76	06/24/2019
Ethyl methacrylate	2.0		**51.6**	50.00	0	103.3	51.11	1.05	06/24/2019

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061444

Report Date: 25-Jun-2019

SW-846 5035, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154601 **SampType:** LCSD Units µg/Kg RPD Limit 40

SampID: LCSD-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		52.5	50.00	0	105.0	52.00	0.92	06/24/2019
Hexachlorobutadiene	2.0		54.3	50.00	0	108.5	54.87	1.12	06/24/2019
Isopropylbenzene	2.0		53.3	50.00	0	106.7	53.19	0.26	06/24/2019
m,p-Xylenes	4.0		105	100.0	0	105.0	104.9	0.15	06/24/2019
Methyl tert-butyl ether	2.0		52.3	50.00	0	104.7	51.96	0.73	06/24/2019
Methylene chloride	10.0		49.8	50.00	0	99.5	48.49	2.61	06/24/2019
Naphthalene	5.0		49.6	50.00	0	99.2	49.19	0.85	06/24/2019
n-Butylbenzene	2.0		51.6	50.00	0	103.1	51.93	0.70	06/24/2019
n-Propylbenzene	2.0		51.3	50.00	0	102.6	51.47	0.37	06/24/2019
o-Xylene	4.0		52.7	50.00	0	105.4	52.22	0.95	06/24/2019
p-Isopropyltoluene	2.0		52.3	50.00	0	104.7	51.76	1.10	06/24/2019
sec-Butylbenzene	2.0		52.0	50.00	0	104.0	52.18	0.35	06/24/2019
Styrene	2.0		53.7	50.00	0	107.3	53.20	0.88	06/24/2019
tert-Butylbenzene	2.0		50.3	50.00	0	100.6	50.21	0.20	06/24/2019
Tetrachloroethene	2.0		54.0	50.00	0	107.9	53.88	0.15	06/24/2019
Toluene	2.0		50.1	50.00	0	100.2	49.93	0.32	06/24/2019
trans-1,2-Dichloroethene	2.0		56.5	50.00	0	112.9	55.93	0.96	06/24/2019
trans-1,3-Dichloropropene	2.0		53.3	50.00	0	106.5	52.35	1.74	06/24/2019
Trichloroethene	2.0		54.9	50.00	0	109.9	55.49	1.00	06/24/2019
Trichlorofluoromethane	5.0		52.4	50.00	0	104.7	52.78	0.78	06/24/2019
Vinyl acetate	50.0		51.5	50.00	0	103.0	53.41	3.60	06/24/2019
Vinyl chloride	2.0		51.8	50.00	0	103.5	51.64	0.23	06/24/2019
Xylenes, Total	8.0		158	150.0	0	105.2	157.1	0.42	06/24/2019
Surr: 1,2-Dichloroethane-d4			48.5	50.00		96.9			06/24/2019
Surr: 4-Bromofluorobenzene			48.2	50.00		96.3			06/24/2019
Surr: Dibromofluoromethane			50.7	50.00		101.4			06/24/2019
Surr: Toluene-d8			48.8	50.00		97.5			06/24/2019

Batch 154601 **SampType:** LCSG Units %REC

SampID: LCSG-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			47.8	50.00		95.5	74	124	06/24/2019
Surr: 4-Bromofluorobenzene			48.6	50.00		97.2	79.4	123	06/24/2019
Surr: Dibromofluoromethane			49.8	50.00		99.6	89.2	112	06/24/2019
Surr: Toluene-d8			49.6	50.00		99.2	85	115	06/24/2019

Batch 154601 **SampType:** LCSGD Units %REC RPD Limit 0

SampID: LCSGD-AF190624A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			47.3	50.00		94.6			06/24/2019
Surr: 4-Bromofluorobenzene			48.4	50.00		96.9			06/24/2019
Surr: Dibromofluoromethane			49.8	50.00		99.7			06/24/2019
Surr: Toluene-d8			49.2	50.00		98.5			06/24/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061444
Report Date: 25-Jun-2019

Carrier: Robert Fleming

Completed by: Elizabeth A. Hurley
On: 21-Jun-2019

Received By: JHR

Reviewed by: Marvin L. Darling II
On: 21-Jun-2019

Marvin L. Darling

Pages to follow: Chain of custody 1 Extra pages included 13

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 8.2
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Trip Blank collection date and time will be reported as the received date and time (end of trip). - ehurley - 6/21/2019 2:03:23 PM

Headspace was present in one of the Trip Blank volatile vials. - ehurley - 6/21/2019 2:03:25 PM

1906144

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☐TESTAMERICA (___Pensacola_____)
☑Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐SGW FDG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☐OTHER _____

Print Bill To Contact Name: James Carrino
PO #: 60592794.1.24.050
PlaNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02
☐CHECK IF NO INCIDENT # APPLIES
DATE 6/21/2019
PAGE: ___1___ of ___1___

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford, State: IL
AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID
SAMPLER NAME(S) (Print): B. Fleming P. LaFleur
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☐STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☑24 HOURS ☐RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST: 8260 Project list VOCs +TICs; 8270 SIM PAH; Moisture; 8270 Project List SVOCs +TICs

NON-UNIT COST: ONE DAY TAT

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
8.2°C Ice
HS in one TB vial. 9AH 6/21/19
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8260	8270 SIM PAH	Moisture	8270 SVOCs +TICs	Container PID Readings or Laboratory Notes
	PD-4-SB-35-062119	6/21/2019	8:45	Soil	X			x	x	5	X	X	X	X	1906144-001 Sodium Bi Sulfate (Preserve), Methanol, Preserve
	TB-PW-062119	6/21/2019	0:00	Water	X					2	X				002
															3 - NaHSO4
															3 - MeOH
															received. 9AH 6/21/19

Relinquished by: (Signature) Robert M. Fleming
Received by: (Signature)
Date: 6/21/19 Time: 13:30

Relinquished by: (Signature)
Received by: (Signature)
Date: Time:

Relinquished by: (Signature)
Received by: (Signature)
Date: Time:

Version: 10May17

9AH 6/21/19

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190624B\
Data File : AA041.D
Acq On : 24 Jun 2019 6:06 pm
Operator : DH
Sample : 19061444-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

Signal : TIC: AA041.D\data.ms

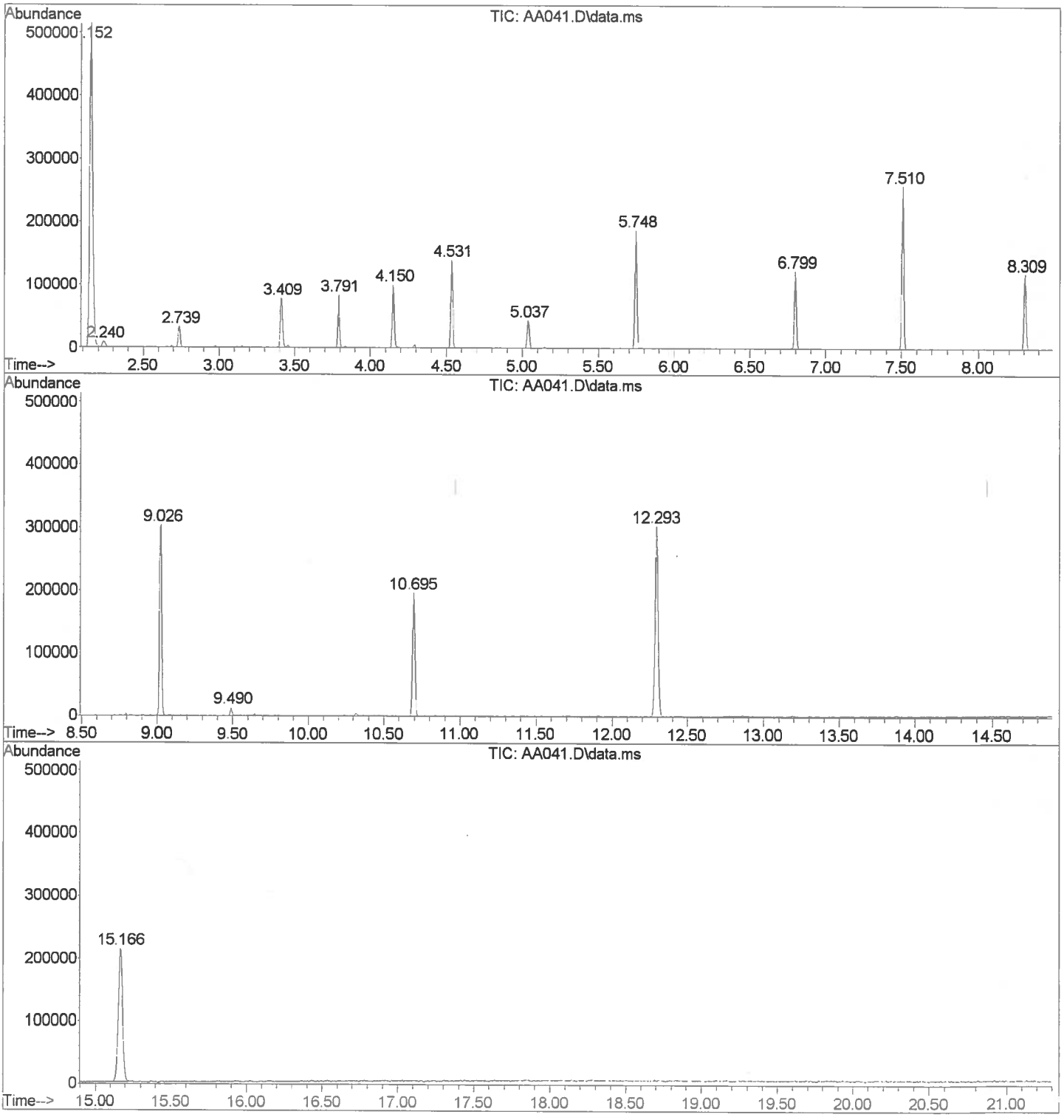
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.152	7	12	23	rVB	513828	733747	100.00%	22.998%
2	2.240	23	27	33	rVB	9005	12224	1.67%	0.383%
3	2.739	108	112	117	rVB	33117	35307	4.81%	1.107%
4	3.409	223	226	231	rVB	77654	79768	10.87%	2.500%
5	3.791	288	291	295	rBV	83543	72763	9.92%	2.281%
6	4.150	349	352	358	rBV	100147	93018	12.68%	2.915%
7	4.531	414	417	423	rBB	139117	136529	18.61%	4.279%
8	5.037	500	503	508	rBV	43968	41731	5.69%	1.308%
9	5.748	620	624	628	rBV	186917	162280	22.12%	5.086%
10	6.799	800	803	807	rVB	123117	103997	14.17%	3.260%
11	7.510	920	924	929	rBV	258733	233925	31.88%	7.332%
12	8.309	1056	1060	1064	rBV	119112	113887	15.52%	3.570%
13	9.026	1178	1182	1186	rBV	303732	306370	41.75%	9.603%
14	9.490	1258	1261	1265	rBV	13323	10451	1.42%	0.328%
15	10.695	1462	1466	1471	rBV	196427	207077	28.22%	6.490%
16	12.293	1732	1738	1747	rVB	302581	434132	59.17%	13.607%
17	15.166	2218	2227	2236	rBV2	212556	413306	56.33%	12.954%

Sum of corrected areas: 3190512

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190624B\
Data File : AA041.D
Acq On : 24 Jun 2019 6:06 pm
Operator : DH
Sample : 19061444-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



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Data File : AA041.D
Acq On : 24 Jun 2019 6:06 pm
Operator : DH
Sample : 19061444-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

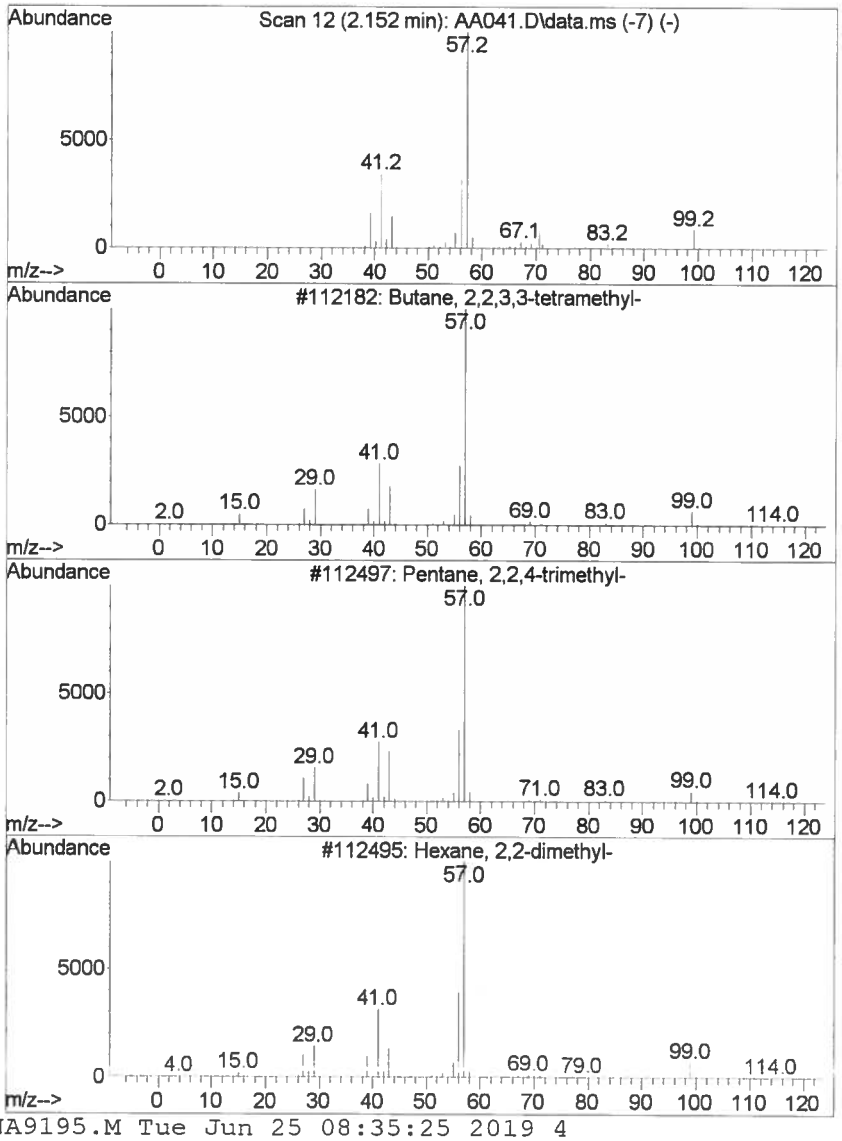
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

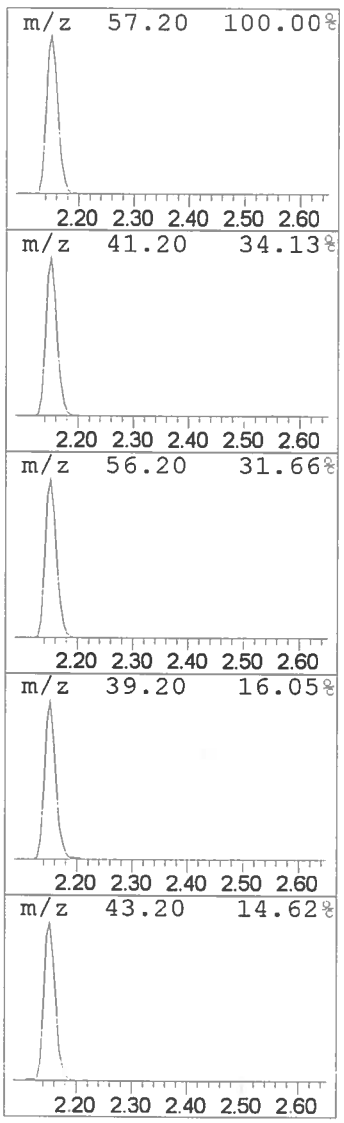
****

Peak Number 1 Butane, 2,2,3,3-tetramethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.152	214.97 ug/ml	733747	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2,3,3-tetramethyl-	114	C8H18	000594-82-1	78
2	Pentane, 2,2,4-trimethyl-	114	C8H18	000540-84-1	78
3	Hexane, 2,2-dimethyl-	114	C8H18	000590-73-8	78
4	Pentane, 2,2,4,4-tetramethyl-	128	C9H20	001070-87-7	50
5	Heptane, 2,2,3,5-tetramethyl-	156	C11H24	061868-42-6	45





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190624B\
Data File : AA041.D
Acq On : 24 Jun 2019 6:06 pm
Operator : DH
Sample : 19061444-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

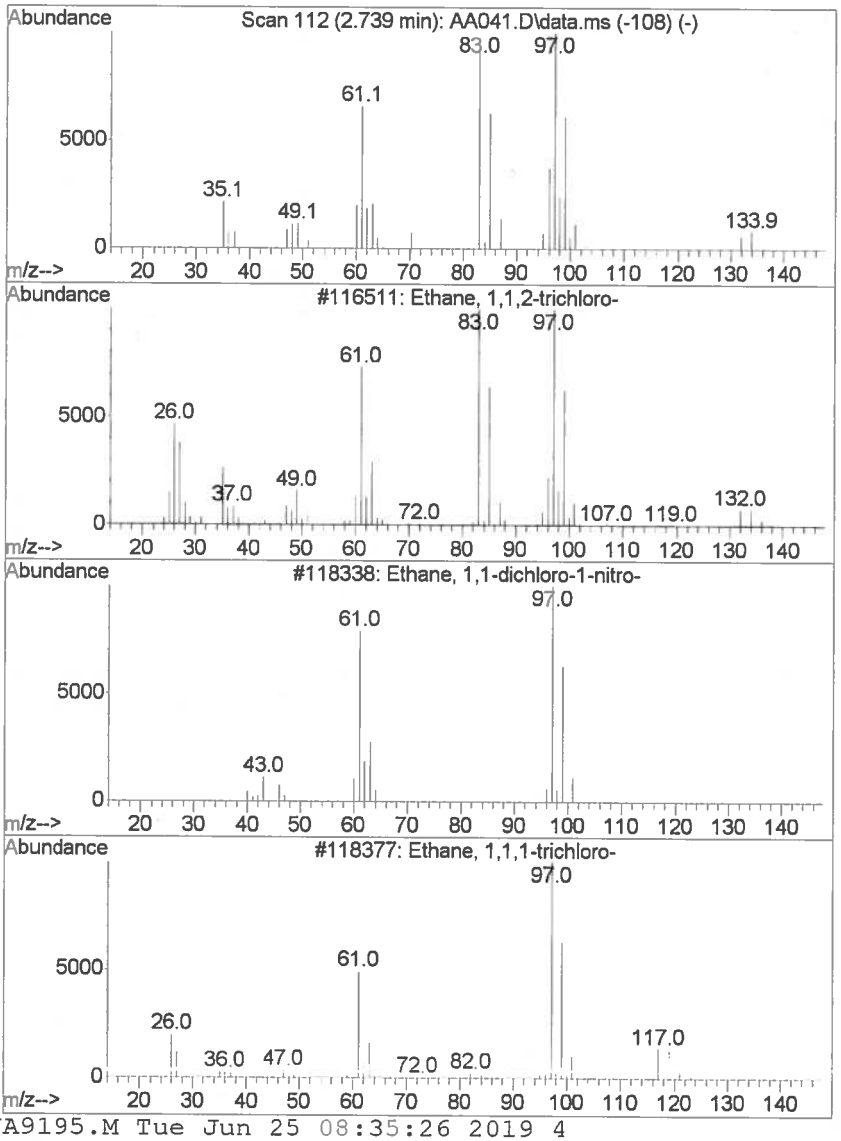
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

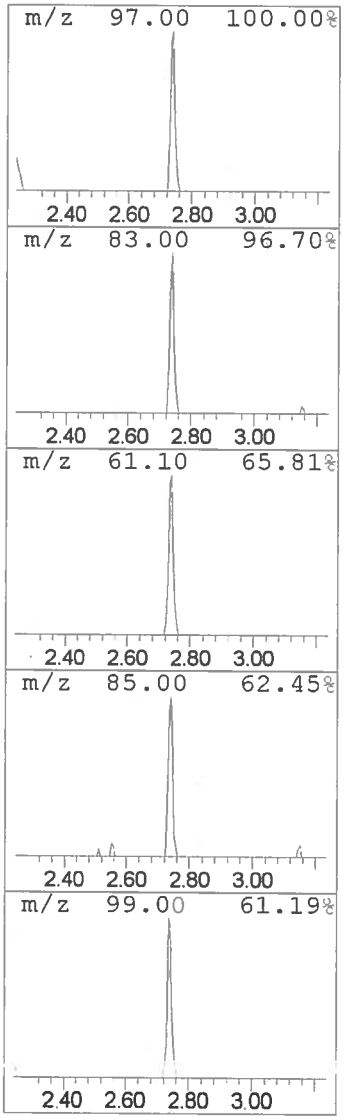
****

Peak Number 2 Ethane, 1,1,2-trichloro- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.739	10.34 ug/ml	35307	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2-trichloro-	132	C2H3Cl3	000079-00-5	97
2	Ethane, 1,1-dichloro-1-nitro-	143	C2H3Cl2NO2	000594-72-9	43
3	Ethane, 1,1,1-trichloro-	132	C2H3Cl3	000071-55-6	22
4	Ethene, 1,2-dichloro-, (Z)-	96	C2H2Cl2	000156-59-2	15
5	Ethene, 1,2-dichloro-, (E)-	96	C2H2Cl2	000156-60-5	15





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190624B\
Data File : AA041.D
Acq On : 24 Jun 2019 6:06 pm
Operator : DH
Sample : 19061444-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

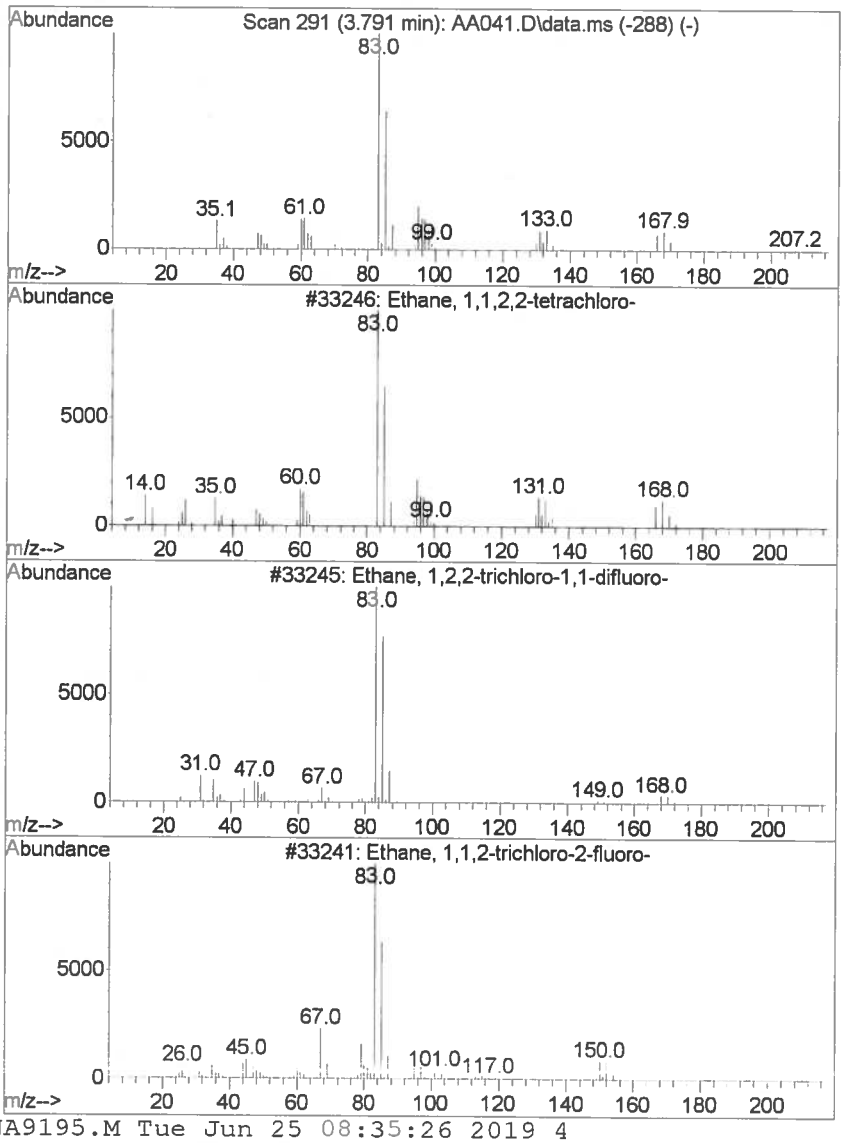
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

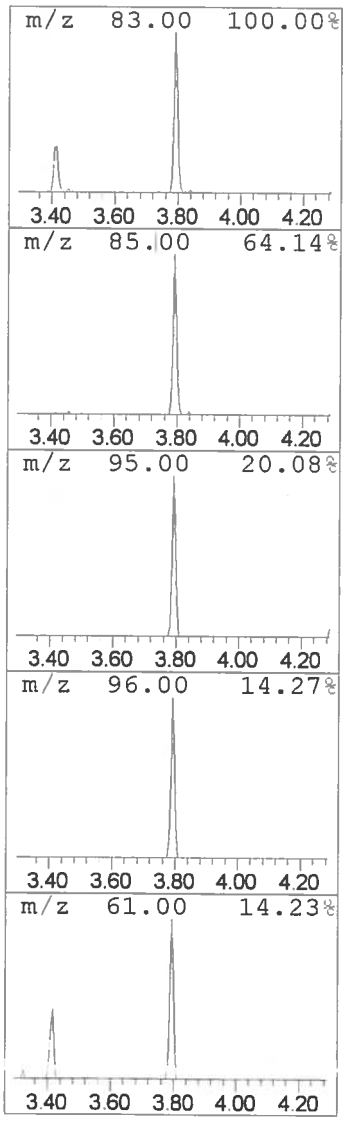
****

Peak Number 3 Ethane, 1,1,2,2-tetrachloro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.791	21.32 ug/ml	72763	1,4-Dichlorobenzene-d4	4.537

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1,2,2-tetrachloro-	166	C2H2Cl4	000079-34-5	97
2	Ethane, 1,2,2-trichloro-1,1-difl...	168	C2HCl3F2	000354-21-2	70
3	Ethane, 1,1,2-trichloro-2-fluoro-	150	C2H2Cl3F	000359-28-4	45
4	Ethane, 1,1-dichloro-2,2-difluoro-	134	C2H2Cl2F2	000471-43-2	42
5	Ethane, 2,2-dichloro-1,1,1-trifl...	152	C2HCl2F3	000306-83-2	42





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190624B\
Data File : AA041.D
Acq On : 24 Jun 2019 6:06 pm
Operator : DH
Sample : 19061444-001A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9195.M
Quant Title : 8270/625 (5/30/19) CURVE2 (5/31/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Butane, 2,2,3,3...	2.152	215.0	ug/ml	733747	1	4.537	136529	40.0
Ethane, 1,1,2-t...	2.739	10.3	ug/ml	35307	1	4.537	136529	40.0
Ethane, 1,1,2,2...	3.791	21.3	ug/ml	72763	1	4.537	136529	40.0

LSC Area Percent Report

CONFIDENTIAL SETTLEMENT COMMUNICATION

Data Path : C:\msdchem\1\data\AF190624A\
Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V 8206S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\methods\VCAF1904.M
Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

Signal : TIC: AF07.D\data.ms

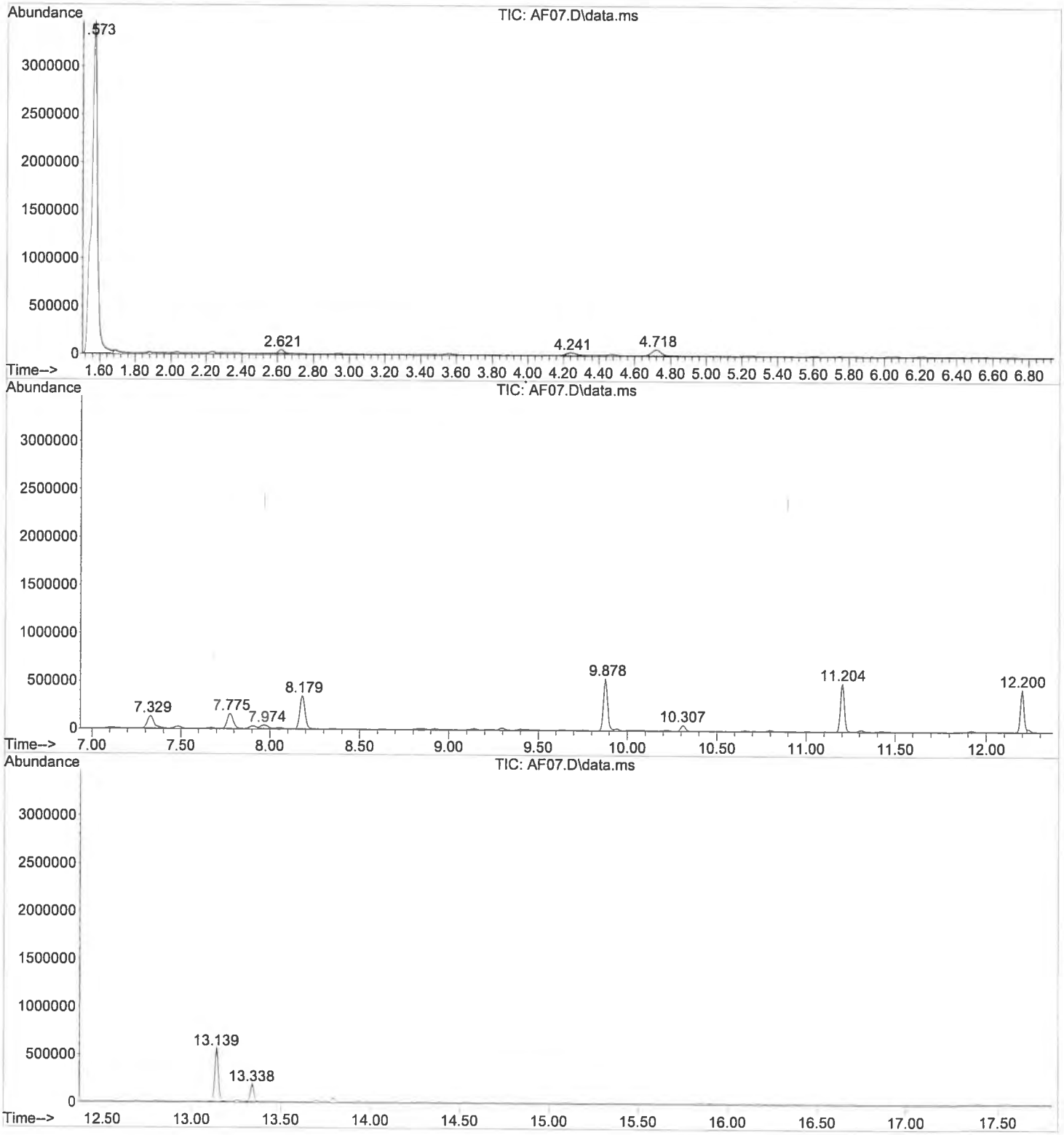
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.573	177	188	208	rBV	3454985	7251071	100.00%	57.817%
2	2.621	381	388	396	rBV	38597	74349	1.03%	0.593%
3	4.241	685	697	713	rBV4	28097	113049	1.56%	0.901%
4	4.718	773	788	803	rBV3	63365	224200	3.09%	1.788%
5	7.329	1273	1286	1305	rBV2	128956	338022	4.66%	2.695%
6	7.775	1361	1371	1387	rBV2	154822	356438	4.92%	2.842%
7	7.974	1401	1409	1418	rVB4	34108	99363	1.37%	0.792%
8	8.179	1439	1448	1463	rBV	343495	705623	9.73%	5.626%
9	9.878	1764	1772	1781	rBV	537355	875420	12.07%	6.980%
10	10.307	1848	1854	1862	rBV	57075	100969	1.39%	0.805%
11	11.204	2017	2025	2036	rBV	498532	755366	10.42%	6.023%
12	12.200	2208	2215	2220	rBV	436936	618480	8.53%	4.931%
13	13.139	2387	2394	2403	rBV	554017	776544	10.71%	6.192%
14	13.338	2425	2432	2438	rBV	183815	252564	3.48%	2.014%

Sum of corrected areas: 12541458

Data Path : C:\msdchem\1\data\AF190624A\
Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V 8206S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P



Data Path : C:\msdchem\1\data\AF190624A\
Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V 8206S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

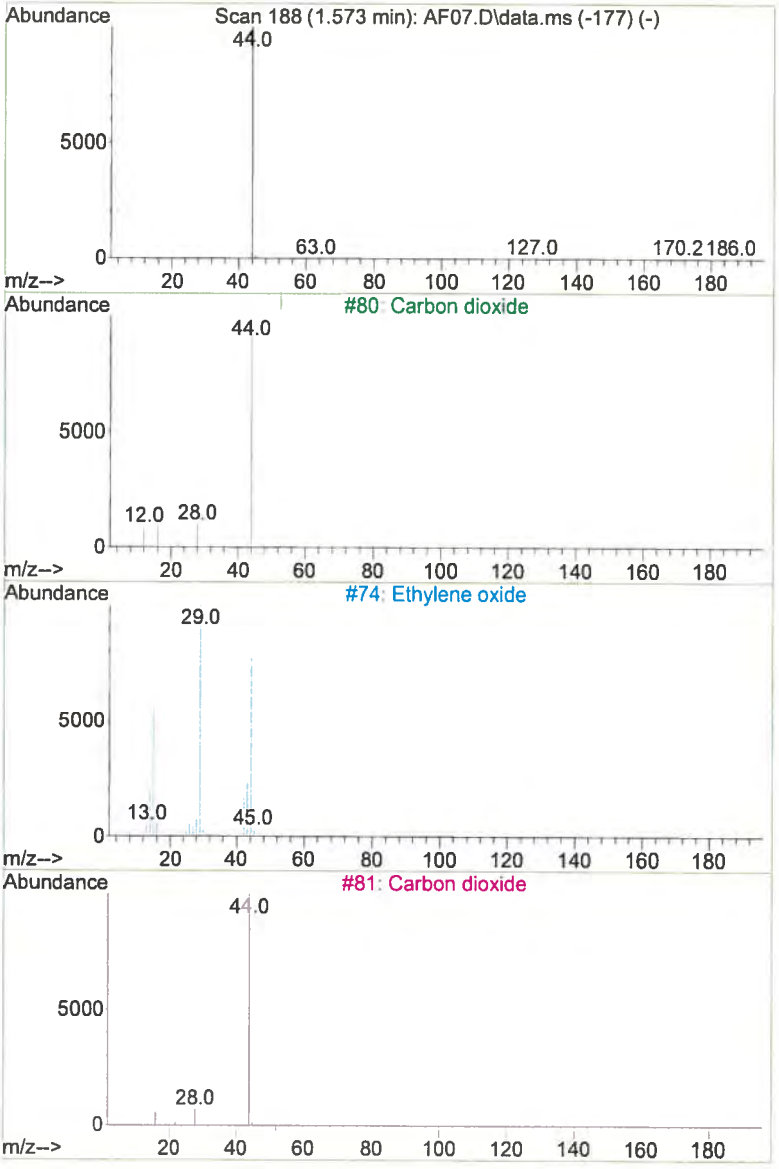
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

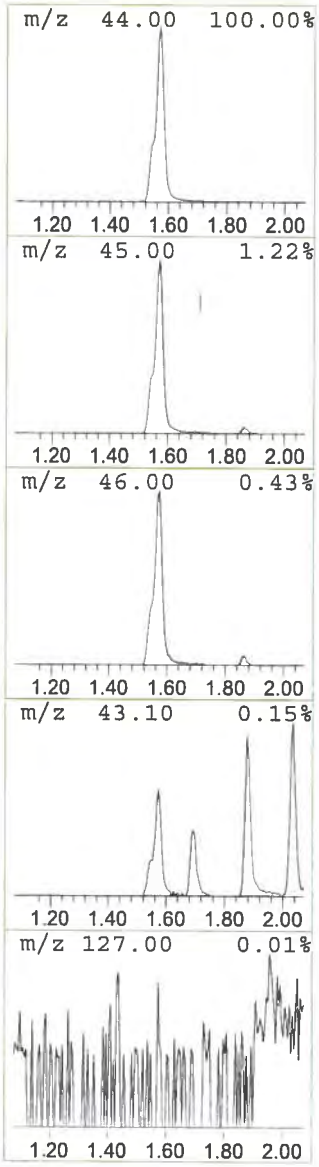
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Carbon dioxide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.573	513.81 ug/Kg	7251070	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3
5	Nitrous Oxide	44	N2O	010024-97-2	3





Data Path : C:\msdchem\1\data\AF190624A\
Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V 8206S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

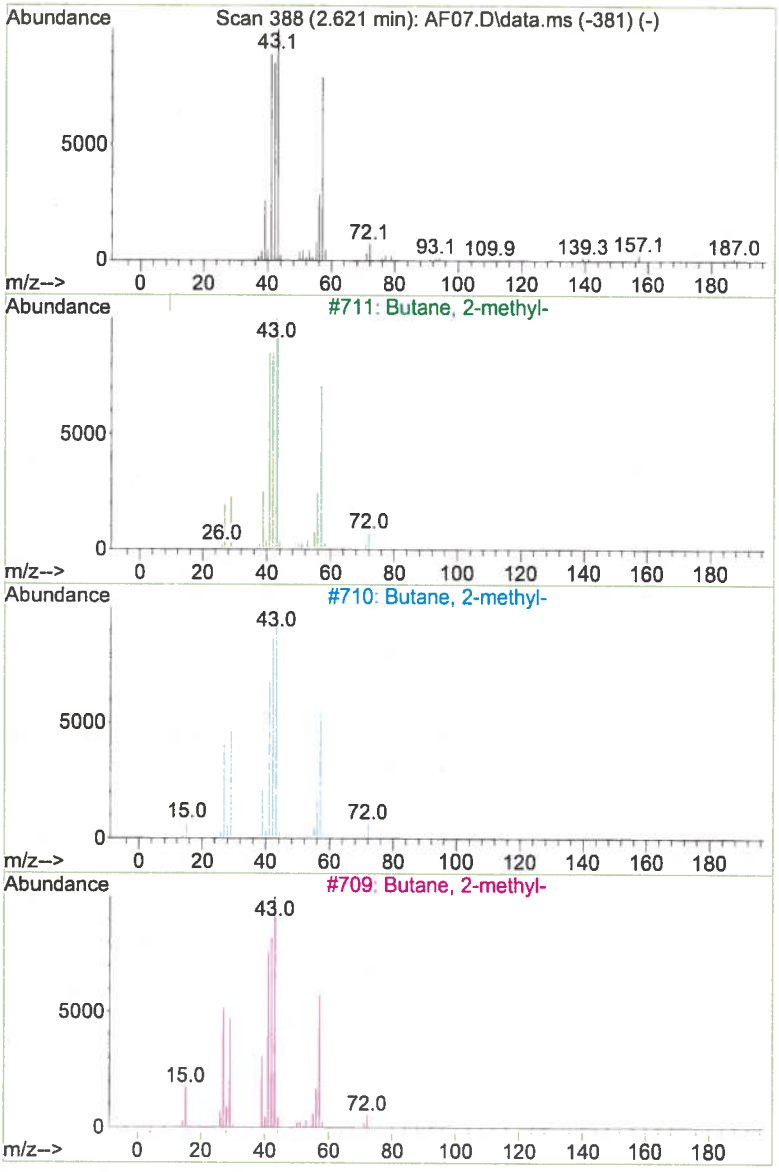
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

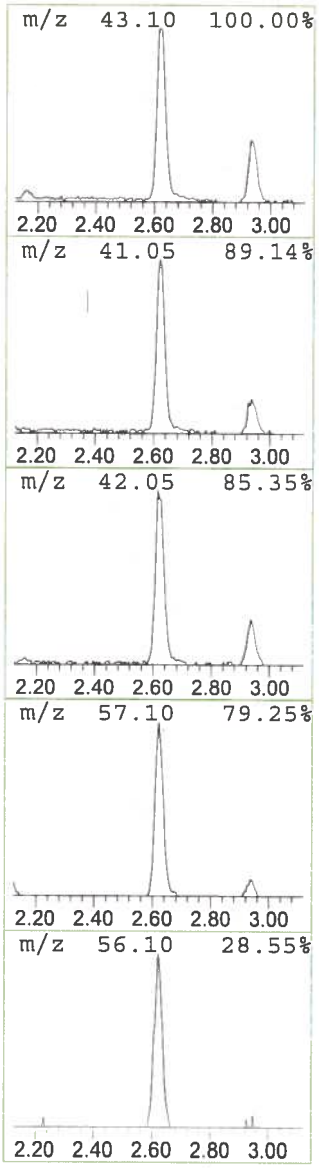
****

Peak Number 2 Butane, 2-methyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.621	5.27 ug/Kg	74349	Fluorobenzene	8.179

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	91
2	Butane, 2-methyl-	72	C5H12	000078-78-4	91
3	Butane, 2-methyl-	72	C5H12	000078-78-4	80
4	Isobutylene epoxide	72	C4H8O	000558-30-5	50
5	2(3H)-Furanone, dihydro-4-methyl-	100	C5H8O2	001679-49-8	33





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Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V 8206S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

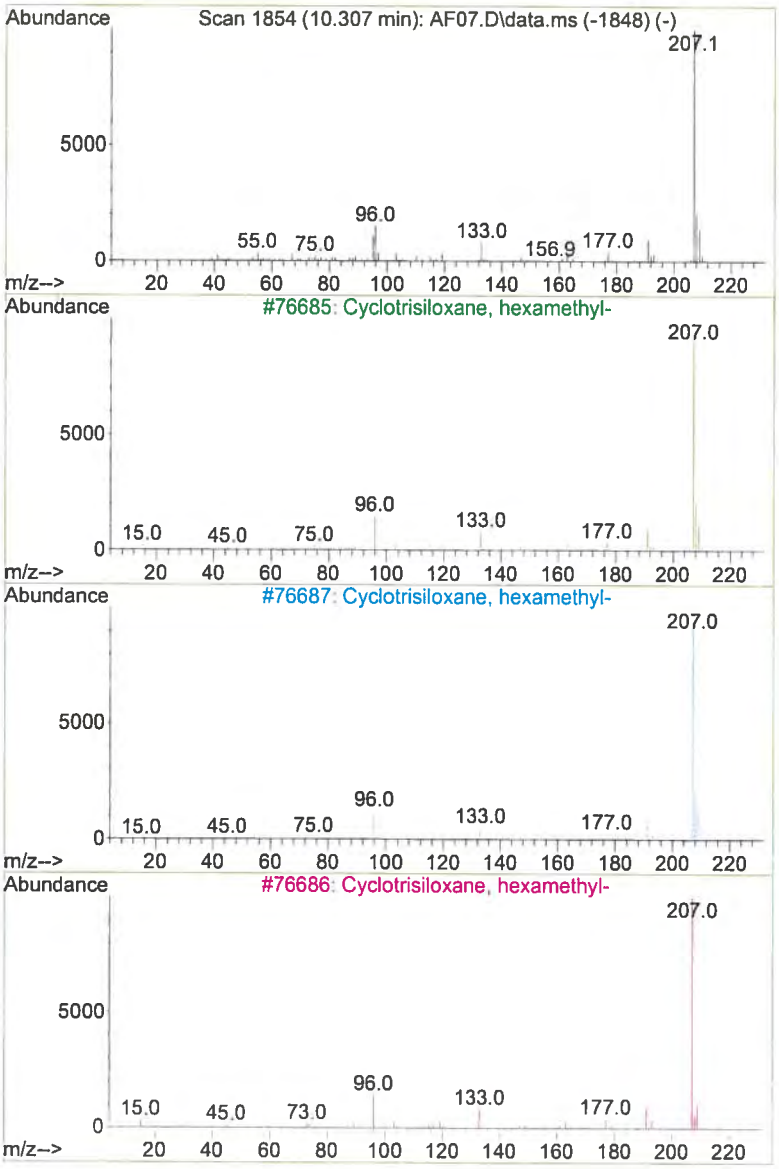
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

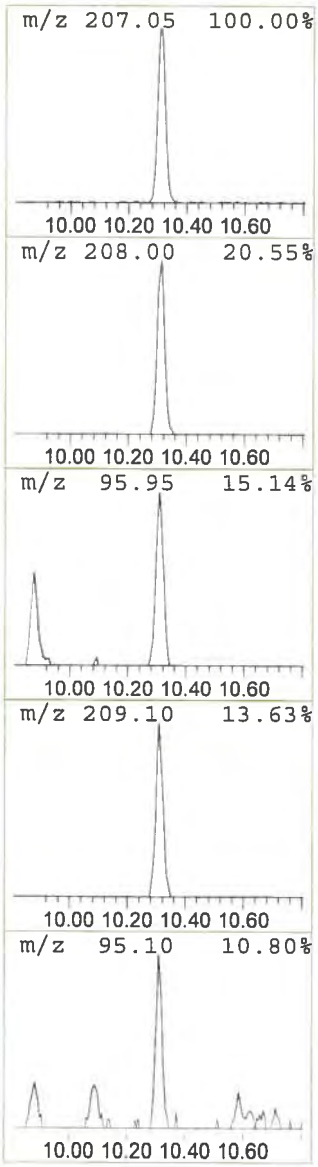
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Cyclotrisiloxane, hexamethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.307	6.68 ug/Kg	100969	Chlorobenzene-d5	11.204

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	90
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	86
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	64
4	4-Cyclohexene-1,2-dicarboximide,...	207	C12H17NO2	028916-00-9	40
5	Benzo[h]quinoline, 2,4-dimethyl-	207	C15H13N	000605-67-4	38





Data Path : C:\msdchem\1\data\AF190624A\
Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V 8206S S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

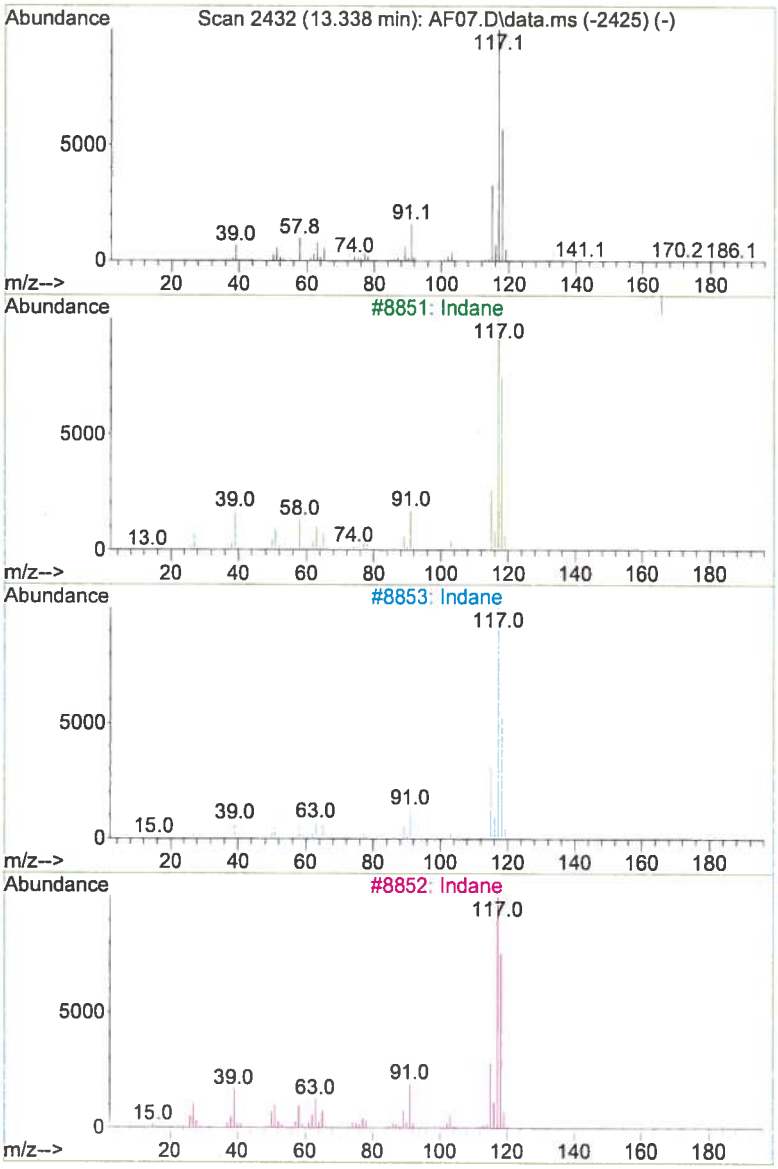
Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

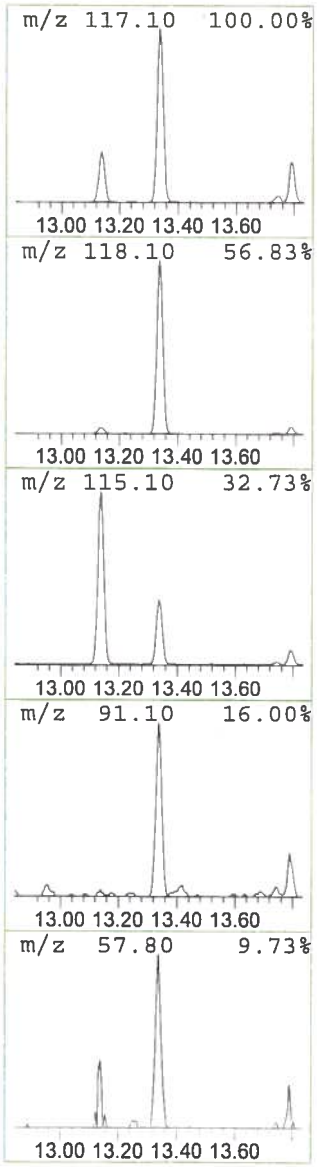
TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 4 Indane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.338	16.26 ug/Kg	252564	1,4-Dichlorobenzene-d4	13.139

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Indane	118	C9H10	000496-11-7	91
2	Indane	118	C9H10	000496-11-7	91
3	Indane	118	C9H10	000496-11-7	90
4	Tetracyclo[3.3.1.0(2,8).0(4,6)]-...	118	C9H10	1000191-13-7	72
5	Benzene, 1-ethenyl-2-methyl-	118	C9H10	000611-15-4	68





Data Path : C:\msdchem\1\data\AF190624A\
Data File : AF07.D
Acq On : 24 Jun 2019 11:32
Operator : R.Eaton
Sample : 19061444-001C
Misc : ,V_8206S_S,SAMP,1,5,
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\VCAF1904.M
Quant Title : 05/13/2019 8260 ICAL 9136/9073 SW-846 METHOD 8260B

TIC Library : C:\DATABASE\NIST08.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--- #	RT	Resp	Conc
Carbon dioxide	1.573	513.8	ug/Kg	7251070	1	8.179	705623	50.0
Butane, 2-methyl-	2.621	5.3	ug/Kg	74349	1	8.179	705623	50.0
Cyclotrisiloxan...	10.307	6.7	ug/Kg	100969	2	11.204	755366	50.0
Indane	13.338	16.3	ug/Kg	252564	4	13.139	776544	50.0

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172155

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/25/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062419	PD-4-SB-41-062419
PD-4-SB-53-062419	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOC and PAH analytes were detected in the method blanks. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. PAH surrogate recoveries were outside evaluation criteria in the method blank. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-446440/1-A	SVOCs	bis(2-ethylhexyl) phthalate	53.8 μg/Kg
MB 400-446440/1-A	PAHs	Fluoranthene	2.71 μg/Kg
MB 400-446440/1-A	PAHs	2-Methylnaphthalene	1.73 μg/Kg
MB 400-446440/1-A	PAHs	Pyrene	2.22 μg/Kg

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-4-SB-41-062419	PAHs	2-Methylnaphthalene	-	**U**
PD-4-SB-41-062419	PAHs	Pyrene	-	**U**
PD-4-SB-53-062419	PAHs	Pyrene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/LCSD/ RPD Criteria
400-446984/1002	VOCs	Acetone	**163**	43-160
400-446984/1002	VOCs	Ethyl methacrylate	**135**	68-130
400-446984/1002	VOCs	2-Hexanone	**158**	65-137
400-446984/1002	VOCs	4-Methyl-2-pentanone	**280**	69-138
400-447082/1-A	VOCs	1,1,1,2-Tetrachloroethane	**133**	67-131
400-447082/1-A	VOCs	1,2-Dibromo-3-Chloropropane	**131**	49-130
400-447082/1-A	VOCs	Ethyl methacrylate	**134**	62-130
400-447082/1-A	VOCs	2-Hexanone	**132**	57-131
400-447082/1-A	VOCs	4-Methyl-2-pentanone (MIBK)	**131**	58-130
400-447082/1-A	VOCs	1,1,1,2-Tetrachloroethane	**140**	65-130
400-447082/1-A	VOCs	trans-1,3-Dichloropropene	**134**	60-130
400-446440/4-A/5-A	SVOCs	Benzenethiol	**1/2**	10-120

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-4-SB-41-062419	SVOCs	Benzenethiol	**UJ**
PD-4-SB-53-062419	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MB 400-446440/1-A	PAHs	2-Fluorobiphenyl	**128**	27-127
MB 400-446440/1-A	PAHs	Terphenyl-d14	**161**	24-146

Method blank, MB 400-446440/1-A is a quality control sample and does not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172155-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/25/2019 12:14:07 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/25/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Job ID: 400-172155-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172155-1

Comments
No additional comments.

Receipt
The samples were received on 6/25/2019 8:37 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0° C.

Receipt Exceptions

Collection times were not listed on the COC. Container labels were referenced.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-446984 recovered above the upper control limit for 2-Hexanone and Acetone. The sample associated with this CCV was non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-446984 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 2-Hexanone, Acetone, 4-Methyl-2-pentanone (MIBK) and Ethyl methacrylate. These analytes were biased high in the LCS and were not detected in the associated sample; therefore, the data have been reported.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-4-SB-53-062419 (400-172155-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-447082 and analytical batch 400-447049 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Ethyl methacrylate and trans-1,3-Dichloropropene. These analytes were biased high in the LCS and were not detected in the associated sample; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-062419 (400-172155-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Job ID: 400-172155-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D LL: The surrogate recovery for the blank associated with preparation batch 400-446440 and analytical batch 400-447351 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172155-1	TB-PW-062419	Water	06/24/19 00:00	06/25/19 08:37	
400-172155-2	PD-4-SB-41-062419	Solid	06/24/19 08:15	06/25/19 08:37	
400-172155-3	PD-4-SB-53-062419	Solid	06/24/19 10:25	06/25/19 08:37	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419 — Lab Sample ID: 400-172155-1

No Detections.

Client Sample ID: PD-4-SB-41-062419 — Lab Sample ID: 400-172155-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	92		5.0	0.67	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	1.0	J	5.0	0.61	ug/Kg	1	☼	8260B	Total/NA
Isopropylbenzene	3.9	J	5.0	0.68	ug/Kg	1	☼	8260B	Total/NA
N-Propylbenzene	7.2		5.0	0.90	ug/Kg	1	☼	8260B	Total/NA
sec-Butylbenzene	4.4	J	5.0	0.95	ug/Kg	1	☼	8260B	Total/NA
Toluene	1.1	J	5.0	1.0	ug/Kg	1	☼	8260B	Total/NA
Benzo[b]fluoranthene	3.5	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	4.4	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	4.3	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.5	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	8.2	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	~~6.1~~	J B U	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	5.6	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	~~4.7~~	J B U	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	53	J	420	42	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-4-SB-53-062419 — Lab Sample ID: 400-172155-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	320000		5800	780	ug/Kg	1000	☼	8260B	Total/NA
Chloroform	3600	J	5800	2900	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	42000		5800	710	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	9500		5800	790	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	65000		5800	1500	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	21000		5800	2300	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	15000		5800	1100	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	35000		5800	1000	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	5000	J	5800	1200	ug/Kg	1000	☼	8260B	Total/NA
p-Isopropyltoluene	2000	J	5800	1200	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	3300	J	5800	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	160000		5800	1200	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	55000		5800	960	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	70000		12000	2200	ug/Kg	1000	☼	8260B	Total/NA
Benzo[a]pyrene	3.0	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	2.3	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	3.0	J	8.0	2.4	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	22		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	44	B	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	2.3	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	~~1.4~~	J B U	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	65	J	400	40	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419

Date Collected: 06/24/19 00:00
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	25	10	ug/L			07/06/19 10:42	1
Acrolein	ND		20	10	ug/L			07/06/19 10:42	1
Acrylonitrile	ND		10	2.8	ug/L			07/06/19 10:42	1
Benzene	ND		1.0	0.38	ug/L			07/06/19 10:42	1
Bromobenzene	ND		1.0	0.54	ug/L			07/06/19 10:42	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/06/19 10:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Bromoform	ND		5.0	0.71	ug/L			07/06/19 10:42	1
Bromomethane	ND		1.0	0.98	ug/L			07/06/19 10:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/06/19 10:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Chloroethane	ND		1.0	0.76	ug/L			07/06/19 10:42	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/06/19 10:42	1
Chloroform	ND		1.0	0.60	ug/L			07/06/19 10:42	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/06/19 10:42	1
Chloromethane	ND		1.0	0.83	ug/L			07/06/19 10:42	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:42	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/06/19 10:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/06/19 10:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/06/19 10:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/06/19 10:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Ethyl methacrylate	ND	*	1.0	0.60	ug/L			07/06/19 10:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/06/19 10:42	1
2-Hexanone	ND	*	25	3.1	ug/L			07/06/19 10:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/06/19 10:42	1
Methylene bromide	ND		5.0	0.59	ug/L			07/06/19 10:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/06/19 10:42	1
4-Methyl-2-pentanone (MIBK)	ND	*	25	1.8	ug/L			07/06/19 10:42	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/06/19 10:42	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/06/19 10:42	1
Naphthalene	ND		1.0	1.0	ug/L			07/06/19 10:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/06/19 10:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/06/19 10:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/06/19 10:42	1
o-Xylene	ND		5.0	0.60	ug/L			07/06/19 10:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419

Date Collected: 06/24/19 00:00
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/06/19 10:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/06/19 10:42	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/06/19 10:42	1
Styrene	ND		1.0	1.0	ug/L			07/06/19 10:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/06/19 10:42	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/06/19 10:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/06/19 10:42	1
Toluene	ND		1.0	0.41	ug/L			07/06/19 10:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/06/19 10:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/06/19 10:42	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/06/19 10:42	1
Trichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/06/19 10:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/06/19 10:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/06/19 10:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/06/19 10:42	1
Vinyl acetate	ND		25	2.0	ug/L			07/06/19 10:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Xylenes, Total	ND		10	1.6	ug/L			07/06/19 10:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*13*	*J *	*ug/L*		*3.13*	*67-63-0*		*07/06/19 10:42*	*1*
Ethyl acetate	*6.5*	*J*	*ug/L*		*4.18*	*141-78-6*		*07/06/19 10:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/06/19 10:42*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/06/19 10:42*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/06/19 10:42*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2

Matrix: Solid
Percent Solids: 78.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Acrolein	ND		50	28	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Acrylonitrile	ND		20	8.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Benzene	**92**		5.0	0.67	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromobenzene	ND		5.0	1.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromochloromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromoform	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromomethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Carbon disulfide	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chlorobenzene	ND		5.0	0.52	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chloroform	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chloromethane	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Ethylbenzene	**1.0**	**J**	5.0	0.61	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2-Hexanone	ND		25	5.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Isopropylbenzene	**3.9**	**J**	5.0	0.68	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Methylene bromide	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Methylene Chloride	ND		15	10	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Naphthalene	ND		5.0	2.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
N-Propylbenzene	**7.2**		5.0	0.90	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
o-Xylene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2

Matrix: Solid
Percent Solids: 78.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5.0	0.98	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
sec-Butylbenzene	**4.4**	**J**	5.0	0.95	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Styrene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Toluene	**1.1**	**J**	5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Trichloroethene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Vinyl acetate	ND		25	9.1	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Vinyl chloride	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Xylenes, Total	ND		10	1.9	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*21*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Butane, 2,2-dimethyl-	*48*	*T J N*	*ug/Kg*	☼	*2.31*	*75-83-2*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Butane, 2,3-dimethyl-	*300*	*T J N*	*ug/Kg*	☼	*2.59*	*79-29-8*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Pentane, 3-methyl-	*290*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Pentane, 2,4-dimethyl-	*47*	*T J N*	*ug/Kg*	☼	*3.25*	*108-08-7*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclopentane, methyl-	*11*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Pentane, 2,3-dimethyl-	*93*	*T J N*	*ug/Kg*	☼	*3.73*	*565-59-3*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclopentane, 1,1-dimethyl-	*41*	*T J N*	*ug/Kg*	☼	*3.83*	*1638-26-2*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Isooctane	*53*		*ug/Kg*	☼	*3.94*	*540-84-1*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.alpha.)-	*53*	*T J N*	*ug/Kg*	☼	*4.59*	*16883-48-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Heptane, 4-methyl-	*35*	*T J N*	*ug/Kg*	☼	*4.83*	*589-53-7*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclohexane, 1,2-dimethyl-, trans-	*45*	*T J N*	*ug/Kg*	☼	*5.31*	*6876-23-9*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Heptane, 2,6-dimethyl-	*44*	*T J N*	*ug/Kg*	☼	*5.51*	*1072-05-5*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Heptane, 2,5-dimethyl-	*45*	*T J N*	*ug/Kg*	☼	*5.59*	*2216-30-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclohexane, 1,1,3-trimethyl-	*87*	*T J N*	*ug/Kg*	☼	*5.75*	*3073-66-3*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Octane, 2,6-dimethyl-	*83*	*T J N*	*ug/Kg*	☼	*6.62*	*2051-30-1*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
2-Ethyltoluene	*1.8*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Indane	*26*	*T J N*	*ug/Kg*	☼	*8.06*	*496-11-7*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
p-Diethylbenzene	*8.0*		*ug/Kg*	☼	*8.11*	*105-05-5*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
1-Phenyl-1-butene	*15*	*T J N*	*ug/Kg*	☼	*8.51*	*824-90-8*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
trans-Decalin, 2-methyl-	*34*	*T J N*	*ug/Kg*	☼	*8.63*	*1000152-47-3*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Undecane, 2,6-dimethyl-	*45*	*T J N*	*ug/Kg*	☼	*9.18*	*17301-23-4*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
1-Methylnaphthalene	*7.6*		*ug/Kg*	☼	*10.91*	*90-12-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2

Matrix: Solid
Percent Solids: 78.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 122	07/02/19 09:54	07/02/19 18:40	1
Dibromofluoromethane	92		79 - 123	07/02/19 09:54	07/02/19 18:40	1
Toluene-d8 (Surr)	101		80 - 120	07/02/19 09:54	07/02/19 18:40	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Acenaphthylene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[a]anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[a]pyrene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[b]fluoranthene	**3.5**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[g,h,i]perylene	**4.4**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[k]fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Chrysene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Dibenz(a,h)anthracene	**4.3**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Fluorene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Indeno[1,2,3-cd]pyrene	**4.5**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
1-Methylnaphthalene	**8.2**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
2-Methylnaphthalene	~~6.1~~	**J B** U	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Phenanthrene	**5.6**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Pyrene	~~4.7~~	**J B** U	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		27 - 127	07/01/19 15:58	07/10/19 17:36	1
Nitrobenzene-d5	70		15 - 136	07/01/19 15:58	07/10/19 17:36	1
Terphenyl-d14	101		24 - 146	07/01/19 15:58	07/10/19 17:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		420	54	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Benzenethiol	ND	* UJ	420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Benzoic acid	ND		1300	440	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Bis(2-chloroethoxy)methane	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
bis (2-chloroisopropyl) ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Bis(2-ethylhexyl) phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/17/19 17:46	1
4-Bromophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Butyl benzyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Chloroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Chloro-3-methylphenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Chloronaphthalene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Chlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Chlorophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Dibenz[a,h]acridine	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Dibenzofuran	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
3,3'-Dichlorobenzidine	ND	*	420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4-Dichlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Diethyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2

Matrix: Solid
Percent Solids: 78.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Dimethyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Di-n-butyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4-Dinitrophenol	ND		1300	370	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,6-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
1,4-Dioxane	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Hexachlorobenzene	ND		420	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Hexachlorocyclopentadiene	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Hexachloroethane	ND		420	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Indene	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Isophorone	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Methylphenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
3 & 4 Methylphenol	ND		830	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Nitroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
3-Nitroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Nitrobenzene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Nitrophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
N-Nitrosodimethylamine	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
N-Nitrosodi-n-propylamine	ND		420	140	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
N-Nitrosodiphenylamine	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Pentachlorophenol	ND		830	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Phenol	**53**	**J**	420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Pyridine	ND		420	190	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Quinoline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4,5-Trichlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4,6-Trichlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*3400*	*T J*	*ug/Kg*	☼	*4.49*		*07/01/19 15:58*	*07/17/19 17:46*	*1*
Sulfolane	*45*	*J*	*ug/Kg*	☼	*6.49*	*126-33-0*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Caprolactam	*75*	*J*	*ug/Kg*	☼	*6.56*	*105-60-2*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
2,3-Dinitrotoluene	*73*	*J*	*ug/Kg*	☼	*7.65*	*602-01-7*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
o-Phenylphenol	*65*	*J*	*ug/Kg*	☼	*7.68*	*90-43-7*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Aramite Peak 1	*46*	*J*	*ug/Kg*	☼	*9.98*	*STL00690*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Benzo[a]pyrene	*45*	*J*	*ug/Kg*	☼	*12.49*	*50-32-8*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 16:19*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*27 - 127*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
2-Fluorophenol	*66*		*25 - 128*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Phenol-d5	*68*		*29 - 130*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/01/19 15:58*	*07/05/19 16:19*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2

Matrix: Solid
Percent Solids: 78.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*87*		*10 - 150*	*07/01/19 15:58*	*07/05/19 16:19*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**78.5**		0.01	0.01	%			06/27/19 14:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3

Matrix: Solid
Percent Solids: 79.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		29000	15000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Acrolein	ND		58000	32000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Acrylonitrile	ND		23000	9300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Benzene	**320000**		5800	780	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromobenzene	ND		5800	1500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromochloromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromodichloromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromoform	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromomethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2-Butanone (MEK)	ND		29000	7000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Carbon disulfide	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Carbon tetrachloride	ND		5800	2000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chlorobenzene	ND		5800	600	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chloroethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2-Chloroethyl vinyl ether	ND		12000	5800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chloroform	**3600**	**J**	5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1-Chlorohexane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chloromethane	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
cis-1,2-Dichloroethene	ND		5800	880	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
cis-1,3-Dichloropropene	ND		5800	1400	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Dibromochloromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dibromo-3-Chloropropane	ND	*	5800	3800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dichlorobenzene	ND		5800	820	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,3-Dichlorobenzene	ND		5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,4-Dichlorobenzene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Dichlorodifluoromethane	ND		5800	1500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1-Dichloroethane	ND		5800	960	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dichloroethane	ND		5800	950	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1-Dichloroethene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dichloropropane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,3-Dichloropropane	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2,2-Dichloropropane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1-Dichloropropene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Ethylbenzene	**42000**		5800	710	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Ethylene Dibromide	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Ethyl methacrylate	ND	*	5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Hexachlorobutadiene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2-Hexanone	ND	*	29000	5800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Isopropylbenzene	**9500**		5800	790	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Methylene bromide	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Methylene Chloride	ND		17000	12000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
4-Methyl-2-pentanone (MIBK)	ND	*	29000	5800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Methyl tert-butyl ether	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
m-Xylene & p-Xylene	**65000**		5800	1500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Naphthalene	**21000**		5800	2300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
n-Butylbenzene	**15000**		5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
N-Propylbenzene	**35000**		5800	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
o-Chlorotoluene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
o-Xylene	**5000**	**J**	5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3

Matrix: Solid
Percent Solids: 79.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
p-Isopropyltoluene	**2000**	**J**	5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
sec-Butylbenzene	**3300**	**J**	5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Styrene	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
tert-Butylbenzene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,1,2-Tetrachloroethane	ND	*	5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,2,2-Tetrachloroethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Tetrachloroethene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Toluene	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
trans-1,2-Dichloroethene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
trans-1,3-Dichloropropene	ND	*	5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,3-Trichlorobenzene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,4-Trichlorobenzene	ND		5800	2300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,1-Trichloroethane	ND		5800	1300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,2-Trichloroethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Trichloroethene	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Trichlorofluoromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,3-Trichloropropane	ND		5800	3500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,4-Trimethylbenzene	**160000**		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,3,5-Trimethylbenzene	**55000**		5800	960	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Vinyl acetate	ND		29000	11000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Vinyl chloride	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Xylenes, Total	**70000**		12000	2200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*7000*	*T J N*	*ug/Kg*	☼	*2.72*	*109-66-0*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Pentane, 2-methyl-	*25000*	*T J N*	*ug/Kg*	☼	*3.37*	*107-83-5*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Pentane, 3-methyl-	*12000*	*T J N*	*ug/Kg*	☼	*3.53*	*96-14-0*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Hexane	*20000*	*T J N*	*ug/Kg*	☼	*3.70*	*110-54-3*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Cyclopentane, methyl-	*23000*	*T J N*	*ug/Kg*	☼	*4.12*	*96-37-7*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Cyclohexane	*93000*		*ug/Kg*	☼	*4.54*	*110-82-7*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Isobutyl alcohol	*4300000*	*E **	*ug/Kg*	☼	*4.59*	*78-83-1*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Isooctane	*40000*		*ug/Kg*	☼	*4.76*	*540-84-1*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
n-Heptane	*150000*		*ug/Kg*	☼	*4.85*	*142-82-5*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Methylcyclohexane	*110000*		*ug/Kg*	☼	*5.27*	*108-87-2*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Cyclopentane, ethyl-	*6900*	*T J N*	*ug/Kg*	☼	*5.38*	*1640-89-7*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Heptane, 3-methyl-	*15000*	*T J N*	*ug/Kg*	☼	*5.72*	*589-81-1*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
3-Ethyltoluene	*110000*		*ug/Kg*	☼	*8.07*	*620-14-4*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
2-Ethyltoluene	*33000*		*ug/Kg*	☼	*8.30*	*611-14-3*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
1,2,3-Trimethylbenzene	*39000*		*ug/Kg*	☼	*8.77*	*526-73-8*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
p-Diethylbenzene	*36000*		*ug/Kg*	☼	*8.97*	*105-05-5*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*36000*	*T J N*	*ug/Kg*	☼	*9.29*	*874-41-9*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
2-Methylnaphthalene	*24000*		*ug/Kg*	☼	*11.72*	*91-57-6*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
1-Methylnaphthalene	*11000*		*ug/Kg*	☼	*11.91*	*90-12-0*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*72 - 122*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Dibromofluoromethane	*91*		*79 - 123*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Toluene-d8 (Surr)	*106*		*80 - 120*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3

Matrix: Solid
Percent Solids: 79.9

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Acenaphthylene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Anthracene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[a]anthracene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[a]pyrene	**3.0**	**J**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[b]fluoranthene	**2.3**	**J**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[g,h,i]perylene	ND		8.0	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[k]fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Chrysene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Dibenz(a,h)anthracene	ND		8.0	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Fluorene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Indeno[1,2,3-cd]pyrene	**3.0**	**J**	8.0	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
1-Methylnaphthalene	**22**		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
2-Methylnaphthalene	**44**	**B**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Phenanthrene	**2.3**	**J**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Pyrene	~~1.4~~	**J B** U	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*27 - 127*	*07/01/19 15:58*	*07/10/19 17:53*	*1*
Nitrobenzene-d5	*76*		*15 - 136*	*07/01/19 15:58*	*07/10/19 17:53*	*1*
Terphenyl-d14	*101*		*24 - 146*	*07/01/19 15:58*	*07/10/19 17:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	52	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Benzenethiol	ND	* UJ	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Benzyl alcohol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Bis(2-chloroethoxy)methane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Bis(2-chloroethyl)ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Bis(2-ethylhexyl) phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Dibenz[a,h]acridine	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Di-n-butyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4-Dinitrophenol	ND		1200	350	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3

Matrix: Solid
Percent Solids: 79.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
1,4-Dioxane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Hexachlorocyclopentadiene	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Indene	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Isophorone	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
3 & 4 Methylphenol	ND		800	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
3-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Nitrobenzene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Nitrophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
N-Nitrosodimethylamine	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Pentachlorophenol	ND		800	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Phenol	**65**	**J**	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Pyridine	ND		400	180	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Quinoline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*3700*	*T J*	*ug/Kg*	☼	*4.38*		*07/01/19 15:58*	*07/05/19 16:41*	*1*
Caprolactam	*48*	*J*	*ug/Kg*	☼	*6.66*	*105-60-2*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
1-Methylnaphthalene	*41*	*J*	*ug/Kg*	☼	*6.80*	*90-12-0*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Aramite Peak 1	*44*	*J*	*ug/Kg*	☼	*9.98*	*STL00690*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Benzo[a]pyrene	*43*	*J*	*ug/Kg*	☼	*12.49*	*50-32-8*	*07/01/19 15:58*	*07/05/19 16:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
2-Fluorophenol	*68*		*25 - 128*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Nitrobenzene-d5	*68*		*15 - 136*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Phenol-d5	*70*		*29 - 130*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Terphenyl-d14	*90*		*24 - 146*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
2,4,6-Tribromophenol	*83*		*10 - 150*	*07/01/19 15:58*	*07/05/19 16:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.9**		0.01	0.01	%			06/27/19 14:29	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172155-2	PD-4-SB-41-062419	101	92	101
400-172155-3	PD-4-SB-53-062419	100	91	106
LCS 400-446568/2-A	Lab Control Sample	104	94	100
LCS 400-447082/1-A	Lab Control Sample	100	99	101
MB 400-446568/1-A	Method Blank	99	93	101
MB 400-447082/2-A	Method Blank	101	99	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172155-1	TB-PW-062419	103	97	103
LCS 400-446984/1002	Lab Control Sample	98	100	102
MB 400-446984/4	Method Blank	102	100	104

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172155-2	PD-4-SB-41-062419	76	66	67	68	88	87
400-172155-3	PD-4-SB-53-062419	77	68	68	70	90	83
LCS 400-446440/4-A	Lab Control Sample	80	69	69	72	92	91
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (27-127)	NBZ (15-136)	TPHL (24-146)
400-172155-2	PD-4-SB-41-062419	77	70	101
400-172155-3	PD-4-SB-53-062419	80	76	101
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419

Date Collected: 06/24/19 00:00
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	446984	07/06/19 10:42	CAR	TAL PEN

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			445937	06/27/19 14:29	KNT	TAL PEN

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2
Matrix: Solid
Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.338 g	5.00 g	446568	07/02/19 09:54	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	446503	07/02/19 18:40	CAR	TAL PEN
Total/NA	Prep	3546			15.12 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 16:19	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 17:46	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 17:36	KJA	TAL PEN

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			445937	06/27/19 14:29	KNT	TAL PEN

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3
Matrix: Solid
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.891 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447049	07/08/19 17:50	SAB	TAL PEN
Total/NA	Prep	3546			15.39 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 16:41	VC1	TAL PEN
Total/NA	Prep	3546			15.39 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 17:53	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446568/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	446568	07/02/19 09:54	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	446503	07/02/19 12:38	CAR	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446984/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	446984	07/06/19 10:18	CAR	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 11:01	SAB	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:06	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	446568	07/02/19 09:54	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	446503	07/02/19 10:44	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446984/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	446984	07/06/19 09:29	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 09:56	SAB	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2 DU

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			445937	06/27/19 14:29	KNT	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

GC/MS VOA

Analysis Batch: 446503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8260B	446568
MB 400-446568/1-A	Method Blank	Total/NA	Solid	8260B	446568
LCS 400-446568/2-A	Lab Control Sample	Total/NA	Solid	8260B	446568

Prep Batch: 446568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	5035	
MB 400-446568/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-446568/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 446984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-1	TB-PW-062419	Total/NA	Water	8260B	
MB 400-446984/4	Method Blank	Total/NA	Water	8260B	
LCS 400-446984/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	8260B	447082
MB 400-447082/2-A	Method Blank	Total/NA	Solid	8260B	447082
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	8260B	447082

Prep Batch: 447082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	5035	
MB 400-447082/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	3546	
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8270D	446440
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

GC/MS Semi VOA

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8270D LL	446440
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	8270D LL	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8270D	446440

General Chemistry

Analysis Batch: 445937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	Moisture	
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	Moisture	
400-172155-2 DU	PD-4-SB-41-062419	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446568/1-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Acrolein	ND		50	28	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Benzene	ND		5.0	0.67	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromoform	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chloroform	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2-Hexanone	ND		25	5.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Methylene Chloride	ND		15	10	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446568/1-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Styrene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Toluene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/02/19 09:54	07/02/19 12:38	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/02/19 09:54*	*07/02/19 12:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/02/19 09:54*	*07/02/19 12:38*	*1*
Dibromofluoromethane	*93*		*79 - 123*	*07/02/19 09:54*	*07/02/19 12:38*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/02/19 09:54*	*07/02/19 12:38*	*1*

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	215		ug/Kg		107	48 - 160
Acrolein	500	611		ug/Kg		122	40 - 150
Acrylonitrile	500	652		ug/Kg		130	60 - 130
Benzene	50.0	48.7		ug/Kg		97	65 - 130
Bromobenzene	50.0	50.9		ug/Kg		102	65 - 130
Bromochloromethane	50.0	53.1		ug/Kg		106	65 - 130
Bromodichloromethane	50.0	46.1		ug/Kg		92	61 - 130
Bromoform	50.0	51.3		ug/Kg		103	52 - 136
Bromomethane	50.0	35.2		ug/Kg		70	12 - 160
2-Butanone (MEK)	200	182		ug/Kg		91	55 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	47.5		ug/Kg		95	46 - 141
Carbon tetrachloride	50.0	47.7		ug/Kg		95	60 - 130
Chlorobenzene	50.0	49.7		ug/Kg		99	70 - 130
Chloroethane	50.0	46.6		ug/Kg		93	55 - 134
2-Chloroethyl vinyl ether	50.0	43.1		ug/Kg		86	10 - 158
Chloroform	50.0	48.9		ug/Kg		98	62 - 130
1-Chlorohexane	50.0	53.0		ug/Kg		106	69 - 130
Chloromethane	50.0	55.0		ug/Kg		110	49 - 136
cis-1,2-Dichloroethene	50.0	49.6		ug/Kg		99	53 - 135
cis-1,3-Dichloropropene	50.0	46.9		ug/Kg		94	61 - 130
Dibromochloromethane	50.0	50.2		ug/Kg		100	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	51.9		ug/Kg		104	49 - 130
1,2-Dichlorobenzene	50.0	54.0		ug/Kg		108	64 - 130
1,3-Dichlorobenzene	50.0	53.5		ug/Kg		107	66 - 130
1,4-Dichlorobenzene	50.0	52.4		ug/Kg		105	65 - 130
Dichlorodifluoromethane	50.0	47.5		ug/Kg		95	34 - 143
1,1-Dichloroethane	50.0	48.8		ug/Kg		98	59 - 130
1,2-Dichloroethane	50.0	48.5		ug/Kg		97	62 - 130
1,1-Dichloroethene	50.0	51.5		ug/Kg		103	55 - 137
1,2-Dichloropropane	50.0	48.6		ug/Kg		97	64 - 130
1,3-Dichloropropane	50.0	50.7		ug/Kg		101	67 - 130
2,2-Dichloropropane	50.0	43.9		ug/Kg		88	51 - 132
1,1-Dichloropropene	50.0	49.2		ug/Kg		98	65 - 130
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 130
Ethylene Dibromide	50.0	52.5		ug/Kg		105	67 - 130
Ethyl methacrylate	50.0	52.6		ug/Kg		105	62 - 130
Hexachlorobutadiene	50.0	43.2		ug/Kg		86	62 - 133
2-Hexanone	200	191		ug/Kg		96	57 - 131
Isopropylbenzene	50.0	51.0		ug/Kg		102	70 - 130
Methylene bromide	50.0	48.6		ug/Kg		97	65 - 130
Methylene Chloride	50.0	50.8		ug/Kg		102	57 - 132
4-Methyl-2-pentanone (MIBK)	200	237		ug/Kg		118	58 - 130
Methyl tert-butyl ether	50.0	45.5		ug/Kg		91	63 - 130
m-Xylene & p-Xylene	50.0	52.6		ug/Kg		105	70 - 130
Naphthalene	50.0	55.7		ug/Kg		111	45 - 144
n-Butylbenzene	50.0	52.5		ug/Kg		105	66 - 130
N-Propylbenzene	50.0	55.5		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.3		ug/Kg		109	67 - 130
o-Xylene	50.0	51.6		ug/Kg		103	70 - 130
p-Chlorotoluene	50.0	53.0		ug/Kg		106	66 - 130
p-Isopropyltoluene	50.0	54.6		ug/Kg		109	68 - 130
sec-Butylbenzene	50.0	54.0		ug/Kg		108	67 - 130
Styrene	50.0	49.3		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	53.9		ug/Kg		108	67 - 130
1,1,1,2-Tetrachloroethane	50.0	50.8		ug/Kg		102	65 - 130
1,1,2,2-Tetrachloroethane	50.0	56.9		ug/Kg		114	60 - 131
Tetrachloroethene	50.0	47.9		ug/Kg		96	67 - 130
Toluene	50.0	52.7		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	53.1		ug/Kg		106	58 - 134

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	49.1		ug/Kg		98	60 - 130
1,2,3-Trichlorobenzene	50.0	45.4		ug/Kg		91	58 - 135
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	48.9		ug/Kg		98	63 - 130
1,1,2-Trichloroethane	50.0	51.6		ug/Kg		103	65 - 130
Trichloroethene	50.0	49.1		ug/Kg		98	65 - 130
Trichlorofluoromethane	50.0	44.2		ug/Kg		88	61 - 136
1,2,3-Trichloropropane	50.0	59.1		ug/Kg		118	60 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/Kg		108	66 - 130
1,3,5-Trimethylbenzene	50.0	54.5		ug/Kg		109	67 - 130
Vinyl acetate	100	118		ug/Kg		118	24 - 160
Vinyl chloride	50.0	54.5		ug/Kg		109	52 - 132
Xylenes, Total	100	104		ug/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*72 - 122*
Dibromofluoromethane	*94*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-446984/4
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/06/19 10:18	1
Acrolein	ND		20	10	ug/L			07/06/19 10:18	1
Acrylonitrile	ND		10	2.8	ug/L			07/06/19 10:18	1
Benzene	ND		1.0	0.38	ug/L			07/06/19 10:18	1
Bromobenzene	ND		1.0	0.54	ug/L			07/06/19 10:18	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/06/19 10:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Bromoform	ND		5.0	0.71	ug/L			07/06/19 10:18	1
Bromomethane	ND		1.0	0.98	ug/L			07/06/19 10:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/06/19 10:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Chloroethane	ND		1.0	0.76	ug/L			07/06/19 10:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/06/19 10:18	1
Chloroform	ND		1.0	0.60	ug/L			07/06/19 10:18	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/06/19 10:18	1
Chloromethane	ND		1.0	0.83	ug/L			07/06/19 10:18	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:18	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/06/19 10:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/06/19 10:18	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446984/4
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/06/19 10:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/06/19 10:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/06/19 10:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/06/19 10:18	1
2-Hexanone	ND		25	3.1	ug/L			07/06/19 10:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/06/19 10:18	1
Methylene bromide	ND		5.0	0.59	ug/L			07/06/19 10:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/06/19 10:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/06/19 10:18	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/06/19 10:18	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/06/19 10:18	1
Naphthalene	ND		1.0	1.0	ug/L			07/06/19 10:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/06/19 10:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/06/19 10:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/06/19 10:18	1
o-Xylene	ND		5.0	0.60	ug/L			07/06/19 10:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/06/19 10:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/06/19 10:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/06/19 10:18	1
Styrene	ND		1.0	1.0	ug/L			07/06/19 10:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/06/19 10:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/06/19 10:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/06/19 10:18	1
Toluene	ND		1.0	0.41	ug/L			07/06/19 10:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/06/19 10:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/06/19 10:18	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/06/19 10:18	1
Trichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/06/19 10:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/06/19 10:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/06/19 10:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/06/19 10:18	1
Vinyl acetate	ND		25	2.0	ug/L			07/06/19 10:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Xylenes, Total	ND		10	1.6	ug/L			07/06/19 10:18	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446984/4
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/06/19 10:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/06/19 10:18	1
Dibromofluoromethane	100		81 - 121		07/06/19 10:18	1
Toluene-d8 (Surr)	104		80 - 120		07/06/19 10:18	1

Lab Sample ID: LCS 400-446984/1002
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	326	*	ug/L		163	43 - 160
Acrolein	500	750		ug/L		150	38 - 160
Acrylonitrile	500	634		ug/L		127	64 - 142
Benzene	50.0	52.5		ug/L		105	70 - 130
Bromobenzene	50.0	52.7		ug/L		105	70 - 132
Bromochloromethane	50.0	55.3		ug/L		111	70 - 130
Bromodichloromethane	50.0	55.3		ug/L		111	67 - 133
Bromoform	50.0	65.6		ug/L		131	57 - 140
Bromomethane	50.0	37.1		ug/L		74	10 - 160
2-Butanone (MEK)	200	288		ug/L		144	61 - 145
Carbon disulfide	50.0	51.6		ug/L		103	61 - 137
Carbon tetrachloride	50.0	60.3		ug/L		121	61 - 137
Chlorobenzene	50.0	55.0		ug/L		110	70 - 130
Chloroethane	50.0	51.5		ug/L		103	55 - 141
2-Chloroethyl vinyl ether	50.0	46.7		ug/L		93	10 - 160
Chloroform	50.0	53.5		ug/L		107	69 - 130
1-Chlorohexane	50.0	57.4		ug/L		115	69 - 130
Chloromethane	50.0	48.6		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	57.2		ug/L		114	68 - 130
cis-1,3-Dichloropropene	50.0	57.8		ug/L		116	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	66.8		ug/L		134	54 - 135
1,2-Dichlorobenzene	50.0	56.6		ug/L		113	67 - 130
1,3-Dichlorobenzene	50.0	55.0		ug/L		110	70 - 130
1,4-Dichlorobenzene	50.0	54.6		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	37.0		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	55.8		ug/L		112	70 - 130
1,2-Dichloroethane	50.0	56.4		ug/L		113	69 - 130
1,1-Dichloroethene	50.0	48.5		ug/L		97	63 - 134
1,2-Dichloropropane	50.0	55.4		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	58.0		ug/L		116	70 - 130
2,2-Dichloropropane	50.0	55.9		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	53.8		ug/L		108	70 - 130
Ethylbenzene	50.0	56.2		ug/L		112	70 - 130
Ethylene Dibromide	50.0	57.9		ug/L		116	70 - 130
Ethyl methacrylate	50.0	67.4	*	ug/L		135	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446984/1002
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	50.3		ug/L		101	53 - 140
2-Hexanone	200	316	*	ug/L		158	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.7		ug/L		105	70 - 130
Methylene Chloride	50.0	52.6		ug/L		105	66 - 135
4-Methyl-2-pentanone (MIBK)	200	280	*	ug/L		140	69 - 138
Methyl tert-butyl ether	50.0	54.2		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	55.6		ug/L		111	70 - 130
Naphthalene	50.0	58.2		ug/L		116	47 - 149
n-Butylbenzene	50.0	54.1		ug/L		108	67 - 130
N-Propylbenzene	50.0	55.5		ug/L		111	70 - 130
o-Chlorotoluene	50.0	54.0		ug/L		108	70 - 130
o-Xylene	50.0	55.5		ug/L		111	70 - 130
p-Chlorotoluene	50.0	54.7		ug/L		109	70 - 130
p-Isopropyltoluene	50.0	56.0		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	52.8		ug/L		106	70 - 130
tert-Butylbenzene	50.0	53.7		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.6	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	60.4		ug/L		121	70 - 131
Tetrachloroethene	50.0	55.0		ug/L		110	65 - 130
Toluene	50.0	55.3		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	52.9		ug/L		106	70 - 130
trans-1,3-Dichloropropene	50.0	64.9		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	53.5		ug/L		107	60 - 138
1,2,4-Trichlorobenzene	50.0	52.5		ug/L		105	60 - 140
1,1,1-Trichloroethane	50.0	55.4		ug/L		111	68 - 130
1,1,2-Trichloroethane	50.0	57.6		ug/L		115	70 - 130
Trichloroethene	50.0	53.9		ug/L		108	70 - 130
Trichlorofluoromethane	50.0	47.2		ug/L		94	65 - 138
1,2,3-Trichloropropane	50.0	59.2		ug/L		118	70 - 130
1,2,4-Trimethylbenzene	50.0	53.0		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	53.2		ug/L		106	69 - 130
Vinyl acetate	100	134		ug/L		134	26 - 160
Vinyl chloride	50.0	48.4		ug/L		97	59 - 136
Xylenes, Total	100	111		ug/L		111	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	28	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Benzene	ND		5.0	0.67	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromoform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Hexanone	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene Chloride	ND		15	10	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Styrene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Toluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/08/19 08:30*	*07/08/19 11:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*72 - 122*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Dibromofluoromethane	*99*		*79 - 123*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/08/19 08:30*	*07/08/19 11:01*	*1*

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	234		ug/Kg		117	48 - 160
Acrolein	500	701		ug/Kg		140	40 - 150
Acrylonitrile	500	619		ug/Kg		124	60 - 130
Benzene	50.0	55.3		ug/Kg		111	65 - 130
Bromobenzene	50.0	56.2		ug/Kg		112	65 - 130
Bromochloromethane	50.0	58.2		ug/Kg		116	65 - 130
Bromodichloromethane	50.0	57.3		ug/Kg		115	61 - 130
Bromoform	50.0	67.9		ug/Kg		136	52 - 136
Bromomethane	50.0	44.4		ug/Kg		89	12 - 160
2-Butanone (MEK)	200	225		ug/Kg		112	55 - 130
Carbon disulfide	50.0	54.3		ug/Kg		109	46 - 141
Carbon tetrachloride	50.0	64.9		ug/Kg		130	60 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	50.0	57.9		ug/Kg		116	70 - 130
Chloroethane	50.0	56.1		ug/Kg		112	55 - 134
2-Chloroethyl vinyl ether	50.0	50.4		ug/Kg		101	10 - 158
Chloroform	50.0	56.5		ug/Kg		113	62 - 130
1-Chlorohexane	50.0	61.9		ug/Kg		124	69 - 130
Chloromethane	50.0	56.0		ug/Kg		112	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	60.9		ug/Kg		122	61 - 130
Dibromochloromethane	50.0	65.8		ug/Kg		132	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	65.5	*	ug/Kg		131	49 - 130
1,2-Dichlorobenzene	50.0	62.0		ug/Kg		124	64 - 130
1,3-Dichlorobenzene	50.0	59.9		ug/Kg		120	66 - 130
1,4-Dichlorobenzene	50.0	59.9		ug/Kg		120	65 - 130
Dichlorodifluoromethane	50.0	46.3		ug/Kg		93	34 - 143
1,1-Dichloroethane	50.0	58.3		ug/Kg		117	59 - 130
1,2-Dichloroethane	50.0	57.2		ug/Kg		114	62 - 130
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	55 - 137
1,2-Dichloropropane	50.0	58.5		ug/Kg		117	64 - 130
1,3-Dichloropropane	50.0	58.9		ug/Kg		118	67 - 130
2,2-Dichloropropane	50.0	59.5		ug/Kg		119	51 - 132
1,1-Dichloropropene	50.0	56.6		ug/Kg		113	65 - 130
Ethylbenzene	50.0	59.9		ug/Kg		120	70 - 130
Ethylene Dibromide	50.0	58.7		ug/Kg		117	67 - 130
Ethyl methacrylate	50.0	67.0	*	ug/Kg		134	62 - 130
Hexachlorobutadiene	50.0	56.2		ug/Kg		112	62 - 133
2-Hexanone	200	264	*	ug/Kg		132	57 - 131
Isopropylbenzene	50.0	58.5		ug/Kg		117	70 - 130
Methylene bromide	50.0	53.2		ug/Kg		106	65 - 130
Methylene Chloride	50.0	53.5		ug/Kg		107	57 - 132
4-Methyl-2-pentanone (MIBK)	200	262	*	ug/Kg		131	58 - 130
Methyl tert-butyl ether	50.0	52.8		ug/Kg		106	63 - 130
m-Xylene & p-Xylene	50.0	58.9		ug/Kg		118	70 - 130
Naphthalene	50.0	60.9		ug/Kg		122	45 - 144
n-Butylbenzene	50.0	60.9		ug/Kg		122	66 - 130
N-Propylbenzene	50.0	61.0		ug/Kg		122	67 - 130
o-Chlorotoluene	50.0	58.5		ug/Kg		117	67 - 130
o-Xylene	50.0	58.9		ug/Kg		118	70 - 130
p-Chlorotoluene	50.0	59.6		ug/Kg		119	66 - 130
p-Isopropyltoluene	50.0	60.6		ug/Kg		121	68 - 130
sec-Butylbenzene	50.0	58.9		ug/Kg		118	67 - 130
Styrene	50.0	55.6		ug/Kg		111	68 - 130
tert-Butylbenzene	50.0	58.6		ug/Kg		117	67 - 130
1,1,1,2-Tetrachloroethane	50.0	70.1	*	ug/Kg		140	65 - 130
1,1,2,2-Tetrachloroethane	50.0	59.9		ug/Kg		120	60 - 131
Tetrachloroethene	50.0	58.8		ug/Kg		118	67 - 130
Toluene	50.0	58.1		ug/Kg		116	70 - 130
trans-1,2-Dichloroethene	50.0	55.2		ug/Kg		110	58 - 134
trans-1,3-Dichloropropene	50.0	67.1	*	ug/Kg		134	60 - 130
1,2,3-Trichlorobenzene	50.0	57.3		ug/Kg		115	58 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	50.0	57.5		ug/Kg		115	56 - 138
1,1,1-Trichloroethane	50.0	58.6		ug/Kg		117	63 - 130
1,1,2-Trichloroethane	50.0	58.9		ug/Kg		118	65 - 130
Trichloroethene	50.0	56.9		ug/Kg		114	65 - 130
Trichlorofluoromethane	50.0	50.2		ug/Kg		100	61 - 136
1,2,3-Trichloropropane	50.0	56.7		ug/Kg		113	60 - 130
1,2,4-Trimethylbenzene	50.0	57.9		ug/Kg		116	66 - 130
1,3,5-Trimethylbenzene	50.0	58.1		ug/Kg		116	67 - 130
Vinyl acetate	100	122		ug/Kg		122	24 - 160
Vinyl chloride	50.0	55.0		ug/Kg		110	52 - 132
Xylenes, Total	100	118		ug/Kg		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/01/19 15:58*	*07/05/19 12:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2-Fluorophenol	*70*		*25 - 128*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Phenol-d5	*72*		*29 - 130*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2,4,6-Tribromophenol	*89*		*10 - 150*	*07/01/19 15:58*	*07/05/19 12:45*	*1*

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	ND	*	ug/Kg		1	10 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		27 - 127
2-Fluorophenol	69		25 - 128
Nitrobenzene-d5	69		15 - 136
Phenol-d5	72		29 - 130
Terphenyl-d14	92		24 - 146
2,4,6-Tribromophenol	91		10 - 150

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*
Nitrobenzene-d5	*78*		*15 - 136*
Terphenyl-d14	*121*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene			333	305		ug/Kg		92	59 - 120	10	30
Anthracene			333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene			333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene			333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene			333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*27 - 127*
Nitrobenzene-d5	*71*		*15 - 136*
Terphenyl-d14	*114*		*24 - 146*

Method: Moisture - Percent Moisture

Lab Sample ID: 400-172155-2 DU
Matrix: Solid
Analysis Batch: 445937

Client Sample ID: PD-4-SB-41-062419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	78.5			81.5		%				4	10

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☐TESTAMERICA (___Pensacola_____)
☑Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/24/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794.1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST: 8260 Project list VOCs +TICs; 8270 SIM PAH; Moisture; 8270 Project List SVOCs +TICs
NON-UNIT COST: 400-172155 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C° 0.0°C IR7
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8260 Project list VOCs +TICs	8270 SIM PAH	Moisture	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062419	6/24/2019		Water	X					2	X				
	PD-4-SB-41-062419	6/24/2019		Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-4-SB-53-062419	6/24/2019		Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by (Signature)	Received by (Signature)	Date	Time
	Fedex Ref: Dep: Date: 29Apr19 Wgt: 20.00 LBS DV: SHIPPING: 0.00 SPECIAL: 0.00 HANDLING: 0.00 TOTAL: 0.00	6/24/19	1700
Relinquished by (Signature)	Received by (Signature)	Date	Time
		6/25/19 TA	8:37 0.0°C IR7
Relinquished by (Signature)	Received by (Signature)	Date	Time
	Svcs: PRIORITY OVERNIGHT Master 4820 8644 7692 TRCK 4820 8644 7774		

Version 10May17

Custody seal: 562344, 562345

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7/25/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172155-1

Login Number: 172155
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	562344,562345
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	No time on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172155-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/18/2019 12:11:00 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172155-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172155-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-25-19.

Receipt
The samples were received on 6/25/2019 8:37 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0º C.

Receipt Exceptions

Collection times were not listed on the COC. Container labels were referenced.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-446984 recovered above the upper control limit for 2-Hexanone and Acetone. The sample associated with this CCV was non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-446984 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 2-Hexanone, Acetone, 4-Methyl-2-pentanone (MIBK) and Ethyl methacrylate. These analytes were biased high in the LCS and were not detected in the associated sample; therefore, the data have been reported.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-4-SB-53-062419 (400-172155-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-447082 and analytical batch 400-447049 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Ethyl methacrylate and trans-1,3-Dichloropropene. These analytes were biased high in the LCS and were not detected in the associated sample; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-062419 (400-172155-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained

Job ID: 400-172155-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The surrogate recovery for the blank associated with preparation batch 400-446440 and analytical batch 400-447351 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172155-1	TB-PW-062419	Water	06/24/19 00:00	06/25/19 08:37	
400-172155-2	PD-4-SB-41-062419	Solid	06/24/19 08:15	06/25/19 08:37	
400-172155-3	PD-4-SB-53-062419	Solid	06/24/19 10:25	06/25/19 08:37	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419 — Lab Sample ID: 400-172155-1

No Detections.

Client Sample ID: PD-4-SB-41-062419 — Lab Sample ID: 400-172155-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	92		5.0	0.67	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	1.0	J	5.0	0.61	ug/Kg	1	☼	8260B	Total/NA
Isopropylbenzene	3.9	J	5.0	0.68	ug/Kg	1	☼	8260B	Total/NA
N-Propylbenzene	7.2		5.0	0.90	ug/Kg	1	☼	8260B	Total/NA
sec-Butylbenzene	4.4	J	5.0	0.95	ug/Kg	1	☼	8260B	Total/NA
Toluene	1.1	J	5.0	1.0	ug/Kg	1	☼	8260B	Total/NA
Benzo[b]fluoranthene	3.5	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	4.4	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	4.3	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.5	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	8.2	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	6.1	J B	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	5.6	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	4.7	J B	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	53	J	420	42	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-4-SB-53-062419 — Lab Sample ID: 400-172155-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	320000		5800	780	ug/Kg	1000	☼	8260B	Total/NA
Chloroform	3600	J	5800	2900	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	42000		5800	710	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	9500		5800	790	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	65000		5800	1500	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	21000		5800	2300	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	15000		5800	1100	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	35000		5800	1000	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	5000	J	5800	1200	ug/Kg	1000	☼	8260B	Total/NA
p-Isopropyltoluene	2000	J	5800	1200	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	3300	J	5800	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	160000		5800	1200	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	55000		5800	960	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	70000		12000	2200	ug/Kg	1000	☼	8260B	Total/NA
Benzo[a]pyrene	3.0	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	2.3	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	3.0	J	8.0	2.4	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	22		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	44	B	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	2.3	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	1.4	J B	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenol	65	J	400	40	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419

Date Collected: 06/24/19 00:00
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*	25	10	ug/L			07/06/19 10:42	1
Acrolein	ND		20	10	ug/L			07/06/19 10:42	1
Acrylonitrile	ND		10	2.8	ug/L			07/06/19 10:42	1
Benzene	ND		1.0	0.38	ug/L			07/06/19 10:42	1
Bromobenzene	ND		1.0	0.54	ug/L			07/06/19 10:42	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/06/19 10:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Bromoform	ND		5.0	0.71	ug/L			07/06/19 10:42	1
Bromomethane	ND		1.0	0.98	ug/L			07/06/19 10:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/06/19 10:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Chloroethane	ND		1.0	0.76	ug/L			07/06/19 10:42	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/06/19 10:42	1
Chloroform	ND		1.0	0.60	ug/L			07/06/19 10:42	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/06/19 10:42	1
Chloromethane	ND		1.0	0.83	ug/L			07/06/19 10:42	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:42	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/06/19 10:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/06/19 10:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/06/19 10:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/06/19 10:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Ethyl methacrylate	ND	*	1.0	0.60	ug/L			07/06/19 10:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/06/19 10:42	1
2-Hexanone	ND	*	25	3.1	ug/L			07/06/19 10:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/06/19 10:42	1
Methylene bromide	ND		5.0	0.59	ug/L			07/06/19 10:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/06/19 10:42	1
4-Methyl-2-pentanone (MIBK)	ND	*	25	1.8	ug/L			07/06/19 10:42	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/06/19 10:42	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/06/19 10:42	1
Naphthalene	ND		1.0	1.0	ug/L			07/06/19 10:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/06/19 10:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/06/19 10:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/06/19 10:42	1
o-Xylene	ND		5.0	0.60	ug/L			07/06/19 10:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: TB-PW-062419
Date Collected: 06/24/19 00:00
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/06/19 10:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/06/19 10:42	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/06/19 10:42	1
Styrene	ND		1.0	1.0	ug/L			07/06/19 10:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/06/19 10:42	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/06/19 10:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/06/19 10:42	1
Toluene	ND		1.0	0.41	ug/L			07/06/19 10:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/06/19 10:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/06/19 10:42	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:42	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/06/19 10:42	1
Trichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/06/19 10:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/06/19 10:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/06/19 10:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/06/19 10:42	1
Vinyl acetate	ND		25	2.0	ug/L			07/06/19 10:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/06/19 10:42	1
Xylenes, Total	ND		10	1.6	ug/L			07/06/19 10:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*13*	*J **	*ug/L*		*3.13*	*67-63-0*		*07/06/19 10:42*	*1*
Ethyl acetate	*6.5*	*J*	*ug/L*		*4.18*	*141-78-6*		*07/06/19 10:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/06/19 10:42*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/06/19 10:42*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/06/19 10:42*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419

Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2

Matrix: Solid
Percent Solids: 78.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Acrolein	ND		50	28	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Acrylonitrile	ND		20	8.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Benzene	**92**		5.0	0.67	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromobenzene	ND		5.0	1.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromochloromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromoform	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Bromomethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Carbon disulfide	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chlorobenzene	ND		5.0	0.52	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chloroform	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Chloromethane	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Ethylbenzene	**1.0**	**J**	5.0	0.61	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
2-Hexanone	ND		25	5.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Isopropylbenzene	**3.9**	**J**	5.0	0.68	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Methylene bromide	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Methylene Chloride	ND		15	10	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Naphthalene	ND		5.0	2.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
N-Propylbenzene	**7.2**		5.0	0.90	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
o-Xylene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419
Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2
Matrix: Solid
Percent Solids: 78.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5.0	0.98	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
sec-Butylbenzene	**4.4**	**J**	5.0	0.95	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Styrene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Toluene	**1.1**	**J**	5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Trichloroethene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Vinyl acetate	ND		25	9.1	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Vinyl chloride	ND		5.0	2.5	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1
Xylenes, Total	ND		10	1.9	ug/Kg	☼	07/02/19 09:54	07/02/19 18:40	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2,2-dimethyl-	*48*	*T J N*	*ug/Kg*	☼	*2.31*	*75-83-2*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Butane, 2,3-dimethyl-	*300*	*T J N*	*ug/Kg*	☼	*2.59*	*79-29-8*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Pentane, 3-methyl-	*290*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Pentane, 2,4-dimethyl-	*47*	*T J N*	*ug/Kg*	☼	*3.25*	*108-08-7*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Pentane, 2,3-dimethyl-	*93*	*T J N*	*ug/Kg*	☼	*3.73*	*565-59-3*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Isooctane	*53*		*ug/Kg*	☼	*3.94*	*540-84-1*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*77*	*T J*	*ug/Kg*	☼	*4.40*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.alpha.)-	*53*	*T J N*	*ug/Kg*	☼	*4.59*	*16883-48-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*69*	*T J*	*ug/Kg*	☼	*4.68*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*63*	*T J*	*ug/Kg*	☼	*4.77*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*70*	*T J*	*ug/Kg*	☼	*4.90*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclohexane, 1,2-dimethyl-, trans-	*45*	*T J N*	*ug/Kg*	☼	*5.31*	*6876-23-9*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Heptane, 2,6-dimethyl-	*44*	*T J N*	*ug/Kg*	☼	*5.51*	*1072-05-5*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Heptane, 2,5-dimethyl-	*45*	*T J N*	*ug/Kg*	☼	*5.59*	*2216-30-0*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Cyclohexane, 1,1,3-trimethyl-	*87*	*T J N*	*ug/Kg*	☼	*5.75*	*3073-66-3*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*79*	*T J*	*ug/Kg*	☼	*5.89*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*85*	*T J*	*ug/Kg*	☼	*6.52*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Octane, 2,6-dimethyl-	*83*	*T J N*	*ug/Kg*	☼	*6.62*	*2051-30-1*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*55*	*T J*	*ug/Kg*	☼	*6.69*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*110*	*T J*	*ug/Kg*	☼	*6.74*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*57*	*T J*	*ug/Kg*	☼	*7.08*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*45*	*T J*	*ug/Kg*	☼	*7.25*		*07/02/19 09:54*	*07/02/19 18:40*	*1*
Undecane, 2,6-dimethyl-	*45*	*T J N*	*ug/Kg*	☼	*9.18*	*17301-23-4*	*07/02/19 09:54*	*07/02/19 18:40*	*1*
Unknown	*55*	*T J*	*ug/Kg*	☼	*9.25*		*07/02/19 09:54*	*07/02/19 18:40*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419
Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2
Matrix: Solid
Percent Solids: 78.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 122	07/02/19 09:54	07/02/19 18:40	1
Dibromofluoromethane	92		79 - 123	07/02/19 09:54	07/02/19 18:40	1
Toluene-d8 (Surr)	101		80 - 120	07/02/19 09:54	07/02/19 18:40	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Acenaphthylene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[a]anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[a]pyrene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[b]fluoranthene	**3.5**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[g,h,i]perylene	**4.4**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Benzo[k]fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Chrysene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Dibenz(a,h)anthracene	**4.3**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Fluorene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Indeno[1,2,3-cd]pyrene	**4.5**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
1-Methylnaphthalene	**8.2**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
2-Methylnaphthalene	**6.1**	**J B**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Phenanthrene	**5.6**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1
Pyrene	**4.7**	**J B**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		27 - 127	07/01/19 15:58	07/10/19 17:36	1
Nitrobenzene-d5	70		15 - 136	07/01/19 15:58	07/10/19 17:36	1
Terphenyl-d14	101		24 - 146	07/01/19 15:58	07/10/19 17:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		420	54	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Benzenethiol	ND	*	420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Benzoic acid	ND		1300	440	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Bis(2-chloroethoxy)methane	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
bis (2-chloroisopropyl) ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Bis(2-ethylhexyl) phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/17/19 17:46	1
4-Bromophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Butyl benzyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Chloroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Chloro-3-methylphenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Chloronaphthalene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Chlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Chlorophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Dibenz[a,h]acridine	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Dibenzofuran	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
3,3'-Dichlorobenzidine	ND	*	420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4-Dichlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Diethyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-41-062419
Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2
Matrix: Solid
Percent Solids: 78.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Dimethyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Di-n-butyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4-Dinitrophenol	ND		1300	370	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,6-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
1,4-Dioxane	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Hexachlorobenzene	ND		420	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Hexachlorocyclopentadiene	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Hexachloroethane	ND		420	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Indene	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Isophorone	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Methylphenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
3 & 4 Methylphenol	ND		830	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Nitroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
3-Nitroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Nitrobenzene	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2-Nitrophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
N-Nitrosodimethylamine	ND		420	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
N-Nitrosodi-n-propylamine	ND		420	140	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
N-Nitrosodiphenylamine	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Pentachlorophenol	ND		830	83	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Phenol	**53**	**J**	420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Pyridine	ND		420	190	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
Quinoline	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4,5-Trichlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1
2,4,6-Trichlorophenol	ND		420	42	ug/Kg	☼	07/01/19 15:58	07/05/19 16:19	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 16:19*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/17/19 17:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*27 - 127*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
2-Fluorobiphenyl	*38*		*27 - 127*	*07/01/19 15:58*	*07/17/19 17:46*	*1*
2-Fluorophenol	*66*		*25 - 128*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
2-Fluorophenol	*34*		*25 - 128*	*07/01/19 15:58*	*07/17/19 17:46*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Nitrobenzene-d5	*37*		*15 - 136*	*07/01/19 15:58*	*07/17/19 17:46*	*1*
Phenol-d5	*68*		*29 - 130*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Phenol-d5	*33*		*29 - 130*	*07/01/19 15:58*	*07/17/19 17:46*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/01/19 15:58*	*07/05/19 16:19*	*1*
Terphenyl-d14	*51*		*24 - 146*	*07/01/19 15:58*	*07/17/19 17:46*	*1*
2,4,6-Tribromophenol	*87*		*10 - 150*	*07/01/19 15:58*	*07/05/19 16:19*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-SB-41-062419
Lab Sample ID: 400-172155-2
Date Collected: 06/24/19 08:15
Matrix: Solid
Date Received: 06/25/19 08:37
Percent Solids: 78.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*44*		*10 - 150*	*07/01/19 15:58*	*07/17/19 17:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**78.5**		0.01	0.01	%			06/27/19 14:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419

Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3

Matrix: Solid
Percent Solids: 79.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		29000	15000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Acrolein	ND		58000	32000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Acrylonitrile	ND		23000	9300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Benzene	**320000**		5800	780	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromobenzene	ND		5800	1500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromochloromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromodichloromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromoform	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Bromomethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2-Butanone (MEK)	ND		29000	7000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Carbon disulfide	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Carbon tetrachloride	ND		5800	2000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chlorobenzene	ND		5800	600	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chloroethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2-Chloroethyl vinyl ether	ND		12000	5800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chloroform	**3600**	**J**	5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1-Chlorohexane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Chloromethane	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
cis-1,2-Dichloroethene	ND		5800	880	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
cis-1,3-Dichloropropene	ND		5800	1400	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Dibromochloromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dibromo-3-Chloropropane	ND	*	5800	3800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dichlorobenzene	ND		5800	820	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,3-Dichlorobenzene	ND		5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,4-Dichlorobenzene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Dichlorodifluoromethane	ND		5800	1500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1-Dichloroethane	ND		5800	960	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dichloroethane	ND		5800	950	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1-Dichloroethene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2-Dichloropropane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,3-Dichloropropane	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2,2-Dichloropropane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1-Dichloropropene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Ethylbenzene	**42000**		5800	710	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Ethylene Dibromide	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Ethyl methacrylate	ND	*	5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Hexachlorobutadiene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
2-Hexanone	ND	*	29000	5800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Isopropylbenzene	**9500**		5800	790	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Methylene bromide	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Methylene Chloride	ND		17000	12000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
4-Methyl-2-pentanone (MIBK)	ND	*	29000	5800	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Methyl tert-butyl ether	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
m-Xylene & p-Xylene	**65000**		5800	1500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Naphthalene	**21000**		5800	2300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
n-Butylbenzene	**15000**		5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
N-Propylbenzene	**35000**		5800	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
o-Chlorotoluene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
o-Xylene	**5000**	**J**	5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-SB-53-062419
Lab Sample ID: 400-172155-3
Date Collected: 06/24/19 10:25
Matrix: Solid
Date Received: 06/25/19 08:37
Percent Solids: 79.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
p-Isopropyltoluene	**2000**	**J**	5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
sec-Butylbenzene	**3300**	**J**	5800	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Styrene	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
tert-Butylbenzene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,1,2-Tetrachloroethane	ND	*	5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,2,2-Tetrachloroethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Tetrachloroethene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Toluene	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
trans-1,2-Dichloroethene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
trans-1,3-Dichloropropene	ND	*	5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,3-Trichlorobenzene	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,4-Trichlorobenzene	ND		5800	2300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,1-Trichloroethane	ND		5800	1300	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,1,2-Trichloroethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Trichloroethene	ND		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Trichlorofluoromethane	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,3-Trichloropropane	ND		5800	3500	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,2,4-Trimethylbenzene	**160000**		5800	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
1,3,5-Trimethylbenzene	**55000**		5800	960	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Vinyl acetate	ND		29000	11000	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Vinyl chloride	ND		5800	2900	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000
Xylenes, Total	**70000**		12000	2200	ug/Kg	☼	07/08/19 08:30	07/08/19 17:50	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane, 2-methyl-	*25000*	*T J N*	*ug/Kg*	☼	*3.37*	*107-83-5*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Pentane, 3-methyl-	*12000*	*T J N*	*ug/Kg*	☼	*3.53*	*96-14-0*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Hexane	*20000*	*T J N*	*ug/Kg*	☼	*3.70*	*110-54-3*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Cyclopentane, methyl-	*23000*	*T J N*	*ug/Kg*	☼	*4.12*	*96-37-7*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Cyclohexane	*93000*		*ug/Kg*	☼	*4.54*	*110-82-7*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Isobutyl alcohol	*4300000*	*E **	*ug/Kg*	☼	*4.59*	*78-83-1*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Isooctane	*40000*		*ug/Kg*	☼	*4.76*	*540-84-1*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
n-Heptane	*150000*		*ug/Kg*	☼	*4.85*	*142-82-5*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Methylcyclohexane	*110000*		*ug/Kg*	☼	*5.27*	*108-87-2*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*25000*	*T J*	*ug/Kg*	☼	*5.62*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Heptane, 3-methyl-	*15000*	*T J N*	*ug/Kg*	☼	*5.72*	*589-81-1*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*16000*	*T J*	*ug/Kg*	☼	*6.16*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*51000*	*T J*	*ug/Kg*	☼	*6.23*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*15000*	*T J*	*ug/Kg*	☼	*6.34*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*35000*	*T J*	*ug/Kg*	☼	*6.42*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*74000*	*T J*	*ug/Kg*	☼	*6.73*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*57000*	*T J*	*ug/Kg*	☼	*6.81*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
3-Ethyltoluene	*110000*		*ug/Kg*	☼	*8.07*	*620-14-4*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
2-Ethyltoluene	*33000*		*ug/Kg*	☼	*8.30*	*611-14-3*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
1,2,3-Trimethylbenzene	*39000*		*ug/Kg*	☼	*8.77*	*526-73-8*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
p-Diethylbenzene	*36000*		*ug/Kg*	☼	*8.97*	*105-05-5*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*36000*	*T J N*	*ug/Kg*	☼	*9.29*	*874-41-9*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*
Unknown	*31000*	*T J*	*ug/Kg*	☼	*9.42*		*07/08/19 08:30*	*07/08/19 17:50*	*1000*
2-Methylnaphthalene	*24000*		*ug/Kg*	☼	*11.72*	*91-57-6*	*07/08/19 08:30*	*07/08/19 17:50*	*1000*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419
Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3
Matrix: Solid
Percent Solids: 79.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/08/19 08:30	07/08/19 17:50	1000
Dibromofluoromethane	91		79 - 123	07/08/19 08:30	07/08/19 17:50	1000
Toluene-d8 (Surr)	106		80 - 120	07/08/19 08:30	07/08/19 17:50	1000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Acenaphthylene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Anthracene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[a]anthracene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[a]pyrene	**3.0**	**J**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[b]fluoranthene	**2.3**	**J**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[g,h,i]perylene	ND		8.0	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Benzo[k]fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Chrysene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Dibenz(a,h)anthracene	ND		8.0	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Fluorene	ND		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Indeno[1,2,3-cd]pyrene	**3.0**	**J**	8.0	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
1-Methylnaphthalene	**22**		8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
2-Methylnaphthalene	**44**	**B**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Phenanthrene	**2.3**	**J**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1
Pyrene	**1.4**	**J B**	8.0	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	80		27 - 127	07/01/19 15:58	07/10/19 17:53	1
Nitrobenzene-d5	76		15 - 136	07/01/19 15:58	07/10/19 17:53	1
Terphenyl-d14	101		24 - 146	07/01/19 15:58	07/10/19 17:53	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	52	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Benzenethiol	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Benzyl alcohol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Bis(2-chloroethoxy)methane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Bis(2-chloroethyl)ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Bis(2-ethylhexyl) phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Dibenz[a,h]acridine	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Client Sample ID: PD-4-SB-53-062419
Date Collected: 06/24/19 10:25
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-3
Matrix: Solid
Percent Solids: 79.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Di-n-butyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4-Dinitrophenol	ND		1200	350	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
1,4-Dioxane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Hexachlorocyclopentadiene	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Indene	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Isophorone	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
3 & 4 Methylphenol	ND		800	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
3-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Nitrobenzene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2-Nitrophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
N-Nitrosodimethylamine	ND		400	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Pentachlorophenol	ND		800	80	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Phenol	**65**	**J**	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Pyridine	ND		400	180	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
Quinoline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 16:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 16:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
2-Fluorophenol	*68*		*25 - 128*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Nitrobenzene-d5	*68*		*15 - 136*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Phenol-d5	*70*		*29 - 130*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
Terphenyl-d14	*90*		*24 - 146*	*07/01/19 15:58*	*07/05/19 16:41*	*1*
2,4,6-Tribromophenol	*83*		*10 - 150*	*07/01/19 15:58*	*07/05/19 16:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.9**		0.01	0.01	%			06/27/19 14:29	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172155-2	PD-4-SB-41-062419	101	92	101
400-172155-3	PD-4-SB-53-062419	100	91	106
LCS 400-446568/2-A	Lab Control Sample	104	94	100
LCS 400-447082/1-A	Lab Control Sample	100	99	101
MB 400-446568/1-A	Method Blank	99	93	101
MB 400-447082/2-A	Method Blank	101	99	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172155-1	TB-PW-062419	103	97	103
LCS 400-446984/1002	Lab Control Sample	98	100	102
MB 400-446984/4	Method Blank	102	100	104

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172155-2	PD-4-SB-41-062419	76	66	67	68	88	87
400-172155-2	PD-4-SB-41-062419	38	34	37	33	51	44
400-172155-3	PD-4-SB-53-062419	77	68	68	70	90	83
LCS 400-446440/4-A	Lab Control Sample	80	69	69	72	92	91
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172155-2	PD-4-SB-41-062419	77	70	101
400-172155-3	PD-4-SB-53-062419	80	76	101
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-062419 — Lab Sample ID: 400-172155-1

Date Collected: 06/24/19 00:00 — **Matrix: Water**
Date Received: 06/25/19 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	446984	07/06/19 10:42	CAR	TAL PEN

Client Sample ID: PD-4-SB-41-062419 — Lab Sample ID: 400-172155-2

Date Collected: 06/24/19 08:15 — **Matrix: Solid**
Date Received: 06/25/19 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			445937	06/27/19 14:29	KNT	TAL PEN

Client Sample ID: PD-4-SB-41-062419 — Lab Sample ID: 400-172155-2

Date Collected: 06/24/19 08:15 — **Matrix: Solid**
Date Received: 06/25/19 08:37 — **Percent Solids: 78.5**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.338 g	5.00 g	446568	07/02/19 09:54	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	446503	07/02/19 18:40	CAR	TAL PEN
Total/NA	Prep	3546			15.12 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 16:19	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 17:46	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 17:36	KJA	TAL PEN

Client Sample ID: PD-4-SB-53-062419 — Lab Sample ID: 400-172155-3

Date Collected: 06/24/19 10:25 — **Matrix: Solid**
Date Received: 06/25/19 08:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			445937	06/27/19 14:29	KNT	TAL PEN

Client Sample ID: PD-4-SB-53-062419 — Lab Sample ID: 400-172155-3

Date Collected: 06/24/19 10:25 — **Matrix: Solid**
Date Received: 06/25/19 08:37 — **Percent Solids: 79.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.891 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447049	07/08/19 17:50	SAB	TAL PEN
Total/NA	Prep	3546			15.39 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 16:41	VC1	TAL PEN
Total/NA	Prep	3546			15.39 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 17:53	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-446440/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-446568/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	446568	07/02/19 09:54	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	446503	07/02/19 12:38	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-446984/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	446984	07/06/19 10:18	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447082/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 11:01	SAB	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/4-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:06	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/6-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446568/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	446568	07/02/19 09:54	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	446503	07/02/19 10:44	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446984/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	446984	07/06/19 09:29	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447082/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 09:56	SAB	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-446440/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-446440/5-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-SB-41-062419
Date Collected: 06/24/19 08:15
Date Received: 06/25/19 08:37

Lab Sample ID: 400-172155-2 DU
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			445937	06/27/19 14:29	KNT	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

GC/MS VOA

Analysis Batch: 446503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8260B	446568
MB 400-446568/1-A	Method Blank	Total/NA	Solid	8260B	446568
LCS 400-446568/2-A	Lab Control Sample	Total/NA	Solid	8260B	446568

Prep Batch: 446568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	5035	
MB 400-446568/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-446568/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 446984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-1	TB-PW-062419	Total/NA	Water	8260B	
MB 400-446984/4	Method Blank	Total/NA	Water	8260B	
LCS 400-446984/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	8260B	447082
MB 400-447082/2-A	Method Blank	Total/NA	Solid	8260B	447082
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	8260B	447082

Prep Batch: 447082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	5035	
MB 400-447082/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	3546	
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8270D	446440
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

GC/MS Semi VOA

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8270D LL	446440
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	8270D LL	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	8270D	446440

General Chemistry

Analysis Batch: 445937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172155-2	PD-4-SB-41-062419	Total/NA	Solid	Moisture	
400-172155-3	PD-4-SB-53-062419	Total/NA	Solid	Moisture	
400-172155-2 DU	PD-4-SB-41-062419	Total/NA	Solid	Moisture	

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446568/1-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Acrolein	ND		50	28	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Benzene	ND		5.0	0.67	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromoform	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chloroform	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
2-Hexanone	ND		25	5.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Methylene Chloride	ND		15	10	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446568/1-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Styrene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Toluene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/02/19 09:54	07/02/19 12:38	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/02/19 09:54	07/02/19 12:38	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/02/19 09:54*	*07/02/19 12:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/02/19 09:54*	*07/02/19 12:38*	*1*
Dibromofluoromethane	*93*		*79 - 123*	*07/02/19 09:54*	*07/02/19 12:38*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/02/19 09:54*	*07/02/19 12:38*	*1*

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	215		ug/Kg		107	48 - 160
Acrolein	500	611		ug/Kg		122	40 - 150
Acrylonitrile	500	652		ug/Kg		130	60 - 130
Benzene	50.0	48.7		ug/Kg		97	65 - 130
Bromobenzene	50.0	50.9		ug/Kg		102	65 - 130
Bromochloromethane	50.0	53.1		ug/Kg		106	65 - 130
Bromodichloromethane	50.0	46.1		ug/Kg		92	61 - 130
Bromoform	50.0	51.3		ug/Kg		103	52 - 136
Bromomethane	50.0	35.2		ug/Kg		70	12 - 160
2-Butanone (MEK)	200	182		ug/Kg		91	55 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	47.5		ug/Kg		95	46 - 141
Carbon tetrachloride	50.0	47.7		ug/Kg		95	60 - 130
Chlorobenzene	50.0	49.7		ug/Kg		99	70 - 130
Chloroethane	50.0	46.6		ug/Kg		93	55 - 134
2-Chloroethyl vinyl ether	50.0	43.1		ug/Kg		86	10 - 158
Chloroform	50.0	48.9		ug/Kg		98	62 - 130
1-Chlorohexane	50.0	53.0		ug/Kg		106	69 - 130
Chloromethane	50.0	55.0		ug/Kg		110	49 - 136
cis-1,2-Dichloroethene	50.0	49.6		ug/Kg		99	53 - 135
cis-1,3-Dichloropropene	50.0	46.9		ug/Kg		94	61 - 130
Dibromochloromethane	50.0	50.2		ug/Kg		100	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	51.9		ug/Kg		104	49 - 130
1,2-Dichlorobenzene	50.0	54.0		ug/Kg		108	64 - 130
1,3-Dichlorobenzene	50.0	53.5		ug/Kg		107	66 - 130
1,4-Dichlorobenzene	50.0	52.4		ug/Kg		105	65 - 130
Dichlorodifluoromethane	50.0	47.5		ug/Kg		95	34 - 143
1,1-Dichloroethane	50.0	48.8		ug/Kg		98	59 - 130
1,2-Dichloroethane	50.0	48.5		ug/Kg		97	62 - 130
1,1-Dichloroethene	50.0	51.5		ug/Kg		103	55 - 137
1,2-Dichloropropane	50.0	48.6		ug/Kg		97	64 - 130
1,3-Dichloropropane	50.0	50.7		ug/Kg		101	67 - 130
2,2-Dichloropropane	50.0	43.9		ug/Kg		88	51 - 132
1,1-Dichloropropene	50.0	49.2		ug/Kg		98	65 - 130
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 130
Ethylene Dibromide	50.0	52.5		ug/Kg		105	67 - 130
Ethyl methacrylate	50.0	52.6		ug/Kg		105	62 - 130
Hexachlorobutadiene	50.0	43.2		ug/Kg		86	62 - 133
2-Hexanone	200	191		ug/Kg		96	57 - 131
Isopropylbenzene	50.0	51.0		ug/Kg		102	70 - 130
Methylene bromide	50.0	48.6		ug/Kg		97	65 - 130
Methylene Chloride	50.0	50.8		ug/Kg		102	57 - 132
4-Methyl-2-pentanone (MIBK)	200	237		ug/Kg		118	58 - 130
Methyl tert-butyl ether	50.0	45.5		ug/Kg		91	63 - 130
m-Xylene & p-Xylene	50.0	52.6		ug/Kg		105	70 - 130
Naphthalene	50.0	55.7		ug/Kg		111	45 - 144
n-Butylbenzene	50.0	52.5		ug/Kg		105	66 - 130
N-Propylbenzene	50.0	55.5		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.3		ug/Kg		109	67 - 130
o-Xylene	50.0	51.6		ug/Kg		103	70 - 130
p-Chlorotoluene	50.0	53.0		ug/Kg		106	66 - 130
p-Isopropyltoluene	50.0	54.6		ug/Kg		109	68 - 130
sec-Butylbenzene	50.0	54.0		ug/Kg		108	67 - 130
Styrene	50.0	49.3		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	53.9		ug/Kg		108	67 - 130
1,1,1,2-Tetrachloroethane	50.0	50.8		ug/Kg		102	65 - 130
1,1,2,2-Tetrachloroethane	50.0	56.9		ug/Kg		114	60 - 131
Tetrachloroethene	50.0	47.9		ug/Kg		96	67 - 130
Toluene	50.0	52.7		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	53.1		ug/Kg		106	58 - 134

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446568/2-A
Matrix: Solid
Analysis Batch: 446503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	49.1		ug/Kg		98	60 - 130
1,2,3-Trichlorobenzene	50.0	45.4		ug/Kg		91	58 - 135
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	48.9		ug/Kg		98	63 - 130
1,1,2-Trichloroethane	50.0	51.6		ug/Kg		103	65 - 130
Trichloroethene	50.0	49.1		ug/Kg		98	65 - 130
Trichlorofluoromethane	50.0	44.2		ug/Kg		88	61 - 136
1,2,3-Trichloropropane	50.0	59.1		ug/Kg		118	60 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/Kg		108	66 - 130
1,3,5-Trimethylbenzene	50.0	54.5		ug/Kg		109	67 - 130
Vinyl acetate	100	118		ug/Kg		118	24 - 160
Vinyl chloride	50.0	54.5		ug/Kg		109	52 - 132
Xylenes, Total	100	104		ug/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*72 - 122*
Dibromofluoromethane	*94*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-446984/4
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/06/19 10:18	1
Acrolein	ND		20	10	ug/L			07/06/19 10:18	1
Acrylonitrile	ND		10	2.8	ug/L			07/06/19 10:18	1
Benzene	ND		1.0	0.38	ug/L			07/06/19 10:18	1
Bromobenzene	ND		1.0	0.54	ug/L			07/06/19 10:18	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/06/19 10:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Bromoform	ND		5.0	0.71	ug/L			07/06/19 10:18	1
Bromomethane	ND		1.0	0.98	ug/L			07/06/19 10:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/06/19 10:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Chloroethane	ND		1.0	0.76	ug/L			07/06/19 10:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/06/19 10:18	1
Chloroform	ND		1.0	0.60	ug/L			07/06/19 10:18	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/06/19 10:18	1
Chloromethane	ND		1.0	0.83	ug/L			07/06/19 10:18	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:18	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/06/19 10:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/06/19 10:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446984/4
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/06/19 10:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/06/19 10:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/06/19 10:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/06/19 10:18	1
2-Hexanone	ND		25	3.1	ug/L			07/06/19 10:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/06/19 10:18	1
Methylene bromide	ND		5.0	0.59	ug/L			07/06/19 10:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/06/19 10:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/06/19 10:18	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/06/19 10:18	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/06/19 10:18	1
Naphthalene	ND		1.0	1.0	ug/L			07/06/19 10:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/06/19 10:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/06/19 10:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/06/19 10:18	1
o-Xylene	ND		5.0	0.60	ug/L			07/06/19 10:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/06/19 10:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/06/19 10:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/06/19 10:18	1
Styrene	ND		1.0	1.0	ug/L			07/06/19 10:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/06/19 10:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/06/19 10:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/06/19 10:18	1
Toluene	ND		1.0	0.41	ug/L			07/06/19 10:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/06/19 10:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/06/19 10:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/06/19 10:18	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/06/19 10:18	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/06/19 10:18	1
Trichloroethene	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/06/19 10:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/06/19 10:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/06/19 10:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/06/19 10:18	1
Vinyl acetate	ND		25	2.0	ug/L			07/06/19 10:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/06/19 10:18	1
Xylenes, Total	ND		10	1.6	ug/L			07/06/19 10:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446984/4
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/06/19 10:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/06/19 10:18	1
Dibromofluoromethane	100		81 - 121		07/06/19 10:18	1
Toluene-d8 (Surr)	104		80 - 120		07/06/19 10:18	1

Lab Sample ID: LCS 400-446984/1002
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	326	*	ug/L		163	43 - 160
Acrolein	500	750		ug/L		150	38 - 160
Acrylonitrile	500	634		ug/L		127	64 - 142
Benzene	50.0	52.5		ug/L		105	70 - 130
Bromobenzene	50.0	52.7		ug/L		105	70 - 132
Bromochloromethane	50.0	55.3		ug/L		111	70 - 130
Bromodichloromethane	50.0	55.3		ug/L		111	67 - 133
Bromoform	50.0	65.6		ug/L		131	57 - 140
Bromomethane	50.0	37.1		ug/L		74	10 - 160
2-Butanone (MEK)	200	288		ug/L		144	61 - 145
Carbon disulfide	50.0	51.6		ug/L		103	61 - 137
Carbon tetrachloride	50.0	60.3		ug/L		121	61 - 137
Chlorobenzene	50.0	55.0		ug/L		110	70 - 130
Chloroethane	50.0	51.5		ug/L		103	55 - 141
2-Chloroethyl vinyl ether	50.0	46.7		ug/L		93	10 - 160
Chloroform	50.0	53.5		ug/L		107	69 - 130
1-Chlorohexane	50.0	57.4		ug/L		115	69 - 130
Chloromethane	50.0	48.6		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	57.2		ug/L		114	68 - 130
cis-1,3-Dichloropropene	50.0	57.8		ug/L		116	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	66.8		ug/L		134	54 - 135
1,2-Dichlorobenzene	50.0	56.6		ug/L		113	67 - 130
1,3-Dichlorobenzene	50.0	55.0		ug/L		110	70 - 130
1,4-Dichlorobenzene	50.0	54.6		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	37.0		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	55.8		ug/L		112	70 - 130
1,2-Dichloroethane	50.0	56.4		ug/L		113	69 - 130
1,1-Dichloroethene	50.0	48.5		ug/L		97	63 - 134
1,2-Dichloropropane	50.0	55.4		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	58.0		ug/L		116	70 - 130
2,2-Dichloropropane	50.0	55.9		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	53.8		ug/L		108	70 - 130
Ethylbenzene	50.0	56.2		ug/L		112	70 - 130
Ethylene Dibromide	50.0	57.9		ug/L		116	70 - 130
Ethyl methacrylate	50.0	67.4	*	ug/L		135	68 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446984/1002
Matrix: Water
Analysis Batch: 446984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	50.3		ug/L		101	53 - 140
2-Hexanone	200	316	*	ug/L		158	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.7		ug/L		105	70 - 130
Methylene Chloride	50.0	52.6		ug/L		105	66 - 135
4-Methyl-2-pentanone (MIBK)	200	280	*	ug/L		140	69 - 138
Methyl tert-butyl ether	50.0	54.2		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	55.6		ug/L		111	70 - 130
Naphthalene	50.0	58.2		ug/L		116	47 - 149
n-Butylbenzene	50.0	54.1		ug/L		108	67 - 130
N-Propylbenzene	50.0	55.5		ug/L		111	70 - 130
o-Chlorotoluene	50.0	54.0		ug/L		108	70 - 130
o-Xylene	50.0	55.5		ug/L		111	70 - 130
p-Chlorotoluene	50.0	54.7		ug/L		109	70 - 130
p-Isopropyltoluene	50.0	56.0		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	52.8		ug/L		106	70 - 130
tert-Butylbenzene	50.0	53.7		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.6	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	60.4		ug/L		121	70 - 131
Tetrachloroethene	50.0	55.0		ug/L		110	65 - 130
Toluene	50.0	55.3		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	52.9		ug/L		106	70 - 130
trans-1,3-Dichloropropene	50.0	64.9		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	53.5		ug/L		107	60 - 138
1,2,4-Trichlorobenzene	50.0	52.5		ug/L		105	60 - 140
1,1,1-Trichloroethane	50.0	55.4		ug/L		111	68 - 130
1,1,2-Trichloroethane	50.0	57.6		ug/L		115	70 - 130
Trichloroethene	50.0	53.9		ug/L		108	70 - 130
Trichlorofluoromethane	50.0	47.2		ug/L		94	65 - 138
1,2,3-Trichloropropane	50.0	59.2		ug/L		118	70 - 130
1,2,4-Trimethylbenzene	50.0	53.0		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	53.2		ug/L		106	69 - 130
Vinyl acetate	100	134		ug/L		134	26 - 160
Vinyl chloride	50.0	48.4		ug/L		97	59 - 136
Xylenes, Total	100	111		ug/L		111	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	28	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Benzene	ND		5.0	0.67	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromoform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Hexanone	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene Chloride	ND		15	10	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Styrene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Toluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/08/19 08:30*	*07/08/19 11:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*72 - 122*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Dibromofluoromethane	*99*		*79 - 123*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/08/19 08:30*	*07/08/19 11:01*	*1*

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	234		ug/Kg		117	48 - 160
Acrolein	500	701		ug/Kg		140	40 - 150
Acrylonitrile	500	619		ug/Kg		124	60 - 130
Benzene	50.0	55.3		ug/Kg		111	65 - 130
Bromobenzene	50.0	56.2		ug/Kg		112	65 - 130
Bromochloromethane	50.0	58.2		ug/Kg		116	65 - 130
Bromodichloromethane	50.0	57.3		ug/Kg		115	61 - 130
Bromoform	50.0	67.9		ug/Kg		136	52 - 136
Bromomethane	50.0	44.4		ug/Kg		89	12 - 160
2-Butanone (MEK)	200	225		ug/Kg		112	55 - 130
Carbon disulfide	50.0	54.3		ug/Kg		109	46 - 141
Carbon tetrachloride	50.0	64.9		ug/Kg		130	60 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	50.0	57.9		ug/Kg		116	70 - 130
Chloroethane	50.0	56.1		ug/Kg		112	55 - 134
2-Chloroethyl vinyl ether	50.0	50.4		ug/Kg		101	10 - 158
Chloroform	50.0	56.5		ug/Kg		113	62 - 130
1-Chlorohexane	50.0	61.9		ug/Kg		124	69 - 130
Chloromethane	50.0	56.0		ug/Kg		112	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	60.9		ug/Kg		122	61 - 130
Dibromochloromethane	50.0	65.8		ug/Kg		132	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	65.5	*	ug/Kg		131	49 - 130
1,2-Dichlorobenzene	50.0	62.0		ug/Kg		124	64 - 130
1,3-Dichlorobenzene	50.0	59.9		ug/Kg		120	66 - 130
1,4-Dichlorobenzene	50.0	59.9		ug/Kg		120	65 - 130
Dichlorodifluoromethane	50.0	46.3		ug/Kg		93	34 - 143
1,1-Dichloroethane	50.0	58.3		ug/Kg		117	59 - 130
1,2-Dichloroethane	50.0	57.2		ug/Kg		114	62 - 130
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	55 - 137
1,2-Dichloropropane	50.0	58.5		ug/Kg		117	64 - 130
1,3-Dichloropropane	50.0	58.9		ug/Kg		118	67 - 130
2,2-Dichloropropane	50.0	59.5		ug/Kg		119	51 - 132
1,1-Dichloropropene	50.0	56.6		ug/Kg		113	65 - 130
Ethylbenzene	50.0	59.9		ug/Kg		120	70 - 130
Ethylene Dibromide	50.0	58.7		ug/Kg		117	67 - 130
Ethyl methacrylate	50.0	67.0	*	ug/Kg		134	62 - 130
Hexachlorobutadiene	50.0	56.2		ug/Kg		112	62 - 133
2-Hexanone	200	264	*	ug/Kg		132	57 - 131
Isopropylbenzene	50.0	58.5		ug/Kg		117	70 - 130
Methylene bromide	50.0	53.2		ug/Kg		106	65 - 130
Methylene Chloride	50.0	53.5		ug/Kg		107	57 - 132
4-Methyl-2-pentanone (MIBK)	200	262	*	ug/Kg		131	58 - 130
Methyl tert-butyl ether	50.0	52.8		ug/Kg		106	63 - 130
m-Xylene & p-Xylene	50.0	58.9		ug/Kg		118	70 - 130
Naphthalene	50.0	60.9		ug/Kg		122	45 - 144
n-Butylbenzene	50.0	60.9		ug/Kg		122	66 - 130
N-Propylbenzene	50.0	61.0		ug/Kg		122	67 - 130
o-Chlorotoluene	50.0	58.5		ug/Kg		117	67 - 130
o-Xylene	50.0	58.9		ug/Kg		118	70 - 130
p-Chlorotoluene	50.0	59.6		ug/Kg		119	66 - 130
p-Isopropyltoluene	50.0	60.6		ug/Kg		121	68 - 130
sec-Butylbenzene	50.0	58.9		ug/Kg		118	67 - 130
Styrene	50.0	55.6		ug/Kg		111	68 - 130
tert-Butylbenzene	50.0	58.6		ug/Kg		117	67 - 130
1,1,1,2-Tetrachloroethane	50.0	70.1	*	ug/Kg		140	65 - 130
1,1,2,2-Tetrachloroethane	50.0	59.9		ug/Kg		120	60 - 131
Tetrachloroethene	50.0	58.8		ug/Kg		118	67 - 130
Toluene	50.0	58.1		ug/Kg		116	70 - 130
trans-1,2-Dichloroethene	50.0	55.2		ug/Kg		110	58 - 134
trans-1,3-Dichloropropene	50.0	67.1	*	ug/Kg		134	60 - 130
1,2,3-Trichlorobenzene	50.0	57.3		ug/Kg		115	58 - 135

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	50.0	57.5		ug/Kg		115	56 - 138
1,1,1-Trichloroethane	50.0	58.6		ug/Kg		117	63 - 130
1,1,2-Trichloroethane	50.0	58.9		ug/Kg		118	65 - 130
Trichloroethene	50.0	56.9		ug/Kg		114	65 - 130
Trichlorofluoromethane	50.0	50.2		ug/Kg		100	61 - 136
1,2,3-Trichloropropane	50.0	56.7		ug/Kg		113	60 - 130
1,2,4-Trimethylbenzene	50.0	57.9		ug/Kg		116	66 - 130
1,3,5-Trimethylbenzene	50.0	58.1		ug/Kg		116	67 - 130
Vinyl acetate	100	122		ug/Kg		122	24 - 160
Vinyl chloride	50.0	55.0		ug/Kg		110	52 - 132
Xylenes, Total	100	118		ug/Kg		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/01/19 15:58*	*07/05/19 12:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2-Fluorophenol	*70*		*25 - 128*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Phenol-d5	*72*		*29 - 130*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2,4,6-Tribromophenol	*89*		*10 - 150*	*07/01/19 15:58*	*07/05/19 12:45*	*1*

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	ND	*	ug/Kg		1	10 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		27 - 127
2-Fluorophenol	69		25 - 128
Nitrobenzene-d5	69		15 - 136
Phenol-d5	72		29 - 130
Terphenyl-d14	92		24 - 146
2,4,6-Tribromophenol	91		10 - 150

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*
Nitrobenzene-d5	*78*		*15 - 136*
Terphenyl-d14	*121*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172155-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene			333	305		ug/Kg		92	59 - 120	10	30
Anthracene			333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene			333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene			333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene			333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*27 - 127*
Nitrobenzene-d5	*71*		*15 - 136*
Terphenyl-d14	*114*		*24 - 146*

Method: Moisture - Percent Moisture

Lab Sample ID: 400-172155-2 DU
Matrix: Solid
Analysis Batch: 445937

Client Sample ID: PD-4-SB-41-062419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	78.5			81.5		%				4	10

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☐TESTAMERICA (___Pensacola_____)
☑Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐SGW FDG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☐OTHER _____

Print Bill To Contact Name: James Carrino
PO #: 60592794.1.24.050
PlaNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02
☐CHECK IF NO INCIDENT # APPLIES
DATE 6/24/2019
PAGE: ___1___ of ___1___

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL
AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST: 8260 Project list VOCs +TICs; 8270 SIM PAH; Moisture; 8270 Project List SVOCs +TICs
NON-UNIT COST: 400-172155 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°: 0.0°C IR7

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8260 Project list VOCs +TICs	8270 SIM PAH	Moisture	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062419	6/24/2019		Water	X					2	X				
	PD-4-SB-41-062419	6/24/2019		Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-4-SB-53-062419	6/24/2019		Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by: (Signature) | Received by: (Signature) Fedex | Date: 6/24/19 | Time: 1700
Relinquished by: (Signature) | Received by: (Signature) | Date: 6/25/19 TA | Time: 8:37 0.0°C IR7
Relinquished by: (Signature) | Received by: (Signature) | Date: | Time:

Ref: Dep:
Date: 29Apr19 Wgt: 20.00 LBS
DV: 0.00
SHIPPING: 0.00
SPECIAL: 0.00
HANDLING: 0.00
TOTAL: 0.00
Svcs: PRIORITY OVERNIGHT Master 4820 8844 7682 TRCK: 4820 8844 7774

Version: 10May17

custody seal: 562344, 562345

Page 44 of 46

10/18/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172155-1

Login Number: 172155
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	562344,562345
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	No time on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172155-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172224

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/22/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062519-A	PD-8-SB-37-062519
PD-8-SB-37-062519-Dup	PD-8-SB-40-062519

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOCs and PAHs were detected in the method blanks. Additionally, the RPDs between analytical results for PAHs in field duplicate pair PD-8-SB-37-062519/PD-8-SB-37-062519-Dup were outside evaluation criteria; therefore, results were qualified as estimated (**J**/**J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-446440/1-A	SVOCs	bis(2-ethylhexyl) phthalate	53.8 µg/Kg
MB 400-446440/1-A	PAHs	Fluoranthene	2.71 µg/Kg
MB 400-446440/1-A	PAHs	2-Methylnaphthalene	2.22 µg/Kg
MB 400-446440/1-A	PAHs	Pyrene	53.8 µg/Kg

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the

associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-8-SB-37-062519	PAHs	Pyrene	-	**U**
PD-8-SB-37-062519	SVOCs	bis(2-ethylhexyl) phthalate	-	**U**
PD-8-SB-37-062519-Dup	PAHs	Fluoranthene	-	**U**
PD-8-SB-37-062519-Dup	PAHs	Pyrene	-	**U**
PD-8-SB-37-062519-Dup	SVOCs	bis(2-ethylhexyl) phthalate	-	**U**
PD-8-SB-40-062519	SVOCs	bis(2-ethylhexyl) phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-447016/1002	VOCs	1,2-Dibromo-3-Chloropropane	**138**/NA	NA	54-135
400-447016/1002	VOCs	Ethyl methacrylate	**136**/NA	NA	68-130
400-447016/1002	VOCs	2-Hexanone	**138**/NA	NA	65-137
400-447016/1002	VOCs	1,1,1,2-Tetrachloroethane	**141**/NA	NA	67-131
400-447016/1002	VOCs	trans-1,3-Dichloropropene	**134/**NA	NA	63-130
400-447044/1-A	VOCs	Ethyl methacrylate	**136**/NA	NA	62-130
400-447044/1-A	VOCs	1,1,1,2-Tetrachloroethane	**132**/NA	NA	60-131
400-446440/4-A/5-A	SVOCs	Benzenethiol	**1/2**	12	10-120/30
400-446440/6-A	SVOCs	3,3'-Dichlorobenzidine	**172**	NA	42-120

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-8-SB-37-062519	SVOCs	Benzenethiol	**UJ**
PD-8-SB-37-062519-Dup	SVOCs	Benzenethiol	**UJ**
PD-8-SB-40-062519	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MB 400-446440/1-A	PAHs	2-Fluorobiphenyl	**128**	27-127
MB 400-446440/1-A	PAHs	Terphenyl-d_{14}	**161**	24-146

Method blank MB 400-446440/1-A is a quality control samples and does not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-8-SB-37-062519	PD-8-SB-37-062519-Dup

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-8-SB-37-062519	PD-8-SB-37-062519-Dup	PAHs	1-Methylnaphthalene	**92**	**J/J**
PD-8-SB-37-062519	PD-8-SB-37-062519-Dup	PAHs	2-Methylnaphthalene	**91**	**J/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

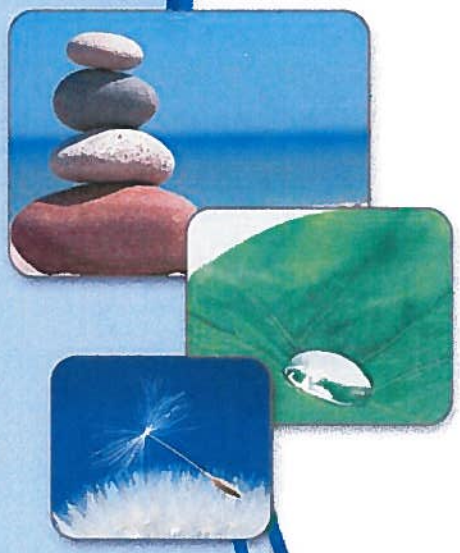
Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172224-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/22/2019 12:44:00 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/23/2019

LINKS

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Job ID: 400-172224-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172224-1

Comments
No additional comments.

Receipt
The samples were received on 6/26/2019 8:57 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447031 recovered outside acceptance criteria, low biased, for Acetone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-447044 and analytical batch 400-447031 recovered outside control limits for the following analytes: 1,1,2,2-Tetrachloroethane and Ethyl methacrylate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447016 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, trans-1,3-Dichloropropene and Ethyl methacrylate These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-37-062519 (400-172224-2), PD-8-SB-37-062519-DUP (400-172224-3) and PD-8-SB-40-062519 (400-172224-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-062519-A (400-172224-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The surrogate recovery for the blank associated with preparation batch 400-446440 and analytical batch 400-447351 was outside the upper control limits.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Job ID: 400-172224-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172224-1	TB-PW-062519-A	Water	06/25/19 00:00	06/26/19 08:57	
400-172224-2	PD-8-SB-37-062519	Solid	06/25/19 10:20	06/26/19 08:57	
400-172224-3	PD-8-SB-37-062519-DUP	Solid	06/25/19 10:20	06/26/19 08:57	
400-172224-4	PD-8-SB-40-062519	Solid	06/25/19 12:50	06/26/19 08:57	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A — Lab Sample ID: 400-172224-1

No Detections.

Client Sample ID: PD-8-SB-37-062519 — Lab Sample ID: 400-172224-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	110000		3200	430	ug/Kg	500	☼	8260B	Total/NA
Ethylbenzene	1800	J	3200	390	ug/Kg	500	☼	8260B	Total/NA
m-Xylene & p-Xylene	5200		3200	830	ug/Kg	500	☼	8260B	Total/NA
N-Propylbenzene	700	J	3200	570	ug/Kg	500	☼	8260B	Total/NA
o-Xylene	1700	J	3200	640	ug/Kg	500	☼	8260B	Total/NA
Toluene	1300	J	3200	640	ug/Kg	500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	3900		3200	640	ug/Kg	500	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	1400	J	3200	530	ug/Kg	500	☼	8260B	Total/NA
Xylenes, Total	6900		6400	1200	ug/Kg	500	☼	8260B	Total/NA
1-Methylnaphthalene	89	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	150	B J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	16		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	~~3.9~~	J B U	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~67~~	J B U	400	40	ug/Kg	1	☼	8270D	Total/NA
Phenol	470		400	40	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-8-SB-37-062519-DUP — Lab Sample ID: 400-172224-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	86000		3200	430	ug/Kg	500	☼	8260B	Total/NA
Ethylbenzene	440	J	3200	390	ug/Kg	500	☼	8260B	Total/NA
m-Xylene & p-Xylene	1200	J	3200	820	ug/Kg	500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	930	J	3200	630	ug/Kg	500	☼	8260B	Total/NA
Xylenes, Total	1500	J	6300	1200	ug/Kg	500	☼	8260B	Total/NA
Benzo[a]pyrene	5.3	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	3.9	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	~~7.3~~	J B U	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.0	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	240	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	400	B J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	38		8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	~~8.2~~	J B U	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~60~~	J B U	410	41	ug/Kg	1	☼	8270D	Total/NA
Phenol	510		410	41	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-8-SB-40-062519 — Lab Sample ID: 400-172224-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	15000		15000	1800	ug/Kg	2500	☼	8260B	Total/NA
m-Xylene & p-Xylene	40000		15000	3900	ug/Kg	2500	☼	8260B	Total/NA
Naphthalene	7400	J	15000	6000	ug/Kg	2500	☼	8260B	Total/NA
N-Propylbenzene	5000	J	15000	2700	ug/Kg	2500	☼	8260B	Total/NA
o-Xylene	14000	J	15000	3000	ug/Kg	2500	☼	8260B	Total/NA
Toluene	13000	J	15000	3000	ug/Kg	2500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	28000		15000	3000	ug/Kg	2500	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	8800	J	15000	2500	ug/Kg	2500	☼	8260B	Total/NA
Xylenes, Total	55000		30000	5700	ug/Kg	2500	☼	8260B	Total/NA
Benzene - DL	2300000		120000	16000	ug/Kg	20000	☼	8260B	Total/NA
Benzo[a]anthracene	13		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519 (Continued)

Lab Sample ID: 400-172224-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	8.5		7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	22		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	33	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	99		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	1400		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	2300	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	210		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	43	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~69~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	720		380	38	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A

Date Collected: 06/25/19 00:00
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 15:37	1
Acrolein	ND		20	10	ug/L			07/07/19 15:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 15:37	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 15:37	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 15:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 15:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 15:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 15:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 15:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 15:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 15:37	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 15:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 15:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 15:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 15:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,2-Dibromo-3-Chloropropane	ND	*	5.0	1.5	ug/L			07/07/19 15:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 15:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 15:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 15:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Ethyl methacrylate	ND	*	1.0	0.60	ug/L			07/07/19 15:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 15:37	1
2-Hexanone	ND	*	25	3.1	ug/L			07/07/19 15:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 15:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 15:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 15:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 15:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 15:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 15:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 15:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 15:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 15:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 15:37	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 15:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A

Date Collected: 06/25/19 00:00
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 15:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 15:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 15:37	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 15:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 15:37	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/07/19 15:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 15:37	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 15:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
trans-1,3-Dichloropropene	ND	*	5.0	0.50	ug/L			07/07/19 15:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 15:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 15:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 15:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 15:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 15:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 15:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 15:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 15:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 15:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*5.0*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/07/19 15:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/07/19 15:37*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/07/19 15:37*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/07/19 15:37*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		16000	8300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Acrolein	ND		32000	18000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Acrylonitrile	ND		13000	5100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Benzene	**110000**		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromobenzene	ND		3200	830	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromodichloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromoform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromomethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2-Butanone (MEK)	ND		16000	3800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Carbon disulfide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Carbon tetrachloride	ND		3200	1100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chlorobenzene	ND		3200	330	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2-Chloroethyl vinyl ether	ND		6400	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chloroform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1-Chlorohexane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chloromethane	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
cis-1,2-Dichloroethene	ND		3200	480	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
cis-1,3-Dichloropropene	ND		3200	770	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Dibromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dibromo-3-Chloropropane	ND		3200	2100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dichlorobenzene	ND		3200	450	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,3-Dichlorobenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,4-Dichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Dichlorodifluoromethane	ND		3200	830	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1-Dichloroethane	ND		3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dichloroethane	ND		3200	520	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,3-Dichloropropane	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Ethylbenzene	**1800**	**J**	3200	390	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Ethylene Dibromide	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Ethyl methacrylate	ND	*	3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Hexachlorobutadiene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2-Hexanone	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Isopropylbenzene	ND		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Methylene bromide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Methylene Chloride	ND		9600	6400	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
4-Methyl-2-pentanone (MIBK)	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Methyl tert-butyl ether	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
m-Xylene & p-Xylene	**5200**		3200	830	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Naphthalene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
n-Butylbenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
N-Propylbenzene	**700**	**J**	3200	570	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
o-Chlorotoluene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
o-Xylene	**1700**	**J**	3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
p-Isopropyltoluene	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
sec-Butylbenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Styrene	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
tert-Butylbenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,1,2-Tetrachloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,2,2-Tetrachloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Tetrachloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Toluene	**1300**	**J**	3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
trans-1,2-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
trans-1,3-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,3-Trichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,4-Trichlorobenzene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,1-Trichloroethane	ND		3200	700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,2-Trichloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Trichloroethene	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Trichlorofluoromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,3-Trichloropropane	ND		3200	1900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,4-Trimethylbenzene	**3900**		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,3,5-Trimethylbenzene	**1400**	**J**	3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Vinyl acetate	ND		16000	5800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Vinyl chloride	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Xylenes, Total	**6900**		6400	1200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1200*	*J*	*ug/Kg*	☼	*2.59*	*110-54-3*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Cyclohexane	*650*	*J*	*ug/Kg*	☼	*3.35*	*110-82-7*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Methylcyclohexane	*1100*	*J*	*ug/Kg*	☼	*4.04*	*108-87-2*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Heptane, 2-methyl-	*3500*	*T J N*	*ug/Kg*	☼	*4.42*	*592-27-8*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Heptane, 3-methyl-	*3200*	*T J N*	*ug/Kg*	☼	*4.52*	*589-81-1*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
3-Ethyltoluene	*3100*	*J*	*ug/Kg*	☼	*6.80*	*620-14-4*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
2-Ethyltoluene	*860*	*J*	*ug/Kg*	☼	*7.02*	*611-14-3*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
1,2,3-Trimethylbenzene	*910*	*J*	*ug/Kg*	☼	*7.47*	*526-73-8*	*07/07/19 12:24*	*07/08/19 00:08*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*113*		*72 - 122*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Dibromofluoromethane	*87*		*79 - 123*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Toluene-d8 (Surr)	*106*		*80 - 120*	*07/07/19 12:24*	*07/08/19 00:08*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Acenaphthylene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Anthracene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[a]anthracene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[a]pyrene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[b]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[g,h,i]perylene	ND		8.1	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[k]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Chrysene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		8.1	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Fluorene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Indeno[1,2,3-cd]pyrene	ND		8.1	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
1-Methylnaphthalene	**89**	J	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
2-Methylnaphthalene	**150**	B J	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Phenanthrene	**16**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Pyrene	~~3.9~~	J B U	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/01/19 15:58*	*07/10/19 18:10*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/10/19 18:10*	*1*
Terphenyl-d14	*99*		*24 - 146*	*07/01/19 15:58*	*07/10/19 18:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	53	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Benzenethiol	ND	* UJ	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Benzyl alcohol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Bis(2-chloroethoxy)methane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Bis(2-chloroethyl)ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Bis(2-ethylhexyl) phthalate	~~67~~	J B U	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Dibenz[a,h]acridine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Di-n-butyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
1,4-Dioxane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Hexachlorocyclopentadiene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Isophorone	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
3 & 4 Methylphenol	ND		810	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
3-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Nitrobenzene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Nitrophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
N-Nitrosodimethylamine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Pentachlorophenol	ND		810	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Phenol	**470**		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Pyridine	ND		400	180	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Quinoline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*670*	*T J*	*ug/Kg*	☼	*4.38*		*07/01/19 15:58*	*07/05/19 17:02*	*1*
Ethylbenzene	*540*	*T J N*	*ug/Kg*	☼	*4.56*	*100-41-4*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
o-Xylene	*490*	*T J N*	*ug/Kg*	☼	*4.79*	*95-47-6*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
n-Decane	*120*	*J*	*ug/Kg*	☼	*5.37*	*124-18-5*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*390*	*T J N*	*ug/Kg*	☼	*5.69*	*527-84-4*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Dodecane	*360*	*T J N*	*ug/Kg*	☼	*6.28*	*112-40-3*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
3 & 4 Chlorophenol	*82*	*J*	*ug/Kg*	☼	*6.32*	*STL00941*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Sulfolane	*110*	*J*	*ug/Kg*	☼	*6.33*	*126-33-0*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Naphthalene	*93*	*J*	*ug/Kg*	☼	*6.35*	*91-20-3*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
N-Nitrosodi-n-butylamine	*440*		*ug/Kg*	☼	*6.56*	*924-16-3*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Caprolactam	*45*	*J*	*ug/Kg*	☼	*6.65*	*105-60-2*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
2-Methylnaphthalene	*150*	*J*	*ug/Kg*	☼	*6.80*	*91-57-6*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
4-chloro-2-methylaniline	*260*	*J*	*ug/Kg*	☼	*6.80*	*95-69-2*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
1-Methylnaphthalene	*87*	*J*	*ug/Kg*	☼	*6.87*	*90-12-0*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
2,3-Dinitrotoluene	*69*	*J*	*ug/Kg*	☼	*7.58*	*602-01-7*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
o-Phenylphenol	*86*	*J*	*ug/Kg*	☼	*7.68*	*90-43-7*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
1-Naphthylamine	*43*	*J*	*ug/Kg*	☼	*7.74*	*134-32-7*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Hexadecane	*55*	*J*	*ug/Kg*	☼	*7.76*	*544-76-3*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
N-Nitro-o-toluidine	*55*	*J*	*ug/Kg*	☼	*7.88*	*99-55-8*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
n-Octadecane	*41*	*J*	*ug/Kg*	☼	*8.48*	*593-45-3*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Aramite Peak 1	*44*	*J*	*ug/Kg*	☼	*9.98*	*STL00690*	*07/01/19 15:58*	*07/05/19 17:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*27 - 127*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
2-Fluorophenol	*64*		*25 - 128*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Nitrobenzene-d5	*63*		*15 - 136*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Phenol-d5	*65*		*29 - 130*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Terphenyl-d14	*81*		*24 - 146*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
2,4,6-Tribromophenol	*81*		*10 - 150*	*07/01/19 15:58*	*07/05/19 17:02*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.5		0.01	0.01	%			06/30/19 09:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		16000	8200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Acrolein	ND		32000	18000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Acrylonitrile	ND		13000	5100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Benzene	**86000**		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromobenzene	ND		3200	820	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromodichloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromoform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromomethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2-Butanone (MEK)	ND		16000	3800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Carbon disulfide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Carbon tetrachloride	ND		3200	1100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chlorobenzene	ND		3200	330	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2-Chloroethyl vinyl ether	ND		6300	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chloroform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1-Chlorohexane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chloromethane	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
cis-1,2-Dichloroethene	ND		3200	480	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
cis-1,3-Dichloropropene	ND		3200	760	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Dibromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dibromo-3-Chloropropane	ND		3200	2100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dichlorobenzene	ND		3200	450	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,3-Dichlorobenzene	ND		3200	600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,4-Dichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Dichlorodifluoromethane	ND		3200	820	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1-Dichloroethane	ND		3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dichloroethane	ND		3200	520	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,3-Dichloropropane	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Ethylbenzene	**440**	**J**	3200	390	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Ethylene Dibromide	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Ethyl methacrylate	ND	*	3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Hexachlorobutadiene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2-Hexanone	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Isopropylbenzene	ND		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Methylene bromide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Methylene Chloride	ND		9500	6300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
4-Methyl-2-pentanone (MIBK)	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Methyl tert-butyl ether	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
m-Xylene & p-Xylene	**1200**	**J**	3200	820	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Naphthalene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
n-Butylbenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
N-Propylbenzene	ND		3200	570	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
o-Chlorotoluene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
o-Xylene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		3200	620	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
p-Isopropyltoluene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
sec-Butylbenzene	ND		3200	600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Styrene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
tert-Butylbenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,1,2-Tetrachloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,2,2-Tetrachloroethane	ND	*	3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Tetrachloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Toluene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
trans-1,2-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
trans-1,3-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,3-Trichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,4-Trichlorobenzene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,1-Trichloroethane	ND		3200	700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,2-Trichloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Trichloroethene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Trichlorofluoromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,3-Trichloropropane	ND		3200	1900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,4-Trimethylbenzene	**930**	**J**	3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,3,5-Trimethylbenzene	ND		3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Vinyl acetate	ND		16000	5800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Vinyl chloride	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Xylenes, Total	**1500**	**J**	6300	1200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
3-Ethyltoluene	*670*	*J*	*ug/Kg*	☼	*6.80*	*620-14-4*	*07/07/19 12:24*	*07/08/19 00:33*	*500*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/07/19 12:24*	*07/08/19 00:33*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*116*		*72 - 122*	*07/07/19 12:24*	*07/08/19 00:33*	*500*
Dibromofluoromethane	*89*		*79 - 123*	*07/07/19 12:24*	*07/08/19 00:33*	*500*
Toluene-d8 (Surr)	*104*		*80 - 120*	*07/07/19 12:24*	*07/08/19 00:33*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Acenaphthylene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[a]anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[a]pyrene	**5.3**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[b]fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[g,h,i]perylene	**3.9**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[k]fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Chrysene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Dibenz(a,h)anthracene	ND		8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Fluoranthene	~~7.3~~	**J B** U	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Fluorene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Indeno[1,2,3-cd]pyrene	**4.0**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
1-Methylnaphthalene	**240**	J	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
2-Methylnaphthalene	**400**	**B** J	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	38		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Pyrene	8.2	J B U	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*27 - 127*	*07/01/19 15:58*	*07/10/19 18:28*	*1*
Nitrobenzene-d5	*64*		*15 - 136*	*07/01/19 15:58*	*07/10/19 18:28*	*1*
Terphenyl-d14	*90*		*24 - 146*	*07/01/19 15:58*	*07/10/19 18:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	54	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Benzenethiol	ND	* UJ	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Bis(2-ethylhexyl) phthalate	60	J B U	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Dibenz[a,h]acridine	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
3,3'-Dichlorobenzidine	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Hexachlorobenzene	ND		410	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Hexachlorocyclopentadiene	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Hexachloroethane	ND		410	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Indene	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Isophorone	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
3 & 4 Methylphenol	ND		830	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Nitrobenzene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
N-Nitrosodimethylamine	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Pentachlorophenol	ND		830	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Phenol	**510**		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Pyridine	ND		410	190	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Quinoline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*570*	*T J N*	*ug/Kg*	☼	*4.56*	*100-41-4*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
p-Xylene	*850*	*T J N*	*ug/Kg*	☼	*4.79*	*106-42-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Unknown	*490*	*T J*	*ug/Kg*	☼	*5.16*		*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-ethyl-2-methyl-	*750*	*T J N*	*ug/Kg*	☼	*5.20*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzaldehyde	*100*	*J*	*ug/Kg*	☼	*5.22*	*100-52-7*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
n-Decane	*290*	*J*	*ug/Kg*	☼	*5.37*	*124-18-5*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-ethyl-2-methyl-	*510*	*T J N*	*ug/Kg*	☼	*5.54*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-methyl-3-propyl-	*580*	*T J N*	*ug/Kg*	☼	*5.67*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Acetophenone	*360*	*J*	*ug/Kg*	☼	*5.70*	*98-86-2*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*720*	*T J N*	*ug/Kg*	☼	*5.84*	*934-80-5*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
3 & 4 Chlorophenol	*120*	*J*	*ug/Kg*	☼	*6.32*	*STL00941*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Sulfolane	*460*		*ug/Kg*	☼	*6.33*	*126-33-0*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Naphthalene	*240*	*J*	*ug/Kg*	☼	*6.36*	*91-20-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
N-Nitrosodi-n-butylamine	*1100*		*ug/Kg*	☼	*6.56*	*924-16-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Caprolactam	*140*	*J*	*ug/Kg*	☼	*6.67*	*105-60-2*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
2-Methylnaphthalene	*360*	*J*	*ug/Kg*	☼	*6.80*	*91-57-6*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
1-Methylnaphthalene	*210*	*J*	*ug/Kg*	☼	*6.87*	*90-12-0*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
4-chloro-2-methylaniline	*370*	*J*	*ug/Kg*	☼	*6.87*	*95-69-2*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Unknown	*440*	*T J*	*ug/Kg*	☼	*6.95*		*07/01/19 15:58*	*07/05/19 17:24*	*1*
o-Phenylphenol	*150*	*J*	*ug/Kg*	☼	*7.68*	*90-43-7*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Hexadecane	*150*	*J*	*ug/Kg*	☼	*7.76*	*544-76-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Dinoseb	*110*	*J*	*ug/Kg*	☼	*8.62*	*88-85-7*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzidine	*390*	*J*	*ug/Kg*	☼	*9.75*	*92-87-5*	*07/01/19 15:58*	*07/05/19 17:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*27 - 127*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Nitrobenzene-d5	*56*		*15 - 136*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Phenol-d5	*57*		*29 - 130*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Terphenyl-d14	*76*		*24 - 146*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
2,4,6-Tribromophenol	*73*		*10 - 150*	*07/01/19 15:58*	*07/05/19 17:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.8**		0.01	0.01	%			06/30/19 09:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519

Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		75000	39000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Acrolein	ND		150000	84000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Acrylonitrile	ND		60000	24000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromobenzene	ND		15000	3900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromochloromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromodichloromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromoform	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromomethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2-Butanone (MEK)	ND		75000	18000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Carbon disulfide	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Carbon tetrachloride	ND		15000	5100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chlorobenzene	ND		15000	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chloroethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2-Chloroethyl vinyl ether	ND		30000	15000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chloroform	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1-Chlorohexane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chloromethane	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
cis-1,2-Dichloroethene	ND		15000	2300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
cis-1,3-Dichloropropene	ND		15000	3600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Dibromochloromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dibromo-3-Chloropropane	ND		15000	9900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dichlorobenzene	ND		15000	2100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,3-Dichlorobenzene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,4-Dichlorobenzene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Dichlorodifluoromethane	ND		15000	3900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1-Dichloroethane	ND		15000	2500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dichloroethane	ND		15000	2500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1-Dichloroethene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dichloropropane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,3-Dichloropropane	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2,2-Dichloropropane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1-Dichloropropene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Ethylbenzene	**15000**		15000	1800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Ethylene Dibromide	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Ethyl methacrylate	ND	*	15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Hexachlorobutadiene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2-Hexanone	ND		75000	15000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Isopropylbenzene	ND		15000	2000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Methylene bromide	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Methylene Chloride	ND		45000	30000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
4-Methyl-2-pentanone (MIBK)	ND		75000	15000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Methyl tert-butyl ether	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
m-Xylene & p-Xylene	**40000**		15000	3900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Naphthalene	**7400**	**J**	15000	6000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
n-Butylbenzene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
N-Propylbenzene	**5000**	**J**	15000	2700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
o-Chlorotoluene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
o-Xylene	**14000**	**J**	15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
p-Chlorotoluene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519

Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
sec-Butylbenzene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Styrene	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
tert-Butylbenzene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,1,2-Tetrachloroethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,2,2-Tetrachloroethane	ND	*	15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Tetrachloroethene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Toluene	**13000**	**J**	15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
trans-1,2-Dichloroethene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
trans-1,3-Dichloropropene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,3-Trichlorobenzene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,4-Trichlorobenzene	ND		15000	6000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,1-Trichloroethane	ND		15000	3300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,2-Trichloroethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Trichloroethene	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Trichlorofluoromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,3-Trichloropropane	ND		15000	9000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,4-Trimethylbenzene	**28000**		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,3,5-Trimethylbenzene	**8800**	**J**	15000	2500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Vinyl acetate	ND		75000	27000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Vinyl chloride	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Xylenes, Total	**55000**		30000	5700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*4200*	*J*	*ug/Kg*	☼	*2.59*	*110-54-3*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Cyclohexane	*3700*	*J*	*ug/Kg*	☼	*3.35*	*110-82-7*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
n-Heptane	*7800*	*J*	*ug/Kg*	☼	*3.68*	*142-82-5*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Methylcyclohexane	*8000*	*J*	*ug/Kg*	☼	*4.04*	*108-87-2*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Heptane, 2-methyl-	*26000*	*T J N*	*ug/Kg*	☼	*4.42*	*592-27-8*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Heptane, 3-methyl-	*22000*	*T J N*	*ug/Kg*	☼	*4.52*	*589-81-1*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Octane	*37000*	*T J N*	*ug/Kg*	☼	*4.80*	*111-65-9*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Octane, 3-methyl-	*21000*	*T J N*	*ug/Kg*	☼	*5.59*	*2216-33-3*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
3-Ethyltoluene	*23000*		*ug/Kg*	☼	*6.80*	*620-14-4*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
2-Ethyltoluene	*5500*	*J*	*ug/Kg*	☼	*7.02*	*611-14-3*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
1,2,3-Trimethylbenzene	*6900*	*J*	*ug/Kg*	☼	*7.47*	*526-73-8*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
p-Diethylbenzene	*7500*	*J*	*ug/Kg*	☼	*7.68*	*105-05-5*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Undecane	*29000*	*T J N*	*ug/Kg*	☼	*7.77*	*1120-21-4*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Benzene, 2-ethyl-1,4-dimethyl-	*26000*	*T J N*	*ug/Kg*	☼	*7.92*	*1758-88-9*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Benzene, 1-methyl-2-(1-methylethyl)-	*17000*	*T J N*	*ug/Kg*	☼	*7.98*	*527-84-4*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*119*		*72 - 122*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Dibromofluoromethane	*84*		*79 - 123*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2300000**		120000	16000	ug/Kg	☼	07/09/19 17:30	07/09/19 21:31	20000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519

Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4

Matrix: Solid
Percent Solids: 84.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/09/19 17:30	07/09/19 21:31	20000
Dibromofluoromethane	90		79 - 123	07/09/19 17:30	07/09/19 21:31	20000
Toluene-d8 (Surr)	100		80 - 120	07/09/19 17:30	07/09/19 21:31	20000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[a]anthracene	**13**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[a]pyrene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[g,h,i]perylene	**8.5**		7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Chrysene	**22**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Fluoranthene	**33**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Fluorene	**99**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Indeno[1,2,3-cd]pyrene	ND		7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
1-Methylnaphthalene	**1400**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
2-Methylnaphthalene	**2300**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Phenanthrene	**210**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Pyrene	**43**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/01/19 15:58	07/10/19 18:45	1
Nitrobenzene-d5	60		15 - 136	07/01/19 15:58	07/10/19 18:45	1
Terphenyl-d14	98		24 - 146	07/01/19 15:58	07/10/19 18:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Benzoic acid	ND		1100	410	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Bis(2-ethylhexyl) phthalate	~~69~~	**J B** U	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519
Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4-Dinitrophenol	ND		1100	340	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Indene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Isophorone	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Phenol	**720**		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Pyridine	ND		380	170	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Quinoline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*2900*	*T J N*	*ug/Kg*	☼	*4.56*	*100-41-4*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,3-dimethyl-	*4000*	*T J N*	*ug/Kg*	☼	*4.79*	*108-38-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Unknown	*2300*	*T J*	*ug/Kg*	☼	*5.16*		*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*3600*	*T J N*	*ug/Kg*	☼	*5.20*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*2800*	*T J N*	*ug/Kg*	☼	*5.22*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*1500*	*T J N*	*ug/Kg*	☼	*5.31*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
n-Decane	*1800*		*ug/Kg*	☼	*5.37*	*124-18-5*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,2,3-trimethyl-	*2700*	*T J N*	*ug/Kg*	☼	*5.55*	*526-73-8*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Indane	*1200*	*T J N*	*ug/Kg*	☼	*5.63*	*496-11-7*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,2-diethyl-	*1100*	*T J N*	*ug/Kg*	☼	*5.65*	*135-01-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-methyl-3-propyl-	*2200*	*T J N*	*ug/Kg*	☼	*5.67*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*1300*	*T J N*	*ug/Kg*	☼	*5.81*	*527-84-4*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*2700*	*T J N*	*ug/Kg*	☼	*5.84*	*1758-88-9*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,2,4,5-tetramethyl-	*2000*	*T J N*	*ug/Kg*	☼	*6.01*	*95-93-2*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Unknown	*1700*	*T J*	*ug/Kg*	☼	*6.07*		*07/01/19 15:58*	*07/05/19 17:45*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519
Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-ethenyl-4-ethyl-	1100	T J N	ug/Kg	☼	6.11	3454-07-7	07/01/19 15:58	07/05/19 17:45	1
Sulfolane	1900		ug/Kg	☼	6.33	126-33-0	07/01/19 15:58	07/05/19 17:45	1
Naphthalene	1800		ug/Kg	☼	6.36	91-20-3	07/01/19 15:58	07/05/19 17:45	1
Unknown	1200	T J	ug/Kg	☼	6.49		07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodi-n-butylamine	1200		ug/Kg	☼	6.53	924-16-3	07/01/19 15:58	07/05/19 17:45	1
2-Methylnaphthalene	2300		ug/Kg	☼	6.80	91-57-6	07/01/19 15:58	07/05/19 17:45	1
1-Methylnaphthalene	1300		ug/Kg	☼	6.87	90-12-0	07/01/19 15:58	07/05/19 17:45	1
4-chloro-2-methylaniline	2300		ug/Kg	☼	6.87	95-69-2	07/01/19 15:58	07/05/19 17:45	1
Pentadecane	1800	T J N	ug/Kg	☼	7.41	629-62-9	07/01/19 15:58	07/05/19 17:45	1
Hexachlorophene	2900	J	ug/Kg	☼	12.35	70-30-4	07/01/19 15:58	07/05/19 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/01/19 15:58	07/05/19 17:45	1
2-Fluorophenol	59		25 - 128	07/01/19 15:58	07/05/19 17:45	1
Nitrobenzene-d5	58		15 - 136	07/01/19 15:58	07/05/19 17:45	1
Phenol-d5	62		29 - 130	07/01/19 15:58	07/05/19 17:45	1
Terphenyl-d14	87		24 - 146	07/01/19 15:58	07/05/19 17:45	1
2,4,6-Tribromophenol	100		10 - 150	07/01/19 15:58	07/05/19 17:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.4		0.01	0.01	%			06/30/19 09:41	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172224-2	PD-8-SB-37-062519	113	87	106
400-172224-3	PD-8-SB-37-062519-DUP	116	89	104
400-172224-4	PD-8-SB-40-062519	119	84	99
400-172224-4 - DL	PD-8-SB-40-062519	100	90	100
LCS 400-447044/1-A	Lab Control Sample	117	97	103
LCS 400-447482/1-A	Lab Control Sample	101	91	100
MB 400-447044/2-A	Method Blank	112	96	99
MB 400-447482/2-A	Method Blank	98	92	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172224-1	TB-PW-062519-A	103	98	104
LCS 400-447016/1002	Lab Control Sample	99	100	101
MB 400-447016/4	Method Blank	102	98	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172224-2	PD-8-SB-37-062519	70	64	63	65	81	81
400-172224-3	PD-8-SB-37-062519-DUP	64	57	56	57	76	73
400-172224-4	PD-8-SB-40-062519	74	59	58	62	87	100
LCS 400-446440/4-A	Lab Control Sample	80	69	69	72	92	91
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (27-127)	NBZ (15-136)	TPHL (24-146)
400-172224-2	PD-8-SB-37-062519	77	69	99
400-172224-3	PD-8-SB-37-062519-DUP	72	64	90
400-172224-4	PD-8-SB-40-062519	74	60	98
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A
Date Collected: 06/25/19 00:00
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447016	07/07/19 15:37	CAR	TAL PEN

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446317	06/30/19 09:41	CMW	TAL PEN

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.173 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		500	5 mL	5 mL	447031	07/08/19 00:08	BSW	TAL PEN
Total/NA	Prep	3546			15.40 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 17:02	VC1	TAL PEN
Total/NA	Prep	3546			15.40 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 18:10	KJA	TAL PEN

Client Sample ID: PD-8-SB-37-062519-DUP
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446317	06/30/19 09:41	CMW	TAL PEN

Client Sample ID: PD-8-SB-37-062519-DUP
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3
Matrix: Solid
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.174 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		500	5 mL	5 mL	447031	07/08/19 00:33	BSW	TAL PEN
Total/NA	Prep	3546			15.03 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 17:24	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 18:28	KJA	TAL PEN

Client Sample ID: PD-8-SB-40-062519
Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446317	06/30/19 09:41	CMW	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519

Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.835 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		2500	5 mL	5 mL	447031	07/08/19 00:58	BSW	TAL PEN
Total/NA	Prep	5035	DL		5.835 g	5.00 g	447482	07/09/19 17:30	BSW	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	447488	07/09/19 21:31	BSW	TAL PEN
Total/NA	Prep	3546			15.31 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 17:45	VC1	TAL PEN
Total/NA	Prep	3546			15.31 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 18:45	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447016/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447016	07/07/19 14:37	CAR	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447031	07/07/19 17:35	BSW	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447482/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447482	07/09/19 17:30	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447488	07/09/19 20:17	BSW	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:06	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447016/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447016	07/07/19 13:24	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447044/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447031	07/07/19 16:46	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447482/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447482	07/09/19 17:30	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447488	07/09/19 19:04	BSW	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/3-A

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/5-A

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

GC/MS VOA

Analysis Batch: 447016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-1	TB-PW-062519-A	Total/NA	Water	8260B	
MB 400-447016/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447016/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	8260B	447044
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	8260B	447044
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	8260B	447044
MB 400-447044/2-A	Method Blank	Total/NA	Solid	8260B	447044
LCS 400-447044/1-A	Lab Control Sample	Total/NA	Solid	8260B	447044

Prep Batch: 447044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	5035	
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	5035	
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	5035	
MB 400-447044/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447044/1-A	Lab Control Sample	Total/NA	Solid	5035	

Prep Batch: 447482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-4 - DL	PD-8-SB-40-062519	Total/NA	Solid	5035	
MB 400-447482/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447482/1-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 447488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-4 - DL	PD-8-SB-40-062519	Total/NA	Solid	8260B	447482
MB 400-447482/2-A	Method Blank	Total/NA	Solid	8260B	447482
LCS 400-447482/1-A	Lab Control Sample	Total/NA	Solid	8260B	447482

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	3546	
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	3546	
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	8270D	446440
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	8270D	446440
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	8270D	446440

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

GC/MS Semi VOA (Continued)

Analysis Batch: 446849 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	8270D LL	446440
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	8270D LL	446440
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	8270D LL	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

General Chemistry

Analysis Batch: 446317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	Moisture	
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	Moisture	
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447016/4
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 14:37	1
Acrolein	ND		20	10	ug/L			07/07/19 14:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 14:37	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 14:37	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 14:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 14:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 14:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 14:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 14:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 14:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 14:37	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 14:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 14:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 14:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 14:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 14:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 14:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 14:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 14:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 14:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 14:37	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 14:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 14:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 14:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 14:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 14:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 14:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 14:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 14:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 14:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 14:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 14:37	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447016/4
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 14:37	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 14:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 14:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 14:37	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 14:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 14:37	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 14:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 14:37	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 14:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 14:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 14:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 14:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 14:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 14:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 14:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 14:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 14:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 14:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 14:37	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 14:37*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/07/19 14:37*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/07/19 14:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/07/19 14:37*	*1*

Lab Sample ID: LCS 400-447016/1002
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	250		ug/L		125	43 - 160
Acrolein	500	712		ug/L		142	38 - 160
Acrylonitrile	500	631		ug/L		126	64 - 142
Benzene	50.0	54.4		ug/L		109	70 - 130
Bromobenzene	50.0	56.3		ug/L		113	70 - 132
Bromochloromethane	50.0	57.0		ug/L		114	70 - 130
Bromodichloromethane	50.0	57.2		ug/L		114	67 - 133
Bromoform	50.0	68.5		ug/L		137	57 - 140
Bromomethane	50.0	41.8		ug/L		84	10 - 160
2-Butanone (MEK)	200	233		ug/L		117	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447016/1002
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	53.0		ug/L		106	61 - 137
Carbon tetrachloride	50.0	64.3		ug/L		129	61 - 137
Chlorobenzene	50.0	57.5		ug/L		115	70 - 130
Chloroethane	50.0	56.3		ug/L		113	55 - 141
2-Chloroethyl vinyl ether	50.0	45.6		ug/L		91	10 - 160
Chloroform	50.0	55.6		ug/L		111	69 - 130
1-Chlorohexane	50.0	62.2		ug/L		124	69 - 130
Chloromethane	50.0	53.6		ug/L		107	58 - 137
cis-1,2-Dichloroethene	50.0	58.3		ug/L		117	68 - 130
cis-1,3-Dichloropropene	50.0	61.0		ug/L		122	69 - 132
Dibromochloromethane	50.0	66.1		ug/L		132	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	68.8	*	ug/L		138	54 - 135
1,2-Dichlorobenzene	50.0	60.7		ug/L		121	67 - 130
1,3-Dichlorobenzene	50.0	59.3		ug/L		119	70 - 130
1,4-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
Dichlorodifluoromethane	50.0	45.8		ug/L		92	41 - 146
1,1-Dichloroethane	50.0	58.1		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	57.2		ug/L		114	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	57.9		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	58.6		ug/L		117	70 - 130
2,2-Dichloropropane	50.0	59.6		ug/L		119	52 - 135
1,1-Dichloropropene	50.0	56.7		ug/L		113	70 - 130
Ethylbenzene	50.0	59.5		ug/L		119	70 - 130
Ethylene Dibromide	50.0	59.1		ug/L		118	70 - 130
Ethyl methacrylate	50.0	67.8	*	ug/L		136	68 - 130
Hexachlorobutadiene	50.0	54.3		ug/L		109	53 - 140
2-Hexanone	200	275	*	ug/L		138	65 - 137
Isopropylbenzene	50.0	57.9		ug/L		116	70 - 130
Methylene bromide	50.0	52.3		ug/L		105	70 - 130
Methylene Chloride	50.0	52.6		ug/L		105	66 - 135
4-Methyl-2-pentanone (MIBK)	200	268		ug/L		134	69 - 138
Methyl tert-butyl ether	50.0	54.0		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	58.8		ug/L		118	70 - 130
Naphthalene	50.0	62.0		ug/L		124	47 - 149
n-Butylbenzene	50.0	58.6		ug/L		117	67 - 130
N-Propylbenzene	50.0	60.2		ug/L		120	70 - 130
o-Chlorotoluene	50.0	56.7		ug/L		113	70 - 130
o-Xylene	50.0	58.7		ug/L		117	70 - 130
p-Chlorotoluene	50.0	58.8		ug/L		118	70 - 130
p-Isopropyltoluene	50.0	60.5		ug/L		121	65 - 130
sec-Butylbenzene	50.0	58.3		ug/L		117	66 - 130
Styrene	50.0	55.7		ug/L		111	70 - 130
tert-Butylbenzene	50.0	58.0		ug/L		116	64 - 139
1,1,1,2-Tetrachloroethane	50.0	70.5	*	ug/L		141	67 - 131
1,1,2,2-Tetrachloroethane	50.0	60.7		ug/L		121	70 - 131
Tetrachloroethene	50.0	58.6		ug/L		117	65 - 130
Toluene	50.0	58.0		ug/L		116	70 - 130
trans-1,2-Dichloroethene	50.0	55.3		ug/L		111	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447016/1002
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	67.2	*	ug/L		134	63 - 130
1,2,3-Trichlorobenzene	50.0	57.3		ug/L		115	60 - 138
1,2,4-Trichlorobenzene	50.0	56.6		ug/L		113	60 - 140
1,1,1-Trichloroethane	50.0	57.9		ug/L		116	68 - 130
1,1,2-Trichloroethane	50.0	59.2		ug/L		118	70 - 130
Trichloroethene	50.0	57.0		ug/L		114	70 - 130
Trichlorofluoromethane	50.0	49.5		ug/L		99	65 - 138
1,2,3-Trichloropropane	50.0	59.1		ug/L		118	70 - 130
1,2,4-Trimethylbenzene	50.0	57.2		ug/L		114	70 - 130
1,3,5-Trimethylbenzene	50.0	57.7		ug/L		115	69 - 130
Vinyl acetate	100	125		ug/L		125	26 - 160
Vinyl chloride	50.0	53.2		ug/L		106	59 - 136
Xylenes, Total	100	117		ug/L		117	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Acrolein	ND		50	28	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Benzene	ND		5.0	0.67	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromoform	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chloroform	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/07/19 12:24	07/07/19 17:35	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2-Hexanone	ND		25	5.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Methylene Chloride	ND		15	10	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Styrene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Toluene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/07/19 12:24	07/07/19 17:35	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447044

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/07/19 12:24	07/07/19 17:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		72 - 122	07/07/19 12:24	07/07/19 17:35	1
Dibromofluoromethane	96		79 - 123	07/07/19 12:24	07/07/19 17:35	1
Toluene-d8 (Surr)	99		80 - 120	07/07/19 12:24	07/07/19 17:35	1

Lab Sample ID: LCS 400-447044/1-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	215		ug/Kg		108	48 - 160
Acrolein	500	443		ug/Kg		89	40 - 150
Acrylonitrile	500	503		ug/Kg		101	60 - 130
Benzene	50.0	55.6		ug/Kg		111	65 - 130
Bromobenzene	50.0	57.5		ug/Kg		115	65 - 130
Bromochloromethane	50.0	54.3		ug/Kg		109	65 - 130
Bromodichloromethane	50.0	54.9		ug/Kg		110	61 - 130
Bromoform	50.0	58.8		ug/Kg		118	52 - 136
Bromomethane	50.0	52.9		ug/Kg		106	12 - 160
2-Butanone (MEK)	200	231		ug/Kg		116	55 - 130
Carbon disulfide	50.0	57.1		ug/Kg		114	46 - 141
Carbon tetrachloride	50.0	51.1		ug/Kg		102	60 - 130
Chlorobenzene	50.0	55.3		ug/Kg		111	70 - 130
Chloroethane	50.0	60.2		ug/Kg		120	55 - 134
2-Chloroethyl vinyl ether	50.0	61.4		ug/Kg		123	10 - 158
Chloroform	50.0	53.6		ug/Kg		107	62 - 130
1-Chlorohexane	50.0	50.5		ug/Kg		101	69 - 130
Chloromethane	50.0	48.5		ug/Kg		97	49 - 136
cis-1,2-Dichloroethene	50.0	49.6		ug/Kg		99	53 - 135
cis-1,3-Dichloropropene	50.0	58.4		ug/Kg		117	61 - 130
Dibromochloromethane	50.0	58.2		ug/Kg		116	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	61.8		ug/Kg		124	49 - 130
1,2-Dichlorobenzene	50.0	57.8		ug/Kg		116	64 - 130
1,3-Dichlorobenzene	50.0	57.1		ug/Kg		114	66 - 130
1,4-Dichlorobenzene	50.0	56.6		ug/Kg		113	65 - 130
Dichlorodifluoromethane	50.0	62.8		ug/Kg		126	34 - 143
1,1-Dichloroethane	50.0	52.9		ug/Kg		106	59 - 130
1,2-Dichloroethane	50.0	49.8		ug/Kg		100	62 - 130
1,1-Dichloroethene	50.0	54.5		ug/Kg		109	55 - 137
1,2-Dichloropropane	50.0	55.5		ug/Kg		111	64 - 130
1,3-Dichloropropane	50.0	58.8		ug/Kg		118	67 - 130
2,2-Dichloropropane	50.0	52.9		ug/Kg		106	51 - 132
1,1-Dichloropropene	50.0	53.4		ug/Kg		107	65 - 130
Ethylbenzene	50.0	59.8		ug/Kg		120	70 - 130
Ethylene Dibromide	50.0	57.9		ug/Kg		116	67 - 130
Ethyl methacrylate	50.0	68.2		ug/Kg		136	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447044/1-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	65.6		ug/Kg		131	62 - 133
2-Hexanone	200	219		ug/Kg		110	57 - 131
Isopropylbenzene	50.0	58.3		ug/Kg		117	70 - 130
Methylene bromide	50.0	54.4		ug/Kg		109	65 - 130
Methylene Chloride	50.0	52.1		ug/Kg		104	57 - 132
4-Methyl-2-pentanone (MIBK)	200	212		ug/Kg		106	58 - 130
Methyl tert-butyl ether	50.0	54.8		ug/Kg		110	63 - 130
m-Xylene & p-Xylene	50.0	61.2		ug/Kg		122	70 - 130
Naphthalene	50.0	64.7		ug/Kg		129	45 - 144
n-Butylbenzene	50.0	64.9		ug/Kg		130	66 - 130
N-Propylbenzene	50.0	62.6		ug/Kg		125	67 - 130
o-Chlorotoluene	50.0	63.6		ug/Kg		127	67 - 130
o-Xylene	50.0	60.6		ug/Kg		121	70 - 130
p-Chlorotoluene	50.0	64.6		ug/Kg		129	66 - 130
p-Isopropyltoluene	50.0	62.6		ug/Kg		125	68 - 130
sec-Butylbenzene	50.0	63.1		ug/Kg		126	67 - 130
Styrene	50.0	56.1		ug/Kg		112	68 - 130
tert-Butylbenzene	50.0	63.2		ug/Kg		126	67 - 130
1,1,1,2-Tetrachloroethane	50.0	53.9		ug/Kg		108	65 - 130
1,1,2,2-Tetrachloroethane	50.0	66.2	*	ug/Kg		132	60 - 131
Tetrachloroethene	50.0	50.5		ug/Kg		101	67 - 130
Toluene	50.0	58.3		ug/Kg		117	70 - 130
trans-1,2-Dichloroethene	50.0	55.5		ug/Kg		111	58 - 134
trans-1,3-Dichloropropene	50.0	63.5		ug/Kg		127	60 - 130
1,2,3-Trichlorobenzene	50.0	64.7		ug/Kg		129	58 - 135
1,2,4-Trichlorobenzene	50.0	63.6		ug/Kg		127	56 - 138
1,1,1-Trichloroethane	50.0	52.5		ug/Kg		105	63 - 130
1,1,2-Trichloroethane	50.0	60.4		ug/Kg		121	65 - 130
Trichloroethene	50.0	48.7		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	52.5		ug/Kg		105	61 - 136
1,2,3-Trichloropropane	50.0	62.8		ug/Kg		126	60 - 130
1,2,4-Trimethylbenzene	50.0	62.9		ug/Kg		126	66 - 130
1,3,5-Trimethylbenzene	50.0	61.1		ug/Kg		122	67 - 130
Vinyl acetate	100	114		ug/Kg		114	24 - 160
Vinyl chloride	50.0	59.9		ug/Kg		120	52 - 132
Xylenes, Total	100	122		ug/Kg		122	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*117*		*72 - 122*
Dibromofluoromethane	*97*		*79 - 123*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447482/2-A
Matrix: Solid
Analysis Batch: 447488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		07/09/19 17:30	07/09/19 20:17	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447482/2-A
Matrix: Solid
Analysis Batch: 447488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447482

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/09/19 17:30	07/09/19 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 122	07/09/19 17:30	07/09/19 20:17	1
Dibromofluoromethane	92		79 - 123	07/09/19 17:30	07/09/19 20:17	1
Toluene-d8 (Surr)	100		80 - 120	07/09/19 17:30	07/09/19 20:17	1

Lab Sample ID: LCS 400-447482/1-A
Matrix: Solid
Analysis Batch: 447488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.2		ug/Kg		102	65 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		72 - 122
Dibromofluoromethane	91		79 - 123
Toluene-d8 (Surr)	100		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8 J		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/01/19 15:58	07/05/19 12:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		27 - 127	07/01/19 15:58	07/05/19 12:45	1
2-Fluorophenol	70		25 - 128	07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene-d5	69		15 - 136	07/01/19 15:58	07/05/19 12:45	1
Phenol-d5	72		29 - 130	07/01/19 15:58	07/05/19 12:45	1
Terphenyl-d14	94		24 - 146	07/01/19 15:58	07/05/19 12:45	1
2,4,6-Tribromophenol	89		10 - 150	07/01/19 15:58	07/05/19 12:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	ND	*	ug/Kg		1	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
2-Fluorophenol	*69*		*25 - 128*
Nitrobenzene-d5	*69*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*92*		*24 - 146*
2,4,6-Tribromophenol	*91*		*10 - 150*

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	78		15 - 136
Terphenyl-d14	121		24 - 146

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene			333	305		ug/Kg		92	59 - 120	10	30
Anthracene			333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene			333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene			333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene			333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	87		27 - 127
Nitrobenzene-d5	71		15 - 136
Terphenyl-d14	114		24 - 146

Shell Oil Products US Chain Of Custody Record

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	
James Carrino	25278	
PO #	GSAP Project ID	
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

☐ CH... 400-172224 COC
DA...
PAGE: 1 of 1

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID
SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com, Bob.billman@aecom.com, james.carrino@aecom.com, brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
TB-PW-062519-A	6/25/2019	0:00	Water	X					2			X		
PD-8-SB-37-062519	6/25/2019	10:20	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-8-SB-37-062519-DUP	6/25/2019	10:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-8-SB-40-062519	6/25/2019	12:50	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Dep: Wgt: 20.00 LBS SPECIAL: 0.00
DV: 0.00 HANDLING: 0.00
TOTAL: 0.00

Relinquished by (Signature)	Received by	Date	Time
Brett Howell	Fedex: Svcs: PRIORITY OVERNIGHT Master 4782 2877 1318 TRCK: 4782 2877 1384	6/25/2019	1700
	2.9°C TR8	6/26/19	8:57

Version 10May17

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7/22/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172224-1

Login Number: 172224
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172224-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/18/2019 3:04:59 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172224-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172224-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-22-19.

Receipt
The samples were received on 6/26/2019 8:57 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447031 recovered outside acceptance criteria, low biased, for Acetone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-447044 and analytical batch 400-447031 recovered outside control limits for the following analytes: 1,1,2,2-Tetrachloroethane and Ethyl methacrylate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447016 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, trans-1,3-Dichloropropene and Ethyl methacrylate These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-37-062519 (400-172224-2), PD-8-SB-37-062519-DUP (400-172224-3) and PD-8-SB-40-062519 (400-172224-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-062519-A (400-172224-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The surrogate recovery for the blank associated with preparation batch 400-446440 and analytical batch 400-447351

Job ID: 400-172224-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172224-1	TB-PW-062519-A	Water	06/25/19 00:00	06/26/19 08:57	
400-172224-2	PD-8-SB-37-062519	Solid	06/25/19 10:20	06/26/19 08:57	
400-172224-3	PD-8-SB-37-062519-DUP	Solid	06/25/19 10:20	06/26/19 08:57	
400-172224-4	PD-8-SB-40-062519	Solid	06/25/19 12:50	06/26/19 08:57	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A — Lab Sample ID: 400-172224-1

No Detections.

Client Sample ID: PD-8-SB-37-062519 — Lab Sample ID: 400-172224-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	110000		3200	430	ug/Kg	500	☼	8260B	Total/NA
Ethylbenzene	1800	J	3200	390	ug/Kg	500	☼	8260B	Total/NA
m-Xylene & p-Xylene	5200		3200	830	ug/Kg	500	☼	8260B	Total/NA
N-Propylbenzene	700	J	3200	570	ug/Kg	500	☼	8260B	Total/NA
o-Xylene	1700	J	3200	640	ug/Kg	500	☼	8260B	Total/NA
Toluene	1300	J	3200	640	ug/Kg	500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	3900		3200	640	ug/Kg	500	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	1400	J	3200	530	ug/Kg	500	☼	8260B	Total/NA
Xylenes, Total	6900		6400	1200	ug/Kg	500	☼	8260B	Total/NA
1-Methylnaphthalene	89		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	150	B	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	16		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	3.9	J B	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	67	J B	400	40	ug/Kg	1	☼	8270D	Total/NA
Phenol	470		400	40	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-8-SB-37-062519-DUP — Lab Sample ID: 400-172224-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	86000		3200	430	ug/Kg	500	☼	8260B	Total/NA
Ethylbenzene	440	J	3200	390	ug/Kg	500	☼	8260B	Total/NA
m-Xylene & p-Xylene	1200	J	3200	820	ug/Kg	500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	930	J	3200	630	ug/Kg	500	☼	8260B	Total/NA
Xylenes, Total	1500	J	6300	1200	ug/Kg	500	☼	8260B	Total/NA
Benzo[a]pyrene	5.3	J	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	3.9	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	7.3	J B	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.0	J	8.3	2.5	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	240		8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	400	B	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	38		8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	8.2	J B	8.3	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	60	J B	410	41	ug/Kg	1	☼	8270D	Total/NA
Phenol	510		410	41	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-8-SB-40-062519 — Lab Sample ID: 400-172224-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	15000		15000	1800	ug/Kg	2500	☼	8260B	Total/NA
m-Xylene & p-Xylene	40000		15000	3900	ug/Kg	2500	☼	8260B	Total/NA
Naphthalene	7400	J	15000	6000	ug/Kg	2500	☼	8260B	Total/NA
N-Propylbenzene	5000	J	15000	2700	ug/Kg	2500	☼	8260B	Total/NA
o-Xylene	14000	J	15000	3000	ug/Kg	2500	☼	8260B	Total/NA
Toluene	13000	J	15000	3000	ug/Kg	2500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	28000		15000	3000	ug/Kg	2500	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	8800	J	15000	2500	ug/Kg	2500	☼	8260B	Total/NA
Xylenes, Total	55000		30000	5700	ug/Kg	2500	☼	8260B	Total/NA
Benzene - DL	2300000		120000	16000	ug/Kg	20000	☼	8260B	Total/NA
Benzo[a]anthracene	13		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519 (Continued)

Lab Sample ID: 400-172224-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	8.5		7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	22		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	33	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	99		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	1400		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	2300	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	210		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	43	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	69	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	720		380	38	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A

Date Collected: 06/25/19 00:00
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 15:37	1
Acrolein	ND		20	10	ug/L			07/07/19 15:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 15:37	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 15:37	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 15:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 15:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 15:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 15:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 15:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 15:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 15:37	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 15:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 15:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 15:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 15:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,2-Dibromo-3-Chloropropane	ND	*	5.0	1.5	ug/L			07/07/19 15:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 15:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 15:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 15:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Ethyl methacrylate	ND	*	1.0	0.60	ug/L			07/07/19 15:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 15:37	1
2-Hexanone	ND	*	25	3.1	ug/L			07/07/19 15:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 15:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 15:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 15:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 15:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 15:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 15:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 15:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 15:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 15:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 15:37	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 15:37	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: TB-PW-062519-A
Date Collected: 06/25/19 00:00
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 15:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 15:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 15:37	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 15:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 15:37	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/07/19 15:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 15:37	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 15:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
trans-1,3-Dichloropropene	ND	*	5.0	0.50	ug/L			07/07/19 15:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 15:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 15:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 15:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 15:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 15:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 15:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 15:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 15:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 15:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 15:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 15:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*5.0*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/07/19 15:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/07/19 15:37*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/07/19 15:37*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/07/19 15:37*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2

Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		16000	8300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Acrolein	ND		32000	18000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Acrylonitrile	ND		13000	5100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Benzene	**110000**		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromobenzene	ND		3200	830	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromodichloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromoform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Bromomethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2-Butanone (MEK)	ND		16000	3800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Carbon disulfide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Carbon tetrachloride	ND		3200	1100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chlorobenzene	ND		3200	330	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2-Chloroethyl vinyl ether	ND		6400	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chloroform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1-Chlorohexane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Chloromethane	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
cis-1,2-Dichloroethene	ND		3200	480	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
cis-1,3-Dichloropropene	ND		3200	770	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Dibromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dibromo-3-Chloropropane	ND		3200	2100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dichlorobenzene	ND		3200	450	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,3-Dichlorobenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,4-Dichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Dichlorodifluoromethane	ND		3200	830	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1-Dichloroethane	ND		3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dichloroethane	ND		3200	520	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,3-Dichloropropane	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Ethylbenzene	**1800**	**J**	3200	390	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Ethylene Dibromide	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Ethyl methacrylate	ND	*	3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Hexachlorobutadiene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
2-Hexanone	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Isopropylbenzene	ND		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Methylene bromide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Methylene Chloride	ND		9600	6400	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
4-Methyl-2-pentanone (MIBK)	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Methyl tert-butyl ether	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
m-Xylene & p-Xylene	**5200**		3200	830	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Naphthalene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
n-Butylbenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
N-Propylbenzene	**700**	**J**	3200	570	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
o-Chlorotoluene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
o-Xylene	**1700**	**J**	3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500

Client: AECOM Technical Services Inc.
Job ID: 400-172224-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-SB-37-062519
Lab Sample ID: 400-172224-2
Date Collected: 06/25/19 10:20
Matrix: Solid
Date Received: 06/26/19 08:57
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
p-Isopropyltoluene	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
sec-Butylbenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Styrene	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
tert-Butylbenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,1,2-Tetrachloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,2,2-Tetrachloroethane	ND	*	3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Tetrachloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Toluene	**1300**	**J**	3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
trans-1,2-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
trans-1,3-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,3-Trichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,4-Trichlorobenzene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,1-Trichloroethane	ND		3200	700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,1,2-Trichloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Trichloroethene	ND		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Trichlorofluoromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,3-Trichloropropane	ND		3200	1900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,2,4-Trimethylbenzene	**3900**		3200	640	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
1,3,5-Trimethylbenzene	**1400**	**J**	3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Vinyl acetate	ND		16000	5800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Vinyl chloride	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500
Xylenes, Total	**6900**		6400	1200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:08	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*5000*	*T J*	*ug/Kg*	☼	*1.14*		*07/07/19 12:24*	*07/08/19 00:08*	*500*
Hexane	*1200*	*J*	*ug/Kg*	☼	*2.59*	*110-54-3*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Unknown	*3300*	*T J*	*ug/Kg*	☼	*2.96*		*07/07/19 12:24*	*07/08/19 00:08*	*500*
Cyclohexane	*650*	*J*	*ug/Kg*	☼	*3.35*	*110-82-7*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Methylcyclohexane	*1100*	*J*	*ug/Kg*	☼	*4.04*	*108-87-2*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Heptane, 2-methyl-	*3500*	*T J N*	*ug/Kg*	☼	*4.42*	*592-27-8*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Heptane, 3-methyl-	*3200*	*T J N*	*ug/Kg*	☼	*4.52*	*589-81-1*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Unknown	*3900*	*T J*	*ug/Kg*	☼	*4.98*		*07/07/19 12:24*	*07/08/19 00:08*	*500*
3-Ethyltoluene	*3100*	*J*	*ug/Kg*	☼	*6.80*	*620-14-4*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
2-Ethyltoluene	*860*	*J*	*ug/Kg*	☼	*7.02*	*611-14-3*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
1,2,3-Trimethylbenzene	*910*	*J*	*ug/Kg*	☼	*7.47*	*526-73-8*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Unknown	*3300*	*T J*	*ug/Kg*	☼	*8.62*		*07/07/19 12:24*	*07/08/19 00:08*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*113*		*72 - 122*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Dibromofluoromethane	*87*		*79 - 123*	*07/07/19 12:24*	*07/08/19 00:08*	*500*
Toluene-d8 (Surr)	*106*		*80 - 120*	*07/07/19 12:24*	*07/08/19 00:08*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Acenaphthylene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Anthracene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[a]anthracene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[a]pyrene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[g,h,i]perylene	ND		8.1	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Benzo[k]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Chrysene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Dibenz(a,h)anthracene	ND		8.1	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Fluorene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Indeno[1,2,3-cd]pyrene	ND		8.1	2.4	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
1-Methylnaphthalene	**89**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
2-Methylnaphthalene	**150**	**B**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Phenanthrene	**16**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1
Pyrene	**3.9**	**J B**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/01/19 15:58*	*07/10/19 18:10*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/10/19 18:10*	*1*
Terphenyl-d14	*99*		*24 - 146*	*07/01/19 15:58*	*07/10/19 18:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	53	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Benzenethiol	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Benzyl alcohol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Bis(2-chloroethoxy)methane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Bis(2-chloroethyl)ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Bis(2-ethylhexyl) phthalate	**67**	**J B**	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Dibenz[a,h]acridine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Di-n-butyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
1,4-Dioxane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519
Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-2
Matrix: Solid
Percent Solids: 79.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Hexachlorocyclopentadiene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Indene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Isophorone	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
3 & 4 Methylphenol	ND		810	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
3-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Nitrobenzene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2-Nitrophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
N-Nitrosodimethylamine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Pentachlorophenol	ND		810	81	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Phenol	**470**		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Pyridine	ND		400	180	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
Quinoline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 17:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*540*	*T J N*	*ug/Kg*	☼	*4.56*	*100-41-4*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
o-Xylene	*490*	*T J N*	*ug/Kg*	☼	*4.79*	*95-47-6*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Benzene, 1,3,5-trimethyl-	*670*	*T J N*	*ug/Kg*	☼	*5.39*	*108-67-8*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*390*	*T J N*	*ug/Kg*	☼	*5.69*	*527-84-4*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Dodecane	*360*	*T J N*	*ug/Kg*	☼	*6.28*	*112-40-3*	*07/01/19 15:58*	*07/05/19 17:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*27 - 127*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
2-Fluorophenol	*64*		*25 - 128*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Nitrobenzene-d5	*63*		*15 - 136*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Phenol-d5	*65*		*29 - 130*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
Terphenyl-d14	*81*		*24 - 146*	*07/01/19 15:58*	*07/05/19 17:02*	*1*
2,4,6-Tribromophenol	*81*		*10 - 150*	*07/01/19 15:58*	*07/05/19 17:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.5**		0.01	0.01	%			06/30/19 09:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		16000	8200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Acrolein	ND		32000	18000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Acrylonitrile	ND		13000	5100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Benzene	**86000**		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromobenzene	ND		3200	820	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromodichloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromoform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Bromomethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2-Butanone (MEK)	ND		16000	3800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Carbon disulfide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Carbon tetrachloride	ND		3200	1100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chlorobenzene	ND		3200	330	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2-Chloroethyl vinyl ether	ND		6300	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chloroform	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1-Chlorohexane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Chloromethane	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
cis-1,2-Dichloroethene	ND		3200	480	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
cis-1,3-Dichloropropene	ND		3200	760	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Dibromochloromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dibromo-3-Chloropropane	ND		3200	2100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dichlorobenzene	ND		3200	450	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,3-Dichlorobenzene	ND		3200	600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,4-Dichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Dichlorodifluoromethane	ND		3200	820	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1-Dichloroethane	ND		3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dichloroethane	ND		3200	520	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,3-Dichloropropane	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2,2-Dichloropropane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Ethylbenzene	**440**	**J**	3200	390	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Ethylene Dibromide	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Ethyl methacrylate	ND	*	3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Hexachlorobutadiene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
2-Hexanone	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Isopropylbenzene	ND		3200	430	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Methylene bromide	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Methylene Chloride	ND		9500	6300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
4-Methyl-2-pentanone (MIBK)	ND		16000	3200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Methyl tert-butyl ether	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
m-Xylene & p-Xylene	**1200**	**J**	3200	820	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Naphthalene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
n-Butylbenzene	ND		3200	610	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
N-Propylbenzene	ND		3200	570	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
o-Chlorotoluene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
o-Xylene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500

Client: AECOM Technical Services Inc.
Job ID: 400-172224-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-SB-37-062519-DUP
Lab Sample ID: 400-172224-3
Date Collected: 06/25/19 10:20
Matrix: Solid
Date Received: 06/26/19 08:57
Percent Solids: 79.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		3200	620	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
p-Isopropyltoluene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
sec-Butylbenzene	ND		3200	600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Styrene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
tert-Butylbenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,1,2-Tetrachloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,2,2-Tetrachloroethane	ND	*	3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Tetrachloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Toluene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
trans-1,2-Dichloroethene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
trans-1,3-Dichloropropene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,3-Trichlorobenzene	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,4-Trichlorobenzene	ND		3200	1300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,1-Trichloroethane	ND		3200	700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,1,2-Trichloroethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Trichloroethene	ND		3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Trichlorofluoromethane	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,3-Trichloropropane	ND		3200	1900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,2,4-Trimethylbenzene	**930**	**J**	3200	630	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
1,3,5-Trimethylbenzene	ND		3200	530	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Vinyl acetate	ND		16000	5800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Vinyl chloride	ND		3200	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500
Xylenes, Total	**1500**	**J**	6300	1200	ug/Kg	☼	07/07/19 12:24	07/08/19 00:33	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
3-Ethyltoluene	*670*	*J*	*ug/Kg*	☼	*6.80*	*620-14-4*	*07/07/19 12:24*	*07/08/19 00:33*	*500*
Unknown	*6700*	*T J*	*ug/Kg*	☼	*8.10*		*07/07/19 12:24*	*07/08/19 00:33*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*116*		*72 - 122*	*07/07/19 12:24*	*07/08/19 00:33*	*500*
Dibromofluoromethane	*89*		*79 - 123*	*07/07/19 12:24*	*07/08/19 00:33*	*500*
Toluene-d8 (Surr)	*104*		*80 - 120*	*07/07/19 12:24*	*07/08/19 00:33*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Acenaphthylene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[a]anthracene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[a]pyrene	**5.3**	**J**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[b]fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[g,h,i]perylene	**3.9**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Benzo[k]fluoranthene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Chrysene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Dibenz(a,h)anthracene	ND		8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Fluoranthene	**7.3**	**J B**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Fluorene	ND		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Indeno[1,2,3-cd]pyrene	**4.0**	**J**	8.3	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
1-Methylnaphthalene	**240**		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
2-Methylnaphthalene	**400**	**B**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**38**		8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1
Pyrene	**8.2**	**J B**	8.3	1.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*27 - 127*	*07/01/19 15:58*	*07/10/19 18:28*	*1*
Nitrobenzene-d5	*64*		*15 - 136*	*07/01/19 15:58*	*07/10/19 18:28*	*1*
Terphenyl-d14	*90*		*24 - 146*	*07/01/19 15:58*	*07/10/19 18:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	54	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Benzenethiol	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Bis(2-ethylhexyl) phthalate	**60**	**J B**	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Dibenz[a,h]acridine	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
3,3'-Dichlorobenzidine	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Hexachlorobenzene	ND		410	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Hexachlorocyclopentadiene	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Hexachloroethane	ND		410	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Indene	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Isophorone	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
3 & 4 Methylphenol	ND		830	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-37-062519-DUP

Date Collected: 06/25/19 10:20
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-3

Matrix: Solid
Percent Solids: 79.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Nitrobenzene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
N-Nitrosodimethylamine	ND		410	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Pentachlorophenol	ND		830	83	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Phenol	**510**		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Pyridine	ND		410	190	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
Quinoline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 17:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*570*	*T J N*	*ug/Kg*	☼	*4.56*	*100-41-4*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
p-Xylene	*850*	*T J N*	*ug/Kg*	☼	*4.79*	*106-42-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Unknown	*490*	*T J*	*ug/Kg*	☼	*5.16*		*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-ethyl-2-methyl-	*750*	*T J N*	*ug/Kg*	☼	*5.20*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-ethyl-2-methyl-	*570*	*T J N*	*ug/Kg*	☼	*5.22*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Decane	*400*	*T J N*	*ug/Kg*	☼	*5.37*	*124-18-5*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1,2,3-trimethyl-	*1600*	*T J N*	*ug/Kg*	☼	*5.39*	*526-73-8*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-ethyl-2-methyl-	*510*	*T J N*	*ug/Kg*	☼	*5.54*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-methyl-3-propyl-	*580*	*T J N*	*ug/Kg*	☼	*5.67*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1,2-diethyl-	*1100*	*T J N*	*ug/Kg*	☼	*5.69*	*135-01-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*720*	*T J N*	*ug/Kg*	☼	*5.84*	*934-80-5*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1,2,4,5-tetramethyl-	*350*	*T J N*	*ug/Kg*	☼	*6.01*	*95-93-2*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Benzene, 1-methyl-2-(2-propenyl)-	*770*	*T J N*	*ug/Kg*	☼	*6.16*	*1587-04-8*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Dodecane	*880*	*T J N*	*ug/Kg*	☼	*6.28*	*112-40-3*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Unknown	*490*	*T J*	*ug/Kg*	☼	*6.56*		*07/01/19 15:58*	*07/05/19 17:24*	*1*
Tridecane	*540*	*T J N*	*ug/Kg*	☼	*6.67*	*629-50-5*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Naphthalene, 2-methyl-	*480*	*T J N*	*ug/Kg*	☼	*6.80*	*91-57-6*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Unknown	*440*	*T J*	*ug/Kg*	☼	*6.95*		*07/01/19 15:58*	*07/05/19 17:24*	*1*
Unknown	*350*	*T J*	*ug/Kg*	☼	*7.92*		*07/01/19 15:58*	*07/05/19 17:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*27 - 127*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Nitrobenzene-d5	*56*		*15 - 136*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Phenol-d5	*57*		*29 - 130*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
Terphenyl-d14	*76*		*24 - 146*	*07/01/19 15:58*	*07/05/19 17:24*	*1*
2,4,6-Tribromophenol	*73*		*10 - 150*	*07/01/19 15:58*	*07/05/19 17:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.8**		0.01	0.01	%			06/30/19 09:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519

Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		75000	39000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Acrolein	ND		150000	84000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Acrylonitrile	ND		60000	24000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromobenzene	ND		15000	3900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromochloromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromodichloromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromoform	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Bromomethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2-Butanone (MEK)	ND		75000	18000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Carbon disulfide	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Carbon tetrachloride	ND		15000	5100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chlorobenzene	ND		15000	1600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chloroethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2-Chloroethyl vinyl ether	ND		30000	15000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chloroform	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1-Chlorohexane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Chloromethane	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
cis-1,2-Dichloroethene	ND		15000	2300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
cis-1,3-Dichloropropene	ND		15000	3600	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Dibromochloromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dibromo-3-Chloropropane	ND		15000	9900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dichlorobenzene	ND		15000	2100	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,3-Dichlorobenzene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,4-Dichlorobenzene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Dichlorodifluoromethane	ND		15000	3900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1-Dichloroethane	ND		15000	2500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dichloroethane	ND		15000	2500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1-Dichloroethene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2-Dichloropropane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,3-Dichloropropane	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2,2-Dichloropropane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1-Dichloropropene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Ethylbenzene	**15000**		15000	1800	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Ethylene Dibromide	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Ethyl methacrylate	ND	*	15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Hexachlorobutadiene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
2-Hexanone	ND		75000	15000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Isopropylbenzene	ND		15000	2000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Methylene bromide	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Methylene Chloride	ND		45000	30000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
4-Methyl-2-pentanone (MIBK)	ND		75000	15000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Methyl tert-butyl ether	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
m-Xylene & p-Xylene	**40000**		15000	3900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Naphthalene	**7400**	**J**	15000	6000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
n-Butylbenzene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
N-Propylbenzene	**5000**	**J**	15000	2700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
o-Chlorotoluene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
o-Xylene	**14000**	**J**	15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
p-Chlorotoluene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500

Client Sample ID: PD-8-SB-40-062519
Lab Sample ID: 400-172224-4
Date Collected: 06/25/19 12:50
Matrix: Solid
Date Received: 06/26/19 08:57
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
sec-Butylbenzene	ND		15000	2900	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Styrene	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
tert-Butylbenzene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,1,2-Tetrachloroethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,2,2-Tetrachloroethane	ND	*	15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Tetrachloroethene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Toluene	**13000**	**J**	15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
trans-1,2-Dichloroethene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
trans-1,3-Dichloropropene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,3-Trichlorobenzene	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,4-Trichlorobenzene	ND		15000	6000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,1-Trichloroethane	ND		15000	3300	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,1,2-Trichloroethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Trichloroethene	ND		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Trichlorofluoromethane	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,3-Trichloropropane	ND		15000	9000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,2,4-Trimethylbenzene	**28000**		15000	3000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
1,3,5-Trimethylbenzene	**8800**	**J**	15000	2500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Vinyl acetate	ND		75000	27000	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Vinyl chloride	ND		15000	7500	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500
Xylenes, Total	**55000**		30000	5700	ug/Kg	☼	07/07/19 12:24	07/08/19 00:58	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*4200*	*J*	*ug/Kg*	☼	*2.59*	*110-54-3*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Cyclohexane	*3700*	*J*	*ug/Kg*	☼	*3.35*	*110-82-7*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
n-Heptane	*7800*	*J*	*ug/Kg*	☼	*3.68*	*142-82-5*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Methylcyclohexane	*8000*	*J*	*ug/Kg*	☼	*4.04*	*108-87-2*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Heptane, 2-methyl-	*26000*	*T J N*	*ug/Kg*	☼	*4.42*	*592-27-8*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Heptane, 3-methyl-	*22000*	*T J N*	*ug/Kg*	☼	*4.52*	*589-81-1*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Octane	*37000*	*T J N*	*ug/Kg*	☼	*4.80*	*111-65-9*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Unknown	*22000*	*T J*	*ug/Kg*	☼	*4.98*		*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Octane, 3-methyl-	*21000*	*T J N*	*ug/Kg*	☼	*5.59*	*2216-33-3*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
3-Ethyltoluene	*23000*		*ug/Kg*	☼	*6.80*	*620-14-4*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
2-Ethyltoluene	*5500*	*J*	*ug/Kg*	☼	*7.02*	*611-14-3*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
1,2,3-Trimethylbenzene	*6900*	*J*	*ug/Kg*	☼	*7.47*	*526-73-8*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
p-Diethylbenzene	*7500*	*J*	*ug/Kg*	☼	*7.68*	*105-05-5*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Undecane	*29000*	*T J N*	*ug/Kg*	☼	*7.77*	*1120-21-4*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Benzene, 2-ethyl-1,4-dimethyl-	*26000*	*T J N*	*ug/Kg*	☼	*7.92*	*1758-88-9*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Benzene, 1-methyl-2-(1-methylethyl)-	*17000*	*T J N*	*ug/Kg*	☼	*7.98*	*527-84-4*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Unknown	*24000*	*T J*	*ug/Kg*	☼	*8.62*		*07/07/19 12:24*	*07/08/19 00:58*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*119*		*72 - 122*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Dibromofluoromethane	*84*		*79 - 123*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/07/19 12:24*	*07/08/19 00:58*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2300000**		120000	16000	ug/Kg	☼	07/09/19 17:30	07/09/19 21:31	20000

Client Sample ID: PD-8-SB-40-062519
Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid
Percent Solids: 84.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/09/19 17:30	07/09/19 21:31	20000
Dibromofluoromethane	90		79 - 123	07/09/19 17:30	07/09/19 21:31	20000
Toluene-d8 (Surr)	100		80 - 120	07/09/19 17:30	07/09/19 21:31	20000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[a]anthracene	**13**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[a]pyrene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[g,h,i]perylene	**8.5**		7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Chrysene	**22**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Fluoranthene	**33**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Fluorene	**99**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Indeno[1,2,3-cd]pyrene	ND		7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
1-Methylnaphthalene	**1400**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
2-Methylnaphthalene	**2300**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Phenanthrene	**210**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1
Pyrene	**43**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/01/19 15:58	07/10/19 18:45	1
Nitrobenzene-d5	60		15 - 136	07/01/19 15:58	07/10/19 18:45	1
Terphenyl-d14	98		24 - 146	07/01/19 15:58	07/10/19 18:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Benzoic acid	ND		1100	410	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Bis(2-ethylhexyl) phthalate	**69**	**J B**	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519
Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4-Dinitrophenol	ND		1100	340	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Indene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Isophorone	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Phenol	**720**		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Pyridine	ND		380	170	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
Quinoline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 17:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*2900*	*T J N*	*ug/Kg*	☼	*4.56*	*100-41-4*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,3-dimethyl-	*4000*	*T J N*	*ug/Kg*	☼	*4.79*	*108-38-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Unknown	*2300*	*T J*	*ug/Kg*	☼	*5.16*		*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*3600*	*T J N*	*ug/Kg*	☼	*5.20*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*2800*	*T J N*	*ug/Kg*	☼	*5.22*	*611-14-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Decane	*1800*	*T J N*	*ug/Kg*	☼	*5.37*	*124-18-5*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,3,5-trimethyl-	*6700*	*T J N*	*ug/Kg*	☼	*5.39*	*108-67-8*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,2,3-trimethyl-	*2700*	*T J N*	*ug/Kg*	☼	*5.55*	*526-73-8*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1-methyl-3-propyl-	*2200*	*T J N*	*ug/Kg*	☼	*5.67*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,4-diethyl-	*4300*	*T J N*	*ug/Kg*	☼	*5.70*	*105-05-5*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*2700*	*T J N*	*ug/Kg*	☼	*5.84*	*1758-88-9*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Benzene, 1,2,4,5-tetramethyl-	*2000*	*T J N*	*ug/Kg*	☼	*6.01*	*95-93-2*	*07/01/19 15:58*	*07/05/19 17:45*	*1*
Unknown	*1700*	*T J*	*ug/Kg*	☼	*6.07*		*07/01/19 15:58*	*07/05/19 17:45*	*1*
Unknown	*4200*	*T J*	*ug/Kg*	☼	*6.16*		*07/01/19 15:58*	*07/05/19 17:45*	*1*
Dodecane	*4500*	*T J N*	*ug/Kg*	☼	*6.28*	*112-40-3*	*07/01/19 15:58*	*07/05/19 17:45*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Client Sample ID: PD-8-SB-40-062519
Date Collected: 06/25/19 12:50
Date Received: 06/26/19 08:57

Lab Sample ID: 400-172224-4
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2300	T J	ug/Kg	☼	6.33		07/01/19 15:58	07/05/19 17:45	1
Naphthalene	3300	T J N	ug/Kg	☼	6.36	91-20-3	07/01/19 15:58	07/05/19 17:45	1
Unknown	2600	T J	ug/Kg	☼	6.56		07/01/19 15:58	07/05/19 17:45	1
Tridecane	3000	T J N	ug/Kg	☼	6.67	629-50-5	07/01/19 15:58	07/05/19 17:45	1
Naphthalene, 2-methyl-	3100	T J N	ug/Kg	☼	6.80	91-57-6	07/01/19 15:58	07/05/19 17:45	1
Unknown	1700	T J	ug/Kg	☼	6.91		07/01/19 15:58	07/05/19 17:45	1
Hexadecane, 2,6,10,14-tetramethyl-	2200	T J N	ug/Kg	☼	6.96	638-36-8	07/01/19 15:58	07/05/19 17:45	1
Tetradecane	2700	T J N	ug/Kg	☼	7.04	629-59-4	07/01/19 15:58	07/05/19 17:45	1
Naphthalene, 2,6-dimethyl-	1600	T J N	ug/Kg	☼	7.22	581-42-0	07/01/19 15:58	07/05/19 17:45	1
Pentadecane	1800	T J N	ug/Kg	☼	7.41	629-62-9	07/01/19 15:58	07/05/19 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/01/19 15:58	07/05/19 17:45	1
2-Fluorophenol	59		25 - 128	07/01/19 15:58	07/05/19 17:45	1
Nitrobenzene-d5	58		15 - 136	07/01/19 15:58	07/05/19 17:45	1
Phenol-d5	62		29 - 130	07/01/19 15:58	07/05/19 17:45	1
Terphenyl-d14	87		24 - 146	07/01/19 15:58	07/05/19 17:45	1
2,4,6-Tribromophenol	100		10 - 150	07/01/19 15:58	07/05/19 17:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.4		0.01	0.01	%			06/30/19 09:41	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172224-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172224-2	PD-8-SB-37-062519	113	87	106
400-172224-3	PD-8-SB-37-062519-DUP	116	89	104
400-172224-4	PD-8-SB-40-062519	119	84	99
400-172224-4 - DL	PD-8-SB-40-062519	100	90	100
LCS 400-447044/1-A	Lab Control Sample	117	97	103
LCS 400-447482/1-A	Lab Control Sample	101	91	100
MB 400-447044/2-A	Method Blank	112	96	99
MB 400-447482/2-A	Method Blank	98	92	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172224-1	TB-PW-062519-A	103	98	104
LCS 400-447016/1002	Lab Control Sample	99	100	101
MB 400-447016/4	Method Blank	102	98	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172224-2	PD-8-SB-37-062519	70	64	63	65	81	81
400-172224-3	PD-8-SB-37-062519-DUP	64	57	56	57	76	73
400-172224-4	PD-8-SB-40-062519	74	59	58	62	87	100
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172224-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172224-2	PD-8-SB-37-062519	77	69	99
400-172224-3	PD-8-SB-37-062519-DUP	72	64	90
400-172224-4	PD-8-SB-40-062519	74	60	98
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-062519-A
Lab Sample ID: 400-172224-1
Date Collected: 06/25/19 00:00
Matrix: Water
Date Received: 06/26/19 08:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447016	07/07/19 15:37	CAR	TAL PEN

Client Sample ID: PD-8-SB-37-062519
Lab Sample ID: 400-172224-2
Date Collected: 06/25/19 10:20
Matrix: Solid
Date Received: 06/26/19 08:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446317	06/30/19 09:41	CMW	TAL PEN

Client Sample ID: PD-8-SB-37-062519
Lab Sample ID: 400-172224-2
Date Collected: 06/25/19 10:20
Matrix: Solid
Date Received: 06/26/19 08:57
Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.173 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		500	5 mL	5 mL	447031	07/08/19 00:08	BSW	TAL PEN
Total/NA	Prep	3546			15.40 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 17:02	VC1	TAL PEN
Total/NA	Prep	3546			15.40 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 18:10	KJA	TAL PEN

Client Sample ID: PD-8-SB-37-062519-DUP
Lab Sample ID: 400-172224-3
Date Collected: 06/25/19 10:20
Matrix: Solid
Date Received: 06/26/19 08:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446317	06/30/19 09:41	CMW	TAL PEN

Client Sample ID: PD-8-SB-37-062519-DUP
Lab Sample ID: 400-172224-3
Date Collected: 06/25/19 10:20
Matrix: Solid
Date Received: 06/26/19 08:57
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.174 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		500	5 mL	5 mL	447031	07/08/19 00:33	BSW	TAL PEN
Total/NA	Prep	3546			15.03 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 17:24	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 18:28	KJA	TAL PEN

Client Sample ID: PD-8-SB-40-062519
Lab Sample ID: 400-172224-4
Date Collected: 06/25/19 12:50
Matrix: Solid
Date Received: 06/26/19 08:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446317	06/30/19 09:41	CMW	TAL PEN

Client Sample ID: PD-8-SB-40-062519

Lab Sample ID: 400-172224-4
Date Collected: 06/25/19 12:50
Matrix: Solid
Date Received: 06/26/19 08:57
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.835 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		2500	5 mL	5 mL	447031	07/08/19 00:58	BSW	TAL PEN
Total/NA	Prep	5035	DL		5.835 g	5.00 g	447482	07/09/19 17:30	BSW	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	447488	07/09/19 21:31	BSW	TAL PEN
Total/NA	Prep	3546			15.31 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 17:45	VC1	TAL PEN
Total/NA	Prep	3546			15.31 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 18:45	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-446440/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447016/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447016	07/07/19 14:37	CAR	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447044/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447031	07/07/19 17:35	BSW	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447482/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447482	07/09/19 17:30	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447488	07/09/19 20:17	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/6-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447016/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447016	07/07/19 13:24	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447044/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447044	07/07/19 12:24	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447031	07/07/19 16:46	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447482/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447482	07/09/19 17:30	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447488	07/09/19 19:04	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-446440/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-172224-1
Project/Site: PreDesign Invest PW

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-446440/5-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

GC/MS VOA

Analysis Batch: 447016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-1	TB-PW-062519-A	Total/NA	Water	8260B	
MB 400-447016/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447016/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	8260B	447044
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	8260B	447044
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	8260B	447044
MB 400-447044/2-A	Method Blank	Total/NA	Solid	8260B	447044
LCS 400-447044/1-A	Lab Control Sample	Total/NA	Solid	8260B	447044

Prep Batch: 447044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	5035	
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	5035	
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	5035	
MB 400-447044/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447044/1-A	Lab Control Sample	Total/NA	Solid	5035	

Prep Batch: 447482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-4 - DL	PD-8-SB-40-062519	Total/NA	Solid	5035	
MB 400-447482/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447482/1-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 447488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-4 - DL	PD-8-SB-40-062519	Total/NA	Solid	8260B	447482
MB 400-447482/2-A	Method Blank	Total/NA	Solid	8260B	447482
LCS 400-447482/1-A	Lab Control Sample	Total/NA	Solid	8260B	447482

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	3546	
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	3546	
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	8270D	446440
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	8270D	446440
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

GC/MS Semi VOA (Continued)

Analysis Batch: 446849 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	8270D LL	446440
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	8270D LL	446440
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	8270D LL	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

General Chemistry

Analysis Batch: 446317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172224-2	PD-8-SB-37-062519	Total/NA	Solid	Moisture	
400-172224-3	PD-8-SB-37-062519-DUP	Total/NA	Solid	Moisture	
400-172224-4	PD-8-SB-40-062519	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447016/4
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 14:37	1
Acrolein	ND		20	10	ug/L			07/07/19 14:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 14:37	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 14:37	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 14:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 14:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 14:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 14:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 14:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 14:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 14:37	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 14:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 14:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 14:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 14:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 14:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 14:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 14:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 14:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 14:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 14:37	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 14:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 14:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 14:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 14:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 14:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 14:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 14:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 14:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 14:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 14:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 14:37	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447016/4
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 14:37	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 14:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 14:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 14:37	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 14:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 14:37	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 14:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 14:37	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 14:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 14:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 14:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 14:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 14:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 14:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 14:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 14:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 14:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 14:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 14:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 14:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 14:37	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 14:37*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/07/19 14:37*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/07/19 14:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/07/19 14:37*	*1*

Lab Sample ID: LCS 400-447016/1002
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	250		ug/L		125	43 - 160
Acrolein	500	712		ug/L		142	38 - 160
Acrylonitrile	500	631		ug/L		126	64 - 142
Benzene	50.0	54.4		ug/L		109	70 - 130
Bromobenzene	50.0	56.3		ug/L		113	70 - 132
Bromochloromethane	50.0	57.0		ug/L		114	70 - 130
Bromodichloromethane	50.0	57.2		ug/L		114	67 - 133
Bromoform	50.0	68.5		ug/L		137	57 - 140
Bromomethane	50.0	41.8		ug/L		84	10 - 160
2-Butanone (MEK)	200	233		ug/L		117	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447016/1002
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	53.0		ug/L		106	61 - 137
Carbon tetrachloride	50.0	64.3		ug/L		129	61 - 137
Chlorobenzene	50.0	57.5		ug/L		115	70 - 130
Chloroethane	50.0	56.3		ug/L		113	55 - 141
2-Chloroethyl vinyl ether	50.0	45.6		ug/L		91	10 - 160
Chloroform	50.0	55.6		ug/L		111	69 - 130
1-Chlorohexane	50.0	62.2		ug/L		124	69 - 130
Chloromethane	50.0	53.6		ug/L		107	58 - 137
cis-1,2-Dichloroethene	50.0	58.3		ug/L		117	68 - 130
cis-1,3-Dichloropropene	50.0	61.0		ug/L		122	69 - 132
Dibromochloromethane	50.0	66.1		ug/L		132	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	68.8	*	ug/L		138	54 - 135
1,2-Dichlorobenzene	50.0	60.7		ug/L		121	67 - 130
1,3-Dichlorobenzene	50.0	59.3		ug/L		119	70 - 130
1,4-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
Dichlorodifluoromethane	50.0	45.8		ug/L		92	41 - 146
1,1-Dichloroethane	50.0	58.1		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	57.2		ug/L		114	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	57.9		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	58.6		ug/L		117	70 - 130
2,2-Dichloropropane	50.0	59.6		ug/L		119	52 - 135
1,1-Dichloropropene	50.0	56.7		ug/L		113	70 - 130
Ethylbenzene	50.0	59.5		ug/L		119	70 - 130
Ethylene Dibromide	50.0	59.1		ug/L		118	70 - 130
Ethyl methacrylate	50.0	67.8	*	ug/L		136	68 - 130
Hexachlorobutadiene	50.0	54.3		ug/L		109	53 - 140
2-Hexanone	200	275	*	ug/L		138	65 - 137
Isopropylbenzene	50.0	57.9		ug/L		116	70 - 130
Methylene bromide	50.0	52.3		ug/L		105	70 - 130
Methylene Chloride	50.0	52.6		ug/L		105	66 - 135
4-Methyl-2-pentanone (MIBK)	200	268		ug/L		134	69 - 138
Methyl tert-butyl ether	50.0	54.0		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	58.8		ug/L		118	70 - 130
Naphthalene	50.0	62.0		ug/L		124	47 - 149
n-Butylbenzene	50.0	58.6		ug/L		117	67 - 130
N-Propylbenzene	50.0	60.2		ug/L		120	70 - 130
o-Chlorotoluene	50.0	56.7		ug/L		113	70 - 130
o-Xylene	50.0	58.7		ug/L		117	70 - 130
p-Chlorotoluene	50.0	58.8		ug/L		118	70 - 130
p-Isopropyltoluene	50.0	60.5		ug/L		121	65 - 130
sec-Butylbenzene	50.0	58.3		ug/L		117	66 - 130
Styrene	50.0	55.7		ug/L		111	70 - 130
tert-Butylbenzene	50.0	58.0		ug/L		116	64 - 139
1,1,1,2-Tetrachloroethane	50.0	70.5	*	ug/L		141	67 - 131
1,1,2,2-Tetrachloroethane	50.0	60.7		ug/L		121	70 - 131
Tetrachloroethene	50.0	58.6		ug/L		117	65 - 130
Toluene	50.0	58.0		ug/L		116	70 - 130
trans-1,2-Dichloroethene	50.0	55.3		ug/L		111	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447016/1002
Matrix: Water
Analysis Batch: 447016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	67.2	*	ug/L		134	63 - 130
1,2,3-Trichlorobenzene	50.0	57.3		ug/L		115	60 - 138
1,2,4-Trichlorobenzene	50.0	56.6		ug/L		113	60 - 140
1,1,1-Trichloroethane	50.0	57.9		ug/L		116	68 - 130
1,1,2-Trichloroethane	50.0	59.2		ug/L		118	70 - 130
Trichloroethene	50.0	57.0		ug/L		114	70 - 130
Trichlorofluoromethane	50.0	49.5		ug/L		99	65 - 138
1,2,3-Trichloropropane	50.0	59.1		ug/L		118	70 - 130
1,2,4-Trimethylbenzene	50.0	57.2		ug/L		114	70 - 130
1,3,5-Trimethylbenzene	50.0	57.7		ug/L		115	69 - 130
Vinyl acetate	100	125		ug/L		125	26 - 160
Vinyl chloride	50.0	53.2		ug/L		106	59 - 136
Xylenes, Total	100	117		ug/L		117	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Acrolein	ND		50	28	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Benzene	ND		5.0	0.67	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromoform	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chloroform	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/07/19 12:24	07/07/19 17:35	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
2-Hexanone	ND		25	5.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Methylene Chloride	ND		15	10	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Styrene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Toluene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/07/19 12:24	07/07/19 17:35	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/07/19 12:24	07/07/19 17:35	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447044/2-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447044

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/07/19 12:24	07/07/19 17:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		72 - 122	07/07/19 12:24	07/07/19 17:35	1
Dibromofluoromethane	96		79 - 123	07/07/19 12:24	07/07/19 17:35	1
Toluene-d8 (Surr)	99		80 - 120	07/07/19 12:24	07/07/19 17:35	1

Lab Sample ID: LCS 400-447044/1-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	215		ug/Kg		108	48 - 160
Acrolein	500	443		ug/Kg		89	40 - 150
Acrylonitrile	500	503		ug/Kg		101	60 - 130
Benzene	50.0	55.6		ug/Kg		111	65 - 130
Bromobenzene	50.0	57.5		ug/Kg		115	65 - 130
Bromochloromethane	50.0	54.3		ug/Kg		109	65 - 130
Bromodichloromethane	50.0	54.9		ug/Kg		110	61 - 130
Bromoform	50.0	58.8		ug/Kg		118	52 - 136
Bromomethane	50.0	52.9		ug/Kg		106	12 - 160
2-Butanone (MEK)	200	231		ug/Kg		116	55 - 130
Carbon disulfide	50.0	57.1		ug/Kg		114	46 - 141
Carbon tetrachloride	50.0	51.1		ug/Kg		102	60 - 130
Chlorobenzene	50.0	55.3		ug/Kg		111	70 - 130
Chloroethane	50.0	60.2		ug/Kg		120	55 - 134
2-Chloroethyl vinyl ether	50.0	61.4		ug/Kg		123	10 - 158
Chloroform	50.0	53.6		ug/Kg		107	62 - 130
1-Chlorohexane	50.0	50.5		ug/Kg		101	69 - 130
Chloromethane	50.0	48.5		ug/Kg		97	49 - 136
cis-1,2-Dichloroethene	50.0	49.6		ug/Kg		99	53 - 135
cis-1,3-Dichloropropene	50.0	58.4		ug/Kg		117	61 - 130
Dibromochloromethane	50.0	58.2		ug/Kg		116	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	61.8		ug/Kg		124	49 - 130
1,2-Dichlorobenzene	50.0	57.8		ug/Kg		116	64 - 130
1,3-Dichlorobenzene	50.0	57.1		ug/Kg		114	66 - 130
1,4-Dichlorobenzene	50.0	56.6		ug/Kg		113	65 - 130
Dichlorodifluoromethane	50.0	62.8		ug/Kg		126	34 - 143
1,1-Dichloroethane	50.0	52.9		ug/Kg		106	59 - 130
1,2-Dichloroethane	50.0	49.8		ug/Kg		100	62 - 130
1,1-Dichloroethene	50.0	54.5		ug/Kg		109	55 - 137
1,2-Dichloropropane	50.0	55.5		ug/Kg		111	64 - 130
1,3-Dichloropropane	50.0	58.8		ug/Kg		118	67 - 130
2,2-Dichloropropane	50.0	52.9		ug/Kg		106	51 - 132
1,1-Dichloropropene	50.0	53.4		ug/Kg		107	65 - 130
Ethylbenzene	50.0	59.8		ug/Kg		120	70 - 130
Ethylene Dibromide	50.0	57.9		ug/Kg		116	67 - 130
Ethyl methacrylate	50.0	68.2	*	ug/Kg		136	62 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447044/1-A
Matrix: Solid
Analysis Batch: 447031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	65.6		ug/Kg		131	62 - 133
2-Hexanone	200	219		ug/Kg		110	57 - 131
Isopropylbenzene	50.0	58.3		ug/Kg		117	70 - 130
Methylene bromide	50.0	54.4		ug/Kg		109	65 - 130
Methylene Chloride	50.0	52.1		ug/Kg		104	57 - 132
4-Methyl-2-pentanone (MIBK)	200	212		ug/Kg		106	58 - 130
Methyl tert-butyl ether	50.0	54.8		ug/Kg		110	63 - 130
m-Xylene & p-Xylene	50.0	61.2		ug/Kg		122	70 - 130
Naphthalene	50.0	64.7		ug/Kg		129	45 - 144
n-Butylbenzene	50.0	64.9		ug/Kg		130	66 - 130
N-Propylbenzene	50.0	62.6		ug/Kg		125	67 - 130
o-Chlorotoluene	50.0	63.6		ug/Kg		127	67 - 130
o-Xylene	50.0	60.6		ug/Kg		121	70 - 130
p-Chlorotoluene	50.0	64.6		ug/Kg		129	66 - 130
p-Isopropyltoluene	50.0	62.6		ug/Kg		125	68 - 130
sec-Butylbenzene	50.0	63.1		ug/Kg		126	67 - 130
Styrene	50.0	56.1		ug/Kg		112	68 - 130
tert-Butylbenzene	50.0	63.2		ug/Kg		126	67 - 130
1,1,1,2-Tetrachloroethane	50.0	53.9		ug/Kg		108	65 - 130
1,1,2,2-Tetrachloroethane	50.0	66.2	*	ug/Kg		132	60 - 131
Tetrachloroethene	50.0	50.5		ug/Kg		101	67 - 130
Toluene	50.0	58.3		ug/Kg		117	70 - 130
trans-1,2-Dichloroethene	50.0	55.5		ug/Kg		111	58 - 134
trans-1,3-Dichloropropene	50.0	63.5		ug/Kg		127	60 - 130
1,2,3-Trichlorobenzene	50.0	64.7		ug/Kg		129	58 - 135
1,2,4-Trichlorobenzene	50.0	63.6		ug/Kg		127	56 - 138
1,1,1-Trichloroethane	50.0	52.5		ug/Kg		105	63 - 130
1,1,2-Trichloroethane	50.0	60.4		ug/Kg		121	65 - 130
Trichloroethene	50.0	48.7		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	52.5		ug/Kg		105	61 - 136
1,2,3-Trichloropropane	50.0	62.8		ug/Kg		126	60 - 130
1,2,4-Trimethylbenzene	50.0	62.9		ug/Kg		126	66 - 130
1,3,5-Trimethylbenzene	50.0	61.1		ug/Kg		122	67 - 130
Vinyl acetate	100	114		ug/Kg		114	24 - 160
Vinyl chloride	50.0	59.9		ug/Kg		120	52 - 132
Xylenes, Total	100	122		ug/Kg		122	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*117*		*72 - 122*
Dibromofluoromethane	*97*		*79 - 123*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447482/2-A
Matrix: Solid
Analysis Batch: 447488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		07/09/19 17:30	07/09/19 20:17	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447482/2-A
Matrix: Solid
Analysis Batch: 447488

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447482

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/09/19 17:30	07/09/19 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 122	07/09/19 17:30	07/09/19 20:17	1
Dibromofluoromethane	92		79 - 123	07/09/19 17:30	07/09/19 20:17	1
Toluene-d8 (Surr)	100		80 - 120	07/09/19 17:30	07/09/19 20:17	1

Lab Sample ID: LCS 400-447482/1-A
Matrix: Solid
Analysis Batch: 447488

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447482

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	51.2		ug/Kg		102	65 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		72 - 122
Dibromofluoromethane	91		79 - 123
Toluene-d8 (Surr)	100		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/01/19 15:58*	*07/05/19 12:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2-Fluorophenol	*70*		*25 - 128*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Phenol-d5	*72*		*29 - 130*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2,4,6-Tribromophenol	*89*		*10 - 150*	*07/01/19 15:58*	*07/05/19 12:45*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Quinoline			2000	1520		ug/Kg		76	10 - 150		
2,4,5-Trichlorophenol			2000	1830		ug/Kg		91	53 - 133		
2,4,6-Trichlorophenol			2000	1820		ug/Kg		91	51 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*
Nitrobenzene-d5	*78*		*15 - 136*
Terphenyl-d14	*121*		*24 - 146*

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene	333	305		ug/Kg		92	59 - 120	10	30
Anthracene	333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene	333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene	333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene	333	342		ug/Kg		103	35 - 146	8	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172224-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*27 - 127*
Nitrobenzene-d5	*71*		*15 - 136*
Terphenyl-d14	*114*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

400-172224 COC

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID
James Carrino	25278
PO #	GSAP Project ID
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02

DATE: PAGE: 1 of 1

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 / NON-UNIT COST 60592794 - 1.24.050

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
TB-PW-062519-A	6/25/2019	0:00	Water	X					2			X		
PD-8-SB-37-062519	6/25/2019	10:20	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-8-SB-37-062519-DUP	6/25/2019	10:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-8-SB-40-062519	6/25/2019	12:50	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

PQ LeFleur

Dep: Wgt: 20.00 LBS SPECIAL: 0.00
DV: 0.00 HANDLING: 0.00
TOTAL: 0.00

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Brett Howell	Fedex: Svcs: PRIORITY OVERNIGHT Master 4782 2877 1318 TRCK: 4782 2877 1384	6/25/2019	1700
	8.9°C TR8	6/26/19	8:57

Version: 10May17

Page 40 of 48

10/18/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172224-1

Login Number: 172224
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172224-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172317

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/22/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062619-A	PD-8-SB-51-062619
PD-8-SB-62-062619	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated PAH and SVOC surrogate recoveries were outside evaluation criteria in sample PD-8-SB-51-062619. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. One SVOC and several PAHs were detected in the method blanks. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-446440/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	53.8 μg/Kg
MB 400-446440/1-A	PAHs	Fluoranthene	2.71 μg/Kg
MB 400-446440/1-A	PAHs	2-Methylnaphthalene	1.73 μg/Kg
MB 400-446440/1-A	PAHs	Pyrene	2.22 μg/Kg

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
LCS 400-447082/1-A	VOCs	1,2-dibromo-3-Chloropropane	**131**/NA	NA	49-130
LCS 400-447082/1-A	VOCs	Ethyl methacrylate	**134**/NA	NA	62-130
LCS 400-447082/1-A	VOCs	2-Hexanone	**132**/NA	NA	57-131
LCS 400-447082/1-A	VOCs	4-methyl-2-Pentanone	**131**/NA	NA	58-130
LCS 400-447082/1-A	VOCs	1,1,1,2-Tetrachloroethane	**140**/NA	NA	65-130
LCS 400-447082/1-A	VOCs	trans-1,3-Dichloropropene	**134**/NA	NA	60-130
LCS 400-446440/4-A/5-A	SVOCs	Benzenethiol	**1/2**	12	10-120/30
LCS 400-446440/6-A	SVOCs	3,3'-Dichlorobenzidine	**172**/NA	NA	42-120

Analytical data that required qualification based on LCS recovery outside evaluation criteria are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-8-SB-51-062619	SVOCs	Benzenethiol	**UJ**
PD-8-SB-62-062619	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-8-SB-51-062619	PAHs	Nitrobenzene-d_5	**650**	15-136
PD-8-SB-51-062619	SVOCs	2-Fluorophenol	**21**	25-128
PD-8-SB-51-062619	SVOCs	Nitrobenzene-d_5	**0**	15-136
PD-8-SB-51-062619	SVOCs	Phenol-d_5	**148**	29-130
MB400-446440/1-A	PAHs	2-Fluorophenol	**128**	27-127
MB400-446440/1-A	PAHs	Terphenyl-$d1_4$	**161**	24-146

Analytical data that required qualification based on surrogate recovery outside evaluation criteria are included in the table below. Qualifications due to surrogate

recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. Method blanks are quality control samples and do not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-8-SB-51-062619	SVOCs	Benzoic acid	**UJ**
PD-8-SB-51-062619	SVOCs	4-Chloro-3-methylphenol	**UJ**
PD-8-SB-51-062619	SVOCs	2-Chlorophenol	**UJ**
PD-8-SB-51-062619	SVOCs	2,4-Dichlorophenol	**UJ**
PD-8-SB-51-062619	SVOCs	2,4-Dimethylphenol	**UJ**
PD-8-SB-51-062619	SVOCs	4,6-Dinitro-ortho-cresol	**UJ**
PD-8-SB-51-062619	SVOCs	2,4-Dinitrophenol	**UJ**
PD-8-SB-51-062619	SVOCs	2-Methylphenol	**UJ**
PD-8-SB-51-062619	SVOCs	3 & 4 Methylphenol	**UJ**
PD-8-SB-51-062619	SVOCs	2-Nitrophenol	**UJ**
PD-8-SB-51-062619	SVOCs	4-Nitrophenol	**UJ**
PD-8-SB-51-062619	SVOCs	Pentachlorophenol	**UJ**
PD-8-SB-51-062619	SVOCs	Phenol	**UJ**
PD-8-SB-51-062619	SVOCs	2,4,5-Trichlorophenol	**UJ**
PD-8-SB-51-062619	SVOCs	2,4,6-Trichlorophenol	**UJ**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172317-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/22/2019 11:57:19 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/23/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Laboratory Job ID: 400-172317-1

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Job ID: 400-172317-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172317-1

Comments
No additional comments.

Receipt
The samples were received on 6/27/2019 9:21 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-447082 and analytical batch 400-447049 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Ethyl methacrylate and trans-1,3-Dichloropropene. These analytes were biased high in the LCS and were not detected in the associated sample; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-062619-A (400-172317-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447251 recovered above the upper control limit for Hexachlorobenzene and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-8-SB-51-062619 (400-172317-2). Evidence

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Job ID: 400-172317-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The surrogate recovery for the blank associated with preparation batch 400-446440 and analytical batch 400-447351 was outside the upper control limits.

Method(s) 8270D LL: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172317-1	TB-PW-062619-A	Water	06/26/19 00:00	06/27/19 09:21	
400-172317-2	PD-8-SB-51-062619	Solid	06/26/19 10:45	06/27/19 09:21	
400-172317-3	PD-8-SB-62-062619	Solid	06/26/19 13:15	06/27/19 09:21	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A — Lab Sample ID: 400-172317-1

No Detections.

Client Sample ID: PD-8-SB-51-062619 — Lab Sample ID: 400-172317-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	250000		5400	660	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	20000		5400	730	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	58000		5400	2200	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	36000		5400	1000	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	82000		5400	970	ug/Kg	1000	☼	8260B	Total/NA
p-Isopropyltoluene	5300	J	5400	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	8000		5400	1000	ug/Kg	1000	☼	8260B	Total/NA
Toluene	4200	J	5400	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	140000		5400	890	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene - DL	410000		11000	2800	ug/Kg	2000	☼	8260B	Total/NA
o-Xylene - DL	11000		11000	2200	ug/Kg	2000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene - DL	410000		11000	2200	ug/Kg	2000	☼	8260B	Total/NA
Xylenes, Total - DL	430000		22000	4100	ug/Kg	2000	☼	8260B	Total/NA
1-Methylnaphthalene	16000		380	58	ug/Kg	50	☼	8270D LL	Total/NA
2-Methylnaphthalene	30000	B	380	58	ug/Kg	50	☼	8270D LL	Total/NA
Phenanthrene	890		150	23	ug/Kg	20	☼	8270D LL	Total/NA

Client Sample ID: PD-8-SB-62-062619 — Lab Sample ID: 400-172317-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140		4.9	0.66	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	63		4.9	0.60	ug/Kg	1	☼	8260B	Total/NA
Isopropylbenzene	4.3	J	4.9	0.67	ug/Kg	1	☼	8260B	Total/NA
m-Xylene & p-Xylene	100		4.9	1.3	ug/Kg	1	☼	8260B	Total/NA
Naphthalene	9.1		4.9	2.0	ug/Kg	1	☼	8260B	Total/NA
n-Butylbenzene	5.2		4.9	0.94	ug/Kg	1	☼	8260B	Total/NA
N-Propylbenzene	14		4.9	0.89	ug/Kg	1	☼	8260B	Total/NA
p-Isopropyltoluene	1.2	J	4.9	0.98	ug/Kg	1	☼	8260B	Total/NA
sec-Butylbenzene	2.3	J	4.9	0.93	ug/Kg	1	☼	8260B	Total/NA
Toluene	3.7	J	4.9	0.98	ug/Kg	1	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	50		4.9	0.98	ug/Kg	1	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	16		4.9	0.82	ug/Kg	1	☼	8260B	Total/NA
Xylenes, Total	100		9.8	1.9	ug/Kg	1	☼	8260B	Total/NA
1-Methylnaphthalene	10		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	16	B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A

Date Collected: 06/26/19 00:00
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/09/19 20:31	1
Acrolein	ND		20	10	ug/L			07/09/19 20:31	1
Acrylonitrile	ND		10	2.8	ug/L			07/09/19 20:31	1
Benzene	ND		1.0	0.38	ug/L			07/09/19 20:31	1
Bromobenzene	ND		1.0	0.54	ug/L			07/09/19 20:31	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/09/19 20:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Bromoform	ND		5.0	0.71	ug/L			07/09/19 20:31	1
Bromomethane	ND		1.0	0.98	ug/L			07/09/19 20:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/09/19 20:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Chloroethane	ND		1.0	0.76	ug/L			07/09/19 20:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/09/19 20:31	1
Chloroform	ND		1.0	0.60	ug/L			07/09/19 20:31	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/09/19 20:31	1
Chloromethane	ND		1.0	0.83	ug/L			07/09/19 20:31	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 20:31	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/09/19 20:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/09/19 20:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/09/19 20:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/09/19 20:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/09/19 20:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/09/19 20:31	1
2-Hexanone	ND		25	3.1	ug/L			07/09/19 20:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/09/19 20:31	1
Methylene bromide	ND		5.0	0.59	ug/L			07/09/19 20:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/09/19 20:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/09/19 20:31	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/09/19 20:31	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/09/19 20:31	1
Naphthalene	ND		1.0	1.0	ug/L			07/09/19 20:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/09/19 20:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/09/19 20:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/09/19 20:31	1
o-Xylene	ND		5.0	0.60	ug/L			07/09/19 20:31	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A
Date Collected: 06/26/19 00:00
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/09/19 20:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/09/19 20:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/09/19 20:31	1
Styrene	ND		1.0	1.0	ug/L			07/09/19 20:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/09/19 20:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/09/19 20:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/09/19 20:31	1
Toluene	ND		1.0	0.41	ug/L			07/09/19 20:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 20:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/09/19 20:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/09/19 20:31	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/09/19 20:31	1
Trichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/09/19 20:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/09/19 20:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/09/19 20:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/09/19 20:31	1
Vinyl acetate	ND		25	2.0	ug/L			07/09/19 20:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Xylenes, Total	ND		10	1.6	ug/L			07/09/19 20:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/09/19 20:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/09/19 20:31*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/09/19 20:31*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*07/09/19 20:31*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		27000	14000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Acrolein	ND		54000	30000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Acrylonitrile	ND		22000	8600	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Benzene	ND		5400	720	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromobenzene	ND		5400	1400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromochloromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromodichloromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromoform	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromomethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2-Butanone (MEK)	ND		27000	6500	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Carbon disulfide	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Carbon tetrachloride	ND		5400	1800	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chlorobenzene	ND		5400	560	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chloroethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2-Chloroethyl vinyl ether	ND		11000	5400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chloroform	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1-Chlorohexane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chloromethane	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
cis-1,2-Dichloroethene	ND		5400	820	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
cis-1,3-Dichloropropene	ND		5400	1300	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Dibromochloromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dibromo-3-Chloropropane	ND	*	5400	3600	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dichlorobenzene	ND		5400	760	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,3-Dichlorobenzene	ND		5400	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,4-Dichlorobenzene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Dichlorodifluoromethane	ND		5400	1400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1-Dichloroethane	ND		5400	890	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dichloroethane	ND		5400	880	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1-Dichloroethene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dichloropropane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,3-Dichloropropane	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2,2-Dichloropropane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1-Dichloropropene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Ethylbenzene	**250000**		5400	660	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Ethylene Dibromide	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Ethyl methacrylate	ND	*	5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Hexachlorobutadiene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2-Hexanone	ND	*	27000	5400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Isopropylbenzene	**20000**		5400	730	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Methylene bromide	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Methylene Chloride	ND		16000	11000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
4-Methyl-2-pentanone (MIBK)	ND	*	27000	5400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Methyl tert-butyl ether	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Naphthalene	**58000**		5400	2200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
n-Butylbenzene	**36000**		5400	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
N-Propylbenzene	**82000**		5400	970	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
o-Chlorotoluene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
p-Chlorotoluene	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
p-Isopropyltoluene	**5300**	**J**	5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	**8000**		5400	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Styrene	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
tert-Butylbenzene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,1,2-Tetrachloroethane	ND	*	5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,2,2-Tetrachloroethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Tetrachloroethene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Toluene	**4200**	**J**	5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
trans-1,2-Dichloroethene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
trans-1,3-Dichloropropene	ND	*	5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2,3-Trichlorobenzene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2,4-Trichlorobenzene	ND		5400	2200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,1-Trichloroethane	ND		5400	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,2-Trichloroethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Trichloroethene	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Trichlorofluoromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2,3-Trichloropropane	ND		5400	3200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,3,5-Trimethylbenzene	**140000**		5400	890	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Vinyl acetate	ND		27000	9800	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Vinyl chloride	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane	*4200*	*J*	*ug/Kg*	☼	*4.54*	*110-82-7*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Isobutyl alcohol	*510000*	*	*ug/Kg*	☼	*4.59*	*78-83-1*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Isooctane	*3200*	*J*	*ug/Kg*	☼	*4.76*	*540-84-1*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
n-Heptane	*18000*		*ug/Kg*	☼	*4.85*	*142-82-5*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Methylcyclohexane	*23000*		*ug/Kg*	☼	*5.27*	*108-87-2*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Cyclopentane, ethyl-	*13000*	*T J N*	*ug/Kg*	☼	*5.38*	*1640-89-7*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Heptane, 3-methyl-	*41000*	*T J N*	*ug/Kg*	☼	*5.72*	*589-81-1*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Heptane, 2,6-dimethyl-	*11000*	*T J N*	*ug/Kg*	☼	*6.34*	*1072-05-5*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
3-Ethyltoluene	*150000*		*ug/Kg*	☼	*8.09*	*620-14-4*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
2-Ethyltoluene	*71000*		*ug/Kg*	☼	*8.30*	*611-14-3*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
1,2,3-Trimethylbenzene	*91000*		*ug/Kg*	☼	*8.77*	*526-73-8*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
p-Diethylbenzene	*82000*		*ug/Kg*	☼	*8.97*	*105-05-5*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*42000*	*T J N*	*ug/Kg*	☼	*9.23*	*874-41-9*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 2-ethyl-1,4-dimethyl-	*34000*	*T J N*	*ug/Kg*	☼	*9.29*	*1758-88-9*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1-methyl-2-(1-methylethyl)-	*19000*	*T J N*	*ug/Kg*	☼	*9.58*	*527-84-4*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1,2,3,4-tetramethyl-	*22000*	*T J N*	*ug/Kg*	☼	*9.71*	*488-23-3*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1-methyl-4-(2-propenyl)-	*49000*	*T J N*	*ug/Kg*	☼	*10.12*	*3333-13-9*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
2-Methylnaphthalene	*60000*		*ug/Kg*	☼	*11.72*	*91-57-6*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
1-Methylnaphthalene	*30000*		*ug/Kg*	☼	*11.91*	*90-12-0*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Dibromofluoromethane	*93*		*79 - 123*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	**410000**		11000	2800	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000
o-Xylene	**11000**		11000	2200	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	410000		11000	2200	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000
Xylenes, Total	430000		22000	4100	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*72 - 122*	*07/10/19 08:59*	*07/10/19 12:38*	*2000*
Dibromofluoromethane	*90*		*79 - 123*	*07/10/19 08:59*	*07/10/19 12:38*	*2000*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/10/19 08:59*	*07/10/19 12:38*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Acenaphthylene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Anthracene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[a]anthracene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[a]pyrene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[b]fluoranthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[g,h,i]perylene	ND		150	46	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[k]fluoranthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Chrysene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Dibenz(a,h)anthracene	ND		150	46	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Fluoranthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Fluorene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Indeno[1,2,3-cd]pyrene	ND		150	46	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
1-Methylnaphthalene	16000		380	58	ug/Kg	☼	07/01/19 15:58	07/17/19 15:34	50
2-Methylnaphthalene	30000	B	380	58	ug/Kg	☼	07/01/19 15:58	07/17/19 15:34	50
Phenanthrene	890		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Pyrene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*27 - 127*	*07/01/19 15:58*	*07/12/19 19:03*	*20*
Nitrobenzene-d5	*650*	*X	*15 - 136*	*07/01/19 15:58*	*07/12/19 19:03*	*20*
Terphenyl-d14	*87*		*24 - 146*	*07/01/19 15:58*	*07/12/19 19:03*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		1900	250	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Benzenethiol	ND	* UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Benzoic acid	ND	UJ	5700	2000	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Benzyl alcohol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Bis(2-chloroethoxy)methane	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Bis(2-chloroethyl)ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
bis (2-chloroisopropyl) ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Bis(2-ethylhexyl) phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Bromophenyl phenyl ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Butyl benzyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Chloroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Chloro-3-methylphenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Chloronaphthalene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Chlorophenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Chlorophenyl phenyl ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz[a,h]acridine	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Dibenzofuran	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
3,3'-Dichlorobenzidine	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dichlorophenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Diethyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dimethylphenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Dimethyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Di-n-butyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4,6-Dinitro-ortho-cresol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dinitrophenol	ND	UJ	5700	1700	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dinitrotoluene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,6-Dinitrotoluene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Di-n-octyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
1,4-Dioxane	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Hexachlorobenzene	ND		1900	580	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Hexachlorocyclopentadiene	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Hexachloroethane	ND		1900	580	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Indene	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Isophorone	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Methylphenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
3 & 4 Methylphenol	ND	UJ	3800	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Nitroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
3-Nitroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Nitroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Nitrobenzene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Nitrophenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Nitrophenol	ND	UJ	1900	640	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
N-Nitrosodimethylamine	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
N-Nitrosodi-n-propylamine	ND		1900	640	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
N-Nitrosodiphenylamine	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Pentachlorophenol	ND	UJ	3800	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Phenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Pyridine	ND		1900	870	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Quinoline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4,5-Trichlorophenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4,6-Trichlorophenol	ND	UJ	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*43000*	*T J N*	*ug/Kg*	☼	*4.55*	*100-41-4*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
p-Xylene	*62000*	*T J N*	*ug/Kg*	☼	*4.62*	*106-42-3*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Nonane	*24000*	*T J N*	*ug/Kg*	☼	*4.79*	*111-84-2*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1,3,5-trimethyl-	*31000*	*T J N*	*ug/Kg*	☼	*5.24*	*108-67-8*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1-ethyl-2-methyl-	*18000*	*T J N*	*ug/Kg*	☼	*5.30*	*611-14-3*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1,3,5-trimethyl-	*51000*	*T J N*	*ug/Kg*	☼	*5.39*	*108-67-8*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1,2,3-trimethyl-	*29000*	*T J N*	*ug/Kg*	☼	*5.54*	*526-73-8*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Indane	*15000*	*T J N*	*ug/Kg*	☼	*5.62*	*496-11-7*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1,2-diethyl-	*12000*	*T J N*	*ug/Kg*	☼	*5.65*	*135-01-3*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1-methyl-3-propyl-	*18000*	*T J N*	*ug/Kg*	☼	*5.66*	*1074-43-7*	*07/01/19 15:58*	*07/09/19 20:28*	*5*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-ethyl-3,5-dimethyl-	35000	T J N	ug/Kg	☼	5.69	934-74-7	07/01/19 15:58	07/09/19 20:28	5
Acetophenone	24000		ug/Kg	☼	5.75	98-86-2	07/01/19 15:58	07/09/19 20:28	5
Benzene, 1-methyl-2-(1-methylethyl)-	15000	T J N	ug/Kg	☼	5.80	527-84-4	07/01/19 15:58	07/09/19 20:28	5
Benzene, 4-ethyl-1,2-dimethyl-	27000	T J N	ug/Kg	☼	5.83	934-80-5	07/01/19 15:58	07/09/19 20:28	5
Indan, 1-methyl-	15000	T J N	ug/Kg	☼	5.87	767-58-8	07/01/19 15:58	07/09/19 20:28	5
Benzene, 2-ethyl-1,4-dimethyl-	12000	T J N	ug/Kg	☼	5.93	1758-88-9	07/01/19 15:58	07/09/19 20:28	5
Benzene, 1,2,4,5-tetramethyl-	13000	T J N	ug/Kg	☼	5.99	95-93-2	07/01/19 15:58	07/09/19 20:28	5
Indan, 1-methyl-	14000	T J N	ug/Kg	☼	6.11	767-58-8	07/01/19 15:58	07/09/19 20:28	5
Unknown	12000	T J	ug/Kg	☼	6.19		07/01/19 15:58	07/09/19 20:28	5
Sulfolane	17000		ug/Kg	☼	6.32	126-33-0	07/01/19 15:58	07/09/19 20:28	5
Naphthalene	22000		ug/Kg	☼	6.35	91-20-3	07/01/19 15:58	07/09/19 20:28	5
Caprolactam	13000		ug/Kg	☼	6.56	105-60-2	07/01/19 15:58	07/09/19 20:28	5
2-Methylnaphthalene	26000		ug/Kg	☼	6.80	91-57-6	07/01/19 15:58	07/09/19 20:28	5
1-Methylnaphthalene	16000		ug/Kg	☼	6.86	90-12-0	07/01/19 15:58	07/09/19 20:28	5
Naphthalene, 2,7-dimethyl-	14000	T J N	ug/Kg	☼	7.21	582-16-1	07/01/19 15:58	07/09/19 20:28	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	82		27 - 127	07/01/19 15:58	07/09/19 20:28	5
2-Fluorophenol	21	X	25 - 128	07/01/19 15:58	07/09/19 20:28	5
Nitrobenzene-d5	0	X	15 - 136	07/01/19 15:58	07/09/19 20:28	5
Phenol-d5	148	X	29 - 130	07/01/19 15:58	07/09/19 20:28	5
Terphenyl-d14	77		24 - 146	07/01/19 15:58	07/09/19 20:28	5
2,4,6-Tribromophenol	119		10 - 150	07/01/19 15:58	07/09/19 20:28	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.01	0.01	%			07/01/19 11:06	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619

Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3

Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Acrolein	ND		49	28	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Acrylonitrile	ND		20	7.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Benzene	**140**		4.9	0.66	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromobenzene	ND		4.9	1.3	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromochloromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromodichloromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromoform	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromomethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2-Butanone (MEK)	ND		25	5.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Carbon disulfide	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Carbon tetrachloride	ND		4.9	1.7	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chlorobenzene	ND		4.9	0.51	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2-Chloroethyl vinyl ether	ND		9.8	4.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chloroform	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1-Chlorohexane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chloromethane	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
cis-1,2-Dichloroethene	ND		4.9	0.75	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
cis-1,3-Dichloropropene	ND		4.9	1.2	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Dibromochloromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dibromo-3-Chloropropane	ND		4.9	3.2	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dichlorobenzene	ND		4.9	0.70	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,3-Dichlorobenzene	ND		4.9	0.93	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,4-Dichlorobenzene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Dichlorodifluoromethane	ND		4.9	1.3	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1-Dichloroethane	ND		4.9	0.82	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dichloroethane	ND		4.9	0.81	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1-Dichloroethene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dichloropropane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,3-Dichloropropane	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2,2-Dichloropropane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1-Dichloropropene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Ethylbenzene	**63**		4.9	0.60	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Ethylene Dibromide	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Ethyl methacrylate	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Hexachlorobutadiene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2-Hexanone	ND		25	4.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Isopropylbenzene	**4.3**	**J**	4.9	0.67	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Methylene bromide	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Methylene Chloride	ND		15	9.8	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	4.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Methyl tert-butyl ether	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
m-Xylene & p-Xylene	**100**		4.9	1.3	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Naphthalene	**9.1**		4.9	2.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
n-Butylbenzene	**5.2**		4.9	0.94	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
N-Propylbenzene	**14**		4.9	0.89	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
o-Chlorotoluene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
o-Xylene	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619
Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3
Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		4.9	0.96	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
p-Isopropyltoluene	**1.2**	**J**	4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
sec-Butylbenzene	**2.3**	**J**	4.9	0.93	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Styrene	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
tert-Butylbenzene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,1,2-Tetrachloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,2,2-Tetrachloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Tetrachloroethene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Toluene	**3.7**	**J**	4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
trans-1,2-Dichloroethene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
trans-1,3-Dichloropropene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,3-Trichlorobenzene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,4-Trichlorobenzene	ND		4.9	2.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,1-Trichloroethane	ND		4.9	1.1	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,2-Trichloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Trichloroethene	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Trichlorofluoromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,3-Trichloropropane	ND		4.9	3.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,4-Trimethylbenzene	**50**		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,3,5-Trimethylbenzene	**16**		4.9	0.82	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Vinyl acetate	ND		25	9.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Vinyl chloride	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Xylenes, Total	**100**		9.8	1.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*81*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane	*100*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Isopropyl alcohol	*71*	*J*	*ug/Kg*	☼	*2.42*	*67-63-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane, 2-methyl-	*310*	*T J N*	*ug/Kg*	☼	*2.61*	*107-83-5*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane, 3-methyl-	*160*	*T J N*	*ug/Kg*	☼	*2.77*	*96-14-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Hexane	*370*	*E*	*ug/Kg*	☼	*2.93*	*110-54-3*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane, 2,4-dimethyl-	*50*	*T J N*	*ug/Kg*	☼	*3.25*	*108-08-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, methyl-	*150*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclohexane	*78*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Hexane, 3-methyl-	*150*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Isooctane	*94*		*ug/Kg*	☼	*3.94*	*540-84-1*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, 1,2-dimethyl-, trans-	*39*	*T J N*	*ug/Kg*	☼	*4.01*	*822-50-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
n-Heptane	*220*		*ug/Kg*	☼	*4.05*	*142-82-5*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
2-Hexene, 2-methyl-	*19*	*T J N*	*ug/Kg*	☼	*4.13*	*2738-19-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Methylcyclohexane	*140*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, ethyl-	*26*	*T J N*	*ug/Kg*	☼	*4.54*	*1640-89-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.alpha.)-	*35*	*T J N*	*ug/Kg*	☼	*4.58*	*16883-48-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclohexane, 1,2-dimethyl-, trans-	*18*	*T J N*	*ug/Kg*	☼	*5.31*	*6876-23-9*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Heptane, 2,6-dimethyl-	*20*	*T J N*	*ug/Kg*	☼	*5.51*	*1072-05-5*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Heptane, 2,5-dimethyl-	*37*	*T J N*	*ug/Kg*	☼	*5.59*	*2216-30-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclohexane, ethyl-	*21*	*T J N*	*ug/Kg*	☼	*5.71*	*1678-91-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Octane, 3-methyl-	*50*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclohexane, propyl-	*18*	*T J N*	*ug/Kg*	☼	*6.74*	*1678-92-8*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
3-Ethyltoluene	*24*		*ug/Kg*	☼	*7.23*	*620-14-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619

Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3

Matrix: Solid
Percent Solids: 79.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 122	07/10/19 08:59	07/10/19 11:02	1
Dibromofluoromethane	92		79 - 123	07/10/19 08:59	07/10/19 11:02	1
Toluene-d8 (Surr)	100		80 - 120	07/10/19 08:59	07/10/19 11:02	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/12/19 19:19	1
Benzo[a]anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[a]pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[b]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[g,h,i]perylene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Chrysene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/12/19 19:19	1
Fluorene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Indeno[1,2,3-cd]pyrene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
1-Methylnaphthalene	**10**		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
2-Methylnaphthalene	**16**	**B**	8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Phenanthrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/12/19 19:19	1
Pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/01/19 15:58	07/10/19 19:19	1
Nitrobenzene-d5	67		15 - 136	07/01/19 15:58	07/10/19 19:19	1
Terphenyl-d14	96		24 - 146	07/01/19 15:58	07/10/19 19:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	54	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Benzenethiol	ND	* UJ	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Bis(2-ethylhexyl) phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Dibenz[a,h]acridine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
3,3'-Dichlorobenzidine	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619
Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3
Matrix: Solid
Percent Solids: 79.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Indene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Isophorone	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
3 & 4 Methylphenol	ND		820	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Nitrobenzene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
N-Nitrosodimethylamine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Phenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Pyridine	ND		410	190	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Quinoline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Caprolactam	*48*	*J*	*ug/Kg*	☼	*6.66*	*105-60-2*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Aramite Peak 1	*45*	*J*	*ug/Kg*	☼	*9.98*	*STL00690*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 18:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
2-Fluorophenol	*59*		*25 - 128*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Nitrobenzene-d5	*56*		*15 - 136*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Phenol-d5	*59*		*29 - 130*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Terphenyl-d14	*80*		*24 - 146*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
2,4,6-Tribromophenol	*76*		*10 - 150*	*07/01/19 15:58*	*07/05/19 18:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.5**		0.01	0.01	%			07/01/19 11:06	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172317-2	PD-8-SB-51-062619	108	93	102
400-172317-2 - DL	PD-8-SB-51-062619	103	90	100
400-172317-3	PD-8-SB-62-062619	104	92	100
LCS 400-447082/1-A	Lab Control Sample	100	99	101
LCS 400-447380/1-A	Lab Control Sample	103	94	100
MB 400-447082/2-A	Method Blank	101	99	102
MB 400-447380/2-A	Method Blank	97	91	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172317-1	TB-PW-062619-A	105	99	92
LCS 400-447208/1002	Lab Control Sample	105	100	90
MB 400-447208/5	Method Blank	107	99	98

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172317-2	PD-8-SB-51-062619	82	21 X	0 X	148 X	77	119
400-172317-3	PD-8-SB-62-062619	67	59	56	59	80	76
LCS 400-446440/4-A	Lab Control Sample	80	69	69	72	92	91
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (27-127)	NBZ (15-136)	TPHL (24-146)
400-172317-2	PD-8-SB-51-062619	117	650 * X	87
400-172317-3	PD-8-SB-62-062619	74	67	96
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A

Date Collected: 06/26/19 00:00
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447208	07/09/19 20:31	BSW	TAL PEN

Client Sample ID: PD-8-SB-51-062619

Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446368	07/01/19 11:06	KNT	TAL PEN

Client Sample ID: PD-8-SB-51-062619

Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.462 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447049	07/08/19 20:29	SAB	TAL PEN
Total/NA	Prep	5035	DL		6.462 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	447355	07/10/19 12:38	BSW	TAL PEN
Total/NA	Prep	3546			15.16 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		5			447251	07/09/19 20:28	VC1	TAL PEN
Total/NA	Prep	3546			15.16 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		50			448402	07/17/19 15:34	KJA	TAL PEN
Total/NA	Prep	3546			15.16 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		20			447502	07/12/19 19:03	KJA	TAL PEN

Client Sample ID: PD-8-SB-62-062619

Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446368	07/01/19 11:06	KNT	TAL PEN

Client Sample ID: PD-8-SB-62-062619

Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3
Matrix: Solid
Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.39 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447355	07/10/19 11:02	BSW	TAL PEN
Total/NA	Prep	3546			15.13 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 18:28	VC1	TAL PEN
Total/NA	Prep	3546			15.13 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 19:19	KJA	TAL PEN
Total/NA	Prep	3546			15.13 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 19:19	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 11:01	SAB	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447208/5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447208	07/09/19 14:24	BSW	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447355	07/10/19 10:38	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:06	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 09:56	SAB	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447208/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447208	07/09/19 18:00	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447355	07/10/19 09:39	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

GC/MS VOA

Analysis Batch: 447049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8260B	447082
MB 400-447082/2-A	Method Blank	Total/NA	Solid	8260B	447082
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	8260B	447082

Prep Batch: 447082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	5035	
MB 400-447082/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 447208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-1	TB-PW-062619-A	Total/NA	Water	8260B	
MB 400-447208/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447208/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2 - DL	PD-8-SB-51-062619	Total/NA	Solid	8260B	447380
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8260B	447380
MB 400-447380/2-A	Method Blank	Total/NA	Solid	8260B	447380
LCS 400-447380/1-A	Lab Control Sample	Total/NA	Solid	8260B	447380

Prep Batch: 447380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2 - DL	PD-8-SB-51-062619	Total/NA	Solid	5035	
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	5035	
MB 400-447380/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447380/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	3546	
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

GC/MS Semi VOA

Analysis Batch: 447251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8270D	446440

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8270D LL	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8270D LL	446440
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8270D LL	446440

General Chemistry

Analysis Batch: 446368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	Moisture	
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Acrolein	ND		50	28	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Benzene	ND		5.0	0.67	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromoform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Hexanone	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene Chloride	ND		15	10	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Styrene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Toluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/08/19 08:30*	*07/08/19 11:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*72 - 122*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Dibromofluoromethane	*99*		*79 - 123*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/08/19 08:30*	*07/08/19 11:01*	*1*

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	234		ug/Kg		117	48 - 160
Acrolein	500	701		ug/Kg		140	40 - 150
Acrylonitrile	500	619		ug/Kg		124	60 - 130
Benzene	50.0	55.3		ug/Kg		111	65 - 130
Bromobenzene	50.0	56.2		ug/Kg		112	65 - 130
Bromochloromethane	50.0	58.2		ug/Kg		116	65 - 130
Bromodichloromethane	50.0	57.3		ug/Kg		115	61 - 130
Bromoform	50.0	67.9		ug/Kg		136	52 - 136
Bromomethane	50.0	44.4		ug/Kg		89	12 - 160
2-Butanone (MEK)	200	225		ug/Kg		112	55 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.3		ug/Kg		109	46 - 141
Carbon tetrachloride	50.0	64.9		ug/Kg		130	60 - 130
Chlorobenzene	50.0	57.9		ug/Kg		116	70 - 130
Chloroethane	50.0	56.1		ug/Kg		112	55 - 134
2-Chloroethyl vinyl ether	50.0	50.4		ug/Kg		101	10 - 158
Chloroform	50.0	56.5		ug/Kg		113	62 - 130
1-Chlorohexane	50.0	61.9		ug/Kg		124	69 - 130
Chloromethane	50.0	56.0		ug/Kg		112	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	60.9		ug/Kg		122	61 - 130
Dibromochloromethane	50.0	65.8		ug/Kg		132	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	65.5	*	ug/Kg		131	49 - 130
1,2-Dichlorobenzene	50.0	62.0		ug/Kg		124	64 - 130
1,3-Dichlorobenzene	50.0	59.9		ug/Kg		120	66 - 130
1,4-Dichlorobenzene	50.0	59.9		ug/Kg		120	65 - 130
Dichlorodifluoromethane	50.0	46.3		ug/Kg		93	34 - 143
1,1-Dichloroethane	50.0	58.3		ug/Kg		117	59 - 130
1,2-Dichloroethane	50.0	57.2		ug/Kg		114	62 - 130
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	55 - 137
1,2-Dichloropropane	50.0	58.5		ug/Kg		117	64 - 130
1,3-Dichloropropane	50.0	58.9		ug/Kg		118	67 - 130
2,2-Dichloropropane	50.0	59.5		ug/Kg		119	51 - 132
1,1-Dichloropropene	50.0	56.6		ug/Kg		113	65 - 130
Ethylbenzene	50.0	59.9		ug/Kg		120	70 - 130
Ethylene Dibromide	50.0	58.7		ug/Kg		117	67 - 130
Ethyl methacrylate	50.0	67.0	*	ug/Kg		134	62 - 130
Hexachlorobutadiene	50.0	56.2		ug/Kg		112	62 - 133
2-Hexanone	200	264	*	ug/Kg		132	57 - 131
Isopropylbenzene	50.0	58.5		ug/Kg		117	70 - 130
Methylene bromide	50.0	53.2		ug/Kg		106	65 - 130
Methylene Chloride	50.0	53.5		ug/Kg		107	57 - 132
4-Methyl-2-pentanone (MIBK)	200	262	*	ug/Kg		131	58 - 130
Methyl tert-butyl ether	50.0	52.8		ug/Kg		106	63 - 130
m-Xylene & p-Xylene	50.0	58.9		ug/Kg		118	70 - 130
Naphthalene	50.0	60.9		ug/Kg		122	45 - 144
n-Butylbenzene	50.0	60.9		ug/Kg		122	66 - 130
N-Propylbenzene	50.0	61.0		ug/Kg		122	67 - 130
o-Chlorotoluene	50.0	58.5		ug/Kg		117	67 - 130
o-Xylene	50.0	58.9		ug/Kg		118	70 - 130
p-Chlorotoluene	50.0	59.6		ug/Kg		119	66 - 130
p-Isopropyltoluene	50.0	60.6		ug/Kg		121	68 - 130
sec-Butylbenzene	50.0	58.9		ug/Kg		118	67 - 130
Styrene	50.0	55.6		ug/Kg		111	68 - 130
tert-Butylbenzene	50.0	58.6		ug/Kg		117	67 - 130
1,1,1,2-Tetrachloroethane	50.0	70.1	*	ug/Kg		140	65 - 130
1,1,2,2-Tetrachloroethane	50.0	59.9		ug/Kg		120	60 - 131
Tetrachloroethene	50.0	58.8		ug/Kg		118	67 - 130
Toluene	50.0	58.1		ug/Kg		116	70 - 130
trans-1,2-Dichloroethene	50.0	55.2		ug/Kg		110	58 - 134

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	67.1	*	ug/Kg		134	60 - 130
1,2,3-Trichlorobenzene	50.0	57.3		ug/Kg		115	58 - 135
1,2,4-Trichlorobenzene	50.0	57.5		ug/Kg		115	56 - 138
1,1,1-Trichloroethane	50.0	58.6		ug/Kg		117	63 - 130
1,1,2-Trichloroethane	50.0	58.9		ug/Kg		118	65 - 130
Trichloroethene	50.0	56.9		ug/Kg		114	65 - 130
Trichlorofluoromethane	50.0	50.2		ug/Kg		100	61 - 136
1,2,3-Trichloropropane	50.0	56.7		ug/Kg		113	60 - 130
1,2,4-Trimethylbenzene	50.0	57.9		ug/Kg		116	66 - 130
1,3,5-Trimethylbenzene	50.0	58.1		ug/Kg		116	67 - 130
Vinyl acetate	100	122		ug/Kg		122	24 - 160
Vinyl chloride	50.0	55.0		ug/Kg		110	52 - 132
Xylenes, Total	100	118		ug/Kg		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-447208/5
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/09/19 14:24	1
Acrolein	ND		20	10	ug/L			07/09/19 14:24	1
Acrylonitrile	ND		10	2.8	ug/L			07/09/19 14:24	1
Benzene	ND		1.0	0.38	ug/L			07/09/19 14:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/09/19 14:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/09/19 14:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Bromoform	ND		5.0	0.71	ug/L			07/09/19 14:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/09/19 14:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/09/19 14:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/09/19 14:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/09/19 14:24	1
Chloroform	ND		1.0	0.60	ug/L			07/09/19 14:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/09/19 14:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/09/19 14:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 14:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/09/19 14:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/09/19 14:24	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447208/5
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/09/19 14:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/09/19 14:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/09/19 14:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/09/19 14:24	1
2-Hexanone	ND		25	3.1	ug/L			07/09/19 14:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/09/19 14:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/09/19 14:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/09/19 14:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/09/19 14:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/09/19 14:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/09/19 14:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/09/19 14:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/09/19 14:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/09/19 14:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/09/19 14:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/09/19 14:24	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/09/19 14:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/09/19 14:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/09/19 14:24	1
Styrene	ND		1.0	1.0	ug/L			07/09/19 14:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/09/19 14:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/09/19 14:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/09/19 14:24	1
Toluene	ND		1.0	0.41	ug/L			07/09/19 14:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 14:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/09/19 14:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/09/19 14:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/09/19 14:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/09/19 14:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/09/19 14:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/09/19 14:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/09/19 14:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/09/19 14:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/09/19 14:24	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447208/5
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/09/19 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/09/19 14:24	1
Dibromofluoromethane	99		81 - 121		07/09/19 14:24	1
Toluene-d8 (Surr)	98		80 - 120		07/09/19 14:24	1

Lab Sample ID: LCS 400-447208/1002
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	215		ug/L		108	43 - 160
Acrolein	500	603		ug/L		121	38 - 160
Acrylonitrile	500	510		ug/L		102	64 - 142
Benzene	50.0	53.5		ug/L		107	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	49.3		ug/L		99	70 - 130
Bromodichloromethane	50.0	50.4		ug/L		101	67 - 133
Bromoform	50.0	46.7		ug/L		93	57 - 140
Bromomethane	50.0	31.7		ug/L		63	10 - 160
2-Butanone (MEK)	200	248		ug/L		124	61 - 145
Carbon disulfide	50.0	45.8		ug/L		92	61 - 137
Carbon tetrachloride	50.0	50.4		ug/L		101	61 - 137
Chlorobenzene	50.0	50.3		ug/L		101	70 - 130
Chloroethane	50.0	47.0		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	29.1		ug/L		58	10 - 160
Chloroform	50.0	53.2		ug/L		106	69 - 130
1-Chlorohexane	50.0	46.7		ug/L		93	69 - 130
Chloromethane	50.0	48.9		ug/L		98	58 - 137
cis-1,2-Dichloroethene	50.0	51.4		ug/L		103	68 - 130
cis-1,3-Dichloropropene	50.0	51.9		ug/L		104	69 - 132
Dibromochloromethane	50.0	49.3		ug/L		99	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	46.8		ug/L		94	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.0		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	50.0	60.3		ug/L		121	41 - 146
1,1-Dichloroethane	50.0	51.7		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	54.2		ug/L		108	69 - 130
1,1-Dichloroethene	50.0	49.7		ug/L		99	63 - 134
1,2-Dichloropropane	50.0	52.6		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	49.3		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	48.2		ug/L		96	52 - 135
1,1-Dichloropropene	50.0	51.8		ug/L		104	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethylene Dibromide	50.0	52.6		ug/L		105	70 - 130
Ethyl methacrylate	50.0	47.3		ug/L		95	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447208/1002
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	57.6		ug/L		115	53 - 140
2-Hexanone	200	204		ug/L		102	65 - 137
Isopropylbenzene	50.0	47.8		ug/L		96	70 - 130
Methylene bromide	50.0	50.8		ug/L		102	70 - 130
Methylene Chloride	50.0	54.2		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	196		ug/L		98	69 - 138
Methyl tert-butyl ether	50.0	50.9		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	48.0		ug/L		96	70 - 130
Naphthalene	50.0	46.3		ug/L		93	47 - 149
n-Butylbenzene	50.0	49.2		ug/L		98	67 - 130
N-Propylbenzene	50.0	50.8		ug/L		102	70 - 130
o-Chlorotoluene	50.0	52.3		ug/L		105	70 - 130
o-Xylene	50.0	48.1		ug/L		96	70 - 130
p-Chlorotoluene	50.0	50.8		ug/L		102	70 - 130
p-Isopropyltoluene	50.0	51.1		ug/L		102	65 - 130
sec-Butylbenzene	50.0	50.3		ug/L		101	66 - 130
Styrene	50.0	45.9		ug/L		92	70 - 130
tert-Butylbenzene	50.0	50.3		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.4		ug/L		97	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.5		ug/L		111	70 - 131
Tetrachloroethene	50.0	44.9		ug/L		90	65 - 130
Toluene	50.0	48.2		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	51.3		ug/L		103	70 - 130
trans-1,3-Dichloropropene	50.0	46.1		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	50.5		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.7		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	50.7		ug/L		101	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	51.6		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	52.9		ug/L		106	65 - 138
1,2,3-Trichloropropane	50.0	54.3		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	52.5		ug/L		105	69 - 130
Vinyl acetate	100	101		ug/L		101	26 - 160
Vinyl chloride	50.0	55.4		ug/L		111	59 - 136
Xylenes, Total	100	96.2		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/10/19 08:59	07/10/19 10:38	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	28	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Benzene	ND		5.0	0.67	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromoform	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chloroform	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2-Hexanone	ND		25	5.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Methylene Chloride	ND		15	10	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/10/19 08:59	07/10/19 10:38	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Styrene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Toluene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/10/19 08:59	07/10/19 10:38	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/Kg*				*07/10/19 08:59*	*07/10/19 10:38*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*97*		*72 - 122*	*07/10/19 08:59*	*07/10/19 10:38*	*1*
Dibromofluoromethane	*91*		*79 - 123*	*07/10/19 08:59*	*07/10/19 10:38*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/10/19 08:59*	*07/10/19 10:38*	*1*

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	206		ug/Kg		103	48 - 160
Acrolein	500	514		ug/Kg		103	40 - 150
Acrylonitrile	500	578		ug/Kg		116	60 - 130
Benzene	50.0	49.6		ug/Kg		99	65 - 130
Bromobenzene	50.0	51.3		ug/Kg		103	65 - 130
Bromochloromethane	50.0	52.8		ug/Kg		106	65 - 130
Bromodichloromethane	50.0	46.4		ug/Kg		93	61 - 130
Bromoform	50.0	48.5		ug/Kg		97	52 - 136
Bromomethane	50.0	41.2		ug/Kg		82	12 - 160
2-Butanone (MEK)	200	184		ug/Kg		92	55 - 130
Carbon disulfide	50.0	49.2		ug/Kg		98	46 - 141
Carbon tetrachloride	50.0	47.7		ug/Kg		95	60 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	50.0	50.6		ug/Kg		101	70 - 130
Chloroethane	50.0	49.3		ug/Kg		99	55 - 134
2-Chloroethyl vinyl ether	50.0	36.0		ug/Kg		72	10 - 158
Chloroform	50.0	49.6		ug/Kg		99	62 - 130
1-Chlorohexane	50.0	51.8		ug/Kg		104	69 - 130
Chloromethane	50.0	53.9		ug/Kg		108	49 - 136
cis-1,2-Dichloroethene	50.0	49.5		ug/Kg		99	53 - 135
cis-1,3-Dichloropropene	50.0	48.7		ug/Kg		97	61 - 130
Dibromochloromethane	50.0	50.9		ug/Kg		102	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	45.6		ug/Kg		91	49 - 130
1,2-Dichlorobenzene	50.0	54.2		ug/Kg		108	64 - 130
1,3-Dichlorobenzene	50.0	53.2		ug/Kg		106	66 - 130
1,4-Dichlorobenzene	50.0	53.3		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	44.2		ug/Kg		88	34 - 143
1,1-Dichloroethane	50.0	50.7		ug/Kg		101	59 - 130
1,2-Dichloroethane	50.0	47.4		ug/Kg		95	62 - 130
1,1-Dichloroethene	50.0	52.6		ug/Kg		105	55 - 137
1,2-Dichloropropane	50.0	49.4		ug/Kg		99	64 - 130
1,3-Dichloropropane	50.0	50.1		ug/Kg		100	67 - 130
2,2-Dichloropropane	50.0	45.4		ug/Kg		91	51 - 132
1,1-Dichloropropene	50.0	49.3		ug/Kg		99	65 - 130
Ethylbenzene	50.0	52.9		ug/Kg		106	70 - 130
Ethylene Dibromide	50.0	51.2		ug/Kg		102	67 - 130
Ethyl methacrylate	50.0	50.1		ug/Kg		100	62 - 130
Hexachlorobutadiene	50.0	41.2		ug/Kg		82	62 - 133
2-Hexanone	200	183		ug/Kg		92	57 - 131
Isopropylbenzene	50.0	51.9		ug/Kg		104	70 - 130
Methylene bromide	50.0	46.3		ug/Kg		93	65 - 130
Methylene Chloride	50.0	51.0		ug/Kg		102	57 - 132
4-Methyl-2-pentanone (MIBK)	200	205		ug/Kg		102	58 - 130
Methyl tert-butyl ether	50.0	44.8		ug/Kg		90	63 - 130
m-Xylene & p-Xylene	50.0	53.2		ug/Kg		106	70 - 130
Naphthalene	50.0	52.0		ug/Kg		104	45 - 144
n-Butylbenzene	50.0	53.6		ug/Kg		107	66 - 130
N-Propylbenzene	50.0	56.0		ug/Kg		112	67 - 130
o-Chlorotoluene	50.0	55.5		ug/Kg		111	67 - 130
o-Xylene	50.0	53.1		ug/Kg		106	70 - 130
p-Chlorotoluene	50.0	57.5		ug/Kg		115	66 - 130
p-Isopropyltoluene	50.0	55.4		ug/Kg		111	68 - 130
sec-Butylbenzene	50.0	53.8		ug/Kg		108	67 - 130
Styrene	50.0	50.7		ug/Kg		101	68 - 130
tert-Butylbenzene	50.0	54.2		ug/Kg		108	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.0		ug/Kg		104	65 - 130
1,1,2,2-Tetrachloroethane	50.0	52.8		ug/Kg		106	60 - 131
Tetrachloroethene	50.0	48.6		ug/Kg		97	67 - 130
Toluene	50.0	53.7		ug/Kg		107	70 - 130
trans-1,2-Dichloroethene	50.0	54.5		ug/Kg		109	58 - 134
trans-1,3-Dichloropropene	50.0	48.8		ug/Kg		98	60 - 130
1,2,3-Trichlorobenzene	50.0	44.9		ug/Kg		90	58 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	48.2		ug/Kg		96	63 - 130
1,1,2-Trichloroethane	50.0	50.5		ug/Kg		101	65 - 130
Trichloroethene	50.0	49.9		ug/Kg		100	65 - 130
Trichlorofluoromethane	50.0	42.6		ug/Kg		85	61 - 136
1,2,3-Trichloropropane	50.0	52.1		ug/Kg		104	60 - 130
1,2,4-Trimethylbenzene	50.0	55.2		ug/Kg		110	66 - 130
1,3,5-Trimethylbenzene	50.0	55.2		ug/Kg		110	67 - 130
Vinyl acetate	100	117		ug/Kg		117	24 - 160
Vinyl chloride	50.0	55.1		ug/Kg		110	52 - 132
Xylenes, Total	100	106		ug/Kg		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*94*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/01/19 15:58*	*07/05/19 12:45*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2-Fluorophenol	*70*		*25 - 128*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Phenol-d5	*72*		*29 - 130*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2,4,6-Tribromophenol	*89*		*10 - 150*	*07/01/19 15:58*	*07/05/19 12:45*	*1*

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	ND	*	ug/Kg		1	10 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		27 - 127
2-Fluorophenol	69		25 - 128
Nitrobenzene-d5	69		15 - 136
Phenol-d5	72		29 - 130
Terphenyl-d14	92		24 - 146
2,4,6-Tribromophenol	91		10 - 150

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*
Nitrobenzene-d5	*78*		*15 - 136*
Terphenyl-d14	*121*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene			333	305		ug/Kg		92	59 - 120	10	30
Anthracene			333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene			333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene			333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene			333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*27 - 127*
Nitrobenzene-d5	*71*		*15 - 136*
Terphenyl-d14	*114*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE: 6/26/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOGGING CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS STET

~~UNIT COST 60592794 - 1.24.051~~ ~~NON-UNIT COST 60592794 - 1.24.050~~ STET

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062619-A	6/26/2019	0:00	Water	X					2			X		
	PD-8-SB-51-062619	6/26/2019	10:45	Soil	X			X	X	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-8-SB-62-062619	6/26/2019	13:15	Soil	X			X	X	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-172317 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Paul LeFleur

Dep: Wgt: 20.00 LBS SPECIAL: 0.00
DV: 0.00 HANDLING: 0.00
TOTAL: 0.00

Relinquished by: (Signature) Paul LeFleur / Paul LeFleur	Received by: Fedex:	Date: 6/26/2019	Time: 1700
Relinquished by: (Signature)	Received by:	Date:	Time:
Relinquished by: (Signature)	Received by:	Date: 06-27-19	Time: 921

Svcs: PRIORITY OVERNIGHT Master-4782 2877 1318
TRCK: 4782 2877 1373

Version: 10May17

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7/22/2019

572044, 572045

0.0°C IR8

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172317-1

Login Number: 172317
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172317-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	06-30-19 *
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172317-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 9:26:50 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172317-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172317-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-22-19.

Receipt
The samples were received on 6/27/2019 9:21 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-447082 and analytical batch 400-447049 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Ethyl methacrylate and trans-1,3-Dichloropropene. These analytes were biased high in the LCS and were not detected in the associated sample; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-062619-A (400-172317-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447251 recovered above the upper control limit for Hexachlorobenzene and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

Job ID: 400-172317-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-8-SB-51-062619 (400-172317-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The surrogate recovery for the blank associated with preparation batch 400-446440 and analytical batch 400-447351 was outside the upper control limits.

Method(s) 8270D LL: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-SB-51-062619 (400-172317-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172317-1	TB-PW-062619-A	Water	06/26/19 00:00	06/27/19 09:21	
400-172317-2	PD-8-SB-51-062619	Solid	06/26/19 10:45	06/27/19 09:21	
400-172317-3	PD-8-SB-62-062619	Solid	06/26/19 13:15	06/27/19 09:21	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A — Lab Sample ID: 400-172317-1

No Detections.

Client Sample ID: PD-8-SB-51-062619 — Lab Sample ID: 400-172317-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	250000		5400	660	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	20000		5400	730	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	58000		5400	2200	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	36000		5400	1000	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	82000		5400	970	ug/Kg	1000	☼	8260B	Total/NA
p-Isopropyltoluene	5300	J	5400	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	8000		5400	1000	ug/Kg	1000	☼	8260B	Total/NA
Toluene	4200	J	5400	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	140000		5400	890	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene - DL	410000		11000	2800	ug/Kg	2000	☼	8260B	Total/NA
o-Xylene - DL	11000		11000	2200	ug/Kg	2000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene - DL	410000		11000	2200	ug/Kg	2000	☼	8260B	Total/NA
Xylenes, Total - DL	430000		22000	4100	ug/Kg	2000	☼	8260B	Total/NA
1-Methylnaphthalene	16000		380	58	ug/Kg	50	☼	8270D LL	Total/NA
2-Methylnaphthalene	30000	B	380	58	ug/Kg	50	☼	8270D LL	Total/NA
Phenanthrene	890		150	23	ug/Kg	20	☼	8270D LL	Total/NA

Client Sample ID: PD-8-SB-62-062619 — Lab Sample ID: 400-172317-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140		4.9	0.66	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	63		4.9	0.60	ug/Kg	1	☼	8260B	Total/NA
Isopropylbenzene	4.3	J	4.9	0.67	ug/Kg	1	☼	8260B	Total/NA
m-Xylene & p-Xylene	100		4.9	1.3	ug/Kg	1	☼	8260B	Total/NA
Naphthalene	9.1		4.9	2.0	ug/Kg	1	☼	8260B	Total/NA
n-Butylbenzene	5.2		4.9	0.94	ug/Kg	1	☼	8260B	Total/NA
N-Propylbenzene	14		4.9	0.89	ug/Kg	1	☼	8260B	Total/NA
p-Isopropyltoluene	1.2	J	4.9	0.98	ug/Kg	1	☼	8260B	Total/NA
sec-Butylbenzene	2.3	J	4.9	0.93	ug/Kg	1	☼	8260B	Total/NA
Toluene	3.7	J	4.9	0.98	ug/Kg	1	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	50		4.9	0.98	ug/Kg	1	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	16		4.9	0.82	ug/Kg	1	☼	8260B	Total/NA
Xylenes, Total	100		9.8	1.9	ug/Kg	1	☼	8260B	Total/NA
1-Methylnaphthalene	10		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	16	B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A

Date Collected: 06/26/19 00:00
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/09/19 20:31	1
Acrolein	ND		20	10	ug/L			07/09/19 20:31	1
Acrylonitrile	ND		10	2.8	ug/L			07/09/19 20:31	1
Benzene	ND		1.0	0.38	ug/L			07/09/19 20:31	1
Bromobenzene	ND		1.0	0.54	ug/L			07/09/19 20:31	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/09/19 20:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Bromoform	ND		5.0	0.71	ug/L			07/09/19 20:31	1
Bromomethane	ND		1.0	0.98	ug/L			07/09/19 20:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/09/19 20:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Chloroethane	ND		1.0	0.76	ug/L			07/09/19 20:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/09/19 20:31	1
Chloroform	ND		1.0	0.60	ug/L			07/09/19 20:31	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/09/19 20:31	1
Chloromethane	ND		1.0	0.83	ug/L			07/09/19 20:31	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 20:31	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/09/19 20:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/09/19 20:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/09/19 20:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/09/19 20:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/09/19 20:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/09/19 20:31	1
2-Hexanone	ND		25	3.1	ug/L			07/09/19 20:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/09/19 20:31	1
Methylene bromide	ND		5.0	0.59	ug/L			07/09/19 20:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/09/19 20:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/09/19 20:31	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/09/19 20:31	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/09/19 20:31	1
Naphthalene	ND		1.0	1.0	ug/L			07/09/19 20:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/09/19 20:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/09/19 20:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/09/19 20:31	1
o-Xylene	ND		5.0	0.60	ug/L			07/09/19 20:31	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: TB-PW-062619-A
Date Collected: 06/26/19 00:00
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/09/19 20:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/09/19 20:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/09/19 20:31	1
Styrene	ND		1.0	1.0	ug/L			07/09/19 20:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/09/19 20:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/09/19 20:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/09/19 20:31	1
Toluene	ND		1.0	0.41	ug/L			07/09/19 20:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 20:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/09/19 20:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/09/19 20:31	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/09/19 20:31	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/09/19 20:31	1
Trichloroethene	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/09/19 20:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/09/19 20:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/09/19 20:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/09/19 20:31	1
Vinyl acetate	ND		25	2.0	ug/L			07/09/19 20:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/09/19 20:31	1
Xylenes, Total	ND		10	1.6	ug/L			07/09/19 20:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/09/19 20:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/09/19 20:31*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/09/19 20:31*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*07/09/19 20:31*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619

Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2

Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		27000	14000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Acrolein	ND		54000	30000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Acrylonitrile	ND		22000	8600	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Benzene	ND		5400	720	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromobenzene	ND		5400	1400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromochloromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromodichloromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromoform	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Bromomethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2-Butanone (MEK)	ND		27000	6500	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Carbon disulfide	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Carbon tetrachloride	ND		5400	1800	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chlorobenzene	ND		5400	560	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chloroethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2-Chloroethyl vinyl ether	ND		11000	5400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chloroform	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1-Chlorohexane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Chloromethane	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
cis-1,2-Dichloroethene	ND		5400	820	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
cis-1,3-Dichloropropene	ND		5400	1300	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Dibromochloromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dibromo-3-Chloropropane	ND	*	5400	3600	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dichlorobenzene	ND		5400	760	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,3-Dichlorobenzene	ND		5400	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,4-Dichlorobenzene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Dichlorodifluoromethane	ND		5400	1400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1-Dichloroethane	ND		5400	890	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dichloroethane	ND		5400	880	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1-Dichloroethene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2-Dichloropropane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,3-Dichloropropane	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2,2-Dichloropropane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1-Dichloropropene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Ethylbenzene	**250000**		5400	660	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Ethylene Dibromide	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Ethyl methacrylate	ND	*	5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Hexachlorobutadiene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
2-Hexanone	ND	*	27000	5400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Isopropylbenzene	**20000**		5400	730	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Methylene bromide	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Methylene Chloride	ND		16000	11000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
4-Methyl-2-pentanone (MIBK)	ND	*	27000	5400	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Methyl tert-butyl ether	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Naphthalene	**58000**		5400	2200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
n-Butylbenzene	**36000**		5400	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
N-Propylbenzene	**82000**		5400	970	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
o-Chlorotoluene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
p-Chlorotoluene	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
p-Isopropyltoluene	**5300**	**J**	5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	**8000**		5400	1000	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Styrene	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
tert-Butylbenzene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,1,2-Tetrachloroethane	ND	*	5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,2,2-Tetrachloroethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Tetrachloroethene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Toluene	**4200**	**J**	5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
trans-1,2-Dichloroethene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
trans-1,3-Dichloropropene	ND	*	5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2,3-Trichlorobenzene	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2,4-Trichlorobenzene	ND		5400	2200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,1-Trichloroethane	ND		5400	1200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,1,2-Trichloroethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Trichloroethene	ND		5400	1100	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Trichlorofluoromethane	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,2,3-Trichloropropane	ND		5400	3200	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
1,3,5-Trimethylbenzene	**140000**		5400	890	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Vinyl acetate	ND		27000	9800	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000
Vinyl chloride	ND		5400	2700	ug/Kg	☼	07/08/19 08:30	07/08/19 20:29	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isobutyl alcohol	*510000*	*	*ug/Kg*	☼	*4.59*	*78-83-1*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
n-Heptane	*18000*		*ug/Kg*	☼	*4.85*	*142-82-5*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Methylcyclohexane	*23000*		*ug/Kg*	☼	*5.27*	*108-87-2*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*18000*	*T J*	*ug/Kg*	☼	*5.51*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*68000*	*T J*	*ug/Kg*	☼	*5.62*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Heptane, 3-methyl-	*41000*	*T J N*	*ug/Kg*	☼	*5.72*	*589-81-1*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*35000*	*T J*	*ug/Kg*	☼	*6.23*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*30000*	*T J*	*ug/Kg*	☼	*6.43*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*64000*	*T J*	*ug/Kg*	☼	*6.73*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*49000*	*T J*	*ug/Kg*	☼	*6.81*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
3-Ethyltoluene	*150000*		*ug/Kg*	☼	*8.09*	*620-14-4*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
2-Ethyltoluene	*71000*		*ug/Kg*	☼	*8.30*	*611-14-3*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
1,2,3-Trimethylbenzene	*91000*		*ug/Kg*	☼	*8.77*	*526-73-8*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
p-Diethylbenzene	*82000*		*ug/Kg*	☼	*8.97*	*105-05-5*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*42000*	*T J N*	*ug/Kg*	☼	*9.23*	*874-41-9*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 2-ethyl-1,4-dimethyl-	*34000*	*T J N*	*ug/Kg*	☼	*9.29*	*1758-88-9*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Unknown	*36000*	*T J*	*ug/Kg*	☼	*9.41*		*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1-methyl-2-(1-methylethyl)-	*19000*	*T J N*	*ug/Kg*	☼	*9.58*	*527-84-4*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1,2,3,4-tetramethyl-	*22000*	*T J N*	*ug/Kg*	☼	*9.71*	*488-23-3*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Benzene, 1-methyl-4-(2-propenyl)-	*49000*	*T J N*	*ug/Kg*	☼	*10.12*	*3333-13-9*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
2-Methylnaphthalene	*60000*		*ug/Kg*	☼	*11.72*	*91-57-6*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
1-Methylnaphthalene	*30000*		*ug/Kg*	☼	*11.91*	*90-12-0*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Dibromofluoromethane	*93*		*79 - 123*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/08/19 08:30*	*07/08/19 20:29*	*1000*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619

Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2

Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	410000		11000	2800	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000
o-Xylene	11000		11000	2200	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000
1,2,4-Trimethylbenzene	410000		11000	2200	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000
Xylenes, Total	430000		22000	4100	ug/Kg	☼	07/10/19 08:59	07/10/19 12:38	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*72 - 122*	*07/10/19 08:59*	*07/10/19 12:38*	*2000*
Dibromofluoromethane	*90*		*79 - 123*	*07/10/19 08:59*	*07/10/19 12:38*	*2000*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/10/19 08:59*	*07/10/19 12:38*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Acenaphthylene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Anthracene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[a]anthracene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[a]pyrene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[b]fluoranthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[g,h,i]perylene	ND		150	46	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Benzo[k]fluoranthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Chrysene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Dibenz(a,h)anthracene	ND		150	46	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Fluoranthene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Fluorene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Indeno[1,2,3-cd]pyrene	ND		150	46	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
1-Methylnaphthalene	16000		380	58	ug/Kg	☼	07/01/19 15:58	07/17/19 15:34	50
2-Methylnaphthalene	30000	B	380	58	ug/Kg	☼	07/01/19 15:58	07/17/19 15:34	50
Phenanthrene	890		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20
Pyrene	ND		150	23	ug/Kg	☼	07/01/19 15:58	07/12/19 19:03	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*27 - 127*	*07/01/19 15:58*	*07/12/19 19:03*	*20*
Nitrobenzene-d5	*650*	** X*	*15 - 136*	*07/01/19 15:58*	*07/12/19 19:03*	*20*
Terphenyl-d14	*87*		*24 - 146*	*07/01/19 15:58*	*07/12/19 19:03*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		1900	250	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Benzenethiol	ND	*	1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Benzoic acid	ND		5700	2000	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Benzyl alcohol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Bis(2-chloroethoxy)methane	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Bis(2-chloroethyl)ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
bis (2-chloroisopropyl) ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Bis(2-ethylhexyl) phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Bromophenyl phenyl ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Butyl benzyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Chloroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Chloro-3-methylphenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Chloronaphthalene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5

Client Sample ID: PD-8-SB-51-062619
Lab Sample ID: 400-172317-2
Date Collected: 06/26/19 10:45
Matrix: Solid
Date Received: 06/27/19 09:21
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Chlorophenyl phenyl ether	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Dibenz[a,h]acridine	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Dibenzofuran	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
3,3'-Dichlorobenzidine	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dichlorophenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Diethyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dimethylphenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Dimethyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Di-n-butyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4,6-Dinitro-ortho-cresol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dinitrophenol	ND		5700	1700	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4-Dinitrotoluene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,6-Dinitrotoluene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Di-n-octyl phthalate	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
1,4-Dioxane	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Hexachlorobenzene	ND		1900	580	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Hexachlorocyclopentadiene	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Hexachloroethane	ND		1900	580	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Indene	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Isophorone	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Methylphenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
3 & 4 Methylphenol	ND		3800	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Nitroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
3-Nitroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Nitroaniline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Nitrobenzene	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2-Nitrophenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
4-Nitrophenol	ND		1900	640	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
N-Nitrosodimethylamine	ND		1900	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
N-Nitrosodi-n-propylamine	ND		1900	640	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
N-Nitrosodiphenylamine	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Pentachlorophenol	ND		3800	380	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Phenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Pyridine	ND		1900	870	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
Quinoline	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4,5-Trichlorophenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5
2,4,6-Trichlorophenol	ND		1900	190	ug/Kg	☼	07/01/19 15:58	07/09/19 20:28	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*43000*	*T J N*	*ug/Kg*	☼	*4.55*	*100-41-4*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
p-Xylene	*62000*	*T J N*	*ug/Kg*	☼	*4.62*	*106-42-3*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Nonane	*24000*	*T J N*	*ug/Kg*	☼	*4.79*	*111-84-2*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Unknown	*27000*	*T J*	*ug/Kg*	☼	*5.21*		*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1,3,5-trimethyl-	*31000*	*T J N*	*ug/Kg*	☼	*5.24*	*108-67-8*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1-ethyl-2-methyl-	*18000*	*T J N*	*ug/Kg*	☼	*5.30*	*611-14-3*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Decane	*20000*	*T J N*	*ug/Kg*	☼	*5.37*	*124-18-5*	*07/01/19 15:58*	*07/09/19 20:28*	*5*
Benzene, 1,3,5-trimethyl-	*51000*	*T J N*	*ug/Kg*	☼	*5.39*	*108-67-8*	*07/01/19 15:58*	*07/09/19 20:28*	*5*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-51-062619
Date Collected: 06/26/19 10:45
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-2
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1,2,3-trimethyl-	29000	T J N	ug/Kg	☼	5.54	526-73-8	07/01/19 15:58	07/09/19 20:28	5
Indane	15000	T J N	ug/Kg	☼	5.62	496-11-7	07/01/19 15:58	07/09/19 20:28	5
Benzene, 1-methyl-3-propyl-	18000	T J N	ug/Kg	☼	5.66	1074-43-7	07/01/19 15:58	07/09/19 20:28	5
Benzene, 1-ethyl-3,5-dimethyl-	35000	T J N	ug/Kg	☼	5.69	934-74-7	07/01/19 15:58	07/09/19 20:28	5
Benzene, 1-methyl-2-(1-methylethyl)-	15000	T J N	ug/Kg	☼	5.80	527-84-4	07/01/19 15:58	07/09/19 20:28	5
Benzene, 4-ethyl-1,2-dimethyl-	27000	T J N	ug/Kg	☼	5.83	934-80-5	07/01/19 15:58	07/09/19 20:28	5
Indan, 1-methyl-	15000	T J N	ug/Kg	☼	5.87	767-58-8	07/01/19 15:58	07/09/19 20:28	5
Benzene, 1,2,4,5-tetramethyl-	22000	T J N	ug/Kg	☼	6.00	95-93-2	07/01/19 15:58	07/09/19 20:28	5
Unknown	16000	T J	ug/Kg	☼	6.06		07/01/19 15:58	07/09/19 20:28	5
Indan, 1-methyl-	14000	T J N	ug/Kg	☼	6.11	767-58-8	07/01/19 15:58	07/09/19 20:28	5
Benzene, 2-butenyl-	38000	T J N	ug/Kg	☼	6.16	1560-06-1	07/01/19 15:58	07/09/19 20:28	5
Unknown	15000	T J	ug/Kg	☼	6.22		07/01/19 15:58	07/09/19 20:28	5
Dodecane	35000	T J N	ug/Kg	☼	6.27	112-40-3	07/01/19 15:58	07/09/19 20:28	5
Unknown	19000	T J	ug/Kg	☼	6.56		07/01/19 15:58	07/09/19 20:28	5
Tridecane	22000	T J N	ug/Kg	☼	6.66	629-50-5	07/01/19 15:58	07/09/19 20:28	5
Naphthalene, 1-methyl-	24000	T J N	ug/Kg	☼	6.80	90-12-0	07/01/19 15:58	07/09/19 20:28	5
Unknown	17000	T J	ug/Kg	☼	6.95		07/01/19 15:58	07/09/19 20:28	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	82		27 - 127	07/01/19 15:58	07/09/19 20:28	5
2-Fluorophenol	21	X	25 - 128	07/01/19 15:58	07/09/19 20:28	5
Nitrobenzene-d5	0	X	15 - 136	07/01/19 15:58	07/09/19 20:28	5
Phenol-d5	148	X	29 - 130	07/01/19 15:58	07/09/19 20:28	5
Terphenyl-d14	77		24 - 146	07/01/19 15:58	07/09/19 20:28	5
2,4,6-Tribromophenol	119		10 - 150	07/01/19 15:58	07/09/19 20:28	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.01	0.01	%			07/01/19 11:06	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619

Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3

Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Acrolein	ND		49	28	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Acrylonitrile	ND		20	7.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Benzene	**140**		4.9	0.66	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromobenzene	ND		4.9	1.3	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromochloromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromodichloromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromoform	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Bromomethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2-Butanone (MEK)	ND		25	5.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Carbon disulfide	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Carbon tetrachloride	ND		4.9	1.7	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chlorobenzene	ND		4.9	0.51	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2-Chloroethyl vinyl ether	ND		9.8	4.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chloroform	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1-Chlorohexane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Chloromethane	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
cis-1,2-Dichloroethene	ND		4.9	0.75	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
cis-1,3-Dichloropropene	ND		4.9	1.2	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Dibromochloromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dibromo-3-Chloropropane	ND		4.9	3.2	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dichlorobenzene	ND		4.9	0.70	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,3-Dichlorobenzene	ND		4.9	0.93	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,4-Dichlorobenzene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Dichlorodifluoromethane	ND		4.9	1.3	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1-Dichloroethane	ND		4.9	0.82	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dichloroethane	ND		4.9	0.81	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1-Dichloroethene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2-Dichloropropane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,3-Dichloropropane	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2,2-Dichloropropane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1-Dichloropropene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Ethylbenzene	**63**		4.9	0.60	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Ethylene Dibromide	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Ethyl methacrylate	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Hexachlorobutadiene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
2-Hexanone	ND		25	4.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Isopropylbenzene	**4.3**	**J**	4.9	0.67	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Methylene bromide	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Methylene Chloride	ND		15	9.8	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	4.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Methyl tert-butyl ether	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
m-Xylene & p-Xylene	**100**		4.9	1.3	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Naphthalene	**9.1**		4.9	2.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
n-Butylbenzene	**5.2**		4.9	0.94	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
N-Propylbenzene	**14**		4.9	0.89	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
o-Chlorotoluene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
o-Xylene	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619
Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3
Matrix: Solid
Percent Solids: 79.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		4.9	0.96	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
p-Isopropyltoluene	**1.2**	**J**	4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
sec-Butylbenzene	**2.3**	**J**	4.9	0.93	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Styrene	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
tert-Butylbenzene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,1,2-Tetrachloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,2,2-Tetrachloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Tetrachloroethene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Toluene	**3.7**	**J**	4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
trans-1,2-Dichloroethene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
trans-1,3-Dichloropropene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,3-Trichlorobenzene	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,4-Trichlorobenzene	ND		4.9	2.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,1-Trichloroethane	ND		4.9	1.1	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,1,2-Trichloroethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Trichloroethene	ND		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Trichlorofluoromethane	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,3-Trichloropropane	ND		4.9	3.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,2,4-Trimethylbenzene	**50**		4.9	0.98	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
1,3,5-Trimethylbenzene	**16**		4.9	0.82	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Vinyl acetate	ND		25	9.0	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Vinyl chloride	ND		4.9	2.5	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1
Xylenes, Total	**100**		9.8	1.9	ug/Kg	☼	07/10/19 08:59	07/10/19 11:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*81*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane	*100*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Isopropyl alcohol	*71*	*J*	*ug/Kg*	☼	*2.42*	*67-63-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane, 2-methyl-	*310*	*T J N*	*ug/Kg*	☼	*2.61*	*107-83-5*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane, 3-methyl-	*160*	*T J N*	*ug/Kg*	☼	*2.77*	*96-14-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Hexane	*370*	*E*	*ug/Kg*	☼	*2.93*	*110-54-3*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*27*	*T J*	*ug/Kg*	☼	*3.20*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Pentane, 2,4-dimethyl-	*50*	*T J N*	*ug/Kg*	☼	*3.25*	*108-08-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, methyl-	*150*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclohexane	*78*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Hexane, 3-methyl-	*150*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Isooctane	*94*		*ug/Kg*	☼	*3.94*	*540-84-1*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, 1,2-dimethyl-, trans-	*39*	*T J N*	*ug/Kg*	☼	*4.01*	*822-50-4*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
n-Heptane	*220*		*ug/Kg*	☼	*4.05*	*142-82-5*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Methylcyclohexane	*140*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.alpha.)-	*35*	*T J N*	*ug/Kg*	☼	*4.58*	*16883-48-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*72*	*T J*	*ug/Kg*	☼	*4.68*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*84*	*T J*	*ug/Kg*	☼	*4.77*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*120*	*T J*	*ug/Kg*	☼	*4.90*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*34*	*T J*	*ug/Kg*	☼	*5.01*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*37*	*T J*	*ug/Kg*	☼	*5.39*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Heptane, 2,5-dimethyl-	*37*	*T J N*	*ug/Kg*	☼	*5.59*	*2216-30-0*	*07/10/19 08:59*	*07/10/19 11:02*	*1*
Unknown	*80*	*T J*	*ug/Kg*	☼	*5.89*		*07/10/19 08:59*	*07/10/19 11:02*	*1*
Octane, 3-methyl-	*50*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/10/19 08:59*	*07/10/19 11:02*	*1*

Client Sample ID: PD-8-SB-62-062619
Lab Sample ID: 400-172317-3
Date Collected: 06/26/19 13:15
Matrix: Solid
Date Received: 06/27/19 09:21
Percent Solids: 79.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 122	07/10/19 08:59	07/10/19 11:02	1
Dibromofluoromethane	92		79 - 123	07/10/19 08:59	07/10/19 11:02	1
Toluene-d8 (Surr)	100		80 - 120	07/10/19 08:59	07/10/19 11:02	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/12/19 19:19	1
Benzo[a]anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[a]pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[b]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[g,h,i]perylene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Chrysene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/12/19 19:19	1
Fluorene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Indeno[1,2,3-cd]pyrene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
1-Methylnaphthalene	**10**		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
2-Methylnaphthalene	**16**	**B**	8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1
Phenanthrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/12/19 19:19	1
Pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/10/19 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/01/19 15:58	07/10/19 19:19	1
Nitrobenzene-d5	67		15 - 136	07/01/19 15:58	07/10/19 19:19	1
Terphenyl-d14	96		24 - 146	07/01/19 15:58	07/10/19 19:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	54	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Benzenethiol	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Bis(2-ethylhexyl) phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Dibenz[a,h]acridine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
3,3'-Dichlorobenzidine	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Client Sample ID: PD-8-SB-62-062619
Date Collected: 06/26/19 13:15
Date Received: 06/27/19 09:21

Lab Sample ID: 400-172317-3
Matrix: Solid
Percent Solids: 79.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Indene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Isophorone	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
3 & 4 Methylphenol	ND		820	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Nitrobenzene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
N-Nitrosodimethylamine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Phenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Pyridine	ND		410	190	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
Quinoline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 18:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
2-Fluorophenol	*59*		*25 - 128*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Nitrobenzene-d5	*56*		*15 - 136*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Phenol-d5	*59*		*29 - 130*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
Terphenyl-d14	*80*		*24 - 146*	*07/01/19 15:58*	*07/05/19 18:28*	*1*
2,4,6-Tribromophenol	*76*		*10 - 150*	*07/01/19 15:58*	*07/05/19 18:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.5**		0.01	0.01	%			07/01/19 11:06	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172317-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172317-2	PD-8-SB-51-062619	108	93	102
400-172317-2 - DL	PD-8-SB-51-062619	103	90	100
400-172317-3	PD-8-SB-62-062619	104	92	100
LCS 400-447082/1-A	Lab Control Sample	100	99	101
LCS 400-447380/1-A	Lab Control Sample	103	94	100
MB 400-447082/2-A	Method Blank	101	99	102
MB 400-447380/2-A	Method Blank	97	91	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172317-1	TB-PW-062619-A	105	99	92
LCS 400-447208/1002	Lab Control Sample	105	100	90
MB 400-447208/5	Method Blank	107	99	98

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172317-2	PD-8-SB-51-062619	82	21 X	0 X	148 X	77	119
400-172317-3	PD-8-SB-62-062619	67	59	56	59	80	76
LCS 400-446440/4-A	Lab Control Sample	80	69	69	72	92	91
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172317-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172317-2	PD-8-SB-51-062619	117	650 * X	87
400-172317-3	PD-8-SB-62-062619	74	67	96
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172317-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-062619-A
Lab Sample ID: 400-172317-1
Date Collected: 06/26/19 00:00
Matrix: Water
Date Received: 06/27/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447208	07/09/19 20:31	BSW	TAL PEN

Client Sample ID: PD-8-SB-51-062619
Lab Sample ID: 400-172317-2
Date Collected: 06/26/19 10:45
Matrix: Solid
Date Received: 06/27/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446368	07/01/19 11:06	KNT	TAL PEN

Client Sample ID: PD-8-SB-51-062619
Lab Sample ID: 400-172317-2
Date Collected: 06/26/19 10:45
Matrix: Solid
Date Received: 06/27/19 09:21
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.462 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447049	07/08/19 20:29	SAB	TAL PEN
Total/NA	Prep	5035	DL		6.462 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	447355	07/10/19 12:38	BSW	TAL PEN
Total/NA	Prep	3546			15.16 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	447251	07/09/19 20:28	VC1	TAL PEN
Total/NA	Prep	3546			15.16 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		50			448402	07/17/19 15:34	KJA	TAL PEN
Total/NA	Prep	3546			15.16 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		20			447502	07/12/19 19:03	KJA	TAL PEN

Client Sample ID: PD-8-SB-62-062619
Lab Sample ID: 400-172317-3
Date Collected: 06/26/19 13:15
Matrix: Solid
Date Received: 06/27/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446368	07/01/19 11:06	KNT	TAL PEN

Client Sample ID: PD-8-SB-62-062619
Lab Sample ID: 400-172317-3
Date Collected: 06/26/19 13:15
Matrix: Solid
Date Received: 06/27/19 09:21
Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.39 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447355	07/10/19 11:02	BSW	TAL PEN
Total/NA	Prep	3546			15.13 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 18:28	VC1	TAL PEN
Total/NA	Prep	3546			15.13 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 19:19	KJA	TAL PEN
Total/NA	Prep	3546			15.13 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 19:19	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-446440/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447082/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 11:01	SAB	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447208/5
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447208	07/09/19 14:24	BSW	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447380/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447355	07/10/19 10:38	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/4-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:06	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-446440/6-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-447082/1-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447082	07/08/19 08:30	SAB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447049	07/08/19 09:56	SAB	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-447208/1002

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447208	07/09/19 18:00	BSW	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-447380/1-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447380	07/10/19 08:59	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447355	07/10/19 09:39	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-446440/3-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-446440/5-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

GC/MS VOA

Analysis Batch: 447049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8260B	447082
MB 400-447082/2-A	Method Blank	Total/NA	Solid	8260B	447082
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	8260B	447082

Prep Batch: 447082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	5035	
MB 400-447082/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447082/1-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 447208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-1	TB-PW-062619-A	Total/NA	Water	8260B	
MB 400-447208/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447208/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2 - DL	PD-8-SB-51-062619	Total/NA	Solid	8260B	447380
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8260B	447380
MB 400-447380/2-A	Method Blank	Total/NA	Solid	8260B	447380
LCS 400-447380/1-A	Lab Control Sample	Total/NA	Solid	8260B	447380

Prep Batch: 447380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2 - DL	PD-8-SB-51-062619	Total/NA	Solid	5035	
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	5035	
MB 400-447380/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447380/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	3546	
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

GC/MS Semi VOA

Analysis Batch: 447251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8270D	446440

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8270D LL	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8270D LL	446440
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

Analysis Batch: 448402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	8270D LL	446440

General Chemistry

Analysis Batch: 446368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172317-2	PD-8-SB-51-062619	Total/NA	Solid	Moisture	
400-172317-3	PD-8-SB-62-062619	Total/NA	Solid	Moisture	

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Acrolein	ND		50	28	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Benzene	ND		5.0	0.67	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromoform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloroform	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
2-Hexanone	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methylene Chloride	ND		15	10	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447082/2-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Styrene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Toluene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/08/19 08:30	07/08/19 11:01	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/08/19 08:30	07/08/19 11:01	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/08/19 08:30*	*07/08/19 11:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*72 - 122*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Dibromofluoromethane	*99*		*79 - 123*	*07/08/19 08:30*	*07/08/19 11:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/08/19 08:30*	*07/08/19 11:01*	*1*

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	234		ug/Kg		117	48 - 160
Acrolein	500	701		ug/Kg		140	40 - 150
Acrylonitrile	500	619		ug/Kg		124	60 - 130
Benzene	50.0	55.3		ug/Kg		111	65 - 130
Bromobenzene	50.0	56.2		ug/Kg		112	65 - 130
Bromochloromethane	50.0	58.2		ug/Kg		116	65 - 130
Bromodichloromethane	50.0	57.3		ug/Kg		115	61 - 130
Bromoform	50.0	67.9		ug/Kg		136	52 - 136
Bromomethane	50.0	44.4		ug/Kg		89	12 - 160
2-Butanone (MEK)	200	225		ug/Kg		112	55 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.3		ug/Kg		109	46 - 141
Carbon tetrachloride	50.0	64.9		ug/Kg		130	60 - 130
Chlorobenzene	50.0	57.9		ug/Kg		116	70 - 130
Chloroethane	50.0	56.1		ug/Kg		112	55 - 134
2-Chloroethyl vinyl ether	50.0	50.4		ug/Kg		101	10 - 158
Chloroform	50.0	56.5		ug/Kg		113	62 - 130
1-Chlorohexane	50.0	61.9		ug/Kg		124	69 - 130
Chloromethane	50.0	56.0		ug/Kg		112	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	60.9		ug/Kg		122	61 - 130
Dibromochloromethane	50.0	65.8		ug/Kg		132	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	65.5	*	ug/Kg		131	49 - 130
1,2-Dichlorobenzene	50.0	62.0		ug/Kg		124	64 - 130
1,3-Dichlorobenzene	50.0	59.9		ug/Kg		120	66 - 130
1,4-Dichlorobenzene	50.0	59.9		ug/Kg		120	65 - 130
Dichlorodifluoromethane	50.0	46.3		ug/Kg		93	34 - 143
1,1-Dichloroethane	50.0	58.3		ug/Kg		117	59 - 130
1,2-Dichloroethane	50.0	57.2		ug/Kg		114	62 - 130
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	55 - 137
1,2-Dichloropropane	50.0	58.5		ug/Kg		117	64 - 130
1,3-Dichloropropane	50.0	58.9		ug/Kg		118	67 - 130
2,2-Dichloropropane	50.0	59.5		ug/Kg		119	51 - 132
1,1-Dichloropropene	50.0	56.6		ug/Kg		113	65 - 130
Ethylbenzene	50.0	59.9		ug/Kg		120	70 - 130
Ethylene Dibromide	50.0	58.7		ug/Kg		117	67 - 130
Ethyl methacrylate	50.0	67.0	*	ug/Kg		134	62 - 130
Hexachlorobutadiene	50.0	56.2		ug/Kg		112	62 - 133
2-Hexanone	200	264	*	ug/Kg		132	57 - 131
Isopropylbenzene	50.0	58.5		ug/Kg		117	70 - 130
Methylene bromide	50.0	53.2		ug/Kg		106	65 - 130
Methylene Chloride	50.0	53.5		ug/Kg		107	57 - 132
4-Methyl-2-pentanone (MIBK)	200	262	*	ug/Kg		131	58 - 130
Methyl tert-butyl ether	50.0	52.8		ug/Kg		106	63 - 130
m-Xylene & p-Xylene	50.0	58.9		ug/Kg		118	70 - 130
Naphthalene	50.0	60.9		ug/Kg		122	45 - 144
n-Butylbenzene	50.0	60.9		ug/Kg		122	66 - 130
N-Propylbenzene	50.0	61.0		ug/Kg		122	67 - 130
o-Chlorotoluene	50.0	58.5		ug/Kg		117	67 - 130
o-Xylene	50.0	58.9		ug/Kg		118	70 - 130
p-Chlorotoluene	50.0	59.6		ug/Kg		119	66 - 130
p-Isopropyltoluene	50.0	60.6		ug/Kg		121	68 - 130
sec-Butylbenzene	50.0	58.9		ug/Kg		118	67 - 130
Styrene	50.0	55.6		ug/Kg		111	68 - 130
tert-Butylbenzene	50.0	58.6		ug/Kg		117	67 - 130
1,1,1,2-Tetrachloroethane	50.0	70.1	*	ug/Kg		140	65 - 130
1,1,2,2-Tetrachloroethane	50.0	59.9		ug/Kg		120	60 - 131
Tetrachloroethene	50.0	58.8		ug/Kg		118	67 - 130
Toluene	50.0	58.1		ug/Kg		116	70 - 130
trans-1,2-Dichloroethene	50.0	55.2		ug/Kg		110	58 - 134

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447082/1-A
Matrix: Solid
Analysis Batch: 447049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	67.1	*	ug/Kg		134	60 - 130
1,2,3-Trichlorobenzene	50.0	57.3		ug/Kg		115	58 - 135
1,2,4-Trichlorobenzene	50.0	57.5		ug/Kg		115	56 - 138
1,1,1-Trichloroethane	50.0	58.6		ug/Kg		117	63 - 130
1,1,2-Trichloroethane	50.0	58.9		ug/Kg		118	65 - 130
Trichloroethene	50.0	56.9		ug/Kg		114	65 - 130
Trichlorofluoromethane	50.0	50.2		ug/Kg		100	61 - 136
1,2,3-Trichloropropane	50.0	56.7		ug/Kg		113	60 - 130
1,2,4-Trimethylbenzene	50.0	57.9		ug/Kg		116	66 - 130
1,3,5-Trimethylbenzene	50.0	58.1		ug/Kg		116	67 - 130
Vinyl acetate	100	122		ug/Kg		122	24 - 160
Vinyl chloride	50.0	55.0		ug/Kg		110	52 - 132
Xylenes, Total	100	118		ug/Kg		118	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-447208/5
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/09/19 14:24	1
Acrolein	ND		20	10	ug/L			07/09/19 14:24	1
Acrylonitrile	ND		10	2.8	ug/L			07/09/19 14:24	1
Benzene	ND		1.0	0.38	ug/L			07/09/19 14:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/09/19 14:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/09/19 14:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Bromoform	ND		5.0	0.71	ug/L			07/09/19 14:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/09/19 14:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/09/19 14:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/09/19 14:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/09/19 14:24	1
Chloroform	ND		1.0	0.60	ug/L			07/09/19 14:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/09/19 14:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/09/19 14:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 14:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/09/19 14:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/09/19 14:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447208/5
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/09/19 14:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/09/19 14:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/09/19 14:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/09/19 14:24	1
2-Hexanone	ND		25	3.1	ug/L			07/09/19 14:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/09/19 14:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/09/19 14:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/09/19 14:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/09/19 14:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/09/19 14:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/09/19 14:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/09/19 14:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/09/19 14:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/09/19 14:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/09/19 14:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/09/19 14:24	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/09/19 14:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/09/19 14:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/09/19 14:24	1
Styrene	ND		1.0	1.0	ug/L			07/09/19 14:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/09/19 14:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/09/19 14:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/09/19 14:24	1
Toluene	ND		1.0	0.41	ug/L			07/09/19 14:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/09/19 14:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/09/19 14:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/09/19 14:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/09/19 14:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/09/19 14:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/09/19 14:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/09/19 14:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/09/19 14:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/09/19 14:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/09/19 14:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/09/19 14:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/09/19 14:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447208/5
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/09/19 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/09/19 14:24	1
Dibromofluoromethane	99		81 - 121		07/09/19 14:24	1
Toluene-d8 (Surr)	98		80 - 120		07/09/19 14:24	1

Lab Sample ID: LCS 400-447208/1002
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	215		ug/L		108	43 - 160
Acrolein	500	603		ug/L		121	38 - 160
Acrylonitrile	500	510		ug/L		102	64 - 142
Benzene	50.0	53.5		ug/L		107	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	49.3		ug/L		99	70 - 130
Bromodichloromethane	50.0	50.4		ug/L		101	67 - 133
Bromoform	50.0	46.7		ug/L		93	57 - 140
Bromomethane	50.0	31.7		ug/L		63	10 - 160
2-Butanone (MEK)	200	248		ug/L		124	61 - 145
Carbon disulfide	50.0	45.8		ug/L		92	61 - 137
Carbon tetrachloride	50.0	50.4		ug/L		101	61 - 137
Chlorobenzene	50.0	50.3		ug/L		101	70 - 130
Chloroethane	50.0	47.0		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	29.1		ug/L		58	10 - 160
Chloroform	50.0	53.2		ug/L		106	69 - 130
1-Chlorohexane	50.0	46.7		ug/L		93	69 - 130
Chloromethane	50.0	48.9		ug/L		98	58 - 137
cis-1,2-Dichloroethene	50.0	51.4		ug/L		103	68 - 130
cis-1,3-Dichloropropene	50.0	51.9		ug/L		104	69 - 132
Dibromochloromethane	50.0	49.3		ug/L		99	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	46.8		ug/L		94	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.0		ug/L		98	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	50.0	60.3		ug/L		121	41 - 146
1,1-Dichloroethane	50.0	51.7		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	54.2		ug/L		108	69 - 130
1,1-Dichloroethene	50.0	49.7		ug/L		99	63 - 134
1,2-Dichloropropane	50.0	52.6		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	49.3		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	48.2		ug/L		96	52 - 135
1,1-Dichloropropene	50.0	51.8		ug/L		104	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethylene Dibromide	50.0	52.6		ug/L		105	70 - 130
Ethyl methacrylate	50.0	47.3		ug/L		95	68 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447208/1002
Matrix: Water
Analysis Batch: 447208

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	57.6		ug/L		115	53 - 140
2-Hexanone	200	204		ug/L		102	65 - 137
Isopropylbenzene	50.0	47.8		ug/L		96	70 - 130
Methylene bromide	50.0	50.8		ug/L		102	70 - 130
Methylene Chloride	50.0	54.2		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	196		ug/L		98	69 - 138
Methyl tert-butyl ether	50.0	50.9		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	48.0		ug/L		96	70 - 130
Naphthalene	50.0	46.3		ug/L		93	47 - 149
n-Butylbenzene	50.0	49.2		ug/L		98	67 - 130
N-Propylbenzene	50.0	50.8		ug/L		102	70 - 130
o-Chlorotoluene	50.0	52.3		ug/L		105	70 - 130
o-Xylene	50.0	48.1		ug/L		96	70 - 130
p-Chlorotoluene	50.0	50.8		ug/L		102	70 - 130
p-Isopropyltoluene	50.0	51.1		ug/L		102	65 - 130
sec-Butylbenzene	50.0	50.3		ug/L		101	66 - 130
Styrene	50.0	45.9		ug/L		92	70 - 130
tert-Butylbenzene	50.0	50.3		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.4		ug/L		97	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.5		ug/L		111	70 - 131
Tetrachloroethene	50.0	44.9		ug/L		90	65 - 130
Toluene	50.0	48.2		ug/L		96	70 - 130
trans-1,2-Dichloroethene	50.0	51.3		ug/L		103	70 - 130
trans-1,3-Dichloropropene	50.0	46.1		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	50.5		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.7		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	50.7		ug/L		101	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	51.6		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	52.9		ug/L		106	65 - 138
1,2,3-Trichloropropane	50.0	54.3		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	52.5		ug/L		105	69 - 130
Vinyl acetate	100	101		ug/L		101	26 - 160
Vinyl chloride	50.0	55.4		ug/L		111	59 - 136
Xylenes, Total	100	96.2		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/10/19 08:59	07/10/19 10:38	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		50	28	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Benzene	ND		5.0	0.67	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromoform	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chloroform	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
2-Hexanone	ND		25	5.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Methylene Chloride	ND		15	10	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/10/19 08:59	07/10/19 10:38	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447380/2-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Styrene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Toluene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/10/19 08:59	07/10/19 10:38	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/10/19 08:59	07/10/19 10:38	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/10/19 08:59*	*07/10/19 10:38*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/10/19 08:59*	*07/10/19 10:38*	*1*
Dibromofluoromethane	*91*		*79 - 123*	*07/10/19 08:59*	*07/10/19 10:38*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/10/19 08:59*	*07/10/19 10:38*	*1*

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	206		ug/Kg		103	48 - 160
Acrolein	500	514		ug/Kg		103	40 - 150
Acrylonitrile	500	578		ug/Kg		116	60 - 130
Benzene	50.0	49.6		ug/Kg		99	65 - 130
Bromobenzene	50.0	51.3		ug/Kg		103	65 - 130
Bromochloromethane	50.0	52.8		ug/Kg		106	65 - 130
Bromodichloromethane	50.0	46.4		ug/Kg		93	61 - 130
Bromoform	50.0	48.5		ug/Kg		97	52 - 136
Bromomethane	50.0	41.2		ug/Kg		82	12 - 160
2-Butanone (MEK)	200	184		ug/Kg		92	55 - 130
Carbon disulfide	50.0	49.2		ug/Kg		98	46 - 141
Carbon tetrachloride	50.0	47.7		ug/Kg		95	60 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	50.0	50.6		ug/Kg		101	70 - 130
Chloroethane	50.0	49.3		ug/Kg		99	55 - 134
2-Chloroethyl vinyl ether	50.0	36.0		ug/Kg		72	10 - 158
Chloroform	50.0	49.6		ug/Kg		99	62 - 130
1-Chlorohexane	50.0	51.8		ug/Kg		104	69 - 130
Chloromethane	50.0	53.9		ug/Kg		108	49 - 136
cis-1,2-Dichloroethene	50.0	49.5		ug/Kg		99	53 - 135
cis-1,3-Dichloropropene	50.0	48.7		ug/Kg		97	61 - 130
Dibromochloromethane	50.0	50.9		ug/Kg		102	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	45.6		ug/Kg		91	49 - 130
1,2-Dichlorobenzene	50.0	54.2		ug/Kg		108	64 - 130
1,3-Dichlorobenzene	50.0	53.2		ug/Kg		106	66 - 130
1,4-Dichlorobenzene	50.0	53.3		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	44.2		ug/Kg		88	34 - 143
1,1-Dichloroethane	50.0	50.7		ug/Kg		101	59 - 130
1,2-Dichloroethane	50.0	47.4		ug/Kg		95	62 - 130
1,1-Dichloroethene	50.0	52.6		ug/Kg		105	55 - 137
1,2-Dichloropropane	50.0	49.4		ug/Kg		99	64 - 130
1,3-Dichloropropane	50.0	50.1		ug/Kg		100	67 - 130
2,2-Dichloropropane	50.0	45.4		ug/Kg		91	51 - 132
1,1-Dichloropropene	50.0	49.3		ug/Kg		99	65 - 130
Ethylbenzene	50.0	52.9		ug/Kg		106	70 - 130
Ethylene Dibromide	50.0	51.2		ug/Kg		102	67 - 130
Ethyl methacrylate	50.0	50.1		ug/Kg		100	62 - 130
Hexachlorobutadiene	50.0	41.2		ug/Kg		82	62 - 133
2-Hexanone	200	183		ug/Kg		92	57 - 131
Isopropylbenzene	50.0	51.9		ug/Kg		104	70 - 130
Methylene bromide	50.0	46.3		ug/Kg		93	65 - 130
Methylene Chloride	50.0	51.0		ug/Kg		102	57 - 132
4-Methyl-2-pentanone (MIBK)	200	205		ug/Kg		102	58 - 130
Methyl tert-butyl ether	50.0	44.8		ug/Kg		90	63 - 130
m-Xylene & p-Xylene	50.0	53.2		ug/Kg		106	70 - 130
Naphthalene	50.0	52.0		ug/Kg		104	45 - 144
n-Butylbenzene	50.0	53.6		ug/Kg		107	66 - 130
N-Propylbenzene	50.0	56.0		ug/Kg		112	67 - 130
o-Chlorotoluene	50.0	55.5		ug/Kg		111	67 - 130
o-Xylene	50.0	53.1		ug/Kg		106	70 - 130
p-Chlorotoluene	50.0	57.5		ug/Kg		115	66 - 130
p-Isopropyltoluene	50.0	55.4		ug/Kg		111	68 - 130
sec-Butylbenzene	50.0	53.8		ug/Kg		108	67 - 130
Styrene	50.0	50.7		ug/Kg		101	68 - 130
tert-Butylbenzene	50.0	54.2		ug/Kg		108	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.0		ug/Kg		104	65 - 130
1,1,2,2-Tetrachloroethane	50.0	52.8		ug/Kg		106	60 - 131
Tetrachloroethene	50.0	48.6		ug/Kg		97	67 - 130
Toluene	50.0	53.7		ug/Kg		107	70 - 130
trans-1,2-Dichloroethene	50.0	54.5		ug/Kg		109	58 - 134
trans-1,3-Dichloropropene	50.0	48.8		ug/Kg		98	60 - 130
1,2,3-Trichlorobenzene	50.0	44.9		ug/Kg		90	58 - 135

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447380/1-A
Matrix: Solid
Analysis Batch: 447355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	48.2		ug/Kg		96	63 - 130
1,1,2-Trichloroethane	50.0	50.5		ug/Kg		101	65 - 130
Trichloroethene	50.0	49.9		ug/Kg		100	65 - 130
Trichlorofluoromethane	50.0	42.6		ug/Kg		85	61 - 136
1,2,3-Trichloropropane	50.0	52.1		ug/Kg		104	60 - 130
1,2,4-Trimethylbenzene	50.0	55.2		ug/Kg		110	66 - 130
1,3,5-Trimethylbenzene	50.0	55.2		ug/Kg		110	67 - 130
Vinyl acetate	100	117		ug/Kg		117	24 - 160
Vinyl chloride	50.0	55.1		ug/Kg		110	52 - 132
Xylenes, Total	100	106		ug/Kg		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*94*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/01/19 15:58*	*07/05/19 12:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2-Fluorophenol	*70*		*25 - 128*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Phenol-d5	*72*		*29 - 130*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2,4,6-Tribromophenol	*89*		*10 - 150*	*07/01/19 15:58*	*07/05/19 12:45*	*1*

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	ND	*	ug/Kg		1	10 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		27 - 127
2-Fluorophenol	69		25 - 128
Nitrobenzene-d5	69		15 - 136
Phenol-d5	72		29 - 130
Terphenyl-d14	92		24 - 146
2,4,6-Tribromophenol	91		10 - 150

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*
Nitrobenzene-d5	*78*		*15 - 136*
Terphenyl-d14	*121*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172317-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene			333	305		ug/Kg		92	59 - 120	10	30
Anthracene			333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene			333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene			333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene			333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*27 - 127*
Nitrobenzene-d5	*71*		*15 - 136*
Terphenyl-d14	*114*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE: 6/26/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:

170 East Rand Avenue, Hartford — State: IL — AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell

LAB USE ONLY

TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS (STET)
~~UNIT COST 60592794 - 1.24.051~~ ~~NON-UNIT COST 60592794 - 1.24.050~~ (STET)

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270-SIM-PAH LL	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062619-A	6/26/2019	0:00	Water	X					2			X		
	PD-8-SB-51-062619	6/26/2019	10:45	Soil	X			X	X	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-8-SB-62-062619	6/26/2019	13:15	Soil	X			X	X	5	X	X	X	X	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-172317 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Paul LeFleur

Dep: Wgt: 20.00 LBS SPECIAL: 0.00
DV: 0.00 HANDLING: 0.00
TOTAL: 0.00

Relinquished by: (Signature) Paul LeFleur — Paul LeFleur — Received by: Fedex: — Date: 6/26/2019 — Time: 1700

Svcs: PRIORITY OVERNIGHT Master 4782 2877 1318
TRCK: 4782 2877 1373

Relinquished by: (Signature) — Received by: — Date: — Time:

Relinquished by: (Signature) — Received by: Doug Clark — Date: 06-27-19 — Time: 921

Version: 10May17

572044, 572045

0.0°C IR8

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172317-1

Login Number: 172317
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172317-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172420

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/26/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062819-A	PD-9-SB-41-062819
PD-9-SB-43-062819	PD-9-SB-54-062819
PD-9-SB-54-062819-DUP	PD-9-SB-EB

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated PAHs and SVOCs were detected in the method blanks. SVOC and PAH LCS/LCSD recoveries were outside evaluation criteria. The SVOC surrogate nitrobenzene-d_5 was outside evaluation criteria in sample PD-9-SB-54-062819-Dup. Several PAH surrogates were outside evaluation criteria in blanks. Although not indicated in the laboratory case narrative, analytes were detected in the equipment blank. The difference in analytical results for the PAH compound, acenaphthene in field duplicate pair PD-9-SB-54-062819/PD-8-SB-54-062819-Dup was greater than two times (2X) the reporting level; therefore, results were qualified as estimated (**J**/**J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-9-SB-EB	VOCs	2-Butanone	3.0 µg/L
PD-9-SB-EB	SVOCs	bis(2-ethylhexyl) Phthalate	9.4 µg/L
MB 400-446440/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	53.8 µg/Kg
MB 400-446440/1-A	PAHs	Fluoranthene	2.71 µg/Kg
MB 400-446440/1-A	PAHs	2-Methylnaphthalene	1.73 µg/Kg
MB 400-446440/1-A	PAHs	Pyrene	2.22 µg/Kg
MB 400-446728/1-A	PAHs	2-Methylnaphthalene	0.0487 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-9-SB-41-062819	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-9-SB-43-062819	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-9-SB-54-062819	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-9-SB-54-062819-Dup	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-9-SB-41-062819	PAHs	2-Methylnaphthalene	-	**U**
PD-9-SB-43-062819	PAHs	2-Methylnaphthalene	8.3 µg/Kg	**U**
PD-9-SB-54-062819	PAHs	Fluoranthene	12 µg/Kg	**U**
PD-9-SB-54-062819-DUP	PAHs	Fluoranthene	13 µg/Kg	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-446440/4-A	SVOCs	Benzenethiol	**1/2**	**67**	10-120/30
400-446728/18-A/19-A	SVOCs	Benzenethiol	**5/5**	0	10-120/30
400-446440/6-A	SVOCs	3,3'-Dichlorobenzidine	**172**	NA	42-120
400-446728/2-A	SVOCs	Dibenz[a,h]acridine	**45**	NA	46-149
LCS 400-446728/2-A	PAHs	Pyrene	**138**	NA	48-132

Analytical data that required qualification based on LCS recovery outside evaluation criteria are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound dibenz[a,h]acridine with LCS recovery outside evaluation criteria was associated with the equipment blank. Equipment blanks are quality control samples and do not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-9-SB-41-062819	SVOCs	Benzenethiol	**UJ**

Sample ID	Parameter	Analyte	Qualification
PD-9-SB-43-062819	SVOCs	Benzenethiol	**UJ**
PD-9-SB-54-062819	SVOCs	Benzenethiol	**UJ**
PD-9-SB-54-062819-DUP	SVOCs	Benzenethiol	**UJ**
PD-9-SB-43-062819	PAHs	Pyrene	**J**
PD-9-SB-54-062819	PAHs	Pyrene	**J**
PD-9-SB-54-062819-DUP	PAHs	Pyrene	**J**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-9-SB-54-062819-DUP	SVOCs	Nitrobenzene-d_5	**0**	15-136
PD-9-SB-EB	PAHs	Terphenyl-d_{14}	**162**	33-138
MB 400-446440/1-A	PAHs	2-Fluorobiphenyl	**128**	27-127
MB 400-446440/1-A	PAHs	Terphenyl-d_{14}	**161**	24-146
MB 400-446728/1-A	PAHs	Terphenyl-d_{14}	**200**	33-138

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

Yes, sample PD-9-SB-43-062819 was duplicated and analyzed for percent moisture.

Were laboratory duplicate sample RPDs within evaluation criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-9-SB-54-062819	PD-9-SB-54-062819-DUP

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-9-SB-54-062819	PD-9-SB-54-062819-DUP	PAHs	Acenaphthene	**≥2XRL**	**UJ/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

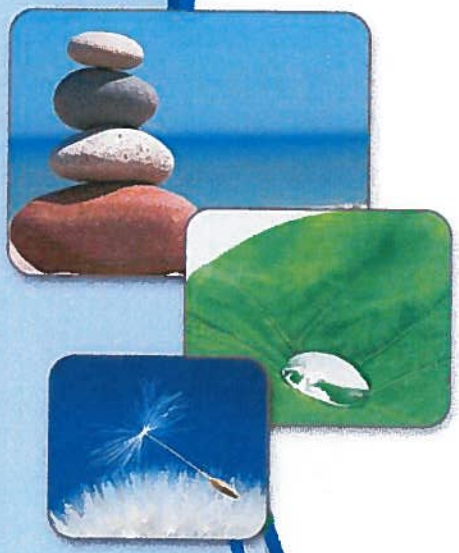
Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172420-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/26/2019 2:44:53 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed
on
7/26/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Job ID: 400-172420-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172420-1

Comments
No additional comments.

Receipt
The samples were received on 6/29/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-062819-A (400-172420-1) and PD-9-SB-EB (400-172420-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-9-SB-43-062819 (400-172420-3), PD-9-SB-54-062819 (400-172420-4) and PD-9-SB-54-062819-DUP (400-172420-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-9-SB-54-062819-DUP (400-172420-5). These results have been reported and qualified.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446728 and analytical batch 400-447502 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-9-SB-EB (400-172420-6) and (MB 400-446728/1-A). These results have been reported and qualified.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Job ID: 400-172420-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446728 and analytical batch 400-447936 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: (400-172422-C-2-A MS) and (400-172422-D-2-C MSD). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-446728 and analytical batch 400-447936: Dibenz[a,h]acridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-446728 and analytical batch 400-447502 recovered outside control limits for the following analytes: Pyrene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172420-1	TB-PW-062819-A	Water	06/28/19 00:00	06/29/19 09:19	
400-172420-2	PD-9-SB-41-062819	Solid	06/28/19 08:30	06/29/19 09:19	
400-172420-3	PD-9-SB-43-062819	Solid	06/28/19 09:05	06/29/19 09:19	
400-172420-4	PD-9-SB-54-062819	Solid	06/28/19 11:00	06/29/19 09:19	
400-172420-5	PD-9-SB-54-062819-DUP	Solid	06/28/19 11:00	06/29/19 09:19	
400-172420-6	PD-9-SB-EB	Water	06/28/19 16:15	06/29/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A — Lab Sample ID: 400-172420-1

No Detections.

Client Sample ID: PD-9-SB-41-062819 — Lab Sample ID: 400-172420-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	36		4.8	0.64	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	1.6	J	4.8	0.59	ug/Kg	1	☼	8260B	Total/NA
m-Xylene & p-Xylene	2.3	J	4.8	1.3	ug/Kg	1	☼	8260B	Total/NA
Toluene	1.7	J	4.8	0.96	ug/Kg	1	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	1.2	J	4.8	0.96	ug/Kg	1	☼	8260B	Total/NA
Xylenes, Total	3.1	J	9.6	1.8	ug/Kg	1	☼	8260B	Total/NA
1-Methylnaphthalene	3.3	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	~~2.7~~	J B U	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~70~~	J B U	410	41	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-43-062819 — Lab Sample ID: 400-172420-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	43000		1500	200	ug/Kg	250	☼	8260B	Total/NA
Anthracene	7.0	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	4.2	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	5.0	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	33	B	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	4.5	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	22		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	~~8.3~~	B U	~~8.1~~ 8.3	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	25		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	20	B J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~62~~	J B U	400	40	ug/Kg	1	☼	8270D	Total/NA
Phenol	110	J	400	40	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-54-062819 — Lab Sample ID: 400-172420-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	240000		5700	760	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	32000		5700	690	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	2600	J	5700	770	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	75000		5700	1500	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	6200		5700	2300	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	4900	J	5700	1100	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	10000		5700	1000	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	26000		5700	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	1300	J	5700	1100	ug/Kg	1000	☼	8260B	Total/NA
Toluene	9400		5700	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	51000		5700	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	17000		5700	940	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	100000		11000	2200	ug/Kg	1000	☼	8260B	Total/NA
Benzo[a]anthracene	2.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	5.2	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	6.2	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	~~12~~	B U	~~7.8~~ 12	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	4200		78	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene	11000	B	78	12	ug/Kg	10	☼	8270D LL	Total/NA
Phenanthrene	150		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819 (Continued)

Lab Sample ID: 400-172420-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	16	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~62~~	J B U	390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-54-062819-DUP

Lab Sample ID: 400-172420-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	260000		5600	750	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	32000		5600	680	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	2400	J	5600	760	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	77000		5600	1400	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	6000		5600	2200	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	4600	J	5600	1100	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	9500		5600	1000	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	28000		5600	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	1100	J	5600	1100	ug/Kg	1000	☼	8260B	Total/NA
Toluene	9700		5600	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	47000		5600	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	16000		5600	930	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	100000		11000	2100	ug/Kg	1000	☼	8260B	Total/NA
Acenaphthene	76	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	3.0	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	4.9	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	4.6	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	3.3	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	~~13~~	B U	~~7.7~~ 13	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	94		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.4	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	3300		77	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene	8100	B	77	12	ug/Kg	10	☼	8270D LL	Total/NA
Phenanthrene	130		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	15	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~72~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-EB

Lab Sample ID: 400-172420-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.0	J	25	2.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.051	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.069	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.4	J	9.8	4.9	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 18:20	1
Acrolein	ND		20	10	ug/L			07/11/19 18:20	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 18:20	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 18:20	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 18:20	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 18:20	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 18:20	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 18:20	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 18:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 18:20	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 18:20	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 18:20	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 18:20	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 18:20	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:20	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 18:20	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 18:20	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 18:20	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 18:20	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 18:20	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 18:20	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 18:20	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 18:20	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 18:20	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 18:20	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 18:20	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 18:20	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 18:20	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 18:20	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 18:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 18:20	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 18:20	1
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 18:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 18:20	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 18:20	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 18:20	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 18:20	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 18:20	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 18:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 18:20	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 18:20	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 18:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 18:20	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 18:20	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 18:20	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 18:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 18:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 18:20	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 18:20	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 18:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclotetrasiloxane, octamethyl-	*13*	*T J N*	*ug/L*		*6.69*	*556-67-2*		*07/11/19 18:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/11/19 18:20*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/11/19 18:20*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/11/19 18:20*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819
Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid
Percent Solids: 79.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		24	13	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Acrolein	ND		48	27	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Acrylonitrile	ND		19	7.7	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Benzene	**36**		4.8	0.64	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromobenzene	ND		4.8	1.3	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromochloromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromodichloromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromomethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2-Butanone (MEK)	ND		24	5.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Carbon tetrachloride	ND		4.8	1.6	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chlorobenzene	ND		4.8	0.50	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2-Chloroethyl vinyl ether	ND		9.6	4.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chloroform	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1-Chlorohexane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chloromethane	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
cis-1,2-Dichloroethene	ND		4.8	0.73	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
cis-1,3-Dichloropropene	ND		4.8	1.2	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Dibromochloromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dibromo-3-Chloropropane	ND		4.8	3.2	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dichlorobenzene	ND		4.8	0.68	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,3-Dichlorobenzene	ND		4.8	0.91	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,4-Dichlorobenzene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Dichlorodifluoromethane	ND		4.8	1.3	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1-Dichloroethane	ND		4.8	0.80	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dichloroethane	ND		4.8	0.79	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1-Dichloroethene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,3-Dichloropropane	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1-Dichloropropene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Ethylbenzene	**1.6**	**J**	4.8	0.59	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Ethylene Dibromide	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Ethyl methacrylate	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Hexachlorobutadiene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2-Hexanone	ND		24	4.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Isopropylbenzene	ND		4.8	0.65	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Methylene bromide	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Methylene Chloride	ND		14	9.6	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
4-Methyl-2-pentanone (MIBK)	ND		24	4.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Methyl tert-butyl ether	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
m-Xylene & p-Xylene	**2.3**	**J**	4.8	1.3	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Naphthalene	ND		4.8	1.9	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
n-Butylbenzene	ND		4.8	0.92	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
N-Propylbenzene	ND		4.8	0.87	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
o-Chlorotoluene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
o-Xylene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819
Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid
Percent Solids: 79.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		4.8	0.94	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
p-Isopropyltoluene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
sec-Butylbenzene	ND		4.8	0.91	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Styrene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
tert-Butylbenzene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,1,2-Tetrachloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,2,2-Tetrachloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Tetrachloroethene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Toluene	**1.7**	**J**	4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
trans-1,2-Dichloroethene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
trans-1,3-Dichloropropene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,3-Trichlorobenzene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,4-Trichlorobenzene	ND		4.8	1.9	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,1-Trichloroethane	ND		4.8	1.1	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,2-Trichloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Trichloroethene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Trichlorofluoromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,3-Trichloropropane	ND		4.8	2.9	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,4-Trimethylbenzene	**1.2**	**J**	4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,3,5-Trimethylbenzene	ND		4.8	0.80	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Vinyl acetate	ND		24	8.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Vinyl chloride	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Xylenes, Total	**3.1**	**J**	9.6	1.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/11/19 16:59*	*07/11/19 23:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/11/19 16:59*	*07/11/19 23:44*	*1*
Dibromofluoromethane	*95*		*79 - 123*	*07/11/19 16:59*	*07/11/19 23:44*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/11/19 16:59*	*07/11/19 23:44*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[a]anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[a]pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[b]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[g,h,i]perylene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Chrysene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Fluorene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Indeno[1,2,3-cd]pyrene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
1-Methylnaphthalene	**3.3**	**J**	8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
2-Methylnaphthalene	~~2.7~~	**J B**	8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Phenanthrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819

Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2

Matrix: Solid
Percent Solids: 79.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/11/19 21:41*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/01/19 15:58*	*07/11/19 21:41*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/01/19 15:58*	*07/11/19 21:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	53	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Benzenethiol	ND	* UJ	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Bis(2-ethylhexyl) phthalate	**70**	**J B**	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Dibenz[a,h]acridine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
3,3'-Dichlorobenzidine	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Indene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Isophorone	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
3 & 4 Methylphenol	ND		820	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819

Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2

Matrix: Solid
Percent Solids: 79.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
N-Nitrosodimethylamine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Phenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Pyridine	ND		410	190	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Quinoline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*4000*	*T J*	*ug/Kg*	☼	*4.38*		*07/01/19 15:58*	*07/05/19 18:50*	*1*
Aramite Peak 1	*43*	*J*	*ug/Kg*	☼	*9.98*	*STL00690*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Benzo[a]pyrene	*43*	*J*	*ug/Kg*	☼	*12.48*	*50-32-8*	*07/01/19 15:58*	*07/05/19 18:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*27 - 127*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
2-Fluorophenol	*66*		*25 - 128*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Phenol-d5	*67*		*29 - 130*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Terphenyl-d14	*85*		*24 - 146*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
2,4,6-Tribromophenol	*87*		*10 - 150*	*07/01/19 15:58*	*07/05/19 18:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.0**		0.01	0.01	%			07/02/19 16:14	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		7600	3900	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Acrolein	ND		15000	8500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Acrylonitrile	ND		6100	2400	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Benzene	**43000**		1500	200	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromobenzene	ND		1500	390	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromochloromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromodichloromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromoform	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromomethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2-Butanone (MEK)	ND		7600	1800	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Carbon disulfide	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Carbon tetrachloride	ND		1500	510	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chlorobenzene	ND		1500	160	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2-Chloroethyl vinyl ether	ND		3000	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chloroform	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1-Chlorohexane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chloromethane	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
cis-1,2-Dichloroethene	ND		1500	230	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
cis-1,3-Dichloropropene	ND		1500	360	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Dibromochloromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dibromo-3-Chloropropane	ND		1500	1000	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dichlorobenzene	ND		1500	210	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,3-Dichlorobenzene	ND		1500	290	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,4-Dichlorobenzene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Dichlorodifluoromethane	ND		1500	390	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1-Dichloroethane	ND		1500	250	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dichloroethane	ND		1500	250	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1-Dichloroethene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dichloropropane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,3-Dichloropropane	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2,2-Dichloropropane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1-Dichloropropene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Ethylbenzene	ND		1500	180	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Ethylene Dibromide	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Ethyl methacrylate	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Hexachlorobutadiene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2-Hexanone	ND		7600	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Isopropylbenzene	ND		1500	210	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Methylene bromide	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Methylene Chloride	ND		4500	3000	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
4-Methyl-2-pentanone (MIBK)	ND		7600	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Methyl tert-butyl ether	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
m-Xylene & p-Xylene	ND		1500	390	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Naphthalene	ND		1500	610	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
n-Butylbenzene	ND		1500	290	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
N-Propylbenzene	ND		1500	270	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
o-Chlorotoluene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
o-Xylene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
p-Isopropyltoluene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
sec-Butylbenzene	ND		1500	290	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Styrene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
tert-Butylbenzene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,1,2-Tetrachloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,2,2-Tetrachloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Tetrachloroethene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Toluene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
trans-1,2-Dichloroethene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
trans-1,3-Dichloropropene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,3-Trichlorobenzene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,4-Trichlorobenzene	ND		1500	610	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,1-Trichloroethane	ND		1500	330	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,2-Trichloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Trichloroethene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Trichlorofluoromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,3-Trichloropropane	ND		1500	910	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,4-Trimethylbenzene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,3,5-Trimethylbenzene	ND		1500	250	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Vinyl acetate	ND		7600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Vinyl chloride	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Xylenes, Total	ND		3000	570	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/11/19 16:59*	*07/12/19 02:56*	*250*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/11/19 16:59*	*07/12/19 02:56*	*250*
Dibromofluoromethane	*86*		*79 - 123*	*07/11/19 16:59*	*07/12/19 02:56*	*250*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/11/19 16:59*	*07/12/19 02:56*	*250*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Acenaphthylene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Anthracene	**7.0**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[a]anthracene	**4.2**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[a]pyrene	**5.0**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[b]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[g,h,i]perylene	ND		8.1	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[k]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Chrysene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Dibenz(a,h)anthracene	ND		8.1	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Fluoranthene	**33**	**B**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Fluorene	**4.5**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Indeno[1,2,3-cd]pyrene	ND		8.1	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
1-Methylnaphthalene	**22**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
2-Methylnaphthalene	~~8.3~~	**B U**	~~8.1~~ 8.3	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Phenanthrene	**25**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	20	B J	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*27 - 127*	*07/01/19 15:58*	*07/11/19 21:58*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/11/19 21:58*	*1*
Terphenyl-d14	*86*		*24 - 146*	*07/01/19 15:58*	*07/11/19 21:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	53	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Benzenethiol	ND	* UJ	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Benzyl alcohol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Bis(2-chloroethoxy)methane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Bis(2-chloroethyl)ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Bis(2-ethylhexyl) phthalate	82	J B U	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Dibenz[a,h]acridine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Di-n-butyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
1,4-Dioxane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Hexachlorocyclopentadiene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Indene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Isophorone	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
3 & 4 Methylphenol	ND		810	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
3-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Nitrophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
N-Nitrosodimethylamine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Pentachlorophenol	ND		810	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Phenol	**110**	**J**	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Pyridine	ND		400	180	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Quinoline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2500*	*T J*	*ug/Kg*	☼	*4.38*		*07/01/19 15:58*	*07/05/19 19:11*	*1*
Caprolactam	*59*	*J*	*ug/Kg*	☼	*6.56*	*105-60-2*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Disulfoton	*77*	*J*	*ug/Kg*	☼	*8.65*	*298-04-4*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Aramite Peak 1	*43*	*J*	*ug/Kg*	☼	*9.98*	*STL00690*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Benzo[a]pyrene	*44*	*J*	*ug/Kg*	☼	*12.48*	*50-32-8*	*07/01/19 15:58*	*07/05/19 19:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*27 - 127*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
2-Fluorophenol	*62*		*25 - 128*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Phenol-d5	*64*		*29 - 130*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
2,4,6-Tribromophenol	*78*		*10 - 150*	*07/01/19 15:58*	*07/05/19 19:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80.6**		0.01	0.01	%			07/02/19 16:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4

Matrix: Solid
Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		28000	15000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Acrolein	ND		57000	32000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Acrylonitrile	ND		23000	9100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Benzene	**240000**		5700	760	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromobenzene	ND		5700	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromochloromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromodichloromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromoform	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromomethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2-Butanone (MEK)	ND		28000	6800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Carbon disulfide	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Carbon tetrachloride	ND		5700	1900	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chlorobenzene	ND		5700	590	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2-Chloroethyl vinyl ether	ND		11000	5700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chloroform	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1-Chlorohexane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chloromethane	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
cis-1,2-Dichloroethene	ND		5700	860	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
cis-1,3-Dichloropropene	ND		5700	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Dibromochloromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dibromo-3-Chloropropane	ND		5700	3700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dichlorobenzene	ND		5700	810	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,3-Dichlorobenzene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,4-Dichlorobenzene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Dichlorodifluoromethane	ND		5700	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1-Dichloroethane	ND		5700	940	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dichloroethane	ND		5700	930	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1-Dichloroethene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dichloropropane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,3-Dichloropropane	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2,2-Dichloropropane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1-Dichloropropene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Ethylbenzene	**32000**		5700	690	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Ethylene Dibromide	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Ethyl methacrylate	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Hexachlorobutadiene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2-Hexanone	ND		28000	5700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Isopropylbenzene	**2600**	**J**	5700	770	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Methylene bromide	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Methylene Chloride	ND		17000	11000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
4-Methyl-2-pentanone (MIBK)	ND		28000	5700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Methyl tert-butyl ether	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
m-Xylene & p-Xylene	**75000**		5700	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Naphthalene	**6200**		5700	2300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
n-Butylbenzene	**4900**	**J**	5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
N-Propylbenzene	**10000**		5700	1000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
o-Chlorotoluene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
o-Xylene	**26000**		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid
Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
p-Isopropyltoluene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
sec-Butylbenzene	**1300**	**J**	5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Styrene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
tert-Butylbenzene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,1,2-Tetrachloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,2,2-Tetrachloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Tetrachloroethene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Toluene	**9400**		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
trans-1,2-Dichloroethene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
trans-1,3-Dichloropropene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,3-Trichlorobenzene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,4-Trichlorobenzene	ND		5700	2300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,1-Trichloroethane	ND		5700	1200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,2-Trichloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Trichloroethene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Trichlorofluoromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,3-Trichloropropane	ND		5700	3400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,4-Trimethylbenzene	**51000**		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,3,5-Trimethylbenzene	**17000**		5700	940	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Vinyl acetate	ND		28000	10000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Vinyl chloride	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Xylenes, Total	**100000**		11000	2200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*11000*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Pentane	*16000*	*T J N*	*ug/Kg*	☼	*2.02*	*109-66-0*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Pentane, 3-methyl-	*20000*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Hexane	*44000*		*ug/Kg*	☼	*2.93*	*110-54-3*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclopropane, 1,1,2-trimethyl-	*7200*	*T J N*	*ug/Kg*	☼	*3.05*	*4127-45-1*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclopentane, methyl-	*33000*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclohexane	*20000*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Hexane, 3-methyl-	*25000*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclopentane, 1,2-dimethyl-, trans-	*24000*	*T J N*	*ug/Kg*	☼	*4.01*	*822-50-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
n-Heptane	*43000*		*ug/Kg*	☼	*4.04*	*142-82-5*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Methylcyclohexane	*32000*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.,2.beta.,4.alpha.)-	*7600*	*T J N*	*ug/Kg*	☼	*4.58*	*16883-48-0*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Heptane, 2-methyl-	*34000*	*T J N*	*ug/Kg*	☼	*4.80*	*592-27-8*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclohexane, ethyl-	*7100*	*T J N*	*ug/Kg*	☼	*5.71*	*1678-91-7*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Octane, 3-methyl-	*22000*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
3-Ethyltoluene	*45000*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
2-Ethyltoluene	*10000*		*ug/Kg*	☼	*7.44*	*611-14-3*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
1,2,3-Trimethylbenzene	*12000*		*ug/Kg*	☼	*7.90*	*526-73-8*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
p-Diethylbenzene	*12000*		*ug/Kg*	☼	*8.11*	*105-05-5*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Benzene, 1-methyl-4-propyl-	*6400*	*T J N*	*ug/Kg*	☼	*8.26*	*1074-55-1*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*18000*	*T J N*	*ug/Kg*	☼	*8.35*	*874-41-9*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Benzene, 1-ethyl-2,3-dimethyl-	*12000*	*T J N*	*ug/Kg*	☼	*8.41*	*933-98-2*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Benzene, 1,2,3,5-tetramethyl-	*7900*	*T J N*	*ug/Kg*	☼	*8.77*	*527-53-7*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Dodecane	*7800*	*T J N*	*ug/Kg*	☼	*9.05*	*112-40-3*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4

Matrix: Solid
Percent Solids: 84.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 122	07/11/19 16:59	07/12/19 03:19	1000
Dibromofluoromethane	87		79 - 123	07/11/19 16:59	07/12/19 03:19	1000
Toluene-d8 (Surr)	99		80 - 120	07/11/19 16:59	07/12/19 03:19	1000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	UJ	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[a]anthracene	**2.8**	**J**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[a]pyrene	**5.2**	**J**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[b]fluoranthene	**6.2**	**J**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Fluoranthene	~~12~~	**B** U	~~7.8~~ 12	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
1-Methylnaphthalene	**4200**		78	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:35	10
2-Methylnaphthalene	**11000**	**B**	78	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:35	10
Phenanthrene	**150**		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Pyrene	**16**	**B** J	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		27 - 127	07/01/19 15:58	07/11/19 22:15	1
Nitrobenzene-d5	111		15 - 136	07/01/19 15:58	07/11/19 22:15	1
Terphenyl-d14	91		24 - 146	07/01/19 15:58	07/11/19 22:15	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Benzenethiol	ND	* UJ	390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Bis(2-chloroethoxy)methane	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Bis(2-ethylhexyl) phthalate	**62**	**J B**	390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Indene	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Isophorone	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Phenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Pyridine	ND		390	180	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Quinoline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Octane	*8500*	*T J N*	*ug/Kg*	☼	*4.06*	*111-65-9*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Acrylamide	*6700*		*ug/Kg*	☼	*4.56*	*79-06-1*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
p-Xylene	*15000*	*T J N*	*ug/Kg*	☼	*4.79*	*106-42-3*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Unknown	*6400*	*T J*	*ug/Kg*	☼	*4.90*		*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, (1-methylethyl)-	*13000*	*T J N*	*ug/Kg*	☼	*4.98*	*98-82-8*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Unknown	*9400*	*T J*	*ug/Kg*	☼	*5.04*		*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, propyl-	*25000*	*T J N*	*ug/Kg*	☼	*5.17*	*103-65-1*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-ethyl-2-methyl-	*7700*	*T J N*	*ug/Kg*	☼	*5.21*	*611-14-3*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-ethyl-2-methyl-	*15000*	*T J N*	*ug/Kg*	☼	*5.32*	*611-14-3*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1,2,4-trimethyl-	*23000*	*T J N*	*ug/Kg*	☼	*5.55*	*95-63-6*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Unknown	*7200*	*T J*	*ug/Kg*	☼	*5.60*		*07/01/19 15:58*	*07/05/19 19:33*	*1*
Indane	*14000*	*T J N*	*ug/Kg*	☼	*5.64*	*496-11-7*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-methyl-3-propyl-	*13000*	*T J N*	*ug/Kg*	☼	*5.68*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*12000*	*T J N*	*ug/Kg*	☼	*5.70*	*934-74-7*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*11000*	*T J N*	*ug/Kg*	☼	*5.80*	*1758-88-9*	*07/01/19 15:58*	*07/05/19 19:33*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-methyl-2-(1-methylethyl)-	13000	T J N	ug/Kg	☼	5.82	527-84-4	07/01/19 15:58	07/05/19 19:33	1
Benzene, 2-ethyl-1,4-dimethyl-	33000	T J N	ug/Kg	☼	5.85	1758-88-9	07/01/19 15:58	07/05/19 19:33	1
Unknown	7200	T J	ug/Kg	☼	5.91		07/01/19 15:58	07/05/19 19:33	1
Benzene, 4-ethyl-1,2-dimethyl-	13000	T J N	ug/Kg	☼	5.95	934-80-5	07/01/19 15:58	07/05/19 19:33	1
Benzene, 1,2,4,5-tetramethyl-	12000	T J N	ug/Kg	☼	6.00	95-93-2	07/01/19 15:58	07/05/19 19:33	1
Unknown	12000	T J	ug/Kg	☼	6.07		07/01/19 15:58	07/05/19 19:33	1
Unknown	9400	T J	ug/Kg	☼	6.09		07/01/19 15:58	07/05/19 19:33	1
Unknown	14000	T J	ug/Kg	☼	6.24		07/01/19 15:58	07/05/19 19:33	1
Naphthalene	10000	E	ug/Kg	☼	6.36	91-20-3	07/01/19 15:58	07/05/19 19:33	1
2-Methylnaphthalene	8900	E	ug/Kg	☼	6.81	91-57-6	07/01/19 15:58	07/05/19 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	83		27 - 127	07/01/19 15:58	07/05/19 19:33	1
2-Fluorophenol	39		25 - 128	07/01/19 15:58	07/05/19 19:33	1
Nitrobenzene-d5	40		15 - 136	07/01/19 15:58	07/05/19 19:33	1
Phenol-d5	51		29 - 130	07/01/19 15:58	07/05/19 19:33	1
Terphenyl-d14	93		24 - 146	07/01/19 15:58	07/05/19 19:33	1
2,4,6-Tribromophenol	102		10 - 150	07/01/19 15:58	07/05/19 19:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.5		0.01	0.01	%			07/02/19 16:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5
Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		28000	14000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Acrolein	ND		56000	31000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Acrylonitrile	ND		22000	8900	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Benzene	**260000**		5600	750	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromobenzene	ND		5600	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromochloromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromodichloromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromoform	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromomethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2-Butanone (MEK)	ND		28000	6700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Carbon disulfide	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Carbon tetrachloride	ND		5600	1900	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chlorobenzene	ND		5600	580	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2-Chloroethyl vinyl ether	ND		11000	5600	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chloroform	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1-Chlorohexane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chloromethane	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
cis-1,2-Dichloroethene	ND		5600	850	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
cis-1,3-Dichloropropene	ND		5600	1300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Dibromochloromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dibromo-3-Chloropropane	ND		5600	3700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dichlorobenzene	ND		5600	790	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,3-Dichlorobenzene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,4-Dichlorobenzene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Dichlorodifluoromethane	ND		5600	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1-Dichloroethane	ND		5600	930	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dichloroethane	ND		5600	910	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1-Dichloroethene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dichloropropane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,3-Dichloropropane	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2,2-Dichloropropane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1-Dichloropropene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Ethylbenzene	**32000**		5600	680	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Ethylene Dibromide	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Ethyl methacrylate	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Hexachlorobutadiene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2-Hexanone	ND		28000	5600	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Isopropylbenzene	**2400**	**J**	5600	760	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Methylene bromide	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Methylene Chloride	ND		17000	11000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
4-Methyl-2-pentanone (MIBK)	ND		28000	5600	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Methyl tert-butyl ether	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
m-Xylene & p-Xylene	**77000**		5600	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Naphthalene	**6000**		5600	2200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
n-Butylbenzene	**4600**	**J**	5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
N-Propylbenzene	**9500**		5600	1000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
o-Chlorotoluene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
o-Xylene	**28000**		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
p-Isopropyltoluene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
sec-Butylbenzene	**1100**	**J**	5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Styrene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
tert-Butylbenzene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,1,2-Tetrachloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,2,2-Tetrachloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Tetrachloroethene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Toluene	**9700**		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
trans-1,2-Dichloroethene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
trans-1,3-Dichloropropene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,3-Trichlorobenzene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,4-Trichlorobenzene	ND		5600	2200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,1-Trichloroethane	ND		5600	1200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,2-Trichloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Trichloroethene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Trichlorofluoromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,3-Trichloropropane	ND		5600	3300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,4-Trimethylbenzene	**47000**		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,3,5-Trimethylbenzene	**16000**		5600	930	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Vinyl acetate	ND		28000	10000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Vinyl chloride	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Xylenes, Total	**100000**		11000	2100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*12000*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Pentane	*18000*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Pentane, 3-methyl-	*21000*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Hexane	*48000*		*ug/Kg*	☼	*2.93*	*110-54-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
2-Butene, 2,3-dimethyl-	*7900*	*T J N*	*ug/Kg*	☼	*3.05*	*563-79-1*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclopentane, methyl-	*36000*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclopentene, 1-methyl-	*8500*	*T J N*	*ug/Kg*	☼	*3.61*	*693-89-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclohexane	*22000*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cycloheptane	*19000*	*T J N*	*ug/Kg*	☼	*3.97*	*291-64-5*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Isopropylcyclobutane	*15000*	*T J N*	*ug/Kg*	☼	*4.00*	*872-56-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
n-Heptane	*48000*		*ug/Kg*	☼	*4.05*	*142-82-5*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Methylcyclohexane	*33000*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclopentane, 1,2,4-trimethyl-	*8000*	*T J N*	*ug/Kg*	☼	*4.58*	*2815-58-9*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Heptane, 2-methyl-	*36000*	*T J N*	*ug/Kg*	☼	*4.80*	*592-27-8*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Heptane, 3-methyl-	*30000*	*T J N*	*ug/Kg*	☼	*4.90*	*589-81-1*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclohexane, 1,2-dimethyl-, trans-	*12000*	*T J N*	*ug/Kg*	☼	*5.06*	*6876-23-9*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Octane	*55000*	*T J N*	*ug/Kg*	☼	*5.18*	*111-65-9*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Octane, 3-methyl-	*21000*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
3-Ethyltoluene	*43000*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
2-Ethyltoluene	*9400*		*ug/Kg*	☼	*7.44*	*611-14-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
1,2,3-Trimethylbenzene	*10000*		*ug/Kg*	☼	*7.90*	*526-73-8*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Benzene, 1-methyl-3-(1-methylethyl)-	*14000*	*T J N*	*ug/Kg*	☼	*8.35*	*535-77-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Benzene, 1-methyl-3-(1-methylethyl)-	*11000*	*T J N*	*ug/Kg*	☼	*8.41*	*535-77-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
1-Phenyl-1-butene	*11000*	*T J N*	*ug/Kg*	☼	*9.11*	*824-90-8*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5

Matrix: Solid
Percent Solids: 84.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/11/19 16:59	07/12/19 03:43	1000
Dibromofluoromethane	88		79 - 123	07/11/19 16:59	07/12/19 03:43	1000
Toluene-d8 (Surr)	99		80 - 120	07/11/19 16:59	07/12/19 03:43	1000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	76	J	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[a]anthracene	3.0	J	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[a]pyrene	4.9	J	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[g,h,i]perylene	4.6	J	7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Chrysene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Dibenz(a,h)anthracene	3.3	J	7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Fluoranthene	~~13~~	B U	~~7.7~~ 13	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Fluorene	94		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Indeno[1,2,3-cd]pyrene	4.4	J	7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
1-Methylnaphthalene	3300		77	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:51	10
2-Methylnaphthalene	8100	B	77	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:51	10
Phenanthrene	130		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Pyrene	15	B J	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		27 - 127	07/01/19 15:58	07/11/19 22:33	1
Nitrobenzene-d5	100		15 - 136	07/01/19 15:58	07/11/19 22:33	1
Terphenyl-d14	98		24 - 146	07/01/19 15:58	07/11/19 22:33	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Bis(2-ethylhexyl) phthalate	72	J B	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Indene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Isophorone	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Phenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Pyridine	ND		380	170	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Quinoline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*8200*	*T J N*	*ug/Kg*	☼	*4.57*	*100-41-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
p-Xylene	*9300*	*T J N*	*ug/Kg*	☼	*4.79*	*106-42-3*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Unknown	*3300*	*T J*	*ug/Kg*	☼	*4.98*		*07/01/19 15:58*	*07/05/19 19:54*	*1*
Unknown	*2500*	*T J*	*ug/Kg*	☼	*5.04*		*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzaldehyde	*3000*		*ug/Kg*	☼	*5.21*	*100-52-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-4-methyl-	*4800*	*T J N*	*ug/Kg*	☼	*5.23*	*622-96-8*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1,2,3-trimethyl-	*7400*	*T J N*	*ug/Kg*	☼	*5.25*	*526-73-8*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-4-methyl-	*4500*	*T J N*	*ug/Kg*	☼	*5.31*	*622-96-8*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1,2,4-trimethyl-	*6800*	*T J N*	*ug/Kg*	☼	*5.55*	*95-63-6*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Indane	*4100*	*T J N*	*ug/Kg*	☼	*5.63*	*496-11-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-methyl-3-propyl-	*6500*	*T J N*	*ug/Kg*	☼	*5.68*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*9300*	*T J N*	*ug/Kg*	☼	*5.71*	*934-74-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*3900*	*T J N*	*ug/Kg*	☼	*5.82*	*527-84-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*6000*	*T J N*	*ug/Kg*	☼	*5.85*	*933-98-2*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethenyl-3-ethyl-	*4000*	*T J N*	*ug/Kg*	☼	*5.88*	*7525-62-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2200	T J	ug/Kg	☼	5.91		07/01/19 15:58	07/05/19 19:54	1
Benzene, 4-ethyl-1,2-dimethyl-	3800	T J N	ug/Kg	☼	5.95	934-80-5	07/01/19 15:58	07/05/19 19:54	1
Benzene, 1,2,4,5-tetramethyl-	3600	T J N	ug/Kg	☼	6.00	95-93-2	07/01/19 15:58	07/05/19 19:54	1
Unknown	3600	T J	ug/Kg	☼	6.07		07/01/19 15:58	07/05/19 19:54	1
Unknown	2700	T J	ug/Kg	☼	6.09		07/01/19 15:58	07/05/19 19:54	1
1H-Indene, 2,3-dihydro-4-methyl-	3500	T J N	ug/Kg	☼	6.12	824-22-6	07/01/19 15:58	07/05/19 19:54	1
Naphthalene	8200	E	ug/Kg	☼	6.36	91-20-3	07/01/19 15:58	07/05/19 19:54	1
Unknown	2500	T J	ug/Kg	☼	6.53		07/01/19 15:58	07/05/19 19:54	1
2-Methylnaphthalene	7700		ug/Kg	☼	6.81	91-57-6	07/01/19 15:58	07/05/19 19:54	1
1-Methylnaphthalene	4600		ug/Kg	☼	6.88	90-12-0	07/01/19 15:58	07/05/19 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	84		27 - 127	07/01/19 15:58	07/05/19 19:54	1
2-Fluorophenol	26		25 - 128	07/01/19 15:58	07/05/19 19:54	1
Nitrobenzene-d5	0	X	15 - 136	07/01/19 15:58	07/05/19 19:54	1
Phenol-d5	35		29 - 130	07/01/19 15:58	07/05/19 19:54	1
Terphenyl-d14	93		24 - 146	07/01/19 15:58	07/05/19 19:54	1
2,4,6-Tribromophenol	102		10 - 150	07/01/19 15:58	07/05/19 19:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.4		0.01	0.01	%			07/02/19 16:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 18:47	1
Acrolein	ND		20	10	ug/L			07/11/19 18:47	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 18:47	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 18:47	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 18:47	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 18:47	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 18:47	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 18:47	1
2-Butanone (MEK)	3.0	J	25	2.6	ug/L			07/12/19 09:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 18:47	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 18:47	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 18:47	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 18:47	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 09:32	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:47	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 18:47	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 18:47	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 18:47	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 18:47	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 18:47	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 18:47	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 18:47	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 18:47	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 18:47	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 18:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 18:47	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 18:47	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 18:47	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 18:47	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 18:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 18:47	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 18:47	1
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 18:47	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 18:47	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 18:47	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 18:47	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 18:47	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 18:47	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 18:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 18:47	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 18:47	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 18:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 18:47	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 18:47	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 18:47	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 18:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 18:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 18:47	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 18:47	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 18:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*12*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/11/19 18:47*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/11/19 18:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/11/19 18:47*	*1*
4-Bromofluorobenzene	*111*		*78 - 118*		*07/12/19 09:32*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/11/19 18:47*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*07/12/19 09:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/11/19 18:47*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/12/19 09:32*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 23:01	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
1-Methylnaphthalene	**0.051**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
2-Methylnaphthalene	**0.069**	**J B**	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Pyrene	ND	*	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/03/19 14:07*	*07/12/19 23:01*	*1*
Nitrobenzene-d5	*99*		*19 - 130*	*07/03/19 14:07*	*07/12/19 23:01*	*1*
Terphenyl-d14	*162*	*X*	*33 - 138*	*07/03/19 14:07*	*07/12/19 23:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
Benzoic acid	ND		29	7.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 19:43	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/03/19 14:07	07/14/19 19:43	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/03/19 14:07	07/14/19 19:43	1
Bis(2-ethylhexyl) phthalate	**9.4**	**J**	9.8	4.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 19:43	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 19:43	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 19:43	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 19:43	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 19:43	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 19:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 19:43	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/03/19 14:07	07/14/19 19:43	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 19:43	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 19:43	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 19:43	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB
Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 19:43	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 19:43	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 19:43	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 19:43	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 19:43	1
Phenol	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 19:43	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 19:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
1-Heneicosyl formate	*4.8*	*T J N*	*ug/L*		*10.89*	*77899-03-7*	*07/03/19 14:07*	*07/14/19 19:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*34 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
2-Fluorophenol	*58*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
Nitrobenzene-d5	*79*		*27 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
Phenol-d5	*71*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
Terphenyl-d14	*92*		*53 - 125*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
2,4,6-Tribromophenol	*74*		*15 - 135*	*07/03/19 14:07*	*07/14/19 19:43*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172420-2	PD-9-SB-41-062819	98	95	98
400-172420-3	PD-9-SB-43-062819	99	86	98
400-172420-4	PD-9-SB-54-062819	102	87	99
400-172420-5	PD-9-SB-54-062819-DUP	100	88	99
LCS 400-447664/2-A	Lab Control Sample	102	94	99
MB 400-447664/1-A	Method Blank	96	93	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172420-1	TB-PW-062819-A	107	97	96
400-172420-6	PD-9-SB-EB	109	98	101
400-172420-6	PD-9-SB-EB	111	102	98
LCS 400-447496/1002	Lab Control Sample	108	100	91
LCS 400-447677/1002	Lab Control Sample	104	101	93
MB 400-447496/5	Method Blank	108	101	101
MB 400-447677/5	Method Blank	107	100	94

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172420-2	PD-9-SB-41-062819	76	66	66	67	85	87
400-172420-3	PD-9-SB-43-062819	72	62	62	64	88	78
400-172420-4	PD-9-SB-54-062819	83	39	40	51	93	102
400-172420-5	PD-9-SB-54-062819-DUP	84	26	0 X	35	93	102
LCS 400-446440/4-A	Lab Control Sample	80	69	69	72	92	91
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

TBP = 2,4,6-Tribromophenol

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172420-6	PD-9-SB-EB	60	58	79	71	92	74
LCS 400-446728/18-A	Lab Control Sample	71	67	88	81	83	85
LCS 400-446728/2-A	Lab Control Sample	63	61	84	77	79	88
LCSD 400-446728/19-A	Lab Control Sample Dup	66	42	80	67	79	71
MB 400-446728/1-A	Method Blank	67	56	86	79	83	78

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172420-2	PD-9-SB-41-062819	79	74	100
400-172420-3	PD-9-SB-43-062819	74	69	86
400-172420-4	PD-9-SB-54-062819	78	111	91
400-172420-5	PD-9-SB-54-062819-DUP	79	100	98
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172420-6	PD-9-SB-EB	87	99	162 X
LCS 400-446728/2-A	Lab Control Sample	83	74	136
MB 400-446728/1-A	Method Blank	117	120	200 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 18:20	RS	TAL PEN

Client Sample ID: PD-9-SB-41-062819

Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:14	MEH	TAL PEN

Client Sample ID: PD-9-SB-41-062819

Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid
Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.575 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447623	07/11/19 23:44	CAR	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 18:50	VC1	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 21:41	KJA	TAL PEN

Client Sample ID: PD-9-SB-43-062819

Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Client Sample ID: PD-9-SB-43-062819

Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.404 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		250	5 mL	5 mL	447623	07/12/19 02:56	CAR	TAL PEN
Total/NA	Prep	3546			15.18 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 19:11	VC1	TAL PEN
Total/NA	Prep	3546			15.18 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 21:58	KJA	TAL PEN

Client Sample ID: PD-9-SB-54-062819

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.217 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447623	07/12/19 03:19	CAR	TAL PEN
Total/NA	Prep	3546			15.10 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 19:33	VC1	TAL PEN
Total/NA	Prep	3546			15.10 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 22:15	KJA	TAL PEN
Total/NA	Prep	3546			15.10 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		10			447502	07/12/19 19:35	KJA	TAL PEN

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5
Matrix: Solid
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.361 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447623	07/12/19 03:43	CAR	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 19:54	VC1	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 22:33	KJA	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		10			447502	07/12/19 19:51	KJA	TAL PEN

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 18:47	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 09:32	RS	TAL PEN
Total/NA	Prep	3520C			1017 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 19:43	VC1	TAL PEN
Total/NA	Prep	3520C			1017 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 23:01	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446728/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 16:04	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447496/5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 13:27	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447623	07/11/19 19:21	CAR	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447677/5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 09:06	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:06	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 16:20	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447496/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 11:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447664/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447623	07/11/19 17:46	CAR	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447677/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 08:06	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 15:49	VC1	TAL PEN

Client Sample ID: PD-9-SB-43-062819

Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3 DU
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

GC/MS VOA

Analysis Batch: 447496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-1	TB-PW-062819-A	Total/NA	Water	8260B	
400-172420-6	PD-9-SB-EB	Total/NA	Water	8260B	
MB 400-447496/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447496/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	8260B	447664
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	8260B	447664
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8260B	447664
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8260B	447664
MB 400-447664/1-A	Method Blank	Total/NA	Solid	8260B	447664
LCS 400-447664/2-A	Lab Control Sample	Total/NA	Solid	8260B	447664

Prep Batch: 447664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	5035	
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	5035	
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	5035	
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	5035	
MB 400-447664/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447664/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 447677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-6	PD-9-SB-EB	Total/NA	Water	8260B	
MB 400-447677/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447677/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	3546	
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	3546	
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	3546	
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Prep Batch: 446728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-6	PD-9-SB-EB	Total/NA	Water	3520C	
MB 400-446728/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

GC/MS Semi VOA

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	8270D	446440
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	8270D	446440
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8270D	446440
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/4-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 447381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	8270D LL	446440
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	8270D LL	446440
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8270D LL	446440
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8270D LL	446440

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8270D LL	446440
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8270D LL	446440
400-172420-6	PD-9-SB-EB	Total/NA	Water	8270D LL	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D LL	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D LL	446728

Analysis Batch: 447936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-6	PD-9-SB-EB	Total/NA	Water	8270D	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D	446728
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	446728

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

General Chemistry

Analysis Batch: 446604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	Moisture	
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	Moisture	
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	Moisture	
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	Moisture	
400-172420-3 DU	PD-9-SB-43-062819	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 13:27	1
Acrolein	ND		20	10	ug/L			07/11/19 13:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 13:27	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 13:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 13:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 13:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 13:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 13:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 13:27	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 13:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 13:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 13:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 13:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 13:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 13:27	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 13:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 13:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 13:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 13:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 13:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 13:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 13:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 13:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 13:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 13:27	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 13:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 13:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 13:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 13:27	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 13:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 13:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 13:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 13:27	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/11/19 13:27*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/11/19 13:27*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/11/19 13:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/11/19 13:27*	*1*

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	233		ug/L		117	43 - 160
Acrolein	500	699		ug/L		140	38 - 160
Acrylonitrile	500	527		ug/L		105	64 - 142
Benzene	50.0	52.2		ug/L		104	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	48.7		ug/L		97	70 - 130
Bromodichloromethane	50.0	49.3		ug/L		99	67 - 133
Bromoform	50.0	47.1		ug/L		94	57 - 140
Bromomethane	50.0	31.6		ug/L		63	10 - 160
2-Butanone (MEK)	200	273		ug/L		136	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	49.0		ug/L		98	61 - 137
Chlorobenzene	50.0	50.1		ug/L		100	70 - 130
Chloroethane	50.0	48.8		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	36.2		ug/L		72	10 - 160
Chloroform	50.0	50.8		ug/L		102	69 - 130
1-Chlorohexane	50.0	47.7		ug/L		95	69 - 130
Chloromethane	50.0	54.3		ug/L		109	58 - 137
cis-1,2-Dichloroethene	50.0	50.9		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	69 - 132
Dibromochloromethane	50.0	44.4		ug/L		89	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	60.2		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	52.0		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	50.8		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	49.1		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	47.7		ug/L		95	52 - 135
1,1-Dichloropropene	50.0	50.9		ug/L		102	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethylene Dibromide	50.0	49.4		ug/L		99	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	58.9		ug/L		118	53 - 140
2-Hexanone	200	222		ug/L		111	65 - 137
Isopropylbenzene	50.0	47.2		ug/L		94	70 - 130
Methylene bromide	50.0	49.6		ug/L		99	70 - 130
Methylene Chloride	50.0	51.9		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	208		ug/L		104	69 - 138
Methyl tert-butyl ether	50.0	50.4		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	48.0		ug/L		96	70 - 130
Naphthalene	50.0	47.5		ug/L		95	47 - 149
n-Butylbenzene	50.0	50.5		ug/L		101	67 - 130
N-Propylbenzene	50.0	51.9		ug/L		104	70 - 130
o-Chlorotoluene	50.0	53.3		ug/L		107	70 - 130
o-Xylene	50.0	46.9		ug/L		94	70 - 130
p-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.9		ug/L		104	66 - 130
Styrene	50.0	45.4		ug/L		91	70 - 130
tert-Butylbenzene	50.0	50.4		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.6		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	57.8		ug/L		116	70 - 131
Tetrachloroethene	50.0	39.9		ug/L		80	65 - 130
Toluene	50.0	47.0		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	51.0		ug/L		102	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	46.2		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	53.6		ug/L		107	65 - 138
1,2,3-Trichloropropane	50.0	54.6		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	52.7		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	53.8		ug/L		108	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	57.4		ug/L		115	59 - 136
Xylenes, Total	100	94.8		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*108*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Acrolein	ND		50	28	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Benzene	ND		5.0	0.67	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromoform	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chloroform	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/11/19 16:59	07/11/19 19:21	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2-Hexanone	ND		25	5.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Methylene Chloride	ND		15	10	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Styrene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Toluene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/11/19 16:59	07/11/19 19:21	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447664

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/11/19 16:59	07/11/19 19:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		72 - 122	07/11/19 16:59	07/11/19 19:21	1
Dibromofluoromethane	93		79 - 123	07/11/19 16:59	07/11/19 19:21	1
Toluene-d8 (Surr)	100		80 - 120	07/11/19 16:59	07/11/19 19:21	1

Lab Sample ID: LCS 400-447664/2-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	229		ug/Kg		115	48 - 160
Acrolein	500	559		ug/Kg		112	40 - 150
Acrylonitrile	500	643		ug/Kg		129	60 - 130
Benzene	50.0	50.2		ug/Kg		100	65 - 130
Bromobenzene	50.0	52.3		ug/Kg		105	65 - 130
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 130
Bromodichloromethane	50.0	47.7		ug/Kg		95	61 - 130
Bromoform	50.0	49.3		ug/Kg		99	52 - 136
Bromomethane	50.0	38.0		ug/Kg		76	12 - 160
2-Butanone (MEK)	200	198		ug/Kg		99	55 - 130
Carbon disulfide	50.0	47.9		ug/Kg		96	46 - 141
Carbon tetrachloride	50.0	47.1		ug/Kg		94	60 - 130
Chlorobenzene	50.0	49.9		ug/Kg		100	70 - 130
Chloroethane	50.0	46.2		ug/Kg		92	55 - 134
2-Chloroethyl vinyl ether	50.0	39.5		ug/Kg		79	10 - 158
Chloroform	50.0	50.1		ug/Kg		100	62 - 130
1-Chlorohexane	50.0	51.8		ug/Kg		104	69 - 130
Chloromethane	50.0	52.7		ug/Kg		105	49 - 136
cis-1,2-Dichloroethene	50.0	50.3		ug/Kg		101	53 - 135
cis-1,3-Dichloropropene	50.0	48.8		ug/Kg		98	61 - 130
Dibromochloromethane	50.0	50.2		ug/Kg		100	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	52.0		ug/Kg		104	49 - 130
1,2-Dichlorobenzene	50.0	55.1		ug/Kg		110	64 - 130
1,3-Dichlorobenzene	50.0	54.1		ug/Kg		108	66 - 130
1,4-Dichlorobenzene	50.0	53.5		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	42.7		ug/Kg		85	34 - 143
1,1-Dichloroethane	50.0	50.5		ug/Kg		101	59 - 130
1,2-Dichloroethane	50.0	49.0		ug/Kg		98	62 - 130
1,1-Dichloroethene	50.0	52.7		ug/Kg		105	55 - 137
1,2-Dichloropropane	50.0	50.3		ug/Kg		101	64 - 130
1,3-Dichloropropane	50.0	50.5		ug/Kg		101	67 - 130
2,2-Dichloropropane	50.0	45.0		ug/Kg		90	51 - 132
1,1-Dichloropropene	50.0	49.7		ug/Kg		99	65 - 130
Ethylbenzene	50.0	52.2		ug/Kg		104	70 - 130
Ethylene Dibromide	50.0	53.4		ug/Kg		107	67 - 130
Ethyl methacrylate	50.0	51.8		ug/Kg		104	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447664/2-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	43.0		ug/Kg		86	62 - 133
2-Hexanone	200	195		ug/Kg		97	57 - 131
Isopropylbenzene	50.0	51.2		ug/Kg		102	70 - 130
Methylene bromide	50.0	50.0		ug/Kg		100	65 - 130
Methylene Chloride	50.0	54.3		ug/Kg		109	57 - 132
4-Methyl-2-pentanone (MIBK)	200	220		ug/Kg		110	58 - 130
Methyl tert-butyl ether	50.0	47.4		ug/Kg		95	63 - 130
m-Xylene & p-Xylene	50.0	52.8		ug/Kg		106	70 - 130
Naphthalene	50.0	53.8		ug/Kg		108	45 - 144
n-Butylbenzene	50.0	53.5		ug/Kg		107	66 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.5		ug/Kg		109	67 - 130
o-Xylene	50.0	52.4		ug/Kg		105	70 - 130
p-Chlorotoluene	50.0	57.7		ug/Kg		115	66 - 130
p-Isopropyltoluene	50.0	55.1		ug/Kg		110	68 - 130
sec-Butylbenzene	50.0	54.1		ug/Kg		108	67 - 130
Styrene	50.0	49.6		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	52.3		ug/Kg		105	67 - 130
1,1,1,2-Tetrachloroethane	50.0	51.6		ug/Kg		103	65 - 130
1,1,2,2-Tetrachloroethane	50.0	55.4		ug/Kg		111	60 - 131
Tetrachloroethene	50.0	48.4		ug/Kg		97	67 - 130
Toluene	50.0	52.3		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	54.5		ug/Kg		109	58 - 134
trans-1,3-Dichloropropene	50.0	49.0		ug/Kg		98	60 - 130
1,2,3-Trichlorobenzene	50.0	43.7		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	44.7		ug/Kg		89	56 - 138
1,1,1-Trichloroethane	50.0	49.1		ug/Kg		98	63 - 130
1,1,2-Trichloroethane	50.0	51.5		ug/Kg		103	65 - 130
Trichloroethene	50.0	50.9		ug/Kg		102	65 - 130
Trichlorofluoromethane	50.0	41.7		ug/Kg		83	61 - 136
1,2,3-Trichloropropane	50.0	58.1		ug/Kg		116	60 - 130
1,2,4-Trimethylbenzene	50.0	54.9		ug/Kg		110	66 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/Kg		110	67 - 130
Vinyl acetate	100	117		ug/Kg		117	24 - 160
Vinyl chloride	50.0	53.0		ug/Kg		106	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*72 - 122*
Dibromofluoromethane	*94*		*79 - 123*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 09:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 09:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 09:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/12/19 09:06*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 09:06*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*07/12/19 09:06*	*1*

Lab Sample ID: LCS 400-447677/1002
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Butanone (MEK)	200	290		ug/L		145	61 - 145
Chloromethane	50.0	55.3		ug/L		111	58 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/01/19 15:58	07/05/19 12:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		27 - 127	07/01/19 15:58	07/05/19 12:45	1
2-Fluorophenol	70		25 - 128	07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene-d5	69		15 - 136	07/01/19 15:58	07/05/19 12:45	1
Phenol-d5	72		29 - 130	07/01/19 15:58	07/05/19 12:45	1
Terphenyl-d14	94		24 - 146	07/01/19 15:58	07/05/19 12:45	1
2,4,6-Tribromophenol	89		10 - 150	07/01/19 15:58	07/05/19 12:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/4-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	ND	*	ug/Kg		1	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
2-Fluorophenol	*69*		*25 - 128*
Nitrobenzene-d5	*69*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*92*		*24 - 146*
2,4,6-Tribromophenol	*91*		*10 - 150*

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzenethiol	ND		10	1.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 15:06	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 15:06	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 15:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*34 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2-Fluorophenol	*56*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Phenol-d5	*79*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Terphenyl-d14	*83*		*53 - 125*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/03/19 14:07*	*07/14/19 15:06*	*1*

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*34 - 120*
2-Fluorophenol	*67*		*10 - 120*
Nitrobenzene-d5	*88*		*27 - 120*
Phenol-d5	*81*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*85*		*15 - 135*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	20.9		ug/L		70	29 - 120
Benzoic acid	117	99.1		ug/L		85	10 - 150
Benzyl alcohol	30.0	25.1		ug/L		84	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.3		ug/L		71	45 - 120
Bis(2-chloroethyl)ether	30.0	18.9		ug/L		63	48 - 120
bis (2-chloroisopropyl) ether	30.0	21.5		ug/L		72	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.5		ug/L		85	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	23.4		ug/L		78	46 - 145
4-Chloroaniline	30.0	21.7		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	28.8		ug/L		96	39 - 140
2-Chloronaphthalene	30.0	21.0		ug/L		70	52 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	30.0	22.4		ug/L		75	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.5		ug/L		72	58 - 124
Dibenz[a,h]acridine	30.0	13.6	*	ug/L		45	46 - 149
Dibenzofuran	30.0	22.3		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	40.0	42.0		ug/L		105	39 - 135
2,4-Dichlorophenol	30.0	25.9		ug/L		86	39 - 128
Diethyl phthalate	30.0	24.4		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	22.6		ug/L		75	44 - 120
Dimethyl phthalate	30.0	24.0		ug/L		80	50 - 131
Di-n-butyl phthalate	30.0	25.3		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	47.6		ug/L		79	10 - 150
2,4-Dinitrophenol	60.0	53.2		ug/L		89	10 - 150
2,4-Dinitrotoluene	30.0	26.4		ug/L		88	58 - 140
2,6-Dinitrotoluene	30.0	25.0		ug/L		83	57 - 130
Di-n-octyl phthalate	30.0	22.9		ug/L		76	50 - 150
1,4-Dioxane	30.0	15.5		ug/L		52	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	23.4		ug/L		78	47 - 123
Hexachlorobenzene	30.0	21.9		ug/L		73	52 - 131
Hexachlorocyclopentadiene	30.0	3.16	J	ug/L		11	10 - 129
Hexachloroethane	30.0	13.7		ug/L		46	41 - 120
Indene	30.0	20.3		ug/L		68	47 - 120
Isophorone	30.0	23.4		ug/L		78	49 - 120
2-Methylphenol	30.0	23.3		ug/L		78	39 - 123
3 & 4 Methylphenol	30.0	22.6		ug/L		75	38 - 121
2-Nitroaniline	30.0	26.6		ug/L		89	47 - 150
3-Nitroaniline	30.0	26.0		ug/L		87	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	23.5		ug/L		78	47 - 120
2-Nitrophenol	30.0	25.6		ug/L		85	28 - 136
4-Nitrophenol	60.0	49.7		ug/L		83	10 - 150
N-Nitrosodimethylamine	30.0	20.9		ug/L		70	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.7		ug/L		69	44 - 120
N-Nitrosodiphenylamine	29.8	24.8		ug/L		83	56 - 120
Pentachlorophenol	60.0	46.8		ug/L		78	15 - 141
Phenol	30.0	21.4		ug/L		71	33 - 120
Pyridine	60.0	30.3		ug/L		51	26 - 120
Quinoline	30.0	20.8		ug/L		69	51 - 129
2,4,5-Trichlorophenol	30.0	25.3		ug/L		84	38 - 147
2,4,6-Trichlorophenol	30.0	24.8		ug/L		83	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*77*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*88*		*15 - 135*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*
Nitrobenzene-d5	*78*		*15 - 136*
Terphenyl-d14	*121*		*24 - 146*

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene	333	305		ug/Kg		92	59 - 120	10	30
Anthracene	333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene	333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene	333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene	333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene	333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene	333	331		ug/Kg		99	53 - 139	5	30
Chrysene	333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene	333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene	333	306		ug/Kg		92	61 - 121	8	30
Fluorene	333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene	333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene	333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene	333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene	333	311		ug/Kg		93	59 - 120	7	30
Pyrene	333	334		ug/Kg		100	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*27 - 127*
Nitrobenzene-d5	*71*		*15 - 136*
Terphenyl-d14	*114*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 16:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
2-Methylnaphthalene	0.0487	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*15 - 122*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Nitrobenzene-d5	*120*		*19 - 130*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Terphenyl-d14	*200*	*X*	*33 - 138*	*07/03/19 14:07*	*07/12/19 16:04*	*1*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	32.9		ug/L		110	41 - 120
Acenaphthylene	30.0	30.0		ug/L		100	44 - 120
Anthracene	30.0	29.7		ug/L		99	49 - 120
Benzo[a]anthracene	30.0	30.7		ug/L		102	61 - 135
Benzo[a]pyrene	30.0	28.7		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	32.5		ug/L		108	53 - 134
Benzo[g,h,i]perylene	30.0	27.0		ug/L		90	47 - 133
Benzo[k]fluoranthene	30.0	31.2		ug/L		104	57 - 134
Chrysene	30.0	31.4		ug/L		105	55 - 122
Dibenz(a,h)anthracene	30.0	36.2		ug/L		121	48 - 146
Fluoranthene	30.0	30.5		ug/L		102	54 - 128
Fluorene	30.0	36.4		ug/L		121	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	34.0		ug/L		113	43 - 142
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124
Phenanthrene	30.0	32.0		ug/L		107	48 - 120
Pyrene	30.0	41.4	*	ug/L		138	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*74*		*19 - 130*
Terphenyl-d14	*136*		*33 - 138*

Method: Moisture - Percent Moisture

Lab Sample ID: 400-172420-3 DU
Matrix: Solid
Analysis Batch: 446604

Client Sample ID: PD-9-SB-43-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	80.6			82.8		%				3	10

Shell Oil Products US Chain Of Custody Record

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF N	400-172420 COC
James Carrino	25278	DATE 6/28/2019	
PO #	GSAP Project ID	PAGE 1 of 1	
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02		

SAMPLING COMPANY	LOG CODE	State	AECOM Project / Task Number:
AECOM		IL	PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO	E-MAIL	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062819-A	6/28/2019	0:00	Water	X					2			X		
	PD-9-SB-41-062819	6/28/2019	8:30	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-43-062819	6/28/2019	9:05	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-54-062819	6/28/2019	11:00	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-54-062819- DUP	6/28/2019	11:00	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-EB	6/28/19	1615	Water	X			X		4	X		X	X	

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Brett Howell	Fedex:	6/28/2019	1700
	Received by: (Signature)	Date: 6-29-19	Time: 9:19

Version 10May17

Dep: Wgt: 20.00 LBS DV: 0.00 SPECIAL: 0.00 HANDLING: 0.00 TOTAL: 0.00

Svc: PRIORITY OVERNIGHT Master 4782 2877 1318
TRK: 4782 2877 1362

0.2° < IR8

Page 13 of 63

7/26/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172420-1

Login Number: 172420
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172420-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 11:40:58 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172420-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172420-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-22-19.

Receipt
The samples were received on 6/29/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-062819-A (400-172420-1) and PD-9-SB-EB (400-172420-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-9-SB-43-062819 (400-172420-3), PD-9-SB-54-062819 (400-172420-4) and PD-9-SB-54-062819-DUP (400-172420-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-446440 and analytical batch 400-446849 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-446440 and analytical batch 400-446849 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-9-SB-54-062819-DUP (400-172420-5). These results have been reported and qualified.

Method(s) 8270D LL: The method blank for preparation batch 400-446440 and analytical batch 400-447351 contained 2-Methylnaphthalene, Pyrene and Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-446728 and analytical batch 400-447502 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside

Job ID: 400-172420-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-9-SB-EB (400-172420-6) and (MB 400-446728/1-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446728 and analytical batch 400-447936 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: (400-172422-C-2-A MS) and (400-172422-D-2-C MSD). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-446728 and analytical batch 400-447936: Dibenz[a,h]acridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-446728 and analytical batch 400-447502 recovered outside control limits for the following analytes: Pyrene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172420-1	TB-PW-062819-A	Water	06/28/19 00:00	06/29/19 09:19	
400-172420-2	PD-9-SB-41-062819	Solid	06/28/19 08:30	06/29/19 09:19	
400-172420-3	PD-9-SB-43-062819	Solid	06/28/19 09:05	06/29/19 09:19	
400-172420-4	PD-9-SB-54-062819	Solid	06/28/19 11:00	06/29/19 09:19	
400-172420-5	PD-9-SB-54-062819-DUP	Solid	06/28/19 11:00	06/29/19 09:19	
400-172420-6	PD-9-SB-EB	Water	06/28/19 16:15	06/29/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A — Lab Sample ID: 400-172420-1

No Detections.

Client Sample ID: PD-9-SB-41-062819 — Lab Sample ID: 400-172420-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	36		4.8	0.64	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	1.6	J	4.8	0.59	ug/Kg	1	☼	8260B	Total/NA
m-Xylene & p-Xylene	2.3	J	4.8	1.3	ug/Kg	1	☼	8260B	Total/NA
Toluene	1.7	J	4.8	0.96	ug/Kg	1	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	1.2	J	4.8	0.96	ug/Kg	1	☼	8260B	Total/NA
Xylenes, Total	3.1	J	9.6	1.8	ug/Kg	1	☼	8260B	Total/NA
1-Methylnaphthalene	3.3	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	2.7	J B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	70	J B	410	41	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-43-062819 — Lab Sample ID: 400-172420-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	43000		1500	200	ug/Kg	250	☼	8260B	Total/NA
Anthracene	7.0	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	4.2	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	5.0	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	33	B	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	4.5	J	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	22		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	8.3	B	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	25		8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	20	B	8.1	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	62	J B	400	40	ug/Kg	1	☼	8270D	Total/NA
Phenol	110	J	400	40	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-54-062819 — Lab Sample ID: 400-172420-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	240000		5700	760	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	32000		5700	690	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	2600	J	5700	770	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	75000		5700	1500	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	6200		5700	2300	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	4900	J	5700	1100	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	10000		5700	1000	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	26000		5700	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	1300	J	5700	1100	ug/Kg	1000	☼	8260B	Total/NA
Toluene	9400		5700	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	51000		5700	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	17000		5700	940	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	100000		11000	2200	ug/Kg	1000	☼	8260B	Total/NA
Benzo[a]anthracene	2.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	5.2	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	6.2	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	12	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	4200		78	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene	11000	B	78	12	ug/Kg	10	☼	8270D LL	Total/NA
Phenanthrene	150		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819 (Continued) — Lab Sample ID: 400-172420-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	16	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	62	J B	390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-54-062819-DUP — Lab Sample ID: 400-172420-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	260000		5600	750	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	32000		5600	680	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	2400	J	5600	760	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	77000		5600	1400	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	6000		5600	2200	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	4600	J	5600	1100	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	9500		5600	1000	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	28000		5600	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	1100	J	5600	1100	ug/Kg	1000	☼	8260B	Total/NA
Toluene	9700		5600	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	47000		5600	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	16000		5600	930	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	100000		11000	2100	ug/Kg	1000	☼	8260B	Total/NA
Acenaphthene	76		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	3.0	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	4.9	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	4.6	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	3.3	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	13	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	94		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.4	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	3300		77	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene	8100	B	77	12	ug/Kg	10	☼	8270D LL	Total/NA
Phenanthrene	130		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	15	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	72	J B	380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-9-SB-EB — Lab Sample ID: 400-172420-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.0	J	25	2.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.051	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.069	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.4	J	9.8	4.9	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 18:20	1
Acrolein	ND		20	10	ug/L			07/11/19 18:20	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 18:20	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 18:20	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 18:20	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 18:20	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 18:20	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 18:20	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 18:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 18:20	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 18:20	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 18:20	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 18:20	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 18:20	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:20	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 18:20	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 18:20	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 18:20	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 18:20	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 18:20	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 18:20	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 18:20	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 18:20	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 18:20	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 18:20	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 18:20	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 18:20	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 18:20	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 18:20	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 18:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 18:20	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 18:20	1
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 18:20	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: TB-PW-062819-A
Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 18:20	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 18:20	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 18:20	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 18:20	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 18:20	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 18:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 18:20	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 18:20	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 18:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 18:20	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:20	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 18:20	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 18:20	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 18:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 18:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 18:20	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 18:20	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 18:20	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 18:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclotetrasiloxane, octamethyl-	*13*	*T J N*	*ug/L*		*6.69*	*556-67-2*		*07/11/19 18:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/11/19 18:20*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/11/19 18:20*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/11/19 18:20*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819
Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid
Percent Solids: 79.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		24	13	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Acrolein	ND		48	27	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Acrylonitrile	ND		19	7.7	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Benzene	**36**		4.8	0.64	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromobenzene	ND		4.8	1.3	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromochloromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromodichloromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromoform	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Bromomethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2-Butanone (MEK)	ND		24	5.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Carbon disulfide	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Carbon tetrachloride	ND		4.8	1.6	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chlorobenzene	ND		4.8	0.50	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2-Chloroethyl vinyl ether	ND		9.6	4.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chloroform	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1-Chlorohexane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Chloromethane	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
cis-1,2-Dichloroethene	ND		4.8	0.73	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
cis-1,3-Dichloropropene	ND		4.8	1.2	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Dibromochloromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dibromo-3-Chloropropane	ND		4.8	3.2	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dichlorobenzene	ND		4.8	0.68	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,3-Dichlorobenzene	ND		4.8	0.91	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,4-Dichlorobenzene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Dichlorodifluoromethane	ND		4.8	1.3	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1-Dichloroethane	ND		4.8	0.80	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dichloroethane	ND		4.8	0.79	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1-Dichloroethene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,3-Dichloropropane	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2,2-Dichloropropane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1-Dichloropropene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Ethylbenzene	**1.6**	**J**	4.8	0.59	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Ethylene Dibromide	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Ethyl methacrylate	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Hexachlorobutadiene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
2-Hexanone	ND		24	4.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Isopropylbenzene	ND		4.8	0.65	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Methylene bromide	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Methylene Chloride	ND		14	9.6	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
4-Methyl-2-pentanone (MIBK)	ND		24	4.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Methyl tert-butyl ether	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
m-Xylene & p-Xylene	**2.3**	**J**	4.8	1.3	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Naphthalene	ND		4.8	1.9	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
n-Butylbenzene	ND		4.8	0.92	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
N-Propylbenzene	ND		4.8	0.87	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
o-Chlorotoluene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
o-Xylene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819
Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid
Percent Solids: 79.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		4.8	0.94	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
p-Isopropyltoluene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
sec-Butylbenzene	ND		4.8	0.91	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Styrene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
tert-Butylbenzene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,1,2-Tetrachloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,2,2-Tetrachloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Tetrachloroethene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Toluene	**1.7**	**J**	4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
trans-1,2-Dichloroethene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
trans-1,3-Dichloropropene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,3-Trichlorobenzene	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,4-Trichlorobenzene	ND		4.8	1.9	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,1-Trichloroethane	ND		4.8	1.1	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,1,2-Trichloroethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Trichloroethene	ND		4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Trichlorofluoromethane	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,3-Trichloropropane	ND		4.8	2.9	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,2,4-Trimethylbenzene	**1.2**	**J**	4.8	0.96	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
1,3,5-Trimethylbenzene	ND		4.8	0.80	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Vinyl acetate	ND		24	8.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Vinyl chloride	ND		4.8	2.4	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1
Xylenes, Total	**3.1**	**J**	9.6	1.8	ug/Kg	☼	07/11/19 16:59	07/11/19 23:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/11/19 16:59*	*07/11/19 23:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/11/19 16:59*	*07/11/19 23:44*	*1*
Dibromofluoromethane	*95*		*79 - 123*	*07/11/19 16:59*	*07/11/19 23:44*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/11/19 16:59*	*07/11/19 23:44*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[a]anthracene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[a]pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[b]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[g,h,i]perylene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Chrysene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Fluorene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Indeno[1,2,3-cd]pyrene	ND		8.2	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
1-Methylnaphthalene	**3.3**	**J**	8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
2-Methylnaphthalene	**2.7**	**J B**	8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1
Phenanthrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-41-062819
Date Collected: 06/28/19 08:30
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-2
Matrix: Solid
Percent Solids: 79.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		8.2	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/11/19 21:41*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/01/19 15:58*	*07/11/19 21:41*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/01/19 15:58*	*07/11/19 21:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	53	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Benzenethiol	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Bis(2-ethylhexyl) phthalate	**70**	**J B**	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Dibenz[a,h]acridine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
3,3'-Dichlorobenzidine	ND	*	410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Indene	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Isophorone	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
3 & 4 Methylphenol	ND		820	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1

Client: AECOM Technical Services Inc.
Job ID: 400-172420-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-SB-41-062819
Lab Sample ID: 400-172420-2
Date Collected: 06/28/19 08:30
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 79.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
N-Nitrosodimethylamine	ND		410	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Phenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Pyridine	ND		410	190	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
Quinoline	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/01/19 15:58	07/05/19 18:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 18:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*27 - 127*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
2-Fluorophenol	*66*		*25 - 128*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Phenol-d5	*67*		*29 - 130*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
Terphenyl-d14	*85*		*24 - 146*	*07/01/19 15:58*	*07/05/19 18:50*	*1*
2,4,6-Tribromophenol	*87*		*10 - 150*	*07/01/19 15:58*	*07/05/19 18:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.0**		0.01	0.01	%			07/02/19 16:14	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819

Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3

Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		7600	3900	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Acrolein	ND		15000	8500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Acrylonitrile	ND		6100	2400	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Benzene	**43000**		1500	200	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromobenzene	ND		1500	390	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromochloromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromodichloromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromoform	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Bromomethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2-Butanone (MEK)	ND		7600	1800	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Carbon disulfide	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Carbon tetrachloride	ND		1500	510	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chlorobenzene	ND		1500	160	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2-Chloroethyl vinyl ether	ND		3000	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chloroform	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1-Chlorohexane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Chloromethane	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
cis-1,2-Dichloroethene	ND		1500	230	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
cis-1,3-Dichloropropene	ND		1500	360	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Dibromochloromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dibromo-3-Chloropropane	ND		1500	1000	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dichlorobenzene	ND		1500	210	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,3-Dichlorobenzene	ND		1500	290	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,4-Dichlorobenzene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Dichlorodifluoromethane	ND		1500	390	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1-Dichloroethane	ND		1500	250	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dichloroethane	ND		1500	250	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1-Dichloroethene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2-Dichloropropane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,3-Dichloropropane	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2,2-Dichloropropane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1-Dichloropropene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Ethylbenzene	ND		1500	180	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Ethylene Dibromide	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Ethyl methacrylate	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Hexachlorobutadiene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
2-Hexanone	ND		7600	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Isopropylbenzene	ND		1500	210	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Methylene bromide	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Methylene Chloride	ND		4500	3000	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
4-Methyl-2-pentanone (MIBK)	ND		7600	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Methyl tert-butyl ether	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
m-Xylene & p-Xylene	ND		1500	390	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Naphthalene	ND		1500	610	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
n-Butylbenzene	ND		1500	290	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
N-Propylbenzene	ND		1500	270	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
o-Chlorotoluene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
o-Xylene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
p-Isopropyltoluene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
sec-Butylbenzene	ND		1500	290	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Styrene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
tert-Butylbenzene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,1,2-Tetrachloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,2,2-Tetrachloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Tetrachloroethene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Toluene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
trans-1,2-Dichloroethene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
trans-1,3-Dichloropropene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,3-Trichlorobenzene	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,4-Trichlorobenzene	ND		1500	610	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,1-Trichloroethane	ND		1500	330	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,1,2-Trichloroethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Trichloroethene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Trichlorofluoromethane	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,3-Trichloropropane	ND		1500	910	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,2,4-Trimethylbenzene	ND		1500	300	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
1,3,5-Trimethylbenzene	ND		1500	250	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Vinyl acetate	ND		7600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Vinyl chloride	ND		1500	760	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250
Xylenes, Total	ND		3000	570	ug/Kg	☼	07/11/19 16:59	07/12/19 02:56	250

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/11/19 16:59*	*07/12/19 02:56*	*250*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/11/19 16:59*	*07/12/19 02:56*	*250*
Dibromofluoromethane	*86*		*79 - 123*	*07/11/19 16:59*	*07/12/19 02:56*	*250*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/11/19 16:59*	*07/12/19 02:56*	*250*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Acenaphthylene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Anthracene	**7.0**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[a]anthracene	**4.2**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[a]pyrene	**5.0**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[b]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[g,h,i]perylene	ND		8.1	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Benzo[k]fluoranthene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Chrysene	ND		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Dibenz(a,h)anthracene	ND		8.1	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Fluoranthene	**33**	**B**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Fluorene	**4.5**	**J**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Indeno[1,2,3-cd]pyrene	ND		8.1	2.5	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
1-Methylnaphthalene	**22**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
2-Methylnaphthalene	**8.3**	**B**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1
Phenanthrene	**25**		8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**20**	**B**	8.1	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 21:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*27 - 127*	*07/01/19 15:58*	*07/11/19 21:58*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/11/19 21:58*	*1*
Terphenyl-d14	*86*		*24 - 146*	*07/01/19 15:58*	*07/11/19 21:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	53	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Benzenethiol	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Benzyl alcohol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Bis(2-chloroethoxy)methane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Bis(2-chloroethyl)ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Bis(2-ethylhexyl) phthalate	**62**	**J B**	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Dibenz[a,h]acridine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Di-n-butyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
1,4-Dioxane	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Hexachlorocyclopentadiene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Indene	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Isophorone	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
3 & 4 Methylphenol	ND		810	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
3-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3
Matrix: Solid
Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2-Nitrophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
N-Nitrosodimethylamine	ND		400	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Pentachlorophenol	ND		810	81	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Phenol	**110**	**J**	400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Pyridine	ND		400	180	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
Quinoline	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/01/19 15:58	07/05/19 19:11	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/01/19 15:58*	*07/05/19 19:11*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*27 - 127*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
2-Fluorophenol	*62*		*25 - 128*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Phenol-d5	*64*		*29 - 130*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/01/19 15:58*	*07/05/19 19:11*	*1*
2,4,6-Tribromophenol	*78*		*10 - 150*	*07/01/19 15:58*	*07/05/19 19:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80.6**		0.01	0.01	%			07/02/19 16:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4

Matrix: Solid
Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		28000	15000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Acrolein	ND		57000	32000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Acrylonitrile	ND		23000	9100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Benzene	**240000**		5700	760	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromobenzene	ND		5700	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromochloromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromodichloromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromoform	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Bromomethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2-Butanone (MEK)	ND		28000	6800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Carbon disulfide	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Carbon tetrachloride	ND		5700	1900	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chlorobenzene	ND		5700	590	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2-Chloroethyl vinyl ether	ND		11000	5700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chloroform	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1-Chlorohexane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Chloromethane	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
cis-1,2-Dichloroethene	ND		5700	860	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
cis-1,3-Dichloropropene	ND		5700	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Dibromochloromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dibromo-3-Chloropropane	ND		5700	3700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dichlorobenzene	ND		5700	810	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,3-Dichlorobenzene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,4-Dichlorobenzene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Dichlorodifluoromethane	ND		5700	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1-Dichloroethane	ND		5700	940	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dichloroethane	ND		5700	930	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1-Dichloroethene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2-Dichloropropane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,3-Dichloropropane	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2,2-Dichloropropane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1-Dichloropropene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Ethylbenzene	**32000**		5700	690	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Ethylene Dibromide	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Ethyl methacrylate	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Hexachlorobutadiene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
2-Hexanone	ND		28000	5700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Isopropylbenzene	**2600**	**J**	5700	770	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Methylene bromide	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Methylene Chloride	ND		17000	11000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
4-Methyl-2-pentanone (MIBK)	ND		28000	5700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Methyl tert-butyl ether	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
m-Xylene & p-Xylene	**75000**		5700	1500	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Naphthalene	**6200**		5700	2300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
n-Butylbenzene	**4900**	**J**	5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
N-Propylbenzene	**10000**		5700	1000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
o-Chlorotoluene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
o-Xylene	**26000**		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid
Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
p-Isopropyltoluene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
sec-Butylbenzene	**1300**	**J**	5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Styrene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
tert-Butylbenzene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,1,2-Tetrachloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,2,2-Tetrachloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Tetrachloroethene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Toluene	**9400**		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
trans-1,2-Dichloroethene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
trans-1,3-Dichloropropene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,3-Trichlorobenzene	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,4-Trichlorobenzene	ND		5700	2300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,1-Trichloroethane	ND		5700	1200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,1,2-Trichloroethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Trichloroethene	ND		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Trichlorofluoromethane	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,3-Trichloropropane	ND		5700	3400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,2,4-Trimethylbenzene	**51000**		5700	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
1,3,5-Trimethylbenzene	**17000**		5700	940	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Vinyl acetate	ND		28000	10000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Vinyl chloride	ND		5700	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000
Xylenes, Total	**100000**		11000	2200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:19	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*16000*	*T J N*	*ug/Kg*	☼	*2.02*	*109-66-0*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Pentane, 3-methyl-	*20000*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Hexane	*44000*		*ug/Kg*	☼	*2.93*	*110-54-3*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclopentane, methyl-	*33000*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclohexane	*20000*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Hexane, 3-methyl-	*25000*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Cyclopentane, 1,2-dimethyl-, trans-	*24000*	*T J N*	*ug/Kg*	☼	*4.01*	*822-50-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
n-Heptane	*43000*		*ug/Kg*	☼	*4.04*	*142-82-5*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Methylcyclohexane	*32000*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*13000*	*T J*	*ug/Kg*	☼	*4.77*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Heptane, 2-methyl-	*34000*	*T J N*	*ug/Kg*	☼	*4.80*	*592-27-8*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*29000*	*T J*	*ug/Kg*	☼	*4.90*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*51000*	*T J*	*ug/Kg*	☼	*5.18*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*13000*	*T J*	*ug/Kg*	☼	*5.39*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*13000*	*T J*	*ug/Kg*	☼	*5.59*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*31000*	*T J*	*ug/Kg*	☼	*5.89*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Octane, 3-methyl-	*22000*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
3-Ethyltoluene	*45000*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*26000*	*T J*	*ug/Kg*	☼	*8.06*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*
p-Diethylbenzene	*12000*		*ug/Kg*	☼	*8.11*	*105-05-5*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*18000*	*T J N*	*ug/Kg*	☼	*8.35*	*874-41-9*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Benzene, 1-ethyl-2,4-dimethyl-	*12000*	*T J N*	*ug/Kg*	☼	*8.41*	*874-41-9*	*07/11/19 16:59*	*07/12/19 03:19*	*1000*
Unknown	*14000*	*T J*	*ug/Kg*	☼	*9.12*		*07/11/19 16:59*	*07/12/19 03:19*	*1000*

Client Sample ID: PD-9-SB-54-062819
Lab Sample ID: 400-172420-4
Date Collected: 06/28/19 11:00
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 84.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 122	07/11/19 16:59	07/12/19 03:19	1000
Dibromofluoromethane	87		79 - 123	07/11/19 16:59	07/12/19 03:19	1000
Toluene-d8 (Surr)	99		80 - 120	07/11/19 16:59	07/12/19 03:19	1000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[a]anthracene	**2.8**	**J**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[a]pyrene	**5.2**	**J**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[b]fluoranthene	**6.2**	**J**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Fluoranthene	**12**	**B**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
1-Methylnaphthalene	**4200**		78	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:35	10
2-Methylnaphthalene	**11000**	**B**	78	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:35	10
Phenanthrene	**150**		7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1
Pyrene	**16**	**B**	7.8	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		27 - 127	07/01/19 15:58	07/11/19 22:15	1
Nitrobenzene-d5	111		15 - 136	07/01/19 15:58	07/11/19 22:15	1
Terphenyl-d14	91		24 - 146	07/01/19 15:58	07/11/19 22:15	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Benzenethiol	ND	*	390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Bis(2-chloroethoxy)methane	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Bis(2-ethylhexyl) phthalate	**62**	**J B**	390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4

Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Indene	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Isophorone	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Phenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Pyridine	ND		390	180	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
Quinoline	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/01/19 15:58	07/05/19 19:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*26000*	*T J N*	*ug/Kg*	☼	*4.57*	*100-41-4*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
p-Xylene	*15000*	*T J N*	*ug/Kg*	☼	*4.79*	*106-42-3*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, (1-methylethyl)-	*13000*	*T J N*	*ug/Kg*	☼	*4.98*	*98-82-8*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, propyl-	*25000*	*T J N*	*ug/Kg*	☼	*5.17*	*103-65-1*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-ethyl-4-methyl-	*15000*	*T J N*	*ug/Kg*	☼	*5.23*	*622-96-8*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-ethyl-2-methyl-	*15000*	*T J N*	*ug/Kg*	☼	*5.32*	*611-14-3*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Decane	*15000*	*T J N*	*ug/Kg*	☼	*5.38*	*124-18-5*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1,2,4-trimethyl-	*23000*	*T J N*	*ug/Kg*	☼	*5.55*	*95-63-6*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Indane	*14000*	*T J N*	*ug/Kg*	☼	*5.64*	*496-11-7*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1,2-diethyl-	*12000*	*T J N*	*ug/Kg*	☼	*5.66*	*135-01-3*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-methyl-3-propyl-	*13000*	*T J N*	*ug/Kg*	☼	*5.68*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*12000*	*T J N*	*ug/Kg*	☼	*5.70*	*934-74-7*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*13000*	*T J N*	*ug/Kg*	☼	*5.82*	*527-84-4*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*33000*	*T J N*	*ug/Kg*	☼	*5.85*	*1758-88-9*	*07/01/19 15:58*	*07/05/19 19:33*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*13000*	*T J N*	*ug/Kg*	☼	*5.95*	*934-80-5*	*07/01/19 15:58*	*07/05/19 19:33*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819
Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-4
Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1,2,4,5-tetramethyl-	12000	T J N	ug/Kg	☼	6.00	95-93-2	07/01/19 15:58	07/05/19 19:33	1
Benzene, 1,2,4,5-tetramethyl-	18000	T J N	ug/Kg	☼	6.02	95-93-2	07/01/19 15:58	07/05/19 19:33	1
Unknown	12000	T J	ug/Kg	☼	6.07		07/01/19 15:58	07/05/19 19:33	1
Benzene, 1-methyl-2-(2-propenyl)-	13000	T J N	ug/Kg	☼	6.17	1587-04-8	07/01/19 15:58	07/05/19 19:33	1
Unknown	13000	T J	ug/Kg	☼	6.20		07/01/19 15:58	07/05/19 19:33	1
Unknown	14000	T J	ug/Kg	☼	6.24		07/01/19 15:58	07/05/19 19:33	1
Dodecane	16000	T J N	ug/Kg	☼	6.29	112-40-3	07/01/19 15:58	07/05/19 19:33	1
Tridecane	13000	T J N	ug/Kg	☼	6.68	629-50-5	07/01/19 15:58	07/05/19 19:33	1
Naphthalene, 2-methyl-	21000	T J N	ug/Kg	☼	6.81	91-57-6	07/01/19 15:58	07/05/19 19:33	1
Benzocycloheptatriene	14000	T J N	ug/Kg	☼	6.88	264-09-5	07/01/19 15:58	07/05/19 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	83		27 - 127	07/01/19 15:58	07/05/19 19:33	1
2-Fluorophenol	39		25 - 128	07/01/19 15:58	07/05/19 19:33	1
Nitrobenzene-d5	40		15 - 136	07/01/19 15:58	07/05/19 19:33	1
Phenol-d5	51		29 - 130	07/01/19 15:58	07/05/19 19:33	1
Terphenyl-d14	93		24 - 146	07/01/19 15:58	07/05/19 19:33	1
2,4,6-Tribromophenol	102		10 - 150	07/01/19 15:58	07/05/19 19:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.5		0.01	0.01	%			07/02/19 16:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		28000	14000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Acrolein	ND		56000	31000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Acrylonitrile	ND		22000	8900	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Benzene	**260000**		5600	750	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromobenzene	ND		5600	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromochloromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromodichloromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromoform	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Bromomethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2-Butanone (MEK)	ND		28000	6700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Carbon disulfide	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Carbon tetrachloride	ND		5600	1900	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chlorobenzene	ND		5600	580	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2-Chloroethyl vinyl ether	ND		11000	5600	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chloroform	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1-Chlorohexane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Chloromethane	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
cis-1,2-Dichloroethene	ND		5600	850	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
cis-1,3-Dichloropropene	ND		5600	1300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Dibromochloromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dibromo-3-Chloropropane	ND		5600	3700	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dichlorobenzene	ND		5600	790	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,3-Dichlorobenzene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,4-Dichlorobenzene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Dichlorodifluoromethane	ND		5600	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1-Dichloroethane	ND		5600	930	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dichloroethane	ND		5600	910	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1-Dichloroethene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2-Dichloropropane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,3-Dichloropropane	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2,2-Dichloropropane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1-Dichloropropene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Ethylbenzene	**32000**		5600	680	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Ethylene Dibromide	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Ethyl methacrylate	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Hexachlorobutadiene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
2-Hexanone	ND		28000	5600	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Isopropylbenzene	**2400**	**J**	5600	760	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Methylene bromide	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Methylene Chloride	ND		17000	11000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
4-Methyl-2-pentanone (MIBK)	ND		28000	5600	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Methyl tert-butyl ether	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
m-Xylene & p-Xylene	**77000**		5600	1400	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Naphthalene	**6000**		5600	2200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
n-Butylbenzene	**4600**	**J**	5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
N-Propylbenzene	**9500**		5600	1000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
o-Chlorotoluene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
o-Xylene	**28000**		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
p-Isopropyltoluene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
sec-Butylbenzene	**1100**	**J**	5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Styrene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
tert-Butylbenzene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,1,2-Tetrachloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,2,2-Tetrachloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Tetrachloroethene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Toluene	**9700**		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
trans-1,2-Dichloroethene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
trans-1,3-Dichloropropene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,3-Trichlorobenzene	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,4-Trichlorobenzene	ND		5600	2200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,1-Trichloroethane	ND		5600	1200	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,1,2-Trichloroethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Trichloroethene	ND		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Trichlorofluoromethane	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,3-Trichloropropane	ND		5600	3300	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,2,4-Trimethylbenzene	**47000**		5600	1100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
1,3,5-Trimethylbenzene	**16000**		5600	930	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Vinyl acetate	ND		28000	10000	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Vinyl chloride	ND		5600	2800	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000
Xylenes, Total	**100000**		11000	2100	ug/Kg	☼	07/11/19 16:59	07/12/19 03:43	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*12000*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Pentane	*18000*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Pentane, 3-methyl-	*21000*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Hexane	*48000*		*ug/Kg*	☼	*2.93*	*110-54-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclopentane, methyl-	*36000*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclohexane	*22000*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Hexane, 3-methyl-	*27000*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cycloheptane	*19000*	*T J N*	*ug/Kg*	☼	*3.97*	*291-64-5*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Isopropylcyclobutane	*15000*	*T J N*	*ug/Kg*	☼	*4.00*	*872-56-0*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
n-Heptane	*48000*		*ug/Kg*	☼	*4.05*	*142-82-5*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Methylcyclohexane	*33000*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Unknown	*14000*	*T J*	*ug/Kg*	☼	*4.77*		*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Heptane, 2-methyl-	*36000*	*T J N*	*ug/Kg*	☼	*4.80*	*592-27-8*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Heptane, 3-methyl-	*30000*	*T J N*	*ug/Kg*	☼	*4.90*	*589-81-1*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Cyclohexane, 1,2-dimethyl-, trans-	*12000*	*T J N*	*ug/Kg*	☼	*5.06*	*6876-23-9*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Octane	*55000*	*T J N*	*ug/Kg*	☼	*5.18*	*111-65-9*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Unknown	*12000*	*T J*	*ug/Kg*	☼	*5.39*		*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Unknown	*13000*	*T J*	*ug/Kg*	☼	*5.59*		*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Unknown	*30000*	*T J*	*ug/Kg*	☼	*5.89*		*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Octane, 3-methyl-	*21000*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
3-Ethyltoluene	*43000*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Unknown	*22000*	*T J*	*ug/Kg*	☼	*8.06*		*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Benzene, 1-methyl-3-(1-methylethyl)-	*14000*	*T J N*	*ug/Kg*	☼	*8.35*	*535-77-3*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*

Client Sample ID: PD-9-SB-54-062819-DUP
Lab Sample ID: 400-172420-5
Date Collected: 06/28/19 11:00
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 84.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*100*		*72 - 122*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Dibromofluoromethane	*88*		*79 - 123*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/11/19 16:59*	*07/12/19 03:43*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**76**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[a]anthracene	**3.0**	**J**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[a]pyrene	**4.9**	**J**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[g,h,i]perylene	**4.6**	**J**	7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Chrysene	ND		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Dibenz(a,h)anthracene	**3.3**	**J**	7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Fluoranthene	**13**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Fluorene	**94**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Indeno[1,2,3-cd]pyrene	**4.4**	**J**	7.7	2.3	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
1-Methylnaphthalene	**3300**		77	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:51	10
2-Methylnaphthalene	**8100**	**B**	77	12	ug/Kg	☼	07/01/19 15:58	07/12/19 19:51	10
Phenanthrene	**130**		7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1
Pyrene	**15**	**B**	7.7	1.2	ug/Kg	☼	07/01/19 15:58	07/11/19 22:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/11/19 22:33*	*1*
Nitrobenzene-d5	*100*		*15 - 136*	*07/01/19 15:58*	*07/11/19 22:33*	*1*
Terphenyl-d14	*98*		*24 - 146*	*07/01/19 15:58*	*07/11/19 22:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Bis(2-ethylhexyl) phthalate	**72**	**J B**	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5

Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Indene	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Isophorone	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Phenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Pyridine	ND		380	170	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
Quinoline	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/01/19 15:58	07/05/19 19:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*8200*	*T J N*	*ug/Kg*	☼	*4.57*	*100-41-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
p-Xylene	*9300*	*T J N*	*ug/Kg*	☼	*4.79*	*106-42-3*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-3-methyl-	*4100*	*T J N*	*ug/Kg*	☼	*5.21*	*620-14-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-4-methyl-	*4800*	*T J N*	*ug/Kg*	☼	*5.23*	*622-96-8*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1,2,3-trimethyl-	*7400*	*T J N*	*ug/Kg*	☼	*5.25*	*526-73-8*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-4-methyl-	*4500*	*T J N*	*ug/Kg*	☼	*5.31*	*622-96-8*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Decane	*5100*	*T J N*	*ug/Kg*	☼	*5.38*	*124-18-5*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1,2,4-trimethyl-	*6800*	*T J N*	*ug/Kg*	☼	*5.55*	*95-63-6*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Indane	*4100*	*T J N*	*ug/Kg*	☼	*5.63*	*496-11-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1,2-diethyl-	*4400*	*T J N*	*ug/Kg*	☼	*5.66*	*135-01-3*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-methyl-3-propyl-	*6500*	*T J N*	*ug/Kg*	☼	*5.68*	*1074-43-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*9300*	*T J N*	*ug/Kg*	☼	*5.71*	*934-74-7*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*3900*	*T J N*	*ug/Kg*	☼	*5.82*	*527-84-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*6000*	*T J N*	*ug/Kg*	☼	*5.85*	*933-98-2*	*07/01/19 15:58*	*07/05/19 19:54*	*1*
Benzene, 1-ethenyl-3-ethyl-	*4000*	*T J N*	*ug/Kg*	☼	*5.88*	*7525-62-4*	*07/01/19 15:58*	*07/05/19 19:54*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-54-062819-DUP

Date Collected: 06/28/19 11:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-5

Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 4-ethyl-1,2-dimethyl-	3800	T J N	ug/Kg	☼	5.95	934-80-5	07/01/19 15:58	07/05/19 19:54	1
Benzene, 1,2,4,5-tetramethyl-	5500	T J N	ug/Kg	☼	6.02	95-93-2	07/01/19 15:58	07/05/19 19:54	1
Benzene, 1-methyl-2-(2-propenyl)-	4400	T J N	ug/Kg	☼	6.17	1587-04-8	07/01/19 15:58	07/05/19 19:54	1
Unknown	3600	T J	ug/Kg	☼	6.20		07/01/19 15:58	07/05/19 19:54	1
Unknown	4100	T J	ug/Kg	☼	6.24		07/01/19 15:58	07/05/19 19:54	1
Dodecane	5100	T J N	ug/Kg	☼	6.28	112-40-3	07/01/19 15:58	07/05/19 19:54	1
Tridecane	4300	T J N	ug/Kg	☼	6.67	629-50-5	07/01/19 15:58	07/05/19 19:54	1
Naphthalene, 1-methyl-	6300	T J N	ug/Kg	☼	6.81	90-12-0	07/01/19 15:58	07/05/19 19:54	1
Naphthalene, 2-methyl-	4500	T J N	ug/Kg	☼	6.88	91-57-6	07/01/19 15:58	07/05/19 19:54	1
Tetradecane	4500	T J N	ug/Kg	☼	7.04	629-59-4	07/01/19 15:58	07/05/19 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	84		27 - 127	07/01/19 15:58	07/05/19 19:54	1
2-Fluorophenol	26		25 - 128	07/01/19 15:58	07/05/19 19:54	1
Nitrobenzene-d5	0	X	15 - 136	07/01/19 15:58	07/05/19 19:54	1
Phenol-d5	35		29 - 130	07/01/19 15:58	07/05/19 19:54	1
Terphenyl-d14	93		24 - 146	07/01/19 15:58	07/05/19 19:54	1
2,4,6-Tribromophenol	102		10 - 150	07/01/19 15:58	07/05/19 19:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.4		0.01	0.01	%			07/02/19 16:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 18:47	1
Acrolein	ND		20	10	ug/L			07/11/19 18:47	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 18:47	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 18:47	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 18:47	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 18:47	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 18:47	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 18:47	1
2-Butanone (MEK)	**3.0**	**J**	25	2.6	ug/L			07/12/19 09:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 18:47	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 18:47	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 18:47	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 18:47	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 09:32	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:47	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 18:47	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 18:47	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 18:47	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 18:47	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 18:47	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 18:47	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 18:47	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 18:47	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 18:47	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 18:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 18:47	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 18:47	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 18:47	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 18:47	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 18:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 18:47	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 18:47	1
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 18:47	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 18:47	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 18:47	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 18:47	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 18:47	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 18:47	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 18:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 18:47	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 18:47	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 18:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 18:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 18:47	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 18:47	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 18:47	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 18:47	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 18:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 18:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 18:47	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 18:47	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 18:47	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 18:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*12*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/11/19 18:47*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/11/19 18:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/11/19 18:47*	*1*
4-Bromofluorobenzene	*111*		*78 - 118*		*07/12/19 09:32*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/11/19 18:47*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*07/12/19 09:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/11/19 18:47*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/12/19 09:32*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 23:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Client Sample ID: PD-9-SB-EB

Date Collected: 06/28/19 16:15
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/12/19 23:01	1
1-Methylnaphthalene	**0.051**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
2-Methylnaphthalene	**0.069**	**J B**	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1
Pyrene	ND	*	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/03/19 14:07*	*07/12/19 23:01*	*1*
Nitrobenzene-d5	*99*		*19 - 130*	*07/03/19 14:07*	*07/12/19 23:01*	*1*
Terphenyl-d14	*162*	*X*	*33 - 138*	*07/03/19 14:07*	*07/12/19 23:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
Benzoic acid	ND		29	7.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 19:43	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/03/19 14:07	07/14/19 19:43	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/03/19 14:07	07/14/19 19:43	1
Bis(2-ethylhexyl) phthalate	**9.4**	**J**	9.8	4.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 19:43	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 19:43	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 19:43	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 19:43	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/03/19 14:07	07/14/19 19:43	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 19:43	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 19:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 19:43	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/03/19 14:07	07/14/19 19:43	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 19:43	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 19:43	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 19:43	1

Client: AECOM Technical Services Inc.
Job ID: 400-172420-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-SB-EB
Lab Sample ID: 400-172420-6
Date Collected: 06/28/19 16:15
Matrix: Water
Date Received: 06/29/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 19:43	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 19:43	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/03/19 14:07	07/14/19 19:43	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 19:43	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 19:43	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 19:43	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 19:43	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 19:43	1
Phenol	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 19:43	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 19:43	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 19:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
1-Heneicosyl formate	*4.8*	*T J N*	*ug/L*		*10.89*	*77899-03-7*	*07/03/19 14:07*	*07/14/19 19:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*34 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
2-Fluorophenol	*58*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
Nitrobenzene-d5	*79*		*27 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
Phenol-d5	*71*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
Terphenyl-d14	*92*		*53 - 125*	*07/03/19 14:07*	*07/14/19 19:43*	*1*
2,4,6-Tribromophenol	*74*		*15 - 135*	*07/03/19 14:07*	*07/14/19 19:43*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172420-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172420-2	PD-9-SB-41-062819	98	95	98
400-172420-3	PD-9-SB-43-062819	99	86	98
400-172420-4	PD-9-SB-54-062819	102	87	99
400-172420-5	PD-9-SB-54-062819-DUP	100	88	99
LCS 400-447664/2-A	Lab Control Sample	102	94	99
MB 400-447664/1-A	Method Blank	96	93	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172420-1	TB-PW-062819-A	107	97	96
400-172420-6	PD-9-SB-EB	109	98	101
400-172420-6	PD-9-SB-EB	111	102	98
LCS 400-447496/1002	Lab Control Sample	108	100	91
LCS 400-447677/1002	Lab Control Sample	104	101	93
MB 400-447496/5	Method Blank	108	101	101
MB 400-447677/5	Method Blank	107	100	94

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172420-2	PD-9-SB-41-062819	76	66	66	67	85	87
400-172420-3	PD-9-SB-43-062819	72	62	62	64	88	78
400-172420-4	PD-9-SB-54-062819	83	39	40	51	93	102
400-172420-5	PD-9-SB-54-062819-DUP	84	26	0 X	35	93	102
LCS 400-446440/6-A	Lab Control Sample	78	68	74	70	91	104
LCSD 400-446440/5-A	Lab Control Sample Dup	85	74	73	76	99	95
MB 400-446440/1-A	Method Blank	79	70	69	72	94	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172420-6	PD-9-SB-EB	60	58	79	71	92	74
LCS 400-446728/18-A	Lab Control Sample	71	67	88	81	83	85
LCS 400-446728/2-A	Lab Control Sample	63	61	84	77	79	88
LCSD 400-446728/19-A	Lab Control Sample Dup	66	42	80	67	79	71
MB 400-446728/1-A	Method Blank	67	56	86	79	83	78

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172420-2	PD-9-SB-41-062819	79	74	100
400-172420-3	PD-9-SB-43-062819	74	69	86
400-172420-4	PD-9-SB-54-062819	78	111	91
400-172420-5	PD-9-SB-54-062819-DUP	79	100	98
LCS 400-446440/2-A	Lab Control Sample	99	78	121
LCSD 400-446440/3-A	Lab Control Sample Dup	87	71	114
MB 400-446440/1-A	Method Blank	128 X	115	161 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172420-6	PD-9-SB-EB	87	99	162 X
LCS 400-446728/2-A	Lab Control Sample	83	74	136
MB 400-446728/1-A	Method Blank	117	120	200 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172420-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-062819-A
Lab Sample ID: 400-172420-1
Date Collected: 06/28/19 00:00
Matrix: Water
Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 18:20	RS	TAL PEN

Client Sample ID: PD-9-SB-41-062819
Lab Sample ID: 400-172420-2
Date Collected: 06/28/19 08:30
Matrix: Solid
Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:14	MEH	TAL PEN

Client Sample ID: PD-9-SB-41-062819
Lab Sample ID: 400-172420-2
Date Collected: 06/28/19 08:30
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.575 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447623	07/11/19 23:44	CAR	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 18:50	VC1	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 21:41	KJA	TAL PEN

Client Sample ID: PD-9-SB-43-062819
Lab Sample ID: 400-172420-3
Date Collected: 06/28/19 09:05
Matrix: Solid
Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Client Sample ID: PD-9-SB-43-062819
Lab Sample ID: 400-172420-3
Date Collected: 06/28/19 09:05
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.404 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		250	5 mL	5 mL	447623	07/12/19 02:56	CAR	TAL PEN
Total/NA	Prep	3546			15.18 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 19:11	VC1	TAL PEN
Total/NA	Prep	3546			15.18 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 21:58	KJA	TAL PEN

Client Sample ID: PD-9-SB-54-062819
Lab Sample ID: 400-172420-4
Date Collected: 06/28/19 11:00
Matrix: Solid
Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Client Sample ID: PD-9-SB-54-062819

Lab Sample ID: 400-172420-4
Date Collected: 06/28/19 11:00
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.217 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447623	07/12/19 03:19	CAR	TAL PEN
Total/NA	Prep	3546			15.10 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 19:33	VC1	TAL PEN
Total/NA	Prep	3546			15.10 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 22:15	KJA	TAL PEN
Total/NA	Prep	3546			15.10 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		10			447502	07/12/19 19:35	KJA	TAL PEN

Client Sample ID: PD-9-SB-54-062819-DUP

Lab Sample ID: 400-172420-5
Date Collected: 06/28/19 11:00
Matrix: Solid
Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Client Sample ID: PD-9-SB-54-062819-DUP

Lab Sample ID: 400-172420-5
Date Collected: 06/28/19 11:00
Matrix: Solid
Date Received: 06/29/19 09:19
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.361 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447623	07/12/19 03:43	CAR	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	446849	07/05/19 19:54	VC1	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447381	07/11/19 22:33	KJA	TAL PEN
Total/NA	Prep	3546			15.26 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		10			447502	07/12/19 19:51	KJA	TAL PEN

Client Sample ID: PD-9-SB-EB

Lab Sample ID: 400-172420-6
Date Collected: 06/28/19 16:15
Matrix: Water
Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 18:47	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 09:32	RS	TAL PEN
Total/NA	Prep	3520C			1017 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 19:43	VC1	TAL PEN
Total/NA	Prep	3520C			1017 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 23:01	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-446440/1-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 12:45	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			447351	07/10/19 16:45	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-446728/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 16:04	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447496/5

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 13:27	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447664/1-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447623	07/11/19 19:21	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447677/5

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 09:06	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/2-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:21	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446440/6-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446728/18-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446728/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 16:20	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447496/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 11:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447664/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447664	07/11/19 16:59	CAR	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447623	07/11/19 17:46	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447677/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 08:06	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 12:38	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1.0 mL	446440	07/01/19 15:58	KLR	TAL PEN
Total/NA	Analysis	8270D		1			446849	07/05/19 13:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 15:49	VC1	TAL PEN

Client Sample ID: PD-9-SB-43-062819
Date Collected: 06/28/19 09:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172420-3 DU
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446604	07/02/19 16:51	MEH	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

GC/MS VOA

Analysis Batch: 447496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-1	TB-PW-062819-A	Total/NA	Water	8260B	
400-172420-6	PD-9-SB-EB	Total/NA	Water	8260B	
MB 400-447496/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447496/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	8260B	447664
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	8260B	447664
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8260B	447664
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8260B	447664
MB 400-447664/1-A	Method Blank	Total/NA	Solid	8260B	447664
LCS 400-447664/2-A	Lab Control Sample	Total/NA	Solid	8260B	447664

Prep Batch: 447664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	5035	
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	5035	
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	5035	
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	5035	
MB 400-447664/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447664/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 447677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-6	PD-9-SB-EB	Total/NA	Water	8260B	
MB 400-447677/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447677/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 446440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	3546	
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	3546	
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	3546	
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	3546	
MB 400-446440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Prep Batch: 446728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-6	PD-9-SB-EB	Total/NA	Water	3520C	
MB 400-446728/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

GC/MS Semi VOA

Analysis Batch: 446849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	8270D	446440
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	8270D	446440
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8270D	446440
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8270D	446440
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D	446440
LCS 400-446440/6-A	Lab Control Sample	Total/NA	Solid	8270D	446440
LCSD 400-446440/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	446440

Analysis Batch: 447351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-446440/1-A	Method Blank	Total/NA	Solid	8270D LL	446440

Analysis Batch: 447381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	8270D LL	446440
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	8270D LL	446440
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8270D LL	446440
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8270D LL	446440

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	8270D LL	446440
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	8270D LL	446440
400-172420-6	PD-9-SB-EB	Total/NA	Water	8270D LL	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D LL	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D LL	446728

Analysis Batch: 447936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-6	PD-9-SB-EB	Total/NA	Water	8270D	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D	446728
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	446728

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-446440/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	446440
LCSD 400-446440/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	446440

General Chemistry

Analysis Batch: 446604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172420-2	PD-9-SB-41-062819	Total/NA	Solid	Moisture	
400-172420-3	PD-9-SB-43-062819	Total/NA	Solid	Moisture	
400-172420-4	PD-9-SB-54-062819	Total/NA	Solid	Moisture	
400-172420-5	PD-9-SB-54-062819-DUP	Total/NA	Solid	Moisture	
400-172420-3 DU	PD-9-SB-43-062819	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 13:27	1
Acrolein	ND		20	10	ug/L			07/11/19 13:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 13:27	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 13:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 13:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 13:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 13:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 13:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 13:27	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 13:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 13:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 13:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 13:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 13:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 13:27	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 13:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 13:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 13:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 13:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 13:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 13:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 13:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 13:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 13:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 13:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 13:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 13:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 13:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 13:27	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 13:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 13:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 13:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 13:27	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/11/19 13:27*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/11/19 13:27*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/11/19 13:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/11/19 13:27*	*1*

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	233		ug/L		117	43 - 160
Acrolein	500	699		ug/L		140	38 - 160
Acrylonitrile	500	527		ug/L		105	64 - 142
Benzene	50.0	52.2		ug/L		104	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	48.7		ug/L		97	70 - 130
Bromodichloromethane	50.0	49.3		ug/L		99	67 - 133
Bromoform	50.0	47.1		ug/L		94	57 - 140
Bromomethane	50.0	31.6		ug/L		63	10 - 160
2-Butanone (MEK)	200	273		ug/L		136	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	49.0		ug/L		98	61 - 137
Chlorobenzene	50.0	50.1		ug/L		100	70 - 130
Chloroethane	50.0	48.8		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	36.2		ug/L		72	10 - 160
Chloroform	50.0	50.8		ug/L		102	69 - 130
1-Chlorohexane	50.0	47.7		ug/L		95	69 - 130
Chloromethane	50.0	54.3		ug/L		109	58 - 137
cis-1,2-Dichloroethene	50.0	50.9		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	69 - 132
Dibromochloromethane	50.0	44.4		ug/L		89	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	60.2		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	52.0		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	50.8		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	49.1		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	47.7		ug/L		95	52 - 135
1,1-Dichloropropene	50.0	50.9		ug/L		102	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethylene Dibromide	50.0	49.4		ug/L		99	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	58.9		ug/L		118	53 - 140
2-Hexanone	200	222		ug/L		111	65 - 137
Isopropylbenzene	50.0	47.2		ug/L		94	70 - 130
Methylene bromide	50.0	49.6		ug/L		99	70 - 130
Methylene Chloride	50.0	51.9		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	208		ug/L		104	69 - 138
Methyl tert-butyl ether	50.0	50.4		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	48.0		ug/L		96	70 - 130
Naphthalene	50.0	47.5		ug/L		95	47 - 149
n-Butylbenzene	50.0	50.5		ug/L		101	67 - 130
N-Propylbenzene	50.0	51.9		ug/L		104	70 - 130
o-Chlorotoluene	50.0	53.3		ug/L		107	70 - 130
o-Xylene	50.0	46.9		ug/L		94	70 - 130
p-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.9		ug/L		104	66 - 130
Styrene	50.0	45.4		ug/L		91	70 - 130
tert-Butylbenzene	50.0	50.4		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.6		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	57.8		ug/L		116	70 - 131
Tetrachloroethene	50.0	39.9		ug/L		80	65 - 130
Toluene	50.0	47.0		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	51.0		ug/L		102	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	46.2		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	53.6		ug/L		107	65 - 138
1,2,3-Trichloropropane	50.0	54.6		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	52.7		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	53.8		ug/L		108	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	57.4		ug/L		115	59 - 136
Xylenes, Total	100	94.8		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*108*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Acrolein	ND		50	28	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Benzene	ND		5.0	0.67	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromoform	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chloroform	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/11/19 16:59	07/11/19 19:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
2-Hexanone	ND		25	5.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Methylene Chloride	ND		15	10	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Styrene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Toluene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/11/19 16:59	07/11/19 19:21	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/11/19 16:59	07/11/19 19:21	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447664/1-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447664

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/11/19 16:59	07/11/19 19:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		72 - 122	07/11/19 16:59	07/11/19 19:21	1
Dibromofluoromethane	93		79 - 123	07/11/19 16:59	07/11/19 19:21	1
Toluene-d8 (Surr)	100		80 - 120	07/11/19 16:59	07/11/19 19:21	1

Lab Sample ID: LCS 400-447664/2-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	229		ug/Kg		115	48 - 160
Acrolein	500	559		ug/Kg		112	40 - 150
Acrylonitrile	500	643		ug/Kg		129	60 - 130
Benzene	50.0	50.2		ug/Kg		100	65 - 130
Bromobenzene	50.0	52.3		ug/Kg		105	65 - 130
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 130
Bromodichloromethane	50.0	47.7		ug/Kg		95	61 - 130
Bromoform	50.0	49.3		ug/Kg		99	52 - 136
Bromomethane	50.0	38.0		ug/Kg		76	12 - 160
2-Butanone (MEK)	200	198		ug/Kg		99	55 - 130
Carbon disulfide	50.0	47.9		ug/Kg		96	46 - 141
Carbon tetrachloride	50.0	47.1		ug/Kg		94	60 - 130
Chlorobenzene	50.0	49.9		ug/Kg		100	70 - 130
Chloroethane	50.0	46.2		ug/Kg		92	55 - 134
2-Chloroethyl vinyl ether	50.0	39.5		ug/Kg		79	10 - 158
Chloroform	50.0	50.1		ug/Kg		100	62 - 130
1-Chlorohexane	50.0	51.8		ug/Kg		104	69 - 130
Chloromethane	50.0	52.7		ug/Kg		105	49 - 136
cis-1,2-Dichloroethene	50.0	50.3		ug/Kg		101	53 - 135
cis-1,3-Dichloropropene	50.0	48.8		ug/Kg		98	61 - 130
Dibromochloromethane	50.0	50.2		ug/Kg		100	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	52.0		ug/Kg		104	49 - 130
1,2-Dichlorobenzene	50.0	55.1		ug/Kg		110	64 - 130
1,3-Dichlorobenzene	50.0	54.1		ug/Kg		108	66 - 130
1,4-Dichlorobenzene	50.0	53.5		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	42.7		ug/Kg		85	34 - 143
1,1-Dichloroethane	50.0	50.5		ug/Kg		101	59 - 130
1,2-Dichloroethane	50.0	49.0		ug/Kg		98	62 - 130
1,1-Dichloroethene	50.0	52.7		ug/Kg		105	55 - 137
1,2-Dichloropropane	50.0	50.3		ug/Kg		101	64 - 130
1,3-Dichloropropane	50.0	50.5		ug/Kg		101	67 - 130
2,2-Dichloropropane	50.0	45.0		ug/Kg		90	51 - 132
1,1-Dichloropropene	50.0	49.7		ug/Kg		99	65 - 130
Ethylbenzene	50.0	52.2		ug/Kg		104	70 - 130
Ethylene Dibromide	50.0	53.4		ug/Kg		107	67 - 130
Ethyl methacrylate	50.0	51.8		ug/Kg		104	62 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447664/2-A
Matrix: Solid
Analysis Batch: 447623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447664

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	43.0		ug/Kg		86	62 - 133
2-Hexanone	200	195		ug/Kg		97	57 - 131
Isopropylbenzene	50.0	51.2		ug/Kg		102	70 - 130
Methylene bromide	50.0	50.0		ug/Kg		100	65 - 130
Methylene Chloride	50.0	54.3		ug/Kg		109	57 - 132
4-Methyl-2-pentanone (MIBK)	200	220		ug/Kg		110	58 - 130
Methyl tert-butyl ether	50.0	47.4		ug/Kg		95	63 - 130
m-Xylene & p-Xylene	50.0	52.8		ug/Kg		106	70 - 130
Naphthalene	50.0	53.8		ug/Kg		108	45 - 144
n-Butylbenzene	50.0	53.5		ug/Kg		107	66 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.5		ug/Kg		109	67 - 130
o-Xylene	50.0	52.4		ug/Kg		105	70 - 130
p-Chlorotoluene	50.0	57.7		ug/Kg		115	66 - 130
p-Isopropyltoluene	50.0	55.1		ug/Kg		110	68 - 130
sec-Butylbenzene	50.0	54.1		ug/Kg		108	67 - 130
Styrene	50.0	49.6		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	52.3		ug/Kg		105	67 - 130
1,1,1,2-Tetrachloroethane	50.0	51.6		ug/Kg		103	65 - 130
1,1,2,2-Tetrachloroethane	50.0	55.4		ug/Kg		111	60 - 131
Tetrachloroethene	50.0	48.4		ug/Kg		97	67 - 130
Toluene	50.0	52.3		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	54.5		ug/Kg		109	58 - 134
trans-1,3-Dichloropropene	50.0	49.0		ug/Kg		98	60 - 130
1,2,3-Trichlorobenzene	50.0	43.7		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	44.7		ug/Kg		89	56 - 138
1,1,1-Trichloroethane	50.0	49.1		ug/Kg		98	63 - 130
1,1,2-Trichloroethane	50.0	51.5		ug/Kg		103	65 - 130
Trichloroethene	50.0	50.9		ug/Kg		102	65 - 130
Trichlorofluoromethane	50.0	41.7		ug/Kg		83	61 - 136
1,2,3-Trichloropropane	50.0	58.1		ug/Kg		116	60 - 130
1,2,4-Trimethylbenzene	50.0	54.9		ug/Kg		110	66 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/Kg		110	67 - 130
Vinyl acetate	100	117		ug/Kg		117	24 - 160
Vinyl chloride	50.0	53.0		ug/Kg		106	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*72 - 122*
Dibromofluoromethane	*94*		*79 - 123*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 09:06	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 09:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 09:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/12/19 09:06*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 09:06*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*07/12/19 09:06*	*1*

Lab Sample ID: LCS 400-447677/1002
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2-Butanone (MEK)			200	290		ug/L		145	61 - 145		
Chloromethane			50.0	55.3		ug/L		111	58 - 137		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzenethiol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzoic acid	ND		990	350	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Benzyl alcohol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Bis(2-ethylhexyl) phthalate	53.8	J	330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Chlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dibenzofuran	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Diethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,4-Dioxane	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Hexachloroethane	ND		330	100	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Indene	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Isophorone	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Methylphenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
3-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitroaniline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Nitrobenzene	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2-Nitrophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
4-Nitrophenol	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pentachlorophenol	ND		660	66	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Phenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Pyridine	ND		330	150	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
Quinoline	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/01/19 15:58	07/05/19 12:45	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/01/19 15:58*	*07/05/19 12:45*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*27 - 127*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2-Fluorophenol	*70*		*25 - 128*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Phenol-d5	*72*		*29 - 130*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/01/19 15:58*	*07/05/19 12:45*	*1*
2,4,6-Tribromophenol	*89*		*10 - 150*	*07/01/19 15:58*	*07/05/19 12:45*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1430		ug/Kg		71	36 - 120
Benzoic acid	7770	4050		ug/Kg		52	10 - 139
Benzyl alcohol	2000	1510		ug/Kg		76	10 - 127
Bis(2-chloroethoxy)methane	2000	1300		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	886		ug/Kg		44	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1700		ug/Kg		85	58 - 158
4-Bromophenyl phenyl ether	2000	1940		ug/Kg		97	51 - 120
Butyl benzyl phthalate	2000	1630		ug/Kg		81	58 - 126
4-Chloroaniline	2000	1070		ug/Kg		54	34 - 120
4-Chloro-3-methylphenol	2000	1750		ug/Kg		88	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1600		ug/Kg		80	52 - 120
4-Chlorophenyl phenyl ether	2000	1900		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1830		ug/Kg		91	51 - 135
Dibenzofuran	2000	1790		ug/Kg		90	58 - 120
3,3'-Dichlorobenzidine	2670	4600	*	ug/Kg		172	42 - 120
2,4-Dichlorophenol	2000	1750		ug/Kg		87	56 - 120
Diethyl phthalate	2000	1870		ug/Kg		94	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1770		ug/Kg		88	58 - 120
Di-n-butyl phthalate	2000	1860		ug/Kg		93	64 - 122
4,6-Dinitro-ortho-cresol	4000	4070		ug/Kg		102	35 - 135
2,4-Dinitrophenol	4000	4490		ug/Kg		112	10 - 138
2,4-Dinitrotoluene	2000	1830		ug/Kg		92	59 - 133
2,6-Dinitrotoluene	2000	1780		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1940		ug/Kg		97	57 - 137
1,4-Dioxane	2000	737		ug/Kg		37	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	2210		ug/Kg		111	49 - 127
Hexachlorocyclopentadiene	2000	1420		ug/Kg		71	10 - 140
Hexachloroethane	2000	1470		ug/Kg		74	45 - 120
Indene	2000	1330		ug/Kg		66	45 - 120
Isophorone	2000	1360		ug/Kg		68	50 - 120
2-Methylphenol	2000	1530		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1500		ug/Kg		75	47 - 123
2-Nitroaniline	2000	1570		ug/Kg		79	55 - 129
3-Nitroaniline	2000	1780		ug/Kg		89	45 - 120
4-Nitroaniline	2000	2300		ug/Kg		115	52 - 126
Nitrobenzene	2000	1370		ug/Kg		68	50 - 120
2-Nitrophenol	2000	1460		ug/Kg		73	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		110	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1400		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1650		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4440		ug/Kg		111	32 - 131
Phenol	2000	1420		ug/Kg		71	51 - 120
Pyridine	4000	1720		ug/Kg		43	29 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446440/6-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	2000	1520		ug/Kg		76	10 - 150
2,4,5-Trichlorophenol	2000	1830		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1820		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*74*		*15 - 136*
Phenol-d5	*70*		*29 - 130*
Terphenyl-d14	*91*		*24 - 146*
2,4,6-Tribromophenol	*104*		*10 - 150*

Lab Sample ID: LCSD 400-446440/5-A
Matrix: Solid
Analysis Batch: 446849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	ND	*	ug/Kg		2	10 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
2-Fluorophenol	*74*		*25 - 128*
Nitrobenzene-d5	*73*		*15 - 136*
Phenol-d5	*76*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*95*		*10 - 150*

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzenethiol	ND		10	1.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 15:06	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 15:06	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 15:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*34 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2-Fluorophenol	*56*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Phenol-d5	*79*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Terphenyl-d14	*83*		*53 - 125*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/03/19 14:07*	*07/14/19 15:06*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzenethiol			30.0	ND	*	ug/L		5	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*34 - 120*
2-Fluorophenol	*67*		*10 - 120*
Nitrobenzene-d5	*88*		*27 - 120*
Phenol-d5	*81*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*85*		*15 - 135*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aniline			30.0	20.9		ug/L		70	29 - 120		
Benzoic acid			117	99.1		ug/L		85	10 - 150		
Benzyl alcohol			30.0	25.1		ug/L		84	19 - 125		
Bis(2-chloroethoxy)methane			30.0	21.3		ug/L		71	45 - 120		
Bis(2-chloroethyl)ether			30.0	18.9		ug/L		63	48 - 120		
bis (2-chloroisopropyl) ether			30.0	21.5		ug/L		72	30 - 125		
Bis(2-ethylhexyl) phthalate			30.0	25.5		ug/L		85	48 - 150		
4-Bromophenyl phenyl ether			30.0	22.7		ug/L		76	55 - 122		
Butyl benzyl phthalate			30.0	23.4		ug/L		78	46 - 145		
4-Chloroaniline			30.0	21.7		ug/L		72	30 - 120		
4-Chloro-3-methylphenol			30.0	28.8		ug/L		96	39 - 140		
2-Chloronaphthalene			30.0	21.0		ug/L		70	52 - 120		
2-Chlorophenol			30.0	22.4		ug/L		75	34 - 120		
4-Chlorophenyl phenyl ether			30.0	21.5		ug/L		72	58 - 124		
Dibenz[a,h]acridine			30.0	13.6	*	ug/L		45	46 - 149		
Dibenzofuran			30.0	22.3		ug/L		74	58 - 123		
3,3'-Dichlorobenzidine			40.0	42.0		ug/L		105	39 - 135		
2,4-Dichlorophenol			30.0	25.9		ug/L		86	39 - 128		
Diethyl phthalate			30.0	24.4		ug/L		81	44 - 146		
2,4-Dimethylphenol			30.0	22.6		ug/L		75	44 - 120		
Dimethyl phthalate			30.0	24.0		ug/L		80	50 - 131		
Di-n-butyl phthalate			30.0	25.3		ug/L		84	55 - 131		
4,6-Dinitro-ortho-cresol			60.0	47.6		ug/L		79	10 - 150		
2,4-Dinitrophenol			60.0	53.2		ug/L		89	10 - 150		
2,4-Dinitrotoluene			30.0	26.4		ug/L		88	58 - 140		
2,6-Dinitrotoluene			30.0	25.0		ug/L		83	57 - 130		
Di-n-octyl phthalate			30.0	22.9		ug/L		76	50 - 150		
1,4-Dioxane			30.0	15.5		ug/L		52	25 - 120		
1,2-Diphenylhydrazine (as Azobenzene)			30.0	23.4		ug/L		78	47 - 123		
Hexachlorobenzene			30.0	21.9		ug/L		73	52 - 131		
Hexachlorocyclopentadiene			30.0	3.16	J	ug/L		11	10 - 129		
Hexachloroethane			30.0	13.7		ug/L		46	41 - 120		

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Indene			30.0	20.3		ug/L		68	47 - 120		
Isophorone			30.0	23.4		ug/L		78	49 - 120		
2-Methylphenol			30.0	23.3		ug/L		78	39 - 123		
3 & 4 Methylphenol			30.0	22.6		ug/L		75	38 - 121		
2-Nitroaniline			30.0	26.6		ug/L		89	47 - 150		
3-Nitroaniline			30.0	26.0		ug/L		87	34 - 132		
4-Nitroaniline			30.0	29.8		ug/L		99	41 - 135		
Nitrobenzene			30.0	23.5		ug/L		78	47 - 120		
2-Nitrophenol			30.0	25.6		ug/L		85	28 - 136		
4-Nitrophenol			60.0	49.7		ug/L		83	10 - 150		
N-Nitrosodimethylamine			30.0	20.9		ug/L		70	22 - 148		
N-Nitrosodi-n-propylamine			30.0	20.7		ug/L		69	44 - 120		
N-Nitrosodiphenylamine			29.8	24.8		ug/L		83	56 - 120		
Pentachlorophenol			60.0	46.8		ug/L		78	15 - 141		
Phenol			30.0	21.4		ug/L		71	33 - 120		
Pyridine			60.0	30.3		ug/L		51	26 - 120		
Quinoline			30.0	20.8		ug/L		69	51 - 129		
2,4,5-Trichlorophenol			30.0	25.3		ug/L		84	38 - 147		
2,4,6-Trichlorophenol			30.0	24.8		ug/L		83	36 - 139		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*77*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*88*		*15 - 135*

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446728

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		5	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446440/1-A
Matrix: Solid
Analysis Batch: 447351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Chrysene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluoranthene	2.71	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Fluorene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
2-Methylnaphthalene	1.73	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1
Pyrene	2.22	J	6.6	1.0	ug/Kg		07/01/19 15:58	07/10/19 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*	*X*	*27 - 127*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Nitrobenzene-d5	*115*		*15 - 136*	*07/01/19 15:58*	*07/10/19 16:45*	*1*
Terphenyl-d14	*161*	*X*	*24 - 146*	*07/01/19 15:58*	*07/10/19 16:45*	*1*

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	351		ug/Kg		105	57 - 120
Acenaphthylene	333	339		ug/Kg		102	59 - 120
Anthracene	333	358		ug/Kg		107	61 - 120
Benzo[a]anthracene	333	330		ug/Kg		99	61 - 120
Benzo[a]pyrene	333	357		ug/Kg		107	54 - 127
Benzo[b]fluoranthene	333	370		ug/Kg		111	35 - 146
Benzo[g,h,i]perylene	333	352		ug/Kg		105	36 - 150
Benzo[k]fluoranthene	333	348		ug/Kg		104	53 - 139
Chrysene	333	335		ug/Kg		100	60 - 120
Dibenz(a,h)anthracene	333	356		ug/Kg		107	39 - 150
Fluoranthene	333	332		ug/Kg		100	61 - 121
Fluorene	333	361		ug/Kg		108	60 - 120
Indeno[1,2,3-cd]pyrene	333	352		ug/Kg		106	40 - 150
1-Methylnaphthalene	333	385		ug/Kg		116	46 - 120
2-Methylnaphthalene	333	376		ug/Kg		113	46 - 120
Phenanthrene	333	333		ug/Kg		100	59 - 120
Pyrene	333	354		ug/Kg		106	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*27 - 127*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-446440/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446440

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	78		15 - 136
Terphenyl-d14	121		24 - 146

Lab Sample ID: LCSD 400-446440/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	314		ug/Kg		94	57 - 120	11	30
Acenaphthylene			333	305		ug/Kg		92	59 - 120	10	30
Anthracene			333	332		ug/Kg		100	61 - 120	7	30
Benzo[a]anthracene			333	302		ug/Kg		91	61 - 120	9	30
Benzo[a]pyrene			333	332		ug/Kg		100	54 - 127	7	30
Benzo[b]fluoranthene			333	342		ug/Kg		103	35 - 146	8	30
Benzo[g,h,i]perylene			333	310		ug/Kg		93	36 - 150	13	30
Benzo[k]fluoranthene			333	331		ug/Kg		99	53 - 139	5	30
Chrysene			333	306		ug/Kg		92	60 - 120	9	30
Dibenz(a,h)anthracene			333	316		ug/Kg		95	39 - 150	12	30
Fluoranthene			333	306		ug/Kg		92	61 - 121	8	30
Fluorene			333	328		ug/Kg		98	60 - 120	10	30
Indeno[1,2,3-cd]pyrene			333	314		ug/Kg		94	40 - 150	11	30
1-Methylnaphthalene			333	350		ug/Kg		105	46 - 120	9	30
2-Methylnaphthalene			333	331		ug/Kg		99	46 - 120	13	30
Phenanthrene			333	311		ug/Kg		93	59 - 120	7	30
Pyrene			333	334		ug/Kg		100	53 - 122	6	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	87		27 - 127
Nitrobenzene-d5	71		15 - 136
Terphenyl-d14	114		24 - 146

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 16:04	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172420-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
2-Methylnaphthalene	0.0487	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*15 - 122*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Nitrobenzene-d5	*120*		*19 - 130*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Terphenyl-d14	*200*	*X*	*33 - 138*	*07/03/19 14:07*	*07/12/19 16:04*	*1*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	32.9		ug/L		110	41 - 120
Acenaphthylene	30.0	30.0		ug/L		100	44 - 120
Anthracene	30.0	29.7		ug/L		99	49 - 120
Benzo[a]anthracene	30.0	30.7		ug/L		102	61 - 135
Benzo[a]pyrene	30.0	28.7		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	32.5		ug/L		108	53 - 134
Benzo[g,h,i]perylene	30.0	27.0		ug/L		90	47 - 133
Benzo[k]fluoranthene	30.0	31.2		ug/L		104	57 - 134
Chrysene	30.0	31.4		ug/L		105	55 - 122
Dibenz(a,h)anthracene	30.0	36.2		ug/L		121	48 - 146
Fluoranthene	30.0	30.5		ug/L		102	54 - 128
Fluorene	30.0	36.4		ug/L		121	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	34.0		ug/L		113	43 - 142
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124
Phenanthrene	30.0	32.0		ug/L		107	48 - 120
Pyrene	30.0	41.4	*	ug/L		138	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*74*		*19 - 130*
Terphenyl-d14	*136*		*33 - 138*

Method: Moisture - Percent Moisture

Lab Sample ID: 400-172420-3 DU
Matrix: Solid
Analysis Batch: 446604

Client Sample ID: PD-9-SB-43-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	80.6		82.8		%		3	10

Shell Oil Products US Chain Of Custody Record

400-172420 COC

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG | ☐ PIPELINE | ☐ RETAIL
☐ CHEMICALS | ☐ CONSULTANT | ☐ LUBES
☐ TRANSPORTATION | ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF N
James Carrino	25278	DATE 6/28/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur, Brett Howell
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH; Moisture
NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062819-A	6/28/2019	0:00	Water	X					2			X		
	PD-9-SB-41-062819	6/28/2019	8:30	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-43-062819	6/28/2019	9:05	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-54-062819	6/28/2019	11:00	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-54-062819- DUP	6/28/2019	11:00	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-9-SB-EB	6/28/19	1615	Water	X			X		4	X		X	X	

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Brett Howell	Fedex:	6/28/2019	1700
	Dep:	6-29-19	9:19

Wgt: 20.00 LBS DV: 0.00
SPECIAL: 0.00 HANDLING: 0.00 TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT Master 4782 2877 1318
TRCK: 4782 2877 1362

0.2 ≤ IRB

Version: 10May17

10/21/2019 (Rev. 1)
CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172420-1

Login Number: 172420
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172420-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172542

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/26/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070119-A	PD-11-SB-37-070119

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated one SVOC and two PAHs were detected in the method blanks. VOC LCS recoveries were outside evaluation criteria. The SVOC surrogate nitrobenzene-d_5 recovered outside evaluation criteria in sample, PD-11-SB-37-070119. These issues are addressed further in the sections 4.0 and 6.0 of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-447257/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	44.5 μg/Kg
MB 400-447257/1-A	PAHs	1-Methylnaphthalene	1.84 μg/Kg
MB 400-447257/1-A	PAHs	2-Methylnaphthalene	3.31 μg/Kg

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS	Parameter	Analyte	LCS Recovery	LCS Criteria
400-447926/1002	VOCs	Acrylonitrile	**153**	64-142
400-447926/1002	VOCs	2-Chloroethyl vinyl ether	**294**	10-160
400-447926/1002	VOCs	1-Chlorohexane	**131**	69-130
400-447926/1002	VOCs	1,2-Dichloroethane	**148**	69-130

Analytical data associated with LCS recoveries outside evaluation criteria was for a trip blank. Trip blanks are quality control samples and do not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-11-SB-37-070119	SVOCs	Nitrobenzene-d_5	**0**	15-136

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172542-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/26/2019 2:09:31 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/26/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Laboratory Job ID: 400-172542-1

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Job ID: 400-172542-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172542-1

Comments
No additional comments.

Receipt
The samples were received on 7/2/2019 8:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070119-A (400-172542-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-11-SB-37-070119 (400-172542-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447770 recovered outside acceptance criteria, low biased, for 4-Nitrophenol, 4,6-Dinitro-2-methylphenol and 1,4-Dioxane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-447257 and analytical batch 400-448173 contained 1-Methylnaphthalene and 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-11-SB-37-070119 (400-172542-2). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Job ID: 400-172542-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

for Hexachloroethane, N-Nitrosodimethylamine, Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Di-n-octyl phthalate and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit (RL) for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-448342/2).

o additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172542-1	TB-PW-070119-A	Water	07/01/19 00:00	07/02/19 08:34	
400-172542-2	PD-11-SB-37-070119	Solid	07/01/19 10:45	07/02/19 08:34	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A

Lab Sample ID: 400-172542-1

No Detections.

Client Sample ID: PD-11-SB-37-070119

Lab Sample ID: 400-172542-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	37000		5300	650	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	12000		5300	730	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	65000		5300	1400	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	32000		5300	2100	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	11000		5300	1000	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	27000		5300	960	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	16000		5300	1100	ug/Kg	1000	☼	8260B	Total/NA
p-Isopropyltoluene	4900	J	5300	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	7100		5300	1000	ug/Kg	1000	☼	8260B	Total/NA
Toluene	2100	J	5300	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	260000		5300	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	71000		5300	890	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	81000		11000	2000	ug/Kg	1000	☼	8260B	Total/NA
Benzene - DL	740000		13000	1800	ug/Kg	2500	☼	8260B	Total/NA
Acenaphthene	110		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	250		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	92		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	54		7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	76		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	180		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	25		7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1200		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	670		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - DL	20000	B	77	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene - DL	31000	B	77	12	ug/Kg	10	☼	8270D LL	Total/NA
Indene	1500		380	77	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A
Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:24	1
Acrolein	ND		20	10	ug/L			07/14/19 09:24	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 09:24	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:24	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 09:24	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:24	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 09:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 09:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:24	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:24	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:24	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/14/19 09:24*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:24*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 09:24*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119

Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2

Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		27000	14000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Acrolein	ND		53000	30000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Acrylonitrile	ND		21000	8500	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromobenzene	ND		5300	1400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromochloromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromodichloromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromoform	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromomethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2-Butanone (MEK)	ND		27000	6400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Carbon disulfide	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Carbon tetrachloride	ND		5300	1800	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chlorobenzene	ND		5300	550	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2-Chloroethyl vinyl ether	ND		11000	5300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chloroform	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1-Chlorohexane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chloromethane	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
cis-1,2-Dichloroethene	ND		5300	810	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
cis-1,3-Dichloropropene	ND		5300	1300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Dibromochloromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dibromo-3-Chloropropane	ND		5300	3500	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dichlorobenzene	ND		5300	760	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,3-Dichlorobenzene	ND		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,4-Dichlorobenzene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Dichlorodifluoromethane	ND		5300	1400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1-Dichloroethane	ND		5300	890	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dichloroethane	ND		5300	870	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1-Dichloroethene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dichloropropane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,3-Dichloropropane	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2,2-Dichloropropane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1-Dichloropropene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Ethylbenzene	**37000**		5300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Ethylene Dibromide	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Ethyl methacrylate	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Hexachlorobutadiene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2-Hexanone	ND		27000	5300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Isopropylbenzene	**12000**		5300	730	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Methylene bromide	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Methylene Chloride	ND		16000	11000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
4-Methyl-2-pentanone (MIBK)	ND		27000	5300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Methyl tert-butyl ether	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
m-Xylene & p-Xylene	**65000**		5300	1400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Naphthalene	**32000**		5300	2100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
n-Butylbenzene	**11000**		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
N-Propylbenzene	**27000**		5300	960	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
o-Chlorotoluene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
o-Xylene	**16000**		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
p-Chlorotoluene	ND		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119
Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	4900	J	5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
sec-Butylbenzene	7100		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Styrene	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
tert-Butylbenzene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,1,2-Tetrachloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,2,2-Tetrachloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Tetrachloroethene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Toluene	2100	J	5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
trans-1,2-Dichloroethene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
trans-1,3-Dichloropropene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,3-Trichlorobenzene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,4-Trichlorobenzene	ND		5300	2100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,1-Trichloroethane	ND		5300	1200	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,2-Trichloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Trichloroethene	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Trichlorofluoromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,3-Trichloropropane	ND		5300	3200	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,4-Trimethylbenzene	260000		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,3,5-Trimethylbenzene	71000		5300	890	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Vinyl acetate	ND		27000	9700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Vinyl chloride	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Xylenes, Total	81000		11000	2000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane, 3-methyl-	*13000*	*T J N*	*ug/Kg*	☼	*3.51*	*589-34-4*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Isooctane	*39000*		*ug/Kg*	☼	*3.66*	*540-84-1*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Isopropylcyclobutane	*15000*	*T J N*	*ug/Kg*	☼	*3.72*	*872-56-0*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Methylcyclohexane	*33000*		*ug/Kg*	☼	*4.13*	*108-87-2*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Pentane, 2,3,4-trimethyl-	*45000*	*T J N*	*ug/Kg*	☼	*4.37*	*565-75-3*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Cyclohexane, 1,3-dimethyl-, cis-	*16000*	*T J N*	*ug/Kg*	☼	*4.73*	*638-04-0*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Octane, 3-methyl-	*13000*	*T J N*	*ug/Kg*	☼	*5.63*	*2216-33-3*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Octane, 2,6-dimethyl-	*18000*	*T J N*	*ug/Kg*	☼	*6.27*	*2051-30-1*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
3-Ethyltoluene	*120000*		*ug/Kg*	☼	*6.86*	*620-14-4*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
2-Ethyltoluene	*33000*		*ug/Kg*	☼	*7.08*	*611-14-3*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
1,2,3-Trimethylbenzene	*55000*		*ug/Kg*	☼	*7.54*	*526-73-8*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
p-Diethylbenzene	*29000*		*ug/Kg*	☼	*7.75*	*105-05-5*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 2-ethyl-1,3-dimethyl-	*52000*	*T J N*	*ug/Kg*	☼	*7.99*	*2870-04-4*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 2-ethyl-1,4-dimethyl-	*33000*	*T J N*	*ug/Kg*	☼	*8.04*	*1758-88-9*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 1,2,3,5-tetramethyl-	*66000*	*T J N*	*ug/Kg*	☼	*8.40*	*527-53-7*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 1-methyl-2-(2-propenyl)-	*64000*	*T J N*	*ug/Kg*	☼	*8.75*	*1587-04-8*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1,2,3,4-tetrahydro-	*47000*	*T J N*	*ug/Kg*	☼	*8.89*	*119-64-2*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	*29000*	*T J N*	*ug/Kg*	☼	*9.87*	*2809-64-5*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
2-Methylnaphthalene	*79000*		*ug/Kg*	☼	*10.37*	*91-57-6*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
1-Methylnaphthalene	*47000*		*ug/Kg*	☼	*10.53*	*90-12-0*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1,2,3,4-tetrahydro-1,4-dimethyl-	*19000*	*T J N*	*ug/Kg*	☼	*10.96*	*4175-54-6*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1-ethyl-	*25000*	*T J N*	*ug/Kg*	☼	*11.15*	*1127-76-0*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 2,7-dimethyl-	*49000*	*T J N*	*ug/Kg*	☼	*11.25*	*582-16-1*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 2,3-dimethyl-	*72000*	*T J N*	*ug/Kg*	☼	*11.39*	*581-40-8*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119

Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2

Matrix: Solid
Percent Solids: 85.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 122	07/14/19 18:53	07/15/19 05:15	1000
Dibromofluoromethane	90		79 - 123	07/14/19 18:53	07/15/19 05:15	1000
Toluene-d8 (Surr)	100		80 - 120	07/14/19 18:53	07/15/19 05:15	1000

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	740000		13000	1800	ug/Kg	☼	07/15/19 09:26	07/15/19 12:48	2500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/15/19 09:26	07/15/19 12:48	2500
Dibromofluoromethane	92		79 - 123	07/15/19 09:26	07/15/19 12:48	2500
Toluene-d8 (Surr)	100		80 - 120	07/15/19 09:26	07/15/19 12:48	2500

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	110		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[a]pyrene	250		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[b]fluoranthene	92		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[g,h,i]perylene	54		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Chrysene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Fluoranthene	76		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Fluorene	180		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Indeno[1,2,3-cd]pyrene	25		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Phenanthrene	1200		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Pyrene	670		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		27 - 127	07/09/19 13:50	07/16/19 14:21	1
Nitrobenzene-d5	63		15 - 136	07/09/19 13:50	07/16/19 14:21	1
Terphenyl-d14	76		24 - 146	07/09/19 13:50	07/16/19 14:21	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	20000	B	77	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:09	10
2-Methylnaphthalene	31000	B	77	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:09	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Benzenethiol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Bis(2-ethylhexyl) phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119
Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid
Percent Solids: 85.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Indene	**1500**		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Isophorone	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Phenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Pyridine	ND		380	170	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Quinoline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*4700*	*T J N*	*ug/Kg*	☼	*4.66*	*100-41-4*	*07/09/19 13:50*	*07/17/19 12:47*	*1*
Nonane	*4200*	*T J N*	*ug/Kg*	☼	*4.89*	*111-84-2*	*07/09/19 13:50*	*07/17/19 12:47*	*1*
Benzene, (1-methylethyl)-	*3200*	*T J N*	*ug/Kg*	☼	*5.07*	*98-82-8*	*07/09/19 13:50*	*07/17/19 12:47*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119
Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid
Percent Solids: 85.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Octane, 3,6-dimethyl-	2000	T J N	ug/Kg	☼	5.10	15869-94-0	07/09/19 13:50	07/17/19 12:47	1
Cyclohexane, propyl-	3300	T J N	ug/Kg	☼	5.13	1678-92-8	07/09/19 13:50	07/17/19 12:47	1
Benzene, propyl-	4000	T J N	ug/Kg	☼	5.26	103-65-1	07/09/19 13:50	07/17/19 12:47	1
Benzene, 1-ethyl-3-methyl-	2400	T J N	ug/Kg	☼	5.30	620-14-4	07/09/19 13:50	07/17/19 12:47	1
Benzene, 1-ethyl-2-methyl-	3500	T J N	ug/Kg	☼	5.40	611-14-3	07/09/19 13:50	07/17/19 12:47	1
Nonane, 2,6-dimethyl-	2800	T J N	ug/Kg	☼	5.58	17302-28-2	07/09/19 13:50	07/17/19 12:47	1
Benzene, 1,2,3-trimethyl-	5200	T J N	ug/Kg	☼	5.64	526-73-8	07/09/19 13:50	07/17/19 12:47	1
Decane, 3-methyl-	1700	T J N	ug/Kg	☼	5.82	13151-34-3	07/09/19 13:50	07/17/19 12:47	1
Benzene, 4-ethyl-1,2-dimethyl-	3900	T J N	ug/Kg	☼	5.94	934-80-5	07/09/19 13:50	07/17/19 12:47	1
trans-Decalin, 2-methyl-	1600	T J N	ug/Kg	☼	6.14	1000152-47-3	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	4900	T J N	ug/Kg	☼	7.70	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	4700	T J N	ug/Kg	☼	7.77	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 1,4,6-trimethyl-	6300	T J N	ug/Kg	☼	7.86	2131-42-2	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	4900	T J N	ug/Kg	☼	7.88	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	1900	T J N	ug/Kg	☼	7.99	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2-methyl-1-propyl-	8400	T J N	ug/Kg	☼	8.03	54774-89-9	07/09/19 13:50	07/17/19 12:47	1
1,4,5,8-Tetramethylnaphthalene	2700	T J N	ug/Kg	☼	8.35	2717-39-7	07/09/19 13:50	07/17/19 12:47	1
9H-Fluorene, 2-methyl-	4600	T J N	ug/Kg	☼	8.44	1430-97-3	07/09/19 13:50	07/17/19 12:47	1
9H-Fluorene, 2,3-dimethyl-	8500	T J N	ug/Kg	☼	8.85	4612-63-9	07/09/19 13:50	07/17/19 12:47	1
Dibenzothiophene, 4-methyl-	7200	T J N	ug/Kg	☼	9.12	7372-88-5	07/09/19 13:50	07/17/19 12:47	1
Phenanthrene, 2-methyl-	7100	T J N	ug/Kg	☼	9.20	2531-84-2	07/09/19 13:50	07/17/19 12:47	1
2,8-Dimethyldibenzo(b,d)thiophene	3200	T J N	ug/Kg	☼	9.39	1207-15-4	07/09/19 13:50	07/17/19 12:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		27 - 127	07/09/19 13:50	07/17/19 12:47	1
2-Fluorophenol	52		25 - 128	07/09/19 13:50	07/17/19 12:47	1
Nitrobenzene-d5	0	X	15 - 136	07/09/19 13:50	07/17/19 12:47	1
Phenol-d5	50		29 - 130	07/09/19 13:50	07/17/19 12:47	1
Terphenyl-d14	82		24 - 146	07/09/19 13:50	07/17/19 12:47	1
2,4,6-Tribromophenol	125		10 - 150	07/09/19 13:50	07/17/19 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.5		0.01	0.01	%			07/05/19 10:14	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172542-2	PD-11-SB-37-070119	104	90	100
400-172542-2 - DL	PD-11-SB-37-070119	100	92	100
LCS 400-447976/1-A	Lab Control Sample	103	99	91
LCS 400-448067/1-A	Lab Control Sample	100	95	100
MB 400-447976/2-A	Method Blank	107	99	102
MB 400-448067/2-A	Method Blank	95	94	98

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172542-1	TB-PW-070119-A	109	113	104
LCS 400-447926/1002	Lab Control Sample	107	112	103
MB 400-447926/4	Method Blank	105	113	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172542-2	PD-11-SB-37-070119	76	52	0 X	50	82	125
LCS 400-447257/4-A	Lab Control Sample	62	65	71	69	75	59
LCS 400-447257/6-A	Lab Control Sample	63	67	79	72	69	76
LCSD 400-447257/5-A	Lab Control Sample Dup	64	66	72	72	72	64
MB 400-447257/1-A	Method Blank	58	60	67	65	65	55

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172542-2	PD-11-SB-37-070119	74	63	76
LCS 400-447257/2-A	Lab Control Sample	85	68	104
LCSD 400-447257/3-A	Lab Control Sample Dup	85	69	105
MB 400-447257/1-A	Method Blank	85	70	114

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:24	WPD	TAL PEN

Client Sample ID: PD-11-SB-37-070119

Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446844	07/05/19 10:14	KNT	TAL PEN

Client Sample ID: PD-11-SB-37-070119

Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.529 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447951	07/15/19 05:15	BSW	TAL PEN
Total/NA	Prep	5035	DL		6.529 g	5.00 g	448067	07/15/19 09:26	BSW	TAL PEN
Total/NA	Analysis	8260B	DL	2500	5 mL	5 mL	448022	07/15/19 12:48	BSW	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 12:47	VC1	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 14:21	KJA	TAL PEN
Total/NA	Prep	3546	DL		15.11 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL	DL	10			448700	07/19/19 17:09	S1S	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 21:28	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 13:30	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447926/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447951	07/14/19 20:53	BSW	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448067/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448067	07/15/19 09:26	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448022	07/15/19 12:24	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 13:47	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447257/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 21:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:32	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447926/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447951	07/14/19 19:47	BSW	TAL PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448067/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448067	07/15/19 09:26	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448022	07/15/19 11:24	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447257/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 14:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447257/5-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:11	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

GC/MS VOA

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-1	TB-PW-070119-A	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	8260B	447976
MB 400-447976/2-A	Method Blank	Total/NA	Solid	8260B	447976
LCS 400-447976/1-A	Lab Control Sample	Total/NA	Solid	8260B	447976

Prep Batch: 447976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	5035	
MB 400-447976/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447976/1-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 448022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	8260B	448067
MB 400-448067/2-A	Method Blank	Total/NA	Solid	8260B	448067
LCS 400-448067/1-A	Lab Control Sample	Total/NA	Solid	8260B	448067

Prep Batch: 448067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	5035	
MB 400-448067/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448067/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	3546	
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	3546	
MB 400-447257/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447257/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447257/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447257/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447257/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-447257/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 447770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447257/1-A	Method Blank	Total/NA	Solid	8270D	447257
LCS 400-447257/4-A	Lab Control Sample	Total/NA	Solid	8270D	447257
LCS 400-447257/6-A	Lab Control Sample	Total/NA	Solid	8270D	447257
LCSD 400-447257/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447257

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	8270D LL	447257

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448173 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447257/1-A	Method Blank	Total/NA	Solid	8270D LL	447257
LCS 400-447257/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	447257
LCSD 400-447257/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	447257

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	8270D	447257

Analysis Batch: 448700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	8270D LL	447257

General Chemistry

Analysis Batch: 446844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		1.0	0.76	ug/L			07/14/19 09:00	1
Chloroform	ND		5.0	2.0	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.64	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:00*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 09:00*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:00*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 09:00*	*1*

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Acrolein	ND		50	28	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Benzene	ND		5.0	0.67	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromoform	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloroform	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/14/19 18:53	07/14/19 20:53	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Hexanone	ND		25	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methylene Chloride	ND		15	10	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Styrene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Toluene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/14/19 18:53	07/14/19 20:53	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/14/19 18:53	07/14/19 20:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 122	07/14/19 18:53	07/14/19 20:53	1
Dibromofluoromethane	99		79 - 123	07/14/19 18:53	07/14/19 20:53	1
Toluene-d8 (Surr)	102		80 - 120	07/14/19 18:53	07/14/19 20:53	1

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	224		ug/Kg		112	48 - 160
Acrolein	500	621		ug/Kg		124	40 - 150
Acrylonitrile	500	507		ug/Kg		101	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	48.2		ug/Kg		96	65 - 130
Bromochloromethane	50.0	46.4		ug/Kg		93	65 - 130
Bromodichloromethane	50.0	46.0		ug/Kg		92	61 - 130
Bromoform	50.0	45.5		ug/Kg		91	52 - 136
Bromomethane	50.0	26.5		ug/Kg		53	12 - 160
2-Butanone (MEK)	200	256		ug/Kg		128	55 - 130
Carbon disulfide	50.0	41.2		ug/Kg		82	46 - 141
Carbon tetrachloride	50.0	46.3		ug/Kg		93	60 - 130
Chlorobenzene	50.0	48.7		ug/Kg		97	70 - 130
Chloroethane	50.0	47.0		ug/Kg		94	55 - 134
2-Chloroethyl vinyl ether	50.0	29.8		ug/Kg		60	10 - 158
Chloroform	50.0	48.2		ug/Kg		96	62 - 130
1-Chlorohexane	50.0	45.8		ug/Kg		92	69 - 130
Chloromethane	50.0	49.3		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.9		ug/Kg		96	53 - 135
cis-1,3-Dichloropropene	50.0	47.6		ug/Kg		95	61 - 130
Dibromochloromethane	50.0	45.0		ug/Kg		90	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	44.2		ug/Kg		88	49 - 130
1,2-Dichlorobenzene	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichlorobenzene	50.0	48.9		ug/Kg		98	66 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/Kg		98	65 - 130
Dichlorodifluoromethane	50.0	50.7		ug/Kg		101	34 - 143
1,1-Dichloroethane	50.0	48.0		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.6		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	44.8		ug/Kg		90	55 - 137
1,2-Dichloropropane	50.0	50.3		ug/Kg		101	64 - 130
1,3-Dichloropropane	50.0	48.2		ug/Kg		96	67 - 130
2,2-Dichloropropane	50.0	44.1		ug/Kg		88	51 - 132
1,1-Dichloropropene	50.0	47.2		ug/Kg		94	65 - 130
Ethylbenzene	50.0	45.1		ug/Kg		90	70 - 130
Ethylene Dibromide	50.0	48.8		ug/Kg		98	67 - 130
Ethyl methacrylate	50.0	45.5		ug/Kg		91	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	57.1		ug/Kg		114	62 - 133
2-Hexanone	200	223		ug/Kg		111	57 - 131
Isopropylbenzene	50.0	44.5		ug/Kg		89	70 - 130
Methylene bromide	50.0	48.4		ug/Kg		97	65 - 130
Methylene Chloride	50.0	50.2		ug/Kg		100	57 - 132
4-Methyl-2-pentanone (MIBK)	200	195		ug/Kg		97	58 - 130
Methyl tert-butyl ether	50.0	44.4		ug/Kg		89	63 - 130
m-Xylene & p-Xylene	50.0	47.3		ug/Kg		95	70 - 130
Naphthalene	50.0	42.2		ug/Kg		84	45 - 144
n-Butylbenzene	50.0	48.9		ug/Kg		98	66 - 130
N-Propylbenzene	50.0	49.5		ug/Kg		99	67 - 130
o-Chlorotoluene	50.0	51.8		ug/Kg		104	67 - 130
o-Xylene	50.0	44.5		ug/Kg		89	70 - 130
p-Chlorotoluene	50.0	50.7		ug/Kg		101	66 - 130
p-Isopropyltoluene	50.0	49.2		ug/Kg		98	68 - 130
sec-Butylbenzene	50.0	48.9		ug/Kg		98	67 - 130
Styrene	50.0	43.9		ug/Kg		88	68 - 130
tert-Butylbenzene	50.0	46.8		ug/Kg		94	67 - 130
1,1,1,2-Tetrachloroethane	50.0	45.4		ug/Kg		91	65 - 130
1,1,2,2-Tetrachloroethane	50.0	55.0		ug/Kg		110	60 - 131
Tetrachloroethene	50.0	40.8		ug/Kg		82	67 - 130
Toluene	50.0	47.2		ug/Kg		94	70 - 130
trans-1,2-Dichloroethene	50.0	48.5		ug/Kg		97	58 - 134
trans-1,3-Dichloropropene	50.0	44.4		ug/Kg		89	60 - 130
1,2,3-Trichlorobenzene	50.0	49.0		ug/Kg		98	58 - 135
1,2,4-Trichlorobenzene	50.0	46.4		ug/Kg		93	56 - 138
1,1,1-Trichloroethane	50.0	46.2		ug/Kg		92	63 - 130
1,1,2-Trichloroethane	50.0	47.5		ug/Kg		95	65 - 130
Trichloroethene	50.0	48.7		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	46.0		ug/Kg		92	61 - 136
1,2,3-Trichloropropane	50.0	53.0		ug/Kg		106	60 - 130
1,2,4-Trimethylbenzene	50.0	51.3		ug/Kg		103	66 - 130
1,3,5-Trimethylbenzene	50.0	51.3		ug/Kg		103	67 - 130
Vinyl acetate	100	98.3		ug/Kg		98	24 - 160
Vinyl chloride	50.0	52.1		ug/Kg		104	52 - 132
Xylenes, Total	100	91.8		ug/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-448067/2-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		07/15/19 09:26	07/15/19 12:24	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448067/2-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448067

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/15/19 09:26	07/15/19 12:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		72 - 122	07/15/19 09:26	07/15/19 12:24	1
Dibromofluoromethane	94		79 - 123	07/15/19 09:26	07/15/19 12:24	1
Toluene-d8 (Surr)	98		80 - 120	07/15/19 09:26	07/15/19 12:24	1

Lab Sample ID: LCS 400-448067/1-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	214		ug/Kg		107	48 - 160
Acrolein	500	495		ug/Kg		99	40 - 150
Acrylonitrile	500	593		ug/Kg		119	60 - 130
Benzene	50.0	48.6		ug/Kg		97	65 - 130
Bromobenzene	50.0	49.8		ug/Kg		100	65 - 130
Bromochloromethane	50.0	54.0		ug/Kg		108	65 - 130
Bromodichloromethane	50.0	47.2		ug/Kg		94	61 - 130
Bromoform	50.0	47.0		ug/Kg		94	52 - 136
Bromomethane	50.0	43.2		ug/Kg		86	12 - 160
2-Butanone (MEK)	200	186		ug/Kg		93	55 - 130
Carbon disulfide	50.0	46.6		ug/Kg		93	46 - 141
Carbon tetrachloride	50.0	48.0		ug/Kg		96	60 - 130
Chlorobenzene	50.0	50.0		ug/Kg		100	70 - 130
Chloroethane	50.0	44.0		ug/Kg		88	55 - 134
2-Chloroethyl vinyl ether	50.0	35.0		ug/Kg		70	10 - 158
Chloroform	50.0	49.7		ug/Kg		99	62 - 130
1-Chlorohexane	50.0	51.1		ug/Kg		102	69 - 130
Chloromethane	50.0	49.5		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	50.0		ug/Kg		100	53 - 135
cis-1,3-Dichloropropene	50.0	48.3		ug/Kg		97	61 - 130
Dibromochloromethane	50.0	48.7		ug/Kg		97	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	47.2		ug/Kg		94	49 - 130
1,2-Dichlorobenzene	50.0	52.8		ug/Kg		106	64 - 130
1,3-Dichlorobenzene	50.0	52.0		ug/Kg		104	66 - 130
1,4-Dichlorobenzene	50.0	51.7		ug/Kg		103	65 - 130
Dichlorodifluoromethane	50.0	40.8		ug/Kg		82	34 - 143
1,1-Dichloroethane	50.0	49.9		ug/Kg		100	59 - 130
1,2-Dichloroethane	50.0	49.8		ug/Kg		100	62 - 130
1,1-Dichloroethene	50.0	51.1		ug/Kg		102	55 - 137
1,2-Dichloropropane	50.0	48.4		ug/Kg		97	64 - 130
1,3-Dichloropropane	50.0	49.4		ug/Kg		99	67 - 130
2,2-Dichloropropane	50.0	43.7		ug/Kg		87	51 - 132
1,1-Dichloropropene	50.0	48.7		ug/Kg		97	65 - 130
Ethylbenzene	50.0	51.8		ug/Kg		104	70 - 130
Ethylene Dibromide	50.0	51.4		ug/Kg		103	67 - 130
Ethyl methacrylate	50.0	50.3		ug/Kg		101	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448067/1-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	39.3		ug/Kg		79	62 - 133
2-Hexanone	200	183		ug/Kg		91	57 - 131
Isopropylbenzene	50.0	50.7		ug/Kg		101	70 - 130
Methylene bromide	50.0	47.5		ug/Kg		95	65 - 130
Methylene Chloride	50.0	50.1		ug/Kg		100	57 - 132
4-Methyl-2-pentanone (MIBK)	200	208		ug/Kg		104	58 - 130
Methyl tert-butyl ether	50.0	45.5		ug/Kg		91	63 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/Kg		103	70 - 130
Naphthalene	50.0	50.1		ug/Kg		100	45 - 144
n-Butylbenzene	50.0	50.7		ug/Kg		101	66 - 130
N-Propylbenzene	50.0	52.6		ug/Kg		105	67 - 130
o-Chlorotoluene	50.0	53.1		ug/Kg		106	67 - 130
o-Xylene	50.0	52.4		ug/Kg		105	70 - 130
p-Chlorotoluene	50.0	51.5		ug/Kg		103	66 - 130
p-Isopropyltoluene	50.0	52.2		ug/Kg		104	68 - 130
sec-Butylbenzene	50.0	51.3		ug/Kg		103	67 - 130
Styrene	50.0	49.5		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	50.9		ug/Kg		102	67 - 130
1,1,1,2-Tetrachloroethane	50.0	51.5		ug/Kg		103	65 - 130
1,1,2,2-Tetrachloroethane	50.0	51.7		ug/Kg		103	60 - 131
Tetrachloroethene	50.0	47.8		ug/Kg		96	67 - 130
Toluene	50.0	52.9		ug/Kg		106	70 - 130
trans-1,2-Dichloroethene	50.0	54.1		ug/Kg		108	58 - 134
trans-1,3-Dichloropropene	50.0	47.9		ug/Kg		96	60 - 130
1,2,3-Trichlorobenzene	50.0	43.4		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.8		ug/Kg		86	56 - 138
1,1,1-Trichloroethane	50.0	49.6		ug/Kg		99	63 - 130
1,1,2-Trichloroethane	50.0	50.5		ug/Kg		101	65 - 130
Trichloroethene	50.0	50.3		ug/Kg		101	65 - 130
Trichlorofluoromethane	50.0	40.7		ug/Kg		81	61 - 136
1,2,3-Trichloropropane	50.0	55.3		ug/Kg		111	60 - 130
1,2,4-Trimethylbenzene	50.0	52.5		ug/Kg		105	66 - 130
1,3,5-Trimethylbenzene	50.0	52.5		ug/Kg		105	67 - 130
Vinyl acetate	100	108		ug/Kg		108	24 - 160
Vinyl chloride	50.0	49.4		ug/Kg		99	52 - 132
Xylenes, Total	100	104		ug/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*95*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzenethiol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzoic acid	ND		990	350	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzyl alcohol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-ethylhexyl) phthalate	44.5	J	330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chloroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Chlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dibenzofuran	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Diethyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
1,4-Dioxane	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachloroethane	ND		330	100	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Indene	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Isophorone	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Methylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Nitrobenzene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Nitrophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Nitrophenol	ND		330	110	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Pentachlorophenol	ND		660	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Phenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		330	150	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Quinoline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/09/19 13:50*	*07/12/19 21:28*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*27 - 127*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Phenol-d5	*65*		*29 - 130*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Terphenyl-d14	*65*		*24 - 146*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
2,4,6-Tribromophenol	*55*		*10 - 150*	*07/09/19 13:50*	*07/12/19 21:28*	*1*

Lab Sample ID: LCS 400-447257/4-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	991		ug/Kg		50	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*62*		*27 - 127*
2-Fluorophenol	*65*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*69*		*29 - 130*
Terphenyl-d14	*75*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1620		ug/Kg		81	36 - 120
Benzoic acid	7770	4880		ug/Kg		63	10 - 139
Benzyl alcohol	2000	1590		ug/Kg		80	10 - 127
Bis(2-chloroethoxy)methane	2000	1290		ug/Kg		64	52 - 120
Bis(2-chloroethyl)ether	2000	1190		ug/Kg		60	50 - 120
bis (2-chloroisopropyl) ether	2000	1420		ug/Kg		71	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1560		ug/Kg		78	58 - 158
4-Bromophenyl phenyl ether	2000	1450		ug/Kg		72	51 - 120
Butyl benzyl phthalate	2000	1500		ug/Kg		75	58 - 126
4-Chloroaniline	2000	1320		ug/Kg		66	34 - 120
4-Chloro-3-methylphenol	2000	1710		ug/Kg		85	57 - 124
2-Chloronaphthalene	2000	1430		ug/Kg		72	55 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	2000	1510		ug/Kg		75	52 - 120
4-Chlorophenyl phenyl ether	2000	1480		ug/Kg		74	56 - 120
Dibenz[a,h]acridine	2000	1260		ug/Kg		63	51 - 135
Dibenzofuran	2000	1440		ug/Kg		72	58 - 120
3,3'-Dichlorobenzidine	2670	2760		ug/Kg		104	42 - 120
2,4-Dichlorophenol	2000	1600		ug/Kg		80	56 - 120
Diethyl phthalate	2000	1480		ug/Kg		74	56 - 128
2,4-Dimethylphenol	2000	1590		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1470		ug/Kg		73	58 - 120
Di-n-butyl phthalate	2000	1650		ug/Kg		82	64 - 122
4,6-Dinitro-ortho-cresol	4000	3230		ug/Kg		81	35 - 135
2,4-Dinitrophenol	4000	3250		ug/Kg		81	10 - 138
2,4-Dinitrotoluene	2000	1580		ug/Kg		79	59 - 133
2,6-Dinitrotoluene	2000	1550		ug/Kg		77	57 - 123
Di-n-octyl phthalate	2000	1540		ug/Kg		77	57 - 137
1,4-Dioxane	2000	973		ug/Kg		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1390		ug/Kg		69	50 - 120
Hexachlorobenzene	2000	1480		ug/Kg		74	49 - 127
Hexachlorocyclopentadiene	2000	1670		ug/Kg		84	10 - 140
Hexachloroethane	2000	1430		ug/Kg		71	45 - 120
Indene	2000	1550		ug/Kg		77	45 - 120
Isophorone	2000	1450		ug/Kg		72	50 - 120
2-Methylphenol	2000	1540		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1480		ug/Kg		74	47 - 123
2-Nitroaniline	2000	1710		ug/Kg		86	55 - 129
3-Nitroaniline	2000	1700		ug/Kg		85	45 - 120
4-Nitroaniline	2000	1780		ug/Kg		89	52 - 126
Nitrobenzene	2000	1470		ug/Kg		74	50 - 120
2-Nitrophenol	2000	1590		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2880		ug/Kg		72	38 - 133
N-Nitrosodimethylamine	2000	1450		ug/Kg		73	35 - 120
N-Nitrosodi-n-propylamine	2000	1460		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1440		ug/Kg		72	54 - 120
Pentachlorophenol	4000	3400		ug/Kg		85	32 - 131
Phenol	2000	1460		ug/Kg		73	51 - 120
Pyridine	4000	2460		ug/Kg		61	29 - 120
Quinoline	2000	1460		ug/Kg		73	10 - 150
2,4,5-Trichlorophenol	2000	1590		ug/Kg		79	53 - 133
2,4,6-Trichlorophenol	2000	1590		ug/Kg		79	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*67*		*25 - 128*
Nitrobenzene-d5	*79*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*69*		*24 - 146*
2,4,6-Tribromophenol	*76*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447257/5-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	1110		ug/Kg		55	10 - 120	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*27 - 127*
2-Fluorophenol	*66*		*25 - 128*
Nitrobenzene-d5	*72*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*72*		*24 - 146*
2,4,6-Tribromophenol	*64*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Chrysene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluorene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
1-Methylnaphthalene	1.84	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
2-Methylnaphthalene	3.31	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*27 - 127*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Nitrobenzene-d5	*70*		*15 - 136*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Terphenyl-d14	*114*		*24 - 146*	*07/09/19 13:50*	*07/16/19 13:30*	*1*

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	320		ug/Kg		96	57 - 120
Acenaphthylene	333	315		ug/Kg		94	59 - 120
Anthracene	333	321		ug/Kg		96	61 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	333	291		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	320		ug/Kg		96	54 - 127
Benzo[b]fluoranthene	333	334		ug/Kg		100	35 - 146
Benzo[g,h,i]perylene	333	308		ug/Kg		92	36 - 150
Benzo[k]fluoranthene	333	305		ug/Kg		92	53 - 139
Chrysene	333	289		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	315		ug/Kg		94	39 - 150
Fluoranthene	333	295		ug/Kg		89	61 - 121
Fluorene	333	336		ug/Kg		101	60 - 120
Indeno[1,2,3-cd]pyrene	333	308		ug/Kg		93	40 - 150
1-Methylnaphthalene	333	339		ug/Kg		102	46 - 120
2-Methylnaphthalene	333	339		ug/Kg		102	46 - 120
Phenanthrene	333	297		ug/Kg		89	59 - 120
Pyrene	333	326		ug/Kg		98	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*68*		*15 - 136*
Terphenyl-d14	*104*		*24 - 146*

Lab Sample ID: LCSD 400-447257/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	321		ug/Kg		96	57 - 120	0	30
Acenaphthylene	333	313		ug/Kg		94	59 - 120	1	30
Anthracene	333	327		ug/Kg		98	61 - 120	2	30
Benzo[a]anthracene	333	305		ug/Kg		92	61 - 120	5	30
Benzo[a]pyrene	333	334		ug/Kg		100	54 - 127	4	30
Benzo[b]fluoranthene	333	343		ug/Kg		103	35 - 146	3	30
Benzo[g,h,i]perylene	333	325		ug/Kg		98	36 - 150	6	30
Benzo[k]fluoranthene	333	323		ug/Kg		97	53 - 139	6	30
Chrysene	333	302		ug/Kg		90	60 - 120	4	30
Dibenz(a,h)anthracene	333	336		ug/Kg		101	39 - 150	6	30
Fluoranthene	333	307		ug/Kg		92	61 - 121	4	30
Fluorene	333	334		ug/Kg		100	60 - 120	1	30
Indeno[1,2,3-cd]pyrene	333	330		ug/Kg		99	40 - 150	7	30
1-Methylnaphthalene	333	302		ug/Kg		91	46 - 120	11	30
2-Methylnaphthalene	333	329		ug/Kg		99	46 - 120	3	30
Phenanthrene	333	307		ug/Kg		92	59 - 120	3	30
Pyrene	333	322		ug/Kg		96	53 - 122	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*69*		*15 - 136*
Terphenyl-d14	*105*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)

☐CALSCIENCE (_____)

☑TESTAMERICA (___Pensacola_____

☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/1/2019
PO #	**GSAP Project ID**	PAGE: ___1___ of ___1___
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur,

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
	TB-PW-070119-A	7/1/2019	0:00	Water	X					2			X		
	PD-11-SB-37-070119	7/1/2019	10:45	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-172542 COC

Relinquished by: (Signature) Paul Lafleur	Received by: (Signature) Fedex: 1054 5423 6540	Date: 7/1/2019	Time: 1800
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) 3.7C IR8	Date: 7-2-19	Time: 8:34

Version 10May17

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7/26/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172542-1

Login Number: 172542
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	641122,641123
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172542-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 12:51:36 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172542-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172542-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-26-19.

Receipt
The samples were received on 7/2/2019 8:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070119-A (400-172542-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-11-SB-37-070119 (400-172542-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447770 recovered outside acceptance criteria, low biased, for 4-Nitrophenol, 4,6-Dinitro-2-methylphenol and 1,4-Dioxane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-447257 and analytical batch 400-448173 contained 1-Methylnaphthalene and 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-11-SB-37-070119 (400-172542-2). These results have been reported and qualified.

Job ID: 400-172542-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Di-n-octyl phthalate and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit (RL) for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-448342/2).

o additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172542-1	TB-PW-070119-A	Water	07/01/19 00:00	07/02/19 08:34	
400-172542-2	PD-11-SB-37-070119	Solid	07/01/19 10:45	07/02/19 08:34	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A — Lab Sample ID: 400-172542-1

No Detections.

Client Sample ID: PD-11-SB-37-070119 — Lab Sample ID: 400-172542-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	37000		5300	650	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	12000		5300	730	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	65000		5300	1400	ug/Kg	1000	☼	8260B	Total/NA
Naphthalene	32000		5300	2100	ug/Kg	1000	☼	8260B	Total/NA
n-Butylbenzene	11000		5300	1000	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	27000		5300	960	ug/Kg	1000	☼	8260B	Total/NA
o-Xylene	16000		5300	1100	ug/Kg	1000	☼	8260B	Total/NA
p-Isopropyltoluene	4900	J	5300	1100	ug/Kg	1000	☼	8260B	Total/NA
sec-Butylbenzene	7100		5300	1000	ug/Kg	1000	☼	8260B	Total/NA
Toluene	2100	J	5300	1100	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	260000		5300	1100	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	71000		5300	890	ug/Kg	1000	☼	8260B	Total/NA
Xylenes, Total	81000		11000	2000	ug/Kg	1000	☼	8260B	Total/NA
Benzene - DL	740000		13000	1800	ug/Kg	2500	☼	8260B	Total/NA
Acenaphthene	110		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	250		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	92		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	54		7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	76		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	180		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	25		7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1200		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	670		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - DL	20000	B	77	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene - DL	31000	B	77	12	ug/Kg	10	☼	8270D LL	Total/NA
Indene	1500		380	77	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:24	1
Acrolein	ND		20	10	ug/L			07/14/19 09:24	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 09:24	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:24	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 09:24	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:24	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 09:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 09:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:24	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: TB-PW-070119-A

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:24	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:24	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/14/19 09:24*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:24*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 09:24*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119

Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2

Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		27000	14000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Acrolein	ND		53000	30000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Acrylonitrile	ND		21000	8500	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromobenzene	ND		5300	1400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromochloromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromodichloromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromoform	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Bromomethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2-Butanone (MEK)	ND		27000	6400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Carbon disulfide	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Carbon tetrachloride	ND		5300	1800	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chlorobenzene	ND		5300	550	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2-Chloroethyl vinyl ether	ND		11000	5300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chloroform	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1-Chlorohexane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Chloromethane	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
cis-1,2-Dichloroethene	ND		5300	810	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
cis-1,3-Dichloropropene	ND		5300	1300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Dibromochloromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dibromo-3-Chloropropane	ND		5300	3500	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dichlorobenzene	ND		5300	760	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,3-Dichlorobenzene	ND		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,4-Dichlorobenzene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Dichlorodifluoromethane	ND		5300	1400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1-Dichloroethane	ND		5300	890	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dichloroethane	ND		5300	870	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1-Dichloroethene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2-Dichloropropane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,3-Dichloropropane	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2,2-Dichloropropane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1-Dichloropropene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Ethylbenzene	**37000**		5300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Ethylene Dibromide	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Ethyl methacrylate	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Hexachlorobutadiene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
2-Hexanone	ND		27000	5300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Isopropylbenzene	**12000**		5300	730	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Methylene bromide	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Methylene Chloride	ND		16000	11000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
4-Methyl-2-pentanone (MIBK)	ND		27000	5300	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Methyl tert-butyl ether	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
m-Xylene & p-Xylene	**65000**		5300	1400	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Naphthalene	**32000**		5300	2100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
n-Butylbenzene	**11000**		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
N-Propylbenzene	**27000**		5300	960	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
o-Chlorotoluene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
o-Xylene	**16000**		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
p-Chlorotoluene	ND		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119
Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	**4900**	**J**	5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
sec-Butylbenzene	**7100**		5300	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Styrene	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
tert-Butylbenzene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,1,2-Tetrachloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,2,2-Tetrachloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Tetrachloroethene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Toluene	**2100**	**J**	5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
trans-1,2-Dichloroethene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
trans-1,3-Dichloropropene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,3-Trichlorobenzene	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,4-Trichlorobenzene	ND		5300	2100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,1-Trichloroethane	ND		5300	1200	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,1,2-Trichloroethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Trichloroethene	ND		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Trichlorofluoromethane	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,3-Trichloropropane	ND		5300	3200	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,2,4-Trimethylbenzene	**260000**		5300	1100	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
1,3,5-Trimethylbenzene	**71000**		5300	890	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Vinyl acetate	ND		27000	9700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Vinyl chloride	ND		5300	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000
Xylenes, Total	**81000**		11000	2000	ug/Kg	☼	07/14/19 18:53	07/15/19 05:15	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isooctane	*39000*		*ug/Kg*	☼	*3.66*	*540-84-1*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Methylcyclohexane	*33000*		*ug/Kg*	☼	*4.13*	*108-87-2*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Pentane, 2,3,4-trimethyl-	*45000*	*T J N*	*ug/Kg*	☼	*4.37*	*565-75-3*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Unknown	*71000*	*T J*	*ug/Kg*	☼	*4.45*		*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Unknown	*37000*	*T J*	*ug/Kg*	☼	*6.38*		*07/14/19 18:53*	*07/15/19 05:15*	*1000*
3-Ethyltoluene	*120000*		*ug/Kg*	☼	*6.86*	*620-14-4*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
2-Ethyltoluene	*33000*		*ug/Kg*	☼	*7.08*	*611-14-3*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
1,2,3-Trimethylbenzene	*55000*		*ug/Kg*	☼	*7.54*	*526-73-8*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Unknown	*46000*	*T J*	*ug/Kg*	☼	*7.70*		*07/14/19 18:53*	*07/15/19 05:15*	*1000*
p-Diethylbenzene	*29000*		*ug/Kg*	☼	*7.75*	*105-05-5*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Unknown	*27000*	*T J*	*ug/Kg*	☼	*7.90*		*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 2-ethyl-1,3-dimethyl-	*52000*	*T J N*	*ug/Kg*	☼	*7.99*	*2870-04-4*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 2-ethyl-1,4-dimethyl-	*33000*	*T J N*	*ug/Kg*	☼	*8.04*	*1758-88-9*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Unknown	*51000*	*T J*	*ug/Kg*	☼	*8.15*		*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 1,2,3,5-tetramethyl-	*66000*	*T J N*	*ug/Kg*	☼	*8.40*	*527-53-7*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Benzene, 1-methyl-2-(2-propenyl)-	*64000*	*T J N*	*ug/Kg*	☼	*8.75*	*1587-04-8*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1,2,3,4-tetrahydro-	*47000*	*T J N*	*ug/Kg*	☼	*8.89*	*119-64-2*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	*29000*	*T J N*	*ug/Kg*	☼	*9.87*	*2809-64-5*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Unknown	*26000*	*T J*	*ug/Kg*	☼	*10.18*		*07/14/19 18:53*	*07/15/19 05:15*	*1000*
2-Methylnaphthalene	*79000*		*ug/Kg*	☼	*10.37*	*91-57-6*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
1-Methylnaphthalene	*47000*		*ug/Kg*	☼	*10.53*	*90-12-0*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 1-ethyl-	*25000*	*T J N*	*ug/Kg*	☼	*11.15*	*1127-76-0*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 2,7-dimethyl-	*49000*	*T J N*	*ug/Kg*	☼	*11.25*	*582-16-1*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Naphthalene, 2,3-dimethyl-	*72000*	*T J N*	*ug/Kg*	☼	*11.39*	*581-40-8*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*

Client Sample ID: PD-11-SB-37-070119
Lab Sample ID: 400-172542-2
Date Collected: 07/01/19 10:45
Matrix: Solid
Date Received: 07/02/19 08:34
Percent Solids: 85.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*72 - 122*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/14/19 18:53*	*07/15/19 05:15*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**740000**		13000	1800	ug/Kg	☼	07/15/19 09:26	07/15/19 12:48	2500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*72 - 122*	*07/15/19 09:26*	*07/15/19 12:48*	*2500*
Dibromofluoromethane	*92*		*79 - 123*	*07/15/19 09:26*	*07/15/19 12:48*	*2500*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/15/19 09:26*	*07/15/19 12:48*	*2500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**110**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[a]pyrene	**250**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[b]fluoranthene	**92**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[g,h,i]perylene	**54**		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Chrysene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Fluoranthene	**76**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Fluorene	**180**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Indeno[1,2,3-cd]pyrene	**25**		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Phenanthrene	**1200**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1
Pyrene	**670**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*27 - 127*	*07/09/19 13:50*	*07/16/19 14:21*	*1*
Nitrobenzene-d5	*63*		*15 - 136*	*07/09/19 13:50*	*07/16/19 14:21*	*1*
Terphenyl-d14	*76*		*24 - 146*	*07/09/19 13:50*	*07/16/19 14:21*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**20000**	**B**	77	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:09	10
2-Methylnaphthalene	**31000**	**B**	77	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:09	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Benzenethiol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Bis(2-ethylhexyl) phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1

Client: AECOM Technical Services Inc.
Job ID: 400-172542-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-37-070119
Lab Sample ID: 400-172542-2
Date Collected: 07/01/19 10:45
Matrix: Solid
Date Received: 07/02/19 08:34
Percent Solids: 85.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Indene	**1500**		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Isophorone	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Phenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Pyridine	ND		380	170	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
Quinoline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*4700*	*T J N*	*ug/Kg*	☼	*4.66*	*100-41-4*	*07/09/19 13:50*	*07/17/19 12:47*	*1*
Nonane	*4200*	*T J N*	*ug/Kg*	☼	*4.89*	*111-84-2*	*07/09/19 13:50*	*07/17/19 12:47*	*1*
Benzene, (1-methylethyl)-	*3200*	*T J N*	*ug/Kg*	☼	*5.07*	*98-82-8*	*07/09/19 13:50*	*07/17/19 12:47*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Client Sample ID: PD-11-SB-37-070119
Date Collected: 07/01/19 10:45
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172542-2
Matrix: Solid
Percent Solids: 85.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Cyclohexane, propyl-	3300	T J N	ug/Kg	☼	5.13	1678-92-8	07/09/19 13:50	07/17/19 12:47	1
Benzene, propyl-	4000	T J N	ug/Kg	☼	5.26	103-65-1	07/09/19 13:50	07/17/19 12:47	1
Benzene, 1-ethyl-2-methyl-	3500	T J N	ug/Kg	☼	5.40	611-14-3	07/09/19 13:50	07/17/19 12:47	1
Benzene, 1,2,3-trimethyl-	5200	T J N	ug/Kg	☼	5.64	526-73-8	07/09/19 13:50	07/17/19 12:47	1
Benzene, 4-ethyl-1,2-dimethyl-	3900	T J N	ug/Kg	☼	5.94	934-80-5	07/09/19 13:50	07/17/19 12:47	1
Unknown	3800	T J	ug/Kg	☼	6.26		07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	4900	T J N	ug/Kg	☼	7.70	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	4700	T J N	ug/Kg	☼	7.77	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 1,4,6-trimethyl-	6300	T J N	ug/Kg	☼	7.86	2131-42-2	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2,3,6-trimethyl-	4900	T J N	ug/Kg	☼	7.88	829-26-5	07/09/19 13:50	07/17/19 12:47	1
Naphthalene, 2-methyl-1-propyl-	8400	T J N	ug/Kg	☼	8.03	54774-89-9	07/09/19 13:50	07/17/19 12:47	1
Unknown	4900	T J	ug/Kg	☼	8.09		07/09/19 13:50	07/17/19 12:47	1
Unknown	5000	T J	ug/Kg	☼	8.14		07/09/19 13:50	07/17/19 12:47	1
Unknown	6200	T J	ug/Kg	☼	8.29		07/09/19 13:50	07/17/19 12:47	1
9H-Fluorene, 2-methyl-	4600	T J N	ug/Kg	☼	8.44	1430-97-3	07/09/19 13:50	07/17/19 12:47	1
Unknown	4600	T J	ug/Kg	☼	8.48		07/09/19 13:50	07/17/19 12:47	1
9H-Fluorene, 2,3-dimethyl-	8500	T J N	ug/Kg	☼	8.85	4612-63-9	07/09/19 13:50	07/17/19 12:47	1
Dibenzothiophene, 4-methyl-	7200	T J N	ug/Kg	☼	9.12	7372-88-5	07/09/19 13:50	07/17/19 12:47	1
Phenanthrene, 2-methyl-	7100	T J N	ug/Kg	☼	9.20	2531-84-2	07/09/19 13:50	07/17/19 12:47	1
2,8-Dimethyldibenzo(b,d)thiophene	3200	T J N	ug/Kg	☼	9.39	1207-15-4	07/09/19 13:50	07/17/19 12:47	1
Unknown	6400	T J	ug/Kg	☼	9.67		07/09/19 13:50	07/17/19 12:47	1
Unknown	4000	T J	ug/Kg	☼	9.84		07/09/19 13:50	07/17/19 12:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		27 - 127	07/09/19 13:50	07/17/19 12:47	1
2-Fluorophenol	52		25 - 128	07/09/19 13:50	07/17/19 12:47	1
Nitrobenzene-d5	0	X	15 - 136	07/09/19 13:50	07/17/19 12:47	1
Phenol-d5	50		29 - 130	07/09/19 13:50	07/17/19 12:47	1
Terphenyl-d14	82		24 - 146	07/09/19 13:50	07/17/19 12:47	1
2,4,6-Tribromophenol	125		10 - 150	07/09/19 13:50	07/17/19 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.5		0.01	0.01	%			07/05/19 10:14	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172542-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172542-2	PD-11-SB-37-070119	104	90	100
400-172542-2 - DL	PD-11-SB-37-070119	100	92	100
LCS 400-447976/1-A	Lab Control Sample	103	99	91
LCS 400-448067/1-A	Lab Control Sample	100	95	100
MB 400-447976/2-A	Method Blank	107	99	102
MB 400-448067/2-A	Method Blank	95	94	98

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172542-1	TB-PW-070119-A	109	113	104
LCS 400-447926/1002	Lab Control Sample	107	112	103
MB 400-447926/4	Method Blank	105	113	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172542-2	PD-11-SB-37-070119	76	52	0 X	50	82	125
LCS 400-447257/4-A	Lab Control Sample	62	65	71	69	75	59
LCS 400-447257/6-A	Lab Control Sample	63	67	79	72	69	76
LCSD 400-447257/5-A	Lab Control Sample Dup	64	66	72	72	72	64
MB 400-447257/1-A	Method Blank	58	60	67	65	65	55

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172542-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172542-2	PD-11-SB-37-070119	74	63	76
LCS 400-447257/2-A	Lab Control Sample	85	68	104
LCSD 400-447257/3-A	Lab Control Sample Dup	85	69	105
MB 400-447257/1-A	Method Blank	85	70	114

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172542-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070119-A
Lab Sample ID: 400-172542-1
Date Collected: 07/01/19 00:00
Matrix: Water
Date Received: 07/02/19 08:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:24	WPD	TAL PEN

Client Sample ID: PD-11-SB-37-070119
Lab Sample ID: 400-172542-2
Date Collected: 07/01/19 10:45
Matrix: Solid
Date Received: 07/02/19 08:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			446844	07/05/19 10:14	KNT	TAL PEN

Client Sample ID: PD-11-SB-37-070119
Lab Sample ID: 400-172542-2
Date Collected: 07/01/19 10:45
Matrix: Solid
Date Received: 07/02/19 08:34
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.529 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447951	07/15/19 05:15	BSW	TAL PEN
Total/NA	Prep	5035	DL		6.529 g	5.00 g	448067	07/15/19 09:26	BSW	TAL PEN
Total/NA	Analysis	8260B	DL	2500	5 mL	5 mL	448022	07/15/19 12:48	BSW	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 12:47	VC1	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 14:21	KJA	TAL PEN
Total/NA	Prep	3546	DL		15.11 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL	DL	10			448700	07/19/19 17:09	S1S	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447257/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 21:28	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 13:30	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447926/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447976/2-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447951	07/14/19 20:53	BSW	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448067/2-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448067	07/15/19 09:26	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448022	07/15/19 12:24	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447257/2-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 13:47	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447257/4-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 21:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447257/6-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:32	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447926/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447976/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447951	07/14/19 19:47	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448067/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448067	07/15/19 09:26	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448022	07/15/19 11:24	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-447257/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 14:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-447257/5-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:11	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

GC/MS VOA

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-1	TB-PW-070119-A	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	8260B	447976
MB 400-447976/2-A	Method Blank	Total/NA	Solid	8260B	447976
LCS 400-447976/1-A	Lab Control Sample	Total/NA	Solid	8260B	447976

Prep Batch: 447976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	5035	
MB 400-447976/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447976/1-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 448022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	8260B	448067
MB 400-448067/2-A	Method Blank	Total/NA	Solid	8260B	448067
LCS 400-448067/1-A	Lab Control Sample	Total/NA	Solid	8260B	448067

Prep Batch: 448067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	5035	
MB 400-448067/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448067/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	3546	
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	3546	
MB 400-447257/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447257/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447257/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447257/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447257/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-447257/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 447770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447257/1-A	Method Blank	Total/NA	Solid	8270D	447257
LCS 400-447257/4-A	Lab Control Sample	Total/NA	Solid	8270D	447257
LCS 400-447257/6-A	Lab Control Sample	Total/NA	Solid	8270D	447257
LCSD 400-447257/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447257

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	8270D LL	447257

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448173 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447257/1-A	Method Blank	Total/NA	Solid	8270D LL	447257
LCS 400-447257/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	447257
LCSD 400-447257/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	447257

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	8270D	447257

Analysis Batch: 448700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2 - DL	PD-11-SB-37-070119	Total/NA	Solid	8270D LL	447257

General Chemistry

Analysis Batch: 446844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172542-2	PD-11-SB-37-070119	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 09:00*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:00*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 09:00*	*1*

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Acrolein	ND		50	28	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Benzene	ND		5.0	0.67	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromoform	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloroform	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/14/19 18:53	07/14/19 20:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Hexanone	ND		25	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methylene Chloride	ND		15	10	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Styrene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Toluene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/14/19 18:53	07/14/19 20:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/14/19 18:53	07/14/19 20:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 122	07/14/19 18:53	07/14/19 20:53	1
Dibromofluoromethane	99		79 - 123	07/14/19 18:53	07/14/19 20:53	1
Toluene-d8 (Surr)	102		80 - 120	07/14/19 18:53	07/14/19 20:53	1

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	224		ug/Kg		112	48 - 160
Acrolein	500	621		ug/Kg		124	40 - 150
Acrylonitrile	500	507		ug/Kg		101	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	48.2		ug/Kg		96	65 - 130
Bromochloromethane	50.0	46.4		ug/Kg		93	65 - 130
Bromodichloromethane	50.0	46.0		ug/Kg		92	61 - 130
Bromoform	50.0	45.5		ug/Kg		91	52 - 136
Bromomethane	50.0	26.5		ug/Kg		53	12 - 160
2-Butanone (MEK)	200	256		ug/Kg		128	55 - 130
Carbon disulfide	50.0	41.2		ug/Kg		82	46 - 141
Carbon tetrachloride	50.0	46.3		ug/Kg		93	60 - 130
Chlorobenzene	50.0	48.7		ug/Kg		97	70 - 130
Chloroethane	50.0	47.0		ug/Kg		94	55 - 134
2-Chloroethyl vinyl ether	50.0	29.8		ug/Kg		60	10 - 158
Chloroform	50.0	48.2		ug/Kg		96	62 - 130
1-Chlorohexane	50.0	45.8		ug/Kg		92	69 - 130
Chloromethane	50.0	49.3		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.9		ug/Kg		96	53 - 135
cis-1,3-Dichloropropene	50.0	47.6		ug/Kg		95	61 - 130
Dibromochloromethane	50.0	45.0		ug/Kg		90	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	44.2		ug/Kg		88	49 - 130
1,2-Dichlorobenzene	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichlorobenzene	50.0	48.9		ug/Kg		98	66 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/Kg		98	65 - 130
Dichlorodifluoromethane	50.0	50.7		ug/Kg		101	34 - 143
1,1-Dichloroethane	50.0	48.0		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.6		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	44.8		ug/Kg		90	55 - 137
1,2-Dichloropropane	50.0	50.3		ug/Kg		101	64 - 130
1,3-Dichloropropane	50.0	48.2		ug/Kg		96	67 - 130
2,2-Dichloropropane	50.0	44.1		ug/Kg		88	51 - 132
1,1-Dichloropropene	50.0	47.2		ug/Kg		94	65 - 130
Ethylbenzene	50.0	45.1		ug/Kg		90	70 - 130
Ethylene Dibromide	50.0	48.8		ug/Kg		98	67 - 130
Ethyl methacrylate	50.0	45.5		ug/Kg		91	62 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	57.1		ug/Kg		114	62 - 133
2-Hexanone	200	223		ug/Kg		111	57 - 131
Isopropylbenzene	50.0	44.5		ug/Kg		89	70 - 130
Methylene bromide	50.0	48.4		ug/Kg		97	65 - 130
Methylene Chloride	50.0	50.2		ug/Kg		100	57 - 132
4-Methyl-2-pentanone (MIBK)	200	195		ug/Kg		97	58 - 130
Methyl tert-butyl ether	50.0	44.4		ug/Kg		89	63 - 130
m-Xylene & p-Xylene	50.0	47.3		ug/Kg		95	70 - 130
Naphthalene	50.0	42.2		ug/Kg		84	45 - 144
n-Butylbenzene	50.0	48.9		ug/Kg		98	66 - 130
N-Propylbenzene	50.0	49.5		ug/Kg		99	67 - 130
o-Chlorotoluene	50.0	51.8		ug/Kg		104	67 - 130
o-Xylene	50.0	44.5		ug/Kg		89	70 - 130
p-Chlorotoluene	50.0	50.7		ug/Kg		101	66 - 130
p-Isopropyltoluene	50.0	49.2		ug/Kg		98	68 - 130
sec-Butylbenzene	50.0	48.9		ug/Kg		98	67 - 130
Styrene	50.0	43.9		ug/Kg		88	68 - 130
tert-Butylbenzene	50.0	46.8		ug/Kg		94	67 - 130
1,1,1,2-Tetrachloroethane	50.0	45.4		ug/Kg		91	65 - 130
1,1,2,2-Tetrachloroethane	50.0	55.0		ug/Kg		110	60 - 131
Tetrachloroethene	50.0	40.8		ug/Kg		82	67 - 130
Toluene	50.0	47.2		ug/Kg		94	70 - 130
trans-1,2-Dichloroethene	50.0	48.5		ug/Kg		97	58 - 134
trans-1,3-Dichloropropene	50.0	44.4		ug/Kg		89	60 - 130
1,2,3-Trichlorobenzene	50.0	49.0		ug/Kg		98	58 - 135
1,2,4-Trichlorobenzene	50.0	46.4		ug/Kg		93	56 - 138
1,1,1-Trichloroethane	50.0	46.2		ug/Kg		92	63 - 130
1,1,2-Trichloroethane	50.0	47.5		ug/Kg		95	65 - 130
Trichloroethene	50.0	48.7		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	46.0		ug/Kg		92	61 - 136
1,2,3-Trichloropropane	50.0	53.0		ug/Kg		106	60 - 130
1,2,4-Trimethylbenzene	50.0	51.3		ug/Kg		103	66 - 130
1,3,5-Trimethylbenzene	50.0	51.3		ug/Kg		103	67 - 130
Vinyl acetate	100	98.3		ug/Kg		98	24 - 160
Vinyl chloride	50.0	52.1		ug/Kg		104	52 - 132
Xylenes, Total	100	91.8		ug/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-448067/2-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		07/15/19 09:26	07/15/19 12:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448067/2-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448067

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/15/19 09:26	07/15/19 12:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		72 - 122	07/15/19 09:26	07/15/19 12:24	1
Dibromofluoromethane	94		79 - 123	07/15/19 09:26	07/15/19 12:24	1
Toluene-d8 (Surr)	98		80 - 120	07/15/19 09:26	07/15/19 12:24	1

Lab Sample ID: LCS 400-448067/1-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	214		ug/Kg		107	48 - 160
Acrolein	500	495		ug/Kg		99	40 - 150
Acrylonitrile	500	593		ug/Kg		119	60 - 130
Benzene	50.0	48.6		ug/Kg		97	65 - 130
Bromobenzene	50.0	49.8		ug/Kg		100	65 - 130
Bromochloromethane	50.0	54.0		ug/Kg		108	65 - 130
Bromodichloromethane	50.0	47.2		ug/Kg		94	61 - 130
Bromoform	50.0	47.0		ug/Kg		94	52 - 136
Bromomethane	50.0	43.2		ug/Kg		86	12 - 160
2-Butanone (MEK)	200	186		ug/Kg		93	55 - 130
Carbon disulfide	50.0	46.6		ug/Kg		93	46 - 141
Carbon tetrachloride	50.0	48.0		ug/Kg		96	60 - 130
Chlorobenzene	50.0	50.0		ug/Kg		100	70 - 130
Chloroethane	50.0	44.0		ug/Kg		88	55 - 134
2-Chloroethyl vinyl ether	50.0	35.0		ug/Kg		70	10 - 158
Chloroform	50.0	49.7		ug/Kg		99	62 - 130
1-Chlorohexane	50.0	51.1		ug/Kg		102	69 - 130
Chloromethane	50.0	49.5		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	50.0		ug/Kg		100	53 - 135
cis-1,3-Dichloropropene	50.0	48.3		ug/Kg		97	61 - 130
Dibromochloromethane	50.0	48.7		ug/Kg		97	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	47.2		ug/Kg		94	49 - 130
1,2-Dichlorobenzene	50.0	52.8		ug/Kg		106	64 - 130
1,3-Dichlorobenzene	50.0	52.0		ug/Kg		104	66 - 130
1,4-Dichlorobenzene	50.0	51.7		ug/Kg		103	65 - 130
Dichlorodifluoromethane	50.0	40.8		ug/Kg		82	34 - 143
1,1-Dichloroethane	50.0	49.9		ug/Kg		100	59 - 130
1,2-Dichloroethane	50.0	49.8		ug/Kg		100	62 - 130
1,1-Dichloroethene	50.0	51.1		ug/Kg		102	55 - 137
1,2-Dichloropropane	50.0	48.4		ug/Kg		97	64 - 130
1,3-Dichloropropane	50.0	49.4		ug/Kg		99	67 - 130
2,2-Dichloropropane	50.0	43.7		ug/Kg		87	51 - 132
1,1-Dichloropropene	50.0	48.7		ug/Kg		97	65 - 130
Ethylbenzene	50.0	51.8		ug/Kg		104	70 - 130
Ethylene Dibromide	50.0	51.4		ug/Kg		103	67 - 130
Ethyl methacrylate	50.0	50.3		ug/Kg		101	62 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448067/1-A
Matrix: Solid
Analysis Batch: 448022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	39.3		ug/Kg		79	62 - 133
2-Hexanone	200	183		ug/Kg		91	57 - 131
Isopropylbenzene	50.0	50.7		ug/Kg		101	70 - 130
Methylene bromide	50.0	47.5		ug/Kg		95	65 - 130
Methylene Chloride	50.0	50.1		ug/Kg		100	57 - 132
4-Methyl-2-pentanone (MIBK)	200	208		ug/Kg		104	58 - 130
Methyl tert-butyl ether	50.0	45.5		ug/Kg		91	63 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/Kg		103	70 - 130
Naphthalene	50.0	50.1		ug/Kg		100	45 - 144
n-Butylbenzene	50.0	50.7		ug/Kg		101	66 - 130
N-Propylbenzene	50.0	52.6		ug/Kg		105	67 - 130
o-Chlorotoluene	50.0	53.1		ug/Kg		106	67 - 130
o-Xylene	50.0	52.4		ug/Kg		105	70 - 130
p-Chlorotoluene	50.0	51.5		ug/Kg		103	66 - 130
p-Isopropyltoluene	50.0	52.2		ug/Kg		104	68 - 130
sec-Butylbenzene	50.0	51.3		ug/Kg		103	67 - 130
Styrene	50.0	49.5		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	50.9		ug/Kg		102	67 - 130
1,1,1,2-Tetrachloroethane	50.0	51.5		ug/Kg		103	65 - 130
1,1,2,2-Tetrachloroethane	50.0	51.7		ug/Kg		103	60 - 131
Tetrachloroethene	50.0	47.8		ug/Kg		96	67 - 130
Toluene	50.0	52.9		ug/Kg		106	70 - 130
trans-1,2-Dichloroethene	50.0	54.1		ug/Kg		108	58 - 134
trans-1,3-Dichloropropene	50.0	47.9		ug/Kg		96	60 - 130
1,2,3-Trichlorobenzene	50.0	43.4		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.8		ug/Kg		86	56 - 138
1,1,1-Trichloroethane	50.0	49.6		ug/Kg		99	63 - 130
1,1,2-Trichloroethane	50.0	50.5		ug/Kg		101	65 - 130
Trichloroethene	50.0	50.3		ug/Kg		101	65 - 130
Trichlorofluoromethane	50.0	40.7		ug/Kg		81	61 - 136
1,2,3-Trichloropropane	50.0	55.3		ug/Kg		111	60 - 130
1,2,4-Trimethylbenzene	50.0	52.5		ug/Kg		105	66 - 130
1,3,5-Trimethylbenzene	50.0	52.5		ug/Kg		105	67 - 130
Vinyl acetate	100	108		ug/Kg		108	24 - 160
Vinyl chloride	50.0	49.4		ug/Kg		99	52 - 132
Xylenes, Total	100	104		ug/Kg		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*95*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzenethiol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzoic acid	ND		990	350	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzyl alcohol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-ethylhexyl) phthalate	44.5	J	330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chloroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Chlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dibenzofuran	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Diethyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
1,4-Dioxane	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachloroethane	ND		330	100	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Indene	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Isophorone	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Methylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Nitrobenzene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Nitrophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Nitrophenol	ND		330	110	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Pentachlorophenol	ND		660	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Phenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		330	150	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Quinoline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentative Identified Compound	*None*		*ug/Kg*				*07/09/19 13:50*	*07/12/19 21:28*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*27 - 127*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Phenol-d5	*65*		*29 - 130*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Terphenyl-d14	*65*		*24 - 146*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
2,4,6-Tribromophenol	*55*		*10 - 150*	*07/09/19 13:50*	*07/12/19 21:28*	*1*

Lab Sample ID: LCS 400-447257/4-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	991		ug/Kg		50	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*62*		*27 - 127*
2-Fluorophenol	*65*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*69*		*29 - 130*
Terphenyl-d14	*75*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1620		ug/Kg		81	36 - 120
Benzoic acid	7770	4880		ug/Kg		63	10 - 139
Benzyl alcohol	2000	1590		ug/Kg		80	10 - 127
Bis(2-chloroethoxy)methane	2000	1290		ug/Kg		64	52 - 120
Bis(2-chloroethyl)ether	2000	1190		ug/Kg		60	50 - 120
bis (2-chloroisopropyl) ether	2000	1420		ug/Kg		71	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1560		ug/Kg		78	58 - 158
4-Bromophenyl phenyl ether	2000	1450		ug/Kg		72	51 - 120
Butyl benzyl phthalate	2000	1500		ug/Kg		75	58 - 126
4-Chloroaniline	2000	1320		ug/Kg		66	34 - 120
4-Chloro-3-methylphenol	2000	1710		ug/Kg		85	57 - 124
2-Chloronaphthalene	2000	1430		ug/Kg		72	55 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	2000	1510		ug/Kg		75	52 - 120
4-Chlorophenyl phenyl ether	2000	1480		ug/Kg		74	56 - 120
Dibenz[a,h]acridine	2000	1260		ug/Kg		63	51 - 135
Dibenzofuran	2000	1440		ug/Kg		72	58 - 120
3,3'-Dichlorobenzidine	2670	2760		ug/Kg		104	42 - 120
2,4-Dichlorophenol	2000	1600		ug/Kg		80	56 - 120
Diethyl phthalate	2000	1480		ug/Kg		74	56 - 128
2,4-Dimethylphenol	2000	1590		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1470		ug/Kg		73	58 - 120
Di-n-butyl phthalate	2000	1650		ug/Kg		82	64 - 122
4,6-Dinitro-ortho-cresol	4000	3230		ug/Kg		81	35 - 135
2,4-Dinitrophenol	4000	3250		ug/Kg		81	10 - 138
2,4-Dinitrotoluene	2000	1580		ug/Kg		79	59 - 133
2,6-Dinitrotoluene	2000	1550		ug/Kg		77	57 - 123
Di-n-octyl phthalate	2000	1540		ug/Kg		77	57 - 137
1,4-Dioxane	2000	973		ug/Kg		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1390		ug/Kg		69	50 - 120
Hexachlorobenzene	2000	1480		ug/Kg		74	49 - 127
Hexachlorocyclopentadiene	2000	1670		ug/Kg		84	10 - 140
Hexachloroethane	2000	1430		ug/Kg		71	45 - 120
Indene	2000	1550		ug/Kg		77	45 - 120
Isophorone	2000	1450		ug/Kg		72	50 - 120
2-Methylphenol	2000	1540		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1480		ug/Kg		74	47 - 123
2-Nitroaniline	2000	1710		ug/Kg		86	55 - 129
3-Nitroaniline	2000	1700		ug/Kg		85	45 - 120
4-Nitroaniline	2000	1780		ug/Kg		89	52 - 126
Nitrobenzene	2000	1470		ug/Kg		74	50 - 120
2-Nitrophenol	2000	1590		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2880		ug/Kg		72	38 - 133
N-Nitrosodimethylamine	2000	1450		ug/Kg		73	35 - 120
N-Nitrosodi-n-propylamine	2000	1460		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1440		ug/Kg		72	54 - 120
Pentachlorophenol	4000	3400		ug/Kg		85	32 - 131
Phenol	2000	1460		ug/Kg		73	51 - 120
Pyridine	4000	2460		ug/Kg		61	29 - 120
Quinoline	2000	1460		ug/Kg		73	10 - 150
2,4,5-Trichlorophenol	2000	1590		ug/Kg		79	53 - 133
2,4,6-Trichlorophenol	2000	1590		ug/Kg		79	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*67*		*25 - 128*
Nitrobenzene-d5	*79*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*69*		*24 - 146*
2,4,6-Tribromophenol	*76*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447257/5-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	1110		ug/Kg		55	10 - 120	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*27 - 127*
2-Fluorophenol	*66*		*25 - 128*
Nitrobenzene-d5	*72*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*72*		*24 - 146*
2,4,6-Tribromophenol	*64*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Chrysene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluorene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
1-Methylnaphthalene	1.84	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
2-Methylnaphthalene	3.31	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*27 - 127*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Nitrobenzene-d5	*70*		*15 - 136*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Terphenyl-d14	*114*		*24 - 146*	*07/09/19 13:50*	*07/16/19 13:30*	*1*

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene			333	320		ug/Kg		96	57 - 120		
Acenaphthylene			333	315		ug/Kg		94	59 - 120		
Anthracene			333	321		ug/Kg		96	61 - 120		

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172542-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzo[a]anthracene			333	291		ug/Kg		87	61 - 120		
Benzo[a]pyrene			333	320		ug/Kg		96	54 - 127		
Benzo[b]fluoranthene			333	334		ug/Kg		100	35 - 146		
Benzo[g,h,i]perylene			333	308		ug/Kg		92	36 - 150		
Benzo[k]fluoranthene			333	305		ug/Kg		92	53 - 139		
Chrysene			333	289		ug/Kg		87	60 - 120		
Dibenz(a,h)anthracene			333	315		ug/Kg		94	39 - 150		
Fluoranthene			333	295		ug/Kg		89	61 - 121		
Fluorene			333	336		ug/Kg		101	60 - 120		
Indeno[1,2,3-cd]pyrene			333	308		ug/Kg		93	40 - 150		
1-Methylnaphthalene			333	339		ug/Kg		102	46 - 120		
2-Methylnaphthalene			333	339		ug/Kg		102	46 - 120		
Phenanthrene			333	297		ug/Kg		89	59 - 120		
Pyrene			333	326		ug/Kg		98	53 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*68*		*15 - 136*
Terphenyl-d14	*104*		*24 - 146*

Lab Sample ID: LCSD 400-447257/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	321		ug/Kg		96	57 - 120	0	30
Acenaphthylene			333	313		ug/Kg		94	59 - 120	1	30
Anthracene			333	327		ug/Kg		98	61 - 120	2	30
Benzo[a]anthracene			333	305		ug/Kg		92	61 - 120	5	30
Benzo[a]pyrene			333	334		ug/Kg		100	54 - 127	4	30
Benzo[b]fluoranthene			333	343		ug/Kg		103	35 - 146	3	30
Benzo[g,h,i]perylene			333	325		ug/Kg		98	36 - 150	6	30
Benzo[k]fluoranthene			333	323		ug/Kg		97	53 - 139	6	30
Chrysene			333	302		ug/Kg		90	60 - 120	4	30
Dibenz(a,h)anthracene			333	336		ug/Kg		101	39 - 150	6	30
Fluoranthene			333	307		ug/Kg		92	61 - 121	4	30
Fluorene			333	334		ug/Kg		100	60 - 120	1	30
Indeno[1,2,3-cd]pyrene			333	330		ug/Kg		99	40 - 150	7	30
1-Methylnaphthalene			333	302		ug/Kg		91	46 - 120	11	30
2-Methylnaphthalene			333	329		ug/Kg		99	46 - 120	3	30
Phenanthrene			333	307		ug/Kg		92	59 - 120	3	30
Pyrene			333	322		ug/Kg		96	53 - 122	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*69*		*15 - 136*
Terphenyl-d14	*105*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/1/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

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E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur,
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
	TB-PW-070119-A	7/1/2019	0:00	Water	X					2			X		
	PD-11-SB-37-070119	7/1/2019	10:45	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-172542 COC

Relinquished by: (Signature) Paul Lafleur	Received by: (Signature) Fedex: 1054 5423 6540	Date: 7/1/2019	Time: 1800
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) 3.7C IR8	Date: 7-2-19	Time: 8:34

Version: 10May17

10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172542-1

Login Number: 172542
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	641122,641123
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172542-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172672

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/24/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070219-A	PD-11-SB-45-070219
PD-11-SB-57-070219	PD-11-SB-61-070219

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated one SVOC and two PAHs were detected in the method blanks. SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-11-SB-45-070219.These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-447257/1-A	SVOCs	bis(2-ethylhexyl) phthalate	44.5 μg/Kg
MB 400-447257/1-A	PAHs	1-Methylnaphthalene	1.84 μg/Kg
MB 400-447257/1-A	PAHs	2-Methylnaphthalene	3.31 μg/Kg

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-11-SB-45-070219	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-11-SB-57-070219	PAHs	1-Methylnaphthalene - RA	-	**U**
PD-11-SB-57-070219	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-11-SB-57-070219	PAHs	2-Methylnaphthalene	-	**U**
PD-11-SB-61-070219	PAHs	1-Methylnaphthalene - RA	16 μg/Kg	**U**
PD-11-SB-61-070219	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-11-SB-45-070219 was spiked and duplicated for SVOCs

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-11-SB-45-070219	SVOCs	Benzoic acid	**0**/**0**	NC	40-140/30
PD-11-SB-45-070219	SVOCs	4,6-Dinitro-ortho-cresol	**34**/**31**	10	40-140/30
PD-11-SB-45-070219	SVOCs	2,4-Dinitrophenol	**10**/**9**	**13**	40-140/30
PD-11-SB-45-070219	SVOCs	1,4-Dioxane	44/**25**	**53**	40-140/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-11-SB-45-070219	SVOCs	Benzoic acid	**UJ**
PD-11-SB-45-070219	SVOCs	4,6-Dinitro-ortho-cresol	**UJ**
PD-11-SB-45-070219	SVOCs	2,4-Dinitrophenol	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172672-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/24/2019 3:34:45 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/24/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Job ID: 400-172672-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172672-1

Comments
No additional comments.

Receipt
The samples were received on 7/3/2019 9:28 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070219-A (400-172672-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-SB-45-070219 (400-172672-2), PD-11-SB-57-070219 (400-172672-3) and PD-11-SB-61-070219 (400-172672-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-447257 and analytical batch 400-447770 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-447257 and analytical batch 400-447770 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447770 recovered outside acceptance criteria, low biased, for 4-Nitrophenol, 4,6-Dinitro-2-methylphenol and 1,4-Dioxane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-447257 and analytical batch 400-447770 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-447257 and analytical batch 400-448173 contained 1-Methylnaphthalene and 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: PD-11-SB-45-070219 (400-172672-2).

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-448173 recovered above the upper control

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Job ID: 400-172672-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

limit for 2-Methylnaphthalene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172672-1	TB-PW-070219-A	Water	07/02/19 00:00	07/03/19 09:28	
400-172672-2	PD-11-SB-45-070219	Solid	07/02/19 09:15	07/03/19 09:28	
400-172672-3	PD-11-SB-57-070219	Solid	07/02/19 11:30	07/03/19 09:28	
400-172672-4	PD-11-SB-61-070219	Solid	07/02/19 14:20	07/03/19 09:28	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: TB-PW-070219-A — Lab Sample ID: 400-172672-1

No Detections.

Client Sample ID: PD-11-SB-45-070219 — Lab Sample ID: 400-172672-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	29000		1000	140	ug/Kg	200	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	310	J	1000	210	ug/Kg	200	☼	8260B	Total/NA
Anthracene	120		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[a]anthracene	260		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[a]pyrene	280		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	94		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	71	J	76	23	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	17	J	76	12	ug/Kg	10	☼	8270D LL	Total/NA
Chrysene	530		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	71	J	76	23	ug/Kg	10	☼	8270D LL	Total/NA
Fluoranthene	88		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Fluorene	180		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	40	J	76	23	ug/Kg	10	☼	8270D LL	Total/NA
1-Methylnaphthalene	1100	B	76	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene	1500	B	76	12	ug/Kg	10	☼	8270D LL	Total/NA
Phenanthrene	1000		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Pyrene	990		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzyl alcohol	200	J	380	38	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	~~78~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	670		380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-11-SB-57-070219 — Lab Sample ID: 400-172672-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	15000		650	87	ug/Kg	100	☼	8260B	Total/NA
Fluoranthene	3.7	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	~~7.9~~	J B U	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	11		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	13		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - RA	~~4.2~~	J B U	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~88~~	J B U	410	41	ug/Kg	1	☼	8270D	Total/NA
Phenol	190	J	410	41	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-11-SB-61-070219 — Lab Sample ID: 400-172672-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8900		270	36	ug/Kg	50	☼	8260B	Total/NA
N-Propylbenzene	79	J	270	49	ug/Kg	50	☼	8260B	Total/NA
Benzo[g,h,i]perylene	3.5	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	10		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	10		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - RA	20	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene - RA	~~16~~	B U	~~7.7~~ 16	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~85~~	J B U	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	210	J	390	39	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: TB-PW-070219-A

Date Collected: 07/02/19 00:00
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 16:06	1
Acrolein	ND		20	10	ug/L			07/12/19 16:06	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 16:06	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 16:06	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 16:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 16:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 16:06	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 16:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 16:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 16:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 16:06	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 16:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 16:06	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 16:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 16:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 16:06	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 16:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 16:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 16:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 16:06	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 16:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 16:06	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 16:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 16:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 16:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 16:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 16:06	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 16:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 16:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 16:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 16:06	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 16:06	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: TB-PW-070219-A

Date Collected: 07/02/19 00:00
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 16:06	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 16:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 16:06	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 16:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 16:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 16:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 16:06	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 16:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 16:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 16:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 16:06	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 16:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 16:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 16:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 16:06	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 16:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 16:06	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 16:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/12/19 16:06*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/12/19 16:06*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 16:06*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219

Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2

Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5200	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Acrolein	ND		10000	5900	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Acrylonitrile	ND		4200	1700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Benzene	**29000**		1000	140	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromobenzene	ND		1000	270	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromochloromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromodichloromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromoform	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromomethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2-Butanone (MEK)	ND		5200	1300	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Carbon disulfide	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Carbon tetrachloride	ND		1000	360	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chlorobenzene	ND		1000	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2-Chloroethyl vinyl ether	ND		2100	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chloroform	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1-Chlorohexane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chloromethane	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
cis-1,2-Dichloroethene	ND		1000	160	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
cis-1,3-Dichloropropene	ND		1000	250	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Dibromochloromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dibromo-3-Chloropropane	ND		1000	690	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dichlorobenzene	ND		1000	150	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,3-Dichlorobenzene	ND		1000	200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,4-Dichlorobenzene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Dichlorodifluoromethane	ND		1000	270	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1-Dichloroethane	ND		1000	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dichloroethane	ND		1000	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1-Dichloroethene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dichloropropane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,3-Dichloropropane	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2,2-Dichloropropane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1-Dichloropropene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Ethylbenzene	ND		1000	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Ethylene Dibromide	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Ethyl methacrylate	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Hexachlorobutadiene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2-Hexanone	ND		5200	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Isopropylbenzene	ND		1000	140	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Methylene bromide	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Methylene Chloride	ND		3100	2100	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
4-Methyl-2-pentanone (MIBK)	ND		5200	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Methyl tert-butyl ether	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
m-Xylene & p-Xylene	ND		1000	270	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Naphthalene	ND		1000	420	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
n-Butylbenzene	ND		1000	200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
N-Propylbenzene	ND		1000	190	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
o-Chlorotoluene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
o-Xylene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219

Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2

Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
p-Isopropyltoluene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
sec-Butylbenzene	ND		1000	200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Styrene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
tert-Butylbenzene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,2,2-Tetrachloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Tetrachloroethene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Toluene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
trans-1,2-Dichloroethene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
trans-1,3-Dichloropropene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,3-Trichlorobenzene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,4-Trichlorobenzene	ND		1000	420	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,1-Trichloroethane	ND		1000	230	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,2-Trichloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Trichloroethene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Trichlorofluoromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,3-Trichloropropane	ND		1000	630	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,4-Trimethylbenzene	**310**	**J**	1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,3,5-Trimethylbenzene	ND		1000	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Vinyl acetate	ND		5200	1900	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Vinyl chloride	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Xylenes, Total	ND		2100	400	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclotetrasiloxane, octamethyl-	*1500*	*T J N*	*ug/Kg*	☼	*6.69*	*556-67-2*	*07/14/19 18:53*	*07/15/19 04:49*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*72 - 122*	*07/14/19 18:53*	*07/15/19 04:49*	*200*
Dibromofluoromethane	*94*		*79 - 123*	*07/14/19 18:53*	*07/15/19 04:49*	*200*
Toluene-d8 (Surr)	*105*		*80 - 120*	*07/14/19 18:53*	*07/15/19 04:49*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Acenaphthylene	ND		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Anthracene	**120**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[a]anthracene	**260**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[a]pyrene	**280**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[b]fluoranthene	**94**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[g,h,i]perylene	**71**	**J**	76	23	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[k]fluoranthene	**17**	**J**	76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Chrysene	**530**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Dibenz(a,h)anthracene	**71**	**J**	76	23	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Fluoranthene	**88**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Fluorene	**180**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Indeno[1,2,3-cd]pyrene	**40**	**J**	76	23	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
1-Methylnaphthalene	**1100**	**B**	76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
2-Methylnaphthalene	**1500**	**B**	76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Phenanthrene	**1000**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219
Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2
Matrix: Solid
Percent Solids: 85.5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**990**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*27 - 127*	*07/09/19 13:50*	*07/19/19 17:27*	*10*
Nitrobenzene-d5	*60*		*15 - 136*	*07/09/19 13:50*	*07/19/19 17:27*	*10*
Terphenyl-d14	*86*		*24 - 146*	*07/09/19 13:50*	*07/19/19 17:27*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Benzenethiol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Benzoic acid	ND	F1 UJ	1100	400	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Benzyl alcohol	**200**	J	380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Bis(2-ethylhexyl) phthalate	~~70~~	J B U	380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4,6-Dinitro-ortho-cresol	ND	F1 UJ	380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dinitrophenol	ND	F1 UJ	1100	330	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
1,4-Dioxane	ND	F1 F2	380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Indene	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Isophorone	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219

Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2

Matrix: Solid
Percent Solids: 85.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Phenol	**670**		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Pyridine	ND		380	170	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Quinoline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Decane	*2600*	*T J N*	*ug/Kg*	☼	*5.46*	*124-18-5*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Benzene, 1,2,3-trimethyl-	*4600*	*T J N*	*ug/Kg*	☼	*5.48*	*526-73-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Benzene, 1,3-diethyl-	*1800*	*T J N*	*ug/Kg*	☼	*5.78*	*141-93-5*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*1800*	*T J*	*ug/Kg*	☼	*6.16*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*1700*	*T J N*	*ug/Kg*	☼	*6.32*	*119-64-2*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Dodecane	*5800*	*T J N*	*ug/Kg*	☼	*6.36*	*112-40-3*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Undecane, 2,6-dimethyl-	*3300*	*T J N*	*ug/Kg*	☼	*6.41*	*17301-23-4*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Decane, 2-methyl-	*2700*	*T J N*	*ug/Kg*	☼	*6.64*	*6975-98-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Cyclohexasiloxane, dodecamethyl-	*2500*	*T J N*	*ug/Kg*	☼	*6.70*	*540-97-6*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Tridecane	*4900*	*T J N*	*ug/Kg*	☼	*6.75*	*629-50-5*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*6.89*	*91-57-6*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 1-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*6.96*	*90-12-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Tridecane, 2-methyl-	*1600*	*T J N*	*ug/Kg*	☼	*6.99*	*1560-96-9*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2,6-dimethyl-	*2800*	*T J N*	*ug/Kg*	☼	*7.32*	*581-42-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2,3-dimethyl-	*2000*	*T J N*	*ug/Kg*	☼	*7.37*	*581-40-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2,6-dimethyl-	*1200*	*T J N*	*ug/Kg*	☼	*7.39*	*581-42-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Pentadecane	*1600*	*T J N*	*ug/Kg*	☼	*7.49*	*629-62-9*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Hexadecane	*1200*	*T J N*	*ug/Kg*	☼	*7.85*	*544-76-3*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
3-Methyl-4-(methoxycarbonyl)hexa-2,4-dienoic acid	*1100*	*T J N*	*ug/Kg*	☼	*8.01*	*1000104-10-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenanthrene	*1200*	*T J N*	*ug/Kg*	☼	*8.78*	*85-01-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenanthrene, 2-methyl-	*1200*	*T J N*	*ug/Kg*	☼	*9.16*	*2531-84-2*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenanthrene, 2-methyl-	*1400*	*T J N*	*ug/Kg*	☼	*9.19*	*2531-84-2*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenanthrene, 2,5-dimethyl-	*1700*	*T J N*	*ug/Kg*	☼	*9.64*	*3674-66-6*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Hexadecanoic acid, butyl ester	*1300*	*T J N*	*ug/Kg*	☼	*9.85*	*111-06-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Pyrene, 1-methyl-	*1300*	*T J N*	*ug/Kg*	☼	*10.50*	*2381-21-7*	*07/09/19 13:50*	*07/17/19 12:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*27 - 127*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
2-Fluorophenol	*65*		*25 - 128*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Nitrobenzene-d5	*73*		*15 - 136*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenol-d5	*69*		*29 - 130*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Terphenyl-d14	*65*		*24 - 146*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/09/19 13:50*	*07/17/19 12:26*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219
Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2
Matrix: Solid
Percent Solids: 85.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.5		0.01	0.01	%			07/08/19 12:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-57-070219

Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3

Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		3300	1700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Acrolein	ND		6500	3700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Acrylonitrile	ND		2600	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Benzene	**15000**		650	87	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromobenzene	ND		650	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromochloromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromodichloromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromoform	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromomethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2-Butanone (MEK)	ND		3300	780	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Carbon disulfide	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Carbon tetrachloride	ND		650	220	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chlorobenzene	ND		650	68	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2-Chloroethyl vinyl ether	ND		1300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chloroform	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1-Chlorohexane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chloromethane	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
cis-1,2-Dichloroethene	ND		650	99	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
cis-1,3-Dichloropropene	ND		650	160	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Dibromochloromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dibromo-3-Chloropropane	ND		650	430	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dichlorobenzene	ND		650	93	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,3-Dichlorobenzene	ND		650	120	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,4-Dichlorobenzene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Dichlorodifluoromethane	ND		650	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1-Dichloroethane	ND		650	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dichloroethane	ND		650	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1-Dichloroethene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dichloropropane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,3-Dichloropropane	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2,2-Dichloropropane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1-Dichloropropene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Ethylbenzene	ND		650	80	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Ethylene Dibromide	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Ethyl methacrylate	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Hexachlorobutadiene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2-Hexanone	ND		3300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Isopropylbenzene	ND		650	89	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Methylene bromide	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Methylene Chloride	ND		2000	1300	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
4-Methyl-2-pentanone (MIBK)	ND		3300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Methyl tert-butyl ether	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
m-Xylene & p-Xylene	ND		650	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Naphthalene	ND		650	260	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
n-Butylbenzene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
N-Propylbenzene	ND		650	120	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
o-Chlorotoluene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
o-Xylene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-57-070219

Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3

Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
p-Isopropyltoluene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
sec-Butylbenzene	ND		650	120	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Styrene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
tert-Butylbenzene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,1,2-Tetrachloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,2,2-Tetrachloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Tetrachloroethene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Toluene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
trans-1,2-Dichloroethene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
trans-1,3-Dichloropropene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,3-Trichlorobenzene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,4-Trichlorobenzene	ND		650	260	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,1-Trichloroethane	ND		650	140	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,2-Trichloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Trichloroethene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Trichlorofluoromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,3-Trichloropropane	ND		650	390	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,4-Trimethylbenzene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,3,5-Trimethylbenzene	ND		650	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Vinyl acetate	ND		3300	1200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Vinyl chloride	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Xylenes, Total	ND		1300	250	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclotetrasiloxane, octamethyl-	*4500*	*T J N*	*ug/Kg*	☼	*6.70*	*556-67-2*	*07/14/19 18:53*	*07/15/19 04:23*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*72 - 122*	*07/14/19 18:53*	*07/15/19 04:23*	*100*
Dibromofluoromethane	*93*		*79 - 123*	*07/14/19 18:53*	*07/15/19 04:23*	*100*
Toluene-d8 (Surr)	*105*		*80 - 120*	*07/14/19 18:53*	*07/15/19 04:23*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Anthracene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[a]anthracene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[a]pyrene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[b]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[g,h,i]perylene	ND		8.2	2.5	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Chrysene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Fluoranthene	**3.7**	**J**	8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Fluorene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Indeno[1,2,3-cd]pyrene	ND		8.2	2.5	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
2-Methylnaphthalene	~~7.8~~	**J B**	8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Phenanthrene	**11**		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Pyrene	**13**		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-57-070219

Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3

Matrix: Solid
Percent Solids: 80.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	42		27 - 127	07/09/19 13:50	07/16/19 14:56	1
Nitrobenzene-d5	16		15 - 136	07/09/19 13:50	07/16/19 14:56	1
Terphenyl-d14	41		24 - 146	07/09/19 13:50	07/16/19 14:56	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.2	J B U	8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/19/19 17:43	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	53	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Benzenethiol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Bis(2-ethylhexyl) phthalate	88	J B U	410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Dibenz[a,h]acridine	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
3,3'-Dichlorobenzidine	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Indene	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Isophorone	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
3 & 4 Methylphenol	ND		820	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-57-070219

Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3

Matrix: Solid
Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
N-Nitrosodimethylamine	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Phenol	**190**	**J**	410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Pyridine	ND		410	190	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Quinoline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/09/19 13:50*	*07/13/19 02:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*32*		*27 - 127*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
2-Fluorophenol	*46*		*25 - 128*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
Nitrobenzene-d5	*18*		*15 - 136*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
Phenol-d5	*51*		*29 - 130*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
Terphenyl-d14	*33*		*24 - 146*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
2,4,6-Tribromophenol	*34*		*10 - 150*	*07/09/19 13:50*	*07/13/19 02:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80.6**		0.01	0.01	%			07/08/19 12:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-61-070219

Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4

Matrix: Solid
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	700	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Acrolein	ND		2700	1500	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Acrylonitrile	ND		1100	430	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Benzene	**8900**		270	36	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromobenzene	ND		270	70	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromochloromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromodichloromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromoform	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromomethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2-Butanone (MEK)	ND		1300	320	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Carbon disulfide	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Carbon tetrachloride	ND		270	92	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chlorobenzene	ND		270	28	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2-Chloroethyl vinyl ether	ND		540	270	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chloroform	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1-Chlorohexane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chloromethane	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
cis-1,2-Dichloroethene	ND		270	41	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
cis-1,3-Dichloropropene	ND		270	65	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Dibromochloromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dibromo-3-Chloropropane	ND		270	180	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dichlorobenzene	ND		270	38	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,3-Dichlorobenzene	ND		270	51	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,4-Dichlorobenzene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Dichlorodifluoromethane	ND		270	70	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1-Dichloroethane	ND		270	45	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dichloroethane	ND		270	44	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1-Dichloroethene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dichloropropane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,3-Dichloropropane	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2,2-Dichloropropane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1-Dichloropropene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Ethylbenzene	ND		270	33	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Ethylene Dibromide	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Ethyl methacrylate	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Hexachlorobutadiene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2-Hexanone	ND		1300	270	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Isopropylbenzene	ND		270	37	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Methylene bromide	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Methylene Chloride	ND		810	540	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
4-Methyl-2-pentanone (MIBK)	ND		1300	270	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Methyl tert-butyl ether	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
m-Xylene & p-Xylene	ND		270	70	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Naphthalene	ND		270	110	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
n-Butylbenzene	ND		270	52	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
N-Propylbenzene	**79**	**J**	270	49	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
o-Chlorotoluene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
o-Xylene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-61-070219

Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4

Matrix: Solid
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		270	53	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
p-Isopropyltoluene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
sec-Butylbenzene	ND		270	51	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Styrene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
tert-Butylbenzene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,1,2-Tetrachloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,2,2-Tetrachloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Tetrachloroethene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Toluene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
trans-1,2-Dichloroethene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
trans-1,3-Dichloropropene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,3-Trichlorobenzene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,4-Trichlorobenzene	ND		270	110	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,1-Trichloroethane	ND		270	59	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,2-Trichloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Trichloroethene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Trichlorofluoromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,3-Trichloropropane	ND		270	160	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,4-Trimethylbenzene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,3,5-Trimethylbenzene	ND		270	45	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Vinyl acetate	ND		1300	490	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Vinyl chloride	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Xylenes, Total	ND		540	100	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethanol	*7100*		*ug/Kg*	☼	*2.03*	*64-17-5*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Cyclohexane	*100*	*J*	*ug/Kg*	☼	*3.45*	*110-82-7*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Methylcyclohexane	*98*	*J*	*ug/Kg*	☼	*4.13*	*108-87-2*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Cyclotetrasiloxane, octamethyl-	*430*	*T J N*	*ug/Kg*	☼	*6.69*	*556-67-2*	*07/14/19 18:53*	*07/15/19 02:11*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Dibromofluoromethane	*91*		*79 - 123*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/14/19 18:53*	*07/15/19 02:11*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[a]pyrene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[g,h,i]perylene	**3.5**	**J**	7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Chrysene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Fluorene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Indeno[1,2,3-cd]pyrene	ND		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-61-070219
Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4
Matrix: Solid
Percent Solids: 85.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	10		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Pyrene	10		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*27 - 127*	*07/09/19 13:50*	*07/16/19 15:13*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/09/19 13:50*	*07/16/19 15:13*	*1*
Terphenyl-d14	*74*		*24 - 146*	*07/09/19 13:50*	*07/16/19 15:13*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	20	B	7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/19/19 18:01	1
2-Methylnaphthalene	16	B	7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/19/19 18:01	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	50	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Bis(2-chloroethoxy)methane	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Bis(2-ethylhexyl) phthalate	~~65~~	J B U	390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Dibenz[a,h]acridine	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
3,3'-Dichlorobenzidine	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Hexachlorocyclopentadiene	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Indene	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-61-070219
Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
3 & 4 Methylphenol	ND		770	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
N-Nitrosodimethylamine	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Phenol	**210**	**J**	390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Pyridine	ND		390	180	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Quinoline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/09/19 13:50*	*07/12/19 23:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*27 - 127*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
Nitrobenzene-d5	*64*		*15 - 136*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
Phenol-d5	*65*		*29 - 130*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
Terphenyl-d14	*58*		*24 - 146*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/09/19 13:50*	*07/12/19 23:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.1**		0.01	0.01	%			07/08/19 12:10	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Chrysene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluorene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
1-Methylnaphthalene	1.84	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
2-Methylnaphthalene	3.31	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*27 - 127*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Nitrobenzene-d5	*70*		*15 - 136*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Terphenyl-d14	*114*		*24 - 146*	*07/09/19 13:50*	*07/16/19 13:30*	*1*

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	320		ug/Kg		96	57 - 120
Acenaphthylene	333	315		ug/Kg		94	59 - 120
Anthracene	333	321		ug/Kg		96	61 - 120
Benzo[a]anthracene	333	291		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	320		ug/Kg		96	54 - 127
Benzo[b]fluoranthene	333	334		ug/Kg		100	35 - 146
Benzo[g,h,i]perylene	333	308		ug/Kg		92	36 - 150
Benzo[k]fluoranthene	333	305		ug/Kg		92	53 - 139
Chrysene	333	289		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	315		ug/Kg		94	39 - 150
Fluoranthene	333	295		ug/Kg		89	61 - 121
Fluorene	333	336		ug/Kg		101	60 - 120
Indeno[1,2,3-cd]pyrene	333	308		ug/Kg		93	40 - 150
1-Methylnaphthalene	333	339		ug/Kg		102	46 - 120
2-Methylnaphthalene	333	339		ug/Kg		102	46 - 120
Phenanthrene	333	297		ug/Kg		89	59 - 120
Pyrene	333	326		ug/Kg		98	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	68		15 - 136
Terphenyl-d14	104		24 - 146

Lab Sample ID: LCSD 400-447257/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	321		ug/Kg		96	57 - 120	0	30
Acenaphthylene			333	313		ug/Kg		94	59 - 120	1	30
Anthracene			333	327		ug/Kg		98	61 - 120	2	30
Benzo[a]anthracene			333	305		ug/Kg		92	61 - 120	5	30
Benzo[a]pyrene			333	334		ug/Kg		100	54 - 127	4	30
Benzo[b]fluoranthene			333	343		ug/Kg		103	35 - 146	3	30
Benzo[g,h,i]perylene			333	325		ug/Kg		98	36 - 150	6	30
Benzo[k]fluoranthene			333	323		ug/Kg		97	53 - 139	6	30
Chrysene			333	302		ug/Kg		90	60 - 120	4	30
Dibenz(a,h)anthracene			333	336		ug/Kg		101	39 - 150	6	30
Fluoranthene			333	307		ug/Kg		92	61 - 121	4	30
Fluorene			333	334		ug/Kg		100	60 - 120	1	30
Indeno[1,2,3-cd]pyrene			333	330		ug/Kg		99	40 - 150	7	30
1-Methylnaphthalene			333	302		ug/Kg		91	46 - 120	11	30
2-Methylnaphthalene			333	329		ug/Kg		99	46 - 120	3	30
Phenanthrene			333	307		ug/Kg		92	59 - 120	3	30
Pyrene			333	322		ug/Kg		96	53 - 122	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	85		27 - 127
Nitrobenzene-d5	69		15 - 136
Terphenyl-d14	105		24 - 146

Shell Oil Products US Chain Of Custody Record

400-172672 COC

LAB (LOCATION)
- ☐ACCUTEST (_____)
- ☐CALSCIENCE (_____)
- ☑TESTAMERICA (___Pensacola_____)
- ☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHEC
James Carrino	25278	DA
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM	LOG CODE:	170 East Rand Avenue, Hartford	State: IL
AECOM Project / Task Number: PreDesign Invest. PW			
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102		EOF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel	PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com	AECOM Other ID		
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell		SAMPLER NAME(S) (Print): Paul LeFleur	LAB USE ONLY
TELEPHONE: 314-429-0100	FAX: 314-429-0462	Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com	

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐LA - RWQCB REPORT FORMAT ☐UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com, Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
	TB-PW-070219-A	7/2/2019	0:00	Water	X					2			X		
	PD-11-SB-45-070219	7/2/2019	9:15	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-11-SB-57-070219	7/2/2019	11:30	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-11-SB-61-070219	7/2/2019	14:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by (Signature)	Received by (Signature)	Date	Time
	Fedex: 4759 5526 5919 4759 5526 5920	7/2/2019	18:00
Relinquished by (Signature)	Received by (Signature)	Date	Time
Relinquished by (Signature)	Received by (Signature)	Date	Time
	0.5°C IR-7	7-3-19	0928

Version 10May17

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7/24/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172672-1

Login Number: 172672
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.5°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172672-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 1:15:15 PM

Leah Klingensmith, Senior Project Manager
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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172672-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172672-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 7-24-19.

Receipt
The samples were received on 7/3/2019 9:28 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070219-A (400-172672-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-SB-45-070219 (400-172672-2), PD-11-SB-57-070219 (400-172672-3) and PD-11-SB-61-070219 (400-172672-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-447257 and analytical batch 400-447770 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-447257 and analytical batch 400-447770 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447770 recovered outside acceptance criteria, low biased, for 4-Nitrophenol, 4,6-Dinitro-2-methylphenol and 1,4-Dioxane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-447257 and analytical batch 400-447770 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The method blank for preparation batch 400-447257 and analytical batch 400-448173 contained 1-Methylnaphthalene and 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample:

Job ID: 400-172672-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

PD-11-SB-45-070219 (400-172672-2).

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-448173 recovered above the upper control limit for 2-Methylnaphthalene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172672-1	TB-PW-070219-A	Water	07/02/19 00:00	07/03/19 09:28	
400-172672-2	PD-11-SB-45-070219	Solid	07/02/19 09:15	07/03/19 09:28	
400-172672-3	PD-11-SB-57-070219	Solid	07/02/19 11:30	07/03/19 09:28	
400-172672-4	PD-11-SB-61-070219	Solid	07/02/19 14:20	07/03/19 09:28	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: TB-PW-070219-A — Lab Sample ID: 400-172672-1

No Detections.

Client Sample ID: PD-11-SB-45-070219 — Lab Sample ID: 400-172672-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	29000		1000	140	ug/Kg	200	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	310	J	1000	210	ug/Kg	200	☼	8260B	Total/NA
Anthracene	120		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[a]anthracene	260		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[a]pyrene	280		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	94		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	71	J	76	23	ug/Kg	10	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	17	J	76	12	ug/Kg	10	☼	8270D LL	Total/NA
Chrysene	530		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	71	J	76	23	ug/Kg	10	☼	8270D LL	Total/NA
Fluoranthene	88		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Fluorene	180		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	40	J	76	23	ug/Kg	10	☼	8270D LL	Total/NA
1-Methylnaphthalene	1100	B	76	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene	1500	B	76	12	ug/Kg	10	☼	8270D LL	Total/NA
Phenanthrene	1000		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Pyrene	990		76	12	ug/Kg	10	☼	8270D LL	Total/NA
Benzyl alcohol	200	J	380	38	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	70	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	670		380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-11-SB-57-070219 — Lab Sample ID: 400-172672-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	15000		650	87	ug/Kg	100	☼	8260B	Total/NA
Fluoranthene	3.7	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.9	J B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	11		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	13		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - RA	4.2	J B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	68	J B	410	41	ug/Kg	1	☼	8270D	Total/NA
Phenol	190	J	410	41	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-11-SB-61-070219 — Lab Sample ID: 400-172672-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8900		270	36	ug/Kg	50	☼	8260B	Total/NA
N-Propylbenzene	79	J	270	49	ug/Kg	50	☼	8260B	Total/NA
Benzo[g,h,i]perylene	3.5	J	7.7	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	10		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	10		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - RA	20	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene - RA	16	B	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	65	J B	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	210	J	390	39	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: TB-PW-070219-A

Date Collected: 07/02/19 00:00
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 16:06	1
Acrolein	ND		20	10	ug/L			07/12/19 16:06	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 16:06	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 16:06	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 16:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 16:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 16:06	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 16:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 16:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 16:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 16:06	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 16:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 16:06	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 16:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 16:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 16:06	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 16:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 16:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 16:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 16:06	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 16:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 16:06	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 16:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 16:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 16:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 16:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 16:06	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 16:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 16:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 16:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 16:06	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 16:06	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: TB-PW-070219-A

Date Collected: 07/02/19 00:00
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 16:06	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 16:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 16:06	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 16:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 16:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 16:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 16:06	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 16:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 16:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 16:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 16:06	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 16:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 16:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 16:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 16:06	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 16:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 16:06	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 16:06	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 16:06*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/12/19 16:06*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/12/19 16:06*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 16:06*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219

Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2

Matrix: Solid
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5200	2700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Acrolein	ND		10000	5900	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Acrylonitrile	ND		4200	1700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Benzene	**29000**		1000	140	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromobenzene	ND		1000	270	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromochloromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromodichloromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromoform	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Bromomethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2-Butanone (MEK)	ND		5200	1300	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Carbon disulfide	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Carbon tetrachloride	ND		1000	360	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chlorobenzene	ND		1000	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2-Chloroethyl vinyl ether	ND		2100	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chloroform	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1-Chlorohexane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Chloromethane	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
cis-1,2-Dichloroethene	ND		1000	160	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
cis-1,3-Dichloropropene	ND		1000	250	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Dibromochloromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dibromo-3-Chloropropane	ND		1000	690	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dichlorobenzene	ND		1000	150	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,3-Dichlorobenzene	ND		1000	200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,4-Dichlorobenzene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Dichlorodifluoromethane	ND		1000	270	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1-Dichloroethane	ND		1000	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dichloroethane	ND		1000	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1-Dichloroethene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2-Dichloropropane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,3-Dichloropropane	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2,2-Dichloropropane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1-Dichloropropene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Ethylbenzene	ND		1000	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Ethylene Dibromide	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Ethyl methacrylate	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Hexachlorobutadiene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
2-Hexanone	ND		5200	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Isopropylbenzene	ND		1000	140	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Methylene bromide	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Methylene Chloride	ND		3100	2100	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
4-Methyl-2-pentanone (MIBK)	ND		5200	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Methyl tert-butyl ether	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
m-Xylene & p-Xylene	ND		1000	270	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Naphthalene	ND		1000	420	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
n-Butylbenzene	ND		1000	200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
N-Propylbenzene	ND		1000	190	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
o-Chlorotoluene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
o-Xylene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-45-070219
Lab Sample ID: 400-172672-2
Date Collected: 07/02/19 09:15
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 85.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
p-Isopropyltoluene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
sec-Butylbenzene	ND		1000	200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Styrene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
tert-Butylbenzene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,2,2-Tetrachloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Tetrachloroethene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Toluene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
trans-1,2-Dichloroethene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
trans-1,3-Dichloropropene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,3-Trichlorobenzene	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,4-Trichlorobenzene	ND		1000	420	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,1-Trichloroethane	ND		1000	230	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,1,2-Trichloroethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Trichloroethene	ND		1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Trichlorofluoromethane	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,3-Trichloropropane	ND		1000	630	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,2,4-Trimethylbenzene	**310**	**J**	1000	210	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
1,3,5-Trimethylbenzene	ND		1000	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Vinyl acetate	ND		5200	1900	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Vinyl chloride	ND		1000	520	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200
Xylenes, Total	ND		2100	400	ug/Kg	☼	07/14/19 18:53	07/15/19 04:49	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclotetrasiloxane, octamethyl-	*1500*	*T J N*	*ug/Kg*	☼	*6.69*	*556-67-2*	*07/14/19 18:53*	*07/15/19 04:49*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*72 - 122*	*07/14/19 18:53*	*07/15/19 04:49*	*200*
Dibromofluoromethane	*94*		*79 - 123*	*07/14/19 18:53*	*07/15/19 04:49*	*200*
Toluene-d8 (Surr)	*105*		*80 - 120*	*07/14/19 18:53*	*07/15/19 04:49*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Acenaphthylene	ND		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Anthracene	**120**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[a]anthracene	**260**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[a]pyrene	**280**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[b]fluoranthene	**94**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[g,h,i]perylene	**71**	**J**	76	23	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Benzo[k]fluoranthene	**17**	**J**	76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Chrysene	**530**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Dibenz(a,h)anthracene	**71**	**J**	76	23	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Fluoranthene	**88**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Fluorene	**180**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Indeno[1,2,3-cd]pyrene	**40**	**J**	76	23	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
1-Methylnaphthalene	**1100**	**B**	76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
2-Methylnaphthalene	**1500**	**B**	76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10
Phenanthrene	**1000**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219
Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2
Matrix: Solid
Percent Solids: 85.5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**990**		76	12	ug/Kg	☼	07/09/19 13:50	07/19/19 17:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*27 - 127*	*07/09/19 13:50*	*07/19/19 17:27*	*10*
Nitrobenzene-d5	*60*		*15 - 136*	*07/09/19 13:50*	*07/19/19 17:27*	*10*
Terphenyl-d14	*86*		*24 - 146*	*07/09/19 13:50*	*07/19/19 17:27*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Benzenethiol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Benzyl alcohol	**200**	**J**	380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Bis(2-ethylhexyl) phthalate	**70**	**J B**	380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Indene	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Isophorone	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-45-070219
Lab Sample ID: 400-172672-2
Date Collected: 07/02/19 09:15
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 85.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Phenol	**670**		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Pyridine	ND		380	170	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
Quinoline	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/09/19 13:50	07/17/19 12:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1600*	*T J*	*ug/Kg*	☼	*5.31*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Decane	*2600*	*T J N*	*ug/Kg*	☼	*5.46*	*124-18-5*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Benzene, 1,2,3-trimethyl-	*4600*	*T J N*	*ug/Kg*	☼	*5.48*	*526-73-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*1400*	*T J*	*ug/Kg*	☼	*5.57*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Benzene, 1,3-diethyl-	*1800*	*T J N*	*ug/Kg*	☼	*5.78*	*141-93-5*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*1800*	*T J*	*ug/Kg*	☼	*6.16*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*2100*	*T J*	*ug/Kg*	☼	*6.21*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*2900*	*T J*	*ug/Kg*	☼	*6.25*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*1700*	*T J N*	*ug/Kg*	☼	*6.32*	*119-64-2*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Dodecane	*5800*	*T J N*	*ug/Kg*	☼	*6.36*	*112-40-3*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Undecane, 2,6-dimethyl-	*3300*	*T J N*	*ug/Kg*	☼	*6.41*	*17301-23-4*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*2800*	*T J*	*ug/Kg*	☼	*6.59*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*1500*	*T J*	*ug/Kg*	☼	*6.61*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Decane, 2-methyl-	*2700*	*T J N*	*ug/Kg*	☼	*6.64*	*6975-98-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Cyclohexasiloxane, dodecamethyl-	*2500*	*T J N*	*ug/Kg*	☼	*6.70*	*540-97-6*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Tridecane	*4900*	*T J N*	*ug/Kg*	☼	*6.75*	*629-50-5*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*6.89*	*91-57-6*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 1-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*6.96*	*90-12-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Tridecane, 2-methyl-	*1600*	*T J N*	*ug/Kg*	☼	*6.99*	*1560-96-9*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2,6-dimethyl-	*2800*	*T J N*	*ug/Kg*	☼	*7.32*	*581-42-0*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Naphthalene, 2,3-dimethyl-	*2000*	*T J N*	*ug/Kg*	☼	*7.37*	*581-40-8*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Pentadecane	*1600*	*T J N*	*ug/Kg*	☼	*7.49*	*629-62-9*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Unknown	*1500*	*T J*	*ug/Kg*	☼	*7.90*		*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenanthrene, 2-methyl-	*1400*	*T J N*	*ug/Kg*	☼	*9.19*	*2531-84-2*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenanthrene, 2,5-dimethyl-	*1700*	*T J N*	*ug/Kg*	☼	*9.64*	*3674-66-6*	*07/09/19 13:50*	*07/17/19 12:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*27 - 127*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
2-Fluorophenol	*65*		*25 - 128*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Nitrobenzene-d5	*73*		*15 - 136*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Phenol-d5	*69*		*29 - 130*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
Terphenyl-d14	*65*		*24 - 146*	*07/09/19 13:50*	*07/17/19 12:26*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/09/19 13:50*	*07/17/19 12:26*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-45-070219

Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2

Matrix: Solid
Percent Solids: 85.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.5		0.01	0.01	%			07/08/19 12:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-57-070219

Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3

Matrix: Solid
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		3300	1700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Acrolein	ND		6500	3700	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Acrylonitrile	ND		2600	1000	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Benzene	**15000**		650	87	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromobenzene	ND		650	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromochloromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromodichloromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromoform	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Bromomethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2-Butanone (MEK)	ND		3300	780	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Carbon disulfide	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Carbon tetrachloride	ND		650	220	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chlorobenzene	ND		650	68	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2-Chloroethyl vinyl ether	ND		1300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chloroform	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1-Chlorohexane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Chloromethane	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
cis-1,2-Dichloroethene	ND		650	99	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
cis-1,3-Dichloropropene	ND		650	160	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Dibromochloromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dibromo-3-Chloropropane	ND		650	430	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dichlorobenzene	ND		650	93	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,3-Dichlorobenzene	ND		650	120	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,4-Dichlorobenzene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Dichlorodifluoromethane	ND		650	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1-Dichloroethane	ND		650	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dichloroethane	ND		650	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1-Dichloroethene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2-Dichloropropane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,3-Dichloropropane	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2,2-Dichloropropane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1-Dichloropropene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Ethylbenzene	ND		650	80	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Ethylene Dibromide	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Ethyl methacrylate	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Hexachlorobutadiene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
2-Hexanone	ND		3300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Isopropylbenzene	ND		650	89	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Methylene bromide	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Methylene Chloride	ND		2000	1300	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
4-Methyl-2-pentanone (MIBK)	ND		3300	650	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Methyl tert-butyl ether	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
m-Xylene & p-Xylene	ND		650	170	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Naphthalene	ND		650	260	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
n-Butylbenzene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
N-Propylbenzene	ND		650	120	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
o-Chlorotoluene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
o-Xylene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-57-070219
Lab Sample ID: 400-172672-3
Date Collected: 07/02/19 11:30
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 80.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
p-Isopropyltoluene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
sec-Butylbenzene	ND		650	120	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Styrene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
tert-Butylbenzene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,1,2-Tetrachloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,2,2-Tetrachloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Tetrachloroethene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Toluene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
trans-1,2-Dichloroethene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
trans-1,3-Dichloropropene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,3-Trichlorobenzene	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,4-Trichlorobenzene	ND		650	260	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,1-Trichloroethane	ND		650	140	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,1,2-Trichloroethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Trichloroethene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Trichlorofluoromethane	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,3-Trichloropropane	ND		650	390	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,2,4-Trimethylbenzene	ND		650	130	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
1,3,5-Trimethylbenzene	ND		650	110	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Vinyl acetate	ND		3300	1200	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Vinyl chloride	ND		650	330	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100
Xylenes, Total	ND		1300	250	ug/Kg	☼	07/14/19 18:53	07/15/19 04:23	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclotetrasiloxane, octamethyl-	*4500*	*T J N*	*ug/Kg*	☼	*6.70*	*556-67-2*	*07/14/19 18:53*	*07/15/19 04:23*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*72 - 122*	*07/14/19 18:53*	*07/15/19 04:23*	*100*
Dibromofluoromethane	*93*		*79 - 123*	*07/14/19 18:53*	*07/15/19 04:23*	*100*
Toluene-d8 (Surr)	*105*		*80 - 120*	*07/14/19 18:53*	*07/15/19 04:23*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Anthracene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[a]anthracene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[a]pyrene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[b]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[g,h,i]perylene	ND		8.2	2.5	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Chrysene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Fluoranthene	**3.7**	**J**	8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Fluorene	ND		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Indeno[1,2,3-cd]pyrene	ND		8.2	2.5	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
2-Methylnaphthalene	**7.9**	**J B**	8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Phenanthrene	**11**		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1
Pyrene	**13**		8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 14:56	1

Client Sample ID: PD-11-SB-57-070219
Lab Sample ID: 400-172672-3
Date Collected: 07/02/19 11:30
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 80.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	42		27 - 127	07/09/19 13:50	07/16/19 14:56	1
Nitrobenzene-d5	16		15 - 136	07/09/19 13:50	07/16/19 14:56	1
Terphenyl-d14	41		24 - 146	07/09/19 13:50	07/16/19 14:56	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.2	J B	8.2	1.2	ug/Kg	☼	07/09/19 13:50	07/19/19 17:43	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	53	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Benzenethiol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Bis(2-ethylhexyl) phthalate	68	J B	410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Dibenz[a,h]acridine	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
3,3'-Dichlorobenzidine	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Indene	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Isophorone	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
3 & 4 Methylphenol	ND		820	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-57-070219
Lab Sample ID: 400-172672-3
Date Collected: 07/02/19 11:30
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
N-Nitrosodimethylamine	ND		410	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Phenol	**190**	**J**	410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Pyridine	ND		410	190	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
Quinoline	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/09/19 13:50	07/13/19 02:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/09/19 13:50*	*07/13/19 02:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*32*		*27 - 127*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
2-Fluorophenol	*46*		*25 - 128*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
Nitrobenzene-d5	*18*		*15 - 136*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
Phenol-d5	*51*		*29 - 130*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
Terphenyl-d14	*33*		*24 - 146*	*07/09/19 13:50*	*07/13/19 02:25*	*1*
2,4,6-Tribromophenol	*34*		*10 - 150*	*07/09/19 13:50*	*07/13/19 02:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80.6**		0.01	0.01	%			07/08/19 12:10	1

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-61-070219
Lab Sample ID: 400-172672-4
Date Collected: 07/02/19 14:20
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	700	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Acrolein	ND		2700	1500	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Acrylonitrile	ND		1100	430	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Benzene	**8900**		270	36	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromobenzene	ND		270	70	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromochloromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromodichloromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromoform	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Bromomethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2-Butanone (MEK)	ND		1300	320	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Carbon disulfide	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Carbon tetrachloride	ND		270	92	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chlorobenzene	ND		270	28	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2-Chloroethyl vinyl ether	ND		540	270	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chloroform	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1-Chlorohexane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Chloromethane	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
cis-1,2-Dichloroethene	ND		270	41	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
cis-1,3-Dichloropropene	ND		270	65	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Dibromochloromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dibromo-3-Chloropropane	ND		270	180	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dichlorobenzene	ND		270	38	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,3-Dichlorobenzene	ND		270	51	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,4-Dichlorobenzene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Dichlorodifluoromethane	ND		270	70	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1-Dichloroethane	ND		270	45	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dichloroethane	ND		270	44	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1-Dichloroethene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2-Dichloropropane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,3-Dichloropropane	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2,2-Dichloropropane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1-Dichloropropene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Ethylbenzene	ND		270	33	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Ethylene Dibromide	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Ethyl methacrylate	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Hexachlorobutadiene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
2-Hexanone	ND		1300	270	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Isopropylbenzene	ND		270	37	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Methylene bromide	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Methylene Chloride	ND		810	540	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
4-Methyl-2-pentanone (MIBK)	ND		1300	270	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Methyl tert-butyl ether	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
m-Xylene & p-Xylene	ND		270	70	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Naphthalene	ND		270	110	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
n-Butylbenzene	ND		270	52	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
N-Propylbenzene	**79**	**J**	270	49	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
o-Chlorotoluene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
o-Xylene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-SB-61-070219
Lab Sample ID: 400-172672-4
Date Collected: 07/02/19 14:20
Matrix: Solid
Date Received: 07/03/19 09:28
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		270	53	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
p-Isopropyltoluene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
sec-Butylbenzene	ND		270	51	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Styrene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
tert-Butylbenzene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,1,2-Tetrachloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,2,2-Tetrachloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Tetrachloroethene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Toluene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
trans-1,2-Dichloroethene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
trans-1,3-Dichloropropene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,3-Trichlorobenzene	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,4-Trichlorobenzene	ND		270	110	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,1-Trichloroethane	ND		270	59	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,1,2-Trichloroethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Trichloroethene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Trichlorofluoromethane	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,3-Trichloropropane	ND		270	160	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,2,4-Trimethylbenzene	ND		270	54	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
1,3,5-Trimethylbenzene	ND		270	45	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Vinyl acetate	ND		1300	490	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Vinyl chloride	ND		270	130	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50
Xylenes, Total	ND		540	100	ug/Kg	☼	07/14/19 18:53	07/15/19 02:11	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethanol	*7100*		*ug/Kg*	☼	*2.03*	*64-17-5*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Cyclohexane	*100*	*J*	*ug/Kg*	☼	*3.45*	*110-82-7*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Methylcyclohexane	*98*	*J*	*ug/Kg*	☼	*4.13*	*108-87-2*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Cyclotetrasiloxane, octamethyl-	*430*	*T J N*	*ug/Kg*	☼	*6.69*	*556-67-2*	*07/14/19 18:53*	*07/15/19 02:11*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Dibromofluoromethane	*91*		*79 - 123*	*07/14/19 18:53*	*07/15/19 02:11*	*50*
Toluene-d8 (Surr)	*102*		*80 - 120*	*07/14/19 18:53*	*07/15/19 02:11*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[a]pyrene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[g,h,i]perylene	**3.5**	**J**	7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Chrysene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Fluorene	ND		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Indeno[1,2,3-cd]pyrene	ND		7.7	2.3	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-61-070219

Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4

Matrix: Solid
Percent Solids: 85.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**10**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1
Pyrene	**10**		7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/16/19 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*27 - 127*	*07/09/19 13:50*	*07/16/19 15:13*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/09/19 13:50*	*07/16/19 15:13*	*1*
Terphenyl-d14	*74*		*24 - 146*	*07/09/19 13:50*	*07/16/19 15:13*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**20**	**B**	7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/19/19 18:01	1
2-Methylnaphthalene	**16**	**B**	7.7	1.2	ug/Kg	☼	07/09/19 13:50	07/19/19 18:01	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	50	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Bis(2-chloroethoxy)methane	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Bis(2-ethylhexyl) phthalate	**65**	**J B**	390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Dibenz[a,h]acridine	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
3,3'-Dichlorobenzidine	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Hexachlorocyclopentadiene	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Indene	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Client Sample ID: PD-11-SB-61-070219
Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
3 & 4 Methylphenol	ND		770	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
N-Nitrosodimethylamine	ND		390	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Phenol	**210**	**J**	390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Pyridine	ND		390	180	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
Quinoline	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/09/19 13:50	07/12/19 23:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/09/19 13:50*	*07/12/19 23:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*27 - 127*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
Nitrobenzene-d5	*64*		*15 - 136*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
Phenol-d5	*65*		*29 - 130*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
Terphenyl-d14	*58*		*24 - 146*	*07/09/19 13:50*	*07/12/19 23:57*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/09/19 13:50*	*07/12/19 23:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.1**		0.01	0.01	%			07/08/19 12:10	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172672-2	PD-11-SB-45-070219	104	94	105
400-172672-3	PD-11-SB-57-070219	107	93	105
400-172672-4	PD-11-SB-61-070219	108	91	102
LCS 400-447976/1-A	Lab Control Sample	103	99	91
MB 400-447976/2-A	Method Blank	107	99	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172672-1	TB-PW-070219-A	102	98	100
LCS 400-447731/1002	Lab Control Sample	99	99	100
MB 400-447731/4	Method Blank	101	99	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172672-2	PD-11-SB-45-070219	60	65	73	69	65	65
400-172672-2 MS	PD-11-SB-45-070219	58	63	75	66	68	75
400-172672-2 MSD	PD-11-SB-45-070219	57	56	71	61	68	77
400-172672-3	PD-11-SB-57-070219	32	46	18	51	33	34
400-172672-4	PD-11-SB-61-070219	54	60	64	65	58	65
LCS 400-447257/4-A	Lab Control Sample	62	65	71	69	75	59
LCS 400-447257/6-A	Lab Control Sample	63	67	79	72	69	76
LCSD 400-447257/5-A	Lab Control Sample Dup	64	66	72	72	72	64
MB 400-447257/1-A	Method Blank	58	60	67	65	65	55

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172672-2	PD-11-SB-45-070219	75	60	86
400-172672-3	PD-11-SB-57-070219	42	16	41
400-172672-4	PD-11-SB-61-070219	71	62	74
LCS 400-447257/2-A	Lab Control Sample	85	68	104
LCSD 400-447257/3-A	Lab Control Sample Dup	85	69	105
MB 400-447257/1-A	Method Blank	85	70	114

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070219-A
Date Collected: 07/02/19 00:00
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 16:06	BSW	TAL PEN

Client Sample ID: PD-11-SB-45-070219
Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447077	07/08/19 12:10	DDQ	TAL PEN

Client Sample ID: PD-11-SB-45-070219
Date Collected: 07/02/19 09:15
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-2
Matrix: Solid
Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.655 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	447951	07/15/19 04:49	BSW	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 12:26	VC1	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		10			448700	07/19/19 17:27	S1S	TAL PEN

Client Sample ID: PD-11-SB-57-070219
Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447077	07/08/19 12:10	DDQ	TAL PEN

Client Sample ID: PD-11-SB-57-070219
Date Collected: 07/02/19 11:30
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-3
Matrix: Solid
Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.82 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	447951	07/15/19 04:23	BSW	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447770	07/13/19 02:25	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 14:56	KJA	TAL PEN
Total/NA	Prep	3546	RA		15.02 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL	RA	1			448700	07/19/19 17:43	S1S	TAL PEN

Client Sample ID: PD-11-SB-61-070219
Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447077	07/08/19 12:10	DDQ	TAL PEN

Client Sample ID: PD-11-SB-61-070219
Date Collected: 07/02/19 14:20
Date Received: 07/03/19 09:28

Lab Sample ID: 400-172672-4
Matrix: Solid
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.494 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	447951	07/15/19 02:11	BSW	TAL PEN
Total/NA	Prep	3546			15.07 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447770	07/12/19 23:57	VC1	TAL PEN
Total/NA	Prep	3546			15.07 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 15:13	KJA	TAL PEN
Total/NA	Prep	3546	RA		15.07 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL	RA	1			448700	07/19/19 18:01	S1S	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 21:28	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 13:30	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447731/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 13:01	BSW	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447951	07/14/19 20:53	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447257/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 13:47	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447257/4-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 21:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447257/6-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:32	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447731/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 12:02	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447976/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	447976	07/14/19 18:53	BSW	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447951	07/14/19 19:47	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-447257/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448173	07/16/19 14:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-447257/5-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:11	VC1	TAL PEN

Client Sample ID: PD-11-SB-45-070219

Lab Sample ID: 400-172672-2 MS

Date Collected: 07/02/19 09:15

Matrix: Solid

Date Received: 07/03/19 09:28

Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.37 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 22:53	VC1	TAL PEN

Client Sample ID: PD-11-SB-45-070219

Lab Sample ID: 400-172672-2 MSD

Date Collected: 07/02/19 09:15

Matrix: Solid

Date Received: 07/03/19 09:28

Percent Solids: 85.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.22 g	1 mL	447257	07/09/19 13:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447770	07/12/19 23:14	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

GC/MS VOA

Analysis Batch: 447731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-1	TB-PW-070219-A	Total/NA	Water	8260B	
MB 400-447731/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447731/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-2	PD-11-SB-45-070219	Total/NA	Solid	8260B	447976
400-172672-3	PD-11-SB-57-070219	Total/NA	Solid	8260B	447976
400-172672-4	PD-11-SB-61-070219	Total/NA	Solid	8260B	447976
MB 400-447976/2-A	Method Blank	Total/NA	Solid	8260B	447976
LCS 400-447976/1-A	Lab Control Sample	Total/NA	Solid	8260B	447976

Prep Batch: 447976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-2	PD-11-SB-45-070219	Total/NA	Solid	5035	
400-172672-3	PD-11-SB-57-070219	Total/NA	Solid	5035	
400-172672-4	PD-11-SB-61-070219	Total/NA	Solid	5035	
MB 400-447976/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-447976/1-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-2	PD-11-SB-45-070219	Total/NA	Solid	3546	
400-172672-3	PD-11-SB-57-070219	Total/NA	Solid	3546	
400-172672-3 - RA	PD-11-SB-57-070219	Total/NA	Solid	3546	
400-172672-4	PD-11-SB-61-070219	Total/NA	Solid	3546	
400-172672-4 - RA	PD-11-SB-61-070219	Total/NA	Solid	3546	
MB 400-447257/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447257/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447257/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447257/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447257/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-447257/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-172672-2 MS	PD-11-SB-45-070219	Total/NA	Solid	3546	
400-172672-2 MSD	PD-11-SB-45-070219	Total/NA	Solid	3546	

Analysis Batch: 447770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-3	PD-11-SB-57-070219	Total/NA	Solid	8270D	447257
400-172672-4	PD-11-SB-61-070219	Total/NA	Solid	8270D	447257
MB 400-447257/1-A	Method Blank	Total/NA	Solid	8270D	447257
LCS 400-447257/4-A	Lab Control Sample	Total/NA	Solid	8270D	447257
LCS 400-447257/6-A	Lab Control Sample	Total/NA	Solid	8270D	447257
LCSD 400-447257/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447257
400-172672-2 MS	PD-11-SB-45-070219	Total/NA	Solid	8270D	447257
400-172672-2 MSD	PD-11-SB-45-070219	Total/NA	Solid	8270D	447257

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

GC/MS Semi VOA

Analysis Batch: 448173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-3	PD-11-SB-57-070219	Total/NA	Solid	8270D LL	447257
400-172672-4	PD-11-SB-61-070219	Total/NA	Solid	8270D LL	447257
MB 400-447257/1-A	Method Blank	Total/NA	Solid	8270D LL	447257
LCS 400-447257/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	447257
LCSD 400-447257/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	447257

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-2	PD-11-SB-45-070219	Total/NA	Solid	8270D	447257

Analysis Batch: 448700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-2	PD-11-SB-45-070219	Total/NA	Solid	8270D LL	447257
400-172672-3 - RA	PD-11-SB-57-070219	Total/NA	Solid	8270D LL	447257
400-172672-4 - RA	PD-11-SB-61-070219	Total/NA	Solid	8270D LL	447257

General Chemistry

Analysis Batch: 447077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172672-2	PD-11-SB-45-070219	Total/NA	Solid	Moisture	
400-172672-3	PD-11-SB-57-070219	Total/NA	Solid	Moisture	
400-172672-4	PD-11-SB-61-070219	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 13:01	1
Acrolein	ND		20	10	ug/L			07/12/19 13:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 13:01	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 13:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 13:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 13:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 13:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 13:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 13:01	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 13:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 13:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 13:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 13:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 13:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 13:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 13:01	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 13:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 13:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 13:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 13:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 13:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 13:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 13:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 13:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 13:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 13:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 13:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 13:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 13:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 13:01	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 13:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 13:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 13:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 13:01	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 13:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/12/19 13:01*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/12/19 13:01*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/12/19 13:01*	*1*

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	271		ug/L		135	43 - 160
Acrolein	500	624		ug/L		125	38 - 160
Acrylonitrile	500	541		ug/L		108	64 - 142
Benzene	50.0	49.6		ug/L		99	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	51.3		ug/L		103	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	35.6		ug/L		71	10 - 160
2-Butanone (MEK)	200	237		ug/L		118	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.3		ug/L		101	61 - 137
Carbon tetrachloride	50.0	56.6		ug/L		113	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130
Chloroethane	50.0	47.2		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	46.9		ug/L		94	10 - 160
Chloroform	50.0	50.2		ug/L		100	69 - 130
1-Chlorohexane	50.0	53.8		ug/L		108	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	53.3		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	55.9		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.5		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	51.0		ug/L		102	67 - 130
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.1		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.2		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	50.9		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	53.6		ug/L		107	52 - 135
1,1-Dichloropropene	50.0	51.3		ug/L		103	70 - 130
Ethylbenzene	50.0	51.1		ug/L		102	70 - 130
Ethylene Dibromide	50.0	49.8		ug/L		100	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 130
Methylene bromide	50.0	46.4		ug/L		93	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	234		ug/L		117	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	50.8		ug/L		102	70 - 130
Naphthalene	50.0	50.7		ug/L		101	47 - 149
n-Butylbenzene	50.0	51.5		ug/L		103	67 - 130
N-Propylbenzene	50.0	51.7		ug/L		103	70 - 130
o-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
o-Xylene	50.0	50.2		ug/L		100	70 - 130
p-Chlorotoluene	50.0	50.6		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	52.0		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.1		ug/L		100	66 - 130
Styrene	50.0	47.6		ug/L		95	70 - 130
tert-Butylbenzene	50.0	49.5		ug/L		99	64 - 139
1,1,1,2-Tetrachloroethane	50.0	59.9		ug/L		120	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	70 - 131
Tetrachloroethene	50.0	49.6		ug/L		99	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	57.2		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.3		ug/L		97	60 - 138
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	50.4		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	41.4		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	48.2		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	44.7		ug/L		89	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Acrolein	ND		50	28	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Benzene	ND		5.0	0.67	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromoform	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloroform	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/14/19 18:53	07/14/19 20:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
2-Hexanone	ND		25	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methylene Chloride	ND		15	10	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Styrene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Toluene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/14/19 18:53	07/14/19 20:53	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/14/19 18:53	07/14/19 20:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447976/2-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447976

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/14/19 18:53	07/14/19 20:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 122	07/14/19 18:53	07/14/19 20:53	1
Dibromofluoromethane	99		79 - 123	07/14/19 18:53	07/14/19 20:53	1
Toluene-d8 (Surr)	102		80 - 120	07/14/19 18:53	07/14/19 20:53	1

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	224		ug/Kg		112	48 - 160
Acrolein	500	621		ug/Kg		124	40 - 150
Acrylonitrile	500	507		ug/Kg		101	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	48.2		ug/Kg		96	65 - 130
Bromochloromethane	50.0	46.4		ug/Kg		93	65 - 130
Bromodichloromethane	50.0	46.0		ug/Kg		92	61 - 130
Bromoform	50.0	45.5		ug/Kg		91	52 - 136
Bromomethane	50.0	26.5		ug/Kg		53	12 - 160
2-Butanone (MEK)	200	256		ug/Kg		128	55 - 130
Carbon disulfide	50.0	41.2		ug/Kg		82	46 - 141
Carbon tetrachloride	50.0	46.3		ug/Kg		93	60 - 130
Chlorobenzene	50.0	48.7		ug/Kg		97	70 - 130
Chloroethane	50.0	47.0		ug/Kg		94	55 - 134
2-Chloroethyl vinyl ether	50.0	29.8		ug/Kg		60	10 - 158
Chloroform	50.0	48.2		ug/Kg		96	62 - 130
1-Chlorohexane	50.0	45.8		ug/Kg		92	69 - 130
Chloromethane	50.0	49.3		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.9		ug/Kg		96	53 - 135
cis-1,3-Dichloropropene	50.0	47.6		ug/Kg		95	61 - 130
Dibromochloromethane	50.0	45.0		ug/Kg		90	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	44.2		ug/Kg		88	49 - 130
1,2-Dichlorobenzene	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichlorobenzene	50.0	48.9		ug/Kg		98	66 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/Kg		98	65 - 130
Dichlorodifluoromethane	50.0	50.7		ug/Kg		101	34 - 143
1,1-Dichloroethane	50.0	48.0		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.6		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	44.8		ug/Kg		90	55 - 137
1,2-Dichloropropane	50.0	50.3		ug/Kg		101	64 - 130
1,3-Dichloropropane	50.0	48.2		ug/Kg		96	67 - 130
2,2-Dichloropropane	50.0	44.1		ug/Kg		88	51 - 132
1,1-Dichloropropene	50.0	47.2		ug/Kg		94	65 - 130
Ethylbenzene	50.0	45.1		ug/Kg		90	70 - 130
Ethylene Dibromide	50.0	48.8		ug/Kg		98	67 - 130
Ethyl methacrylate	50.0	45.5		ug/Kg		91	62 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447976/1-A
Matrix: Solid
Analysis Batch: 447951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	57.1		ug/Kg		114	62 - 133
2-Hexanone	200	223		ug/Kg		111	57 - 131
Isopropylbenzene	50.0	44.5		ug/Kg		89	70 - 130
Methylene bromide	50.0	48.4		ug/Kg		97	65 - 130
Methylene Chloride	50.0	50.2		ug/Kg		100	57 - 132
4-Methyl-2-pentanone (MIBK)	200	195		ug/Kg		97	58 - 130
Methyl tert-butyl ether	50.0	44.4		ug/Kg		89	63 - 130
m-Xylene & p-Xylene	50.0	47.3		ug/Kg		95	70 - 130
Naphthalene	50.0	42.2		ug/Kg		84	45 - 144
n-Butylbenzene	50.0	48.9		ug/Kg		98	66 - 130
N-Propylbenzene	50.0	49.5		ug/Kg		99	67 - 130
o-Chlorotoluene	50.0	51.8		ug/Kg		104	67 - 130
o-Xylene	50.0	44.5		ug/Kg		89	70 - 130
p-Chlorotoluene	50.0	50.7		ug/Kg		101	66 - 130
p-Isopropyltoluene	50.0	49.2		ug/Kg		98	68 - 130
sec-Butylbenzene	50.0	48.9		ug/Kg		98	67 - 130
Styrene	50.0	43.9		ug/Kg		88	68 - 130
tert-Butylbenzene	50.0	46.8		ug/Kg		94	67 - 130
1,1,1,2-Tetrachloroethane	50.0	45.4		ug/Kg		91	65 - 130
1,1,2,2-Tetrachloroethane	50.0	55.0		ug/Kg		110	60 - 131
Tetrachloroethene	50.0	40.8		ug/Kg		82	67 - 130
Toluene	50.0	47.2		ug/Kg		94	70 - 130
trans-1,2-Dichloroethene	50.0	48.5		ug/Kg		97	58 - 134
trans-1,3-Dichloropropene	50.0	44.4		ug/Kg		89	60 - 130
1,2,3-Trichlorobenzene	50.0	49.0		ug/Kg		98	58 - 135
1,2,4-Trichlorobenzene	50.0	46.4		ug/Kg		93	56 - 138
1,1,1-Trichloroethane	50.0	46.2		ug/Kg		92	63 - 130
1,1,2-Trichloroethane	50.0	47.5		ug/Kg		95	65 - 130
Trichloroethene	50.0	48.7		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	46.0		ug/Kg		92	61 - 136
1,2,3-Trichloropropane	50.0	53.0		ug/Kg		106	60 - 130
1,2,4-Trimethylbenzene	50.0	51.3		ug/Kg		103	66 - 130
1,3,5-Trimethylbenzene	50.0	51.3		ug/Kg		103	67 - 130
Vinyl acetate	100	98.3		ug/Kg		98	24 - 160
Vinyl chloride	50.0	52.1		ug/Kg		104	52 - 132
Xylenes, Total	100	91.8		ug/Kg		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*99*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzenethiol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzoic acid	ND		990	350	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Benzyl alcohol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Bis(2-ethylhexyl) phthalate	44.5	J	330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chloroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Chlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dibenzofuran	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Diethyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
1,4-Dioxane	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Hexachloroethane	ND		330	100	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Indene	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Isophorone	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Methylphenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
3-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Nitroaniline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Nitrobenzene	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2-Nitrophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
4-Nitrophenol	ND		330	110	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Pentachlorophenol	ND		660	66	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Phenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		330	150	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
Quinoline	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/09/19 13:50	07/12/19 21:28	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/09/19 13:50*	*07/12/19 21:28*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*27 - 127*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Phenol-d5	*65*		*29 - 130*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
Terphenyl-d14	*65*		*24 - 146*	*07/09/19 13:50*	*07/12/19 21:28*	*1*
2,4,6-Tribromophenol	*55*		*10 - 150*	*07/09/19 13:50*	*07/12/19 21:28*	*1*

Lab Sample ID: LCS 400-447257/4-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	991		ug/Kg		50	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*62*		*27 - 127*
2-Fluorophenol	*65*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*69*		*29 - 130*
Terphenyl-d14	*75*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1620		ug/Kg		81	36 - 120
Benzoic acid	7770	4880		ug/Kg		63	10 - 139
Benzyl alcohol	2000	1590		ug/Kg		80	10 - 127
Bis(2-chloroethoxy)methane	2000	1290		ug/Kg		64	52 - 120
Bis(2-chloroethyl)ether	2000	1190		ug/Kg		60	50 - 120
bis (2-chloroisopropyl) ether	2000	1420		ug/Kg		71	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1560		ug/Kg		78	58 - 158
4-Bromophenyl phenyl ether	2000	1450		ug/Kg		72	51 - 120
Butyl benzyl phthalate	2000	1500		ug/Kg		75	58 - 126
4-Chloroaniline	2000	1320		ug/Kg		66	34 - 120
4-Chloro-3-methylphenol	2000	1710		ug/Kg		85	57 - 124
2-Chloronaphthalene	2000	1430		ug/Kg		72	55 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447257/6-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	2000	1510		ug/Kg		75	52 - 120
4-Chlorophenyl phenyl ether	2000	1480		ug/Kg		74	56 - 120
Dibenz[a,h]acridine	2000	1260		ug/Kg		63	51 - 135
Dibenzofuran	2000	1440		ug/Kg		72	58 - 120
3,3'-Dichlorobenzidine	2670	2760		ug/Kg		104	42 - 120
2,4-Dichlorophenol	2000	1600		ug/Kg		80	56 - 120
Diethyl phthalate	2000	1480		ug/Kg		74	56 - 128
2,4-Dimethylphenol	2000	1590		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1470		ug/Kg		73	58 - 120
Di-n-butyl phthalate	2000	1650		ug/Kg		82	64 - 122
4,6-Dinitro-ortho-cresol	4000	3230		ug/Kg		81	35 - 135
2,4-Dinitrophenol	4000	3250		ug/Kg		81	10 - 138
2,4-Dinitrotoluene	2000	1580		ug/Kg		79	59 - 133
2,6-Dinitrotoluene	2000	1550		ug/Kg		77	57 - 123
Di-n-octyl phthalate	2000	1540		ug/Kg		77	57 - 137
1,4-Dioxane	2000	973		ug/Kg		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1390		ug/Kg		69	50 - 120
Hexachlorobenzene	2000	1480		ug/Kg		74	49 - 127
Hexachlorocyclopentadiene	2000	1670		ug/Kg		84	10 - 140
Hexachloroethane	2000	1430		ug/Kg		71	45 - 120
Indene	2000	1550		ug/Kg		77	45 - 120
Isophorone	2000	1450		ug/Kg		72	50 - 120
2-Methylphenol	2000	1540		ug/Kg		77	51 - 123
3 & 4 Methylphenol	2000	1480		ug/Kg		74	47 - 123
2-Nitroaniline	2000	1710		ug/Kg		86	55 - 129
3-Nitroaniline	2000	1700		ug/Kg		85	45 - 120
4-Nitroaniline	2000	1780		ug/Kg		89	52 - 126
Nitrobenzene	2000	1470		ug/Kg		74	50 - 120
2-Nitrophenol	2000	1590		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2880		ug/Kg		72	38 - 133
N-Nitrosodimethylamine	2000	1450		ug/Kg		73	35 - 120
N-Nitrosodi-n-propylamine	2000	1460		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1440		ug/Kg		72	54 - 120
Pentachlorophenol	4000	3400		ug/Kg		85	32 - 131
Phenol	2000	1460		ug/Kg		73	51 - 120
Pyridine	4000	2460		ug/Kg		61	29 - 120
Quinoline	2000	1460		ug/Kg		73	10 - 150
2,4,5-Trichlorophenol	2000	1590		ug/Kg		79	53 - 133
2,4,6-Trichlorophenol	2000	1590		ug/Kg		79	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*67*		*25 - 128*
Nitrobenzene-d5	*79*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*69*		*24 - 146*
2,4,6-Tribromophenol	*76*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447257/5-A
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	1110		ug/Kg		55	10 - 120	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*27 - 127*
2-Fluorophenol	*66*		*25 - 128*
Nitrobenzene-d5	*72*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*72*		*24 - 146*
2,4,6-Tribromophenol	*64*		*10 - 150*

Lab Sample ID: 400-172672-2 MS
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: PD-11-SB-45-070219
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2280	1760		ug/Kg	☼	77	40 - 140
Benzoic acid	ND		8860	ND		ug/Kg	☼	0	40 - 140
Benzyl alcohol	200	J	2280	1680		ug/Kg	☼	65	40 - 140
Bis(2-chloroethoxy)methane	ND		2280	1410		ug/Kg	☼	62	40 - 140
Bis(2-chloroethyl)ether	ND		2280	1340		ug/Kg	☼	59	40 - 140
bis (2-chloroisopropyl) ether	ND		2280	1450		ug/Kg	☼	64	40 - 140
Bis(2-ethylhexyl) phthalate	70	J B	2280	1720		ug/Kg	☼	72	40 - 140
4-Bromophenyl phenyl ether	ND		2280	1590		ug/Kg	☼	70	40 - 140
Butyl benzyl phthalate	ND		2280	1630		ug/Kg	☼	72	40 - 140
4-Chloroaniline	ND		2280	1580		ug/Kg	☼	69	40 - 140
4-Chloro-3-methylphenol	ND		2280	1830		ug/Kg	☼	80	40 - 140
2-Chloronaphthalene	ND		2280	1540		ug/Kg	☼	68	40 - 140
2-Chlorophenol	ND		2280	1560		ug/Kg	☼	68	40 - 140
4-Chlorophenyl phenyl ether	ND		2280	1600		ug/Kg	☼	70	40 - 140
Dibenz[a,h]acridine	ND		2280	1430		ug/Kg	☼	63	40 - 140
Dibenzofuran	ND		2280	1600		ug/Kg	☼	70	40 - 140
3,3'-Dichlorobenzidine	ND		3040	3230		ug/Kg	☼	106	40 - 140
2,4-Dichlorophenol	ND		2280	1860		ug/Kg	☼	81	40 - 140
Diethyl phthalate	ND		2280	1630		ug/Kg	☼	71	40 - 140
2,4-Dimethylphenol	ND		2280	1730		ug/Kg	☼	76	40 - 140
Dimethyl phthalate	ND		2280	1550		ug/Kg	☼	68	40 - 140
Di-n-butyl phthalate	ND		2280	1830		ug/Kg	☼	80	40 - 140
4,6-Dinitro-ortho-cresol	ND		4560	1560		ug/Kg	☼	34	40 - 140
2,4-Dinitrophenol	ND		4560	466	J	ug/Kg	☼	10	40 - 140
2,4-Dinitrotoluene	ND		2280	1740		ug/Kg	☼	76	40 - 140
2,6-Dinitrotoluene	ND		2280	1620		ug/Kg	☼	71	40 - 140
Di-n-octyl phthalate	ND		2280	1690		ug/Kg	☼	74	40 - 140
1,4-Dioxane	ND		2280	995		ug/Kg	☼	44	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2280	1490		ug/Kg	☼	65	40 - 140
Hexachlorobenzene	ND		2280	1660		ug/Kg	☼	73	40 - 140
Hexachlorocyclopentadiene	ND		2280	1170		ug/Kg	☼	51	40 - 140
Hexachloroethane	ND		2280	1400		ug/Kg	☼	61	40 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172672-2 MS
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: PD-11-SB-45-070219
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	ND		2280	1480		ug/Kg	☼	65	40 - 140
Isophorone	ND		2280	1630		ug/Kg	☼	72	40 - 140
2-Methylphenol	ND		2280	1630		ug/Kg	☼	72	40 - 140
3 & 4 Methylphenol	ND		2280	1600		ug/Kg	☼	70	40 - 140
2-Nitroaniline	ND		2280	1800		ug/Kg	☼	79	40 - 140
3-Nitroaniline	ND		2280	1790		ug/Kg	☼	78	40 - 140
4-Nitroaniline	ND		2280	1960		ug/Kg	☼	86	40 - 140
Nitrobenzene	ND		2280	1600		ug/Kg	☼	70	40 - 140
2-Nitrophenol	ND		2280	1690		ug/Kg	☼	74	40 - 140
4-Nitrophenol	ND		4560	2720		ug/Kg	☼	60	40 - 140
N-Nitrosodimethylamine	ND		2280	1590		ug/Kg	☼	70	40 - 140
N-Nitrosodi-n-propylamine	ND		2280	1570		ug/Kg	☼	69	40 - 140
N-Nitrosodiphenylamine	ND		2260	1710		ug/Kg	☼	75	40 - 140
Pentachlorophenol	ND		4560	3610		ug/Kg	☼	79	40 - 140
Phenol	670		2280	2120		ug/Kg	☼	64	40 - 140
Pyridine	ND		4560	2710		ug/Kg	☼	59	40 - 140
Quinoline	ND		2280	1590		ug/Kg	☼	69	40 - 140
2,4,5-Trichlorophenol	ND		2280	1680		ug/Kg	☼	74	40 - 140
2,4,6-Trichlorophenol	ND		2280	1680		ug/Kg	☼	74	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*75*		*15 - 136*
Phenol-d5	*66*		*29 - 130*
Terphenyl-d14	*68*		*24 - 146*
2,4,6-Tribromophenol	*75*		*10 - 150*

Lab Sample ID: 400-172672-2 MSD
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: PD-11-SB-45-070219
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2300	1630		ug/Kg	☼	71	40 - 140	8	30
Benzoic acid	ND		8950	ND		ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	200	J	2300	1530		ug/Kg	☼	58	40 - 140	10	30
Bis(2-chloroethoxy)methane	ND		2300	1320		ug/Kg	☼	57	40 - 140	6	30
Bis(2-chloroethyl)ether	ND		2300	1210		ug/Kg	☼	52	40 - 140	11	30
bis (2-chloroisopropyl) ether	ND		2300	1330		ug/Kg	☼	58	40 - 140	9	30
Bis(2-ethylhexyl) phthalate	70	J B	2300	1760		ug/Kg	☼	73	40 - 140	2	30
4-Bromophenyl phenyl ether	ND		2300	1610		ug/Kg	☼	70	40 - 140	2	30
Butyl benzyl phthalate	ND		2300	1660		ug/Kg	☼	72	40 - 140	1	30
4-Chloroaniline	ND		2300	1600		ug/Kg	☼	69	40 - 140	1	30
4-Chloro-3-methylphenol	ND		2300	1810		ug/Kg	☼	78	40 - 140	1	30
2-Chloronaphthalene	ND		2300	1550		ug/Kg	☼	67	40 - 140	1	30
2-Chlorophenol	ND		2300	1420		ug/Kg	☼	62	40 - 140	9	30
4-Chlorophenyl phenyl ether	ND		2300	1630		ug/Kg	☼	71	40 - 140	2	30
Dibenz[a,h]acridine	ND		2300	1570		ug/Kg	☼	68	40 - 140	9	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172672-2 MSD
Matrix: Solid
Analysis Batch: 447770

Client Sample ID: PD-11-SB-45-070219
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenzofuran	ND		2300	1620		ug/Kg	☼	70	40 - 140	1	30
3,3'-Dichlorobenzidine	ND		3070	3350		ug/Kg	☼	109	40 - 140	4	30
2,4-Dichlorophenol	ND		2300	1710		ug/Kg	☼	74	40 - 140	8	30
Diethyl phthalate	ND		2300	1640		ug/Kg	☼	71	40 - 140	1	30
2,4-Dimethylphenol	ND		2300	1700		ug/Kg	☼	74	40 - 140	2	30
Dimethyl phthalate	ND		2300	1570		ug/Kg	☼	68	40 - 140	1	30
Di-n-butyl phthalate	ND		2300	1860		ug/Kg	☼	81	40 - 140	1	30
4,6-Dinitro-ortho-cresol	ND		4610	1420		ug/Kg	☼	31	40 - 140	10	30
2,4-Dinitrophenol	ND		4610	411	J	ug/Kg	☼	9	40 - 140	13	30
2,4-Dinitrotoluene	ND		2300	1770		ug/Kg	☼	77	40 - 140	2	30
2,6-Dinitrotoluene	ND		2300	1670		ug/Kg	☼	72	40 - 140	3	30
Di-n-octyl phthalate	ND		2300	1760		ug/Kg	☼	76	40 - 140	4	30
1,4-Dioxane	ND		2300	577		ug/Kg	☼	25	40 - 140	53	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2300	1550		ug/Kg	☼	67	40 - 140	4	30
Hexachlorobenzene	ND		2300	1700		ug/Kg	☼	74	40 - 140	3	30
Hexachlorocyclopentadiene	ND		2300	1090		ug/Kg	☼	47	40 - 140	7	30
Hexachloroethane	ND		2300	1270		ug/Kg	☼	55	40 - 140	10	30
Indene	ND		2300	1370		ug/Kg	☼	59	40 - 140	8	30
Isophorone	ND		2300	1580		ug/Kg	☼	68	40 - 140	4	30
2-Methylphenol	ND		2300	1580		ug/Kg	☼	69	40 - 140	3	30
3 & 4 Methylphenol	ND		2300	1550		ug/Kg	☼	67	40 - 140	3	30
2-Nitroaniline	ND		2300	1840		ug/Kg	☼	80	40 - 140	3	30
3-Nitroaniline	ND		2300	1850		ug/Kg	☼	80	40 - 140	4	30
4-Nitroaniline	ND		2300	2040		ug/Kg	☼	88	40 - 140	4	30
Nitrobenzene	ND		2300	1490		ug/Kg	☼	65	40 - 140	7	30
2-Nitrophenol	ND		2300	1580		ug/Kg	☼	69	40 - 140	7	30
4-Nitrophenol	ND		4610	2960		ug/Kg	☼	64	40 - 140	8	30
N-Nitrosodimethylamine	ND		2300	1340		ug/Kg	☼	58	40 - 140	17	30
N-Nitrosodi-n-propylamine	ND		2300	1470		ug/Kg	☼	64	40 - 140	6	30
N-Nitrosodiphenylamine	ND		2290	1840		ug/Kg	☼	81	40 - 140	8	30
Pentachlorophenol	ND		4610	3700		ug/Kg	☼	80	40 - 140	2	30
Phenol	670		2300	1920		ug/Kg	☼	54	40 - 140	10	30
Pyridine	ND		4610	2450		ug/Kg	☼	53	40 - 140	10	30
Quinoline	ND		2300	1580		ug/Kg	☼	69	40 - 140	0	30
2,4,5-Trichlorophenol	ND		2300	1680		ug/Kg	☼	73	40 - 140	0	30
2,4,6-Trichlorophenol	ND		2300	1650		ug/Kg	☼	71	40 - 140	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*27 - 127*
2-Fluorophenol	*56*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*61*		*29 - 130*
Terphenyl-d14	*68*		*24 - 146*
2,4,6-Tribromophenol	*77*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172672-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447257/1-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447257

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Chrysene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Fluorene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
1-Methylnaphthalene	1.84	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
2-Methylnaphthalene	3.31	J	6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1
Pyrene	ND		6.6	1.0	ug/Kg		07/09/19 13:50	07/16/19 13:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*27 - 127*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Nitrobenzene-d5	*70*		*15 - 136*	*07/09/19 13:50*	*07/16/19 13:30*	*1*
Terphenyl-d14	*114*		*24 - 146*	*07/09/19 13:50*	*07/16/19 13:30*	*1*

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	320		ug/Kg		96	57 - 120
Acenaphthylene	333	315		ug/Kg		94	59 - 120
Anthracene	333	321		ug/Kg		96	61 - 120
Benzo[a]anthracene	333	291		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	320		ug/Kg		96	54 - 127
Benzo[b]fluoranthene	333	334		ug/Kg		100	35 - 146
Benzo[g,h,i]perylene	333	308		ug/Kg		92	36 - 150
Benzo[k]fluoranthene	333	305		ug/Kg		92	53 - 139
Chrysene	333	289		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	315		ug/Kg		94	39 - 150
Fluoranthene	333	295		ug/Kg		89	61 - 121
Fluorene	333	336		ug/Kg		101	60 - 120
Indeno[1,2,3-cd]pyrene	333	308		ug/Kg		93	40 - 150
1-Methylnaphthalene	333	339		ug/Kg		102	46 - 120
2-Methylnaphthalene	333	339		ug/Kg		102	46 - 120
Phenanthrene	333	297		ug/Kg		89	59 - 120
Pyrene	333	326		ug/Kg		98	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447257/2-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447257

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	68		15 - 136
Terphenyl-d14	104		24 - 146

Lab Sample ID: LCSD 400-447257/3-A
Matrix: Solid
Analysis Batch: 448173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447257

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	321		ug/Kg		96	57 - 120	0	30
Acenaphthylene			333	313		ug/Kg		94	59 - 120	1	30
Anthracene			333	327		ug/Kg		98	61 - 120	2	30
Benzo[a]anthracene			333	305		ug/Kg		92	61 - 120	5	30
Benzo[a]pyrene			333	334		ug/Kg		100	54 - 127	4	30
Benzo[b]fluoranthene			333	343		ug/Kg		103	35 - 146	3	30
Benzo[g,h,i]perylene			333	325		ug/Kg		98	36 - 150	6	30
Benzo[k]fluoranthene			333	323		ug/Kg		97	53 - 139	6	30
Chrysene			333	302		ug/Kg		90	60 - 120	4	30
Dibenz(a,h)anthracene			333	336		ug/Kg		101	39 - 150	6	30
Fluoranthene			333	307		ug/Kg		92	61 - 121	4	30
Fluorene			333	334		ug/Kg		100	60 - 120	1	30
Indeno[1,2,3-cd]pyrene			333	330		ug/Kg		99	40 - 150	7	30
1-Methylnaphthalene			333	302		ug/Kg		91	46 - 120	11	30
2-Methylnaphthalene			333	329		ug/Kg		99	46 - 120	3	30
Phenanthrene			333	307		ug/Kg		92	59 - 120	3	30
Pyrene			333	322		ug/Kg		96	53 - 122	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	85		27 - 127
Nitrobenzene-d5	69		15 - 136
Terphenyl-d14	105		24 - 146

Shell Oil Products US Chain Of Custody Record

LAB (LOCATION)
☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (Pensacola)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐SGW FDG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☐OTHER

Print Bill To Contact Name: James Carrino
PO #: 60592794.1.24.051 | 60592794 - 1.24.050
PlaNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02
☐CHEC
DA 400-172672 COC
PAGE: 1 of 1

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL
AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH; Moisture
NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-070219-A	7/2/2019	0:00	Water	X					2			X		
	PD-11-SB-45-070219	7/2/2019	9:15	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-11-SB-57-070219	7/2/2019	11:30	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-11-SB-61-070219	7/2/2019	14:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	Fedex: 4759 5526 5919 4759 5526 5920	7/2/2019	18:00
	0.5°C IR-7	7-3-19	0928

Version: 10May17

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172672-1

Login Number: 172672
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.5°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172672-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172763

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/23/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070819-A	PD-12-SB-52-070819
PD-12-SB-55-070819	PD-12-SB-59-070819

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated VOC and SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-12-SB-52-070819. SVOC LCS recovery for 3,3'dichlorobenzidine was outside evaluation criteria. These issues are addressed further in sections 5.0 and 7.0 of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS Recovery	LCS Criteria
400-447364/7-A	SVOCs	3,3'-Dichlorobenzidine	**146**	42-120

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-12-SB-52-070819 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-12-SB-52-070819	VOCs	Benzene	**34**/41	2	38-131/36
PD-12-SB-52-070819	SVOCs	Benzoic acid	**9**/**9**	2	40-140/30
PD-12-SB-52-070819	SVOCs	3,3'-Dichlorobenzidine	**148**/**151**	2	40-140/30
PD-12-SB-52-070819	SVOCs	2,4-Dinitrophenol	**19**/**26**	**35**	40-140/30
PD-12-SB-52-070819	SVOCs	Hexachlorocyclopentadiene	**15**/**29**	**65**	40-140/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-12-SB-52-070819	VOCs	Benzene	**J**
PD-12-SB-52-070819	SVOCs	Benzoic acid	**UJ**
PD-12-SB-52-070819	SVOCs	2,4-Dinitrophenol	**UJ**
PD-12-SB-52-070819	SVOCs	Hexachlorocyclopentadiene	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172763-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/23/2019 4:19:55 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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Reviewed on 7/23/2019

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Job ID: 400-172763-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172763-1

Comments
No additional comments.

Receipt
The samples were received on 7/9/2019 8:53 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

GC/MS VOA
Method(s) 8260B: The matrix spike (MS) recovery for preparation batch 400-448198 and analytical batch 400-448153 was outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-12-SB-52-070819 (400-172763-2), PD-12-SB-55-070819 (400-172763-3) and PD-12-SB-59-070819 (400-172763-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070819-A (400-172763-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-447364 and analytical batch 400-447440 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447440 recovered above the upper control limit for Hexachloroethane, Di-n-butyl phthalate, 4,6-Dinitro-2-methylphenol, 4-Chloro-3-methylphenol and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-447364 and analytical batch 400-447440 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-447364 and analytical batch 400-447440 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447440 recovered outside acceptance criteria, low biased, for 3-Nitroaniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Job ID: 400-172763-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172763-1	TB-PW-070819-A	Water	07/08/19 00:00	07/09/19 08:53	
400-172763-2	PD-12-SB-52-070819	Solid	07/08/19 11:10	07/09/19 08:53	
400-172763-3	PD-12-SB-55-070819	Solid	07/08/19 11:15	07/09/19 08:53	
400-172763-4	PD-12-SB-59-070819	Solid	07/08/19 11:50	07/09/19 08:53	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A — Lab Sample ID: 400-172763-1

No Detections.

Client Sample ID: PD-12-SB-52-070819 — Lab Sample ID: 400-172763-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	11000	F1	370	50	ug/Kg	50	☼	8260B	Total/NA
Benzo[a]anthracene	3.4	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	3.4	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	4.8	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	5.0	J	8.4	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	4.0	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	2.5	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	4.4	J	8.4	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.2	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	4.1	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.6	J	8.4	2.6	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	75		8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	69		8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	2.4	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	78	J	420	42	ug/Kg	1	☼	8270D	Total/NA
Butyl benzyl phthalate	62	J	420	42	ug/Kg	1	☼	8270D	Total/NA
Phenol	160	J	420	42	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-12-SB-55-070819 — Lab Sample ID: 400-172763-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	79000		1900	260	ug/Kg	250	☼	8260B	Total/NA
Ethylbenzene	5100		1900	230	ug/Kg	250	☼	8260B	Total/NA
Isopropylbenzene	290	J	1900	260	ug/Kg	250	☼	8260B	Total/NA
m-Xylene & p-Xylene	14000		1900	500	ug/Kg	250	☼	8260B	Total/NA
N-Propylbenzene	1300	J	1900	340	ug/Kg	250	☼	8260B	Total/NA
o-Xylene	4600		1900	380	ug/Kg	250	☼	8260B	Total/NA
Toluene	1500	J	1900	380	ug/Kg	250	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	6400		1900	380	ug/Kg	250	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	2300		1900	320	ug/Kg	250	☼	8260B	Total/NA
Xylenes, Total	18000		3800	720	ug/Kg	250	☼	8260B	Total/NA
Fluoranthene	3.2	J	9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	30		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	730		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	1400		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	52		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	5.8	J	9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	70	J	480	48	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-12-SB-59-070819 — Lab Sample ID: 400-172763-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	510		260	35	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	58	J	260	32	ug/Kg	50	☼	8260B	Total/NA
m-Xylene & p-Xylene	180	J	260	69	ug/Kg	50	☼	8260B	Total/NA
N-Propylbenzene	52	J	260	48	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	78	J	260	53	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	220	J	530	100	ug/Kg	50	☼	8260B	Total/NA
1-Methylnaphthalene	37		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

7/23/2019

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819 (Continued)

Lab Sample ID: 400-172763-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	45		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	59	J	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	45	J	390	39	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 16:33	1
Acrolein	ND		20	10	ug/L			07/12/19 16:33	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 16:33	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 16:33	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 16:33	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 16:33	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 16:33	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 16:33	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 16:33	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 16:33	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 16:33	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 16:33	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 16:33	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 16:33	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:33	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 16:33	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 16:33	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 16:33	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 16:33	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 16:33	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 16:33	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 16:33	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 16:33	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 16:33	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 16:33	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 16:33	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 16:33	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 16:33	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 16:33	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 16:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 16:33	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 16:33	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 16:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 16:33	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 16:33	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 16:33	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 16:33	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 16:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 16:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 16:33	1
Toluene	ND		1.0	0.41	ug/L			07/15/19 12:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 16:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 16:33	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 16:33	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 16:33	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 16:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 16:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 16:33	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 16:33	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 16:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*11*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 16:33*	*1*
Cyclotrisiloxane, hexamethyl-	*7.5*	*T J N*	*ug/L*		*6.16*	*541-05-9*		*07/12/19 16:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/12/19 16:33*	*1*
4-Bromofluorobenzene	*104*		*78 - 118*		*07/15/19 12:31*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 16:33*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*07/15/19 12:31*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 16:33*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/15/19 12:31*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2
Matrix: Solid
Percent Solids: 78.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1900	960	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Acrolein	ND		3700	2100	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Acrylonitrile	ND		1500	590	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Benzene	**11000**	**F1**	370	50	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromobenzene	ND		370	96	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromochloromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromodichloromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromoform	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromomethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2-Butanone (MEK)	ND		1900	440	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Carbon disulfide	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Carbon tetrachloride	ND		370	130	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chlorobenzene	ND		370	39	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2-Chloroethyl vinyl ether	ND		740	370	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chloroform	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1-Chlorohexane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chloromethane	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
cis-1,2-Dichloroethene	ND		370	56	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
cis-1,3-Dichloropropene	ND		370	89	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Dibromochloromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dibromo-3-Chloropropane	ND		370	240	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dichlorobenzene	ND		370	53	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,3-Dichlorobenzene	ND		370	70	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,4-Dichlorobenzene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Dichlorodifluoromethane	ND		370	96	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1-Dichloroethane	ND		370	62	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dichloroethane	ND		370	61	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1-Dichloroethene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dichloropropane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,3-Dichloropropane	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2,2-Dichloropropane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1-Dichloropropene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Ethylbenzene	ND		370	45	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Ethylene Dibromide	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Ethyl methacrylate	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Hexachlorobutadiene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2-Hexanone	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Isopropylbenzene	ND		370	50	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Methylene bromide	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Methylene Chloride	ND		1100	740	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
4-Methyl-2-pentanone (MIBK)	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Methyl tert-butyl ether	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
m-Xylene & p-Xylene	ND		370	96	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Naphthalene	ND		370	150	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
n-Butylbenzene	ND		370	71	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
N-Propylbenzene	ND		370	67	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
o-Chlorotoluene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
o-Xylene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2
Matrix: Solid
Percent Solids: 78.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		370	73	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
p-Isopropyltoluene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
sec-Butylbenzene	ND		370	70	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Styrene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
tert-Butylbenzene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,1,2-Tetrachloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,2,2-Tetrachloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Tetrachloroethene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Toluene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
trans-1,2-Dichloroethene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
trans-1,3-Dichloropropene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,3-Trichlorobenzene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,4-Trichlorobenzene	ND		370	150	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,1-Trichloroethane	ND		370	82	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,2-Trichloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Trichloroethene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Trichlorofluoromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,3-Trichloropropane	ND		370	220	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,4-Trimethylbenzene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,3,5-Trimethylbenzene	ND		370	62	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Vinyl acetate	ND		1900	670	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Vinyl chloride	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Xylenes, Total	ND		740	140	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*890*	*T J N*	*ug/Kg*	☼	*1.81*	*78-78-4*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Ethanol	*5500*	*J*	*ug/Kg*	☼	*2.12*	*64-17-5*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Pentane, 3-methyl-	*660*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Cyclopentane, methyl-	*410*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Cyclohexane	*220*	*J*	*ug/Kg*	☼	*3.72*	*110-82-7*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Isooctane	*130*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/16/19 08:43*	*07/16/19 13:19*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Dibromofluoromethane	*84*		*79 - 123*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Toluene-d8 (Surr)	*103*		*80 - 120*	*07/16/19 08:43*	*07/16/19 13:19*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Acenaphthylene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Anthracene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[a]anthracene	**3.4**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[a]pyrene	**3.4**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[b]fluoranthene	**4.8**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[g,h,i]perylene	**5.0**	**J**	8.4	2.6	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[k]fluoranthene	**4.0**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Chrysene	**2.5**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Dibenz(a,h)anthracene	**4.4**	**J**	8.4	2.6	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Fluoranthene	**2.2**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-52-070819

Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2

Matrix: Solid
Percent Solids: 78.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	4.1	J	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Indeno[1,2,3-cd]pyrene	4.6	J	8.4	2.6	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
1-Methylnaphthalene	75		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
2-Methylnaphthalene	69		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Phenanthrene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Pyrene	2.4	J	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*27 - 127*	*07/10/19 09:38*	*07/18/19 19:50*	*1*
Nitrobenzene-d5	*57*		*15 - 136*	*07/10/19 09:38*	*07/18/19 19:50*	*1*
Terphenyl-d14	*82*		*24 - 146*	*07/10/19 09:38*	*07/18/19 19:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		420	55	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Benzenethiol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Benzoic acid	ND	F1 UJ	1300	450	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Bis(2-chloroethoxy)methane	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
bis (2-chloroisopropyl) ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Bis(2-ethylhexyl) phthalate	78	J	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Bromophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Butyl benzyl phthalate	62	J	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Chloroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Chloro-3-methylphenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Chloronaphthalene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Chlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Chlorophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Dibenz[a,h]acridine	ND		420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Dibenzofuran	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
3,3'-Dichlorobenzidine	ND	F1 *	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dichlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Diethyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dimethylphenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Dimethyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Di-n-butyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dinitrophenol	ND	F2 F1 UJ	1300	370	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,6-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
1,4-Dioxane	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Hexachlorobenzene	ND		420	130	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Hexachlorocyclopentadiene	ND	F2 F1 UJ	420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Hexachloroethane	ND		420	130	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Indene	ND		420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Isophorone	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2
Matrix: Solid
Percent Solids: 78.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
3 & 4 Methylphenol	ND		840	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Nitroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
3-Nitroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Nitrobenzene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Nitrophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
N-Nitrosodimethylamine	ND		420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
N-Nitrosodi-n-propylamine	ND		420	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
N-Nitrosodiphenylamine	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Pentachlorophenol	ND		840	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Phenol	**160**	**J**	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Pyridine	ND		420	190	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Quinoline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4,5-Trichlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4,6-Trichlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1200*	*T J*	*ug/Kg*	☼	*4.50*		*07/10/19 09:38*	*07/10/19 20:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*27 - 127*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Nitrobenzene-d5	*61*		*15 - 136*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Phenol-d5	*64*		*29 - 130*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Terphenyl-d14	*67*		*24 - 146*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
2,4,6-Tribromophenol	*62*		*10 - 150*	*07/10/19 09:38*	*07/10/19 20:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**78.3**		0.01	0.01	%			07/10/19 15:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		9500	5000	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Acrolein	ND		19000	11000	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Acrylonitrile	ND		7600	3100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Benzene	**79000**		1900	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromobenzene	ND		1900	500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromochloromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromodichloromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromoform	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromomethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2-Butanone (MEK)	ND		9500	2300	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Carbon disulfide	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Carbon tetrachloride	ND		1900	650	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chlorobenzene	ND		1900	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2-Chloroethyl vinyl ether	ND		3800	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chloroform	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1-Chlorohexane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chloromethane	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
cis-1,2-Dichloroethene	ND		1900	290	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
cis-1,3-Dichloropropene	ND		1900	460	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Dibromochloromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dibromo-3-Chloropropane	ND		1900	1300	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dichlorobenzene	ND		1900	270	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,3-Dichlorobenzene	ND		1900	360	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,4-Dichlorobenzene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Dichlorodifluoromethane	ND		1900	500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1-Dichloroethane	ND		1900	320	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dichloroethane	ND		1900	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1-Dichloroethene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dichloropropane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,3-Dichloropropane	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2,2-Dichloropropane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1-Dichloropropene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Ethylbenzene	**5100**		1900	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Ethylene Dibromide	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Ethyl methacrylate	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Hexachlorobutadiene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2-Hexanone	ND		9500	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Isopropylbenzene	**290**	**J**	1900	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Methylene bromide	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Methylene Chloride	ND		5700	3800	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
4-Methyl-2-pentanone (MIBK)	ND		9500	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Methyl tert-butyl ether	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
m-Xylene & p-Xylene	**14000**		1900	500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Naphthalene	ND		1900	760	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
n-Butylbenzene	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
N-Propylbenzene	**1300**	**J**	1900	340	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
o-Chlorotoluene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
o-Xylene	**4600**		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
p-Isopropyltoluene	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
sec-Butylbenzene	ND		1900	360	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Styrene	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
tert-Butylbenzene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,1,2-Tetrachloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,2,2-Tetrachloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Tetrachloroethene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Toluene	**1500**	**J**	1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
trans-1,2-Dichloroethene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
trans-1,3-Dichloropropene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,3-Trichlorobenzene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,4-Trichlorobenzene	ND		1900	760	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,1-Trichloroethane	ND		1900	420	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,2-Trichloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Trichloroethene	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Trichlorofluoromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,3-Trichloropropane	ND		1900	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,4-Trimethylbenzene	**6400**		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,3,5-Trimethylbenzene	**2300**		1900	320	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Vinyl acetate	ND		9500	3500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Vinyl chloride	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Xylenes, Total	**18000**		3800	720	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*4400*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Pentane	*6800*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Pentane, 3-methyl-	*6400*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Hexane	*13000*		*ug/Kg*	☼	*2.93*	*110-54-3*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Cyclopentane, methyl-	*9600*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Cyclohexane	*4400*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Hexane, 3-methyl-	*5400*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Isooctane	*1400*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
n-Heptane	*7600*		*ug/Kg*	☼	*4.04*	*142-82-5*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Methylcyclohexane	*5600*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Heptane, 2-methyl-	*5900*	*T J N*	*ug/Kg*	☼	*4.80*	*592-27-8*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Heptane, 3-methyl-	*5000*	*T J N*	*ug/Kg*	☼	*4.90*	*589-81-1*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Octane	*7900*	*T J N*	*ug/Kg*	☼	*5.18*	*111-65-9*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
3-Ethyltoluene	*5300*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
2-Ethyltoluene	*1200*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
1,2,3-Trimethylbenzene	*1400*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
p-Diethylbenzene	*1400*	*J*	*ug/Kg*	☼	*8.10*	*105-05-5*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Benzene, 1-methyl-2-(1-methylethyl)-	*1900*	*T J N*	*ug/Kg*	☼	*8.35*	*527-84-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*72 - 122*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Dibromofluoromethane	*86*		*79 - 123*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Toluene-d8 (Surr)	*103*		*80 - 120*	*07/16/19 08:43*	*07/16/19 18:33*	*250*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819

Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3

Matrix: Solid
Percent Solids: 68.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Acenaphthylene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Anthracene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[a]anthracene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[a]pyrene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[b]fluoranthene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[g,h,i]perylene	ND		9.5	2.9	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[k]fluoranthene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Chrysene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Dibenz(a,h)anthracene	ND		9.5	2.9	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Fluoranthene	**3.2**	**J**	9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Fluorene	**30**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Indeno[1,2,3-cd]pyrene	ND		9.5	2.9	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
1-Methylnaphthalene	**730**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
2-Methylnaphthalene	**1400**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Phenanthrene	**52**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Pyrene	**5.8**	**J**	9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*27 - 127*	*07/10/19 09:38*	*07/18/19 20:05*	*1*
Nitrobenzene-d5	*51*		*15 - 136*	*07/10/19 09:38*	*07/18/19 20:05*	*1*
Terphenyl-d14	*97*		*24 - 146*	*07/10/19 09:38*	*07/18/19 20:05*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		480	62	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Benzenethiol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Benzoic acid	ND		1400	510	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Benzyl alcohol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Bis(2-chloroethoxy)methane	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Bis(2-chloroethyl)ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
bis (2-chloroisopropyl) ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Bis(2-ethylhexyl) phthalate	**70**	**J**	480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Bromophenyl phenyl ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Butyl benzyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Chloroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Chloro-3-methylphenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Chloronaphthalene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Chlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Chlorophenyl phenyl ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Dibenz[a,h]acridine	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Dibenzofuran	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
3,3'-Dichlorobenzidine	ND	*	480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4-Dichlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Diethyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4-Dimethylphenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Dimethyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Di-n-butyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4,6-Dinitro-ortho-cresol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4-Dinitrophenol	ND		1400	420	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,6-Dinitrotoluene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Di-n-octyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
1,4-Dioxane	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Hexachlorobenzene	ND		480	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Hexachlorocyclopentadiene	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Hexachloroethane	ND		480	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Indene	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Isophorone	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Methylphenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
3 & 4 Methylphenol	ND		950	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Nitroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
3-Nitroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Nitroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Nitrobenzene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Nitrophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Nitrophenol	ND		480	160	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
N-Nitrosodimethylamine	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
N-Nitrosodi-n-propylamine	ND		480	160	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
N-Nitrosodiphenylamine	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Pentachlorophenol	ND		950	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Phenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Pyridine	ND		480	220	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Quinoline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4,5-Trichlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4,6-Trichlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*5900*	*T J N*	*ug/Kg*	☼	*4.68*	*100-41-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*2600*	*T J*	*ug/Kg*	☼	*5.28*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-ethyl-3-methyl-	*5400*	*T J N*	*ug/Kg*	☼	*5.31*	*620-14-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,3,5-trimethyl-	*5900*	*T J N*	*ug/Kg*	☼	*5.36*	*108-67-8*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-ethyl-3-methyl-	*1800*	*T J N*	*ug/Kg*	☼	*5.42*	*620-14-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,3,5-trimethyl-	*12000*	*T J N*	*ug/Kg*	☼	*5.50*	*108-67-8*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,2,3-trimethyl-	*2500*	*T J N*	*ug/Kg*	☼	*5.66*	*526-73-8*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Indane	*1600*	*T J N*	*ug/Kg*	☼	*5.74*	*496-11-7*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*930*	*T J*	*ug/Kg*	☼	*5.76*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-methyl-3-propyl-	*2100*	*T J N*	*ug/Kg*	☼	*5.78*	*1074-43-7*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*2200*	*T J N*	*ug/Kg*	☼	*5.92*	*527-84-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*2700*	*T J N*	*ug/Kg*	☼	*5.95*	*535-77-3*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-ethenyl-3-ethyl-	*1800*	*T J N*	*ug/Kg*	☼	*5.98*	*7525-62-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*1200*	*T J*	*ug/Kg*	☼	*6.02*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*950*	*T J N*	*ug/Kg*	☼	*6.10*	*2870-04-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*870*	*T J*	*ug/Kg*	☼	*6.18*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*2200*	*T J*	*ug/Kg*	☼	*6.24*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*2600*	*T J*	*ug/Kg*	☼	*6.27*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Tridecane	*1800*	*T J N*	*ug/Kg*	☼	*6.78*	*629-50-5*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Pentadecane	*1200*	*T J N*	*ug/Kg*	☼	*7.52*	*629-62-9*	*07/10/19 09:38*	*07/10/19 20:44*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		27 - 127	07/10/19 09:38	07/10/19 20:44	1
2-Fluorophenol	54		25 - 128	07/10/19 09:38	07/10/19 20:44	1
Nitrobenzene-d5	65		15 - 136	07/10/19 09:38	07/10/19 20:44	1
Phenol-d5	65		29 - 130	07/10/19 09:38	07/10/19 20:44	1
Terphenyl-d14	76		24 - 146	07/10/19 09:38	07/10/19 20:44	1
2,4,6-Tribromophenol	67		10 - 150	07/10/19 09:38	07/10/19 20:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	68.0		0.01	0.01	%			07/10/19 15:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4
Matrix: Solid
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	690	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Acrolein	ND		2600	1500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Acrylonitrile	ND		1100	420	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Benzene	**510**		260	35	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromobenzene	ND		260	69	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromochloromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromodichloromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromoform	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromomethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2-Butanone (MEK)	ND		1300	320	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Carbon disulfide	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Carbon tetrachloride	ND		260	90	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chlorobenzene	ND		260	27	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2-Chloroethyl vinyl ether	ND		530	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chloroform	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1-Chlorohexane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chloromethane	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
cis-1,2-Dichloroethene	ND		260	40	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
cis-1,3-Dichloropropene	ND		260	63	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Dibromochloromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dibromo-3-Chloropropane	ND		260	170	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dichlorobenzene	ND		260	38	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,3-Dichlorobenzene	ND		260	50	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,4-Dichlorobenzene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Dichlorodifluoromethane	ND		260	69	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1-Dichloroethane	ND		260	44	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dichloroethane	ND		260	43	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1-Dichloroethene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,3-Dichloropropane	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1-Dichloropropene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Ethylbenzene	**58**	**J**	260	32	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Ethylene Dibromide	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Ethyl methacrylate	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Hexachlorobutadiene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2-Hexanone	ND		1300	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Isopropylbenzene	ND		260	36	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Methylene bromide	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Methylene Chloride	ND		790	530	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
4-Methyl-2-pentanone (MIBK)	ND		1300	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Methyl tert-butyl ether	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
m-Xylene & p-Xylene	**180**	**J**	260	69	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Naphthalene	ND		260	110	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
n-Butylbenzene	ND		260	51	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
N-Propylbenzene	**52**	**J**	260	48	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
o-Chlorotoluene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
o-Xylene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4
Matrix: Solid
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		260	52	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
p-Isopropyltoluene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
sec-Butylbenzene	ND		260	50	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Styrene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
tert-Butylbenzene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,1,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,2,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Tetrachloroethene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Toluene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
trans-1,2-Dichloroethene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
trans-1,3-Dichloropropene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,3-Trichlorobenzene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,4-Trichlorobenzene	ND		260	110	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,1-Trichloroethane	ND		260	58	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,2-Trichloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Trichloroethene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Trichlorofluoromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,3-Trichloropropane	ND		260	160	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,4-Trimethylbenzene	**78**	**J**	260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,3,5-Trimethylbenzene	ND		260	44	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Vinyl acetate	ND		1300	480	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Vinyl chloride	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Xylenes, Total	**220**	**J**	530	100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*210*	*J*	*ug/Kg*	☼	*2.92*	*110-54-3*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Cyclohexane	*120*	*J*	*ug/Kg*	☼	*3.72*	*110-82-7*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Methylcyclohexane	*120*	*J*	*ug/Kg*	☼	*4.43*	*108-87-2*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 18:08*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Dibromofluoromethane	*83*		*79 - 123*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Toluene-d8 (Surr)	*104*		*80 - 120*	*07/16/19 08:43*	*07/16/19 18:08*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[g,h,i]perylene	ND		7.8	2.3	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Dibenz(a,h)anthracene	ND		7.8	2.3	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.3	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4
Matrix: Solid
Percent Solids: 85.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**37**		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
2-Methylnaphthalene	**45**		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Phenanthrene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Pyrene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*27 - 127*	*07/10/19 09:38*	*07/18/19 20:21*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/10/19 09:38*	*07/18/19 20:21*	*1*
Terphenyl-d14	*96*		*24 - 146*	*07/10/19 09:38*	*07/18/19 20:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	50	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Bis(2-chloroethoxy)methane	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Bis(2-ethylhexyl) phthalate	**59**	**J**	390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Indene	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Isophorone	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Phenol	**45**	**J**	390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Pyridine	ND		390	180	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Quinoline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1100*	*T J*	*ug/Kg*	☼	*4.50*		*07/10/19 09:38*	*07/10/19 21:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
2-Fluorophenol	*67*		*25 - 128*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
Phenol-d5	*70*		*29 - 130*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
Terphenyl-d14	*82*		*24 - 146*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
2,4,6-Tribromophenol	*64*		*10 - 150*	*07/10/19 09:38*	*07/10/19 21:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.1**		0.01	0.01	%			07/10/19 15:42	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172763-2	PD-12-SB-52-070819	97	84	103
400-172763-2MS	PD-12-SB-52-070819	101	88	104
400-172763-2MSD	PD-12-SB-52-070819	98	89	102
400-172763-3	PD-12-SB-55-070819	100	86	103
400-172763-4	PD-12-SB-59-070819	98	83	104
LCS 400-448198/20-A	Lab Control Sample	103	92	102
MB 400-448198/19-A	Method Blank	98	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172763-1	TB-PW-070819-A	102	100	100
400-172763-1	TB-PW-070819-A	104	112	105
LCS 400-447731/1002	Lab Control Sample	99	99	100
LCS 400-447978/1002	Lab Control Sample	105	113	102
MB 400-447731/4	Method Blank	101	99	99
MB 400-447978/4	Method Blank	107	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172763-2	PD-12-SB-52-070819	58	60	61	64	67	62
400-172763-2MS	PD-12-SB-52-070819	63	65	66	68	78	82
400-172763-2MSD	PD-12-SB-52-070819	63	63	66	67	79	82
400-172763-3	PD-12-SB-55-070819	64	54	65	65	76	67
400-172763-4	PD-12-SB-59-070819	67	67	66	70	82	64
LCS 400-447364/2-A	Lab Control Sample	68	68	69	71	81	55
LCS 400-447364/7-A	Lab Control Sample	71	72	75	74	81	83
LCSD 400-447364/3-A	Lab Control Sample Dup	68	69	68	71	78	59
MB 400-447364/1-A	Method Blank	65	64	62	66	73	52

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (27-127)	NBZ (15-136)	TPHL (24-146)
400-172763-2	PD-12-SB-52-070819	64	57	82
400-172763-2MS	PD-12-SB-52-070819	77	65	92
400-172763-2MSD	PD-12-SB-52-070819	70	70	83
400-172763-3	PD-12-SB-55-070819	70	51	97
400-172763-4	PD-12-SB-59-070819	73	67	96
LCS 400-447364/4-A	Lab Control Sample	78	68	95
MB 400-447364/1-A	Method Blank	82	71	105

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A

Lab Sample ID: 400-172763-1
Matrix: Water
Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 12:31	WPD	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 16:33	BSW	TAL PEN

Client Sample ID: PD-12-SB-52-070819

Lab Sample ID: 400-172763-2
Matrix: Solid
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-52-070819

Lab Sample ID: 400-172763-2
Matrix: Solid
Percent Solids: 78.3
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.301 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 13:19	CAR	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 20:23	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:50	KJA	TAL PEN

Client Sample ID: PD-12-SB-55-070819

Lab Sample ID: 400-172763-3
Matrix: Solid
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-55-070819

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.959 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		250	5 mL	5 mL	448153	07/16/19 18:33	CAR	TAL PEN
Total/NA	Prep	3546			15.27 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 20:44	VC1	TAL PEN
Total/NA	Prep	3546			15.27 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:05	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819

Lab Sample ID: 400-172763-4
Matrix: Solid
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-59-070819

Lab Sample ID: 400-172763-4
Matrix: Solid
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.661 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 18:08	CAR	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 21:05	VC1	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:21	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 18:13	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 18:46	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447731/4
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 13:01	BSW	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447978/4
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 07:39	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 11:26	CAR	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447364/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 18:34	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447364/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:01	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447364/7-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 19:17	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447731/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 12:02	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447978/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 06:51	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 10:10	CAR	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-447364/3-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 18:56	VC1	TAL PEN

Client Sample ID: PD-12-SB-52-070819

Lab Sample ID: 400-172763-2MS

Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-52-070819

Lab Sample ID: 400-172763-2MS

Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.301 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 14:07	CAR	TAL PEN
Total/NA	Prep	3546			15.40 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 19:40	VC1	TAL PEN
Total/NA	Prep	3546			15.43 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:17	KJA	TAL PEN

Client Sample ID: PD-12-SB-52-070819

Lab Sample ID: 400-172763-2MSD

Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-52-070819

Lab Sample ID: 400-172763-2MSD

Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.301 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 14:31	CAR	TAL PEN
Total/NA	Prep	3546			15.33 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 20:01	VC1	TAL PEN
Total/NA	Prep	3546			15.19 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:34	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

GC/MS VOA

Analysis Batch: 447731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-1	TB-PW-070819-A	Total/NA	Water	8260B	
MB 400-447731/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447731/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-1	TB-PW-070819-A	Total/NA	Water	8260B	
MB 400-447978/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447978/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	8260B	448198
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	8260B	448198
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	8260B	448198
MB 400-448198/19-A	Method Blank	Total/NA	Solid	8260B	448198
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	8260B	448198
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	8260B	448198
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	8260B	448198

Prep Batch: 448198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	5035	
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	5035	
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	5035	
MB 400-448198/19-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	5035	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	5035	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	3546	
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	3546	
MB 400-447364/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447364/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447364/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447364/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447364/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	3546	

Analysis Batch: 447440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	8270D	447364
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	8270D	447364

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

GC/MS Semi VOA (Continued)

Analysis Batch: 447440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	8270D	447364
MB 400-447364/1-A	Method Blank	Total/NA	Solid	8270D	447364
LCS 400-447364/2-A	Lab Control Sample	Total/NA	Solid	8270D	447364
LCS 400-447364/7-A	Lab Control Sample	Total/NA	Solid	8270D	447364
LCSD 400-447364/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447364
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	8270D	447364
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	8270D	447364

Analysis Batch: 448502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	8270D LL	447364
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	8270D LL	447364
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	8270D LL	447364
MB 400-447364/1-A	Method Blank	Total/NA	Solid	8270D LL	447364
LCS 400-447364/4-A	Lab Control Sample	Total/NA	Solid	8270D LL	447364
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	8270D LL	447364
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	8270D LL	447364

General Chemistry

Analysis Batch: 447433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	Moisture	
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	Moisture	
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	Moisture	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	Moisture	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 13:01	1
Acrolein	ND		20	10	ug/L			07/12/19 13:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 13:01	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 13:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 13:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 13:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 13:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 13:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 13:01	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 13:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 13:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 13:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 13:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 13:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 13:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 13:01	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 13:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 13:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 13:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 13:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 13:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 13:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 13:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 13:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 13:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 13:01	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 13:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 13:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 13:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 13:01	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 13:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 13:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 13:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 13:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/12/19 13:01*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/12/19 13:01*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/12/19 13:01*	*1*

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	271		ug/L		135	43 - 160
Acrolein	500	624		ug/L		125	38 - 160
Acrylonitrile	500	541		ug/L		108	64 - 142
Benzene	50.0	49.6		ug/L		99	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	51.3		ug/L		103	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	35.6		ug/L		71	10 - 160
2-Butanone (MEK)	200	237		ug/L		118	61 - 145
Carbon disulfide	50.0	50.3		ug/L		101	61 - 137
Carbon tetrachloride	50.0	56.6		ug/L		113	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	47.2		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	46.9		ug/L		94	10 - 160
Chloroform	50.0	50.2		ug/L		100	69 - 130
1-Chlorohexane	50.0	53.8		ug/L		108	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	53.3		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	55.9		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.5		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	51.0		ug/L		102	67 - 130
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.1		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.2		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	50.9		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	53.6		ug/L		107	52 - 135
1,1-Dichloropropene	50.0	51.3		ug/L		103	70 - 130
Ethylbenzene	50.0	51.1		ug/L		102	70 - 130
Ethylene Dibromide	50.0	49.8		ug/L		100	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 130
Methylene bromide	50.0	46.4		ug/L		93	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	234		ug/L		117	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	50.8		ug/L		102	70 - 130
Naphthalene	50.0	50.7		ug/L		101	47 - 149
n-Butylbenzene	50.0	51.5		ug/L		103	67 - 130
N-Propylbenzene	50.0	51.7		ug/L		103	70 - 130
o-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
o-Xylene	50.0	50.2		ug/L		100	70 - 130
p-Chlorotoluene	50.0	50.6		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	52.0		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.1		ug/L		100	66 - 130
Styrene	50.0	47.6		ug/L		95	70 - 130
tert-Butylbenzene	50.0	49.5		ug/L		99	64 - 139
1,1,1,2-Tetrachloroethane	50.0	59.9		ug/L		120	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	70 - 131
Tetrachloroethene	50.0	49.6		ug/L		99	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	57.2		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.3		ug/L		97	60 - 138
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	50.4		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	41.4		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	48.2		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	44.7		ug/L		89	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.41	ug/L			07/15/19 07:39	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 07:39*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/15/19 07:39*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/15/19 07:39*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/15/19 07:39*	*1*

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	50.0	45.9		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrolein	ND		50	28	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Benzene	ND		5.0	0.67	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromoform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Hexanone	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene Chloride	ND		15	10	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Styrene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Toluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/16/19 08:43*	*07/16/19 11:26*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/16/19 08:43*	*07/16/19 11:26*	*1*
Dibromofluoromethane	*92*		*79 - 123*	*07/16/19 08:43*	*07/16/19 11:26*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 11:26*	*1*

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	194		ug/Kg		97	48 - 160
Acrolein	500	489		ug/Kg		98	40 - 150
Acrylonitrile	500	543		ug/Kg		109	60 - 130
Benzene	50.0	48.2		ug/Kg		96	65 - 130
Bromobenzene	50.0	52.1		ug/Kg		104	65 - 130
Bromochloromethane	50.0	51.3		ug/Kg		103	65 - 130
Bromodichloromethane	50.0	44.6		ug/Kg		89	61 - 130
Bromoform	50.0	47.5		ug/Kg		95	52 - 136
Bromomethane	50.0	39.1		ug/Kg		78	12 - 160
2-Butanone (MEK)	200	172		ug/Kg		86	55 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	45.0		ug/Kg		90	46 - 141
Carbon tetrachloride	50.0	45.5		ug/Kg		91	60 - 130
Chlorobenzene	50.0	50.6		ug/Kg		101	70 - 130
Chloroethane	50.0	42.4		ug/Kg		85	55 - 134
2-Chloroethyl vinyl ether	50.0	35.3		ug/Kg		71	10 - 158
Chloroform	50.0	48.3		ug/Kg		97	62 - 130
1-Chlorohexane	50.0	51.6		ug/Kg		103	69 - 130
Chloromethane	50.0	49.4		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.2		ug/Kg		94	53 - 135
cis-1,3-Dichloropropene	50.0	46.3		ug/Kg		93	61 - 130
Dibromochloromethane	50.0	49.3		ug/Kg		99	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	48.3		ug/Kg		97	49 - 130
1,2-Dichlorobenzene	50.0	55.2		ug/Kg		110	64 - 130
1,3-Dichlorobenzene	50.0	54.2		ug/Kg		108	66 - 130
1,4-Dichlorobenzene	50.0	52.5		ug/Kg		105	65 - 130
Dichlorodifluoromethane	50.0	40.6		ug/Kg		81	34 - 143
1,1-Dichloroethane	50.0	47.9		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.3		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	48.9		ug/Kg		98	55 - 137
1,2-Dichloropropane	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichloropropane	50.0	49.8		ug/Kg		100	67 - 130
2,2-Dichloropropane	50.0	43.0		ug/Kg		86	51 - 132
1,1-Dichloropropene	50.0	47.4		ug/Kg		95	65 - 130
Ethylbenzene	50.0	52.9		ug/Kg		106	70 - 130
Ethylene Dibromide	50.0	51.6		ug/Kg		103	67 - 130
Ethyl methacrylate	50.0	50.0		ug/Kg		100	62 - 130
Hexachlorobutadiene	50.0	42.2		ug/Kg		84	62 - 133
2-Hexanone	200	183		ug/Kg		91	57 - 131
Isopropylbenzene	50.0	51.3		ug/Kg		103	70 - 130
Methylene bromide	50.0	44.9		ug/Kg		90	65 - 130
Methylene Chloride	50.0	49.6		ug/Kg		99	57 - 132
4-Methyl-2-pentanone (MIBK)	200	204		ug/Kg		102	58 - 130
Methyl tert-butyl ether	50.0	43.9		ug/Kg		88	63 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/Kg		104	70 - 130
Naphthalene	50.0	51.8		ug/Kg		104	45 - 144
n-Butylbenzene	50.0	52.9		ug/Kg		106	66 - 130
N-Propylbenzene	50.0	55.8		ug/Kg		112	67 - 130
o-Chlorotoluene	50.0	55.7		ug/Kg		111	67 - 130
o-Xylene	50.0	52.9		ug/Kg		106	70 - 130
p-Chlorotoluene	50.0	57.8		ug/Kg		116	66 - 130
p-Isopropyltoluene	50.0	55.1		ug/Kg		110	68 - 130
sec-Butylbenzene	50.0	54.1		ug/Kg		108	67 - 130
Styrene	50.0	49.6		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	53.1		ug/Kg		106	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.7		ug/Kg		105	65 - 130
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/Kg		106	60 - 131
Tetrachloroethene	50.0	49.1		ug/Kg		98	67 - 130
Toluene	50.0	52.7		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/Kg		105	58 - 134

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	47.8		ug/Kg		96	60 - 130
1,2,3-Trichlorobenzene	50.0	43.8		ug/Kg		88	58 - 135
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	46.6		ug/Kg		93	63 - 130
1,1,2-Trichloroethane	50.0	50.4		ug/Kg		101	65 - 130
Trichloroethene	50.0	48.4		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	39.2		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	54.6		ug/Kg		109	60 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/Kg		108	66 - 130
1,3,5-Trimethylbenzene	50.0	55.5		ug/Kg		111	67 - 130
Vinyl acetate	100	108		ug/Kg		108	24 - 160
Vinyl chloride	50.0	50.4		ug/Kg		101	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*92*		*79 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		14800	11500		ug/Kg	☼	78	10 - 150
Acrolein	ND		37100	33300		ug/Kg	☼	90	10 - 150
Acrylonitrile	ND		37100	34300		ug/Kg	☼	92	21 - 141
Benzene	11000	F1	3710	12400	F1	ug/Kg	☼	34	38 - 131
Bromobenzene	ND		3710	3040		ug/Kg	☼	82	28 - 134
Bromochloromethane	ND		3710	3080		ug/Kg	☼	83	37 - 134
Bromodichloromethane	ND		3710	2480		ug/Kg	☼	67	37 - 130
Bromoform	ND		3710	2220		ug/Kg	☼	60	24 - 136
Bromomethane	ND		3710	1060		ug/Kg	☼	28	10 - 150
2-Butanone (MEK)	ND		14800	10300		ug/Kg	☼	69	19 - 139
Carbon disulfide	ND		3710	2220		ug/Kg	☼	60	29 - 141
Carbon tetrachloride	ND		3710	2450		ug/Kg	☼	66	36 - 134
Chlorobenzene	ND		3710	3010		ug/Kg	☼	81	37 - 130
Chloroethane	ND		3710	2050		ug/Kg	☼	55	36 - 139
2-Chloroethyl vinyl ether	ND		3710	2880		ug/Kg	☼	78	10 - 150
Chloroform	ND		3710	2860		ug/Kg	☼	77	39 - 130
1-Chlorohexane	ND		3710	3000		ug/Kg	☼	81	32 - 131
Chloromethane	ND		3710	3290		ug/Kg	☼	89	35 - 136
cis-1,2-Dichloroethene	ND		3710	2860		ug/Kg	☼	77	32 - 135
cis-1,3-Dichloropropene	ND		3710	2670		ug/Kg	☼	72	34 - 130
Dibromochloromethane	ND		3710	2600		ug/Kg	☼	70	32 - 132
1,2-Dibromo-3-Chloropropane	ND		3710	2540		ug/Kg	☼	68	14 - 132
1,2-Dichlorobenzene	ND		3710	3220		ug/Kg	☼	87	20 - 130
1,3-Dichlorobenzene	ND		3710	3120		ug/Kg	☼	84	22 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		3710	3170		ug/Kg	☼	85	21 - 130
Dichlorodifluoromethane	ND		3710	2510		ug/Kg	☼	68	21 - 146
1,1-Dichloroethane	ND		3710	2870		ug/Kg	☼	77	41 - 130
1,2-Dichloroethane	ND		3710	3000		ug/Kg	☼	81	37 - 130
1,1-Dichloroethene	ND		3710	2780		ug/Kg	☼	75	39 - 138
1,2-Dichloropropane	ND		3710	2860		ug/Kg	☼	77	39 - 130
1,3-Dichloropropane	ND		3710	3040		ug/Kg	☼	82	39 - 130
2,2-Dichloropropane	ND		3710	2360		ug/Kg	☼	64	32 - 134
1,1-Dichloropropene	ND		3710	2740		ug/Kg	☼	74	38 - 136
Ethylbenzene	ND		3710	3120		ug/Kg	☼	84	35 - 130
Ethylene Dibromide	ND		3710	3040		ug/Kg	☼	82	35 - 130
Ethyl methacrylate	ND		3710	2980		ug/Kg	☼	80	10 - 142
Hexachlorobutadiene	ND		3710	2620		ug/Kg	☼	71	10 - 144
2-Hexanone	ND		14800	9650		ug/Kg	☼	65	20 - 142
Isopropylbenzene	ND		3710	3060		ug/Kg	☼	83	31 - 132
Methylene bromide	ND		3710	2770		ug/Kg	☼	75	35 - 130
Methylene Chloride	ND		3710	2940		ug/Kg	☼	79	36 - 132
4-Methyl-2-pentanone (MIBK)	ND		14800	11800		ug/Kg	☼	79	21 - 144
Methyl tert-butyl ether	ND		3710	2680		ug/Kg	☼	72	34 - 132
m-Xylene & p-Xylene	ND		3710	3180		ug/Kg	☼	86	35 - 130
Naphthalene	ND		3710	3210		ug/Kg	☼	87	10 - 150
n-Butylbenzene	ND		3710	3190		ug/Kg	☼	86	20 - 133
N-Propylbenzene	ND		3710	3270		ug/Kg	☼	88	29 - 132
o-Chlorotoluene	ND		3710	3300		ug/Kg	☼	89	31 - 130
o-Xylene	ND		3710	3140		ug/Kg	☼	85	35 - 130
p-Chlorotoluene	ND		3710	3370		ug/Kg	☼	91	28 - 130
p-Isopropyltoluene	ND		3710	3260		ug/Kg	☼	88	20 - 137
sec-Butylbenzene	ND		3710	3140		ug/Kg	☼	85	22 - 135
Styrene	ND		3710	2950		ug/Kg	☼	80	31 - 130
tert-Butylbenzene	ND		3710	3100		ug/Kg	☼	84	26 - 133
1,1,1,2-Tetrachloroethane	ND		3710	2960		ug/Kg	☼	80	37 - 130
1,1,2,2-Tetrachloroethane	ND		3710	3050		ug/Kg	☼	82	10 - 149
Tetrachloroethene	ND		3710	3170		ug/Kg	☼	86	27 - 147
Toluene	ND		3710	3210		ug/Kg	☼	87	42 - 130
trans-1,2-Dichloroethene	ND		3710	3100		ug/Kg	☼	83	40 - 134
trans-1,3-Dichloropropene	ND		3710	2730		ug/Kg	☼	74	31 - 130
1,2,3-Trichlorobenzene	ND		3710	2770		ug/Kg	☼	75	10 - 146
1,2,4-Trichlorobenzene	ND		3710	2780		ug/Kg	☼	75	10 - 141
1,1,1-Trichloroethane	ND		3710	2680		ug/Kg	☼	72	41 - 130
1,1,2-Trichloroethane	ND		3710	3090		ug/Kg	☼	83	37 - 130
Trichloroethene	ND		3710	2860		ug/Kg	☼	77	34 - 144
Trichlorofluoromethane	ND		3710	2530		ug/Kg	☼	68	41 - 143
1,2,3-Trichloropropane	ND		3710	3230		ug/Kg	☼	87	29 - 133
1,2,4-Trimethylbenzene	ND		3710	3300		ug/Kg	☼	89	26 - 131
1,3,5-Trimethylbenzene	ND		3710	3290		ug/Kg	☼	89	28 - 131
Vinyl acetate	ND		7420	7060		ug/Kg	☼	95	10 - 150
Vinyl chloride	ND		3710	3080		ug/Kg	☼	83	35 - 136
Xylenes, Total	ND		7420	6320		ug/Kg	☼	85	35 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	101		72 - 122
Dibromofluoromethane	88		79 - 123
Toluene-d8 (Surr)	104		80 - 120

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		14800	13000		ug/Kg	☼	88	10 - 150	12	38
Acrolein	ND		37100	30400		ug/Kg	☼	82	10 - 150	9	44
Acrylonitrile	ND		37100	39300		ug/Kg	☼	106	21 - 141	14	37
Benzene	11000	F1	3710	12600		ug/Kg	☼	41	38 - 131	2	36
Bromobenzene	ND		3710	3200		ug/Kg	☼	86	28 - 134	5	37
Bromochloromethane	ND		3710	3600		ug/Kg	☼	97	37 - 134	15	38
Bromodichloromethane	ND		3710	2870		ug/Kg	☼	77	37 - 130	14	34
Bromoform	ND		3710	2600		ug/Kg	☼	70	24 - 136	16	34
Bromomethane	ND		3710	1070		ug/Kg	☼	29	10 - 150	1	47
2-Butanone (MEK)	ND		14800	11600		ug/Kg	☼	78	19 - 139	12	41
Carbon disulfide	ND		3710	2680		ug/Kg	☼	72	29 - 141	18	39
Carbon tetrachloride	ND		3710	2840		ug/Kg	☼	77	36 - 134	15	44
Chlorobenzene	ND		3710	3260		ug/Kg	☼	88	37 - 130	8	37
Chloroethane	ND		3710	1950		ug/Kg	☼	52	36 - 139	5	42
2-Chloroethyl vinyl ether	ND		3710	2800		ug/Kg	☼	75	10 - 150	3	38
Chloroform	ND		3710	3270		ug/Kg	☼	88	39 - 130	13	35
1-Chlorohexane	ND		3710	3090		ug/Kg	☼	83	32 - 131	3	48
Chloromethane	ND		3710	3400		ug/Kg	☼	92	35 - 136	3	41
cis-1,2-Dichloroethene	ND		3710	3310		ug/Kg	☼	89	32 - 135	14	35
cis-1,3-Dichloropropene	ND		3710	3030		ug/Kg	☼	82	34 - 130	13	35
Dibromochloromethane	ND		3710	3060		ug/Kg	☼	82	32 - 132	16	34
1,2-Dibromo-3-Chloropropane	ND		3710	3050		ug/Kg	☼	82	14 - 132	18	38
1,2-Dichlorobenzene	ND		3710	3350		ug/Kg	☼	90	20 - 130	4	40
1,3-Dichlorobenzene	ND		3710	3200		ug/Kg	☼	86	22 - 130	3	41
1,4-Dichlorobenzene	ND		3710	3180		ug/Kg	☼	86	21 - 130	0	40
Dichlorodifluoromethane	ND		3710	2480		ug/Kg	☼	67	21 - 146	1	46
1,1-Dichloroethane	ND		3710	3380		ug/Kg	☼	91	41 - 130	16	35
1,2-Dichloroethane	ND		3710	3410		ug/Kg	☼	92	37 - 130	13	32
1,1-Dichloroethene	ND		3710	3300		ug/Kg	☼	89	39 - 138	17	37
1,2-Dichloropropane	ND		3710	3360		ug/Kg	☼	91	39 - 130	16	35
1,3-Dichloropropane	ND		3710	3510		ug/Kg	☼	95	39 - 130	14	32
2,2-Dichloropropane	ND		3710	2800		ug/Kg	☼	76	32 - 134	17	41
1,1-Dichloropropene	ND		3710	3130		ug/Kg	☼	84	38 - 136	13	43
Ethylbenzene	ND		3710	3260		ug/Kg	☼	88	35 - 130	4	46
Ethylene Dibromide	ND		3710	3600		ug/Kg	☼	97	35 - 130	17	31
Ethyl methacrylate	ND		3710	3440		ug/Kg	☼	93	10 - 142	14	39
Hexachlorobutadiene	ND		3710	2190		ug/Kg	☼	59	10 - 144	18	68
2-Hexanone	ND		14800	11100		ug/Kg	☼	75	20 - 142	14	37
Isopropylbenzene	ND		3710	3080		ug/Kg	☼	83	31 - 132	1	51

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		3710	3060		ug/Kg	☼	83	35 - 130	10	34
Methylene Chloride	ND		3710	3420		ug/Kg	☼	92	36 - 132	15	38
4-Methyl-2-pentanone (MIBK)	ND		14800	13400		ug/Kg	☼	90	21 - 144	13	39
Methyl tert-butyl ether	ND		3710	3120		ug/Kg	☼	84	34 - 132	15	31
m-Xylene & p-Xylene	ND		3710	3300		ug/Kg	☼	89	35 - 130	4	42
Naphthalene	ND		3710	3520		ug/Kg	☼	95	10 - 150	9	49
n-Butylbenzene	ND		3710	2700		ug/Kg	☼	73	20 - 133	17	50
N-Propylbenzene	ND		3710	3130		ug/Kg	☼	84	29 - 132	4	42
o-Chlorotoluene	ND		3710	3140		ug/Kg	☼	85	31 - 130	5	45
o-Xylene	ND		3710	3310		ug/Kg	☼	89	35 - 130	5	37
p-Chlorotoluene	ND		3710	3080		ug/Kg	☼	83	28 - 130	9	42
p-Isopropyltoluene	ND		3710	3000		ug/Kg	☼	81	20 - 137	9	53
sec-Butylbenzene	ND		3710	2980		ug/Kg	☼	80	22 - 135	5	52
Styrene	ND		3710	3180		ug/Kg	☼	86	31 - 130	8	39
tert-Butylbenzene	ND		3710	2940		ug/Kg	☼	79	26 - 133	5	47
1,1,1,2-Tetrachloroethane	ND		3710	3390		ug/Kg	☼	92	37 - 130	14	34
1,1,2,2-Tetrachloroethane	ND		3710	3440		ug/Kg	☼	93	10 - 149	12	44
Tetrachloroethene	ND		3710	3520		ug/Kg	☼	95	27 - 147	10	44
Toluene	ND		3710	3570		ug/Kg	☼	96	42 - 130	10	37
trans-1,2-Dichloroethene	ND		3710	3510		ug/Kg	☼	95	40 - 134	12	38
trans-1,3-Dichloropropene	ND		3710	3130		ug/Kg	☼	84	31 - 130	14	34
1,2,3-Trichlorobenzene	ND		3710	2910		ug/Kg	☼	79	10 - 146	5	47
1,2,4-Trichlorobenzene	ND		3710	2820		ug/Kg	☼	76	10 - 141	2	53
1,1,1-Trichloroethane	ND		3710	3120		ug/Kg	☼	84	41 - 130	15	40
1,1,2-Trichloroethane	ND		3710	3540		ug/Kg	☼	96	37 - 130	14	33
Trichloroethene	ND		3710	3200		ug/Kg	☼	86	34 - 144	11	42
Trichlorofluoromethane	ND		3710	2460		ug/Kg	☼	66	41 - 143	3	42
1,2,3-Trichloropropane	ND		3710	3640		ug/Kg	☼	98	29 - 133	12	33
1,2,4-Trimethylbenzene	ND		3710	3200		ug/Kg	☼	86	26 - 131	3	48
1,3,5-Trimethylbenzene	ND		3710	3170		ug/Kg	☼	85	28 - 131	4	46
Vinyl acetate	ND		7420	6790		ug/Kg	☼	92	10 - 150	4	60
Vinyl chloride	ND		3710	3050		ug/Kg	☼	82	35 - 136	1	43
Xylenes, Total	ND		7420	6610		ug/Kg	☼	89	35 - 130	4	39

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*72 - 122*
Dibromofluoromethane	*89*		*79 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Benzenethiol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Benzoic acid	ND		990	350	ug/Kg		07/10/19 09:38	07/10/19 18:13	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Bis(2-ethylhexyl) phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Chloroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Chlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Dibenzofuran	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Diethyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
1,4-Dioxane	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Hexachloroethane	ND		330	100	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Indene	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Isophorone	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Methylphenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Nitroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
3-Nitroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Nitroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Nitrobenzene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Nitrophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Nitrophenol	ND		330	110	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Pentachlorophenol	ND		660	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Phenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Pyridine	ND		330	150	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Quinoline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/10/19 09:38*	*07/10/19 18:13*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 127*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
2-Fluorophenol	*64*		*25 - 128*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
Phenol-d5	*66*		*29 - 130*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
Terphenyl-d14	*73*		*24 - 146*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
2,4,6-Tribromophenol	*52*		*10 - 150*	*07/10/19 09:38*	*07/10/19 18:13*	*1*

Lab Sample ID: LCS 400-447364/2-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	1520		ug/Kg		76	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*69*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*55*		*10 - 150*

Lab Sample ID: LCS 400-447364/7-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1500		ug/Kg		75	36 - 120
Benzoic acid	7770	5990		ug/Kg		77	10 - 139
Benzyl alcohol	2000	1740		ug/Kg		87	10 - 127
Bis(2-chloroethoxy)methane	2000	1380		ug/Kg		69	52 - 120
Bis(2-chloroethyl)ether	2000	1510		ug/Kg		76	50 - 120
bis (2-chloroisopropyl) ether	2000	1560		ug/Kg		78	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1980		ug/Kg		99	58 - 158
4-Bromophenyl phenyl ether	2000	1750		ug/Kg		87	51 - 120
Butyl benzyl phthalate	2000	1820		ug/Kg		91	58 - 126
4-Chloroaniline	2000	1370		ug/Kg		68	34 - 120
4-Chloro-3-methylphenol	2000	1840		ug/Kg		92	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1690		ug/Kg		85	52 - 120
4-Chlorophenyl phenyl ether	2000	1710		ug/Kg		86	56 - 120
Dibenz[a,h]acridine	2000	1840		ug/Kg		92	51 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447364/7-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenzofuran	2000	1650		ug/Kg		83	58 - 120
3,3'-Dichlorobenzidine	2670	3910	*	ug/Kg		146	42 - 120
2,4-Dichlorophenol	2000	1730		ug/Kg		86	56 - 120
Diethyl phthalate	2000	1720		ug/Kg		86	56 - 128
2,4-Dimethylphenol	2000	1740		ug/Kg		87	54 - 120
Dimethyl phthalate	2000	1720		ug/Kg		86	58 - 120
Di-n-butyl phthalate	2000	2070		ug/Kg		103	64 - 122
4,6-Dinitro-ortho-cresol	4000	4250		ug/Kg		106	35 - 135
2,4-Dinitrophenol	4000	3730		ug/Kg		93	10 - 138
2,4-Dinitrotoluene	2000	1820		ug/Kg		91	59 - 133
2,6-Dinitrotoluene	2000	1790		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1970		ug/Kg		98	57 - 137
1,4-Dioxane	2000	1010		ug/Kg		50	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1650		ug/Kg		82	50 - 120
Hexachlorobenzene	2000	1820		ug/Kg		91	49 - 127
Hexachlorocyclopentadiene	2000	1750		ug/Kg		88	10 - 140
Hexachloroethane	2000	1590		ug/Kg		79	45 - 120
Indene	2000	1660		ug/Kg		83	45 - 120
Isophorone	2000	1630		ug/Kg		81	50 - 120
2-Methylphenol	2000	1730		ug/Kg		86	51 - 123
3 & 4 Methylphenol	2000	1640		ug/Kg		82	47 - 123
2-Nitroaniline	2000	1750		ug/Kg		87	55 - 129
3-Nitroaniline	2000	1690		ug/Kg		84	45 - 120
4-Nitroaniline	2000	1750		ug/Kg		88	52 - 126
Nitrobenzene	2000	1470		ug/Kg		73	50 - 120
2-Nitrophenol	2000	1710		ug/Kg		85	53 - 120
4-Nitrophenol	4000	3230		ug/Kg		81	38 - 133
N-Nitrosodimethylamine	2000	1430		ug/Kg		71	35 - 120
N-Nitrosodi-n-propylamine	2000	1670		ug/Kg		83	48 - 120
N-Nitrosodiphenylamine	1980	1710		ug/Kg		86	54 - 120
Pentachlorophenol	4000	4190		ug/Kg		105	32 - 131
Phenol	2000	1710		ug/Kg		85	51 - 120
Pyridine	4000	2510		ug/Kg		63	29 - 120
Quinoline	2000	1590		ug/Kg		80	10 - 150
2,4,5-Trichlorophenol	2000	1820		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1810		ug/Kg		91	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*27 - 127*
2-Fluorophenol	*72*		*25 - 128*
Nitrobenzene-d5	*75*		*15 - 136*
Phenol-d5	*74*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*83*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447364/3-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447364

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	1470		ug/Kg		74	10 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*27 - 127*
2-Fluorophenol	*69*		*25 - 128*
Nitrobenzene-d5	*68*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*78*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2490	1840		ug/Kg	☼	74	40 - 140
Benzoic acid	ND	F1	9670	845	J F1	ug/Kg	☼	9	40 - 140
Benzyl alcohol	ND		2490	2020		ug/Kg	☼	81	40 - 140
Bis(2-chloroethoxy)methane	ND		2490	1660		ug/Kg	☼	67	40 - 140
Bis(2-chloroethyl)ether	ND		2490	1720		ug/Kg	☼	69	40 - 140
bis (2-chloroisopropyl) ether	ND		2490	1780		ug/Kg	☼	71	40 - 140
Bis(2-ethylhexyl) phthalate	78	J	2490	2440		ug/Kg	☼	95	40 - 140
4-Bromophenyl phenyl ether	ND		2490	2090		ug/Kg	☼	84	40 - 140
Butyl benzyl phthalate	62	J	2490	2220		ug/Kg	☼	87	40 - 140
4-Chloroaniline	ND		2490	1670		ug/Kg	☼	67	40 - 140
4-Chloro-3-methylphenol	ND		2490	2300		ug/Kg	☼	92	40 - 140
2-Chloronaphthalene	ND		2490	1900		ug/Kg	☼	77	40 - 140
2-Chlorophenol	ND		2490	1970		ug/Kg	☼	79	40 - 140
4-Chlorophenyl phenyl ether	ND		2490	2000		ug/Kg	☼	80	40 - 140
Dibenz[a,h]acridine	ND		2490	2050		ug/Kg	☼	82	40 - 140
Dibenzofuran	ND		2490	1940		ug/Kg	☼	78	40 - 140
3,3'-Dichlorobenzidine	ND	F1 *	3320	4920	F1	ug/Kg	☼	148	40 - 140
2,4-Dichlorophenol	ND		2490	2070		ug/Kg	☼	83	40 - 140
Diethyl phthalate	ND		2490	2080		ug/Kg	☼	84	40 - 140
2,4-Dimethylphenol	ND		2490	2100		ug/Kg	☼	84	40 - 140
Dimethyl phthalate	ND		2490	2010		ug/Kg	☼	81	40 - 140
Di-n-butyl phthalate	ND		2490	2500		ug/Kg	☼	101	40 - 140
4,6-Dinitro-ortho-cresol	ND		4980	2650		ug/Kg	☼	53	40 - 140
2,4-Dinitrophenol	ND	F2 F1	4980	925	J F1	ug/Kg	☼	19	40 - 140
2,4-Dinitrotoluene	ND		2490	2050		ug/Kg	☼	82	40 - 140
2,6-Dinitrotoluene	ND		2490	1950		ug/Kg	☼	78	40 - 140
Di-n-octyl phthalate	ND		2490	2440		ug/Kg	☼	98	40 - 140
1,4-Dioxane	ND		2490	1010		ug/Kg	☼	40	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2490	1910		ug/Kg	☼	77	40 - 140
Hexachlorobenzene	ND		2490	2190		ug/Kg	☼	88	40 - 140
Hexachlorocyclopentadiene	ND	F2 F1	2490	365	J F1	ug/Kg	☼	15	40 - 140
Hexachloroethane	ND		2490	1910		ug/Kg	☼	77	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	ND		2490	1840		ug/Kg	☼	74	40 - 140
Isophorone	ND		2490	1880		ug/Kg	☼	75	40 - 140
2-Methylphenol	ND		2490	2050		ug/Kg	☼	82	40 - 140
3 & 4 Methylphenol	ND		2490	1980		ug/Kg	☼	80	40 - 140
2-Nitroaniline	ND		2490	2020		ug/Kg	☼	81	40 - 140
3-Nitroaniline	ND		2490	2030		ug/Kg	☼	81	40 - 140
4-Nitroaniline	ND		2490	2550		ug/Kg	☼	102	40 - 140
Nitrobenzene	ND		2490	1640		ug/Kg	☼	66	40 - 140
2-Nitrophenol	ND		2490	1680		ug/Kg	☼	67	40 - 140
4-Nitrophenol	ND		4980	3700		ug/Kg	☼	74	40 - 140
N-Nitrosodimethylamine	ND		2490	1480		ug/Kg	☼	59	40 - 140
N-Nitrosodi-n-propylamine	ND		2490	1980		ug/Kg	☼	80	40 - 140
N-Nitrosodiphenylamine	ND		2470	2040		ug/Kg	☼	82	40 - 140
Pentachlorophenol	ND		4980	5170		ug/Kg	☼	104	40 - 140
Phenol	160	J	2490	2050		ug/Kg	☼	76	40 - 140
Pyridine	ND		4980	2690		ug/Kg	☼	54	40 - 140
Quinoline	ND		2490	1840		ug/Kg	☼	74	40 - 140
2,4,5-Trichlorophenol	ND		2490	2170		ug/Kg	☼	87	40 - 140
2,4,6-Trichlorophenol	ND		2490	2110		ug/Kg	☼	85	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*65*		*25 - 128*
Nitrobenzene-d5	*66*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*78*		*24 - 146*
2,4,6-Tribromophenol	*82*		*10 - 150*

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2500	1710		ug/Kg	☼	68	40 - 140	7	30
Benzoic acid	ND	F1	9710	827	J F1	ug/Kg	☼	9	40 - 140	2	30
Benzyl alcohol	ND		2500	1990		ug/Kg	☼	80	40 - 140	1	30
Bis(2-chloroethoxy)methane	ND		2500	1670		ug/Kg	☼	67	40 - 140	1	30
Bis(2-chloroethyl)ether	ND		2500	1770		ug/Kg	☼	71	40 - 140	2	30
bis (2-chloroisopropyl) ether	ND		2500	1710		ug/Kg	☼	68	40 - 140	4	30
Bis(2-ethylhexyl) phthalate	78	J	2500	2530		ug/Kg	☼	98	40 - 140	4	30
4-Bromophenyl phenyl ether	ND		2500	2180		ug/Kg	☼	87	40 - 140	4	30
Butyl benzyl phthalate	62	J	2500	2300		ug/Kg	☼	90	40 - 140	4	30
4-Chloroaniline	ND		2500	1760		ug/Kg	☼	71	40 - 140	6	30
4-Chloro-3-methylphenol	ND		2500	2310		ug/Kg	☼	93	40 - 140	1	30
2-Chloronaphthalene	ND		2500	1950		ug/Kg	☼	78	40 - 140	2	30
2-Chlorophenol	ND		2500	1960		ug/Kg	☼	78	40 - 140	1	30
4-Chlorophenyl phenyl ether	ND		2500	2080		ug/Kg	☼	83	40 - 140	4	30
Dibenz[a,h]acridine	ND		2500	2250		ug/Kg	☼	90	40 - 140	9	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenzofuran	ND		2500	1980		ug/Kg	☼	79	40 - 140	2	30
3,3'-Dichlorobenzidine	ND	F1 *	3330	5040	F1	ug/Kg	☼	151	40 - 140	2	30
2,4-Dichlorophenol	ND		2500	2110		ug/Kg	☼	84	40 - 140	2	30
Diethyl phthalate	ND		2500	2110		ug/Kg	☼	85	40 - 140	1	30
2,4-Dimethylphenol	ND		2500	2140		ug/Kg	☼	85	40 - 140	2	30
Dimethyl phthalate	ND		2500	2080		ug/Kg	☼	83	40 - 140	4	30
Di-n-butyl phthalate	ND		2500	2570		ug/Kg	☼	103	40 - 140	2	30
4,6-Dinitro-ortho-cresol	ND		5000	2790		ug/Kg	☼	56	40 - 140	5	30
2,4-Dinitrophenol	ND	F2 F1	5000	1310	F2 F1	ug/Kg	☼	26	40 - 140	35	30
2,4-Dinitrotoluene	ND		2500	2200		ug/Kg	☼	88	40 - 140	7	30
2,6-Dinitrotoluene	ND		2500	2130		ug/Kg	☼	85	40 - 140	9	30
Di-n-octyl phthalate	ND		2500	2530		ug/Kg	☼	101	40 - 140	4	30
1,4-Dioxane	ND		2500	1050		ug/Kg	☼	42	40 - 140	4	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2500	2010		ug/Kg	☼	81	40 - 140	5	30
Hexachlorobenzene	ND		2500	2190		ug/Kg	☼	88	40 - 140	0	30
Hexachlorocyclopentadiene	ND	F2 F1	2500	716	F2 F1	ug/Kg	☼	29	40 - 140	65	30
Hexachloroethane	ND		2500	1760		ug/Kg	☼	71	40 - 140	8	30
Indene	ND		2500	1780		ug/Kg	☼	71	40 - 140	3	30
Isophorone	ND		2500	1880		ug/Kg	☼	75	40 - 140	0	30
2-Methylphenol	ND		2500	2030		ug/Kg	☼	81	40 - 140	1	30
3 & 4 Methylphenol	ND		2500	1990		ug/Kg	☼	80	40 - 140	1	30
2-Nitroaniline	ND		2500	2150		ug/Kg	☼	86	40 - 140	6	30
3-Nitroaniline	ND		2500	2180		ug/Kg	☼	87	40 - 140	7	30
4-Nitroaniline	ND		2500	2550		ug/Kg	☼	102	40 - 140	0	30
Nitrobenzene	ND		2500	1680		ug/Kg	☼	67	40 - 140	3	30
2-Nitrophenol	ND		2500	1920		ug/Kg	☼	77	40 - 140	14	30
4-Nitrophenol	ND		5000	4060		ug/Kg	☼	81	40 - 140	9	30
N-Nitrosodimethylamine	ND		2500	1530		ug/Kg	☼	61	40 - 140	3	30
N-Nitrosodi-n-propylamine	ND		2500	1910		ug/Kg	☼	76	40 - 140	4	30
N-Nitrosodiphenylamine	ND		2480	2150		ug/Kg	☼	87	40 - 140	5	30
Pentachlorophenol	ND		5000	5080		ug/Kg	☼	101	40 - 140	2	30
Phenol	160	J	2500	2110		ug/Kg	☼	78	40 - 140	3	30
Pyridine	ND		5000	2770		ug/Kg	☼	55	40 - 140	3	30
Quinoline	ND		2500	1920		ug/Kg	☼	77	40 - 140	4	30
2,4,5-Trichlorophenol	ND		2500	2230		ug/Kg	☼	89	40 - 140	3	30
2,4,6-Trichlorophenol	ND		2500	2140		ug/Kg	☼	86	40 - 140	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*66*		*15 - 136*
Phenol-d5	*67*		*29 - 130*
Terphenyl-d14	*79*		*24 - 146*
2,4,6-Tribromophenol	*82*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Anthracene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Chrysene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Fluorene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Pyrene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/10/19 09:38*	*07/18/19 18:46*	*1*
Nitrobenzene-d5	*71*		*15 - 136*	*07/10/19 09:38*	*07/18/19 18:46*	*1*
Terphenyl-d14	*105*		*24 - 146*	*07/10/19 09:38*	*07/18/19 18:46*	*1*

Lab Sample ID: LCS 400-447364/4-A
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	313		ug/Kg		94	57 - 120
Acenaphthylene	333	305		ug/Kg		91	59 - 120
Anthracene	333	313		ug/Kg		94	61 - 120
Benzo[a]anthracene	333	308		ug/Kg		92	61 - 120
Benzo[a]pyrene	333	326		ug/Kg		98	54 - 127
Benzo[b]fluoranthene	333	320		ug/Kg		96	35 - 146
Benzo[g,h,i]perylene	333	324		ug/Kg		97	36 - 150
Benzo[k]fluoranthene	333	314		ug/Kg		94	53 - 139
Chrysene	333	311		ug/Kg		93	60 - 120
Dibenz(a,h)anthracene	333	345		ug/Kg		104	39 - 150
Fluoranthene	333	309		ug/Kg		93	61 - 121
Fluorene	333	336		ug/Kg		101	60 - 120
Indeno[1,2,3-cd]pyrene	333	331		ug/Kg		99	40 - 150
1-Methylnaphthalene	333	290		ug/Kg		87	46 - 120
2-Methylnaphthalene	333	292		ug/Kg		88	46 - 120
Phenanthrene	333	313		ug/Kg		94	59 - 120
Pyrene	333	324		ug/Kg		97	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447364/4-A
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	68		15 - 136
Terphenyl-d14	95		24 - 146

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		414	347		ug/Kg	☼	84	40 - 140
Acenaphthylene	ND		414	329		ug/Kg	☼	80	40 - 140
Anthracene	ND		414	329		ug/Kg	☼	79	40 - 140
Benzo[a]anthracene	3.4	J	414	333		ug/Kg	☼	80	40 - 140
Benzo[a]pyrene	3.4	J	414	344		ug/Kg	☼	82	40 - 140
Benzo[b]fluoranthene	4.8	J	414	350		ug/Kg	☼	83	40 - 140
Benzo[g,h,i]perylene	5.0	J	414	357		ug/Kg	☼	85	40 - 140
Benzo[k]fluoranthene	4.0	J	414	339		ug/Kg	☼	81	40 - 140
Chrysene	2.5	J	414	335		ug/Kg	☼	80	40 - 140
Dibenz(a,h)anthracene	4.4	J	414	378		ug/Kg	☼	90	40 - 140
Fluoranthene	2.2	J	414	332		ug/Kg	☼	80	40 - 140
Fluorene	4.1	J	414	372		ug/Kg	☼	89	40 - 140
Indeno[1,2,3-cd]pyrene	4.6	J	414	368		ug/Kg	☼	88	40 - 140
1-Methylnaphthalene	75		414	408		ug/Kg	☼	80	40 - 140
2-Methylnaphthalene	69		414	397		ug/Kg	☼	79	40 - 140
Phenanthrene	ND		414	344		ug/Kg	☼	83	40 - 140
Pyrene	2.4	J	414	358		ug/Kg	☼	86	40 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	77		27 - 127
Nitrobenzene-d5	65		15 - 136
Terphenyl-d14	92		24 - 146

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		421	326		ug/Kg	☼	77	40 - 140	6	30
Acenaphthylene	ND		421	312		ug/Kg	☼	74	40 - 140	6	30
Anthracene	ND		421	302		ug/Kg	☼	72	40 - 140	9	30
Benzo[a]anthracene	3.4	J	421	298		ug/Kg	☼	70	40 - 140	11	30
Benzo[a]pyrene	3.4	J	421	301		ug/Kg	☼	71	40 - 140	14	30
Benzo[b]fluoranthene	4.8	J	421	310		ug/Kg	☼	73	40 - 140	12	30
Benzo[g,h,i]perylene	5.0	J	421	275		ug/Kg	☼	64	40 - 140	26	30
Benzo[k]fluoranthene	4.0	J	421	299		ug/Kg	☼	70	40 - 140	12	30
Chrysene	2.5	J	421	299		ug/Kg	☼	71	40 - 140	11	30
Dibenz(a,h)anthracene	4.4	J	421	312		ug/Kg	☼	73	40 - 140	19	30
Fluoranthene	2.2	J	421	301		ug/Kg	☼	71	40 - 140	10	30
Fluorene	4.1	J	421	345		ug/Kg	☼	81	40 - 140	8	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno[1,2,3-cd]pyrene	4.6	J	421	294		ug/Kg	☼	69	40 - 140	23	30
1-Methylnaphthalene	75		421	347		ug/Kg	☼	65	40 - 140	16	30
2-Methylnaphthalene	69		421	338		ug/Kg	☼	64	40 - 140	16	30
Phenanthrene	ND		421	318		ug/Kg	☼	76	40 - 140	8	30
Pyrene	2.4	J	421	332		ug/Kg	☼	78	40 - 140	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*27 - 127*
Nitrobenzene-d5	*70*		*15 - 136*
Terphenyl-d14	*83*		*24 - 146*

Shell Oil Products US Chain Of Custody Rec

400-172763 COC

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or	CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/2/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur Tay Jones

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com, james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
	TB-PW-070819-A	7/8/2019	0:00	Water	X					2			x		
	PD-12-SB-52-070819	7/8/2019	11:10	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-52-070819-MS	7/8/2019	11:10	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-52-070819-MSD	7/8/2019	11:10	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-55-070819	7/8/2019	11:15	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-59-070819	7/8/2019	11:50	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Page 53 of 55

Relinquished by (Signature)	Received by (Signature) Fedex: 4759 5524 6054	Date 7/8/2019	Time 18:00
Relinquished by (Signature)	Received by (Signature)	Date 07.09.19	Time 853
Relinquished by (Signature)	Received by (Signature)	Date	Time

Version 10May17

1.5°C IR8

7/23/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172763-1

Login Number: 172763
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172763-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172763-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 11:26:28 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172763-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172763-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 7-23-19.

Receipt
The samples were received on 7/9/2019 8:53 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5º C.

GC/MS VOA
Method(s) 8260B: The matrix spike (MS) recovery for preparation batch 400-448198 and analytical batch 400-448153 was outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-12-SB-52-070819 (400-172763-2), PD-12-SB-55-070819 (400-172763-3) and PD-12-SB-59-070819 (400-172763-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070819-A (400-172763-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-447364 and analytical batch 400-447440 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447440 recovered above the upper control limit for Hexachloroethane, Di-n-butyl phthalate, 4,6-Dinitro-2-methylphenol, 4-Chloro-3-methylphenol and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-447364 and analytical batch 400-447440 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-447364 and analytical batch 400-447440 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-447440 recovered outside acceptance criteria, low biased, for 3-Nitroaniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 400-172763-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172763-1	TB-PW-070819-A	Water	07/08/19 00:00	07/09/19 08:53	
400-172763-2	PD-12-SB-52-070819	Solid	07/08/19 11:10	07/09/19 08:53	
400-172763-3	PD-12-SB-55-070819	Solid	07/08/19 11:15	07/09/19 08:53	
400-172763-4	PD-12-SB-59-070819	Solid	07/08/19 11:50	07/09/19 08:53	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A — Lab Sample ID: 400-172763-1

No Detections.

Client Sample ID: PD-12-SB-52-070819 — Lab Sample ID: 400-172763-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	11000	F1	370	50	ug/Kg	50	☼	8260B	Total/NA
Benzo[a]anthracene	3.4	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	3.4	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	4.8	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	5.0	J	8.4	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	4.0	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	2.5	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	4.4	J	8.4	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.2	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	4.1	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.6	J	8.4	2.6	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	75		8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	69		8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	2.4	J	8.4	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	78	J	420	42	ug/Kg	1	☼	8270D	Total/NA
Butyl benzyl phthalate	62	J	420	42	ug/Kg	1	☼	8270D	Total/NA
Phenol	160	J	420	42	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-12-SB-55-070819 — Lab Sample ID: 400-172763-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	79000		1900	260	ug/Kg	250	☼	8260B	Total/NA
Ethylbenzene	5100		1900	230	ug/Kg	250	☼	8260B	Total/NA
Isopropylbenzene	290	J	1900	260	ug/Kg	250	☼	8260B	Total/NA
m-Xylene & p-Xylene	14000		1900	500	ug/Kg	250	☼	8260B	Total/NA
N-Propylbenzene	1300	J	1900	340	ug/Kg	250	☼	8260B	Total/NA
o-Xylene	4600		1900	380	ug/Kg	250	☼	8260B	Total/NA
Toluene	1500	J	1900	380	ug/Kg	250	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	6400		1900	380	ug/Kg	250	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	2300		1900	320	ug/Kg	250	☼	8260B	Total/NA
Xylenes, Total	18000		3800	720	ug/Kg	250	☼	8260B	Total/NA
Fluoranthene	3.2	J	9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	30		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	730		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	1400		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	52		9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	5.8	J	9.5	1.4	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	70	J	480	48	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-12-SB-59-070819 — Lab Sample ID: 400-172763-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	510		260	35	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	58	J	260	32	ug/Kg	50	☼	8260B	Total/NA
m-Xylene & p-Xylene	180	J	260	69	ug/Kg	50	☼	8260B	Total/NA
N-Propylbenzene	52	J	260	48	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	78	J	260	53	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	220	J	530	100	ug/Kg	50	☼	8260B	Total/NA
1-Methylnaphthalene	37		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819 (Continued)

Lab Sample ID: 400-172763-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	45		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	59	J	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	45	J	390	39	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 16:33	1
Acrolein	ND		20	10	ug/L			07/12/19 16:33	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 16:33	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 16:33	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 16:33	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 16:33	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 16:33	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 16:33	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 16:33	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 16:33	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 16:33	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 16:33	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 16:33	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 16:33	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:33	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 16:33	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 16:33	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 16:33	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 16:33	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 16:33	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 16:33	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 16:33	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 16:33	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 16:33	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 16:33	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 16:33	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 16:33	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 16:33	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 16:33	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 16:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 16:33	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 16:33	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 16:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: TB-PW-070819-A

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 16:33	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 16:33	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 16:33	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 16:33	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 16:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 16:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 16:33	1
Toluene	ND		1.0	0.41	ug/L			07/15/19 12:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 16:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 16:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 16:33	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 16:33	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 16:33	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 16:33	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 16:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 16:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 16:33	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 16:33	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 16:33	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 16:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*11*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 16:33*	*1*
Cyclotrisiloxane, hexamethyl-	*7.5*	*T J N*	*ug/L*		*6.16*	*541-05-9*		*07/12/19 16:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/12/19 16:33*	*1*
4-Bromofluorobenzene	*104*		*78 - 118*		*07/15/19 12:31*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 16:33*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*07/15/19 12:31*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 16:33*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/15/19 12:31*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172763-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-SB-52-070819
Lab Sample ID: 400-172763-2
Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 78.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1900	960	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Acrolein	ND		3700	2100	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Acrylonitrile	ND		1500	590	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Benzene	**11000**	**F1**	370	50	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromobenzene	ND		370	96	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromochloromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromodichloromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromoform	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Bromomethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2-Butanone (MEK)	ND		1900	440	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Carbon disulfide	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Carbon tetrachloride	ND		370	130	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chlorobenzene	ND		370	39	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2-Chloroethyl vinyl ether	ND		740	370	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chloroform	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1-Chlorohexane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Chloromethane	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
cis-1,2-Dichloroethene	ND		370	56	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
cis-1,3-Dichloropropene	ND		370	89	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Dibromochloromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dibromo-3-Chloropropane	ND		370	240	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dichlorobenzene	ND		370	53	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,3-Dichlorobenzene	ND		370	70	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,4-Dichlorobenzene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Dichlorodifluoromethane	ND		370	96	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1-Dichloroethane	ND		370	62	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dichloroethane	ND		370	61	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1-Dichloroethene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2-Dichloropropane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,3-Dichloropropane	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2,2-Dichloropropane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1-Dichloropropene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Ethylbenzene	ND		370	45	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Ethylene Dibromide	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Ethyl methacrylate	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Hexachlorobutadiene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
2-Hexanone	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Isopropylbenzene	ND		370	50	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Methylene bromide	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Methylene Chloride	ND		1100	740	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
4-Methyl-2-pentanone (MIBK)	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Methyl tert-butyl ether	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
m-Xylene & p-Xylene	ND		370	96	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Naphthalene	ND		370	150	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
n-Butylbenzene	ND		370	71	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
N-Propylbenzene	ND		370	67	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
o-Chlorotoluene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
o-Xylene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2
Matrix: Solid
Percent Solids: 78.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		370	73	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
p-Isopropyltoluene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
sec-Butylbenzene	ND		370	70	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Styrene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
tert-Butylbenzene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,1,2-Tetrachloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,2,2-Tetrachloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Tetrachloroethene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Toluene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
trans-1,2-Dichloroethene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
trans-1,3-Dichloropropene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,3-Trichlorobenzene	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,4-Trichlorobenzene	ND		370	150	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,1-Trichloroethane	ND		370	82	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,1,2-Trichloroethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Trichloroethene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Trichlorofluoromethane	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,3-Trichloropropane	ND		370	220	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,2,4-Trimethylbenzene	ND		370	74	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
1,3,5-Trimethylbenzene	ND		370	62	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Vinyl acetate	ND		1900	670	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Vinyl chloride	ND		370	190	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50
Xylenes, Total	ND		740	140	ug/Kg	☼	07/16/19 08:43	07/16/19 13:19	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*890*	*T J N*	*ug/Kg*	☼	*1.81*	*78-78-4*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Ethanol	*5500*	*J*	*ug/Kg*	☼	*2.12*	*64-17-5*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Pentane, 3-methyl-	*660*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Cyclopentane, methyl-	*410*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Cyclohexane	*220*	*J*	*ug/Kg*	☼	*3.72*	*110-82-7*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Isooctane	*130*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/16/19 08:43*	*07/16/19 13:19*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Dibromofluoromethane	*84*		*79 - 123*	*07/16/19 08:43*	*07/16/19 13:19*	*50*
Toluene-d8 (Surr)	*103*		*80 - 120*	*07/16/19 08:43*	*07/16/19 13:19*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Acenaphthylene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Anthracene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[a]anthracene	**3.4**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[a]pyrene	**3.4**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[b]fluoranthene	**4.8**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[g,h,i]perylene	**5.0**	**J**	8.4	2.6	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Benzo[k]fluoranthene	**4.0**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Chrysene	**2.5**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Dibenz(a,h)anthracene	**4.4**	**J**	8.4	2.6	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Fluoranthene	**2.2**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1

Client Sample ID: PD-12-SB-52-070819
Lab Sample ID: 400-172763-2
Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 78.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**4.1**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Indeno[1,2,3-cd]pyrene	**4.6**	**J**	8.4	2.6	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
1-Methylnaphthalene	**75**		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
2-Methylnaphthalene	**69**		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Phenanthrene	ND		8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1
Pyrene	**2.4**	**J**	8.4	1.3	ug/Kg	☼	07/10/19 09:38	07/18/19 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*27 - 127*	*07/10/19 09:38*	*07/18/19 19:50*	*1*
Nitrobenzene-d5	*57*		*15 - 136*	*07/10/19 09:38*	*07/18/19 19:50*	*1*
Terphenyl-d14	*82*		*24 - 146*	*07/10/19 09:38*	*07/18/19 19:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		420	55	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Benzenethiol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Benzoic acid	ND	F1	1300	450	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Bis(2-chloroethoxy)methane	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
bis (2-chloroisopropyl) ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Bis(2-ethylhexyl) phthalate	**78**	**J**	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Bromophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Butyl benzyl phthalate	**62**	**J**	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Chloroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Chloro-3-methylphenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Chloronaphthalene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Chlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Chlorophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Dibenz[a,h]acridine	ND		420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Dibenzofuran	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
3,3'-Dichlorobenzidine	ND	F1 *	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dichlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Diethyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dimethylphenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Dimethyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Di-n-butyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dinitrophenol	ND	F1 F2	1300	370	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,6-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
1,4-Dioxane	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Hexachlorobenzene	ND		420	130	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Hexachlorocyclopentadiene	ND	F1 F2	420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Hexachloroethane	ND		420	130	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Indene	ND		420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Isophorone	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-52-070819

Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2

Matrix: Solid
Percent Solids: 78.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
3 & 4 Methylphenol	ND		840	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Nitroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
3-Nitroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Nitrobenzene	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2-Nitrophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
N-Nitrosodimethylamine	ND		420	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
N-Nitrosodi-n-propylamine	ND		420	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
N-Nitrosodiphenylamine	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Pentachlorophenol	ND		840	84	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Phenol	**160**	**J**	420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Pyridine	ND		420	190	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
Quinoline	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4,5-Trichlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1
2,4,6-Trichlorophenol	ND		420	42	ug/Kg	☼	07/10/19 09:38	07/10/19 20:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methylnaphthalene	*60*	*J*	*ug/Kg*	☼	*6.91*	*91-57-6*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
1-Methylnaphthalene	*64*	*J*	*ug/Kg*	☼	*6.99*	*90-12-0*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Benzidine	*330*	*J*	*ug/Kg*	☼	*9.89*	*92-87-5*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
7,12-Dimethylbenz(a)anthracene	*140*	*J F1 **	*ug/Kg*	☼	*12.22*	*57-97-6*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/10/19 09:38*	*07/10/19 20:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*27 - 127*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
2-Fluorophenol	*60*		*25 - 128*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Nitrobenzene-d5	*61*		*15 - 136*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Phenol-d5	*64*		*29 - 130*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
Terphenyl-d14	*67*		*24 - 146*	*07/10/19 09:38*	*07/10/19 20:23*	*1*
2,4,6-Tribromophenol	*62*		*10 - 150*	*07/10/19 09:38*	*07/10/19 20:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**78.3**		0.01	0.01	%			07/10/19 15:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819

Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3

Matrix: Solid
Percent Solids: 68.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		9500	5000	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Acrolein	ND		19000	11000	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Acrylonitrile	ND		7600	3100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Benzene	**79000**		1900	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromobenzene	ND		1900	500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromochloromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromodichloromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromoform	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Bromomethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2-Butanone (MEK)	ND		9500	2300	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Carbon disulfide	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Carbon tetrachloride	ND		1900	650	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chlorobenzene	ND		1900	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2-Chloroethyl vinyl ether	ND		3800	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chloroform	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1-Chlorohexane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Chloromethane	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
cis-1,2-Dichloroethene	ND		1900	290	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
cis-1,3-Dichloropropene	ND		1900	460	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Dibromochloromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dibromo-3-Chloropropane	ND		1900	1300	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dichlorobenzene	ND		1900	270	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,3-Dichlorobenzene	ND		1900	360	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,4-Dichlorobenzene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Dichlorodifluoromethane	ND		1900	500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1-Dichloroethane	ND		1900	320	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dichloroethane	ND		1900	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1-Dichloroethene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2-Dichloropropane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,3-Dichloropropane	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2,2-Dichloropropane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1-Dichloropropene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Ethylbenzene	**5100**		1900	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Ethylene Dibromide	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Ethyl methacrylate	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Hexachlorobutadiene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
2-Hexanone	ND		9500	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Isopropylbenzene	**290**	**J**	1900	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Methylene bromide	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Methylene Chloride	ND		5700	3800	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
4-Methyl-2-pentanone (MIBK)	ND		9500	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Methyl tert-butyl ether	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
m-Xylene & p-Xylene	**14000**		1900	500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Naphthalene	ND		1900	760	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
n-Butylbenzene	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
N-Propylbenzene	**1300**	**J**	1900	340	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
o-Chlorotoluene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
o-Xylene	**4600**		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250

Client Sample ID: PD-12-SB-55-070819
Lab Sample ID: 400-172763-3
Date Collected: 07/08/19 11:15
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 68.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1900	370	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
p-Isopropyltoluene	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
sec-Butylbenzene	ND		1900	360	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Styrene	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
tert-Butylbenzene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,1,2-Tetrachloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,2,2-Tetrachloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Tetrachloroethene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Toluene	**1500**	**J**	1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
trans-1,2-Dichloroethene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
trans-1,3-Dichloropropene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,3-Trichlorobenzene	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,4-Trichlorobenzene	ND		1900	760	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,1-Trichloroethane	ND		1900	420	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,1,2-Trichloroethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Trichloroethene	ND		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Trichlorofluoromethane	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,3-Trichloropropane	ND		1900	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,2,4-Trimethylbenzene	**6400**		1900	380	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
1,3,5-Trimethylbenzene	**2300**		1900	320	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Vinyl acetate	ND		9500	3500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Vinyl chloride	ND		1900	950	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250
Xylenes, Total	**18000**		3800	720	ug/Kg	☼	07/16/19 08:43	07/16/19 18:33	250

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*4400*	*T J N*	*ug/Kg*	☼	*1.84*	*78-78-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Pentane	*6800*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Pentane, 3-methyl-	*6400*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Hexane	*13000*		*ug/Kg*	☼	*2.93*	*110-54-3*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Cyclopentane, methyl-	*9600*	*T J N*	*ug/Kg*	☼	*3.31*	*96-37-7*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Cyclohexane	*4400*		*ug/Kg*	☼	*3.72*	*110-82-7*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Hexane, 3-methyl-	*5400*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Isooctane	*1400*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
n-Heptane	*7600*		*ug/Kg*	☼	*4.04*	*142-82-5*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Methylcyclohexane	*5600*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Heptane, 2-methyl-	*5900*	*T J N*	*ug/Kg*	☼	*4.80*	*592-27-8*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Heptane, 3-methyl-	*5000*	*T J N*	*ug/Kg*	☼	*4.90*	*589-81-1*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Octane	*7900*	*T J N*	*ug/Kg*	☼	*5.18*	*111-65-9*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
3-Ethyltoluene	*5300*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
2-Ethyltoluene	*1200*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
1,2,3-Trimethylbenzene	*1400*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
p-Diethylbenzene	*1400*	*J*	*ug/Kg*	☼	*8.10*	*105-05-5*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Benzene, 1-methyl-2-(1-methylethyl)-	*1900*	*T J N*	*ug/Kg*	☼	*8.35*	*527-84-4*	*07/16/19 08:43*	*07/16/19 18:33*	*250*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*72 - 122*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Dibromofluoromethane	*86*		*79 - 123*	*07/16/19 08:43*	*07/16/19 18:33*	*250*
Toluene-d8 (Surr)	*103*		*80 - 120*	*07/16/19 08:43*	*07/16/19 18:33*	*250*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Acenaphthylene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Anthracene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[a]anthracene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[a]pyrene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[b]fluoranthene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[g,h,i]perylene	ND		9.5	2.9	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Benzo[k]fluoranthene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Chrysene	ND		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Dibenz(a,h)anthracene	ND		9.5	2.9	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Fluoranthene	**3.2**	**J**	9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Fluorene	**30**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Indeno[1,2,3-cd]pyrene	ND		9.5	2.9	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
1-Methylnaphthalene	**730**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
2-Methylnaphthalene	**1400**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Phenanthrene	**52**		9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1
Pyrene	**5.8**	**J**	9.5	1.4	ug/Kg	☼	07/10/19 09:38	07/18/19 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*27 - 127*	*07/10/19 09:38*	*07/18/19 20:05*	*1*
Nitrobenzene-d5	*51*		*15 - 136*	*07/10/19 09:38*	*07/18/19 20:05*	*1*
Terphenyl-d14	*97*		*24 - 146*	*07/10/19 09:38*	*07/18/19 20:05*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		480	62	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Benzenethiol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Benzoic acid	ND		1400	510	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Benzyl alcohol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Bis(2-chloroethoxy)methane	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Bis(2-chloroethyl)ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
bis (2-chloroisopropyl) ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Bis(2-ethylhexyl) phthalate	**70**	**J**	480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Bromophenyl phenyl ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Butyl benzyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Chloroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Chloro-3-methylphenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Chloronaphthalene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Chlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Chlorophenyl phenyl ether	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Dibenz[a,h]acridine	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Dibenzofuran	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
3,3'-Dichlorobenzidine	ND	*	480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4-Dichlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Diethyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4-Dimethylphenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Dimethyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Di-n-butyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4,6-Dinitro-ortho-cresol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4-Dinitrophenol	ND		1400	420	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819
Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3
Matrix: Solid
Percent Solids: 68.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,6-Dinitrotoluene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Di-n-octyl phthalate	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
1,4-Dioxane	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Hexachlorobenzene	ND		480	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Hexachlorocyclopentadiene	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Hexachloroethane	ND		480	140	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Indene	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Isophorone	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Methylphenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
3 & 4 Methylphenol	ND		950	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Nitroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
3-Nitroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Nitroaniline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Nitrobenzene	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2-Nitrophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
4-Nitrophenol	ND		480	160	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
N-Nitrosodimethylamine	ND		480	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
N-Nitrosodi-n-propylamine	ND		480	160	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
N-Nitrosodiphenylamine	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Pentachlorophenol	ND		950	95	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Phenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Pyridine	ND		480	220	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
Quinoline	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4,5-Trichlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1
2,4,6-Trichlorophenol	ND		480	48	ug/Kg	☼	07/10/19 09:38	07/10/19 20:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*5900*	*T J N*	*ug/Kg*	☼	*4.68*	*100-41-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
p-Xylene	*8600*	*T J N*	*ug/Kg*	☼	*4.91*	*106-42-3*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*2600*	*T J*	*ug/Kg*	☼	*5.28*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-ethyl-3-methyl-	*5400*	*T J N*	*ug/Kg*	☼	*5.31*	*620-14-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,3,5-trimethyl-	*5900*	*T J N*	*ug/Kg*	☼	*5.36*	*108-67-8*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-ethyl-3-methyl-	*1800*	*T J N*	*ug/Kg*	☼	*5.42*	*620-14-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Decane	*2100*	*T J N*	*ug/Kg*	☼	*5.48*	*124-18-5*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,3,5-trimethyl-	*12000*	*T J N*	*ug/Kg*	☼	*5.50*	*108-67-8*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,2,3-trimethyl-	*2500*	*T J N*	*ug/Kg*	☼	*5.66*	*526-73-8*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Indane	*1600*	*T J N*	*ug/Kg*	☼	*5.74*	*496-11-7*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-methyl-3-propyl-	*2100*	*T J N*	*ug/Kg*	☼	*5.78*	*1074-43-7*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,3-diethyl-	*3900*	*T J N*	*ug/Kg*	☼	*5.81*	*141-93-5*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*1700*	*T J N*	*ug/Kg*	☼	*5.90*	*934-80-5*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*2200*	*T J N*	*ug/Kg*	☼	*5.92*	*527-84-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*2700*	*T J N*	*ug/Kg*	☼	*5.95*	*535-77-3*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1-ethenyl-3-ethyl-	*1800*	*T J N*	*ug/Kg*	☼	*5.98*	*7525-62-4*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Benzene, 1,2,3,4-tetramethyl-	*1700*	*T J N*	*ug/Kg*	☼	*6.12*	*488-23-3*	*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*2200*	*T J*	*ug/Kg*	☼	*6.24*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Unknown	*2600*	*T J*	*ug/Kg*	☼	*6.27*		*07/10/19 09:38*	*07/10/19 20:44*	*1*
Dodecane	*2300*	*T J N*	*ug/Kg*	☼	*6.39*	*112-40-3*	*07/10/19 09:38*	*07/10/19 20:44*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-55-070819

Date Collected: 07/08/19 11:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-3

Matrix: Solid
Percent Solids: 68.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1900	T J	ug/Kg	☼	6.43		07/10/19 09:38	07/10/19 20:44	1
Naphthalene	2200	T J N	ug/Kg	☼	6.47	91-20-3	07/10/19 09:38	07/10/19 20:44	1
Tridecane	1800	T J N	ug/Kg	☼	6.78	629-50-5	07/10/19 09:38	07/10/19 20:44	1
Naphthalene, 1-methyl-	1600	T J N	ug/Kg	☼	6.91	90-12-0	07/10/19 09:38	07/10/19 20:44	1
Tetradecane	1800	T J N	ug/Kg	☼	7.15	629-59-4	07/10/19 09:38	07/10/19 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		27 - 127	07/10/19 09:38	07/10/19 20:44	1
2-Fluorophenol	54		25 - 128	07/10/19 09:38	07/10/19 20:44	1
Nitrobenzene-d5	65		15 - 136	07/10/19 09:38	07/10/19 20:44	1
Phenol-d5	65		29 - 130	07/10/19 09:38	07/10/19 20:44	1
Terphenyl-d14	76		24 - 146	07/10/19 09:38	07/10/19 20:44	1
2,4,6-Tribromophenol	67		10 - 150	07/10/19 09:38	07/10/19 20:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	68.0		0.01	0.01	%			07/10/19 15:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819

Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4

Matrix: Solid
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	690	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Acrolein	ND		2600	1500	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Acrylonitrile	ND		1100	420	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Benzene	**510**		260	35	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromobenzene	ND		260	69	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromochloromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromodichloromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromoform	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Bromomethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2-Butanone (MEK)	ND		1300	320	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Carbon disulfide	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Carbon tetrachloride	ND		260	90	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chlorobenzene	ND		260	27	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2-Chloroethyl vinyl ether	ND		530	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chloroform	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1-Chlorohexane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Chloromethane	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
cis-1,2-Dichloroethene	ND		260	40	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
cis-1,3-Dichloropropene	ND		260	63	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Dibromochloromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dibromo-3-Chloropropane	ND		260	170	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dichlorobenzene	ND		260	38	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,3-Dichlorobenzene	ND		260	50	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,4-Dichlorobenzene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Dichlorodifluoromethane	ND		260	69	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1-Dichloroethane	ND		260	44	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dichloroethane	ND		260	43	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1-Dichloroethene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,3-Dichloropropane	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1-Dichloropropene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Ethylbenzene	**58**	**J**	260	32	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Ethylene Dibromide	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Ethyl methacrylate	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Hexachlorobutadiene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
2-Hexanone	ND		1300	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Isopropylbenzene	ND		260	36	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Methylene bromide	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Methylene Chloride	ND		790	530	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
4-Methyl-2-pentanone (MIBK)	ND		1300	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Methyl tert-butyl ether	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
m-Xylene & p-Xylene	**180**	**J**	260	69	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Naphthalene	ND		260	110	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
n-Butylbenzene	ND		260	51	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
N-Propylbenzene	**52**	**J**	260	48	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
o-Chlorotoluene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
o-Xylene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50

Client: AECOM Technical Services Inc.
Job ID: 400-172763-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-SB-59-070819
Lab Sample ID: 400-172763-4
Date Collected: 07/08/19 11:50
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		260	52	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
p-Isopropyltoluene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
sec-Butylbenzene	ND		260	50	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Styrene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
tert-Butylbenzene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,1,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,2,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Tetrachloroethene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Toluene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
trans-1,2-Dichloroethene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
trans-1,3-Dichloropropene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,3-Trichlorobenzene	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,4-Trichlorobenzene	ND		260	110	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,1-Trichloroethane	ND		260	58	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,1,2-Trichloroethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Trichloroethene	ND		260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Trichlorofluoromethane	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,3-Trichloropropane	ND		260	160	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,2,4-Trimethylbenzene	**78**	**J**	260	53	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
1,3,5-Trimethylbenzene	ND		260	44	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Vinyl acetate	ND		1300	480	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Vinyl chloride	ND		260	130	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50
Xylenes, Total	**220**	**J**	530	100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:08	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*210*	*J*	*ug/Kg*	☼	*2.92*	*110-54-3*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Cyclohexane	*120*	*J*	*ug/Kg*	☼	*3.72*	*110-82-7*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Methylcyclohexane	*120*	*J*	*ug/Kg*	☼	*4.43*	*108-87-2*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 18:08*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Dibromofluoromethane	*83*		*79 - 123*	*07/16/19 08:43*	*07/16/19 18:08*	*50*
Toluene-d8 (Surr)	*104*		*80 - 120*	*07/16/19 08:43*	*07/16/19 18:08*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[g,h,i]perylene	ND		7.8	2.3	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Dibenz(a,h)anthracene	ND		7.8	2.3	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.3	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819
Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4
Matrix: Solid
Percent Solids: 85.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**37**		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
2-Methylnaphthalene	**45**		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Phenanthrene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1
Pyrene	ND		7.8	1.2	ug/Kg	☼	07/10/19 09:38	07/18/19 20:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*27 - 127*	*07/10/19 09:38*	*07/18/19 20:21*	*1*
Nitrobenzene-d5	*67*		*15 - 136*	*07/10/19 09:38*	*07/18/19 20:21*	*1*
Terphenyl-d14	*96*		*24 - 146*	*07/10/19 09:38*	*07/18/19 20:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	50	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Bis(2-chloroethoxy)methane	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Bis(2-ethylhexyl) phthalate	**59**	**J**	390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Indene	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Isophorone	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Client Sample ID: PD-12-SB-59-070819

Date Collected: 07/08/19 11:50
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-4

Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Phenol	**45**	**J**	390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Pyridine	ND		390	180	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
Quinoline	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/10/19 09:38	07/10/19 21:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/10/19 09:38*	*07/10/19 21:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
2-Fluorophenol	*67*		*25 - 128*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
Phenol-d5	*70*		*29 - 130*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
Terphenyl-d14	*82*		*24 - 146*	*07/10/19 09:38*	*07/10/19 21:05*	*1*
2,4,6-Tribromophenol	*64*		*10 - 150*	*07/10/19 09:38*	*07/10/19 21:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.1**		0.01	0.01	%			07/10/19 15:42	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172763-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172763-2	PD-12-SB-52-070819	97	84	103
400-172763-2MS	PD-12-SB-52-070819	101	88	104
400-172763-2MSD	PD-12-SB-52-070819	98	89	102
400-172763-3	PD-12-SB-55-070819	100	86	103
400-172763-4	PD-12-SB-59-070819	98	83	104
LCS 400-448198/20-A	Lab Control Sample	103	92	102
MB 400-448198/19-A	Method Blank	98	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172763-1	TB-PW-070819-A	102	100	100
400-172763-1	TB-PW-070819-A	104	112	105
LCS 400-447731/1002	Lab Control Sample	99	99	100
LCS 400-447978/1002	Lab Control Sample	105	113	102
MB 400-447731/4	Method Blank	101	99	99
MB 400-447978/4	Method Blank	107	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172763-2	PD-12-SB-52-070819	58	60	61	64	67	62
400-172763-2MS	PD-12-SB-52-070819	63	65	66	68	78	82
400-172763-2MSD	PD-12-SB-52-070819	63	63	66	67	79	82
400-172763-3	PD-12-SB-55-070819	64	54	65	65	76	67
400-172763-4	PD-12-SB-59-070819	67	67	66	70	82	64
LCS 400-447364/7-A	Lab Control Sample	71	72	75	74	81	83
LCSD 400-447364/3-A	Lab Control Sample Dup	68	69	68	71	78	59
MB 400-447364/1-A	Method Blank	65	64	62	66	73	52

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172763-1
Project/Site: PreDesign Invest PW

TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172763-2	PD-12-SB-52-070819	64	57	82
400-172763-2MS	PD-12-SB-52-070819	77	65	92
400-172763-2MSD	PD-12-SB-52-070819	70	70	83
400-172763-3	PD-12-SB-55-070819	70	51	97
400-172763-4	PD-12-SB-59-070819	73	67	96
LCS 400-447364/4-A	Lab Control Sample	78	68	95
MB 400-447364/1-A	Method Blank	82	71	105

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070819-A
Lab Sample ID: 400-172763-1
Date Collected: 07/08/19 00:00
Matrix: Water
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 12:31	WPD	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 16:33	BSW	TAL PEN

Client Sample ID: PD-12-SB-52-070819
Lab Sample ID: 400-172763-2
Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-52-070819
Lab Sample ID: 400-172763-2
Date Collected: 07/08/19 11:10
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.301 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 13:19	CAR	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447440	07/10/19 20:23	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:50	KJA	TAL PEN

Client Sample ID: PD-12-SB-55-070819
Lab Sample ID: 400-172763-3
Date Collected: 07/08/19 11:15
Matrix: Solid
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-55-070819
Lab Sample ID: 400-172763-3
Date Collected: 07/08/19 11:15
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 68.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.959 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		250	5 mL	5 mL	448153	07/16/19 18:33	CAR	TAL PEN
Total/NA	Prep	3546			15.27 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447440	07/10/19 20:44	VC1	TAL PEN
Total/NA	Prep	3546			15.27 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:05	KJA	TAL PEN

Client Sample ID: PD-12-SB-59-070819
Lab Sample ID: 400-172763-4
Date Collected: 07/08/19 11:50
Matrix: Solid
Date Received: 07/09/19 08:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-59-070819
Lab Sample ID: 400-172763-4
Date Collected: 07/08/19 11:50
Matrix: Solid
Date Received: 07/09/19 08:53
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.661 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 18:08	CAR	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447440	07/10/19 21:05	VC1	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:21	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447364/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 18:13	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 18:46	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447731/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 13:01	BSW	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447978/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 07:39	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448198/19-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 11:26	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447364/4-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:01	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447364/7-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 19:17	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447731/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 12:02	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447978/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 06:51	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448198/20-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 10:10	CAR	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-447364/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 18:56	VC1	TAL PEN

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2MS
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.301 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 14:07	CAR	TAL PEN
Total/NA	Prep	3546			15.40 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 19:40	VC1	TAL PEN
Total/NA	Prep	3546			15.43 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:17	KJA	TAL PEN

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2MSD
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447433	07/10/19 15:42	DDQ	TAL PEN

Client Sample ID: PD-12-SB-52-070819
Date Collected: 07/08/19 11:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.301 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448153	07/16/19 14:31	CAR	TAL PEN
Total/NA	Prep	3546			15.33 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D		1			447440	07/10/19 20:01	VC1	TAL PEN
Total/NA	Prep	3546			15.19 g	1 mL	447364	07/10/19 09:38	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 19:34	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

GC/MS VOA

Analysis Batch: 447731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-1	TB-PW-070819-A	Total/NA	Water	8260B	
MB 400-447731/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447731/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-1	TB-PW-070819-A	Total/NA	Water	8260B	
MB 400-447978/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447978/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	8260B	448198
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	8260B	448198
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	8260B	448198
MB 400-448198/19-A	Method Blank	Total/NA	Solid	8260B	448198
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	8260B	448198
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	8260B	448198
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	8260B	448198

Prep Batch: 448198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	5035	
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	5035	
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	5035	
MB 400-448198/19-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	5035	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	5035	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	3546	
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	3546	
MB 400-447364/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447364/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447364/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447364/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	3546	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	3546	

Analysis Batch: 447440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	8270D	447364
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	8270D	447364
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	8270D	447364

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

GC/MS Semi VOA (Continued)

Analysis Batch: 447440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447364/1-A	Method Blank	Total/NA	Solid	8270D	447364
LCS 400-447364/7-A	Lab Control Sample	Total/NA	Solid	8270D	447364
LCSD 400-447364/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447364
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	8270D	447364
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	8270D	447364

Analysis Batch: 448502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	8270D LL	447364
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	8270D LL	447364
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	8270D LL	447364
MB 400-447364/1-A	Method Blank	Total/NA	Solid	8270D LL	447364
LCS 400-447364/4-A	Lab Control Sample	Total/NA	Solid	8270D LL	447364
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	8270D LL	447364
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	8270D LL	447364

General Chemistry

Analysis Batch: 447433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172763-2	PD-12-SB-52-070819	Total/NA	Solid	Moisture	
400-172763-3	PD-12-SB-55-070819	Total/NA	Solid	Moisture	
400-172763-4	PD-12-SB-59-070819	Total/NA	Solid	Moisture	
400-172763-2MS	PD-12-SB-52-070819	Total/NA	Solid	Moisture	
400-172763-2MSD	PD-12-SB-52-070819	Total/NA	Solid	Moisture	

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 13:01	1
Acrolein	ND		20	10	ug/L			07/12/19 13:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 13:01	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 13:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 13:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 13:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 13:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 13:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 13:01	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 13:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 13:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 13:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 13:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 13:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 13:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 13:01	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 13:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 13:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 13:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 13:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 13:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 13:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 13:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 13:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 13:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 13:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 13:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 13:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 13:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 13:01	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 13:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 13:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 13:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 13:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/12/19 13:01*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/12/19 13:01*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/12/19 13:01*	*1*

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	271		ug/L		135	43 - 160
Acrolein	500	624		ug/L		125	38 - 160
Acrylonitrile	500	541		ug/L		108	64 - 142
Benzene	50.0	49.6		ug/L		99	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	51.3		ug/L		103	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	35.6		ug/L		71	10 - 160
2-Butanone (MEK)	200	237		ug/L		118	61 - 145
Carbon disulfide	50.0	50.3		ug/L		101	61 - 137
Carbon tetrachloride	50.0	56.6		ug/L		113	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	47.2		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	46.9		ug/L		94	10 - 160
Chloroform	50.0	50.2		ug/L		100	69 - 130
1-Chlorohexane	50.0	53.8		ug/L		108	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	53.3		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	55.9		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.5		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	51.0		ug/L		102	67 - 130
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.1		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.2		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	50.9		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	53.6		ug/L		107	52 - 135
1,1-Dichloropropene	50.0	51.3		ug/L		103	70 - 130
Ethylbenzene	50.0	51.1		ug/L		102	70 - 130
Ethylene Dibromide	50.0	49.8		ug/L		100	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 130
Methylene bromide	50.0	46.4		ug/L		93	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	234		ug/L		117	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	50.8		ug/L		102	70 - 130
Naphthalene	50.0	50.7		ug/L		101	47 - 149
n-Butylbenzene	50.0	51.5		ug/L		103	67 - 130
N-Propylbenzene	50.0	51.7		ug/L		103	70 - 130
o-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
o-Xylene	50.0	50.2		ug/L		100	70 - 130
p-Chlorotoluene	50.0	50.6		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	52.0		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.1		ug/L		100	66 - 130
Styrene	50.0	47.6		ug/L		95	70 - 130
tert-Butylbenzene	50.0	49.5		ug/L		99	64 - 139
1,1,1,2-Tetrachloroethane	50.0	59.9		ug/L		120	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	70 - 131
Tetrachloroethene	50.0	49.6		ug/L		99	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	57.2		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.3		ug/L		97	60 - 138
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	50.4		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	41.4		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	48.2		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	44.7		ug/L		89	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.41	ug/L			07/15/19 07:39	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 07:39*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/15/19 07:39*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/15/19 07:39*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/15/19 07:39*	*1*

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	50.0	45.9		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrolein	ND		50	28	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Benzene	ND		5.0	0.67	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromoform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Hexanone	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene Chloride	ND		15	10	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Styrene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Toluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/16/19 08:43*	*07/16/19 11:26*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/16/19 08:43*	*07/16/19 11:26*	*1*
Dibromofluoromethane	*92*		*79 - 123*	*07/16/19 08:43*	*07/16/19 11:26*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 11:26*	*1*

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	194		ug/Kg		97	48 - 160
Acrolein	500	489		ug/Kg		98	40 - 150
Acrylonitrile	500	543		ug/Kg		109	60 - 130
Benzene	50.0	48.2		ug/Kg		96	65 - 130
Bromobenzene	50.0	52.1		ug/Kg		104	65 - 130
Bromochloromethane	50.0	51.3		ug/Kg		103	65 - 130
Bromodichloromethane	50.0	44.6		ug/Kg		89	61 - 130
Bromoform	50.0	47.5		ug/Kg		95	52 - 136
Bromomethane	50.0	39.1		ug/Kg		78	12 - 160
2-Butanone (MEK)	200	172		ug/Kg		86	55 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	45.0		ug/Kg		90	46 - 141
Carbon tetrachloride	50.0	45.5		ug/Kg		91	60 - 130
Chlorobenzene	50.0	50.6		ug/Kg		101	70 - 130
Chloroethane	50.0	42.4		ug/Kg		85	55 - 134
2-Chloroethyl vinyl ether	50.0	35.3		ug/Kg		71	10 - 158
Chloroform	50.0	48.3		ug/Kg		97	62 - 130
1-Chlorohexane	50.0	51.6		ug/Kg		103	69 - 130
Chloromethane	50.0	49.4		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.2		ug/Kg		94	53 - 135
cis-1,3-Dichloropropene	50.0	46.3		ug/Kg		93	61 - 130
Dibromochloromethane	50.0	49.3		ug/Kg		99	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	48.3		ug/Kg		97	49 - 130
1,2-Dichlorobenzene	50.0	55.2		ug/Kg		110	64 - 130
1,3-Dichlorobenzene	50.0	54.2		ug/Kg		108	66 - 130
1,4-Dichlorobenzene	50.0	52.5		ug/Kg		105	65 - 130
Dichlorodifluoromethane	50.0	40.6		ug/Kg		81	34 - 143
1,1-Dichloroethane	50.0	47.9		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.3		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	48.9		ug/Kg		98	55 - 137
1,2-Dichloropropane	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichloropropane	50.0	49.8		ug/Kg		100	67 - 130
2,2-Dichloropropane	50.0	43.0		ug/Kg		86	51 - 132
1,1-Dichloropropene	50.0	47.4		ug/Kg		95	65 - 130
Ethylbenzene	50.0	52.9		ug/Kg		106	70 - 130
Ethylene Dibromide	50.0	51.6		ug/Kg		103	67 - 130
Ethyl methacrylate	50.0	50.0		ug/Kg		100	62 - 130
Hexachlorobutadiene	50.0	42.2		ug/Kg		84	62 - 133
2-Hexanone	200	183		ug/Kg		91	57 - 131
Isopropylbenzene	50.0	51.3		ug/Kg		103	70 - 130
Methylene bromide	50.0	44.9		ug/Kg		90	65 - 130
Methylene Chloride	50.0	49.6		ug/Kg		99	57 - 132
4-Methyl-2-pentanone (MIBK)	200	204		ug/Kg		102	58 - 130
Methyl tert-butyl ether	50.0	43.9		ug/Kg		88	63 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/Kg		104	70 - 130
Naphthalene	50.0	51.8		ug/Kg		104	45 - 144
n-Butylbenzene	50.0	52.9		ug/Kg		106	66 - 130
N-Propylbenzene	50.0	55.8		ug/Kg		112	67 - 130
o-Chlorotoluene	50.0	55.7		ug/Kg		111	67 - 130
o-Xylene	50.0	52.9		ug/Kg		106	70 - 130
p-Chlorotoluene	50.0	57.8		ug/Kg		116	66 - 130
p-Isopropyltoluene	50.0	55.1		ug/Kg		110	68 - 130
sec-Butylbenzene	50.0	54.1		ug/Kg		108	67 - 130
Styrene	50.0	49.6		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	53.1		ug/Kg		106	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.7		ug/Kg		105	65 - 130
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/Kg		106	60 - 131
Tetrachloroethene	50.0	49.1		ug/Kg		98	67 - 130
Toluene	50.0	52.7		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/Kg		105	58 - 134

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
trans-1,3-Dichloropropene			50.0	47.8		ug/Kg		96	60 - 130		
1,2,3-Trichlorobenzene			50.0	43.8		ug/Kg		88	58 - 135		
1,2,4-Trichlorobenzene			50.0	44.9		ug/Kg		90	56 - 138		
1,1,1-Trichloroethane			50.0	46.6		ug/Kg		93	63 - 130		
1,1,2-Trichloroethane			50.0	50.4		ug/Kg		101	65 - 130		
Trichloroethene			50.0	48.4		ug/Kg		97	65 - 130		
Trichlorofluoromethane			50.0	39.2		ug/Kg		78	61 - 136		
1,2,3-Trichloropropane			50.0	54.6		ug/Kg		109	60 - 130		
1,2,4-Trimethylbenzene			50.0	54.2		ug/Kg		108	66 - 130		
1,3,5-Trimethylbenzene			50.0	55.5		ug/Kg		111	67 - 130		
Vinyl acetate			100	108		ug/Kg		108	24 - 160		
Vinyl chloride			50.0	50.4		ug/Kg		101	52 - 132		
Xylenes, Total			100	105		ug/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*92*		*79 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acetone	ND		14800	11500		ug/Kg	☼	78	10 - 150		
Acrolein	ND		37100	33300		ug/Kg	☼	90	10 - 150		
Acrylonitrile	ND		37100	34300		ug/Kg	☼	92	21 - 141		
Benzene	11000	F1	3710	12400	F1	ug/Kg	☼	34	38 - 131		
Bromobenzene	ND		3710	3040		ug/Kg	☼	82	28 - 134		
Bromochloromethane	ND		3710	3080		ug/Kg	☼	83	37 - 134		
Bromodichloromethane	ND		3710	2480		ug/Kg	☼	67	37 - 130		
Bromoform	ND		3710	2220		ug/Kg	☼	60	24 - 136		
Bromomethane	ND		3710	1060		ug/Kg	☼	28	10 - 150		
2-Butanone (MEK)	ND		14800	10300		ug/Kg	☼	69	19 - 139		
Carbon disulfide	ND		3710	2220		ug/Kg	☼	60	29 - 141		
Carbon tetrachloride	ND		3710	2450		ug/Kg	☼	66	36 - 134		
Chlorobenzene	ND		3710	3010		ug/Kg	☼	81	37 - 130		
Chloroethane	ND		3710	2050		ug/Kg	☼	55	36 - 139		
2-Chloroethyl vinyl ether	ND		3710	2880		ug/Kg	☼	78	10 - 150		
Chloroform	ND		3710	2860		ug/Kg	☼	77	39 - 130		
1-Chlorohexane	ND		3710	3000		ug/Kg	☼	81	32 - 131		
Chloromethane	ND		3710	3290		ug/Kg	☼	89	35 - 136		
cis-1,2-Dichloroethene	ND		3710	2860		ug/Kg	☼	77	32 - 135		
cis-1,3-Dichloropropene	ND		3710	2670		ug/Kg	☼	72	34 - 130		
Dibromochloromethane	ND		3710	2600		ug/Kg	☼	70	32 - 132		
1,2-Dibromo-3-Chloropropane	ND		3710	2540		ug/Kg	☼	68	14 - 132		
1,2-Dichlorobenzene	ND		3710	3220		ug/Kg	☼	87	20 - 130		
1,3-Dichlorobenzene	ND		3710	3120		ug/Kg	☼	84	22 - 130		

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		3710	3170		ug/Kg	☼	85	21 - 130
Dichlorodifluoromethane	ND		3710	2510		ug/Kg	☼	68	21 - 146
1,1-Dichloroethane	ND		3710	2870		ug/Kg	☼	77	41 - 130
1,2-Dichloroethane	ND		3710	3000		ug/Kg	☼	81	37 - 130
1,1-Dichloroethene	ND		3710	2780		ug/Kg	☼	75	39 - 138
1,2-Dichloropropane	ND		3710	2860		ug/Kg	☼	77	39 - 130
1,3-Dichloropropane	ND		3710	3040		ug/Kg	☼	82	39 - 130
2,2-Dichloropropane	ND		3710	2360		ug/Kg	☼	64	32 - 134
1,1-Dichloropropene	ND		3710	2740		ug/Kg	☼	74	38 - 136
Ethylbenzene	ND		3710	3120		ug/Kg	☼	84	35 - 130
Ethylene Dibromide	ND		3710	3040		ug/Kg	☼	82	35 - 130
Ethyl methacrylate	ND		3710	2980		ug/Kg	☼	80	10 - 142
Hexachlorobutadiene	ND		3710	2620		ug/Kg	☼	71	10 - 144
2-Hexanone	ND		14800	9650		ug/Kg	☼	65	20 - 142
Isopropylbenzene	ND		3710	3060		ug/Kg	☼	83	31 - 132
Methylene bromide	ND		3710	2770		ug/Kg	☼	75	35 - 130
Methylene Chloride	ND		3710	2940		ug/Kg	☼	79	36 - 132
4-Methyl-2-pentanone (MIBK)	ND		14800	11800		ug/Kg	☼	79	21 - 144
Methyl tert-butyl ether	ND		3710	2680		ug/Kg	☼	72	34 - 132
m-Xylene & p-Xylene	ND		3710	3180		ug/Kg	☼	86	35 - 130
Naphthalene	ND		3710	3210		ug/Kg	☼	87	10 - 150
n-Butylbenzene	ND		3710	3190		ug/Kg	☼	86	20 - 133
N-Propylbenzene	ND		3710	3270		ug/Kg	☼	88	29 - 132
o-Chlorotoluene	ND		3710	3300		ug/Kg	☼	89	31 - 130
o-Xylene	ND		3710	3140		ug/Kg	☼	85	35 - 130
p-Chlorotoluene	ND		3710	3370		ug/Kg	☼	91	28 - 130
p-Isopropyltoluene	ND		3710	3260		ug/Kg	☼	88	20 - 137
sec-Butylbenzene	ND		3710	3140		ug/Kg	☼	85	22 - 135
Styrene	ND		3710	2950		ug/Kg	☼	80	31 - 130
tert-Butylbenzene	ND		3710	3100		ug/Kg	☼	84	26 - 133
1,1,1,2-Tetrachloroethane	ND		3710	2960		ug/Kg	☼	80	37 - 130
1,1,2,2-Tetrachloroethane	ND		3710	3050		ug/Kg	☼	82	10 - 149
Tetrachloroethene	ND		3710	3170		ug/Kg	☼	86	27 - 147
Toluene	ND		3710	3210		ug/Kg	☼	87	42 - 130
trans-1,2-Dichloroethene	ND		3710	3100		ug/Kg	☼	83	40 - 134
trans-1,3-Dichloropropene	ND		3710	2730		ug/Kg	☼	74	31 - 130
1,2,3-Trichlorobenzene	ND		3710	2770		ug/Kg	☼	75	10 - 146
1,2,4-Trichlorobenzene	ND		3710	2780		ug/Kg	☼	75	10 - 141
1,1,1-Trichloroethane	ND		3710	2680		ug/Kg	☼	72	41 - 130
1,1,2-Trichloroethane	ND		3710	3090		ug/Kg	☼	83	37 - 130
Trichloroethene	ND		3710	2860		ug/Kg	☼	77	34 - 144
Trichlorofluoromethane	ND		3710	2530		ug/Kg	☼	68	41 - 143
1,2,3-Trichloropropane	ND		3710	3230		ug/Kg	☼	87	29 - 133
1,2,4-Trimethylbenzene	ND		3710	3300		ug/Kg	☼	89	26 - 131
1,3,5-Trimethylbenzene	ND		3710	3290		ug/Kg	☼	89	28 - 131
Vinyl acetate	ND		7420	7060		ug/Kg	☼	95	10 - 150
Vinyl chloride	ND		3710	3080		ug/Kg	☼	83	35 - 136
Xylenes, Total	ND		7420	6320		ug/Kg	☼	85	35 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	*101*		*72 - 122*
Dibromofluoromethane	*88*		*79 - 123*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		14800	13000		ug/Kg	☼	88	10 - 150	12	38
Acrolein	ND		37100	30400		ug/Kg	☼	82	10 - 150	9	44
Acrylonitrile	ND		37100	39300		ug/Kg	☼	106	21 - 141	14	37
Benzene	11000	F1	3710	12600		ug/Kg	☼	41	38 - 131	2	36
Bromobenzene	ND		3710	3200		ug/Kg	☼	86	28 - 134	5	37
Bromochloromethane	ND		3710	3600		ug/Kg	☼	97	37 - 134	15	38
Bromodichloromethane	ND		3710	2870		ug/Kg	☼	77	37 - 130	14	34
Bromoform	ND		3710	2600		ug/Kg	☼	70	24 - 136	16	34
Bromomethane	ND		3710	1070		ug/Kg	☼	29	10 - 150	1	47
2-Butanone (MEK)	ND		14800	11600		ug/Kg	☼	78	19 - 139	12	41
Carbon disulfide	ND		3710	2680		ug/Kg	☼	72	29 - 141	18	39
Carbon tetrachloride	ND		3710	2840		ug/Kg	☼	77	36 - 134	15	44
Chlorobenzene	ND		3710	3260		ug/Kg	☼	88	37 - 130	8	37
Chloroethane	ND		3710	1950		ug/Kg	☼	52	36 - 139	5	42
2-Chloroethyl vinyl ether	ND		3710	2800		ug/Kg	☼	75	10 - 150	3	38
Chloroform	ND		3710	3270		ug/Kg	☼	88	39 - 130	13	35
1-Chlorohexane	ND		3710	3090		ug/Kg	☼	83	32 - 131	3	48
Chloromethane	ND		3710	3400		ug/Kg	☼	92	35 - 136	3	41
cis-1,2-Dichloroethene	ND		3710	3310		ug/Kg	☼	89	32 - 135	14	35
cis-1,3-Dichloropropene	ND		3710	3030		ug/Kg	☼	82	34 - 130	13	35
Dibromochloromethane	ND		3710	3060		ug/Kg	☼	82	32 - 132	16	34
1,2-Dibromo-3-Chloropropane	ND		3710	3050		ug/Kg	☼	82	14 - 132	18	38
1,2-Dichlorobenzene	ND		3710	3350		ug/Kg	☼	90	20 - 130	4	40
1,3-Dichlorobenzene	ND		3710	3200		ug/Kg	☼	86	22 - 130	3	41
1,4-Dichlorobenzene	ND		3710	3180		ug/Kg	☼	86	21 - 130	0	40
Dichlorodifluoromethane	ND		3710	2480		ug/Kg	☼	67	21 - 146	1	46
1,1-Dichloroethane	ND		3710	3380		ug/Kg	☼	91	41 - 130	16	35
1,2-Dichloroethane	ND		3710	3410		ug/Kg	☼	92	37 - 130	13	32
1,1-Dichloroethene	ND		3710	3300		ug/Kg	☼	89	39 - 138	17	37
1,2-Dichloropropane	ND		3710	3360		ug/Kg	☼	91	39 - 130	16	35
1,3-Dichloropropane	ND		3710	3510		ug/Kg	☼	95	39 - 130	14	32
2,2-Dichloropropane	ND		3710	2800		ug/Kg	☼	76	32 - 134	17	41
1,1-Dichloropropene	ND		3710	3130		ug/Kg	☼	84	38 - 136	13	43
Ethylbenzene	ND		3710	3260		ug/Kg	☼	88	35 - 130	4	46
Ethylene Dibromide	ND		3710	3600		ug/Kg	☼	97	35 - 130	17	31
Ethyl methacrylate	ND		3710	3440		ug/Kg	☼	93	10 - 142	14	39
Hexachlorobutadiene	ND		3710	2190		ug/Kg	☼	59	10 - 144	18	68
2-Hexanone	ND		14800	11100		ug/Kg	☼	75	20 - 142	14	37
Isopropylbenzene	ND		3710	3080		ug/Kg	☼	83	31 - 132	1	51

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		3710	3060		ug/Kg	☼	83	35 - 130	10	34
Methylene Chloride	ND		3710	3420		ug/Kg	☼	92	36 - 132	15	38
4-Methyl-2-pentanone (MIBK)	ND		14800	13400		ug/Kg	☼	90	21 - 144	13	39
Methyl tert-butyl ether	ND		3710	3120		ug/Kg	☼	84	34 - 132	15	31
m-Xylene & p-Xylene	ND		3710	3300		ug/Kg	☼	89	35 - 130	4	42
Naphthalene	ND		3710	3520		ug/Kg	☼	95	10 - 150	9	49
n-Butylbenzene	ND		3710	2700		ug/Kg	☼	73	20 - 133	17	50
N-Propylbenzene	ND		3710	3130		ug/Kg	☼	84	29 - 132	4	42
o-Chlorotoluene	ND		3710	3140		ug/Kg	☼	85	31 - 130	5	45
o-Xylene	ND		3710	3310		ug/Kg	☼	89	35 - 130	5	37
p-Chlorotoluene	ND		3710	3080		ug/Kg	☼	83	28 - 130	9	42
p-Isopropyltoluene	ND		3710	3000		ug/Kg	☼	81	20 - 137	9	53
sec-Butylbenzene	ND		3710	2980		ug/Kg	☼	80	22 - 135	5	52
Styrene	ND		3710	3180		ug/Kg	☼	86	31 - 130	8	39
tert-Butylbenzene	ND		3710	2940		ug/Kg	☼	79	26 - 133	5	47
1,1,1,2-Tetrachloroethane	ND		3710	3390		ug/Kg	☼	92	37 - 130	14	34
1,1,2,2-Tetrachloroethane	ND		3710	3440		ug/Kg	☼	93	10 - 149	12	44
Tetrachloroethene	ND		3710	3520		ug/Kg	☼	95	27 - 147	10	44
Toluene	ND		3710	3570		ug/Kg	☼	96	42 - 130	10	37
trans-1,2-Dichloroethene	ND		3710	3510		ug/Kg	☼	95	40 - 134	12	38
trans-1,3-Dichloropropene	ND		3710	3130		ug/Kg	☼	84	31 - 130	14	34
1,2,3-Trichlorobenzene	ND		3710	2910		ug/Kg	☼	79	10 - 146	5	47
1,2,4-Trichlorobenzene	ND		3710	2820		ug/Kg	☼	76	10 - 141	2	53
1,1,1-Trichloroethane	ND		3710	3120		ug/Kg	☼	84	41 - 130	15	40
1,1,2-Trichloroethane	ND		3710	3540		ug/Kg	☼	96	37 - 130	14	33
Trichloroethene	ND		3710	3200		ug/Kg	☼	86	34 - 144	11	42
Trichlorofluoromethane	ND		3710	2460		ug/Kg	☼	66	41 - 143	3	42
1,2,3-Trichloropropane	ND		3710	3640		ug/Kg	☼	98	29 - 133	12	33
1,2,4-Trimethylbenzene	ND		3710	3200		ug/Kg	☼	86	26 - 131	3	48
1,3,5-Trimethylbenzene	ND		3710	3170		ug/Kg	☼	85	28 - 131	4	46
Vinyl acetate	ND		7420	6790		ug/Kg	☼	92	10 - 150	4	60
Vinyl chloride	ND		3710	3050		ug/Kg	☼	82	35 - 136	1	43
Xylenes, Total	ND		7420	6610		ug/Kg	☼	89	35 - 130	4	39

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*72 - 122*
Dibromofluoromethane	*89*		*79 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Benzenethiol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Benzoic acid	ND		990	350	ug/Kg		07/10/19 09:38	07/10/19 18:13	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Bis(2-ethylhexyl) phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Chloroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Chlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Dibenzofuran	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Diethyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
1,4-Dioxane	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Hexachloroethane	ND		330	100	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Indene	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Isophorone	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Methylphenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Nitroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
3-Nitroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Nitroaniline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Nitrobenzene	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2-Nitrophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
4-Nitrophenol	ND		330	110	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Pentachlorophenol	ND		660	66	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Phenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Pyridine	ND		330	150	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
Quinoline	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/10/19 09:38	07/10/19 18:13	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/10/19 09:38*	*07/10/19 18:13*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 127*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
2-Fluorophenol	*64*		*25 - 128*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
Phenol-d5	*66*		*29 - 130*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
Terphenyl-d14	*73*		*24 - 146*	*07/10/19 09:38*	*07/10/19 18:13*	*1*
2,4,6-Tribromophenol	*52*		*10 - 150*	*07/10/19 09:38*	*07/10/19 18:13*	*1*

Lab Sample ID: LCS 400-447364/7-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1500		ug/Kg		75	36 - 120
Benzoic acid	7770	5990		ug/Kg		77	10 - 139
Benzyl alcohol	2000	1740		ug/Kg		87	10 - 127
Bis(2-chloroethoxy)methane	2000	1380		ug/Kg		69	52 - 120
Bis(2-chloroethyl)ether	2000	1510		ug/Kg		76	50 - 120
bis (2-chloroisopropyl) ether	2000	1560		ug/Kg		78	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1980		ug/Kg		99	58 - 158
4-Bromophenyl phenyl ether	2000	1750		ug/Kg		87	51 - 120
Butyl benzyl phthalate	2000	1820		ug/Kg		91	58 - 126
4-Chloroaniline	2000	1370		ug/Kg		68	34 - 120
4-Chloro-3-methylphenol	2000	1840		ug/Kg		92	57 - 124
2-Chloronaphthalene	2000	1660		ug/Kg		83	55 - 120
2-Chlorophenol	2000	1690		ug/Kg		85	52 - 120
4-Chlorophenyl phenyl ether	2000	1710		ug/Kg		86	56 - 120
Dibenz[a,h]acridine	2000	1840		ug/Kg		92	51 - 135
Dibenzofuran	2000	1650		ug/Kg		83	58 - 120
3,3'-Dichlorobenzidine	2670	3910	*	ug/Kg		146	42 - 120
2,4-Dichlorophenol	2000	1730		ug/Kg		86	56 - 120
Diethyl phthalate	2000	1720		ug/Kg		86	56 - 128
2,4-Dimethylphenol	2000	1740		ug/Kg		87	54 - 120
Dimethyl phthalate	2000	1720		ug/Kg		86	58 - 120
Di-n-butyl phthalate	2000	2070		ug/Kg		103	64 - 122
4,6-Dinitro-ortho-cresol	4000	4250		ug/Kg		106	35 - 135
2,4-Dinitrophenol	4000	3730		ug/Kg		93	10 - 138
2,4-Dinitrotoluene	2000	1820		ug/Kg		91	59 - 133
2,6-Dinitrotoluene	2000	1790		ug/Kg		89	57 - 123
Di-n-octyl phthalate	2000	1970		ug/Kg		98	57 - 137
1,4-Dioxane	2000	1010		ug/Kg		50	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1650		ug/Kg		82	50 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447364/7-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexachlorobenzene			2000	1820		ug/Kg		91	49 - 127		
Hexachlorocyclopentadiene			2000	1750		ug/Kg		88	10 - 140		
Hexachloroethane			2000	1590		ug/Kg		79	45 - 120		
Indene			2000	1660		ug/Kg		83	45 - 120		
Isophorone			2000	1630		ug/Kg		81	50 - 120		
2-Methylphenol			2000	1730		ug/Kg		86	51 - 123		
3 & 4 Methylphenol			2000	1640		ug/Kg		82	47 - 123		
2-Nitroaniline			2000	1750		ug/Kg		87	55 - 129		
3-Nitroaniline			2000	1690		ug/Kg		84	45 - 120		
4-Nitroaniline			2000	1750		ug/Kg		88	52 - 126		
Nitrobenzene			2000	1470		ug/Kg		73	50 - 120		
2-Nitrophenol			2000	1710		ug/Kg		85	53 - 120		
4-Nitrophenol			4000	3230		ug/Kg		81	38 - 133		
N-Nitrosodimethylamine			2000	1430		ug/Kg		71	35 - 120		
N-Nitrosodi-n-propylamine			2000	1670		ug/Kg		83	48 - 120		
N-Nitrosodiphenylamine			1980	1710		ug/Kg		86	54 - 120		
Pentachlorophenol			4000	4190		ug/Kg		105	32 - 131		
Phenol			2000	1710		ug/Kg		85	51 - 120		
Pyridine			4000	2510		ug/Kg		63	29 - 120		
Quinoline			2000	1590		ug/Kg		80	10 - 150		
2,4,5-Trichlorophenol			2000	1820		ug/Kg		91	53 - 133		
2,4,6-Trichlorophenol			2000	1810		ug/Kg		91	51 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*27 - 127*
2-Fluorophenol	*72*		*25 - 128*
Nitrobenzene-d5	*75*		*15 - 136*
Phenol-d5	*74*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*83*		*10 - 150*

Lab Sample ID: LCSD 400-447364/3-A
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447364

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	1470		ug/Kg		74	10 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*27 - 127*
2-Fluorophenol	*69*		*25 - 128*
Nitrobenzene-d5	*68*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*78*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2490	1840		ug/Kg	☼	74	40 - 140
Benzoic acid	ND	F1	9670	845	J F1	ug/Kg	☼	9	40 - 140
Benzyl alcohol	ND		2490	2020		ug/Kg	☼	81	40 - 140
Bis(2-chloroethoxy)methane	ND		2490	1660		ug/Kg	☼	67	40 - 140
Bis(2-chloroethyl)ether	ND		2490	1720		ug/Kg	☼	69	40 - 140
bis (2-chloroisopropyl) ether	ND		2490	1780		ug/Kg	☼	71	40 - 140
Bis(2-ethylhexyl) phthalate	78	J	2490	2440		ug/Kg	☼	95	40 - 140
4-Bromophenyl phenyl ether	ND		2490	2090		ug/Kg	☼	84	40 - 140
Butyl benzyl phthalate	62	J	2490	2220		ug/Kg	☼	87	40 - 140
4-Chloroaniline	ND		2490	1670		ug/Kg	☼	67	40 - 140
4-Chloro-3-methylphenol	ND		2490	2300		ug/Kg	☼	92	40 - 140
2-Chloronaphthalene	ND		2490	1900		ug/Kg	☼	77	40 - 140
2-Chlorophenol	ND		2490	1970		ug/Kg	☼	79	40 - 140
4-Chlorophenyl phenyl ether	ND		2490	2000		ug/Kg	☼	80	40 - 140
Dibenz[a,h]acridine	ND		2490	2050		ug/Kg	☼	82	40 - 140
Dibenzofuran	ND		2490	1940		ug/Kg	☼	78	40 - 140
3,3'-Dichlorobenzidine	ND	F1 *	3320	4920	F1	ug/Kg	☼	148	40 - 140
2,4-Dichlorophenol	ND		2490	2070		ug/Kg	☼	83	40 - 140
Diethyl phthalate	ND		2490	2080		ug/Kg	☼	84	40 - 140
2,4-Dimethylphenol	ND		2490	2100		ug/Kg	☼	84	40 - 140
Dimethyl phthalate	ND		2490	2010		ug/Kg	☼	81	40 - 140
Di-n-butyl phthalate	ND		2490	2500		ug/Kg	☼	101	40 - 140
4,6-Dinitro-ortho-cresol	ND		4980	2650		ug/Kg	☼	53	40 - 140
2,4-Dinitrophenol	ND	F1 F2	4980	925	J F1	ug/Kg	☼	19	40 - 140
2,4-Dinitrotoluene	ND		2490	2050		ug/Kg	☼	82	40 - 140
2,6-Dinitrotoluene	ND		2490	1950		ug/Kg	☼	78	40 - 140
Di-n-octyl phthalate	ND		2490	2440		ug/Kg	☼	98	40 - 140
1,4-Dioxane	ND		2490	1010		ug/Kg	☼	40	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2490	1910		ug/Kg	☼	77	40 - 140
Hexachlorobenzene	ND		2490	2190		ug/Kg	☼	88	40 - 140
Hexachlorocyclopentadiene	ND	F1 F2	2490	365	J F1	ug/Kg	☼	15	40 - 140
Hexachloroethane	ND		2490	1910		ug/Kg	☼	77	40 - 140
Indene	ND		2490	1840		ug/Kg	☼	74	40 - 140
Isophorone	ND		2490	1880		ug/Kg	☼	75	40 - 140
2-Methylphenol	ND		2490	2050		ug/Kg	☼	82	40 - 140
3 & 4 Methylphenol	ND		2490	1980		ug/Kg	☼	80	40 - 140
2-Nitroaniline	ND		2490	2020		ug/Kg	☼	81	40 - 140
3-Nitroaniline	ND		2490	2030		ug/Kg	☼	81	40 - 140
4-Nitroaniline	ND		2490	2550		ug/Kg	☼	102	40 - 140
Nitrobenzene	ND		2490	1640		ug/Kg	☼	66	40 - 140
2-Nitrophenol	ND		2490	1680		ug/Kg	☼	67	40 - 140
4-Nitrophenol	ND		4980	3700		ug/Kg	☼	74	40 - 140
N-Nitrosodimethylamine	ND		2490	1480		ug/Kg	☼	59	40 - 140
N-Nitrosodi-n-propylamine	ND		2490	1980		ug/Kg	☼	80	40 - 140
N-Nitrosodiphenylamine	ND		2470	2040		ug/Kg	☼	82	40 - 140
Pentachlorophenol	ND		4980	5170		ug/Kg	☼	104	40 - 140
Phenol	160	J	2490	2050		ug/Kg	☼	76	40 - 140
Pyridine	ND		4980	2690		ug/Kg	☼	54	40 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	ND		2490	1840		ug/Kg	☼	74	40 - 140
2,4,5-Trichlorophenol	ND		2490	2170		ug/Kg	☼	87	40 - 140
2,4,6-Trichlorophenol	ND		2490	2110		ug/Kg	☼	85	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*65*		*25 - 128*
Nitrobenzene-d5	*66*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*78*		*24 - 146*
2,4,6-Tribromophenol	*82*		*10 - 150*

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2500	1710		ug/Kg	☼	68	40 - 140	7	30
Benzoic acid	ND	F1	9710	827	J F1	ug/Kg	☼	9	40 - 140	2	30
Benzyl alcohol	ND		2500	1990		ug/Kg	☼	80	40 - 140	1	30
Bis(2-chloroethoxy)methane	ND		2500	1670		ug/Kg	☼	67	40 - 140	1	30
Bis(2-chloroethyl)ether	ND		2500	1770		ug/Kg	☼	71	40 - 140	2	30
bis (2-chloroisopropyl) ether	ND		2500	1710		ug/Kg	☼	68	40 - 140	4	30
Bis(2-ethylhexyl) phthalate	78	J	2500	2530		ug/Kg	☼	98	40 - 140	4	30
4-Bromophenyl phenyl ether	ND		2500	2180		ug/Kg	☼	87	40 - 140	4	30
Butyl benzyl phthalate	62	J	2500	2300		ug/Kg	☼	90	40 - 140	4	30
4-Chloroaniline	ND		2500	1760		ug/Kg	☼	71	40 - 140	6	30
4-Chloro-3-methylphenol	ND		2500	2310		ug/Kg	☼	93	40 - 140	1	30
2-Chloronaphthalene	ND		2500	1950		ug/Kg	☼	78	40 - 140	2	30
2-Chlorophenol	ND		2500	1960		ug/Kg	☼	78	40 - 140	1	30
4-Chlorophenyl phenyl ether	ND		2500	2080		ug/Kg	☼	83	40 - 140	4	30
Dibenz[a,h]acridine	ND		2500	2250		ug/Kg	☼	90	40 - 140	9	30
Dibenzofuran	ND		2500	1980		ug/Kg	☼	79	40 - 140	2	30
3,3'-Dichlorobenzidine	ND	F1 *	3330	5040	F1	ug/Kg	☼	151	40 - 140	2	30
2,4-Dichlorophenol	ND		2500	2110		ug/Kg	☼	84	40 - 140	2	30
Diethyl phthalate	ND		2500	2110		ug/Kg	☼	85	40 - 140	1	30
2,4-Dimethylphenol	ND		2500	2140		ug/Kg	☼	85	40 - 140	2	30
Dimethyl phthalate	ND		2500	2080		ug/Kg	☼	83	40 - 140	4	30
Di-n-butyl phthalate	ND		2500	2570		ug/Kg	☼	103	40 - 140	2	30
4,6-Dinitro-ortho-cresol	ND		5000	2790		ug/Kg	☼	56	40 - 140	5	30
2,4-Dinitrophenol	ND	F1 F2	5000	1310	F2 F1	ug/Kg	☼	26	40 - 140	35	30
2,4-Dinitrotoluene	ND		2500	2200		ug/Kg	☼	88	40 - 140	7	30
2,6-Dinitrotoluene	ND		2500	2130		ug/Kg	☼	85	40 - 140	9	30
Di-n-octyl phthalate	ND		2500	2530		ug/Kg	☼	101	40 - 140	4	30
1,4-Dioxane	ND		2500	1050		ug/Kg	☼	42	40 - 140	4	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2500	2010		ug/Kg	☼	81	40 - 140	5	30
Hexachlorobenzene	ND		2500	2190		ug/Kg	☼	88	40 - 140	0	30
Hexachlorocyclopentadiene	ND	F1 F2	2500	716	F2 F1	ug/Kg	☼	29	40 - 140	65	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172763-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 447440

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	ND		2500	1760		ug/Kg	☼	71	40 - 140	8	30
Indene	ND		2500	1780		ug/Kg	☼	71	40 - 140	3	30
Isophorone	ND		2500	1880		ug/Kg	☼	75	40 - 140	0	30
2-Methylphenol	ND		2500	2030		ug/Kg	☼	81	40 - 140	1	30
3 & 4 Methylphenol	ND		2500	1990		ug/Kg	☼	80	40 - 140	1	30
2-Nitroaniline	ND		2500	2150		ug/Kg	☼	86	40 - 140	6	30
3-Nitroaniline	ND		2500	2180		ug/Kg	☼	87	40 - 140	7	30
4-Nitroaniline	ND		2500	2550		ug/Kg	☼	102	40 - 140	0	30
Nitrobenzene	ND		2500	1680		ug/Kg	☼	67	40 - 140	3	30
2-Nitrophenol	ND		2500	1920		ug/Kg	☼	77	40 - 140	14	30
4-Nitrophenol	ND		5000	4060		ug/Kg	☼	81	40 - 140	9	30
N-Nitrosodimethylamine	ND		2500	1530		ug/Kg	☼	61	40 - 140	3	30
N-Nitrosodi-n-propylamine	ND		2500	1910		ug/Kg	☼	76	40 - 140	4	30
N-Nitrosodiphenylamine	ND		2480	2150		ug/Kg	☼	87	40 - 140	5	30
Pentachlorophenol	ND		5000	5080		ug/Kg	☼	101	40 - 140	2	30
Phenol	160	J	2500	2110		ug/Kg	☼	78	40 - 140	3	30
Pyridine	ND		5000	2770		ug/Kg	☼	55	40 - 140	3	30
Quinoline	ND		2500	1920		ug/Kg	☼	77	40 - 140	4	30
2,4,5-Trichlorophenol	ND		2500	2230		ug/Kg	☼	89	40 - 140	3	30
2,4,6-Trichlorophenol	ND		2500	2140		ug/Kg	☼	86	40 - 140	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*66*		*15 - 136*
Phenol-d5	*67*		*29 - 130*
Terphenyl-d14	*79*		*24 - 146*
2,4,6-Tribromophenol	*82*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Anthracene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Chrysene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Fluorene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-447364/1-A
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1
Pyrene	ND		6.6	1.0	ug/Kg		07/10/19 09:38	07/18/19 18:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/10/19 09:38*	*07/18/19 18:46*	*1*
Nitrobenzene-d5	*71*		*15 - 136*	*07/10/19 09:38*	*07/18/19 18:46*	*1*
Terphenyl-d14	*105*		*24 - 146*	*07/10/19 09:38*	*07/18/19 18:46*	*1*

Lab Sample ID: LCS 400-447364/4-A
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	313		ug/Kg		94	57 - 120
Acenaphthylene	333	305		ug/Kg		91	59 - 120
Anthracene	333	313		ug/Kg		94	61 - 120
Benzo[a]anthracene	333	308		ug/Kg		92	61 - 120
Benzo[a]pyrene	333	326		ug/Kg		98	54 - 127
Benzo[b]fluoranthene	333	320		ug/Kg		96	35 - 146
Benzo[g,h,i]perylene	333	324		ug/Kg		97	36 - 150
Benzo[k]fluoranthene	333	314		ug/Kg		94	53 - 139
Chrysene	333	311		ug/Kg		93	60 - 120
Dibenz(a,h)anthracene	333	345		ug/Kg		104	39 - 150
Fluoranthene	333	309		ug/Kg		93	61 - 121
Fluorene	333	336		ug/Kg		101	60 - 120
Indeno[1,2,3-cd]pyrene	333	331		ug/Kg		99	40 - 150
1-Methylnaphthalene	333	290		ug/Kg		87	46 - 120
2-Methylnaphthalene	333	292		ug/Kg		88	46 - 120
Phenanthrene	333	313		ug/Kg		94	59 - 120
Pyrene	333	324		ug/Kg		97	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
Nitrobenzene-d5	*68*		*15 - 136*
Terphenyl-d14	*95*		*24 - 146*

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		414	347		ug/Kg	☼	84	40 - 140
Acenaphthylene	ND		414	329		ug/Kg	☼	80	40 - 140
Anthracene	ND		414	329		ug/Kg	☼	79	40 - 140
Benzo[a]anthracene	3.4	J	414	333		ug/Kg	☼	80	40 - 140
Benzo[a]pyrene	3.4	J	414	344		ug/Kg	☼	82	40 - 140

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-172763-2MS
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	4.8	J	414	350		ug/Kg	☼	83	40 - 140
Benzo[g,h,i]perylene	5.0	J	414	357		ug/Kg	☼	85	40 - 140
Benzo[k]fluoranthene	4.0	J	414	339		ug/Kg	☼	81	40 - 140
Chrysene	2.5	J	414	335		ug/Kg	☼	80	40 - 140
Dibenz(a,h)anthracene	4.4	J	414	378		ug/Kg	☼	90	40 - 140
Fluoranthene	2.2	J	414	332		ug/Kg	☼	80	40 - 140
Fluorene	4.1	J	414	372		ug/Kg	☼	89	40 - 140
Indeno[1,2,3-cd]pyrene	4.6	J	414	368		ug/Kg	☼	88	40 - 140
1-Methylnaphthalene	75		414	408		ug/Kg	☼	80	40 - 140
2-Methylnaphthalene	69		414	397		ug/Kg	☼	79	40 - 140
Phenanthrene	ND		414	344		ug/Kg	☼	83	40 - 140
Pyrene	2.4	J	414	358		ug/Kg	☼	86	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*27 - 127*
Nitrobenzene-d5	*65*		*15 - 136*
Terphenyl-d14	*92*		*24 - 146*

Lab Sample ID: 400-172763-2MSD
Matrix: Solid
Analysis Batch: 448502

Client Sample ID: PD-12-SB-52-070819
Prep Type: Total/NA
Prep Batch: 447364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		421	326		ug/Kg	☼	77	40 - 140	6	30
Acenaphthylene	ND		421	312		ug/Kg	☼	74	40 - 140	6	30
Anthracene	ND		421	302		ug/Kg	☼	72	40 - 140	9	30
Benzo[a]anthracene	3.4	J	421	298		ug/Kg	☼	70	40 - 140	11	30
Benzo[a]pyrene	3.4	J	421	301		ug/Kg	☼	71	40 - 140	14	30
Benzo[b]fluoranthene	4.8	J	421	310		ug/Kg	☼	73	40 - 140	12	30
Benzo[g,h,i]perylene	5.0	J	421	275		ug/Kg	☼	64	40 - 140	26	30
Benzo[k]fluoranthene	4.0	J	421	299		ug/Kg	☼	70	40 - 140	12	30
Chrysene	2.5	J	421	299		ug/Kg	☼	71	40 - 140	11	30
Dibenz(a,h)anthracene	4.4	J	421	312		ug/Kg	☼	73	40 - 140	19	30
Fluoranthene	2.2	J	421	301		ug/Kg	☼	71	40 - 140	10	30
Fluorene	4.1	J	421	345		ug/Kg	☼	81	40 - 140	8	30
Indeno[1,2,3-cd]pyrene	4.6	J	421	294		ug/Kg	☼	69	40 - 140	23	30
1-Methylnaphthalene	75		421	347		ug/Kg	☼	65	40 - 140	16	30
2-Methylnaphthalene	69		421	338		ug/Kg	☼	64	40 - 140	16	30
Phenanthrene	ND		421	318		ug/Kg	☼	76	40 - 140	8	30
Pyrene	2.4	J	421	332		ug/Kg	☼	78	40 - 140	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*27 - 127*
Nitrobenzene-d5	*70*		*15 - 136*
Terphenyl-d14	*83*		*24 - 146*

Shell Oil Products US Chain Of Custody Rec

400-172763 COC

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)

☐CALSCIENCE (_____)

☑TESTAMERICA (___Pensacola_____)

☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/2/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM | LOG CODE:

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

SAMPLER NAME(S) (Print): Paul LeFleur Tony Jones | LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH; Moisture

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-070819-A	7/8/2019	0:00	Water	X					2			x		
	PD-12-SB-52-070819	7/8/2019	11:10	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-52-070819-MS	7/8/2019	11:10	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-52-070819-MSD	7/8/2019	11:10	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-55-070819	7/8/2019	11:15	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-12-SB-59-070819	7/8/2019	11:50	Soil	X			X	X	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Fedex: 4759 5526 6054	7/8/2019	18:00
		07-09-19	853

1.5°C IR8

Version: 10May17

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10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172763-1

Login Number: 172763
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172763-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-172848

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/30/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070919-A	PD-2-SB-50-070919
PD-2-SB-52-070919	PD-2-SB-60-070919
PD-2-SB-60-070919-DUP	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOCs were detected in the method blank. SVOC LCS recoveries were outside evaluation criteria. SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-2-SB-60-070919. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-447691/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	60.7 µg/Kg
MB 400-447691/1-A	SVOCs	di-n-butyl Phthalate	72.2 µg/Kg

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-2-SB-50-070919	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-2-SB-50-070919	SVOCS	di-n-butyl Phthalate	-	**U**
PD-2-SB-52-070919	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-2-SB-52-070919	SVOCS	di-n-butyl Phthalate	-	**U**
PD-2-SB-60-070919	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-2-SB-60-070919	SVOCS	di-n-butyl Phthalate	-	**U**
PD-2-SB-60-070919-Dup	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-2-SB-60-070919-Dup	SVOCS	di-n-butyl Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-447691/4-A	SVOCs	Benzenethiol	**3/3**	1	10-120/30
400-447691/6-A	SVOCs	3,3'-Dichlorobenzidine	**195**	NA	42-120
400-447691/6-A	SVOCs	Hexachlorobenzene	**132**	NA	49-127
400-447691/6-A	SVOCs	4-Nitroaniline	**139**	NA	52-126

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-2-SB-50-070919	SVOCS	Benzenethiol	**UJ**
PD-2-SB-52-070919	SVOCs	Benzenethiol	**UJ**
PD-2-SB-60-070919	SVOCS	Benzenethiol	**UJ**
PD-2-SB-60-070919-DUP	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-2-SB-60-070919 was spiked and duplicated for SVOCs

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-2-SB-60-070919	SVOCs	Benzoic acid	**0**/5	NA	40-140/30
PD-2-SB-60-070919	SVOCs	Benzyl alcohol	17/15	14	40-140/30
PD-2-SB-60-070919	SVOCs	2,4-Dinitrophenol	**39**/45	5	40-140/30
PD-2-SB-60-070919	SVOCs	1,4-Dioxane	**28**/**26**	7	40-140/30
PD-2-SB-60-070919	SVOCs	Hexachlorocyclopentadiene	**39**/**36**	7	40-140/30
PD-2-SB-60-070919	SVOCs	3-Nitroaniline	**146**/**150**	3	40-140/30
PD-2-SB-60-070919	SVOCs	4-Nitrophenol	98/**148**	**42**	40-140/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-2-SB-60-070919	SVOCs	Benzoic acid	**UJ**
PD-2-SB-60-070919	SVOCs	Benzyl alcohol	**UJ**
PD-2-SB-60-070919	SVOCs	2,4-Dinitrophenol	**UJ**
PD-2-SB-60-070919	SVOCs	1,4-Dioxane	**UJ**
PD-2-SB-60-070919	SVOCs	Hexachlorocyclopentadiene	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-2-SB-60-070919	PD-2-SB-60-070919-DUP

Were field duplicate sample RPDs within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172848-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/30/2019 2:48:48 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/30/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Job ID: 400-172848-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172848-1

Comments
No additional comments.

Receipt
The samples were received on 7/10/2019 8:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.8° C and 4.8° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-2-SB-50-070919 (400-172848-2), PD-2-SB-52-070919 (400-172848-3), PD-2-SB-60-070919 (400-172848-4) and PD-2-SB-60-070919-DUP (400-172848-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070919-A (400-172848-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442653 was outside method criteria for the following analyte(s): N-Nitrosodiphenylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The method blank for preparation batch 400-447691 and analytical batch 400-448422 contained Bis(2-ethylhexyl) phthalate and Di-n-butyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447691 and analytical batch 400-448422 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, 1,4-Dioxane, Benzyl alcohol and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for N-Nitrosodimethylamine and 3-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-447691 and analytical batch 400-448987 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Nitroaniline. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Job ID: 400-172848-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-447691 and analytical batch 400-448422 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-447691 and analytical batch 400-448422 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442656 was outside method criteria for the following analyte(s): Benzenethiol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172848-1	TB-PW-070919-A	Water	07/09/19 00:00	07/10/19 08:59	
400-172848-2	PD-2-SB-50-070919	Solid	07/09/19 13:50	07/10/19 08:59	
400-172848-3	PD-2-SB-52-070919	Solid	07/09/19 14:20	07/10/19 08:59	
400-172848-4	PD-2-SB-60-070919	Solid	07/09/19 16:20	07/10/19 08:59	
400-172848-5	PD-2-SB-60-070919-DUP	Solid	07/09/19 16:20	07/10/19 08:59	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A — Lab Sample ID: 400-172848-1

No Detections.

Client Sample ID: PD-2-SB-50-070919 — Lab Sample ID: 400-172848-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120000		4400	590	ug/Kg	1000	☼	8260B	Total/NA
Acenaphthene	66		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	75		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	120		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	110		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	55		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	29		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	230		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	27		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	45		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	80		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	15		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	490		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	750		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	520		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	330		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~46~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	~~48~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	710		380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-2-SB-52-070919 — Lab Sample ID: 400-172848-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	150000		6000	800	ug/Kg	1000	☼	8260B	Total/NA
Fluoranthene	2.5	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	5.1	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.8		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	6.2	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	10		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~72~~	J B U	390	39	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	~~57~~	J B U	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	570		390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-2-SB-60-070919 — Lab Sample ID: 400-172848-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	38000		1200	160	ug/Kg	200	☼	8260B	Total/NA
Acenaphthene	1.8	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	2.1	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.0	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	1.4	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	13		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	21		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	17		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	6.4	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~61~~	J B U	400	40	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	~~89~~	J B U	400	40	ug/Kg	1	☼	8270D	Total/NA
Phenol	48	J	400	40	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Lab Sample ID: 400-172848-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	23000		1200	160	ug/Kg	200	☼	8260B	Total/NA
Acenaphthene	2.6	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	4.9	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	7.2	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.3	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	2.5	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	17		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	26		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	21		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	11		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	60	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	52	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	94	J	380	38	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 13:24	1
Acrolein	ND		20	10	ug/L			07/16/19 13:24	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 13:24	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 13:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 13:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 13:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 13:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 13:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 13:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 13:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 13:24	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 13:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 13:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 13:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 13:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 13:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 13:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 13:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 13:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 13:24	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 13:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 13:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 13:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 13:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 13:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 13:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 13:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 13:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 13:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 13:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 13:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 13:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 13:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 13:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 13:24	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 13:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 13:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 13:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 13:24	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 13:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 13:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 13:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 13:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 13:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 13:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 13:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 13:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 13:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 13:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*7.9*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/16/19 13:24*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 13:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/16/19 13:24*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/16/19 13:24*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/16/19 13:24*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		22000	11000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Acrolein	ND		44000	25000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Acrylonitrile	ND		18000	7000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Benzene	**120000**		4400	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromobenzene	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromochloromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromodichloromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromoform	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromomethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2-Butanone (MEK)	ND		22000	5300	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Carbon disulfide	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Carbon tetrachloride	ND		4400	1500	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chlorobenzene	ND		4400	460	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2-Chloroethyl vinyl ether	ND		8800	4400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chloroform	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1-Chlorohexane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chloromethane	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
cis-1,2-Dichloroethene	ND		4400	670	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
cis-1,3-Dichloropropene	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Dibromochloromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dibromo-3-Chloropropane	ND		4400	2900	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dichlorobenzene	ND		4400	620	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,3-Dichlorobenzene	ND		4400	830	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,4-Dichlorobenzene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Dichlorodifluoromethane	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1-Dichloroethane	ND		4400	730	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dichloroethane	ND		4400	720	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1-Dichloroethene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dichloropropane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,3-Dichloropropane	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2,2-Dichloropropane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1-Dichloropropene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Ethylbenzene	ND		4400	540	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Ethylene Dibromide	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Ethyl methacrylate	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Hexachlorobutadiene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2-Hexanone	ND		22000	4400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Isopropylbenzene	ND		4400	600	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Methylene bromide	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Methylene Chloride	ND		13000	8800	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
4-Methyl-2-pentanone (MIBK)	ND		22000	4400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Methyl tert-butyl ether	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
m-Xylene & p-Xylene	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Naphthalene	ND		4400	1800	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
n-Butylbenzene	ND		4400	840	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
N-Propylbenzene	ND		4400	790	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
o-Chlorotoluene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
o-Xylene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		4400	860	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
p-Isopropyltoluene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
sec-Butylbenzene	ND		4400	830	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Styrene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
tert-Butylbenzene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,1,2-Tetrachloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,2,2-Tetrachloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Tetrachloroethene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Toluene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
trans-1,2-Dichloroethene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
trans-1,3-Dichloropropene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,3-Trichlorobenzene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,4-Trichlorobenzene	ND		4400	1800	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,1-Trichloroethane	ND		4400	960	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,2-Trichloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Trichloroethene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Trichlorofluoromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,3-Trichloropropane	ND		4400	2600	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,4-Trimethylbenzene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,3,5-Trimethylbenzene	ND		4400	730	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Vinyl acetate	ND		22000	8000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Vinyl chloride	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Xylenes, Total	ND		8800	1700	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 19:45*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/16/19 08:43*	*07/16/19 19:45*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/16/19 08:43*	*07/16/19 19:45*	*1000*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 19:45*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**66**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Acenaphthylene	ND		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Anthracene	**75**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[a]anthracene	**120**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[a]pyrene	**110**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[b]fluoranthene	**55**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[g,h,i]perylene	**29**		7.6	2.3	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[k]fluoranthene	ND		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Chrysene	**230**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Dibenz(a,h)anthracene	**27**		7.6	2.3	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Fluoranthene	**45**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Fluorene	**80**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Indeno[1,2,3-cd]pyrene	**15**		7.6	2.3	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
1-Methylnaphthalene	**490**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
2-Methylnaphthalene	**750**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Phenanthrene	**520**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	330		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/12/19 08:50*	*07/19/19 06:29*	*1*
Nitrobenzene-d5	*59*		*15 - 136*	*07/12/19 08:50*	*07/19/19 06:29*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/12/19 08:50*	*07/19/19 06:29*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	49	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Bis(2-chloroethoxy)methane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Bis(2-chloroethyl)ether	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Bis(2-ethylhexyl) phthalate	48 J B	U	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Di-n-butyl phthalate	48 J B	U	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
1,4-Dioxane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Hexachlorobenzene	ND	*	380	110	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Hexachloroethane	ND		380	110	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Indene	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Isophorone	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
3-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919
Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2
Matrix: Solid
Percent Solids: 86.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Nitrophenol	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Phenol	**710**		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Pyridine	ND		380	170	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Quinoline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
p-Xylene	*480*	*T J N*	*ug/Kg*	☼	*4.89*	*106-42-3*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, propyl-	*460*	*T J N*	*ug/Kg*	☼	*5.26*	*103-65-1*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-ethyl-3-methyl-	*590*	*T J N*	*ug/Kg*	☼	*5.30*	*620-14-4*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-ethyl-4-methyl-	*640*	*T J N*	*ug/Kg*	☼	*5.32*	*622-96-8*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1,2,4-trimethyl-	*2100*	*T J N*	*ug/Kg*	☼	*5.49*	*95-63-6*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-ethyl-4-methyl-	*610*	*T J N*	*ug/Kg*	☼	*5.65*	*622-96-8*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*340*	*T J*	*ug/Kg*	☼	*5.75*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-methyl-3-propyl-	*370*	*T J N*	*ug/Kg*	☼	*5.77*	*1074-43-7*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1,4-diethyl-	*640*	*T J N*	*ug/Kg*	☼	*5.79*	*105-05-5*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 1-methyl-	*580*	*T J N*	*ug/Kg*	☼	*6.92*	*90-12-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
1H-Indene, 1-ethylidene-	*830*	*T J N*	*ug/Kg*	☼	*6.99*	*2471-83-2*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 2,6-dimethyl-	*440*	*T J N*	*ug/Kg*	☼	*7.34*	*581-42-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
1-Iodo-2-methylundecane	*350*	*T J N*	*ug/Kg*	☼	*7.37*	*73105-67-6*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Decane	*800*	*T J N*	*ug/Kg*	☼	*7.52*	*124-18-5*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 2,3,6-trimethyl-	*380*	*T J N*	*ug/Kg*	☼	*7.78*	*829-26-5*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Hexadecane	*820*	*T J N*	*ug/Kg*	☼	*7.87*	*544-76-3*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 1,4,6-trimethyl-	*440*	*T J N*	*ug/Kg*	☼	*8.04*	*2131-42-2*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Dibenzothiophene, 3-methyl-	*780*	*T J N*	*ug/Kg*	☼	*9.13*	*16587-52-3*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Anthracene, 2-methyl-	*650*	*T J N*	*ug/Kg*	☼	*9.23*	*613-12-7*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Anthracene, 1-methyl-	*330*	*T J N*	*ug/Kg*	☼	*9.30*	*610-48-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*360*	*T J*	*ug/Kg*	☼	*9.41*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
di-p-Tolylacetylene	*1000*	*T J N*	*ug/Kg*	☼	*9.68*	*2789-88-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
9-Octadecenamide, (Z)-	*410*	*T J N*	*ug/Kg*	☼	*10.52*	*301-02-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Pyrene, 1-methyl-	*490*	*T J N*	*ug/Kg*	☼	*10.57*	*2381-21-7*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
13-Docosenamide, (Z)-	*680*	*T J N*	*ug/Kg*	☼	*11.86*	*112-84-5*	*07/12/19 08:50*	*07/17/19 22:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*27 - 127*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
2-Fluorophenol	*54*		*25 - 128*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Phenol-d5	*55*		*29 - 130*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Terphenyl-d14	*77*		*24 - 146*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
2,4,6-Tribromophenol	*77*		*10 - 150*	*07/12/19 08:50*	*07/17/19 22:53*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919
Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2
Matrix: Solid
Percent Solids: 86.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.5		0.01	0.01	%			07/12/19 11:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919

Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3

Matrix: Solid
Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		30000	16000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Acrolein	ND		60000	33000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Acrylonitrile	ND		24000	9600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Benzene	**150000**		6000	800	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromobenzene	ND		6000	1600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromochloromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromodichloromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromoform	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromomethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2-Butanone (MEK)	ND		30000	7200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Carbon disulfide	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Carbon tetrachloride	ND		6000	2000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chlorobenzene	ND		6000	620	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2-Chloroethyl vinyl ether	ND		12000	6000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chloroform	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1-Chlorohexane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chloromethane	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
cis-1,2-Dichloroethene	ND		6000	910	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
cis-1,3-Dichloropropene	ND		6000	1400	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Dibromochloromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dibromo-3-Chloropropane	ND		6000	3900	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dichlorobenzene	ND		6000	850	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,3-Dichlorobenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,4-Dichlorobenzene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Dichlorodifluoromethane	ND		6000	1600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1-Dichloroethane	ND		6000	990	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dichloroethane	ND		6000	980	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1-Dichloroethene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dichloropropane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,3-Dichloropropane	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2,2-Dichloropropane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1-Dichloropropene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Ethylbenzene	ND		6000	730	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Ethylene Dibromide	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Ethyl methacrylate	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Hexachlorobutadiene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2-Hexanone	ND		30000	6000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Isopropylbenzene	ND		6000	810	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Methylene bromide	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Methylene Chloride	ND		18000	12000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
4-Methyl-2-pentanone (MIBK)	ND		30000	6000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Methyl tert-butyl ether	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
m-Xylene & p-Xylene	ND		6000	1600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Naphthalene	ND		6000	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
n-Butylbenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
N-Propylbenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
o-Chlorotoluene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
o-Xylene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919
Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3
Matrix: Solid
Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
p-Isopropyltoluene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
sec-Butylbenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Styrene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
tert-Butylbenzene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,1,2-Tetrachloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,2,2-Tetrachloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Tetrachloroethene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Toluene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
trans-1,2-Dichloroethene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
trans-1,3-Dichloropropene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,3-Trichlorobenzene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,4-Trichlorobenzene	ND		6000	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,1-Trichloroethane	ND		6000	1300	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,2-Trichloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Trichloroethene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Trichlorofluoromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,3-Trichloropropane	ND		6000	3600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,4-Trimethylbenzene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,3,5-Trimethylbenzene	ND		6000	990	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Vinyl acetate	ND		30000	11000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Vinyl chloride	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Xylenes, Total	ND		12000	2300	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 20:08*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*72 - 122*	*07/16/19 08:43*	*07/16/19 20:08*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/16/19 08:43*	*07/16/19 20:08*	*1000*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 20:08*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Fluoranthene	**2.5**	**J**	7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
1-Methylnaphthalene	**5.1**	**J**	7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
2-Methylnaphthalene	**7.8**		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Phenanthrene	**6.2**	**J**	7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919
Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3
Matrix: Solid
Percent Solids: 84.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	10		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*27 - 127*	*07/12/19 08:50*	*07/18/19 20:37*	*1*
Nitrobenzene-d5	*82*		*15 - 136*	*07/12/19 08:50*	*07/18/19 20:37*	*1*
Terphenyl-d14	*121*		*24 - 146*	*07/12/19 08:50*	*07/18/19 20:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Benzenethiol	ND	* UJ	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Bis(2-chloroethoxy)methane	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Bis(2-chloroethyl)ether	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Bis(2-ethylhexyl) phthalate	~~72~~ J B U		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Di-n-butyl phthalate	~~57~~ J B U		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
1,4-Dioxane	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Hexachlorobenzene	ND	*	390	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Indene	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Isophorone	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
3-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919
Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3
Matrix: Solid
Percent Solids: 84.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Nitrophenol	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Phenol	**570**		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Pyridine	ND		390	180	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Quinoline	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methoxy-2-methyl-	*800*	*T J N*	*ug/Kg*	☼	*2.99*	*994-05-8*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
n-Hexadecanoic acid	*680*	*T J N*	*ug/Kg*	☼	*9.13*	*57-10-3*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
9-Octadecenamide, (Z)-	*640*	*T J N*	*ug/Kg*	☼	*10.52*	*301-02-0*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
13-Docosenamide, (Z)-	*810*	*T J N*	*ug/Kg*	☼	*11.86*	*112-84-5*	*07/12/19 08:50*	*07/17/19 23:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*27 - 127*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
2-Fluorophenol	*65*		*25 - 128*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
Phenol-d5	*71*		*29 - 130*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
Terphenyl-d14	*105*		*24 - 146*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
2,4,6-Tribromophenol	*90*		*10 - 150*	*07/12/19 08:50*	*07/17/19 23:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.8**		0.01	0.01	%			07/12/19 11:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4

Matrix: Solid
Percent Solids: 82.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		6000	3100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Acrolein	ND		12000	6700	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Acrylonitrile	ND		4800	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Benzene	**38000**		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromobenzene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromochloromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromodichloromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromoform	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromomethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2-Butanone (MEK)	ND		6000	1400	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Carbon disulfide	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Carbon tetrachloride	ND		1200	410	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chlorobenzene	ND		1200	120	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2-Chloroethyl vinyl ether	ND		2400	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chloroform	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1-Chlorohexane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chloromethane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
cis-1,2-Dichloroethene	ND		1200	180	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
cis-1,3-Dichloropropene	ND		1200	290	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Dibromochloromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dibromo-3-Chloropropane	ND		1200	790	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dichlorobenzene	ND		1200	170	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,3-Dichlorobenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,4-Dichlorobenzene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Dichlorodifluoromethane	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1-Dichloroethane	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dichloroethane	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1-Dichloroethene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dichloropropane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,3-Dichloropropane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2,2-Dichloropropane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1-Dichloropropene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Ethylbenzene	ND		1200	150	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Ethylene Dibromide	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Ethyl methacrylate	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Hexachlorobutadiene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2-Hexanone	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Isopropylbenzene	ND		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Methylene bromide	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Methylene Chloride	ND		3600	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
4-Methyl-2-pentanone (MIBK)	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Methyl tert-butyl ether	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
m-Xylene & p-Xylene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Naphthalene	ND		1200	480	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
n-Butylbenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
N-Propylbenzene	ND		1200	220	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
o-Chlorotoluene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
o-Xylene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919
Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4
Matrix: Solid
Percent Solids: 82.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
p-Isopropyltoluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
sec-Butylbenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Styrene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
tert-Butylbenzene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,1,2-Tetrachloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,2,2-Tetrachloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Tetrachloroethene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Toluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
trans-1,2-Dichloroethene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
trans-1,3-Dichloropropene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,3-Trichlorobenzene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,4-Trichlorobenzene	ND		1200	480	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,1-Trichloroethane	ND		1200	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,2-Trichloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Trichloroethene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Trichlorofluoromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,3-Trichloropropane	ND		1200	720	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,4-Trimethylbenzene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,3,5-Trimethylbenzene	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Vinyl acetate	ND		6000	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Vinyl chloride	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Xylenes, Total	ND		2400	460	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 18:57*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/16/19 08:43*	*07/16/19 18:57*	*200*
Dibromofluoromethane	*87*		*79 - 123*	*07/16/19 08:43*	*07/16/19 18:57*	*200*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 18:57*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.8**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Acenaphthylene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Anthracene	**2.1**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[a]anthracene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[a]pyrene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[b]fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[g,h,i]perylene	ND		8.0	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[k]fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Chrysene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Dibenz(a,h)anthracene	ND		8.0	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Fluoranthene	**2.0**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Fluorene	**1.4**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Indeno[1,2,3-cd]pyrene	ND		8.0	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
1-Methylnaphthalene	**13**		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
2-Methylnaphthalene	**21**		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Phenanthrene	**17**		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919
Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4
Matrix: Solid
Percent Solids: 82.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	6.4	J	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/12/19 08:50*	*07/18/19 20:53*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/12/19 08:50*	*07/18/19 20:53*	*1*
Terphenyl-d14	*101*		*24 - 146*	*07/12/19 08:50*	*07/18/19 20:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	52	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Benzenethiol	ND	* UJ	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Benzoic acid	ND	UJ	1200	430	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Benzyl alcohol	ND	UJ	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Bis(2-chloroethoxy)methane	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Bis(2-chloroethyl)ether	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
bis (2-chloroisopropyl) ether	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Bis(2-ethylhexyl) phthalate	~~61~~	J B U	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Dibenz[a,h]acridine	ND		400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
3,3'-Dichlorobenzidine	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Di-n-butyl phthalate	~~59~~	J B U	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dinitrophenol	ND	UJ	1200	350	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
1,4-Dioxane	ND	* UJ	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Hexachlorobenzene	ND	*	400	120	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Hexachlorocyclopentadiene	ND	UJ	400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Indene	ND		400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Isophorone	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
3 & 4 Methylphenol	ND		800	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
3-Nitroaniline	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Nitroaniline	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4

Matrix: Solid
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Nitrophenol	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Nitrophenol	ND		400	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
N-Nitrosodimethylamine	ND		400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Pentachlorophenol	ND		800	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Phenol	**48**	**J**	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Pyridine	ND		400	180	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Quinoline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methoxy-2-methyl-	*1000*	*T J N*	*ug/Kg*	☼	*3.02*	*994-05-8*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
n-Hexadecanoic acid	*470*	*T J N*	*ug/Kg*	☼	*9.12*	*57-10-3*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
9-Octadecenamide, (Z)-	*700*	*T J N*	*ug/Kg*	☼	*10.52*	*301-02-0*	*07/12/19 08:50*	*07/17/19 22:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
2-Fluorophenol	*50*		*25 - 128*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
Nitrobenzene-d5	*53*		*15 - 136*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
Phenol-d5	*48*		*29 - 130*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
Terphenyl-d14	*84*		*24 - 146*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
2,4,6-Tribromophenol	*78*		*10 - 150*	*07/12/19 08:50*	*07/17/19 22:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.0**		0.01	0.01	%			07/12/19 11:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5900	3100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Acrolein	ND		12000	6600	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Acrylonitrile	ND		4700	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Benzene	**23000**		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromobenzene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromochloromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromodichloromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromoform	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromomethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2-Butanone (MEK)	ND		5900	1400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Carbon disulfide	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Carbon tetrachloride	ND		1200	400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chlorobenzene	ND		1200	120	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2-Chloroethyl vinyl ether	ND		2400	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chloroform	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1-Chlorohexane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chloromethane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
cis-1,2-Dichloroethene	ND		1200	180	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
cis-1,3-Dichloropropene	ND		1200	280	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Dibromochloromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dibromo-3-Chloropropane	ND		1200	780	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dichlorobenzene	ND		1200	170	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,3-Dichlorobenzene	ND		1200	220	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,4-Dichlorobenzene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Dichlorodifluoromethane	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1-Dichloroethane	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dichloroethane	ND		1200	190	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1-Dichloroethene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dichloropropane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,3-Dichloropropane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2,2-Dichloropropane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1-Dichloropropene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Ethylbenzene	ND		1200	140	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Ethylene Dibromide	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Ethyl methacrylate	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Hexachlorobutadiene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2-Hexanone	ND		5900	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Isopropylbenzene	ND		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Methylene bromide	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Methylene Chloride	ND		3500	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
4-Methyl-2-pentanone (MIBK)	ND		5900	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Methyl tert-butyl ether	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
m-Xylene & p-Xylene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Naphthalene	ND		1200	470	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
n-Butylbenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
N-Propylbenzene	ND		1200	210	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
o-Chlorotoluene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
o-Xylene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
p-Isopropyltoluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
sec-Butylbenzene	ND		1200	220	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Styrene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
tert-Butylbenzene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,1,2-Tetrachloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,2,2-Tetrachloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Tetrachloroethene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Toluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
trans-1,2-Dichloroethene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
trans-1,3-Dichloropropene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,3-Trichlorobenzene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,4-Trichlorobenzene	ND		1200	470	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,1-Trichloroethane	ND		1200	260	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,2-Trichloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Trichloroethene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Trichlorofluoromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,3-Trichloropropane	ND		1200	710	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,4-Trimethylbenzene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,3,5-Trimethylbenzene	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Vinyl acetate	ND		5900	2100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Vinyl chloride	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Xylenes, Total	ND		2400	450	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methyl-2-propanol	*2100*	*J*	*ug/Kg*	☼	*2.67*	*75-65-0*	*07/16/19 08:43*	*07/16/19 19:21*	*200*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 19:21*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/16/19 08:43*	*07/16/19 19:21*	*200*
Dibromofluoromethane	*86*		*79 - 123*	*07/16/19 08:43*	*07/16/19 19:21*	*200*
Toluene-d8 (Surr)	*103*		*80 - 120*	*07/16/19 08:43*	*07/16/19 19:21*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.6**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[a]pyrene	**4.9**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[g,h,i]perylene	ND		7.7	2.3	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Chrysene	**7.2**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Fluoranthene	**2.3**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Fluorene	**2.5**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Indeno[1,2,3-cd]pyrene	ND		7.7	2.3	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
1-Methylnaphthalene	**17**		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
2-Methylnaphthalene	**26**		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	21		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Pyrene	11		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*27 - 127*	*07/12/19 08:50*	*07/18/19 21:09*	*1*
Nitrobenzene-d5	*75*		*15 - 136*	*07/12/19 08:50*	*07/18/19 21:09*	*1*
Terphenyl-d14	*110*		*24 - 146*	*07/12/19 08:50*	*07/18/19 21:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Benzoic acid	ND		1100	410	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Bis(2-chloroethoxy)methane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Bis(2-chloroethyl)ether	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Bis(2-ethylhexyl) phthalate	~~60~~	J B U	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Di-n-butyl phthalate	~~52~~	J B U	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dinitrophenol	ND		1100	340	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
1,4-Dioxane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Hexachlorobenzene	ND	*	380	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Indene	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Isophorone	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
3-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Nitrophenol	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Phenol	**94**	**J**	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Pyridine	ND		380	170	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Quinoline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*590*	*T J N*	*ug/Kg*	☼	*9.12*	*57-10-3*	*07/12/19 08:50*	*07/17/19 23:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
2-Fluorophenol	*59*		*25 - 128*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
Nitrobenzene-d5	*61*		*15 - 136*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
Phenol-d5	*55*		*29 - 130*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
Terphenyl-d14	*90*		*24 - 146*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
2,4,6-Tribromophenol	*87*		*10 - 150*	*07/12/19 08:50*	*07/17/19 23:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.9**		0.01	0.01	%			07/12/19 11:30	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Qualifiers

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172848-2	PD-2-SB-50-070919	98	90	101
400-172848-3	PD-2-SB-52-070919	100	90	101
400-172848-4	PD-2-SB-60-070919	97	87	101
400-172848-5	PD-2-SB-60-070919-DUP	99	86	103
LCS 400-448198/20-A	Lab Control Sample	103	92	102
MB 400-448198/19-A	Method Blank	98	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172848-1	TB-PW-070919-A	109	97	103
LCS 400-448139/1002	Lab Control Sample	102	99	94
MB 400-448139/4	Method Blank	108	98	110

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172848-2	PD-2-SB-50-070919	71	54	66	55	77	77
400-172848-3	PD-2-SB-52-070919	80	65	74	71	105	90
400-172848-4	PD-2-SB-60-070919	67	50	53	48	84	78
400-172848-4 MS	PD-2-SB-60-070919	80	58	71	62	85	90
400-172848-4 MSD	PD-2-SB-60-070919	81	63	85	68	85	101
400-172848-5	PD-2-SB-60-070919-DUP	77	59	61	55	90	87
LCS 400-447691/4-A	Lab Control Sample	78	62	65	60	99	90
LCS 400-447691/6-A	Lab Control Sample	92	68	70	68	109	126
LCSD 400-447691/5-A	Lab Control Sample Dup	75	61	71	65	102	88
MB 400-447691/1-A	Method Blank	77	64	72	64	98	72

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172848-2	PD-2-SB-50-070919	77	59	100
400-172848-3	PD-2-SB-52-070919	94	82	121
400-172848-4	PD-2-SB-60-070919	78	69	101
400-172848-5	PD-2-SB-60-070919-DUP	88	75	110
LCS 400-447691/2-A	Lab Control Sample	84	73	109
LCSD 400-447691/3-A	Lab Control Sample Dup	87	75	108
MB 400-447691/1-A	Method Blank	82	71	114

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A
Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448139	07/16/19 13:24	RS	TAL PEN

Client Sample ID: PD-2-SB-50-070919
Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-50-070919
Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2
Matrix: Solid
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			8.021 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	448153	07/16/19 19:45	CAR	TAL PEN
Total/NA	Prep	3546			15.15 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 22:53	VC1	TAL PEN
Total/NA	Prep	3546			15.15 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 06:29	KJA	TAL PEN

Client Sample ID: PD-2-SB-52-070919
Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-52-070919
Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3
Matrix: Solid
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.806 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	448153	07/16/19 20:08	CAR	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 23:18	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:37	KJA	TAL PEN

Client Sample ID: PD-2-SB-60-070919
Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4
Matrix: Solid
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.211 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	448153	07/16/19 18:57	CAR	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 22:27	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:53	KJA	TAL PEN

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5
Matrix: Solid
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.743 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	448153	07/16/19 19:21	CAR	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 23:43	VC1	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 21:09	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 19:55	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 06:46	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448139/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448139	07/16/19 10:45	RS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 11:26	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447691/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 07:02	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447691/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 20:21	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447691/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 16:00	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448139/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448139	07/16/19 09:39	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 10:10	CAR	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447691/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 06:14	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447691/5-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 20:46	VC1	TAL PEN

Client Sample ID: PD-2-SB-60-070919
Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4 MS
Matrix: Solid
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.33 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 21:37	VC1	TAL PEN

Client Sample ID: PD-2-SB-60-070919
Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4 MSD
Matrix: Solid
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.27 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 22:02	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

GC/MS VOA

Analysis Batch: 448139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-1	TB-PW-070919-A	Total/NA	Water	8260B	
MB 400-448139/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448139/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	8260B	448198
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	8260B	448198
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	8260B	448198
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	8260B	448198
MB 400-448198/19-A	Method Blank	Total/NA	Solid	8260B	448198
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	8260B	448198

Prep Batch: 448198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	5035	
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	5035	
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	5035	
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	5035	
MB 400-448198/19-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	3546	
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	3546	
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	3546	
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	3546	
MB 400-447691/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447691/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447691/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447691/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447691/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-447691/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-172848-4 MS	PD-2-SB-60-070919	Total/NA	Solid	3546	
400-172848-4 MSD	PD-2-SB-60-070919	Total/NA	Solid	3546	

Analysis Batch: 448422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	8270D	447691
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	8270D	447691
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	8270D	447691
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	8270D	447691
MB 400-447691/1-A	Method Blank	Total/NA	Solid	8270D	447691
LCS 400-447691/4-A	Lab Control Sample	Total/NA	Solid	8270D	447691
LCSD 400-447691/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447691
400-172848-4 MS	PD-2-SB-60-070919	Total/NA	Solid	8270D	447691
400-172848-4 MSD	PD-2-SB-60-070919	Total/NA	Solid	8270D	447691

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

GC/MS Semi VOA

Analysis Batch: 448502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	8270D LL	447691
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	8270D LL	447691
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	8270D LL	447691

Analysis Batch: 448527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	8270D LL	447691
MB 400-447691/1-A	Method Blank	Total/NA	Solid	8270D LL	447691
LCS 400-447691/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	447691
LCSD 400-447691/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	447691

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-447691/6-A	Lab Control Sample	Total/NA	Solid	8270D	447691

General Chemistry

Analysis Batch: 447722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	Moisture	
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	Moisture	
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	Moisture	
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448139/4
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 10:45	1
Acrolein	ND		20	10	ug/L			07/16/19 10:45	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 10:45	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 10:45	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 10:45	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 10:45	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 10:45	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 10:45	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 10:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 10:45	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 10:45	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 10:45	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 10:45	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 10:45	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 10:45	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 10:45	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 10:45	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 10:45	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 10:45	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 10:45	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 10:45	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 10:45	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 10:45	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 10:45	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 10:45	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 10:45	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 10:45	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 10:45	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 10:45	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 10:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 10:45	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 10:45	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448139/4
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 10:45	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 10:45	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 10:45	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 10:45	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 10:45	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 10:45	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 10:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 10:45	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 10:45	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 10:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 10:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 10:45	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 10:45	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 10:45	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 10:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 10:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 10:45	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 10:45	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 10:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 10:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/16/19 10:45*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/16/19 10:45*	*1*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/16/19 10:45*	*1*

Lab Sample ID: LCS 400-448139/1002
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	216		ug/L		108	43 - 160
Acrolein	500	586		ug/L		117	38 - 160
Acrylonitrile	500	501		ug/L		100	64 - 142
Benzene	50.0	51.9		ug/L		104	70 - 130
Bromobenzene	50.0	47.7		ug/L		95	70 - 132
Bromochloromethane	50.0	47.3		ug/L		95	70 - 130
Bromodichloromethane	50.0	46.9		ug/L		94	67 - 133
Bromoform	50.0	44.7		ug/L		89	57 - 140
Bromomethane	50.0	28.0		ug/L		56	10 - 160
2-Butanone (MEK)	200	249		ug/L		124	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448139/1002
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	42.1		ug/L		84	61 - 137
Carbon tetrachloride	50.0	45.9		ug/L		92	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130
Chloroethane	50.0	44.6		ug/L		89	55 - 141
2-Chloroethyl vinyl ether	50.0	29.5		ug/L		59	10 - 160
Chloroform	50.0	49.3		ug/L		99	69 - 130
1-Chlorohexane	50.0	44.8		ug/L		90	69 - 130
Chloromethane	50.0	48.3		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	48.8		ug/L		98	68 - 130
cis-1,3-Dichloropropene	50.0	49.0		ug/L		98	69 - 132
Dibromochloromethane	50.0	48.1		ug/L		96	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	42.8		ug/L		86	54 - 135
1,2-Dichlorobenzene	50.0	48.1		ug/L		96	67 - 130
1,3-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 130
Dichlorodifluoromethane	50.0	48.2		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	49.3		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	48.5		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	44.5		ug/L		89	63 - 134
1,2-Dichloropropane	50.0	52.3		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	48.7		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	43.6		ug/L		87	52 - 135
1,1-Dichloropropene	50.0	48.6		ug/L		97	70 - 130
Ethylbenzene	50.0	46.2		ug/L		92	70 - 130
Ethylene Dibromide	50.0	50.4		ug/L		101	70 - 130
Ethyl methacrylate	50.0	44.2		ug/L		88	68 - 130
Hexachlorobutadiene	50.0	57.2		ug/L		114	53 - 140
2-Hexanone	200	202		ug/L		101	65 - 137
Isopropylbenzene	50.0	44.5		ug/L		89	70 - 130
Methylene bromide	50.0	48.8		ug/L		98	70 - 130
Methylene Chloride	50.0	50.9		ug/L		102	66 - 135
4-Methyl-2-pentanone (MIBK)	200	191		ug/L		95	69 - 138
Methyl tert-butyl ether	50.0	45.4		ug/L		91	66 - 130
m-Xylene & p-Xylene	50.0	46.6		ug/L		93	70 - 130
Naphthalene	50.0	39.7		ug/L		79	47 - 149
n-Butylbenzene	50.0	48.0		ug/L		96	67 - 130
N-Propylbenzene	50.0	49.8		ug/L		100	70 - 130
o-Chlorotoluene	50.0	52.3		ug/L		105	70 - 130
o-Xylene	50.0	45.0		ug/L		90	70 - 130
p-Chlorotoluene	50.0	52.5		ug/L		105	70 - 130
p-Isopropyltoluene	50.0	49.5		ug/L		99	65 - 130
sec-Butylbenzene	50.0	48.4		ug/L		97	66 - 130
Styrene	50.0	44.0		ug/L		88	70 - 130
tert-Butylbenzene	50.0	47.6		ug/L		95	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.9		ug/L		92	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.6		ug/L		111	70 - 131
Tetrachloroethene	50.0	42.6		ug/L		85	65 - 130
Toluene	50.0	47.6		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	48.6		ug/L		97	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448139/1002
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	44.1		ug/L		88	63 - 130
1,2,3-Trichlorobenzene	50.0	47.4		ug/L		95	60 - 138
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	60 - 140
1,1,1-Trichloroethane	50.0	46.3		ug/L		93	68 - 130
1,1,2-Trichloroethane	50.0	49.9		ug/L		100	70 - 130
Trichloroethene	50.0	49.3		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	43.4		ug/L		87	65 - 138
1,2,3-Trichloropropane	50.0	51.7		ug/L		103	70 - 130
1,2,4-Trimethylbenzene	50.0	51.2		ug/L		102	70 - 130
1,3,5-Trimethylbenzene	50.0	52.0		ug/L		104	69 - 130
Vinyl acetate	100	96.1		ug/L		96	26 - 160
Vinyl chloride	50.0	50.5		ug/L		101	59 - 136
Xylenes, Total	100	91.5		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*94*		*80 - 120*

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrolein	ND		50	28	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Benzene	ND		5.0	0.67	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromoform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Hexanone	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene Chloride	ND		15	10	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Styrene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Toluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/16/19 08:43	07/16/19 11:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 122	07/16/19 08:43	07/16/19 11:26	1
Dibromofluoromethane	92		79 - 123	07/16/19 08:43	07/16/19 11:26	1
Toluene-d8 (Surr)	101		80 - 120	07/16/19 08:43	07/16/19 11:26	1

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	194		ug/Kg		97	48 - 160
Acrolein	500	489		ug/Kg		98	40 - 150
Acrylonitrile	500	543		ug/Kg		109	60 - 130
Benzene	50.0	48.2		ug/Kg		96	65 - 130
Bromobenzene	50.0	52.1		ug/Kg		104	65 - 130
Bromochloromethane	50.0	51.3		ug/Kg		103	65 - 130
Bromodichloromethane	50.0	44.6		ug/Kg		89	61 - 130
Bromoform	50.0	47.5		ug/Kg		95	52 - 136
Bromomethane	50.0	39.1		ug/Kg		78	12 - 160
2-Butanone (MEK)	200	172		ug/Kg		86	55 - 130
Carbon disulfide	50.0	45.0		ug/Kg		90	46 - 141
Carbon tetrachloride	50.0	45.5		ug/Kg		91	60 - 130
Chlorobenzene	50.0	50.6		ug/Kg		101	70 - 130
Chloroethane	50.0	42.4		ug/Kg		85	55 - 134
2-Chloroethyl vinyl ether	50.0	35.3		ug/Kg		71	10 - 158
Chloroform	50.0	48.3		ug/Kg		97	62 - 130
1-Chlorohexane	50.0	51.6		ug/Kg		103	69 - 130
Chloromethane	50.0	49.4		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.2		ug/Kg		94	53 - 135
cis-1,3-Dichloropropene	50.0	46.3		ug/Kg		93	61 - 130
Dibromochloromethane	50.0	49.3		ug/Kg		99	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	48.3		ug/Kg		97	49 - 130
1,2-Dichlorobenzene	50.0	55.2		ug/Kg		110	64 - 130
1,3-Dichlorobenzene	50.0	54.2		ug/Kg		108	66 - 130
1,4-Dichlorobenzene	50.0	52.5		ug/Kg		105	65 - 130
Dichlorodifluoromethane	50.0	40.6		ug/Kg		81	34 - 143
1,1-Dichloroethane	50.0	47.9		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.3		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	48.9		ug/Kg		98	55 - 137
1,2-Dichloropropane	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichloropropane	50.0	49.8		ug/Kg		100	67 - 130
2,2-Dichloropropane	50.0	43.0		ug/Kg		86	51 - 132
1,1-Dichloropropene	50.0	47.4		ug/Kg		95	65 - 130
Ethylbenzene	50.0	52.9		ug/Kg		106	70 - 130
Ethylene Dibromide	50.0	51.6		ug/Kg		103	67 - 130
Ethyl methacrylate	50.0	50.0		ug/Kg		100	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	42.2		ug/Kg		84	62 - 133
2-Hexanone	200	183		ug/Kg		91	57 - 131
Isopropylbenzene	50.0	51.3		ug/Kg		103	70 - 130
Methylene bromide	50.0	44.9		ug/Kg		90	65 - 130
Methylene Chloride	50.0	49.6		ug/Kg		99	57 - 132
4-Methyl-2-pentanone (MIBK)	200	204		ug/Kg		102	58 - 130
Methyl tert-butyl ether	50.0	43.9		ug/Kg		88	63 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/Kg		104	70 - 130
Naphthalene	50.0	51.8		ug/Kg		104	45 - 144
n-Butylbenzene	50.0	52.9		ug/Kg		106	66 - 130
N-Propylbenzene	50.0	55.8		ug/Kg		112	67 - 130
o-Chlorotoluene	50.0	55.7		ug/Kg		111	67 - 130
o-Xylene	50.0	52.9		ug/Kg		106	70 - 130
p-Chlorotoluene	50.0	57.8		ug/Kg		116	66 - 130
p-Isopropyltoluene	50.0	55.1		ug/Kg		110	68 - 130
sec-Butylbenzene	50.0	54.1		ug/Kg		108	67 - 130
Styrene	50.0	49.6		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	53.1		ug/Kg		106	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.7		ug/Kg		105	65 - 130
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/Kg		106	60 - 131
Tetrachloroethene	50.0	49.1		ug/Kg		98	67 - 130
Toluene	50.0	52.7		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/Kg		105	58 - 134
trans-1,3-Dichloropropene	50.0	47.8		ug/Kg		96	60 - 130
1,2,3-Trichlorobenzene	50.0	43.8		ug/Kg		88	58 - 135
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	46.6		ug/Kg		93	63 - 130
1,1,2-Trichloroethane	50.0	50.4		ug/Kg		101	65 - 130
Trichloroethene	50.0	48.4		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	39.2		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	54.6		ug/Kg		109	60 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/Kg		108	66 - 130
1,3,5-Trimethylbenzene	50.0	55.5		ug/Kg		111	67 - 130
Vinyl acetate	100	108		ug/Kg		108	24 - 160
Vinyl chloride	50.0	50.4		ug/Kg		101	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*92*		*79 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Benzenethiol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Benzoic acid	ND		990	350	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Benzyl alcohol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Bis(2-ethylhexyl) phthalate	60.7	J	330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Chloroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Chlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Dibenzofuran	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Diethyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Di-n-butyl phthalate	72.2	J	330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
1,4-Dioxane	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Hexachloroethane	ND		330	100	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Indene	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Isophorone	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Methylphenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Nitroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
3-Nitroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Nitroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Nitrobenzene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Nitrophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Nitrophenol	ND		330	110	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Pentachlorophenol	ND		660	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Phenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		330	150	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Quinoline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/12/19 08:50*	*07/17/19 19:55*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
2-Fluorophenol	*64*		*25 - 128*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
Phenol-d5	*64*		*29 - 130*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
Terphenyl-d14	*98*		*24 - 146*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
2,4,6-Tribromophenol	*72*		*10 - 150*	*07/12/19 08:50*	*07/17/19 19:55*	*1*

Lab Sample ID: LCS 400-447691/4-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	67.9	J *	ug/Kg		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*62*		*25 - 128*
Nitrobenzene-d5	*65*		*15 - 136*
Phenol-d5	*60*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*90*		*10 - 150*

Lab Sample ID: LCS 400-447691/6-A
Matrix: Solid
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1250		ug/Kg		63	36 - 120
Benzoic acid	7770	2760		ug/Kg		36	10 - 139
Benzyl alcohol	2000	1490		ug/Kg		75	10 - 127
Bis(2-chloroethoxy)methane	2000	1290		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1200		ug/Kg		60	50 - 120
bis (2-chloroisopropyl) ether	2000	1220		ug/Kg		61	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1750		ug/Kg		87	58 - 158
4-Bromophenyl phenyl ether	2000	2350		ug/Kg		117	51 - 120
Butyl benzyl phthalate	2000	1600		ug/Kg		80	58 - 126
4-Chloroaniline	2000	1190		ug/Kg		59	34 - 120
4-Chloro-3-methylphenol	2000	1810		ug/Kg		91	57 - 124
2-Chloronaphthalene	2000	1780		ug/Kg		89	55 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447691/6-A
Matrix: Solid
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	2000	1570		ug/Kg		79	52 - 120
4-Chlorophenyl phenyl ether	2000	2120		ug/Kg		106	56 - 120
Dibenz[a,h]acridine	2000	2220		ug/Kg		111	51 - 135
Dibenzofuran	2000	1820		ug/Kg		91	58 - 120
3,3'-Dichlorobenzidine	2670	5200	*	ug/Kg		195	42 - 120
2,4-Dichlorophenol	2000	1850		ug/Kg		93	56 - 120
Diethyl phthalate	2000	1970		ug/Kg		99	56 - 128
2,4-Dimethylphenol	2000	1650		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1910		ug/Kg		96	58 - 120
Di-n-butyl phthalate	2000	2020		ug/Kg		101	64 - 122
4,6-Dinitro-ortho-cresol	4000	4160		ug/Kg		104	35 - 135
2,4-Dinitrophenol	4000	3430		ug/Kg		86	10 - 138
2,4-Dinitrotoluene	2000	1960		ug/Kg		98	59 - 133
2,6-Dinitrotoluene	2000	1980		ug/Kg		99	57 - 123
Di-n-octyl phthalate	2000	1870		ug/Kg		93	57 - 137
1,4-Dioxane	2000	632		ug/Kg		32	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1560		ug/Kg		78	50 - 120
Hexachlorobenzene	2000	2640	*	ug/Kg		132	49 - 127
Hexachlorocyclopentadiene	2000	691		ug/Kg		35	10 - 140
Hexachloroethane	2000	1420		ug/Kg		71	45 - 120
Indene	2000	1420		ug/Kg		71	45 - 120
Isophorone	2000	1370		ug/Kg		69	50 - 120
2-Methylphenol	2000	1510		ug/Kg		76	51 - 123
3 & 4 Methylphenol	2000	1570		ug/Kg		79	47 - 123
2-Nitroaniline	2000	1800		ug/Kg		90	55 - 129
3-Nitroaniline	2000	2080		ug/Kg		104	45 - 120
4-Nitroaniline	2000	2790	*	ug/Kg		139	52 - 126
Nitrobenzene	2000	1410		ug/Kg		71	50 - 120
2-Nitrophenol	2000	1540		ug/Kg		77	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		111	38 - 133
N-Nitrosodimethylamine	2000	1500		ug/Kg		75	35 - 120
N-Nitrosodi-n-propylamine	2000	1580		ug/Kg		79	48 - 120
N-Nitrosodiphenylamine	1980	1890		ug/Kg		95	54 - 120
Pentachlorophenol	4000	4610		ug/Kg		115	32 - 131
Phenol	2000	1300		ug/Kg		65	51 - 120
Pyridine	4000	1760		ug/Kg		44	29 - 120
Quinoline	2000	1670		ug/Kg		84	10 - 150
2,4,5-Trichlorophenol	2000	2090		ug/Kg		104	53 - 133
2,4,6-Trichlorophenol	2000	2040		ug/Kg		102	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*70*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*109*		*24 - 146*
2,4,6-Tribromophenol	*126*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447691/5-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447691

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	68.7	J *	ug/Kg		3	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*27 - 127*
2-Fluorophenol	*61*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*65*		*29 - 130*
Terphenyl-d14	*102*		*24 - 146*
2,4,6-Tribromophenol	*88*		*10 - 150*

Lab Sample ID: 400-172848-4 MS
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2390	1480		ug/Kg	☼	62	40 - 140
Benzoic acid	ND		9270	ND	F1	ug/Kg	☼	0	40 - 140
Benzyl alcohol	ND		2390	414	F1	ug/Kg	☼	17	40 - 140
Bis(2-chloroethoxy)methane	ND	*	2390	1390	*	ug/Kg	☼	58	40 - 140
Bis(2-chloroethyl)ether	ND	*	2390	1280	*	ug/Kg	☼	54	40 - 140
bis (2-chloroisopropyl) ether	ND		2390	1800		ug/Kg	☼	75	40 - 140
Bis(2-ethylhexyl) phthalate	61	J B	2390	2010		ug/Kg	☼	82	40 - 140
4-Bromophenyl phenyl ether	ND		2390	2140		ug/Kg	☼	90	40 - 140
Butyl benzyl phthalate	ND		2390	1800		ug/Kg	☼	76	40 - 140
4-Chloroaniline	ND		2390	1120		ug/Kg	☼	47	40 - 140
4-Chloro-3-methylphenol	ND		2390	1750		ug/Kg	☼	73	40 - 140
2-Chloronaphthalene	ND		2390	2010		ug/Kg	☼	84	40 - 140
2-Chlorophenol	ND		2390	1650		ug/Kg	☼	69	40 - 140
4-Chlorophenyl phenyl ether	ND		2390	2220		ug/Kg	☼	93	40 - 140
Dibenz[a,h]acridine	ND		2390	2340		ug/Kg	☼	98	40 - 140
Dibenzofuran	ND		2390	2050		ug/Kg	☼	86	40 - 140
3,3'-Dichlorobenzidine	ND	*	3180	3380		ug/Kg	☼	106	40 - 140
2,4-Dichlorophenol	ND		2390	1710		ug/Kg	☼	72	40 - 140
Diethyl phthalate	ND		2390	2380		ug/Kg	☼	100	40 - 140
2,4-Dimethylphenol	ND		2390	1970		ug/Kg	☼	83	40 - 140
Dimethyl phthalate	ND		2390	2010		ug/Kg	☼	84	40 - 140
Di-n-butyl phthalate	59	J B	2390	2290		ug/Kg	☼	93	40 - 140
4,6-Dinitro-ortho-cresol	ND		4770	3430		ug/Kg	☼	72	40 - 140
2,4-Dinitrophenol	ND		4770	1870	F1	ug/Kg	☼	39	40 - 140
2,4-Dinitrotoluene	ND		2390	2070		ug/Kg	☼	87	40 - 140
2,6-Dinitrotoluene	ND		2390	1930		ug/Kg	☼	81	40 - 140
Di-n-octyl phthalate	ND		2390	1940		ug/Kg	☼	82	40 - 140
1,4-Dioxane	ND	*	2390	673	F1 *	ug/Kg	☼	28	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2390	2110		ug/Kg	☼	89	40 - 140
Hexachlorobenzene	ND	*	2390	2330		ug/Kg	☼	98	40 - 140
Hexachlorocyclopentadiene	ND		2390	926	F1	ug/Kg	☼	39	40 - 140
Hexachloroethane	ND		2390	1540		ug/Kg	☼	64	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172848-4 MS
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	ND		2390	1650		ug/Kg	☼	69	40 - 140
Isophorone	ND		2390	1320		ug/Kg	☼	55	40 - 140
2-Methylphenol	ND		2390	2170		ug/Kg	☼	91	40 - 140
3 & 4 Methylphenol	ND		2390	2540		ug/Kg	☼	106	40 - 140
2-Nitroaniline	ND		2390	2430		ug/Kg	☼	102	40 - 140
3-Nitroaniline	ND	*	2390	3480	F1 *	ug/Kg	☼	146	40 - 140
4-Nitroaniline	ND	*	2390	2910		ug/Kg	☼	122	40 - 140
Nitrobenzene	ND		2390	1480		ug/Kg	☼	62	40 - 140
2-Nitrophenol	ND	*	2390	1300	*	ug/Kg	☼	54	40 - 140
4-Nitrophenol	ND		4770	4660		ug/Kg	☼	98	40 - 140
N-Nitrosodimethylamine	ND		2390	3150		ug/Kg	☼	132	40 - 140
N-Nitrosodi-n-propylamine	ND		2390	1900		ug/Kg	☼	80	40 - 140
N-Nitrosodiphenylamine	ND		2370	2020		ug/Kg	☼	85	40 - 140
Pentachlorophenol	ND		4770	3990		ug/Kg	☼	84	40 - 140
Phenol	48	J	2390	1670		ug/Kg	☼	68	40 - 140
Pyridine	ND		4770	2160		ug/Kg	☼	45	40 - 140
Quinoline	ND		2390	1910		ug/Kg	☼	80	40 - 140
2,4,5-Trichlorophenol	ND		2390	2170		ug/Kg	☼	91	40 - 140
2,4,6-Trichlorophenol	ND		2390	1880		ug/Kg	☼	79	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
2-Fluorophenol	*58*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*62*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*90*		*10 - 150*

Lab Sample ID: 400-172848-4 MSD
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2400	1580		ug/Kg	☼	66	40 - 140	6	30
Benzoic acid	ND		9300	491	J F1	ug/Kg	☼	5	40 - 140	NC	30
Benzyl alcohol	ND		2400	362	J F1	ug/Kg	☼	15	40 - 140	14	30
Bis(2-chloroethoxy)methane	ND	*	2400	1440	*	ug/Kg	☼	60	40 - 140	3	30
Bis(2-chloroethyl)ether	ND	*	2400	1490	*	ug/Kg	☼	62	40 - 140	15	30
bis (2-chloroisopropyl) ether	ND		2400	2560	F2	ug/Kg	☼	107	40 - 140	35	30
Bis(2-ethylhexyl) phthalate	61	J B	2400	2090		ug/Kg	☼	85	40 - 140	4	30
4-Bromophenyl phenyl ether	ND		2400	2180		ug/Kg	☼	91	40 - 140	2	30
Butyl benzyl phthalate	ND		2400	1830		ug/Kg	☼	76	40 - 140	2	30
4-Chloroaniline	ND		2400	1150		ug/Kg	☼	48	40 - 140	3	30
4-Chloro-3-methylphenol	ND		2400	1830		ug/Kg	☼	77	40 - 140	5	30
2-Chloronaphthalene	ND		2400	2120		ug/Kg	☼	89	40 - 140	6	30
2-Chlorophenol	ND		2400	1690		ug/Kg	☼	70	40 - 140	2	30
4-Chlorophenyl phenyl ether	ND		2400	2330		ug/Kg	☼	97	40 - 140	5	30
Dibenz[a,h]acridine	ND		2400	2330		ug/Kg	☼	97	40 - 140	0	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172848-4 MSD
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenzofuran	ND		2400	2190		ug/Kg	☼	91	40 - 140	7	30
3,3'-Dichlorobenzidine	ND	*	3190	3390		ug/Kg	☼	106	40 - 140	0	30
2,4-Dichlorophenol	ND		2400	1710		ug/Kg	☼	72	40 - 140	0	30
Diethyl phthalate	ND		2400	2480		ug/Kg	☼	104	40 - 140	4	30
2,4-Dimethylphenol	ND		2400	2140		ug/Kg	☼	89	40 - 140	8	30
Dimethyl phthalate	ND		2400	2130		ug/Kg	☼	89	40 - 140	6	30
Di-n-butyl phthalate	59	J B	2400	2410		ug/Kg	☼	98	40 - 140	5	30
4,6-Dinitro-ortho-cresol	ND		4790	3690		ug/Kg	☼	77	40 - 140	7	30
2,4-Dinitrophenol	ND		4790	2140		ug/Kg	☼	45	40 - 140	14	30
2,4-Dinitrotoluene	ND		2400	2180		ug/Kg	☼	91	40 - 140	5	30
2,6-Dinitrotoluene	ND		2400	1960		ug/Kg	☼	82	40 - 140	1	30
Di-n-octyl phthalate	ND		2400	2020		ug/Kg	☼	84	40 - 140	4	30
1,4-Dioxane	ND	*	2400	624	F1 *	ug/Kg	☼	26	40 - 140	7	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2400	2170		ug/Kg	☼	91	40 - 140	3	30
Hexachlorobenzene	ND	*	2400	2350		ug/Kg	☼	98	40 - 140	1	30
Hexachlorocyclopentadiene	ND		2400	865	F1	ug/Kg	☼	36	40 - 140	7	30
Hexachloroethane	ND		2400	1680		ug/Kg	☼	70	40 - 140	9	30
Indene	ND		2400	1740		ug/Kg	☼	73	40 - 140	5	30
Isophorone	ND		2400	1690		ug/Kg	☼	70	40 - 140	24	30
2-Methylphenol	ND		2400	2290		ug/Kg	☼	95	40 - 140	5	30
3 & 4 Methylphenol	ND		2400	2500		ug/Kg	☼	104	40 - 140	2	30
2-Nitroaniline	ND		2400	2600		ug/Kg	☼	109	40 - 140	7	30
3-Nitroaniline	ND	*	2400	3590	F1 *	ug/Kg	☼	150	40 - 140	3	30
4-Nitroaniline	ND	*	2400	3060		ug/Kg	☼	128	40 - 140	5	30
Nitrobenzene	ND		2400	1870		ug/Kg	☼	78	40 - 140	23	30
2-Nitrophenol	ND	*	2400	1390	*	ug/Kg	☼	58	40 - 140	7	30
4-Nitrophenol	ND		4790	7110	F1 F2	ug/Kg	☼	148	40 - 140	42	30
N-Nitrosodimethylamine	ND		2400	2970		ug/Kg	☼	124	40 - 140	6	30
N-Nitrosodi-n-propylamine	ND		2400	2250		ug/Kg	☼	94	40 - 140	17	30
N-Nitrosodiphenylamine	ND		2380	2070		ug/Kg	☼	87	40 - 140	3	30
Pentachlorophenol	ND		4790	4220		ug/Kg	☼	88	40 - 140	5	30
Phenol	48	J	2400	1920		ug/Kg	☼	78	40 - 140	14	30
Pyridine	ND		4790	1980		ug/Kg	☼	41	40 - 140	9	30
Quinoline	ND		2400	1850		ug/Kg	☼	77	40 - 140	3	30
2,4,5-Trichlorophenol	ND		2400	2310		ug/Kg	☼	96	40 - 140	6	30
2,4,6-Trichlorophenol	ND		2400	1930		ug/Kg	☼	81	40 - 140	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*85*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*101*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Anthracene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Chrysene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Fluorene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Pyrene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/12/19 08:50*	*07/19/19 06:46*	*1*
Nitrobenzene-d5	*71*		*15 - 136*	*07/12/19 08:50*	*07/19/19 06:46*	*1*
Terphenyl-d14	*114*		*24 - 146*	*07/12/19 08:50*	*07/19/19 06:46*	*1*

Lab Sample ID: LCS 400-447691/2-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	284		ug/Kg		85	57 - 120
Acenaphthylene	333	282		ug/Kg		85	59 - 120
Anthracene	333	289		ug/Kg		87	61 - 120
Benzo[a]anthracene	333	288		ug/Kg		86	61 - 120
Benzo[a]pyrene	333	298		ug/Kg		89	54 - 127
Benzo[b]fluoranthene	333	299		ug/Kg		90	35 - 146
Benzo[g,h,i]perylene	333	278		ug/Kg		83	36 - 150
Benzo[k]fluoranthene	333	286		ug/Kg		86	53 - 139
Chrysene	333	284		ug/Kg		85	60 - 120
Dibenz(a,h)anthracene	333	315		ug/Kg		95	39 - 150
Fluoranthene	333	279		ug/Kg		84	61 - 121
Fluorene	333	308		ug/Kg		92	60 - 120
Indeno[1,2,3-cd]pyrene	333	304		ug/Kg		91	40 - 150
1-Methylnaphthalene	333	261		ug/Kg		78	46 - 120
2-Methylnaphthalene	333	267		ug/Kg		80	46 - 120
Phenanthrene	333	287		ug/Kg		86	59 - 120
Pyrene	333	310		ug/Kg		93	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*27 - 127*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447691/2-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	73		15 - 136
Terphenyl-d14	109		24 - 146

Lab Sample ID: LCSD 400-447691/3-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	299		ug/Kg		90	57 - 120	5	30
Acenaphthylene	333	297		ug/Kg		89	59 - 120	5	30
Anthracene	333	299		ug/Kg		90	61 - 120	3	30
Benzo[a]anthracene	333	289		ug/Kg		87	61 - 120	0	30
Benzo[a]pyrene	333	301		ug/Kg		90	54 - 127	1	30
Benzo[b]fluoranthene	333	298		ug/Kg		90	35 - 146	0	30
Benzo[g,h,i]perylene	333	285		ug/Kg		85	36 - 150	2	30
Benzo[k]fluoranthene	333	295		ug/Kg		89	53 - 139	3	30
Chrysene	333	288		ug/Kg		86	60 - 120	1	30
Dibenz(a,h)anthracene	333	328		ug/Kg		98	39 - 150	4	30
Fluoranthene	333	287		ug/Kg		86	61 - 121	3	30
Fluorene	333	315		ug/Kg		95	60 - 120	3	30
Indeno[1,2,3-cd]pyrene	333	312		ug/Kg		94	40 - 150	3	30
1-Methylnaphthalene	333	275		ug/Kg		82	46 - 120	5	30
2-Methylnaphthalene	333	276		ug/Kg		83	46 - 120	3	30
Phenanthrene	333	294		ug/Kg		88	59 - 120	2	30
Pyrene	333	308		ug/Kg		92	53 - 122	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	87		27 - 127
Nitrobenzene-d5	75		15 - 136
Terphenyl-d14	108		24 - 146

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)

☐ CALSCIENCE (_____)

☑ TESTAMERICA (Pensacola)

☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/9/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com, james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID

SAMPLER NAME(S) (Print): John Bell

LAB USE ONLY

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 / NON-UNIT COST 60592794 - 1.24.050

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
TB-PW-070919-A	7/9/2019	0:00	Water	X					2			X		
PD-2-SB-50-070919	7/9/2019	13:50	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-2-SB-52-070919	7/9/2019	14:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-2-SB-60-070919	7/9/2019	16:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-2-SB-60-070919-DUP	7/9/2019	16:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-172848 COC

	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Fedex: 4931 8203 6182 / 4931 8203 7395	7/9/2019	17:45
Relinquished by: (Signature)	Received by: (Signature)	07.10.19	859
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

Version: 10May17

Custody Seals 1011665 1011664 1011667 1011666

4.8°C, 4.8·C IR7

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7/30/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172848-1

Login Number: 172848
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C 4.8°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172848-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 1:58:44 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172848-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172848-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 7-30-19.

Receipt
The samples were received on 7/10/2019 8:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.8º C and 4.8º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-2-SB-50-070919 (400-172848-2), PD-2-SB-52-070919 (400-172848-3), PD-2-SB-60-070919 (400-172848-4) and PD-2-SB-60-070919-DUP (400-172848-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070919-A (400-172848-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442653 was outside method criteria for the following analyte(s): N-Nitrosodiphenylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The method blank for preparation batch 400-447691 and analytical batch 400-448422 contained Bis(2-ethylhexyl) phthalate and Di-n-butyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447691 and analytical batch 400-448422 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, 1,4-Dioxane, Benzyl alcohol and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for N-Nitrosodimethylamine and 3-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-447691 and analytical batch 400-448987 recovered

Job ID: 400-172848-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Nitroaniline. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-447691 and analytical batch 400-448422 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-447691 and analytical batch 400-448422 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442656 was outside method criteria for the following analyte(s): Benzenethiol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172848-1	TB-PW-070919-A	Water	07/09/19 00:00	07/10/19 08:59	
400-172848-2	PD-2-SB-50-070919	Solid	07/09/19 13:50	07/10/19 08:59	
400-172848-3	PD-2-SB-52-070919	Solid	07/09/19 14:20	07/10/19 08:59	
400-172848-4	PD-2-SB-60-070919	Solid	07/09/19 16:20	07/10/19 08:59	
400-172848-5	PD-2-SB-60-070919-DUP	Solid	07/09/19 16:20	07/10/19 08:59	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A — Lab Sample ID: 400-172848-1

No Detections.

Client Sample ID: PD-2-SB-50-070919 — Lab Sample ID: 400-172848-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120000		4400	590	ug/Kg	1000	☼	8260B	Total/NA
Acenaphthene	66		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	75		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	120		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	110		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	55		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	29		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	230		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	27		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	45		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	80		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	15		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	490		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	750		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	520		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	330		7.6	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	46	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	48	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	710		380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-2-SB-52-070919 — Lab Sample ID: 400-172848-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	150000		6000	800	ug/Kg	1000	☼	8260B	Total/NA
Fluoranthene	2.5	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	5.1	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.8		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	6.2	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	10		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	72	J B	390	39	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	57	J B	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	570		390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-2-SB-60-070919 — Lab Sample ID: 400-172848-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	38000		1200	160	ug/Kg	200	☼	8260B	Total/NA
Acenaphthene	1.8	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	2.1	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.0	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	1.4	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	13		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	21		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	17		8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	6.4	J	8.0	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	61	J B	400	40	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	59	J B	400	40	ug/Kg	1	☼	8270D	Total/NA
Phenol	48	J	400	40	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Lab Sample ID: 400-172848-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	23000		1200	160	ug/Kg	200	☼	8260B	Total/NA
Acenaphthene	2.6	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	4.9	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	7.2	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.3	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	2.5	J	7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	17		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	26		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	21		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	11		7.7	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	60	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	52	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	94	J	380	38	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 13:24	1
Acrolein	ND		20	10	ug/L			07/16/19 13:24	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 13:24	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 13:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 13:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 13:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 13:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 13:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 13:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 13:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 13:24	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 13:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 13:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 13:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 13:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 13:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 13:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 13:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 13:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 13:24	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 13:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 13:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 13:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 13:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 13:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 13:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 13:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 13:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 13:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 13:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 13:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 13:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: TB-PW-070919-A

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 13:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 13:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 13:24	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 13:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 13:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 13:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 13:24	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 13:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 13:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 13:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 13:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 13:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 13:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 13:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 13:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 13:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 13:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 13:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*7.9*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/16/19 13:24*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 13:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/16/19 13:24*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/16/19 13:24*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/16/19 13:24*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		22000	11000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Acrolein	ND		44000	25000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Acrylonitrile	ND		18000	7000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Benzene	**120000**		4400	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromobenzene	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromochloromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromodichloromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromoform	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Bromomethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2-Butanone (MEK)	ND		22000	5300	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Carbon disulfide	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Carbon tetrachloride	ND		4400	1500	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chlorobenzene	ND		4400	460	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2-Chloroethyl vinyl ether	ND		8800	4400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chloroform	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1-Chlorohexane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Chloromethane	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
cis-1,2-Dichloroethene	ND		4400	670	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
cis-1,3-Dichloropropene	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Dibromochloromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dibromo-3-Chloropropane	ND		4400	2900	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dichlorobenzene	ND		4400	620	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,3-Dichlorobenzene	ND		4400	830	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,4-Dichlorobenzene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Dichlorodifluoromethane	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1-Dichloroethane	ND		4400	730	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dichloroethane	ND		4400	720	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1-Dichloroethene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2-Dichloropropane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,3-Dichloropropane	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2,2-Dichloropropane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1-Dichloropropene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Ethylbenzene	ND		4400	540	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Ethylene Dibromide	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Ethyl methacrylate	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Hexachlorobutadiene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
2-Hexanone	ND		22000	4400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Isopropylbenzene	ND		4400	600	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Methylene bromide	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Methylene Chloride	ND		13000	8800	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
4-Methyl-2-pentanone (MIBK)	ND		22000	4400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Methyl tert-butyl ether	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
m-Xylene & p-Xylene	ND		4400	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Naphthalene	ND		4400	1800	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
n-Butylbenzene	ND		4400	840	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
N-Propylbenzene	ND		4400	790	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
o-Chlorotoluene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
o-Xylene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		4400	860	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
p-Isopropyltoluene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
sec-Butylbenzene	ND		4400	830	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Styrene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
tert-Butylbenzene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,1,2-Tetrachloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,2,2-Tetrachloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Tetrachloroethene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Toluene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
trans-1,2-Dichloroethene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
trans-1,3-Dichloropropene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,3-Trichlorobenzene	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,4-Trichlorobenzene	ND		4400	1800	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,1-Trichloroethane	ND		4400	960	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,1,2-Trichloroethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Trichloroethene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Trichlorofluoromethane	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,3-Trichloropropane	ND		4400	2600	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,2,4-Trimethylbenzene	ND		4400	880	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
1,3,5-Trimethylbenzene	ND		4400	730	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Vinyl acetate	ND		22000	8000	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Vinyl chloride	ND		4400	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000
Xylenes, Total	ND		8800	1700	ug/Kg	☼	07/16/19 08:43	07/16/19 19:45	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 19:45*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/16/19 08:43*	*07/16/19 19:45*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/16/19 08:43*	*07/16/19 19:45*	*1000*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 19:45*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**66**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Acenaphthylene	ND		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Anthracene	**75**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[a]anthracene	**120**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[a]pyrene	**110**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[b]fluoranthene	**55**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[g,h,i]perylene	**29**		7.6	2.3	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Benzo[k]fluoranthene	ND		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Chrysene	**230**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Dibenz(a,h)anthracene	**27**		7.6	2.3	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Fluoranthene	**45**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Fluorene	**80**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Indeno[1,2,3-cd]pyrene	**15**		7.6	2.3	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
1-Methylnaphthalene	**490**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
2-Methylnaphthalene	**750**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1
Phenanthrene	**520**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**330**		7.6	1.1	ug/Kg	☼	07/12/19 08:50	07/19/19 06:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/12/19 08:50*	*07/19/19 06:29*	*1*
Nitrobenzene-d5	*59*		*15 - 136*	*07/12/19 08:50*	*07/19/19 06:29*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/12/19 08:50*	*07/19/19 06:29*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	49	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Bis(2-chloroethoxy)methane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Bis(2-chloroethyl)ether	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Bis(2-ethylhexyl) phthalate	**46**	**J B**	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Di-n-butyl phthalate	**48**	**J B**	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
1,4-Dioxane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Hexachlorobenzene	ND		380	110	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Hexachloroethane	ND		380	110	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Indene	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Isophorone	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
3-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919
Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2
Matrix: Solid
Percent Solids: 86.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2-Nitrophenol	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Phenol	**710**		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Pyridine	ND		380	170	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
Quinoline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 22:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
p-Xylene	*480*	*T J N*	*ug/Kg*	☼	*4.89*	*106-42-3*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, propyl-	*460*	*T J N*	*ug/Kg*	☼	*5.26*	*103-65-1*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-ethyl-3-methyl-	*590*	*T J N*	*ug/Kg*	☼	*5.30*	*620-14-4*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-ethyl-4-methyl-	*640*	*T J N*	*ug/Kg*	☼	*5.32*	*622-96-8*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*1200*	*T J*	*ug/Kg*	☼	*5.46*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1,2,4-trimethyl-	*2100*	*T J N*	*ug/Kg*	☼	*5.49*	*95-63-6*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*540*	*T J*	*ug/Kg*	☼	*5.58*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1-ethyl-4-methyl-	*610*	*T J N*	*ug/Kg*	☼	*5.65*	*622-96-8*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Benzene, 1,4-diethyl-	*640*	*T J N*	*ug/Kg*	☼	*5.79*	*105-05-5*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*520*	*T J*	*ug/Kg*	☼	*6.27*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*1700*	*T J*	*ug/Kg*	☼	*6.38*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*770*	*T J*	*ug/Kg*	☼	*6.43*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*550*	*T J*	*ug/Kg*	☼	*6.67*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*1700*	*T J*	*ug/Kg*	☼	*6.78*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 1-methyl-	*580*	*T J N*	*ug/Kg*	☼	*6.92*	*90-12-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
1H-Indene, 1-ethylidene-	*830*	*T J N*	*ug/Kg*	☼	*6.99*	*2471-83-2*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Unknown	*610*	*T J*	*ug/Kg*	☼	*7.06*		*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 2,6-dimethyl-	*440*	*T J N*	*ug/Kg*	☼	*7.34*	*581-42-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Decane	*800*	*T J N*	*ug/Kg*	☼	*7.52*	*124-18-5*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Hexadecane	*820*	*T J N*	*ug/Kg*	☼	*7.87*	*544-76-3*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Naphthalene, 1,4,6-trimethyl-	*440*	*T J N*	*ug/Kg*	☼	*8.04*	*2131-42-2*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Dibenzothiophene, 3-methyl-	*780*	*T J N*	*ug/Kg*	☼	*9.13*	*16587-52-3*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Anthracene, 2-methyl-	*650*	*T J N*	*ug/Kg*	☼	*9.23*	*613-12-7*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
di-p-Tolylacetylene	*1000*	*T J N*	*ug/Kg*	☼	*9.68*	*2789-88-0*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Pyrene, 1-methyl-	*490*	*T J N*	*ug/Kg*	☼	*10.57*	*2381-21-7*	*07/12/19 08:50*	*07/17/19 22:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*27 - 127*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
2-Fluorophenol	*54*		*25 - 128*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Phenol-d5	*55*		*29 - 130*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
Terphenyl-d14	*77*		*24 - 146*	*07/12/19 08:50*	*07/17/19 22:53*	*1*
2,4,6-Tribromophenol	*77*		*10 - 150*	*07/12/19 08:50*	*07/17/19 22:53*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-50-070919

Date Collected: 07/09/19 13:50
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-2

Matrix: Solid
Percent Solids: 86.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.5		0.01	0.01	%			07/12/19 11:30	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919

Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3

Matrix: Solid
Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		30000	16000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Acrolein	ND		60000	33000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Acrylonitrile	ND		24000	9600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Benzene	**150000**		6000	800	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromobenzene	ND		6000	1600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromochloromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromodichloromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromoform	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Bromomethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2-Butanone (MEK)	ND		30000	7200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Carbon disulfide	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Carbon tetrachloride	ND		6000	2000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chlorobenzene	ND		6000	620	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2-Chloroethyl vinyl ether	ND		12000	6000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chloroform	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1-Chlorohexane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Chloromethane	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
cis-1,2-Dichloroethene	ND		6000	910	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
cis-1,3-Dichloropropene	ND		6000	1400	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Dibromochloromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dibromo-3-Chloropropane	ND		6000	3900	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dichlorobenzene	ND		6000	850	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,3-Dichlorobenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,4-Dichlorobenzene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Dichlorodifluoromethane	ND		6000	1600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1-Dichloroethane	ND		6000	990	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dichloroethane	ND		6000	980	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1-Dichloroethene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2-Dichloropropane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,3-Dichloropropane	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2,2-Dichloropropane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1-Dichloropropene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Ethylbenzene	ND		6000	730	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Ethylene Dibromide	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Ethyl methacrylate	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Hexachlorobutadiene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
2-Hexanone	ND		30000	6000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Isopropylbenzene	ND		6000	810	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Methylene bromide	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Methylene Chloride	ND		18000	12000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
4-Methyl-2-pentanone (MIBK)	ND		30000	6000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Methyl tert-butyl ether	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
m-Xylene & p-Xylene	ND		6000	1600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Naphthalene	ND		6000	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
n-Butylbenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
N-Propylbenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
o-Chlorotoluene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
o-Xylene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919
Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3
Matrix: Solid
Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
p-Isopropyltoluene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
sec-Butylbenzene	ND		6000	1100	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Styrene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
tert-Butylbenzene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,1,2-Tetrachloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,2,2-Tetrachloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Tetrachloroethene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Toluene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
trans-1,2-Dichloroethene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
trans-1,3-Dichloropropene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,3-Trichlorobenzene	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,4-Trichlorobenzene	ND		6000	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,1-Trichloroethane	ND		6000	1300	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,1,2-Trichloroethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Trichloroethene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Trichlorofluoromethane	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,3-Trichloropropane	ND		6000	3600	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,2,4-Trimethylbenzene	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
1,3,5-Trimethylbenzene	ND		6000	990	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Vinyl acetate	ND		30000	11000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Vinyl chloride	ND		6000	3000	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000
Xylenes, Total	ND		12000	2300	ug/Kg	☼	07/16/19 08:43	07/16/19 20:08	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 20:08*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*72 - 122*	*07/16/19 08:43*	*07/16/19 20:08*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/16/19 08:43*	*07/16/19 20:08*	*1000*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 20:08*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Fluoranthene	**2.5**	**J**	7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
1-Methylnaphthalene	**5.1**	**J**	7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
2-Methylnaphthalene	**7.8**		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1
Phenanthrene	**6.2**	**J**	7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919

Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3

Matrix: Solid
Percent Solids: 84.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**10**		7.8	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*27 - 127*	*07/12/19 08:50*	*07/18/19 20:37*	*1*
Nitrobenzene-d5	*82*		*15 - 136*	*07/12/19 08:50*	*07/18/19 20:37*	*1*
Terphenyl-d14	*121*		*24 - 146*	*07/12/19 08:50*	*07/18/19 20:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Benzenethiol	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Bis(2-chloroethoxy)methane	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Bis(2-chloroethyl)ether	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Bis(2-ethylhexyl) phthalate	**72**	**J B**	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Di-n-butyl phthalate	**57**	**J B**	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
1,4-Dioxane	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Hexachlorobenzene	ND	*	390	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Indene	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Isophorone	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
3-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-52-070919

Date Collected: 07/09/19 14:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-3

Matrix: Solid
Percent Solids: 84.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2-Nitrophenol	ND	*	390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Phenol	**570**		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Pyridine	ND		390	180	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
Quinoline	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/12/19 08:50	07/17/19 23:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methoxy-2-methyl-	*800*	*T J N*	*ug/Kg*	☼	*2.99*	*994-05-8*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
n-Hexadecanoic acid	*680*	*T J N*	*ug/Kg*	☼	*9.13*	*57-10-3*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
9-Octadecenamide, (Z)-	*640*	*T J N*	*ug/Kg*	☼	*10.52*	*301-02-0*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
13-Docosenamide, (Z)-	*810*	*T J N*	*ug/Kg*	☼	*11.86*	*112-84-5*	*07/12/19 08:50*	*07/17/19 23:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*27 - 127*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
2-Fluorophenol	*65*		*25 - 128*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
Phenol-d5	*71*		*29 - 130*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
Terphenyl-d14	*105*		*24 - 146*	*07/12/19 08:50*	*07/17/19 23:18*	*1*
2,4,6-Tribromophenol	*90*		*10 - 150*	*07/12/19 08:50*	*07/17/19 23:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.8**		0.01	0.01	%			07/12/19 11:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4

Matrix: Solid
Percent Solids: 82.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		6000	3100	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Acrolein	ND		12000	6700	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Acrylonitrile	ND		4800	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Benzene	**38000**		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromobenzene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromochloromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromodichloromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromoform	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Bromomethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2-Butanone (MEK)	ND		6000	1400	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Carbon disulfide	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Carbon tetrachloride	ND		1200	410	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chlorobenzene	ND		1200	120	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2-Chloroethyl vinyl ether	ND		2400	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chloroform	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1-Chlorohexane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Chloromethane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
cis-1,2-Dichloroethene	ND		1200	180	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
cis-1,3-Dichloropropene	ND		1200	290	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Dibromochloromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dibromo-3-Chloropropane	ND		1200	790	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dichlorobenzene	ND		1200	170	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,3-Dichlorobenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,4-Dichlorobenzene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Dichlorodifluoromethane	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1-Dichloroethane	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dichloroethane	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1-Dichloroethene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2-Dichloropropane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,3-Dichloropropane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2,2-Dichloropropane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1-Dichloropropene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Ethylbenzene	ND		1200	150	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Ethylene Dibromide	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Ethyl methacrylate	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Hexachlorobutadiene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
2-Hexanone	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Isopropylbenzene	ND		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Methylene bromide	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Methylene Chloride	ND		3600	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
4-Methyl-2-pentanone (MIBK)	ND		6000	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Methyl tert-butyl ether	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
m-Xylene & p-Xylene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Naphthalene	ND		1200	480	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
n-Butylbenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
N-Propylbenzene	ND		1200	220	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
o-Chlorotoluene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
o-Xylene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200

Client Sample ID: PD-2-SB-60-070919
Lab Sample ID: 400-172848-4
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 82.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
p-Isopropyltoluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
sec-Butylbenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Styrene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
tert-Butylbenzene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,1,2-Tetrachloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,2,2-Tetrachloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Tetrachloroethene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Toluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
trans-1,2-Dichloroethene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
trans-1,3-Dichloropropene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,3-Trichlorobenzene	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,4-Trichlorobenzene	ND		1200	480	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,1-Trichloroethane	ND		1200	260	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,1,2-Trichloroethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Trichloroethene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Trichlorofluoromethane	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,3-Trichloropropane	ND		1200	720	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,2,4-Trimethylbenzene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
1,3,5-Trimethylbenzene	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Vinyl acetate	ND		6000	2200	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Vinyl chloride	ND		1200	600	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200
Xylenes, Total	ND		2400	460	ug/Kg	☼	07/16/19 08:43	07/16/19 18:57	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 18:57*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/16/19 08:43*	*07/16/19 18:57*	*200*
Dibromofluoromethane	*87*		*79 - 123*	*07/16/19 08:43*	*07/16/19 18:57*	*200*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/16/19 08:43*	*07/16/19 18:57*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.8**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Acenaphthylene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Anthracene	**2.1**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[a]anthracene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[a]pyrene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[b]fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[g,h,i]perylene	ND		8.0	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Benzo[k]fluoranthene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Chrysene	ND		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Dibenz(a,h)anthracene	ND		8.0	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Fluoranthene	**2.0**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Fluorene	**1.4**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Indeno[1,2,3-cd]pyrene	ND		8.0	2.4	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
1-Methylnaphthalene	**13**		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
2-Methylnaphthalene	**21**		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1
Phenanthrene	**17**		8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4

Matrix: Solid
Percent Solids: 82.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**6.4**	**J**	8.0	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 20:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/12/19 08:50*	*07/18/19 20:53*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/12/19 08:50*	*07/18/19 20:53*	*1*
Terphenyl-d14	*101*		*24 - 146*	*07/12/19 08:50*	*07/18/19 20:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		400	52	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Benzenethiol	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Benzoic acid	ND	F1	1200	430	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Benzyl alcohol	ND	F1	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Bis(2-chloroethoxy)methane	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Bis(2-chloroethyl)ether	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
bis (2-chloroisopropyl) ether	ND	F2	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Bis(2-ethylhexyl) phthalate	**61**	**J B**	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Bromophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Butyl benzyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Chloroaniline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Chloro-3-methylphenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Chloronaphthalene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Chlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Chlorophenyl phenyl ether	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Dibenz[a,h]acridine	ND		400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Dibenzofuran	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
3,3'-Dichlorobenzidine	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dichlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Diethyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dimethylphenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Dimethyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Di-n-butyl phthalate	**59**	**J B**	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4,6-Dinitro-ortho-cresol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dinitrophenol	ND	F1	1200	350	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,6-Dinitrotoluene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Di-n-octyl phthalate	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
1,4-Dioxane	ND	F1 *	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Hexachlorobenzene	ND		400	120	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Hexachlorocyclopentadiene	ND	F1	400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Hexachloroethane	ND		400	120	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Indene	ND		400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Isophorone	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Methylphenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
3 & 4 Methylphenol	ND		800	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Nitroaniline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
3-Nitroaniline	ND	F1 *	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Nitroaniline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-4

Matrix: Solid
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2-Nitrophenol	ND	*	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
4-Nitrophenol	ND	F2 F1	400	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
N-Nitrosodimethylamine	ND		400	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
N-Nitrosodi-n-propylamine	ND		400	130	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
N-Nitrosodiphenylamine	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Pentachlorophenol	ND		800	80	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Phenol	**48**	**J**	400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Pyridine	ND		400	180	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
Quinoline	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4,5-Trichlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1
2,4,6-Trichlorophenol	ND		400	40	ug/Kg	☼	07/12/19 08:50	07/17/19 22:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*470*	*T J N*	*ug/Kg*	☼	*9.12*	*57-10-3*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
9-Octadecenamide, (Z)-	*700*	*T J N*	*ug/Kg*	☼	*10.52*	*301-02-0*	*07/12/19 08:50*	*07/17/19 22:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
2-Fluorophenol	*50*		*25 - 128*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
Nitrobenzene-d5	*53*		*15 - 136*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
Phenol-d5	*48*		*29 - 130*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
Terphenyl-d14	*84*		*24 - 146*	*07/12/19 08:50*	*07/17/19 22:27*	*1*
2,4,6-Tribromophenol	*78*		*10 - 150*	*07/12/19 08:50*	*07/17/19 22:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.0**		0.01	0.01	%			07/12/19 11:30	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5900	3100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Acrolein	ND		12000	6600	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Acrylonitrile	ND		4700	1900	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Benzene	**23000**		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromobenzene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromochloromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromodichloromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromoform	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Bromomethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2-Butanone (MEK)	ND		5900	1400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Carbon disulfide	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Carbon tetrachloride	ND		1200	400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chlorobenzene	ND		1200	120	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2-Chloroethyl vinyl ether	ND		2400	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chloroform	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1-Chlorohexane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Chloromethane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
cis-1,2-Dichloroethene	ND		1200	180	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
cis-1,3-Dichloropropene	ND		1200	280	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Dibromochloromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dibromo-3-Chloropropane	ND		1200	780	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dichlorobenzene	ND		1200	170	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,3-Dichlorobenzene	ND		1200	220	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,4-Dichlorobenzene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Dichlorodifluoromethane	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1-Dichloroethane	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dichloroethane	ND		1200	190	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1-Dichloroethene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2-Dichloropropane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,3-Dichloropropane	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2,2-Dichloropropane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1-Dichloropropene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Ethylbenzene	ND		1200	140	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Ethylene Dibromide	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Ethyl methacrylate	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Hexachlorobutadiene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
2-Hexanone	ND		5900	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Isopropylbenzene	ND		1200	160	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Methylene bromide	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Methylene Chloride	ND		3500	2400	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
4-Methyl-2-pentanone (MIBK)	ND		5900	1200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Methyl tert-butyl ether	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
m-Xylene & p-Xylene	ND		1200	310	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Naphthalene	ND		1200	470	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
n-Butylbenzene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
N-Propylbenzene	ND		1200	210	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
o-Chlorotoluene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
o-Xylene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200

Client: AECOM Technical Services Inc.
Job ID: 400-172848-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-SB-60-070919-DUP
Lab Sample ID: 400-172848-5

Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 85.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1200	230	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
p-Isopropyltoluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
sec-Butylbenzene	ND		1200	220	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Styrene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
tert-Butylbenzene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,1,2-Tetrachloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,2,2-Tetrachloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Tetrachloroethene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Toluene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
trans-1,2-Dichloroethene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
trans-1,3-Dichloropropene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,3-Trichlorobenzene	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,4-Trichlorobenzene	ND		1200	470	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,1-Trichloroethane	ND		1200	260	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,1,2-Trichloroethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Trichloroethene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Trichlorofluoromethane	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,3-Trichloropropane	ND		1200	710	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,2,4-Trimethylbenzene	ND		1200	240	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
1,3,5-Trimethylbenzene	ND		1200	200	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Vinyl acetate	ND		5900	2100	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Vinyl chloride	ND		1200	590	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200
Xylenes, Total	ND		2400	450	ug/Kg	☼	07/16/19 08:43	07/16/19 19:21	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methyl-2-propanol	*2100*	*J*	*ug/Kg*	☼	*2.67*	*75-65-0*	*07/16/19 08:43*	*07/16/19 19:21*	*200*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/16/19 08:43*	*07/16/19 19:21*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/16/19 08:43*	*07/16/19 19:21*	*200*
Dibromofluoromethane	*86*		*79 - 123*	*07/16/19 08:43*	*07/16/19 19:21*	*200*
Toluene-d8 (Surr)	*103*		*80 - 120*	*07/16/19 08:43*	*07/16/19 19:21*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.6**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Acenaphthylene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Anthracene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[a]pyrene	**4.9**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[b]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[g,h,i]perylene	ND		7.7	2.3	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Benzo[k]fluoranthene	ND		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Chrysene	**7.2**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Dibenz(a,h)anthracene	ND		7.7	2.3	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Fluoranthene	**2.3**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Fluorene	**2.5**	**J**	7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Indeno[1,2,3-cd]pyrene	ND		7.7	2.3	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
1-Methylnaphthalene	**17**		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
2-Methylnaphthalene	**26**		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**21**		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1
Pyrene	**11**		7.7	1.2	ug/Kg	☼	07/12/19 08:50	07/18/19 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*27 - 127*	*07/12/19 08:50*	*07/18/19 21:09*	*1*
Nitrobenzene-d5	*75*		*15 - 136*	*07/12/19 08:50*	*07/18/19 21:09*	*1*
Terphenyl-d14	*110*		*24 - 146*	*07/12/19 08:50*	*07/18/19 21:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Benzoic acid	ND		1100	410	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Bis(2-chloroethoxy)methane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Bis(2-chloroethyl)ether	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Bis(2-ethylhexyl) phthalate	**60**	**J B**	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Dibenz[a,h]acridine	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
3,3'-Dichlorobenzidine	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Di-n-butyl phthalate	**52**	**J B**	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dinitrophenol	ND		1100	340	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
1,4-Dioxane	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Hexachlorobenzene	ND	*	380	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Hexachlorocyclopentadiene	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Indene	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Isophorone	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
3 & 4 Methylphenol	ND		770	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
3-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Client Sample ID: PD-2-SB-60-070919-DUP

Date Collected: 07/09/19 16:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172848-5

Matrix: Solid
Percent Solids: 85.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2-Nitrophenol	ND	*	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
N-Nitrosodimethylamine	ND		380	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Pentachlorophenol	ND		770	77	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Phenol	**94**	**J**	380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Pyridine	ND		380	170	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
Quinoline	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/12/19 08:50	07/17/19 23:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*590*	*T J N*	*ug/Kg*	☼	*9.12*	*57-10-3*	*07/12/19 08:50*	*07/17/19 23:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
2-Fluorophenol	*59*		*25 - 128*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
Nitrobenzene-d5	*61*		*15 - 136*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
Phenol-d5	*55*		*29 - 130*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
Terphenyl-d14	*90*		*24 - 146*	*07/12/19 08:50*	*07/17/19 23:43*	*1*
2,4,6-Tribromophenol	*87*		*10 - 150*	*07/12/19 08:50*	*07/17/19 23:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**85.9**		0.01	0.01	%			07/12/19 11:30	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172848-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-172848-2	PD-2-SB-50-070919	98	90	101
400-172848-3	PD-2-SB-52-070919	100	90	101
400-172848-4	PD-2-SB-60-070919	97	87	101
400-172848-5	PD-2-SB-60-070919-DUP	99	86	103
LCS 400-448198/20-A	Lab Control Sample	103	92	102
MB 400-448198/19-A	Method Blank	98	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172848-1	TB-PW-070919-A	109	97	103
LCS 400-448139/1002	Lab Control Sample	102	99	94
MB 400-448139/4	Method Blank	108	98	110

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-172848-2	PD-2-SB-50-070919	71	54	66	55	77	77
400-172848-3	PD-2-SB-52-070919	80	65	74	71	105	90
400-172848-4	PD-2-SB-60-070919	67	50	53	48	84	78
400-172848-4 MS	PD-2-SB-60-070919	80	58	71	62	85	90
400-172848-4 MSD	PD-2-SB-60-070919	81	63	85	68	85	101
400-172848-5	PD-2-SB-60-070919-DUP	77	59	61	55	90	87
LCS 400-447691/4-A	Lab Control Sample	78	62	65	60	99	90
LCS 400-447691/6-A	Lab Control Sample	92	68	70	68	109	126
LCSD 400-447691/5-A	Lab Control Sample Dup	75	61	71	65	102	88
MB 400-447691/1-A	Method Blank	77	64	72	64	98	72

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172848-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-172848-2	PD-2-SB-50-070919	77	59	100
400-172848-3	PD-2-SB-52-070919	94	82	121
400-172848-4	PD-2-SB-60-070919	78	69	101
400-172848-5	PD-2-SB-60-070919-DUP	88	75	110
LCS 400-447691/2-A	Lab Control Sample	84	73	109
LCSD 400-447691/3-A	Lab Control Sample Dup	87	75	108
MB 400-447691/1-A	Method Blank	82	71	114

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070919-A
Lab Sample ID: 400-172848-1
Date Collected: 07/09/19 00:00
Matrix: Water
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448139	07/16/19 13:24	RS	TAL PEN

Client Sample ID: PD-2-SB-50-070919
Lab Sample ID: 400-172848-2
Date Collected: 07/09/19 13:50
Matrix: Solid
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-50-070919
Lab Sample ID: 400-172848-2
Date Collected: 07/09/19 13:50
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 86.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			8.021 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	448153	07/16/19 19:45	CAR	TAL PEN
Total/NA	Prep	3546			15.15 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 22:53	VC1	TAL PEN
Total/NA	Prep	3546			15.15 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 06:29	KJA	TAL PEN

Client Sample ID: PD-2-SB-52-070919
Lab Sample ID: 400-172848-3
Date Collected: 07/09/19 14:20
Matrix: Solid
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-52-070919
Lab Sample ID: 400-172848-3
Date Collected: 07/09/19 14:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.806 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	448153	07/16/19 20:08	CAR	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 23:18	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:37	KJA	TAL PEN

Client Sample ID: PD-2-SB-60-070919
Lab Sample ID: 400-172848-4
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-60-070919

Lab Sample ID: 400-172848-4
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.211 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	448153	07/16/19 18:57	CAR	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 22:27	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 20:53	KJA	TAL PEN

Client Sample ID: PD-2-SB-60-070919-DUP

Lab Sample ID: 400-172848-5
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			447722	07/12/19 11:30	DDQ	TAL PEN

Client Sample ID: PD-2-SB-60-070919-DUP

Lab Sample ID: 400-172848-5
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.743 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	448153	07/16/19 19:21	CAR	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448422	07/17/19 23:43	VC1	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 21:09	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447691/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 19:55	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 06:46	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448139/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448139	07/16/19 10:45	RS	TAL PEN

Client Sample ID: Method Blank — Lab Sample ID: MB 400-448198/19-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 11:26	CAR	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-447691/2-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 07:02	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-447691/4-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 20:21	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-447691/6-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 16:00	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448139/1002

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448139	07/16/19 09:39	RS	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448198/20-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448198	07/16/19 08:43	AMB	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448153	07/16/19 10:10	CAR	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-447691/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 06:14	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-447691/5-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 20:46	VC1	TAL PEN

Client Sample ID: PD-2-SB-60-070919
Lab Sample ID: 400-172848-4 MS
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.33 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 21:37	VC1	TAL PEN

Client Sample ID: PD-2-SB-60-070919
Lab Sample ID: 400-172848-4 MSD
Date Collected: 07/09/19 16:20
Matrix: Solid
Date Received: 07/10/19 08:59
Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.27 g	1 mL	447691	07/12/19 08:50	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/17/19 22:02	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

GC/MS VOA

Analysis Batch: 448139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-1	TB-PW-070919-A	Total/NA	Water	8260B	
MB 400-448139/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448139/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	8260B	448198
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	8260B	448198
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	8260B	448198
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	8260B	448198
MB 400-448198/19-A	Method Blank	Total/NA	Solid	8260B	448198
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	8260B	448198

Prep Batch: 448198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	5035	
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	5035	
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	5035	
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	5035	
MB 400-448198/19-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448198/20-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 447691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	3546	
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	3546	
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	3546	
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	3546	
MB 400-447691/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-447691/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447691/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-447691/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-447691/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-447691/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-172848-4 MS	PD-2-SB-60-070919	Total/NA	Solid	3546	
400-172848-4 MSD	PD-2-SB-60-070919	Total/NA	Solid	3546	

Analysis Batch: 448422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	8270D	447691
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	8270D	447691
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	8270D	447691
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	8270D	447691
MB 400-447691/1-A	Method Blank	Total/NA	Solid	8270D	447691
LCS 400-447691/4-A	Lab Control Sample	Total/NA	Solid	8270D	447691
LCSD 400-447691/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	447691
400-172848-4 MS	PD-2-SB-60-070919	Total/NA	Solid	8270D	447691
400-172848-4 MSD	PD-2-SB-60-070919	Total/NA	Solid	8270D	447691

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

GC/MS Semi VOA

Analysis Batch: 448502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	8270D LL	447691
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	8270D LL	447691
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	8270D LL	447691

Analysis Batch: 448527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	8270D LL	447691
MB 400-447691/1-A	Method Blank	Total/NA	Solid	8270D LL	447691
LCS 400-447691/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	447691
LCSD 400-447691/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	447691

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-447691/6-A	Lab Control Sample	Total/NA	Solid	8270D	447691

General Chemistry

Analysis Batch: 447722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172848-2	PD-2-SB-50-070919	Total/NA	Solid	Moisture	
400-172848-3	PD-2-SB-52-070919	Total/NA	Solid	Moisture	
400-172848-4	PD-2-SB-60-070919	Total/NA	Solid	Moisture	
400-172848-5	PD-2-SB-60-070919-DUP	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448139/4
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 10:45	1
Acrolein	ND		20	10	ug/L			07/16/19 10:45	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 10:45	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 10:45	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 10:45	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 10:45	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 10:45	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 10:45	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 10:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 10:45	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 10:45	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 10:45	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 10:45	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 10:45	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 10:45	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 10:45	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 10:45	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 10:45	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 10:45	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 10:45	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 10:45	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 10:45	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 10:45	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 10:45	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 10:45	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 10:45	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 10:45	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 10:45	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 10:45	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 10:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 10:45	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 10:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448139/4
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 10:45	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 10:45	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 10:45	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 10:45	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 10:45	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 10:45	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 10:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 10:45	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 10:45	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 10:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 10:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 10:45	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 10:45	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 10:45	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 10:45	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 10:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 10:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 10:45	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 10:45	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 10:45	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 10:45	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 10:45*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/16/19 10:45*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/16/19 10:45*	*1*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/16/19 10:45*	*1*

Lab Sample ID: LCS 400-448139/1002
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	216		ug/L		108	43 - 160
Acrolein	500	586		ug/L		117	38 - 160
Acrylonitrile	500	501		ug/L		100	64 - 142
Benzene	50.0	51.9		ug/L		104	70 - 130
Bromobenzene	50.0	47.7		ug/L		95	70 - 132
Bromochloromethane	50.0	47.3		ug/L		95	70 - 130
Bromodichloromethane	50.0	46.9		ug/L		94	67 - 133
Bromoform	50.0	44.7		ug/L		89	57 - 140
Bromomethane	50.0	28.0		ug/L		56	10 - 160
2-Butanone (MEK)	200	249		ug/L		124	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448139/1002
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	42.1		ug/L		84	61 - 137
Carbon tetrachloride	50.0	45.9		ug/L		92	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130
Chloroethane	50.0	44.6		ug/L		89	55 - 141
2-Chloroethyl vinyl ether	50.0	29.5		ug/L		59	10 - 160
Chloroform	50.0	49.3		ug/L		99	69 - 130
1-Chlorohexane	50.0	44.8		ug/L		90	69 - 130
Chloromethane	50.0	48.3		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	48.8		ug/L		98	68 - 130
cis-1,3-Dichloropropene	50.0	49.0		ug/L		98	69 - 132
Dibromochloromethane	50.0	48.1		ug/L		96	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	42.8		ug/L		86	54 - 135
1,2-Dichlorobenzene	50.0	48.1		ug/L		96	67 - 130
1,3-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 130
Dichlorodifluoromethane	50.0	48.2		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	49.3		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	48.5		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	44.5		ug/L		89	63 - 134
1,2-Dichloropropane	50.0	52.3		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	48.7		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	43.6		ug/L		87	52 - 135
1,1-Dichloropropene	50.0	48.6		ug/L		97	70 - 130
Ethylbenzene	50.0	46.2		ug/L		92	70 - 130
Ethylene Dibromide	50.0	50.4		ug/L		101	70 - 130
Ethyl methacrylate	50.0	44.2		ug/L		88	68 - 130
Hexachlorobutadiene	50.0	57.2		ug/L		114	53 - 140
2-Hexanone	200	202		ug/L		101	65 - 137
Isopropylbenzene	50.0	44.5		ug/L		89	70 - 130
Methylene bromide	50.0	48.8		ug/L		98	70 - 130
Methylene Chloride	50.0	50.9		ug/L		102	66 - 135
4-Methyl-2-pentanone (MIBK)	200	191		ug/L		95	69 - 138
Methyl tert-butyl ether	50.0	45.4		ug/L		91	66 - 130
m-Xylene & p-Xylene	50.0	46.6		ug/L		93	70 - 130
Naphthalene	50.0	39.7		ug/L		79	47 - 149
n-Butylbenzene	50.0	48.0		ug/L		96	67 - 130
N-Propylbenzene	50.0	49.8		ug/L		100	70 - 130
o-Chlorotoluene	50.0	52.3		ug/L		105	70 - 130
o-Xylene	50.0	45.0		ug/L		90	70 - 130
p-Chlorotoluene	50.0	52.5		ug/L		105	70 - 130
p-Isopropyltoluene	50.0	49.5		ug/L		99	65 - 130
sec-Butylbenzene	50.0	48.4		ug/L		97	66 - 130
Styrene	50.0	44.0		ug/L		88	70 - 130
tert-Butylbenzene	50.0	47.6		ug/L		95	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.9		ug/L		92	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.6		ug/L		111	70 - 131
Tetrachloroethene	50.0	42.6		ug/L		85	65 - 130
Toluene	50.0	47.6		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	48.6		ug/L		97	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448139/1002
Matrix: Water
Analysis Batch: 448139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	44.1		ug/L		88	63 - 130
1,2,3-Trichlorobenzene	50.0	47.4		ug/L		95	60 - 138
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	60 - 140
1,1,1-Trichloroethane	50.0	46.3		ug/L		93	68 - 130
1,1,2-Trichloroethane	50.0	49.9		ug/L		100	70 - 130
Trichloroethene	50.0	49.3		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	43.4		ug/L		87	65 - 138
1,2,3-Trichloropropane	50.0	51.7		ug/L		103	70 - 130
1,2,4-Trimethylbenzene	50.0	51.2		ug/L		102	70 - 130
1,3,5-Trimethylbenzene	50.0	52.0		ug/L		104	69 - 130
Vinyl acetate	100	96.1		ug/L		96	26 - 160
Vinyl chloride	50.0	50.5		ug/L		101	59 - 136
Xylenes, Total	100	91.5		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*94*		*80 - 120*

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrolein	ND		50	28	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Benzene	ND		5.0	0.67	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromoform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloroform	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
2-Hexanone	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methylene Chloride	ND		15	10	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Styrene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Toluene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/16/19 08:43	07/16/19 11:26	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/16/19 08:43	07/16/19 11:26	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448198/19-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448198

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/16/19 08:43	07/16/19 11:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 122	07/16/19 08:43	07/16/19 11:26	1
Dibromofluoromethane	92		79 - 123	07/16/19 08:43	07/16/19 11:26	1
Toluene-d8 (Surr)	101		80 - 120	07/16/19 08:43	07/16/19 11:26	1

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	194		ug/Kg		97	48 - 160
Acrolein	500	489		ug/Kg		98	40 - 150
Acrylonitrile	500	543		ug/Kg		109	60 - 130
Benzene	50.0	48.2		ug/Kg		96	65 - 130
Bromobenzene	50.0	52.1		ug/Kg		104	65 - 130
Bromochloromethane	50.0	51.3		ug/Kg		103	65 - 130
Bromodichloromethane	50.0	44.6		ug/Kg		89	61 - 130
Bromoform	50.0	47.5		ug/Kg		95	52 - 136
Bromomethane	50.0	39.1		ug/Kg		78	12 - 160
2-Butanone (MEK)	200	172		ug/Kg		86	55 - 130
Carbon disulfide	50.0	45.0		ug/Kg		90	46 - 141
Carbon tetrachloride	50.0	45.5		ug/Kg		91	60 - 130
Chlorobenzene	50.0	50.6		ug/Kg		101	70 - 130
Chloroethane	50.0	42.4		ug/Kg		85	55 - 134
2-Chloroethyl vinyl ether	50.0	35.3		ug/Kg		71	10 - 158
Chloroform	50.0	48.3		ug/Kg		97	62 - 130
1-Chlorohexane	50.0	51.6		ug/Kg		103	69 - 130
Chloromethane	50.0	49.4		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	47.2		ug/Kg		94	53 - 135
cis-1,3-Dichloropropene	50.0	46.3		ug/Kg		93	61 - 130
Dibromochloromethane	50.0	49.3		ug/Kg		99	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	48.3		ug/Kg		97	49 - 130
1,2-Dichlorobenzene	50.0	55.2		ug/Kg		110	64 - 130
1,3-Dichlorobenzene	50.0	54.2		ug/Kg		108	66 - 130
1,4-Dichlorobenzene	50.0	52.5		ug/Kg		105	65 - 130
Dichlorodifluoromethane	50.0	40.6		ug/Kg		81	34 - 143
1,1-Dichloroethane	50.0	47.9		ug/Kg		96	59 - 130
1,2-Dichloroethane	50.0	46.3		ug/Kg		93	62 - 130
1,1-Dichloroethene	50.0	48.9		ug/Kg		98	55 - 137
1,2-Dichloropropane	50.0	48.0		ug/Kg		96	64 - 130
1,3-Dichloropropane	50.0	49.8		ug/Kg		100	67 - 130
2,2-Dichloropropane	50.0	43.0		ug/Kg		86	51 - 132
1,1-Dichloropropene	50.0	47.4		ug/Kg		95	65 - 130
Ethylbenzene	50.0	52.9		ug/Kg		106	70 - 130
Ethylene Dibromide	50.0	51.6		ug/Kg		103	67 - 130
Ethyl methacrylate	50.0	50.0		ug/Kg		100	62 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448198/20-A
Matrix: Solid
Analysis Batch: 448153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	42.2		ug/Kg		84	62 - 133
2-Hexanone	200	183		ug/Kg		91	57 - 131
Isopropylbenzene	50.0	51.3		ug/Kg		103	70 - 130
Methylene bromide	50.0	44.9		ug/Kg		90	65 - 130
Methylene Chloride	50.0	49.6		ug/Kg		99	57 - 132
4-Methyl-2-pentanone (MIBK)	200	204		ug/Kg		102	58 - 130
Methyl tert-butyl ether	50.0	43.9		ug/Kg		88	63 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/Kg		104	70 - 130
Naphthalene	50.0	51.8		ug/Kg		104	45 - 144
n-Butylbenzene	50.0	52.9		ug/Kg		106	66 - 130
N-Propylbenzene	50.0	55.8		ug/Kg		112	67 - 130
o-Chlorotoluene	50.0	55.7		ug/Kg		111	67 - 130
o-Xylene	50.0	52.9		ug/Kg		106	70 - 130
p-Chlorotoluene	50.0	57.8		ug/Kg		116	66 - 130
p-Isopropyltoluene	50.0	55.1		ug/Kg		110	68 - 130
sec-Butylbenzene	50.0	54.1		ug/Kg		108	67 - 130
Styrene	50.0	49.6		ug/Kg		99	68 - 130
tert-Butylbenzene	50.0	53.1		ug/Kg		106	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.7		ug/Kg		105	65 - 130
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/Kg		106	60 - 131
Tetrachloroethene	50.0	49.1		ug/Kg		98	67 - 130
Toluene	50.0	52.7		ug/Kg		105	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/Kg		105	58 - 134
trans-1,3-Dichloropropene	50.0	47.8		ug/Kg		96	60 - 130
1,2,3-Trichlorobenzene	50.0	43.8		ug/Kg		88	58 - 135
1,2,4-Trichlorobenzene	50.0	44.9		ug/Kg		90	56 - 138
1,1,1-Trichloroethane	50.0	46.6		ug/Kg		93	63 - 130
1,1,2-Trichloroethane	50.0	50.4		ug/Kg		101	65 - 130
Trichloroethene	50.0	48.4		ug/Kg		97	65 - 130
Trichlorofluoromethane	50.0	39.2		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	54.6		ug/Kg		109	60 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/Kg		108	66 - 130
1,3,5-Trimethylbenzene	50.0	55.5		ug/Kg		111	67 - 130
Vinyl acetate	100	108		ug/Kg		108	24 - 160
Vinyl chloride	50.0	50.4		ug/Kg		101	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 122*
Dibromofluoromethane	*92*		*79 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Benzenethiol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Benzoic acid	ND		990	350	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Benzyl alcohol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Bis(2-ethylhexyl) phthalate	60.7	J	330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Chloroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Chlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Dibenzofuran	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Diethyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Di-n-butyl phthalate	72.2	J	330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
1,4-Dioxane	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Hexachloroethane	ND		330	100	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Indene	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Isophorone	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Methylphenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Nitroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
3-Nitroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Nitroaniline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Nitrobenzene	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2-Nitrophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
4-Nitrophenol	ND		330	110	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Pentachlorophenol	ND		660	66	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Phenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		330	150	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
Quinoline	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/12/19 08:50	07/17/19 19:55	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentative Identified Compound	*None*		*ug/Kg*				*07/12/19 08:50*	*07/17/19 19:55*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
2-Fluorophenol	*64*		*25 - 128*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
Phenol-d5	*64*		*29 - 130*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
Terphenyl-d14	*98*		*24 - 146*	*07/12/19 08:50*	*07/17/19 19:55*	*1*
2,4,6-Tribromophenol	*72*		*10 - 150*	*07/12/19 08:50*	*07/17/19 19:55*	*1*

Lab Sample ID: LCS 400-447691/4-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	67.9	J *	ug/Kg		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
2-Fluorophenol	*62*		*25 - 128*
Nitrobenzene-d5	*65*		*15 - 136*
Phenol-d5	*60*		*29 - 130*
Terphenyl-d14	*99*		*24 - 146*
2,4,6-Tribromophenol	*90*		*10 - 150*

Lab Sample ID: LCS 400-447691/6-A
Matrix: Solid
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1250		ug/Kg		63	36 - 120
Benzoic acid	7770	2760		ug/Kg		36	10 - 139
Benzyl alcohol	2000	1490		ug/Kg		75	10 - 127
Bis(2-chloroethoxy)methane	2000	1290		ug/Kg		65	52 - 120
Bis(2-chloroethyl)ether	2000	1200		ug/Kg		60	50 - 120
bis (2-chloroisopropyl) ether	2000	1220		ug/Kg		61	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1750		ug/Kg		87	58 - 158
4-Bromophenyl phenyl ether	2000	2350		ug/Kg		117	51 - 120
Butyl benzyl phthalate	2000	1600		ug/Kg		80	58 - 126
4-Chloroaniline	2000	1190		ug/Kg		59	34 - 120
4-Chloro-3-methylphenol	2000	1810		ug/Kg		91	57 - 124
2-Chloronaphthalene	2000	1780		ug/Kg		89	55 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447691/6-A
Matrix: Solid
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	2000	1570		ug/Kg		79	52 - 120
4-Chlorophenyl phenyl ether	2000	2120		ug/Kg		106	56 - 120
Dibenz[a,h]acridine	2000	2220		ug/Kg		111	51 - 135
Dibenzofuran	2000	1820		ug/Kg		91	58 - 120
3,3'-Dichlorobenzidine	2670	5200	*	ug/Kg		195	42 - 120
2,4-Dichlorophenol	2000	1850		ug/Kg		93	56 - 120
Diethyl phthalate	2000	1970		ug/Kg		99	56 - 128
2,4-Dimethylphenol	2000	1650		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1910		ug/Kg		96	58 - 120
Di-n-butyl phthalate	2000	2020		ug/Kg		101	64 - 122
4,6-Dinitro-ortho-cresol	4000	4160		ug/Kg		104	35 - 135
2,4-Dinitrophenol	4000	3430		ug/Kg		86	10 - 138
2,4-Dinitrotoluene	2000	1960		ug/Kg		98	59 - 133
2,6-Dinitrotoluene	2000	1980		ug/Kg		99	57 - 123
Di-n-octyl phthalate	2000	1870		ug/Kg		93	57 - 137
1,4-Dioxane	2000	632		ug/Kg		32	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1560		ug/Kg		78	50 - 120
Hexachlorobenzene	2000	2640	*	ug/Kg		132	49 - 127
Hexachlorocyclopentadiene	2000	691		ug/Kg		35	10 - 140
Hexachloroethane	2000	1420		ug/Kg		71	45 - 120
Indene	2000	1420		ug/Kg		71	45 - 120
Isophorone	2000	1370		ug/Kg		69	50 - 120
2-Methylphenol	2000	1510		ug/Kg		76	51 - 123
3 & 4 Methylphenol	2000	1570		ug/Kg		79	47 - 123
2-Nitroaniline	2000	1800		ug/Kg		90	55 - 129
3-Nitroaniline	2000	2080		ug/Kg		104	45 - 120
4-Nitroaniline	2000	2790	*	ug/Kg		139	52 - 126
Nitrobenzene	2000	1410		ug/Kg		71	50 - 120
2-Nitrophenol	2000	1540		ug/Kg		77	53 - 120
4-Nitrophenol	4000	4420		ug/Kg		111	38 - 133
N-Nitrosodimethylamine	2000	1500		ug/Kg		75	35 - 120
N-Nitrosodi-n-propylamine	2000	1580		ug/Kg		79	48 - 120
N-Nitrosodiphenylamine	1980	1890		ug/Kg		95	54 - 120
Pentachlorophenol	4000	4610		ug/Kg		115	32 - 131
Phenol	2000	1300		ug/Kg		65	51 - 120
Pyridine	4000	1760		ug/Kg		44	29 - 120
Quinoline	2000	1670		ug/Kg		84	10 - 150
2,4,5-Trichlorophenol	2000	2090		ug/Kg		104	53 - 133
2,4,6-Trichlorophenol	2000	2040		ug/Kg		102	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*70*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*109*		*24 - 146*
2,4,6-Tribromophenol	*126*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447691/5-A
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447691

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	68.7	J *	ug/Kg		3	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*27 - 127*
2-Fluorophenol	*61*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*65*		*29 - 130*
Terphenyl-d14	*102*		*24 - 146*
2,4,6-Tribromophenol	*88*		*10 - 150*

Lab Sample ID: 400-172848-4 MS
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2390	1480		ug/Kg	☼	62	40 - 140
Benzoic acid	ND	F1	9270	ND	F1	ug/Kg	☼	0	40 - 140
Benzyl alcohol	ND	F1	2390	414	F1	ug/Kg	☼	17	40 - 140
Bis(2-chloroethoxy)methane	ND	*	2390	1390	*	ug/Kg	☼	58	40 - 140
Bis(2-chloroethyl)ether	ND	*	2390	1280	*	ug/Kg	☼	54	40 - 140
bis (2-chloroisopropyl) ether	ND	F2	2390	1800		ug/Kg	☼	75	40 - 140
Bis(2-ethylhexyl) phthalate	61	J B	2390	2010		ug/Kg	☼	82	40 - 140
4-Bromophenyl phenyl ether	ND		2390	2140		ug/Kg	☼	90	40 - 140
Butyl benzyl phthalate	ND		2390	1800		ug/Kg	☼	76	40 - 140
4-Chloroaniline	ND		2390	1120		ug/Kg	☼	47	40 - 140
4-Chloro-3-methylphenol	ND		2390	1750		ug/Kg	☼	73	40 - 140
2-Chloronaphthalene	ND		2390	2010		ug/Kg	☼	84	40 - 140
2-Chlorophenol	ND		2390	1650		ug/Kg	☼	69	40 - 140
4-Chlorophenyl phenyl ether	ND		2390	2220		ug/Kg	☼	93	40 - 140
Dibenz[a,h]acridine	ND		2390	2340		ug/Kg	☼	98	40 - 140
Dibenzofuran	ND		2390	2050		ug/Kg	☼	86	40 - 140
3,3'-Dichlorobenzidine	ND		3180	3380		ug/Kg	☼	106	40 - 140
2,4-Dichlorophenol	ND		2390	1710		ug/Kg	☼	72	40 - 140
Diethyl phthalate	ND		2390	2380		ug/Kg	☼	100	40 - 140
2,4-Dimethylphenol	ND		2390	1970		ug/Kg	☼	83	40 - 140
Dimethyl phthalate	ND		2390	2010		ug/Kg	☼	84	40 - 140
Di-n-butyl phthalate	59	J B	2390	2290		ug/Kg	☼	93	40 - 140
4,6-Dinitro-ortho-cresol	ND		4770	3430		ug/Kg	☼	72	40 - 140
2,4-Dinitrophenol	ND	F1	4770	1870	F1	ug/Kg	☼	39	40 - 140
2,4-Dinitrotoluene	ND		2390	2070		ug/Kg	☼	87	40 - 140
2,6-Dinitrotoluene	ND		2390	1930		ug/Kg	☼	81	40 - 140
Di-n-octyl phthalate	ND		2390	1940		ug/Kg	☼	82	40 - 140
1,4-Dioxane	ND	F1 *	2390	673	F1 *	ug/Kg	☼	28	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2390	2110		ug/Kg	☼	89	40 - 140
Hexachlorobenzene	ND		2390	2330		ug/Kg	☼	98	40 - 140
Hexachlorocyclopentadiene	ND	F1	2390	926	F1	ug/Kg	☼	39	40 - 140
Hexachloroethane	ND		2390	1540		ug/Kg	☼	64	40 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172848-4 MS
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	ND		2390	1650		ug/Kg	☼	69	40 - 140
Isophorone	ND		2390	1320		ug/Kg	☼	55	40 - 140
2-Methylphenol	ND		2390	2170		ug/Kg	☼	91	40 - 140
3 & 4 Methylphenol	ND		2390	2540		ug/Kg	☼	106	40 - 140
2-Nitroaniline	ND		2390	2430		ug/Kg	☼	102	40 - 140
3-Nitroaniline	ND	F1 *	2390	3480	F1 *	ug/Kg	☼	146	40 - 140
4-Nitroaniline	ND		2390	2910		ug/Kg	☼	122	40 - 140
Nitrobenzene	ND		2390	1480		ug/Kg	☼	62	40 - 140
2-Nitrophenol	ND	*	2390	1300	*	ug/Kg	☼	54	40 - 140
4-Nitrophenol	ND	F2 F1	4770	4660		ug/Kg	☼	98	40 - 140
N-Nitrosodimethylamine	ND		2390	3150		ug/Kg	☼	132	40 - 140
N-Nitrosodi-n-propylamine	ND		2390	1900		ug/Kg	☼	80	40 - 140
N-Nitrosodiphenylamine	ND		2370	2020		ug/Kg	☼	85	40 - 140
Pentachlorophenol	ND		4770	3990		ug/Kg	☼	84	40 - 140
Phenol	48	J	2390	1670		ug/Kg	☼	68	40 - 140
Pyridine	ND		4770	2160		ug/Kg	☼	45	40 - 140
Quinoline	ND		2390	1910		ug/Kg	☼	80	40 - 140
2,4,5-Trichlorophenol	ND		2390	2170		ug/Kg	☼	91	40 - 140
2,4,6-Trichlorophenol	ND		2390	1880		ug/Kg	☼	79	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
2-Fluorophenol	*58*		*25 - 128*
Nitrobenzene-d5	*71*		*15 - 136*
Phenol-d5	*62*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*90*		*10 - 150*

Lab Sample ID: 400-172848-4 MSD
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2400	1580		ug/Kg	☼	66	40 - 140	6	30
Benzoic acid	ND	F1	9300	491	J F1	ug/Kg	☼	5	40 - 140	NC	30
Benzyl alcohol	ND	F1	2400	362	J F1	ug/Kg	☼	15	40 - 140	14	30
Bis(2-chloroethoxy)methane	ND	*	2400	1440	*	ug/Kg	☼	60	40 - 140	3	30
Bis(2-chloroethyl)ether	ND	*	2400	1490	*	ug/Kg	☼	62	40 - 140	15	30
bis (2-chloroisopropyl) ether	ND	F2	2400	2560	F2	ug/Kg	☼	107	40 - 140	35	30
Bis(2-ethylhexyl) phthalate	61	J B	2400	2090		ug/Kg	☼	85	40 - 140	4	30
4-Bromophenyl phenyl ether	ND		2400	2180		ug/Kg	☼	91	40 - 140	2	30
Butyl benzyl phthalate	ND		2400	1830		ug/Kg	☼	76	40 - 140	2	30
4-Chloroaniline	ND		2400	1150		ug/Kg	☼	48	40 - 140	3	30
4-Chloro-3-methylphenol	ND		2400	1830		ug/Kg	☼	77	40 - 140	5	30
2-Chloronaphthalene	ND		2400	2120		ug/Kg	☼	89	40 - 140	6	30
2-Chlorophenol	ND		2400	1690		ug/Kg	☼	70	40 - 140	2	30
4-Chlorophenyl phenyl ether	ND		2400	2330		ug/Kg	☼	97	40 - 140	5	30
Dibenz[a,h]acridine	ND		2400	2330		ug/Kg	☼	97	40 - 140	0	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172848-4 MSD
Matrix: Solid
Analysis Batch: 448422

Client Sample ID: PD-2-SB-60-070919
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenzofuran	ND		2400	2190		ug/Kg	☼	91	40 - 140	7	30
3,3'-Dichlorobenzidine	ND		3190	3390		ug/Kg	☼	106	40 - 140	0	30
2,4-Dichlorophenol	ND		2400	1710		ug/Kg	☼	72	40 - 140	0	30
Diethyl phthalate	ND		2400	2480		ug/Kg	☼	104	40 - 140	4	30
2,4-Dimethylphenol	ND		2400	2140		ug/Kg	☼	89	40 - 140	8	30
Dimethyl phthalate	ND		2400	2130		ug/Kg	☼	89	40 - 140	6	30
Di-n-butyl phthalate	59	J B	2400	2410		ug/Kg	☼	98	40 - 140	5	30
4,6-Dinitro-ortho-cresol	ND		4790	3690		ug/Kg	☼	77	40 - 140	7	30
2,4-Dinitrophenol	ND	F1	4790	2140		ug/Kg	☼	45	40 - 140	14	30
2,4-Dinitrotoluene	ND		2400	2180		ug/Kg	☼	91	40 - 140	5	30
2,6-Dinitrotoluene	ND		2400	1960		ug/Kg	☼	82	40 - 140	1	30
Di-n-octyl phthalate	ND		2400	2020		ug/Kg	☼	84	40 - 140	4	30
1,4-Dioxane	ND	F1 *	2400	624	F1 *	ug/Kg	☼	26	40 - 140	7	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2400	2170		ug/Kg	☼	91	40 - 140	3	30
Hexachlorobenzene	ND		2400	2350		ug/Kg	☼	98	40 - 140	1	30
Hexachlorocyclopentadiene	ND	F1	2400	865	F1	ug/Kg	☼	36	40 - 140	7	30
Hexachloroethane	ND		2400	1680		ug/Kg	☼	70	40 - 140	9	30
Indene	ND		2400	1740		ug/Kg	☼	73	40 - 140	5	30
Isophorone	ND		2400	1690		ug/Kg	☼	70	40 - 140	24	30
2-Methylphenol	ND		2400	2290		ug/Kg	☼	95	40 - 140	5	30
3 & 4 Methylphenol	ND		2400	2500		ug/Kg	☼	104	40 - 140	2	30
2-Nitroaniline	ND		2400	2600		ug/Kg	☼	109	40 - 140	7	30
3-Nitroaniline	ND	F1 *	2400	3590	F1 *	ug/Kg	☼	150	40 - 140	3	30
4-Nitroaniline	ND		2400	3060		ug/Kg	☼	128	40 - 140	5	30
Nitrobenzene	ND		2400	1870		ug/Kg	☼	78	40 - 140	23	30
2-Nitrophenol	ND	*	2400	1390	*	ug/Kg	☼	58	40 - 140	7	30
4-Nitrophenol	ND	F2 F1	4790	7110	F1 F2	ug/Kg	☼	148	40 - 140	42	30
N-Nitrosodimethylamine	ND		2400	2970		ug/Kg	☼	124	40 - 140	6	30
N-Nitrosodi-n-propylamine	ND		2400	2250		ug/Kg	☼	94	40 - 140	17	30
N-Nitrosodiphenylamine	ND		2380	2070		ug/Kg	☼	87	40 - 140	3	30
Pentachlorophenol	ND		4790	4220		ug/Kg	☼	88	40 - 140	5	30
Phenol	48	J	2400	1920		ug/Kg	☼	78	40 - 140	14	30
Pyridine	ND		4790	1980		ug/Kg	☼	41	40 - 140	9	30
Quinoline	ND		2400	1850		ug/Kg	☼	77	40 - 140	3	30
2,4,5-Trichlorophenol	ND		2400	2310		ug/Kg	☼	96	40 - 140	6	30
2,4,6-Trichlorophenol	ND		2400	1930		ug/Kg	☼	81	40 - 140	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*85*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*101*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447691/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Anthracene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Chrysene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Fluorene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1
Pyrene	ND		6.6	1.0	ug/Kg		07/12/19 08:50	07/19/19 06:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/12/19 08:50*	*07/19/19 06:46*	*1*
Nitrobenzene-d5	*71*		*15 - 136*	*07/12/19 08:50*	*07/19/19 06:46*	*1*
Terphenyl-d14	*114*		*24 - 146*	*07/12/19 08:50*	*07/19/19 06:46*	*1*

Lab Sample ID: LCS 400-447691/2-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	284		ug/Kg		85	57 - 120
Acenaphthylene	333	282		ug/Kg		85	59 - 120
Anthracene	333	289		ug/Kg		87	61 - 120
Benzo[a]anthracene	333	288		ug/Kg		86	61 - 120
Benzo[a]pyrene	333	298		ug/Kg		89	54 - 127
Benzo[b]fluoranthene	333	299		ug/Kg		90	35 - 146
Benzo[g,h,i]perylene	333	278		ug/Kg		83	36 - 150
Benzo[k]fluoranthene	333	286		ug/Kg		86	53 - 139
Chrysene	333	284		ug/Kg		85	60 - 120
Dibenz(a,h)anthracene	333	315		ug/Kg		95	39 - 150
Fluoranthene	333	279		ug/Kg		84	61 - 121
Fluorene	333	308		ug/Kg		92	60 - 120
Indeno[1,2,3-cd]pyrene	333	304		ug/Kg		91	40 - 150
1-Methylnaphthalene	333	261		ug/Kg		78	46 - 120
2-Methylnaphthalene	333	267		ug/Kg		80	46 - 120
Phenanthrene	333	287		ug/Kg		86	59 - 120
Pyrene	333	310		ug/Kg		93	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*27 - 127*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172848-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447691/2-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447691

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	73		15 - 136
Terphenyl-d14	109		24 - 146

Lab Sample ID: LCSD 400-447691/3-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447691

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	299		ug/Kg		90	57 - 120	5	30
Acenaphthylene			333	297		ug/Kg		89	59 - 120	5	30
Anthracene			333	299		ug/Kg		90	61 - 120	3	30
Benzo[a]anthracene			333	289		ug/Kg		87	61 - 120	0	30
Benzo[a]pyrene			333	301		ug/Kg		90	54 - 127	1	30
Benzo[b]fluoranthene			333	298		ug/Kg		90	35 - 146	0	30
Benzo[g,h,i]perylene			333	285		ug/Kg		85	36 - 150	2	30
Benzo[k]fluoranthene			333	295		ug/Kg		89	53 - 139	3	30
Chrysene			333	288		ug/Kg		86	60 - 120	1	30
Dibenz(a,h)anthracene			333	328		ug/Kg		98	39 - 150	4	30
Fluoranthene			333	287		ug/Kg		86	61 - 121	3	30
Fluorene			333	315		ug/Kg		95	60 - 120	3	30
Indeno[1,2,3-cd]pyrene			333	312		ug/Kg		94	40 - 150	3	30
1-Methylnaphthalene			333	275		ug/Kg		82	46 - 120	5	30
2-Methylnaphthalene			333	276		ug/Kg		83	46 - 120	3	30
Phenanthrene			333	294		ug/Kg		88	59 - 120	2	30
Pyrene			333	308		ug/Kg		92	53 - 122	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	87		27 - 127
Nitrobenzene-d5	75		15 - 136
Terphenyl-d14	108		24 - 146

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/9/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): John Bell

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
TB-PW-070919-A	7/9/2019	0:00	Water	X					2			X		
PD-2-SB-50-070919	7/9/2019	13:50	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-2-SB-52-070919	7/9/2019	14:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-2-SB-60-070919	7/9/2019	16:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-2-SB-60-070919-DUP	7/9/2019	16:20	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-172848 COC

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	Fedex: 4931 8203 6182 / 4931 8203 7395	7/9/2019	17:45
		07.10.19	859

Version: 10May17

Custody Seals 1011665 1011664 1011667 1011666

4.8°C, 4.8·C IR7

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172848-1

Login Number: 172848
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C 4.8°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172848-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-173042

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/26/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071119-A	PD-6-SB-45-071119
PD-6-SB-46-071119	PD-6-SB-51-071119
PD-6-SB-54-071119	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOCs were detected in the method blank. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. VOC and SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-6-SB-45-071119. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448063/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	97.5 µg/Kg
MB 400-448063/1-A	SVOCs	di-n-butyl Phthalate	71.6 µg/Kg

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-6-SB-45-071119	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-6-SB-45-071119	SVOCs	di-n-butyl Phthalate	-	**U**
PD-6-SB-46-071119	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-6-SB-46-071119	SVOCs	di-n-butyl Phthalate	-	**U**
PD-6-SB-51-071119	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-6-SB-51-071119	SVOCs	di-n-butyl Phthalate	-	**U**
PD-6-SB-54-071119	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-6-SB-54-071119	SVOCs	di-n-butyl Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449049/2-A	VOCs	Acrylonitrile	**174**	NA	60-130
400-449049/2-A	VOCs	2-Butanone	**135**	NA	55-130
400-449049/2-A	VOCs	1,1-Dichloroethene	**139**	NA	55-137
400-449049/2-A	VOCs	Methylene chloride	**134**	NA	57-132
400-449049/2-A	VOCs	trans-1,2-Dichloroethene	**138**	NA	58-134
400-449049/2-A	VOCs	Vinyl chloride	**133**	NA	52-132
400-448063/2-A	SVOCs	Benzenethiol	**5**/35	**149**	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-6-SB-45-071119	SVOCS	Benzenethiol	**UJ**
PD-6-SB-46-071119	SVOCs	Benzenethiol	**UJ**
PD-6-SB-51-071119	SVOCS	Benzenethiol	**UJ**
PD-6-SB-54-071119	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-6-SB-45-071119 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-6-SB-45-07119	VOCs	Acetone	150**/154**	2	10-150/38
PD-6-SB-45-07119	VOCs	Acrylonitrile	**152/177**	15	21-141/37
PD-6-SB-45-07119	VOCs	trans-1,2-Dichloroethene	126/**140**	11	40-134
PD-6-SB-45-07119	VOCs	Vinyl acetate	123/**156**	23	10-150/60
PD-6-SB-45-07119	SVOCs	Benzoic acid	**20**/**16**	24	40-140/30
PD-6-SB-45-07119	SVOCs	1,4-Dioxane	**35**/**27**	28	40-140/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-6-SB-45-071119	SVOCs	Benzoic acid	**UJ**
PD-6-SB-45-071119	SVOCS	1,4-Dioxane	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173042-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/26/2019 2:33:54 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/26/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Job ID: 400-173042-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173042-1

Comments
No additional comments.

Receipt
The samples were received on 7/12/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.1° C.

GC/MS VOA
Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-448405 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-071119-A (400-173042-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-6-SB-45-071119 (400-173042-2), PD-6-SB-46-071119 (400-173042-3), PD-6-SB-51-071119 (400-173042-4) and PD-6-SB-54-071119 (400-173042-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-449049 and analytical batch 400-449025 recovered outside control limits for the following analytes: 1,1-Dichloroethene, 2-Butanone (MEK), Acrylonitrile, Methylene Chloride, trans-1,2-Dichloroethene and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-449049 and analytical batch 400-449025 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 400-448342/5).

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448063 and analytical batch 400-448342 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Di-n-octyl phthalate and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448063 contained Indene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The method blank for preparation batch 400-448063 and analytical batch 400-448342 contained Bis(2-ethylhexyl) phthalate and Di-n-octyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448063 and analytical batch 400-448342 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Job ID: 400-173042-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173042-1	TB-PW-071119-A	Water	07/11/19 00:00	07/12/19 09:19	
400-173042-2	PD-6-SB-45-071119	Solid	07/11/19 13:00	07/12/19 09:19	
400-173042-3	PD-6-SB-46-071119	Solid	07/11/19 13:15	07/12/19 09:19	
400-173042-4	PD-6-SB-51-071119	Solid	07/11/19 14:05	07/12/19 09:19	
400-173042-5	PD-6-SB-54-071119	Solid	07/11/19 15:30	07/12/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A — Lab Sample ID: 400-173042-1

No Detections.

Client Sample ID: PD-6-SB-45-071119 — Lab Sample ID: 400-173042-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	19000		660	88	ug/Kg	100	☼	8260B	Total/NA
Ethylbenzene	150	J	660	80	ug/Kg	100	☼	8260B	Total/NA
Acenaphthene	28		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	12		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	13		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	14		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	27		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	7.9		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	30		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	280		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	350		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	120		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	60		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	110	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	68	J B	380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-6-SB-46-071119 — Lab Sample ID: 400-173042-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120000		5200	690	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	1300	J	5200	630	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	1000	J	5200	700	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	1600	J	5200	1300	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	2200	J	5200	930	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	23000		5200	1000	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	6200		5200	860	ug/Kg	1000	☼	8260B	Total/NA
Acenaphthene	110		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	93		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	150		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	150		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	82		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	37		7.4	2.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	280		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	32		7.4	2.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	59		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	130		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	16		7.4	2.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	1000		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	1500		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	740		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	450		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	110	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Dibenzofuran	62	J	370	37	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	88	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Phenol	430		370	37	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119

Lab Sample ID: 400-173042-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	70000		2700	360	ug/Kg	500	☼	8260B	Total/NA
Ethylbenzene	1100	J	2700	330	ug/Kg	500	☼	8260B	Total/NA
Isopropylbenzene	570	J	2700	360	ug/Kg	500	☼	8260B	Total/NA
m-Xylene & p-Xylene	2300	J	2700	690	ug/Kg	500	☼	8260B	Total/NA
Naphthalene	1200	J	2700	1100	ug/Kg	500	☼	8260B	Total/NA
N-Propylbenzene	1200	J	2700	480	ug/Kg	500	☼	8260B	Total/NA
o-Xylene	790	J	2700	530	ug/Kg	500	☼	8260B	Total/NA
Toluene	1100	J	2700	530	ug/Kg	500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	12000		2700	530	ug/Kg	500	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	3100		2700	440	ug/Kg	500	☼	8260B	Total/NA
Xylenes, Total	3100	J	5300	1000	ug/Kg	500	☼	8260B	Total/NA
Acenaphthene	24		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	27		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	38		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	41		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	21		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	11		7.5	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	75		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	15		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	29		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	240		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	360		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	180		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	110		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~100~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	~~88~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	460		380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-6-SB-54-071119

Lab Sample ID: 400-173042-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8100		280	37	ug/Kg	100	☼	8260B	Total/NA
Toluene	120	J	280	55	ug/Kg	100	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	72	J	280	55	ug/Kg	100	☼	8260B	Total/NA
1-Methylnaphthalene	6.1	J	7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.9		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~84~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	~~62~~	J B U	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	150	J	380	38	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 18:55	1
Acrolein	ND		20	10	ug/L			07/17/19 18:55	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 18:55	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 18:55	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 18:55	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 18:55	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 18:55	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 18:55	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 18:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 18:55	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 18:55	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 18:55	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 18:55	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 18:55	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:55	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 18:55	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 18:55	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 18:55	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 18:55	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 18:55	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 18:55	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 18:55	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 18:55	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 18:55	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 18:55	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 18:55	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 18:55	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 18:55	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 18:55	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 18:55	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 18:55	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 18:55	1
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 18:55	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 18:55	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 18:55	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 18:55	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 18:55	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 18:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 18:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 18:55	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 18:55	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 18:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 18:55	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 18:55	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 18:55	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 18:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 18:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 18:55	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 18:55	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 18:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 18:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 18:55*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*07/17/19 18:55*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/17/19 18:55*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	F1	3300	1700	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Acrolein	ND		6600	3700	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Acrylonitrile	ND	F1 *	2600	1100	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Benzene	**19000**		660	88	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromobenzene	ND		660	170	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromochloromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromodichloromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromoform	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromomethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2-Butanone (MEK)	ND	*	3300	790	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Carbon disulfide	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Carbon tetrachloride	ND		660	220	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chlorobenzene	ND		660	68	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2-Chloroethyl vinyl ether	ND		1300	660	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chloroform	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1-Chlorohexane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chloromethane	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
cis-1,2-Dichloroethene	ND		660	100	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
cis-1,3-Dichloropropene	ND		660	160	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Dibromochloromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dibromo-3-Chloropropane	ND		660	430	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dichlorobenzene	ND		660	93	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,3-Dichlorobenzene	ND		660	120	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,4-Dichlorobenzene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Dichlorodifluoromethane	ND		660	170	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1-Dichloroethane	ND		660	110	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dichloroethane	ND		660	110	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1-Dichloroethene	ND	*	660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dichloropropane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,3-Dichloropropane	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2,2-Dichloropropane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1-Dichloropropene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Ethylbenzene	**150**	**J**	660	80	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Ethylene Dibromide	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Ethyl methacrylate	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Hexachlorobutadiene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2-Hexanone	ND		3300	660	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Isopropylbenzene	ND		660	89	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Methylene bromide	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Methylene Chloride	ND	F1 *	2000	1300	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
4-Methyl-2-pentanone (MIBK)	ND		3300	660	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Methyl tert-butyl ether	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
m-Xylene & p-Xylene	ND		660	170	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Naphthalene	ND		660	260	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
n-Butylbenzene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
N-Propylbenzene	ND		660	120	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
o-Chlorotoluene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
o-Xylene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2

Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
p-Isopropyltoluene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
sec-Butylbenzene	ND		660	120	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Styrene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
tert-Butylbenzene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,1,2-Tetrachloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,2,2-Tetrachloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Tetrachloroethene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Toluene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
trans-1,2-Dichloroethene	ND	F1 *	660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
trans-1,3-Dichloropropene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,3-Trichlorobenzene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,4-Trichlorobenzene	ND		660	260	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,1-Trichloroethane	ND		660	140	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,2-Trichloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Trichloroethene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Trichlorofluoromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,3-Trichloropropane	ND		660	390	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,4-Trimethylbenzene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,3,5-Trimethylbenzene	ND		660	110	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Vinyl acetate	ND	F1	3300	1200	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Vinyl chloride	ND	*	660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Xylenes, Total	ND		1300	250	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethanol	*11000*	*J*	*ug/Kg*	☼	*2.10*	*64-17-5*	*07/22/19 16:12*	*07/22/19 18:33*	*100*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 16:12*	*07/22/19 18:33*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*72 - 122*	*07/22/19 16:12*	*07/22/19 18:33*	*100*
Dibromofluoromethane	*85*		*79 - 123*	*07/22/19 16:12*	*07/22/19 18:33*	*100*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/22/19 16:12*	*07/22/19 18:33*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**28**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Acenaphthylene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Anthracene	**12**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[a]anthracene	**13**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[a]pyrene	**14**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[b]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[g,h,i]perylene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[k]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Chrysene	**27**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Dibenz(a,h)anthracene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Fluoranthene	**7.9**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Fluorene	**30**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Indeno[1,2,3-cd]pyrene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
1-Methylnaphthalene	**280**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
2-Methylnaphthalene	**350**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2

Matrix: Solid
Percent Solids: 86.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	120		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Pyrene	60		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/15/19 13:57*	*07/19/19 04:53*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/15/19 13:57*	*07/19/19 04:53*	*1*
Terphenyl-d14	*105*		*24 - 146*	*07/15/19 13:57*	*07/19/19 04:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	49	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Benzoic acid	ND	F1 UJ	1100	400	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Bis(2-ethylhexyl) phthalate	~~110~~	J B U	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Di-n-butyl phthalate	~~68~~	J B U	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
1,4-Dioxane	ND	F1 UJ	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Indene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Isophorone	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Phenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Pyridine	ND		380	170	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Quinoline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Decane	*110*	*J*	*ug/Kg*	☼	*5.46*	*124-18-5*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Benzene, 1,2,3-trimethyl-	*670*	*T J N*	*ug/Kg*	☼	*5.48*	*526-73-8*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Naphthalene	*45*	*J*	*ug/Kg*	☼	*6.45*	*91-20-3*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
2-Methylnaphthalene	*290*	*J*	*ug/Kg*	☼	*6.89*	*91-57-6*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
1-Methylnaphthalene	*240*	*J*	*ug/Kg*	☼	*6.96*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Naphthalene, 2,6-dimethyl-	*340*	*T J N*	*ug/Kg*	☼	*7.37*	*581-42-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Phenanthrene	*84*	*J*	*ug/Kg*	☼	*8.77*	*85-01-8*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
n-Hexadecanoic acid	*420*	*T J N*	*ug/Kg*	☼	*9.08*	*57-10-3*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Pyrene	*44*	*J*	*ug/Kg*	☼	*10.01*	*129-00-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
9-Octadecenamide, (Z)-	*690*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
13-Docosenamide, (Z)-	*390*	*T J N*	*ug/Kg*	☼	*11.83*	*112-84-5*	*07/15/19 13:57*	*07/17/19 17:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*27 - 127*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
2-Fluorophenol	*63*		*25 - 128*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Phenol-d5	*65*		*29 - 130*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Terphenyl-d14	*78*		*24 - 146*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
2,4,6-Tribromophenol	*63*		*10 - 150*	*07/15/19 13:57*	*07/17/19 17:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.8**		0.01	0.01	%			07/15/19 13:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3

Matrix: Solid
Percent Solids: 87.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		26000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Acrolein	ND		52000	29000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Acrylonitrile	ND	*	21000	8200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Benzene	**120000**		5200	690	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromobenzene	ND		5200	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromochloromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromodichloromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromoform	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromomethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2-Butanone (MEK)	ND	*	26000	6200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Carbon disulfide	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Carbon tetrachloride	ND		5200	1800	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chlorobenzene	ND		5200	540	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2-Chloroethyl vinyl ether	ND		10000	5200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chloroform	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1-Chlorohexane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chloromethane	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
cis-1,2-Dichloroethene	ND		5200	780	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
cis-1,3-Dichloropropene	ND		5200	1200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Dibromochloromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dibromo-3-Chloropropane	ND		5200	3400	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dichlorobenzene	ND		5200	730	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,3-Dichlorobenzene	ND		5200	980	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,4-Dichlorobenzene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Dichlorodifluoromethane	ND		5200	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1-Dichloroethane	ND		5200	860	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dichloroethane	ND		5200	840	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1-Dichloroethene	ND	*	5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dichloropropane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,3-Dichloropropane	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2,2-Dichloropropane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1-Dichloropropene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Ethylbenzene	**1300**	**J**	5200	630	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Ethylene Dibromide	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Ethyl methacrylate	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Hexachlorobutadiene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2-Hexanone	ND		26000	5200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Isopropylbenzene	**1000**	**J**	5200	700	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Methylene bromide	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Methylene Chloride	ND	*	15000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
4-Methyl-2-pentanone (MIBK)	ND		26000	5200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Methyl tert-butyl ether	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
m-Xylene & p-Xylene	**1600**	**J**	5200	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Naphthalene	ND		5200	2100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
n-Butylbenzene	ND		5200	990	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
N-Propylbenzene	**2200**	**J**	5200	930	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
o-Chlorotoluene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
o-Xylene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3

Matrix: Solid
Percent Solids: 87.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
p-Isopropyltoluene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
sec-Butylbenzene	ND		5200	980	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Styrene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
tert-Butylbenzene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,1,2-Tetrachloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,2,2-Tetrachloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Tetrachloroethene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Toluene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
trans-1,2-Dichloroethene	ND	*	5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
trans-1,3-Dichloropropene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,3-Trichlorobenzene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,4-Trichlorobenzene	ND		5200	2100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,1-Trichloroethane	ND		5200	1100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,2-Trichloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Trichloroethene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Trichlorofluoromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,3-Trichloropropane	ND		5200	3100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,4-Trimethylbenzene	**23000**		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,3,5-Trimethylbenzene	**6200**		5200	860	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Vinyl acetate	ND		26000	9400	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Vinyl chloride	ND	*	5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Xylenes, Total	ND		10000	2000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*5900*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
3-Ethyltoluene	*7500*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
2-Ethyltoluene	*3000*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
1,2,3-Trimethylbenzene	*4700*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*72 - 122*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**110**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Acenaphthylene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Anthracene	**93**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[a]anthracene	**150**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[a]pyrene	**150**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[b]fluoranthene	**82**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[g,h,i]perylene	**37**		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[k]fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Chrysene	**280**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Dibenz(a,h)anthracene	**32**		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Fluoranthene	**59**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Fluorene	**130**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Indeno[1,2,3-cd]pyrene	**16**		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119
Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid
Percent Solids: 87.7

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1000		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
2-Methylnaphthalene	1500		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Phenanthrene	740		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Pyrene	450		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:09*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:09*	*1*
Terphenyl-d14	*99*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		370	48	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Benzenethiol	ND	* UJ	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Benzoic acid	ND		1100	390	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Benzyl alcohol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Bis(2-chloroethoxy)methane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Bis(2-chloroethyl)ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
bis (2-chloroisopropyl) ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Bis(2-ethylhexyl) phthalate	~~110~~	J B UJ	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Bromophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Butyl benzyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Chloroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Chloro-3-methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Chloronaphthalene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Chlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Chlorophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Dibenz[a,h]acridine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Dibenzofuran	62	J	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
3,3'-Dichlorobenzidine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Diethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dimethylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Dimethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Di-n-butyl phthalate	~~88~~	J B UJ	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4,6-Dinitro-ortho-cresol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,6-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Di-n-octyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
1,4-Dioxane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Hexachlorobenzene	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Hexachlorocyclopentadiene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Hexachloroethane	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Indene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Isophorone	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
3 & 4 Methylphenol	ND		740	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3

Matrix: Solid
Percent Solids: 87.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
3-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Nitrobenzene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Nitrophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Nitrophenol	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
N-Nitrosodimethylamine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
N-Nitrosodi-n-propylamine	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
N-Nitrosodiphenylamine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Pentachlorophenol	ND		740	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Phenol	**430**		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Pyridine	ND		370	170	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Quinoline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4,5-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4,6-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, propyl-	*1300*	*T J N*	*ug/Kg*	☼	*5.25*	*103-65-1*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1-ethyl-2-methyl-	*2400*	*T J N*	*ug/Kg*	☼	*5.29*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1-ethyl-2-methyl-	*2600*	*T J N*	*ug/Kg*	☼	*5.31*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1-ethyl-4-methyl-	*1100*	*T J N*	*ug/Kg*	☼	*5.39*	*622-96-8*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Decane	*2300*	*T J N*	*ug/Kg*	☼	*5.46*	*124-18-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,2,3-trimethyl-	*11000*	*T J N*	*ug/Kg*	☼	*5.48*	*526-73-8*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Decane, 4-methyl-	*1200*	*T J N*	*ug/Kg*	☼	*5.57*	*2847-72-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,2,4-trimethyl-	*2300*	*T J N*	*ug/Kg*	☼	*5.63*	*95-63-6*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,4-diethyl-	*2700*	*T J N*	*ug/Kg*	☼	*5.78*	*105-05-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,2,4,5-tetramethyl-	*1200*	*T J N*	*ug/Kg*	☼	*6.09*	*95-93-2*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*1800*	*T J N*	*ug/Kg*	☼	*6.32*	*119-64-2*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Dodecane	*6900*	*T J N*	*ug/Kg*	☼	*6.36*	*112-40-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Undecane, 2,6-dimethyl-	*3400*	*T J N*	*ug/Kg*	☼	*6.41*	*17301-23-4*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Dodecane, 2-methyl-	*1800*	*T J N*	*ug/Kg*	☼	*6.61*	*1560-97-0*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Tridecane	*6100*	*T J N*	*ug/Kg*	☼	*6.75*	*629-50-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 1-methyl-	*3600*	*T J N*	*ug/Kg*	☼	*6.89*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2-methyl-	*3400*	*T J N*	*ug/Kg*	☼	*6.96*	*91-57-6*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2,7-dimethyl-	*1400*	*T J N*	*ug/Kg*	☼	*7.32*	*582-16-1*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2,3-dimethyl-	*1800*	*T J N*	*ug/Kg*	☼	*7.37*	*581-40-8*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2,6-dimethyl-	*1100*	*T J N*	*ug/Kg*	☼	*7.39*	*581-42-0*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Pentadecane	*1900*	*T J N*	*ug/Kg*	☼	*7.49*	*629-62-9*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Hexadecane	*1500*	*T J N*	*ug/Kg*	☼	*7.85*	*544-76-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
3-Methyl-4-(methoxycarbonyl)hexa-2,4-dienoic acid	*1000*	*T J N*	*ug/Kg*	☼	*8.01*	*1000104-10-8*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Dibenzothiophene, 4-methyl-	*1000*	*T J N*	*ug/Kg*	☼	*9.09*	*7372-88-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Phenanthrene, 2,5-dimethyl-	*1100*	*T J N*	*ug/Kg*	☼	*9.63*	*3674-66-6*	*07/15/19 13:57*	*07/17/19 17:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 127*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
2-Fluorophenol	*69*		*25 - 128*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Nitrobenzene-d5	*79*		*15 - 136*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Phenol-d5	*70*		*29 - 130*	*07/15/19 13:57*	*07/17/19 17:27*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119
Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid
Percent Solids: 87.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	*79*		*24 - 146*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
2,4,6-Tribromophenol	*68*		*10 - 150*	*07/15/19 13:57*	*07/17/19 17:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**87.7**		0.01	0.01	%			07/15/19 13:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119

Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4

Matrix: Solid
Percent Solids: 87.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	6900	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Acrolein	ND		27000	15000	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Acrylonitrile	ND	*	11000	4300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Benzene	**70000**		2700	360	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromobenzene	ND		2700	690	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromochloromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromodichloromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromoform	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromomethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2-Butanone (MEK)	ND	*	13000	3200	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Carbon disulfide	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Carbon tetrachloride	ND		2700	910	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chlorobenzene	ND		2700	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2-Chloroethyl vinyl ether	ND		5300	2700	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chloroform	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1-Chlorohexane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chloromethane	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
cis-1,2-Dichloroethene	ND		2700	410	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
cis-1,3-Dichloropropene	ND		2700	640	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Dibromochloromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dibromo-3-Chloropropane	ND		2700	1800	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dichlorobenzene	ND		2700	380	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,3-Dichlorobenzene	ND		2700	510	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,4-Dichlorobenzene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Dichlorodifluoromethane	ND		2700	690	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1-Dichloroethane	ND		2700	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dichloroethane	ND		2700	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1-Dichloroethene	ND	*	2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dichloropropane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,3-Dichloropropane	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2,2-Dichloropropane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1-Dichloropropene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Ethylbenzene	**1100**	**J**	2700	330	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Ethylene Dibromide	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Ethyl methacrylate	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Hexachlorobutadiene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2-Hexanone	ND		13000	2700	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Isopropylbenzene	**570**	**J**	2700	360	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Methylene bromide	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Methylene Chloride	ND	*	8000	5300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
4-Methyl-2-pentanone (MIBK)	ND		13000	2700	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Methyl tert-butyl ether	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
m-Xylene & p-Xylene	**2300**	**J**	2700	690	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Naphthalene	**1200**	**J**	2700	1100	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
n-Butylbenzene	ND		2700	510	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
N-Propylbenzene	**1200**	**J**	2700	480	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
o-Chlorotoluene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
o-Xylene	**790**	**J**	2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119
Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid
Percent Solids: 87.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2700	520	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
p-Isopropyltoluene	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
sec-Butylbenzene	ND		2700	510	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Styrene	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
tert-Butylbenzene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,1,2-Tetrachloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,2,2-Tetrachloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Tetrachloroethene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Toluene	**1100**	**J**	2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
trans-1,2-Dichloroethene	ND	*	2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
trans-1,3-Dichloropropene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,3-Trichlorobenzene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,4-Trichlorobenzene	ND		2700	1100	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,1-Trichloroethane	ND		2700	590	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,2-Trichloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Trichloroethene	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Trichlorofluoromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,3-Trichloropropane	ND		2700	1600	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,4-Trimethylbenzene	**12000**		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,3,5-Trimethylbenzene	**3100**		2700	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Vinyl acetate	ND		13000	4900	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Vinyl chloride	ND	*	2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Xylenes, Total	**3100**	**J**	5300	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*2800*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
Cyclohexane	*800*	*J*	*ug/Kg*	☼	*3.73*	*110-82-7*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
3-Ethyltoluene	*7700*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
2-Ethyltoluene	*2400*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
1,2,3-Trimethylbenzene	*3100*		*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 01:52*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 122*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
Dibromofluoromethane	*87*		*79 - 123*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
Toluene-d8 (Surr)	*91*		*80 - 120*	*07/22/19 16:12*	*07/23/19 01:52*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**24**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Acenaphthylene	ND		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Anthracene	**27**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[a]anthracene	**38**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[a]pyrene	**41**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[b]fluoranthene	**21**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[g,h,i]perylene	**11**		7.5	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[k]fluoranthene	ND		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Chrysene	**75**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Dibenz(a,h)anthracene	ND		7.5	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Fluoranthene	**15**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Fluorene	**29**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119
Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid
Percent Solids: 87.6

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		7.5	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
1-Methylnaphthalene	**240**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
2-Methylnaphthalene	**360**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Phenanthrene	**180**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Pyrene	**110**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:25*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:25*	*1*
Terphenyl-d14	*103*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	49	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Bis(2-ethylhexyl) phthalate	~~180~~	J B U	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Dibenz[a,h]acridine	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Di-n-butyl phthalate	~~86~~	J B U	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Hexachlorobenzene	ND		380	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Hexachlorocyclopentadiene	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Hexachloroethane	ND		380	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Indene	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Isophorone	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119

Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4

Matrix: Solid
Percent Solids: 87.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		750	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
N-Nitrosodimethylamine	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Pentachlorophenol	ND		750	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Phenol	**460**		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Pyridine	ND		380	170	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Quinoline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
o-Xylene	*410*	*T J N*	*ug/Kg*	☼	*4.72*	*95-47-6*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
o-Xylene	*460*	*T J N*	*ug/Kg*	☼	*4.88*	*95-47-6*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1-ethyl-2-methyl-	*620*	*T J N*	*ug/Kg*	☼	*5.29*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1-ethyl-2-methyl-	*580*	*T J N*	*ug/Kg*	☼	*5.31*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1-ethyl-2-methyl-	*430*	*T J N*	*ug/Kg*	☼	*5.39*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1,3,5-trimethyl-	*2800*	*T J N*	*ug/Kg*	☼	*5.48*	*108-67-8*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1,2,3-trimethyl-	*960*	*T J N*	*ug/Kg*	☼	*5.63*	*526-73-8*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Undecane	*620*	*T J N*	*ug/Kg*	☼	*5.93*	*1120-21-4*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Dodecane	*400*	*T J N*	*ug/Kg*	☼	*6.36*	*112-40-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Tridecane	*390*	*T J N*	*ug/Kg*	☼	*6.75*	*629-50-5*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Naphthalene, 1-methyl-	*390*	*T J N*	*ug/Kg*	☼	*6.89*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Naphthalene, 1-methyl-	*330*	*T J N*	*ug/Kg*	☼	*6.96*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Naphthalene, 1,6-dimethyl-	*320*	*T J N*	*ug/Kg*	☼	*7.36*	*575-43-9*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Tridecanoic acid	*520*	*T J N*	*ug/Kg*	☼	*9.08*	*638-53-9*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Phenanthrene, 2,5-dimethyl-	*310*	*T J N*	*ug/Kg*	☼	*9.63*	*3674-66-6*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
9-Octadecenamide, (Z)-	*900*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
13-Docosenamide, (Z)-	*520*	*T J N*	*ug/Kg*	☼	*11.82*	*112-84-5*	*07/15/19 13:57*	*07/17/19 17:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 127*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
2-Fluorophenol	*68*		*25 - 128*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Phenol-d5	*72*		*29 - 130*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Terphenyl-d14	*79*		*24 - 146*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
2,4,6-Tribromophenol	*63*		*10 - 150*	*07/15/19 13:57*	*07/17/19 17:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**87.6**		0.01	0.01	%			07/15/19 13:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5

Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1400	720	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Acrolein	ND		2800	1500	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Acrylonitrile	ND	*	1100	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Benzene	**8100**		280	37	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromobenzene	ND		280	72	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromochloromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromodichloromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromoform	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromomethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2-Butanone (MEK)	ND	*	1400	330	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Carbon disulfide	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Carbon tetrachloride	ND		280	94	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chlorobenzene	ND		280	29	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2-Chloroethyl vinyl ether	ND		550	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chloroform	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1-Chlorohexane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chloromethane	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
cis-1,2-Dichloroethene	ND		280	42	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
cis-1,3-Dichloropropene	ND		280	66	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Dibromochloromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dibromo-3-Chloropropane	ND		280	180	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dichlorobenzene	ND		280	39	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,3-Dichlorobenzene	ND		280	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,4-Dichlorobenzene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Dichlorodifluoromethane	ND		280	72	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1-Dichloroethane	ND		280	46	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dichloroethane	ND		280	45	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1-Dichloroethene	ND	*	280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dichloropropane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,3-Dichloropropane	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2,2-Dichloropropane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1-Dichloropropene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Ethylbenzene	ND		280	34	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Ethylene Dibromide	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Ethyl methacrylate	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Hexachlorobutadiene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2-Hexanone	ND		1400	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Isopropylbenzene	ND		280	38	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Methylene bromide	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Methylene Chloride	ND	*	830	550	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
4-Methyl-2-pentanone (MIBK)	ND		1400	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Methyl tert-butyl ether	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
m-Xylene & p-Xylene	ND		280	72	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Naphthalene	ND		280	110	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
n-Butylbenzene	ND		280	53	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
N-Propylbenzene	ND		280	50	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
o-Chlorotoluene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
o-Xylene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5

Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		280	54	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
p-Isopropyltoluene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
sec-Butylbenzene	ND		280	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Styrene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
tert-Butylbenzene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,1,2-Tetrachloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,2,2-Tetrachloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Tetrachloroethene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Toluene	**120**	**J**	280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
trans-1,2-Dichloroethene	ND	*	280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
trans-1,3-Dichloropropene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,3-Trichlorobenzene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,4-Trichlorobenzene	ND		280	110	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,1-Trichloroethane	ND		280	61	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,2-Trichloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Trichloroethene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Trichlorofluoromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,3-Trichloropropane	ND		280	170	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,4-Trimethylbenzene	**72**	**J**	280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,3,5-Trimethylbenzene	ND		280	46	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Vinyl acetate	ND		1400	500	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Vinyl chloride	ND	*	280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Xylenes, Total	ND		550	100	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methyl-2-propanol	*500*	*J **	*ug/Kg*	☼	*2.66*	*75-65-0*	*07/22/19 16:12*	*07/23/19 01:27*	*100*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 16:12*	*07/23/19 01:27*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*72 - 122*	*07/22/19 16:12*	*07/23/19 01:27*	*100*
Dibromofluoromethane	*87*		*79 - 123*	*07/22/19 16:12*	*07/23/19 01:27*	*100*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/22/19 16:12*	*07/23/19 01:27*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Acenaphthylene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Anthracene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[a]anthracene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[a]pyrene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[b]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[g,h,i]perylene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[k]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Chrysene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Dibenz(a,h)anthracene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Fluorene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Indeno[1,2,3-cd]pyrene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
1-Methylnaphthalene	**6.1**	**J**	7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
2-Methylnaphthalene	**7.9**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5

Matrix: Solid
Percent Solids: 86.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Pyrene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:41*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:41*	*1*
Terphenyl-d14	*102*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Benzenethiol	ND	* UJ	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Benzoic acid	ND		1100	410	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Bis(2-ethylhexyl) phthalate	~~84~~	J B U	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Di-n-butyl phthalate	~~62~~	J B U	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dinitrophenol	ND		1100	340	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Indene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Isophorone	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5

Matrix: Solid
Percent Solids: 86.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Phenol	**150**	**J**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Pyridine	ND		380	170	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Quinoline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
9-Octadecenamide, (Z)-	*530*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 18:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*27 - 127*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
2-Fluorophenol	*68*		*25 - 128*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
Nitrobenzene-d5	*73*		*15 - 136*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
Phenol-d5	*71*		*29 - 130*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
Terphenyl-d14	*82*		*24 - 146*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
2,4,6-Tribromophenol	*67*		*10 - 150*	*07/15/19 13:57*	*07/17/19 18:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.3**		0.01	0.01	%			07/15/19 13:33	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173042-2	PD-6-SB-45-071119	96	85	101
400-173042-2 MS	PD-6-SB-45-070819	100	91	100
400-173042-2 MSD	PD-6-SB-45-070819	101	90	101
400-173042-3	PD-6-SB-46-071119	106	90	98
400-173042-4	PD-6-SB-51-071119	93	87	91
400-173042-5	PD-6-SB-54-071119	105	87	100
LCS 400-449049/2-A	Lab Control Sample	102	93	100
MB 400-449049/1-A	Method Blank	96	92	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173042-1	TB-PW-071119-A	99	93	101
LCS 400-448405/1003	Lab Control Sample	104	93	101
MB 400-448405/11	Method Blank	99	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173042-2	PD-6-SB-45-071119	57	63	72	65	78	63
400-173042-2 MS	PD-6-SB-45-070819	65	69	82	75	82	80
400-173042-2 MSD	PD-6-SB-45-070819	66	80	84	83	82	83
400-173042-3	PD-6-SB-46-071119	65	69	79	70	79	68
400-173042-4	PD-6-SB-51-071119	65	68	74	72	79	63
400-173042-5	PD-6-SB-54-071119	62	68	73	71	82	67
LCS 400-448063/2-A	Lab Control Sample	61	68	75	71	83	61
LCS 400-448063/7-A	Lab Control Sample	59	63	76	68	85	70
LCSD 400-448063/3-A	Lab Control Sample Dup	58	61	68	65	81	59
MB 400-448063/1-A	Method Blank	66	73	74	73	88	65

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173042-2	PD-6-SB-45-071119	78	69	105
400-173042-2 MS	PD-6-SB-45-070819	73	67	90
400-173042-2 MSD	PD-6-SB-45-070819	80	72	102
400-173042-3	PD-6-SB-46-071119	67	66	99
400-173042-4	PD-6-SB-51-071119	82	72	103
400-173042-5	PD-6-SB-54-071119	75	66	102
LCS 400-448063/4-A	Lab Control Sample	85	77	107
MB 400-448063/1-A	Method Blank	88	76	119

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 18:55	BSW	TAL PEN

Client Sample ID: PD-6-SB-45-071119

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-45-071119

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.964 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/22/19 18:33	RS	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 17:05	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:53	KJA	TAL PEN

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.403 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449025	07/23/19 02:16	RS	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 17:27	VC1	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:09	KJA	TAL PEN

Client Sample ID: PD-6-SB-51-071119

Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119

Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.169 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		500	5 mL	5 mL	449025	07/23/19 01:52	RS	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 17:48	VC1	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:25	KJA	TAL PEN

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5
Matrix: Solid
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14.717 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/23/19 01:27	RS	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 18:10	VC1	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:41	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 14:56	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 03:48	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448405/11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 15:43	BSW	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 18:08	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448063/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:18	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448063/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:01	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448405/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 14:14	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 17:19	RS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448063/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:39	VC1	TAL PEN

Client Sample ID: PD-6-SB-45-070819

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MS
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-45-070819

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.964 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/22/19 18:57	RS	TAL PEN
Total/NA	Prep	3546			15.07 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:22	VC1	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:20	KJA	TAL PEN

Client Sample ID: PD-6-SB-45-070819

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-45-070819

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.964 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/22/19 19:21	RS	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:44	VC1	TAL PEN
Total/NA	Prep	3546			15.16 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:36	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

GC/MS VOA

Analysis Batch: 448405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-1	TB-PW-071119-A	Total/NA	Water	8260B	
MB 400-448405/11	Method Blank	Total/NA	Water	8260B	
LCS 400-448405/1003	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	8260B	449049
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	8260B	449049
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	8260B	449049
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	8260B	449049
MB 400-449049/1-A	Method Blank	Total/NA	Solid	8260B	449049
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	8260B	449049
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	8260B	449049
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	8260B	449049

Prep Batch: 449049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	5035	
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	5035	
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	5035	
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	5035	
MB 400-449049/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	5035	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	5035	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 448063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	3546	
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	3546	
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	3546	
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	3546	
MB 400-448063/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	3546	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	3546	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	3546	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	3546	

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	8270D	448063
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	8270D	448063
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	8270D	448063
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	8270D	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D	448063

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448063
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	8270D	448063
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	8270D	448063

Analysis Batch: 448527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	8270D LL	448063
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	8270D LL	448063
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	8270D LL	448063
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	8270D LL	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D LL	448063
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	8270D LL	448063
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	8270D LL	448063
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	8270D LL	448063

General Chemistry

Analysis Batch: 448054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	Moisture	
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	Moisture	
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	Moisture	
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	Moisture	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	Moisture	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 15:43	1
Acrolein	ND		20	10	ug/L			07/17/19 15:43	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 15:43	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 15:43	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 15:43	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 15:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 15:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 15:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 15:43	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 15:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 15:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 15:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 15:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 15:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 15:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 15:43	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 15:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 15:43	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 15:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 15:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 15:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 15:43	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 15:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 15:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 15:43	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 15:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 15:43	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 15:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 15:43	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 15:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 15:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 15:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 15:43	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 15:43*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 15:43*	*1*
Dibromofluoromethane	*92*		*81 - 121*		*07/17/19 15:43*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/17/19 15:43*	*1*

Lab Sample ID: LCS 400-448405/1003
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	204		ug/L		102	43 - 160
Acrolein	500	487		ug/L		97	38 - 160
Acrylonitrile	500	564		ug/L		113	64 - 142
Benzene	50.0	46.4		ug/L		93	70 - 130
Bromobenzene	50.0	50.8		ug/L		102	70 - 132
Bromochloromethane	50.0	50.3		ug/L		101	70 - 130
Bromodichloromethane	50.0	42.9		ug/L		86	67 - 133
Bromoform	50.0	45.4		ug/L		91	57 - 140
Bromomethane	50.0	36.7		ug/L		73	10 - 160
2-Butanone (MEK)	200	179		ug/L		89	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448405/1003
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	41.9		ug/L		84	61 - 137
Carbon tetrachloride	50.0	43.8		ug/L		88	61 - 137
Chlorobenzene	50.0	48.2		ug/L		96	70 - 130
Chloroethane	50.0	41.1		ug/L		82	55 - 141
2-Chloroethyl vinyl ether	50.0	36.3		ug/L		73	10 - 160
Chloroform	50.0	47.1		ug/L		94	69 - 130
1-Chlorohexane	50.0	48.9		ug/L		98	69 - 130
Chloromethane	50.0	46.8		ug/L		94	58 - 137
cis-1,2-Dichloroethene	50.0	46.9		ug/L		94	68 - 130
cis-1,3-Dichloropropene	50.0	44.5		ug/L		89	69 - 132
Dibromochloromethane	50.0	48.5		ug/L		97	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	46.2		ug/L		92	54 - 135
1,2-Dichlorobenzene	50.0	52.9		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.4		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	51.3		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	38.3		ug/L		77	41 - 146
1,1-Dichloroethane	50.0	47.2		ug/L		94	70 - 130
1,2-Dichloroethane	50.0	46.6		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	46.2		ug/L		92	70 - 130
1,3-Dichloropropane	50.0	48.6		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	41.2		ug/L		82	52 - 135
1,1-Dichloropropene	50.0	45.8		ug/L		92	70 - 130
Ethylbenzene	50.0	50.4		ug/L		101	70 - 130
Ethylene Dibromide	50.0	50.1		ug/L		100	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	40.2		ug/L		80	53 - 140
2-Hexanone	200	185		ug/L		93	65 - 137
Isopropylbenzene	50.0	49.5		ug/L		99	70 - 130
Methylene bromide	50.0	43.8		ug/L		88	70 - 130
Methylene Chloride	50.0	50.4		ug/L		101	66 - 135
4-Methyl-2-pentanone (MIBK)	200	206		ug/L		103	69 - 138
Methyl tert-butyl ether	50.0	43.4		ug/L		87	66 - 130
m-Xylene & p-Xylene	50.0	50.0		ug/L		100	70 - 130
Naphthalene	50.0	50.5		ug/L		101	47 - 149
n-Butylbenzene	50.0	50.9		ug/L		102	67 - 130
N-Propylbenzene	50.0	53.5		ug/L		107	70 - 130
o-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
o-Xylene	50.0	50.3		ug/L		101	70 - 130
p-Chlorotoluene	50.0	53.2		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	52.1		ug/L		104	65 - 130
sec-Butylbenzene	50.0	51.7		ug/L		103	66 - 130
Styrene	50.0	48.1		ug/L		96	70 - 130
tert-Butylbenzene	50.0	50.7		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.0		ug/L		98	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/L		106	70 - 131
Tetrachloroethene	50.0	47.2		ug/L		94	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.5		ug/L		101	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448405/1003
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	45.8		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	42.8		ug/L		86	60 - 138
1,2,4-Trichlorobenzene	50.0	42.7		ug/L		85	60 - 140
1,1,1-Trichloroethane	50.0	46.0		ug/L		92	68 - 130
1,1,2-Trichloroethane	50.0	48.7		ug/L		97	70 - 130
Trichloroethene	50.0	48.0		ug/L		96	70 - 130
Trichlorofluoromethane	50.0	38.3		ug/L		77	65 - 138
1,2,3-Trichloropropane	50.0	53.4		ug/L		107	70 - 130
1,2,4-Trimethylbenzene	50.0	52.4		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	52.7		ug/L		105	69 - 130
Vinyl acetate	100	104		ug/L		104	26 - 160
Vinyl chloride	50.0	47.2		ug/L		94	59 - 136
Xylenes, Total	100	100		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*93*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrolein	ND		50	28	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/22/19 16:12	07/22/19 18:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		72 - 122	07/22/19 16:12	07/22/19 18:08	1
Dibromofluoromethane	92		79 - 123	07/22/19 16:12	07/22/19 18:08	1
Toluene-d8 (Surr)	100		80 - 120	07/22/19 16:12	07/22/19 18:08	1

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	313		ug/Kg		157	48 - 160
Acrolein	500	730		ug/Kg		146	40 - 150
Acrylonitrile	500	868	*	ug/Kg		174	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	52.7		ug/Kg		105	65 - 130
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 130
Bromodichloromethane	50.0	47.3		ug/Kg		95	61 - 130
Bromoform	50.0	52.0		ug/Kg		104	52 - 136
Bromomethane	50.0	49.7		ug/Kg		99	12 - 160
2-Butanone (MEK)	200	270	*	ug/Kg		135	55 - 130
Carbon disulfide	50.0	62.0		ug/Kg		124	46 - 141
Carbon tetrachloride	50.0	46.1		ug/Kg		92	60 - 130
Chlorobenzene	50.0	51.2		ug/Kg		102	70 - 130
Chloroethane	50.0	56.3		ug/Kg		113	55 - 134
2-Chloroethyl vinyl ether	50.0	41.4		ug/Kg		83	10 - 158
Chloroform	50.0	49.0		ug/Kg		98	62 - 130
1-Chlorohexane	50.0	50.4		ug/Kg		101	69 - 130
Chloromethane	50.0	61.4		ug/Kg		123	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	49.5		ug/Kg		99	61 - 130
Dibromochloromethane	50.0	51.6		ug/Kg		103	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	56.5		ug/Kg		113	49 - 130
1,2-Dichlorobenzene	50.0	55.9		ug/Kg		112	64 - 130
1,3-Dichlorobenzene	50.0	54.9		ug/Kg		110	66 - 130
1,4-Dichlorobenzene	50.0	53.7		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	39.7		ug/Kg		79	34 - 143
1,1-Dichloroethane	50.0	62.4		ug/Kg		125	59 - 130
1,2-Dichloroethane	50.0	48.7		ug/Kg		97	62 - 130
1,1-Dichloroethene	50.0	69.5	*	ug/Kg		139	55 - 137
1,2-Dichloropropane	50.0	50.0		ug/Kg		100	64 - 130
1,3-Dichloropropane	50.0	52.5		ug/Kg		105	67 - 130
2,2-Dichloropropane	50.0	50.6		ug/Kg		101	51 - 132
1,1-Dichloropropene	50.0	48.7		ug/Kg		97	65 - 130
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 130
Ethylene Dibromide	50.0	55.2		ug/Kg		110	67 - 130
Ethyl methacrylate	50.0	56.2		ug/Kg		112	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	41.6		ug/Kg		83	62 - 133
2-Hexanone	200	219		ug/Kg		110	57 - 131
Isopropylbenzene	50.0	50.9		ug/Kg		102	70 - 130
Methylene bromide	50.0	49.2		ug/Kg		98	65 - 130
Methylene Chloride	50.0	67.0	*	ug/Kg		134	57 - 132
4-Methyl-2-pentanone (MIBK)	200	243		ug/Kg		122	58 - 130
Methyl tert-butyl ether	50.0	61.1		ug/Kg		122	63 - 130
m-Xylene & p-Xylene	50.0	51.8		ug/Kg		104	70 - 130
Naphthalene	50.0	63.4		ug/Kg		127	45 - 144
n-Butylbenzene	50.0	52.4		ug/Kg		105	66 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.1		ug/Kg		108	67 - 130
o-Xylene	50.0	53.3		ug/Kg		107	70 - 130
p-Chlorotoluene	50.0	54.2		ug/Kg		108	66 - 130
p-Isopropyltoluene	50.0	54.4		ug/Kg		109	68 - 130
sec-Butylbenzene	50.0	53.8		ug/Kg		108	67 - 130
Styrene	50.0	50.9		ug/Kg		102	68 - 130
tert-Butylbenzene	50.0	52.2		ug/Kg		104	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.2		ug/Kg		104	65 - 130
1,1,2,2-Tetrachloroethane	50.0	62.4		ug/Kg		125	60 - 131
Tetrachloroethene	50.0	48.6		ug/Kg		97	67 - 130
Toluene	50.0	54.5		ug/Kg		109	70 - 130
trans-1,2-Dichloroethene	50.0	68.8	*	ug/Kg		138	58 - 134
trans-1,3-Dichloropropene	50.0	50.0		ug/Kg		100	60 - 130
1,2,3-Trichlorobenzene	50.0	49.6		ug/Kg		99	58 - 135
1,2,4-Trichlorobenzene	50.0	47.0		ug/Kg		94	56 - 138
1,1,1-Trichloroethane	50.0	48.1		ug/Kg		96	63 - 130
1,1,2-Trichloroethane	50.0	54.0		ug/Kg		108	65 - 130
Trichloroethene	50.0	50.9		ug/Kg		102	65 - 130
Trichlorofluoromethane	50.0	47.6		ug/Kg		95	61 - 136
1,2,3-Trichloropropane	50.0	61.0		ug/Kg		122	60 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/Kg		109	66 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/Kg		110	67 - 130
Vinyl acetate	100	149		ug/Kg		149	24 - 160
Vinyl chloride	50.0	66.3	*	ug/Kg		133	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*72 - 122*
Dibromofluoromethane	*93*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND	F1	26300	39500		ug/Kg	☼	150	10 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		65700	92100		ug/Kg	☼	140	10 - 150
Acrylonitrile	ND	F1 *	65700	99900	F1	ug/Kg	☼	152	21 - 141
Benzene	19000		6570	25600		ug/Kg	☼	96	38 - 131
Bromobenzene	ND		6570	7020		ug/Kg	☼	107	28 - 134
Bromochloromethane	ND		6570	7320		ug/Kg	☼	111	37 - 134
Bromodichloromethane	ND		6570	6130		ug/Kg	☼	93	37 - 130
Bromoform	ND		6570	6400		ug/Kg	☼	98	24 - 136
Bromomethane	ND		6570	2740		ug/Kg	☼	42	10 - 150
2-Butanone (MEK)	ND	*	26300	28900		ug/Kg	☼	110	19 - 139
Carbon disulfide	ND		6570	7220		ug/Kg	☼	110	29 - 141
Carbon tetrachloride	ND		6570	5940		ug/Kg	☼	91	36 - 134
Chlorobenzene	ND		6570	6900		ug/Kg	☼	105	37 - 130
Chloroethane	ND		6570	6340		ug/Kg	☼	97	36 - 139
2-Chloroethyl vinyl ether	ND		6570	6120		ug/Kg	☼	93	10 - 150
Chloroform	ND		6570	6640		ug/Kg	☼	101	39 - 130
1-Chlorohexane	ND		6570	6840		ug/Kg	☼	104	32 - 131
Chloromethane	ND		6570	8630		ug/Kg	☼	131	35 - 136
cis-1,2-Dichloroethene	ND		6570	6740		ug/Kg	☼	103	32 - 135
cis-1,3-Dichloropropene	ND		6570	6610		ug/Kg	☼	101	34 - 130
Dibromochloromethane	ND		6570	6710		ug/Kg	☼	102	32 - 132
1,2-Dibromo-3-Chloropropane	ND		6570	7140		ug/Kg	☼	109	14 - 132
1,2-Dichlorobenzene	ND		6570	7400		ug/Kg	☼	113	20 - 130
1,3-Dichlorobenzene	ND		6570	7330		ug/Kg	☼	112	22 - 130
1,4-Dichlorobenzene	ND		6570	7140		ug/Kg	☼	109	21 - 130
Dichlorodifluoromethane	ND		6570	5220		ug/Kg	☼	80	21 - 146
1,1-Dichloroethane	ND		6570	6780		ug/Kg	☼	103	41 - 130
1,2-Dichloroethane	ND		6570	7040		ug/Kg	☼	107	37 - 130
1,1-Dichloroethene	ND	*	6570	8680		ug/Kg	☼	132	39 - 138
1,2-Dichloropropane	ND		6570	6890		ug/Kg	☼	105	39 - 130
1,3-Dichloropropane	ND		6570	7170		ug/Kg	☼	109	39 - 130
2,2-Dichloropropane	ND		6570	5800		ug/Kg	☼	88	32 - 134
1,1-Dichloropropene	ND		6570	6540		ug/Kg	☼	100	38 - 136
Ethylbenzene	150	J	6570	7380		ug/Kg	☼	110	35 - 130
Ethylene Dibromide	ND		6570	7370		ug/Kg	☼	112	35 - 130
Ethyl methacrylate	ND		6570	7530		ug/Kg	☼	115	10 - 142
Hexachlorobutadiene	ND		6570	5400		ug/Kg	☼	82	10 - 144
2-Hexanone	ND		26300	27300		ug/Kg	☼	104	20 - 142
Isopropylbenzene	ND		6570	7040		ug/Kg	☼	107	31 - 132
Methylene bromide	ND		6570	6670		ug/Kg	☼	102	35 - 130
Methylene Chloride	ND	F1 *	6570	8580		ug/Kg	☼	131	36 - 132
4-Methyl-2-pentanone (MIBK)	ND		26300	31200		ug/Kg	☼	119	21 - 144
Methyl tert-butyl ether	ND		6570	7360		ug/Kg	☼	112	34 - 132
m-Xylene & p-Xylene	ND		6570	7240		ug/Kg	☼	110	35 - 130
Naphthalene	ND		6570	7740		ug/Kg	☼	118	10 - 150
n-Butylbenzene	ND		6570	7000		ug/Kg	☼	107	20 - 133
N-Propylbenzene	ND		6570	7370		ug/Kg	☼	112	29 - 132
o-Chlorotoluene	ND		6570	7430		ug/Kg	☼	113	31 - 130
o-Xylene	ND		6570	7250		ug/Kg	☼	110	35 - 130
p-Chlorotoluene	ND		6570	7330		ug/Kg	☼	112	28 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		6570	7340		ug/Kg	☼	112	20 - 137
sec-Butylbenzene	ND		6570	7280		ug/Kg	☼	111	22 - 135
Styrene	ND		6570	6980		ug/Kg	☼	106	31 - 130
tert-Butylbenzene	ND		6570	7240		ug/Kg	☼	110	26 - 133
1,1,1,2-Tetrachloroethane	ND		6570	7110		ug/Kg	☼	108	37 - 130
1,1,2,2-Tetrachloroethane	ND		6570	7870		ug/Kg	☼	120	10 - 149
Tetrachloroethene	ND		6570	6790		ug/Kg	☼	103	27 - 147
Toluene	ND		6570	7230		ug/Kg	☼	110	42 - 130
trans-1,2-Dichloroethene	ND	F1 *	6570	8280		ug/Kg	☼	126	40 - 134
trans-1,3-Dichloropropene	ND		6570	6710		ug/Kg	☼	102	31 - 130
1,2,3-Trichlorobenzene	ND		6570	6120		ug/Kg	☼	93	10 - 146
1,2,4-Trichlorobenzene	ND		6570	5990		ug/Kg	☼	91	10 - 141
1,1,1-Trichloroethane	ND		6570	6340		ug/Kg	☼	97	41 - 130
1,1,2-Trichloroethane	ND		6570	7240		ug/Kg	☼	110	37 - 130
Trichloroethene	ND		6570	6870		ug/Kg	☼	105	34 - 144
Trichlorofluoromethane	ND		6570	5950		ug/Kg	☼	91	41 - 143
1,2,3-Trichloropropane	ND		6570	8000		ug/Kg	☼	122	29 - 133
1,2,4-Trimethylbenzene	ND		6570	7360		ug/Kg	☼	112	26 - 131
1,3,5-Trimethylbenzene	ND		6570	7340		ug/Kg	☼	112	28 - 131
Vinyl acetate	ND	F1	13100	16200		ug/Kg	☼	123	10 - 150
Vinyl chloride	ND	*	6570	8280		ug/Kg	☼	126	35 - 136
Xylenes, Total	ND		13100	14500		ug/Kg	☼	110	35 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*91*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND	F1	26300	40400	F1	ug/Kg	☼	154	10 - 150	2	38
Acrolein	ND		65700	95800		ug/Kg	☼	146	10 - 150	4	44
Acrylonitrile	ND	F1 *	65700	116000	F1	ug/Kg	☼	177	21 - 141	15	37
Benzene	19000		6570	25600		ug/Kg	☼	95	38 - 131	0	36
Bromobenzene	ND		6570	7090		ug/Kg	☼	108	28 - 134	1	37
Bromochloromethane	ND		6570	8130		ug/Kg	☼	124	37 - 134	11	38
Bromodichloromethane	ND		6570	5820		ug/Kg	☼	89	37 - 130	5	34
Bromoform	ND		6570	6360		ug/Kg	☼	97	24 - 136	1	34
Bromomethane	ND		6570	2550		ug/Kg	☼	39	10 - 150	7	47
2-Butanone (MEK)	ND	*	26300	36600		ug/Kg	☼	139	19 - 139	23	41
Carbon disulfide	ND		6570	7530		ug/Kg	☼	115	29 - 141	4	39
Carbon tetrachloride	ND		6570	5870		ug/Kg	☼	89	36 - 134	1	44
Chlorobenzene	ND		6570	6810		ug/Kg	☼	104	37 - 130	1	37
Chloroethane	ND		6570	6200		ug/Kg	☼	94	36 - 139	2	42
2-Chloroethyl vinyl ether	ND		6570	6110		ug/Kg	☼	93	10 - 150	0	38

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		6570	6740		ug/Kg	☼	103	39 - 130	1	35
1-Chlorohexane	ND		6570	6500		ug/Kg	☼	99	32 - 131	5	48
Chloromethane	ND		6570	8890		ug/Kg	☼	135	35 - 136	3	41
cis-1,2-Dichloroethene	ND		6570	8180		ug/Kg	☼	125	32 - 135	19	35
cis-1,3-Dichloropropene	ND		6570	6430		ug/Kg	☼	98	34 - 130	3	35
Dibromochloromethane	ND		6570	6610		ug/Kg	☼	101	32 - 132	2	34
1,2-Dibromo-3-Chloropropane	ND		6570	6900		ug/Kg	☼	105	14 - 132	3	38
1,2-Dichlorobenzene	ND		6570	7460		ug/Kg	☼	114	20 - 130	1	40
1,3-Dichlorobenzene	ND		6570	7210		ug/Kg	☼	110	22 - 130	2	41
1,4-Dichlorobenzene	ND		6570	7110		ug/Kg	☼	108	21 - 130	0	40
Dichlorodifluoromethane	ND		6570	5150		ug/Kg	☼	78	21 - 146	1	46
1,1-Dichloroethane	ND		6570	8240		ug/Kg	☼	126	41 - 130	19	35
1,2-Dichloroethane	ND		6570	6880		ug/Kg	☼	105	37 - 130	2	32
1,1-Dichloroethene	ND	*	6570	8930		ug/Kg	☼	136	39 - 138	3	37
1,2-Dichloropropane	ND		6570	6680		ug/Kg	☼	102	39 - 130	3	35
1,3-Dichloropropane	ND		6570	7040		ug/Kg	☼	107	39 - 130	2	32
2,2-Dichloropropane	ND		6570	6550		ug/Kg	☼	100	32 - 134	12	41
1,1-Dichloropropene	ND		6570	6390		ug/Kg	☼	97	38 - 136	2	43
Ethylbenzene	150	J	6570	7200		ug/Kg	☼	107	35 - 130	2	46
Ethylene Dibromide	ND		6570	7450		ug/Kg	☼	113	35 - 130	1	31
Ethyl methacrylate	ND		6570	7510		ug/Kg	☼	114	10 - 142	0	39
Hexachlorobutadiene	ND		6570	5430		ug/Kg	☼	83	10 - 144	1	68
2-Hexanone	ND		26300	27400		ug/Kg	☼	104	20 - 142	0	37
Isopropylbenzene	ND		6570	6840		ug/Kg	☼	104	31 - 132	3	51
Methylene bromide	ND		6570	6460		ug/Kg	☼	98	35 - 130	3	34
Methylene Chloride	ND	F1 *	6570	8890	F1	ug/Kg	☼	135	36 - 132	4	38
4-Methyl-2-pentanone (MIBK)	ND		26300	31300		ug/Kg	☼	119	21 - 144	1	39
Methyl tert-butyl ether	ND		6570	8230		ug/Kg	☼	125	34 - 132	11	31
m-Xylene & p-Xylene	ND		6570	7150		ug/Kg	☼	109	35 - 130	1	42
Naphthalene	ND		6570	7980		ug/Kg	☼	122	10 - 150	3	49
n-Butylbenzene	ND		6570	6960		ug/Kg	☼	106	20 - 133	1	50
N-Propylbenzene	ND		6570	7370		ug/Kg	☼	112	29 - 132	0	42
o-Chlorotoluene	ND		6570	7270		ug/Kg	☼	111	31 - 130	2	45
o-Xylene	ND		6570	7050		ug/Kg	☼	107	35 - 130	3	37
p-Chlorotoluene	ND		6570	7080		ug/Kg	☼	108	28 - 130	3	42
p-Isopropyltoluene	ND		6570	7410		ug/Kg	☼	113	20 - 137	1	53
sec-Butylbenzene	ND		6570	7250		ug/Kg	☼	110	22 - 135	0	52
Styrene	ND		6570	6800		ug/Kg	☼	104	31 - 130	3	39
tert-Butylbenzene	ND		6570	7030		ug/Kg	☼	107	26 - 133	3	47
1,1,1,2-Tetrachloroethane	ND		6570	6930		ug/Kg	☼	106	37 - 130	3	34
1,1,2,2-Tetrachloroethane	ND		6570	7850		ug/Kg	☼	120	10 - 149	0	44
Tetrachloroethene	ND		6570	6780		ug/Kg	☼	103	27 - 147	0	44
Toluene	ND		6570	7180		ug/Kg	☼	109	42 - 130	1	37
trans-1,2-Dichloroethene	ND	F1 *	6570	9210	F1	ug/Kg	☼	140	40 - 134	11	38
trans-1,3-Dichloropropene	ND		6570	6530		ug/Kg	☼	99	31 - 130	3	34
1,2,3-Trichlorobenzene	ND		6570	6220		ug/Kg	☼	95	10 - 146	2	47
1,2,4-Trichlorobenzene	ND		6570	5940		ug/Kg	☼	90	10 - 141	1	53
1,1,1-Trichloroethane	ND		6570	6160		ug/Kg	☼	94	41 - 130	3	40
1,1,2-Trichloroethane	ND		6570	7190		ug/Kg	☼	109	37 - 130	1	33

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		6570	6720		ug/Kg	☼	102	34 - 144	2	42
Trichlorofluoromethane	ND		6570	6150		ug/Kg	☼	94	41 - 143	3	42
1,2,3-Trichloropropane	ND		6570	7980		ug/Kg	☼	122	29 - 133	0	33
1,2,4-Trimethylbenzene	ND		6570	7320		ug/Kg	☼	112	26 - 131	0	48
1,3,5-Trimethylbenzene	ND		6570	7380		ug/Kg	☼	112	28 - 131	1	46
Vinyl acetate	ND	F1	13100	20500	F1	ug/Kg	☼	156	10 - 150	23	60
Vinyl chloride	ND	*	6570	8560		ug/Kg	☼	130	35 - 136	3	43
Xylenes, Total	ND		13100	14200		ug/Kg	☼	108	35 - 130	2	39

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*72 - 122*
Dibromofluoromethane	*90*		*79 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzenethiol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzoic acid	ND		990	350	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzyl alcohol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-ethylhexyl) phthalate	97.5	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenzofuran	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Diethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-butyl phthalate	71.6	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachloroethane	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Indene	610		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Isophorone	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Nitrobenzene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitrophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitrophenol	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pentachlorophenol	ND		660	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Phenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pyridine	ND		330	150	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Quinoline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Acrylamide	*34.3*	*J*	*ug/Kg*		*4.48*	*79-06-1*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Phenylene diamine	*3920*		*ug/Kg*		*6.43*	*106-50-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
N-Nitro-o-toluidine	*46.8*	*J*	*ug/Kg*		*8.20*	*99-55-8*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Methapyrilene	*59.9*	*J*	*ug/Kg*		*9.43*	*91-80-5*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Dimethylamino azobenzene	*43.0*	*J*	*ug/Kg*		*10.21*	*60-11-7*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Chlorobenzilate	*40.5*	*J*	*ug/Kg*		*10.24*	*510-15-6*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2-Acetylaminofluorene	*70.9*	*J*	*ug/Kg*		*10.78*	*53-96-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/15/19 13:57*	*07/17/19 14:56*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*27 - 127*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2-Fluorophenol	*73*		*25 - 128*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Phenol-d5	*73*		*29 - 130*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/15/19 13:57*	*07/17/19 14:56*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448063/2-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	102	J *	ug/Kg		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*61*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*75*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*83*		*24 - 146*
2,4,6-Tribromophenol	*61*		*10 - 150*

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1460		ug/Kg		73	36 - 120
Benzoic acid	7770	2930		ug/Kg		38	10 - 139
Benzyl alcohol	2000	1310		ug/Kg		65	10 - 127
Bis(2-chloroethoxy)methane	2000	1250		ug/Kg		63	52 - 120
Bis(2-chloroethyl)ether	2000	1250		ug/Kg		63	50 - 120
bis (2-chloroisopropyl) ether	2000	1390		ug/Kg		69	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1860		ug/Kg		93	58 - 158
4-Bromophenyl phenyl ether	2000	1510		ug/Kg		76	51 - 120
Butyl benzyl phthalate	2000	1710		ug/Kg		85	58 - 126
4-Chloroaniline	2000	1450		ug/Kg		73	34 - 120
4-Chloro-3-methylphenol	2000	1660		ug/Kg		83	57 - 124
2-Chloronaphthalene	2000	1380		ug/Kg		69	55 - 120
2-Chlorophenol	2000	1480		ug/Kg		74	52 - 120
4-Chlorophenyl phenyl ether	2000	1400		ug/Kg		70	56 - 120
Dibenz[a,h]acridine	2000	1350		ug/Kg		68	51 - 135
Dibenzofuran	2000	1410		ug/Kg		70	58 - 120
3,3'-Dichlorobenzidine	2670	3080		ug/Kg		116	42 - 120
2,4-Dichlorophenol	2000	1560		ug/Kg		78	56 - 120
Diethyl phthalate	2000	1520		ug/Kg		76	56 - 128
2,4-Dimethylphenol	2000	1580		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1450		ug/Kg		72	58 - 120
Di-n-butyl phthalate	2000	1810		ug/Kg		90	64 - 122
4,6-Dinitro-ortho-cresol	4000	3060		ug/Kg		76	35 - 135
2,4-Dinitrophenol	4000	1690		ug/Kg		42	10 - 138
2,4-Dinitrotoluene	2000	1540		ug/Kg		77	59 - 133
2,6-Dinitrotoluene	2000	1490		ug/Kg		74	57 - 123
Di-n-octyl phthalate	2000	1810		ug/Kg		91	57 - 137
1,4-Dioxane	2000	640		ug/Kg		32	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1550		ug/Kg		77	50 - 120
Hexachlorobenzene	2000	1510		ug/Kg		76	49 - 127
Hexachlorocyclopentadiene	2000	1070		ug/Kg		53	10 - 140
Hexachloroethane	2000	1380		ug/Kg		69	45 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	2000	1390		ug/Kg		70	45 - 120
Isophorone	2000	1400		ug/Kg		70	50 - 120
2-Methylphenol	2000	1620		ug/Kg		81	51 - 123
3 & 4 Methylphenol	2000	1460		ug/Kg		73	47 - 123
2-Nitroaniline	2000	1660		ug/Kg		83	55 - 129
3-Nitroaniline	2000	1720		ug/Kg		86	45 - 120
4-Nitroaniline	2000	1790		ug/Kg		89	52 - 126
Nitrobenzene	2000	1420		ug/Kg		71	50 - 120
2-Nitrophenol	2000	1580		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2650		ug/Kg		66	38 - 133
N-Nitrosodimethylamine	2000	1470		ug/Kg		74	35 - 120
N-Nitrosodi-n-propylamine	2000	1450		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1530		ug/Kg		77	54 - 120
Pentachlorophenol	4000	3070		ug/Kg		77	32 - 131
Phenol	2000	1560		ug/Kg		78	51 - 120
Pyridine	4000	2070		ug/Kg		52	29 - 120
Quinoline	2000	1430		ug/Kg		71	10 - 150
2,4,5-Trichlorophenol	2000	1550		ug/Kg		78	53 - 133
2,4,6-Trichlorophenol	2000	1480		ug/Kg		74	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*59*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*76*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*70*		*10 - 150*

Lab Sample ID: LCSD 400-448063/3-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	704	*	ug/Kg		35	10 - 120	149	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
2-Fluorophenol	*61*		*25 - 128*
Nitrobenzene-d5	*68*		*15 - 136*
Phenol-d5	*65*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2290	1930		ug/Kg	☼	84	40 - 140
Benzoic acid	ND	F1	8910	1810	F1	ug/Kg	☼	20	40 - 140
Benzyl alcohol	ND		2290	1730		ug/Kg	☼	75	40 - 140
Bis(2-chloroethoxy)methane	ND		2290	1620		ug/Kg	☼	71	40 - 140
Bis(2-chloroethyl)ether	ND		2290	1520		ug/Kg	☼	66	40 - 140
bis (2-chloroisopropyl) ether	ND		2290	1790		ug/Kg	☼	78	40 - 140
Bis(2-ethylhexyl) phthalate	110	J B	2290	2310		ug/Kg	☼	96	40 - 140
4-Bromophenyl phenyl ether	ND		2290	1910		ug/Kg	☼	83	40 - 140
Butyl benzyl phthalate	ND		2290	2090		ug/Kg	☼	91	40 - 140
4-Chloroaniline	ND		2290	1850		ug/Kg	☼	81	40 - 140
4-Chloro-3-methylphenol	ND		2290	1980		ug/Kg	☼	86	40 - 140
2-Chloronaphthalene	ND		2290	1780		ug/Kg	☼	78	40 - 140
2-Chlorophenol	ND		2290	1880		ug/Kg	☼	82	40 - 140
4-Chlorophenyl phenyl ether	ND		2290	1790		ug/Kg	☼	78	40 - 140
Dibenz[a,h]acridine	ND		2290	1520		ug/Kg	☼	66	40 - 140
Dibenzofuran	ND		2290	1790		ug/Kg	☼	78	40 - 140
3,3'-Dichlorobenzidine	ND		3060	3890		ug/Kg	☼	127	40 - 140
2,4-Dichlorophenol	ND		2290	2000		ug/Kg	☼	87	40 - 140
Diethyl phthalate	ND		2290	1890		ug/Kg	☼	82	40 - 140
2,4-Dimethylphenol	ND		2290	2000		ug/Kg	☼	87	40 - 140
Dimethyl phthalate	ND		2290	1820		ug/Kg	☼	79	40 - 140
Di-n-butyl phthalate	68	J B	2290	2190		ug/Kg	☼	92	40 - 140
4,6-Dinitro-ortho-cresol	ND		4590	4020		ug/Kg	☼	88	40 - 140
2,4-Dinitrophenol	ND		4590	3180		ug/Kg	☼	69	40 - 140
2,4-Dinitrotoluene	ND		2290	1920		ug/Kg	☼	84	40 - 140
2,6-Dinitrotoluene	ND		2290	1840		ug/Kg	☼	80	40 - 140
Di-n-octyl phthalate	ND		2290	2250		ug/Kg	☼	98	40 - 140
1,4-Dioxane	ND	F1	2290	813	F1	ug/Kg	☼	35	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2290	1860		ug/Kg	☼	81	40 - 140
Hexachlorobenzene	ND		2290	1950		ug/Kg	☼	85	40 - 140
Hexachlorocyclopentadiene	ND		2290	1320		ug/Kg	☼	57	40 - 140
Hexachloroethane	ND		2290	1960		ug/Kg	☼	85	40 - 140
Indene	ND		2290	1800		ug/Kg	☼	78	40 - 140
Isophorone	ND		2290	1750		ug/Kg	☼	76	40 - 140
2-Methylphenol	ND		2290	2050		ug/Kg	☼	89	40 - 140
3 & 4 Methylphenol	ND		2290	1940		ug/Kg	☼	85	40 - 140
2-Nitroaniline	ND		2290	2040		ug/Kg	☼	89	40 - 140
3-Nitroaniline	ND		2290	2050		ug/Kg	☼	89	40 - 140
4-Nitroaniline	ND		2290	2310		ug/Kg	☼	101	40 - 140
Nitrobenzene	ND		2290	1790		ug/Kg	☼	78	40 - 140
2-Nitrophenol	ND		2290	2050		ug/Kg	☼	89	40 - 140
4-Nitrophenol	ND		4590	3310		ug/Kg	☼	72	40 - 140
N-Nitrosodimethylamine	ND		2290	1660		ug/Kg	☼	72	40 - 140
N-Nitrosodi-n-propylamine	ND		2290	1910		ug/Kg	☼	83	40 - 140
N-Nitrosodiphenylamine	ND		2280	1940		ug/Kg	☼	85	40 - 140
Pentachlorophenol	ND		4590	3930		ug/Kg	☼	86	40 - 140
Phenol	ND		2290	1770		ug/Kg	☼	77	40 - 140
Pyridine	ND		4590	2660		ug/Kg	☼	58	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	ND		2290	1700		ug/Kg	☼	74	40 - 140
2,4,5-Trichlorophenol	ND		2290	1950		ug/Kg	☼	85	40 - 140
2,4,6-Trichlorophenol	ND		2290	1860		ug/Kg	☼	81	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*27 - 127*
2-Fluorophenol	*69*		*25 - 128*
Nitrobenzene-d5	*82*		*15 - 136*
Phenol-d5	*75*		*29 - 130*
Terphenyl-d14	*82*		*24 - 146*
2,4,6-Tribromophenol	*80*		*10 - 150*

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2300	2130		ug/Kg	☼	92	40 - 140	10	30
Benzoic acid	ND	F1	8950	1430	F1	ug/Kg	☼	16	40 - 140	24	30
Benzyl alcohol	ND		2300	1700		ug/Kg	☼	74	40 - 140	1	30
Bis(2-chloroethoxy)methane	ND		2300	1630		ug/Kg	☼	71	40 - 140	1	30
Bis(2-chloroethyl)ether	ND		2300	1720		ug/Kg	☼	75	40 - 140	12	30
bis (2-chloroisopropyl) ether	ND		2300	1850		ug/Kg	☼	80	40 - 140	3	30
Bis(2-ethylhexyl) phthalate	110	J B	2300	2300		ug/Kg	☼	95	40 - 140	0	30
4-Bromophenyl phenyl ether	ND		2300	1950		ug/Kg	☼	85	40 - 140	2	30
Butyl benzyl phthalate	ND		2300	2110		ug/Kg	☼	92	40 - 140	1	30
4-Chloroaniline	ND		2300	1910		ug/Kg	☼	83	40 - 140	3	30
4-Chloro-3-methylphenol	ND		2300	2200		ug/Kg	☼	96	40 - 140	11	30
2-Chloronaphthalene	ND		2300	1770		ug/Kg	☼	77	40 - 140	1	30
2-Chlorophenol	ND		2300	2120		ug/Kg	☼	92	40 - 140	12	30
4-Chlorophenyl phenyl ether	ND		2300	1860		ug/Kg	☼	81	40 - 140	4	30
Dibenz[a,h]acridine	ND		2300	1800		ug/Kg	☼	78	40 - 140	17	30
Dibenzofuran	ND		2300	1890		ug/Kg	☼	82	40 - 140	5	30
3,3'-Dichlorobenzidine	ND		3070	4120		ug/Kg	☼	134	40 - 140	6	30
2,4-Dichlorophenol	ND		2300	2030		ug/Kg	☼	88	40 - 140	2	30
Diethyl phthalate	ND		2300	1950		ug/Kg	☼	85	40 - 140	3	30
2,4-Dimethylphenol	ND		2300	2060		ug/Kg	☼	90	40 - 140	3	30
Dimethyl phthalate	ND		2300	1860		ug/Kg	☼	81	40 - 140	2	30
Di-n-butyl phthalate	68	J B	2300	2300		ug/Kg	☼	97	40 - 140	5	30
4,6-Dinitro-ortho-cresol	ND		4610	4240		ug/Kg	☼	92	40 - 140	5	30
2,4-Dinitrophenol	ND		4610	3540		ug/Kg	☼	77	40 - 140	11	30
2,4-Dinitrotoluene	ND		2300	2010		ug/Kg	☼	87	40 - 140	5	30
2,6-Dinitrotoluene	ND		2300	1920		ug/Kg	☼	83	40 - 140	4	30
Di-n-octyl phthalate	ND		2300	2280		ug/Kg	☼	99	40 - 140	1	30
1,4-Dioxane	ND	F1	2300	612	F1	ug/Kg	☼	27	40 - 140	28	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2300	1900		ug/Kg	☼	82	40 - 140	2	30
Hexachlorobenzene	ND		2300	2020		ug/Kg	☼	88	40 - 140	3	30
Hexachlorocyclopentadiene	ND		2300	1410		ug/Kg	☼	61	40 - 140	7	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	ND		2300	1920		ug/Kg	☼	83	40 - 140	2	30
Indene	ND		2300	1800		ug/Kg	☼	78	40 - 140	0	30
Isophorone	ND		2300	1800		ug/Kg	☼	78	40 - 140	3	30
2-Methylphenol	ND		2300	2160		ug/Kg	☼	94	40 - 140	5	30
3 & 4 Methylphenol	ND		2300	1950		ug/Kg	☼	85	40 - 140	1	30
2-Nitroaniline	ND		2300	2120		ug/Kg	☼	92	40 - 140	4	30
3-Nitroaniline	ND		2300	2150		ug/Kg	☼	93	40 - 140	4	30
4-Nitroaniline	ND		2300	2440		ug/Kg	☼	106	40 - 140	5	30
Nitrobenzene	ND		2300	1840		ug/Kg	☼	80	40 - 140	3	30
2-Nitrophenol	ND		2300	2100		ug/Kg	☼	91	40 - 140	2	30
4-Nitrophenol	ND		4610	3580		ug/Kg	☼	78	40 - 140	8	30
N-Nitrosodimethylamine	ND		2300	2120		ug/Kg	☼	92	40 - 140	24	30
N-Nitrosodi-n-propylamine	ND		2300	1940		ug/Kg	☼	84	40 - 140	1	30
N-Nitrosodiphenylamine	ND		2290	1960		ug/Kg	☼	86	40 - 140	1	30
Pentachlorophenol	ND		4610	4260		ug/Kg	☼	92	40 - 140	8	30
Phenol	ND		2300	1960		ug/Kg	☼	85	40 - 140	10	30
Pyridine	ND		4610	3140		ug/Kg	☼	68	40 - 140	17	30
Quinoline	ND		2300	1840		ug/Kg	☼	80	40 - 140	8	30
2,4,5-Trichlorophenol	ND		2300	2050		ug/Kg	☼	89	40 - 140	5	30
2,4,6-Trichlorophenol	ND		2300	1920		ug/Kg	☼	84	40 - 140	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*27 - 127*
2-Fluorophenol	*80*		*25 - 128*
Nitrobenzene-d5	*84*		*15 - 136*
Phenol-d5	*83*		*29 - 130*
Terphenyl-d14	*82*		*24 - 146*
2,4,6-Tribromophenol	*83*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Chrysene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluorene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*27 - 127*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Nitrobenzene-d5	*76*		*15 - 136*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Terphenyl-d14	*119*		*24 - 146*	*07/15/19 13:57*	*07/19/19 03:48*	*1*

Lab Sample ID: LCS 400-448063/4-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	295		ug/Kg		88	57 - 120
Acenaphthylene	333	291		ug/Kg		87	59 - 120
Anthracene	333	293		ug/Kg		88	61 - 120
Benzo[a]anthracene	333	290		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	305		ug/Kg		91	54 - 127
Benzo[b]fluoranthene	333	301		ug/Kg		90	35 - 146
Benzo[g,h,i]perylene	333	283		ug/Kg		85	36 - 150
Benzo[k]fluoranthene	333	311		ug/Kg		93	53 - 139
Chrysene	333	291		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	313		ug/Kg		94	39 - 150
Fluoranthene	333	286		ug/Kg		86	61 - 121
Fluorene	333	312		ug/Kg		94	60 - 120
Indeno[1,2,3-cd]pyrene	333	304		ug/Kg		91	40 - 150
1-Methylnaphthalene	333	277		ug/Kg		83	46 - 120
2-Methylnaphthalene	333	280		ug/Kg		84	46 - 120
Phenanthrene	333	288		ug/Kg		86	59 - 120
Pyrene	333	312		ug/Kg		94	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*77*		*15 - 136*
Terphenyl-d14	*107*		*24 - 146*

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	28		383	300		ug/Kg	☼	71	40 - 140
Acenaphthylene	ND		383	286		ug/Kg	☼	75	40 - 140
Anthracene	12		383	297		ug/Kg	☼	74	40 - 140
Benzo[a]anthracene	13		383	304		ug/Kg	☼	76	40 - 140
Benzo[a]pyrene	14		383	318		ug/Kg	☼	79	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	ND		383	304		ug/Kg	☼	79	40 - 140
Benzo[g,h,i]perylene	ND		383	322		ug/Kg	☼	84	40 - 140
Benzo[k]fluoranthene	ND		383	296		ug/Kg	☼	77	40 - 140
Chrysene	27		383	317		ug/Kg	☼	76	40 - 140
Dibenz(a,h)anthracene	ND		383	350		ug/Kg	☼	91	40 - 140
Fluoranthene	7.9		383	302		ug/Kg	☼	77	40 - 140
Fluorene	30		383	338		ug/Kg	☼	80	40 - 140
Indeno[1,2,3-cd]pyrene	ND		383	337		ug/Kg	☼	88	40 - 140
1-Methylnaphthalene	280		383	501		ug/Kg	☼	57	40 - 140
2-Methylnaphthalene	350		383	596		ug/Kg	☼	64	40 - 140
Phenanthrene	120		383	403		ug/Kg	☼	74	40 - 140
Pyrene	60		383	351		ug/Kg	☼	76	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*73*		*27 - 127*
Nitrobenzene-d5	*67*		*15 - 136*
Terphenyl-d14	*90*		*24 - 146*

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	28		380	339		ug/Kg	☼	82	40 - 140	12	30
Acenaphthylene	ND		380	306		ug/Kg	☼	81	40 - 140	7	30
Anthracene	12		380	314		ug/Kg	☼	79	40 - 140	6	30
Benzo[a]anthracene	13		380	319		ug/Kg	☼	80	40 - 140	5	30
Benzo[a]pyrene	14		380	330		ug/Kg	☼	83	40 - 140	4	30
Benzo[b]fluoranthene	ND		380	332		ug/Kg	☼	87	40 - 140	9	30
Benzo[g,h,i]perylene	ND		380	305		ug/Kg	☼	80	40 - 140	5	30
Benzo[k]fluoranthene	ND		380	319		ug/Kg	☼	84	40 - 140	7	30
Chrysene	27		380	323		ug/Kg	☼	78	40 - 140	2	30
Dibenz(a,h)anthracene	ND		380	340		ug/Kg	☼	90	40 - 140	3	30
Fluoranthene	7.9		380	304		ug/Kg	☼	78	40 - 140	1	30
Fluorene	30		380	352		ug/Kg	☼	85	40 - 140	4	30
Indeno[1,2,3-cd]pyrene	ND		380	325		ug/Kg	☼	85	40 - 140	4	30
1-Methylnaphthalene	280		380	527		ug/Kg	☼	64	40 - 140	5	30
2-Methylnaphthalene	350		380	575		ug/Kg	☼	59	40 - 140	4	30
Phenanthrene	120		380	386		ug/Kg	☼	70	40 - 140	4	30
Pyrene	60		380	364		ug/Kg	☼	80	40 - 140	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
Nitrobenzene-d5	*72*		*15 - 136*
Terphenyl-d14	*102*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

400-173042 COC

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER	

Print Bill To Contact Name:	PlaNet Site or Proj	☐ NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/11/2019
PO #	GSAP Project ID	PAGE 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:
SAMPLER NAME(S) (Print): John Bell
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
TB-PW-071119-A	7/11/2019	0:00	Water	X					2			X		
PD-6-SB-45-071119	7/11/2019	13:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-6-SB-45-071119-MS	7/11/2019	13:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-6-SB-45-071119-MSD	7/11/2019	13:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-6-SB-46-071119	7/11/2019	13:15	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-6-SB-51-071119	7/11/2019	14:05	Soil	x			x	x	5	x	x	x	x	
PD-6-SB-54-071119	7/11/2019	15:30	Soil	x			x	x	5	x	x	x	x	

	Relinquished by: (Signature)	Received by: (Signature)	Date	Time
1		Fedex: (4931 8205 7504), (4931 8205 7515), (4931 8203 6208) - 1011657, 1011656, 1011663, 1011662, 1011661, 1011660	7/11/2019	17:30
2			07.12.19	919
3				

Version: 10May17

0.1 °C IR8

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7/26/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173042-1

Login Number: 173042
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173042-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 3:26:32 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173042-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173042-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 7-26-19.

Receipt
The samples were received on 7/12/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.1º C.

GC/MS VOA
Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-448405 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-071119-A (400-173042-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-6-SB-45-071119 (400-173042-2), PD-6-SB-46-071119 (400-173042-3), PD-6-SB-51-071119 (400-173042-4) and PD-6-SB-54-071119 (400-173042-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-449049 and analytical batch 400-449025 recovered outside control limits for the following analytes: 1,1-Dichloroethene, 2-Butanone (MEK), Acrylonitrile, Methylene Chloride, trans-1,2-Dichloroethene and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-449049 and analytical batch 400-449025 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 400-448342/5).

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448063 and analytical batch 400-448342 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Di-n-octyl phthalate and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448063 contained Indene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The method blank for preparation batch 400-448063 and analytical batch 400-448342 contained Bis(2-ethylhexyl) phthalate and Di-n-octyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Job ID: 400-173042-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448063 and analytical batch 400-448342 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173042-1	TB-PW-071119-A	Water	07/11/19 00:00	07/12/19 09:19	
400-173042-2	PD-6-SB-45-071119	Solid	07/11/19 13:00	07/12/19 09:19	
400-173042-3	PD-6-SB-46-071119	Solid	07/11/19 13:15	07/12/19 09:19	
400-173042-4	PD-6-SB-51-071119	Solid	07/11/19 14:05	07/12/19 09:19	
400-173042-5	PD-6-SB-54-071119	Solid	07/11/19 15:30	07/12/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A — Lab Sample ID: 400-173042-1

No Detections.

Client Sample ID: PD-6-SB-45-071119 — Lab Sample ID: 400-173042-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	19000		660	88	ug/Kg	100	☼	8260B	Total/NA
Ethylbenzene	150	J	660	80	ug/Kg	100	☼	8260B	Total/NA
Acenaphthene	28		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	12		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	13		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	14		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	27		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	7.9		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	30		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	280		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	350		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	120		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	60		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	110	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	68	J B	380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-6-SB-46-071119 — Lab Sample ID: 400-173042-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120000		5200	690	ug/Kg	1000	☼	8260B	Total/NA
Ethylbenzene	1300	J	5200	630	ug/Kg	1000	☼	8260B	Total/NA
Isopropylbenzene	1000	J	5200	700	ug/Kg	1000	☼	8260B	Total/NA
m-Xylene & p-Xylene	1600	J	5200	1300	ug/Kg	1000	☼	8260B	Total/NA
N-Propylbenzene	2200	J	5200	930	ug/Kg	1000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	23000		5200	1000	ug/Kg	1000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	6200		5200	860	ug/Kg	1000	☼	8260B	Total/NA
Acenaphthene	110		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	93		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	150		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	150		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	82		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	37		7.4	2.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	280		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	32		7.4	2.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	59		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	130		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	16		7.4	2.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	1000		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	1500		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	740		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	450		7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	110	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Dibenzofuran	62	J	370	37	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	88	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Phenol	430		370	37	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119 — Lab Sample ID: 400-173042-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	70000		2700	360	ug/Kg	500	☼	8260B	Total/NA
Ethylbenzene	1100	J	2700	330	ug/Kg	500	☼	8260B	Total/NA
Isopropylbenzene	570	J	2700	360	ug/Kg	500	☼	8260B	Total/NA
m-Xylene & p-Xylene	2300	J	2700	690	ug/Kg	500	☼	8260B	Total/NA
Naphthalene	1200	J	2700	1100	ug/Kg	500	☼	8260B	Total/NA
N-Propylbenzene	1200	J	2700	480	ug/Kg	500	☼	8260B	Total/NA
o-Xylene	790	J	2700	530	ug/Kg	500	☼	8260B	Total/NA
Toluene	1100	J	2700	530	ug/Kg	500	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	12000		2700	530	ug/Kg	500	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	3100		2700	440	ug/Kg	500	☼	8260B	Total/NA
Xylenes, Total	3100	J	5300	1000	ug/Kg	500	☼	8260B	Total/NA
Acenaphthene	24		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	27		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	38		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	41		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	21		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	11		7.5	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	75		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	15		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	29		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	240		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	360		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	180		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	110		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	100	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	88	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	460		380	38	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-6-SB-54-071119 — Lab Sample ID: 400-173042-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8100		280	37	ug/Kg	100	☼	8260B	Total/NA
Toluene	120	J	280	55	ug/Kg	100	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	72	J	280	55	ug/Kg	100	☼	8260B	Total/NA
1-Methylnaphthalene	6.1	J	7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.9		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	84	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	62	J B	380	38	ug/Kg	1	☼	8270D	Total/NA
Phenol	150	J	380	38	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 18:55	1
Acrolein	ND		20	10	ug/L			07/17/19 18:55	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 18:55	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 18:55	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 18:55	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 18:55	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 18:55	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 18:55	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 18:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 18:55	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 18:55	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 18:55	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 18:55	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 18:55	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:55	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 18:55	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 18:55	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 18:55	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 18:55	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 18:55	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 18:55	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 18:55	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 18:55	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 18:55	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 18:55	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 18:55	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 18:55	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 18:55	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 18:55	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 18:55	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 18:55	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 18:55	1
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 18:55	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: TB-PW-071119-A
Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 18:55	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 18:55	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 18:55	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 18:55	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 18:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 18:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 18:55	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 18:55	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 18:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 18:55	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:55	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 18:55	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 18:55	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 18:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 18:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 18:55	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 18:55	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 18:55	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 18:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 18:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 18:55*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*07/17/19 18:55*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/17/19 18:55*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119

Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2

Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	F1	3300	1700	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Acrolein	ND		6600	3700	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Acrylonitrile	ND	F1 *	2600	1100	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Benzene	**19000**		660	88	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromobenzene	ND		660	170	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromochloromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromodichloromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromoform	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Bromomethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2-Butanone (MEK)	ND	*	3300	790	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Carbon disulfide	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Carbon tetrachloride	ND		660	220	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chlorobenzene	ND		660	68	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2-Chloroethyl vinyl ether	ND		1300	660	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chloroform	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1-Chlorohexane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Chloromethane	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
cis-1,2-Dichloroethene	ND		660	100	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
cis-1,3-Dichloropropene	ND		660	160	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Dibromochloromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dibromo-3-Chloropropane	ND		660	430	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dichlorobenzene	ND		660	93	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,3-Dichlorobenzene	ND		660	120	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,4-Dichlorobenzene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Dichlorodifluoromethane	ND		660	170	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1-Dichloroethane	ND		660	110	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dichloroethane	ND		660	110	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1-Dichloroethene	ND	*	660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2-Dichloropropane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,3-Dichloropropane	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2,2-Dichloropropane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1-Dichloropropene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Ethylbenzene	**150**	**J**	660	80	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Ethylene Dibromide	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Ethyl methacrylate	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Hexachlorobutadiene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
2-Hexanone	ND		3300	660	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Isopropylbenzene	ND		660	89	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Methylene bromide	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Methylene Chloride	ND	F1 *	2000	1300	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
4-Methyl-2-pentanone (MIBK)	ND		3300	660	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Methyl tert-butyl ether	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
m-Xylene & p-Xylene	ND		660	170	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Naphthalene	ND		660	260	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
n-Butylbenzene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
N-Propylbenzene	ND		660	120	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
o-Chlorotoluene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
o-Xylene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
p-Isopropyltoluene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
sec-Butylbenzene	ND		660	120	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Styrene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
tert-Butylbenzene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,1,2-Tetrachloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,2,2-Tetrachloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Tetrachloroethene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Toluene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
trans-1,2-Dichloroethene	ND	F1 *	660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
trans-1,3-Dichloropropene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,3-Trichlorobenzene	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,4-Trichlorobenzene	ND		660	260	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,1-Trichloroethane	ND		660	140	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,1,2-Trichloroethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Trichloroethene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Trichlorofluoromethane	ND		660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,3-Trichloropropane	ND		660	390	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,2,4-Trimethylbenzene	ND		660	130	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
1,3,5-Trimethylbenzene	ND		660	110	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Vinyl acetate	ND	F1	3300	1200	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Vinyl chloride	ND	*	660	330	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100
Xylenes, Total	ND		1300	250	ug/Kg	☼	07/22/19 16:12	07/22/19 18:33	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethanol	*11000*	*J*	*ug/Kg*	☼	*2.10*	*64-17-5*	*07/22/19 16:12*	*07/22/19 18:33*	*100*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 16:12*	*07/22/19 18:33*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*72 - 122*	*07/22/19 16:12*	*07/22/19 18:33*	*100*
Dibromofluoromethane	*85*		*79 - 123*	*07/22/19 16:12*	*07/22/19 18:33*	*100*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/22/19 16:12*	*07/22/19 18:33*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**28**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Acenaphthylene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Anthracene	**12**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[a]anthracene	**13**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[a]pyrene	**14**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[b]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[g,h,i]perylene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Benzo[k]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Chrysene	**27**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Dibenz(a,h)anthracene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Fluoranthene	**7.9**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Fluorene	**30**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Indeno[1,2,3-cd]pyrene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
1-Methylnaphthalene	**280**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
2-Methylnaphthalene	**350**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**120**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1
Pyrene	**60**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 04:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/15/19 13:57*	*07/19/19 04:53*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/15/19 13:57*	*07/19/19 04:53*	*1*
Terphenyl-d14	*105*		*24 - 146*	*07/15/19 13:57*	*07/19/19 04:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	49	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Benzoic acid	ND	F1	1100	400	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Bis(2-ethylhexyl) phthalate	**110**	**J B**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Di-n-butyl phthalate	**68**	**J B**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
1,4-Dioxane	ND	F1	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Indene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Isophorone	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Phenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Pyridine	ND		380	170	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
Quinoline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Decane	*110*	*J*	*ug/Kg*	☼	*5.46*	*124-18-5*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Benzene, 1,2,3-trimethyl-	*670*	*T J N*	*ug/Kg*	☼	*5.48*	*526-73-8*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Naphthalene	*45*	*J*	*ug/Kg*	☼	*6.45*	*91-20-3*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
2-Methylnaphthalene	*290*	*J*	*ug/Kg*	☼	*6.89*	*91-57-6*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
1-Methylnaphthalene	*240*	*J*	*ug/Kg*	☼	*6.96*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Naphthalene, 2,6-dimethyl-	*340*	*T J N*	*ug/Kg*	☼	*7.37*	*581-42-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Phenanthrene	*84*	*J*	*ug/Kg*	☼	*8.77*	*85-01-8*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
n-Hexadecanoic acid	*420*	*T J N*	*ug/Kg*	☼	*9.08*	*57-10-3*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Pyrene	*44*	*J*	*ug/Kg*	☼	*10.01*	*129-00-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
9-Octadecenamide, (Z)-	*690*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
13-Docosenamide, (Z)-	*390*	*T J N*	*ug/Kg*	☼	*11.83*	*112-84-5*	*07/15/19 13:57*	*07/17/19 17:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*27 - 127*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
2-Fluorophenol	*63*		*25 - 128*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Phenol-d5	*65*		*29 - 130*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
Terphenyl-d14	*78*		*24 - 146*	*07/15/19 13:57*	*07/17/19 17:05*	*1*
2,4,6-Tribromophenol	*63*		*10 - 150*	*07/15/19 13:57*	*07/17/19 17:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.8**		0.01	0.01	%			07/15/19 13:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3

Matrix: Solid
Percent Solids: 87.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		26000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Acrolein	ND		52000	29000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Acrylonitrile	ND	*	21000	8200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Benzene	**120000**		5200	690	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromobenzene	ND		5200	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromochloromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromodichloromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromoform	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Bromomethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2-Butanone (MEK)	ND	*	26000	6200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Carbon disulfide	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Carbon tetrachloride	ND		5200	1800	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chlorobenzene	ND		5200	540	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2-Chloroethyl vinyl ether	ND		10000	5200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chloroform	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1-Chlorohexane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Chloromethane	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
cis-1,2-Dichloroethene	ND		5200	780	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
cis-1,3-Dichloropropene	ND		5200	1200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Dibromochloromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dibromo-3-Chloropropane	ND		5200	3400	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dichlorobenzene	ND		5200	730	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,3-Dichlorobenzene	ND		5200	980	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,4-Dichlorobenzene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Dichlorodifluoromethane	ND		5200	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1-Dichloroethane	ND		5200	860	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dichloroethane	ND		5200	840	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1-Dichloroethene	ND	*	5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2-Dichloropropane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,3-Dichloropropane	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2,2-Dichloropropane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1-Dichloropropene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Ethylbenzene	**1300**	**J**	5200	630	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Ethylene Dibromide	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Ethyl methacrylate	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Hexachlorobutadiene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
2-Hexanone	ND		26000	5200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Isopropylbenzene	**1000**	**J**	5200	700	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Methylene bromide	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Methylene Chloride	ND	*	15000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
4-Methyl-2-pentanone (MIBK)	ND		26000	5200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Methyl tert-butyl ether	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
m-Xylene & p-Xylene	**1600**	**J**	5200	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Naphthalene	ND		5200	2100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
n-Butylbenzene	ND		5200	990	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
N-Propylbenzene	**2200**	**J**	5200	930	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
o-Chlorotoluene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
o-Xylene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119
Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid
Percent Solids: 87.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
p-Isopropyltoluene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
sec-Butylbenzene	ND		5200	980	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Styrene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
tert-Butylbenzene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,1,2-Tetrachloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,2,2-Tetrachloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Tetrachloroethene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Toluene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
trans-1,2-Dichloroethene	ND	*	5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
trans-1,3-Dichloropropene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,3-Trichlorobenzene	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,4-Trichlorobenzene	ND		5200	2100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,1-Trichloroethane	ND		5200	1100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,1,2-Trichloroethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Trichloroethene	ND		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Trichlorofluoromethane	ND		5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,3-Trichloropropane	ND		5200	3100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,2,4-Trimethylbenzene	**23000**		5200	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
1,3,5-Trimethylbenzene	**6200**		5200	860	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Vinyl acetate	ND		26000	9400	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Vinyl chloride	ND	*	5200	2600	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000
Xylenes, Total	ND		10000	2000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:16	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*5900*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
3-Ethyltoluene	*7500*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
2-Ethyltoluene	*3000*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
1,2,3-Trimethylbenzene	*4700*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*72 - 122*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
Dibromofluoromethane	*90*		*79 - 123*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/22/19 16:12*	*07/23/19 02:16*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**110**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Acenaphthylene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Anthracene	**93**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[a]anthracene	**150**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[a]pyrene	**150**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[b]fluoranthene	**82**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[g,h,i]perylene	**37**		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Benzo[k]fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Chrysene	**280**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Dibenz(a,h)anthracene	**32**		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Fluoranthene	**59**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Fluorene	**130**		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Indeno[1,2,3-cd]pyrene	**16**		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1

Client Sample ID: PD-6-SB-46-071119
Lab Sample ID: 400-173042-3
Date Collected: 07/11/19 13:15
Matrix: Solid
Date Received: 07/12/19 09:19
Percent Solids: 87.7

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1000		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
2-Methylnaphthalene	1500		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Phenanthrene	740		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1
Pyrene	450		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:09*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:09*	*1*
Terphenyl-d14	*99*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		370	48	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Benzenethiol	ND	*	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Benzoic acid	ND		1100	390	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Benzyl alcohol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Bis(2-chloroethoxy)methane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Bis(2-chloroethyl)ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
bis (2-chloroisopropyl) ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Bis(2-ethylhexyl) phthalate	110	J B	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Bromophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Butyl benzyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Chloroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Chloro-3-methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Chloronaphthalene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Chlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Chlorophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Dibenz[a,h]acridine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Dibenzofuran	62	J	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
3,3'-Dichlorobenzidine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Diethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dimethylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Dimethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Di-n-butyl phthalate	88	J B	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4,6-Dinitro-ortho-cresol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,6-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Di-n-octyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
1,4-Dioxane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Hexachlorobenzene	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Hexachlorocyclopentadiene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Hexachloroethane	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Indene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Isophorone	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
3 & 4 Methylphenol	ND		740	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119
Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid
Percent Solids: 87.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
3-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Nitrobenzene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2-Nitrophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
4-Nitrophenol	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
N-Nitrosodimethylamine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
N-Nitrosodi-n-propylamine	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
N-Nitrosodiphenylamine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Pentachlorophenol	ND		740	74	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Phenol	**430**		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Pyridine	ND		370	170	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
Quinoline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4,5-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1
2,4,6-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 17:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, 1-ethyl-2-methyl-	*2400*	*T J N*	*ug/Kg*	☼	*5.29*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1-ethyl-2-methyl-	*2600*	*T J N*	*ug/Kg*	☼	*5.31*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Decane	*2300*	*T J N*	*ug/Kg*	☼	*5.46*	*124-18-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,2,3-trimethyl-	*11000*	*T J N*	*ug/Kg*	☼	*5.48*	*526-73-8*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,2,4-trimethyl-	*2300*	*T J N*	*ug/Kg*	☼	*5.63*	*95-63-6*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*1300*	*T J*	*ug/Kg*	☼	*5.76*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Benzene, 1,4-diethyl-	*2700*	*T J N*	*ug/Kg*	☼	*5.78*	*105-05-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*1800*	*T J*	*ug/Kg*	☼	*6.16*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*2400*	*T J*	*ug/Kg*	☼	*6.21*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*3400*	*T J*	*ug/Kg*	☼	*6.25*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*1800*	*T J N*	*ug/Kg*	☼	*6.32*	*119-64-2*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Dodecane	*6900*	*T J N*	*ug/Kg*	☼	*6.36*	*112-40-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Undecane, 2,6-dimethyl-	*3400*	*T J N*	*ug/Kg*	☼	*6.41*	*17301-23-4*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*1500*	*T J*	*ug/Kg*	☼	*6.55*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*3300*	*T J*	*ug/Kg*	☼	*6.59*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Dodecane, 2-methyl-	*1800*	*T J N*	*ug/Kg*	☼	*6.61*	*1560-97-0*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*3400*	*T J*	*ug/Kg*	☼	*6.64*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Tridecane	*6100*	*T J N*	*ug/Kg*	☼	*6.75*	*629-50-5*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 1-methyl-	*3600*	*T J N*	*ug/Kg*	☼	*6.89*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2-methyl-	*3400*	*T J N*	*ug/Kg*	☼	*6.96*	*91-57-6*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Unknown	*2200*	*T J*	*ug/Kg*	☼	*6.99*		*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2,7-dimethyl-	*1400*	*T J N*	*ug/Kg*	☼	*7.32*	*582-16-1*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Naphthalene, 2,3-dimethyl-	*1800*	*T J N*	*ug/Kg*	☼	*7.37*	*581-40-8*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Pentadecane	*1900*	*T J N*	*ug/Kg*	☼	*7.49*	*629-62-9*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Hexadecane	*1500*	*T J N*	*ug/Kg*	☼	*7.85*	*544-76-3*	*07/15/19 13:57*	*07/17/19 17:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 127*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
2-Fluorophenol	*69*		*25 - 128*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Nitrobenzene-d5	*79*		*15 - 136*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Phenol-d5	*70*		*29 - 130*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
Terphenyl-d14	*79*		*24 - 146*	*07/15/19 13:57*	*07/17/19 17:27*	*1*
2,4,6-Tribromophenol	*68*		*10 - 150*	*07/15/19 13:57*	*07/17/19 17:27*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-46-071119

Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3

Matrix: Solid
Percent Solids: 87.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.7		0.01	0.01	%			07/15/19 13:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119

Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4

Matrix: Solid
Percent Solids: 87.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	6900	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Acrolein	ND		27000	15000	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Acrylonitrile	ND	*	11000	4300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Benzene	**70000**		2700	360	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromobenzene	ND		2700	690	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromochloromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromodichloromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromoform	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Bromomethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2-Butanone (MEK)	ND	*	13000	3200	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Carbon disulfide	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Carbon tetrachloride	ND		2700	910	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chlorobenzene	ND		2700	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2-Chloroethyl vinyl ether	ND		5300	2700	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chloroform	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1-Chlorohexane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Chloromethane	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
cis-1,2-Dichloroethene	ND		2700	410	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
cis-1,3-Dichloropropene	ND		2700	640	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Dibromochloromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dibromo-3-Chloropropane	ND		2700	1800	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dichlorobenzene	ND		2700	380	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,3-Dichlorobenzene	ND		2700	510	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,4-Dichlorobenzene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Dichlorodifluoromethane	ND		2700	690	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1-Dichloroethane	ND		2700	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dichloroethane	ND		2700	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1-Dichloroethene	ND	*	2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2-Dichloropropane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,3-Dichloropropane	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2,2-Dichloropropane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1-Dichloropropene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Ethylbenzene	**1100**	**J**	2700	330	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Ethylene Dibromide	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Ethyl methacrylate	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Hexachlorobutadiene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
2-Hexanone	ND		13000	2700	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Isopropylbenzene	**570**	**J**	2700	360	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Methylene bromide	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Methylene Chloride	ND	*	8000	5300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
4-Methyl-2-pentanone (MIBK)	ND		13000	2700	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Methyl tert-butyl ether	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
m-Xylene & p-Xylene	**2300**	**J**	2700	690	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Naphthalene	**1200**	**J**	2700	1100	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
n-Butylbenzene	ND		2700	510	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
N-Propylbenzene	**1200**	**J**	2700	480	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
o-Chlorotoluene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
o-Xylene	**790**	**J**	2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119
Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid
Percent Solids: 87.6

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2700	520	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
p-Isopropyltoluene	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
sec-Butylbenzene	ND		2700	510	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Styrene	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
tert-Butylbenzene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,1,2-Tetrachloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,2,2-Tetrachloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Tetrachloroethene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Toluene	**1100**	**J**	2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
trans-1,2-Dichloroethene	ND	*	2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
trans-1,3-Dichloropropene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,3-Trichlorobenzene	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,4-Trichlorobenzene	ND		2700	1100	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,1-Trichloroethane	ND		2700	590	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,1,2-Trichloroethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Trichloroethene	ND		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Trichlorofluoromethane	ND		2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,3-Trichloropropane	ND		2700	1600	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,2,4-Trimethylbenzene	**12000**		2700	530	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
1,3,5-Trimethylbenzene	**3100**		2700	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Vinyl acetate	ND		13000	4900	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Vinyl chloride	ND	*	2700	1300	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500
Xylenes, Total	**3100**	**J**	5300	1000	ug/Kg	☼	07/22/19 16:12	07/23/19 01:52	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*2800*	*T J N*	*ug/Kg*	☼	*2.01*	*109-66-0*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
Cyclohexane	*800*	*J*	*ug/Kg*	☼	*3.73*	*110-82-7*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
3-Ethyltoluene	*7700*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
2-Ethyltoluene	*2400*	*J*	*ug/Kg*	☼	*7.44*	*611-14-3*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
1,2,3-Trimethylbenzene	*3100*		*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 01:52*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 122*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
Dibromofluoromethane	*87*		*79 - 123*	*07/22/19 16:12*	*07/23/19 01:52*	*500*
Toluene-d8 (Surr)	*91*		*80 - 120*	*07/22/19 16:12*	*07/23/19 01:52*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**24**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Acenaphthylene	ND		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Anthracene	**27**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[a]anthracene	**38**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[a]pyrene	**41**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[b]fluoranthene	**21**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[g,h,i]perylene	**11**		7.5	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Benzo[k]fluoranthene	ND		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Chrysene	**75**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Dibenz(a,h)anthracene	ND		7.5	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Fluoranthene	**15**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Fluorene	**29**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119

Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4

Matrix: Solid
Percent Solids: 87.6

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		7.5	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
1-Methylnaphthalene	**240**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
2-Methylnaphthalene	**360**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Phenanthrene	**180**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1
Pyrene	**110**		7.5	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:25*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:25*	*1*
Terphenyl-d14	*103*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	49	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Bis(2-ethylhexyl) phthalate	**100**	**J B**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Dibenz[a,h]acridine	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Di-n-butyl phthalate	**88**	**J B**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Hexachlorobenzene	ND		380	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Hexachlorocyclopentadiene	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Hexachloroethane	ND		380	110	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Indene	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Isophorone	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-51-071119
Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid
Percent Solids: 87.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		750	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
N-Nitrosodimethylamine	ND		380	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Pentachlorophenol	ND		750	75	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Phenol	**460**		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Pyridine	ND		380	170	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
Quinoline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 17:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
o-Xylene	*410*	*T J N*	*ug/Kg*	☼	*4.72*	*95-47-6*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
o-Xylene	*460*	*T J N*	*ug/Kg*	☼	*4.88*	*95-47-6*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1-ethyl-2-methyl-	*620*	*T J N*	*ug/Kg*	☼	*5.29*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1-ethyl-2-methyl-	*580*	*T J N*	*ug/Kg*	☼	*5.31*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1-ethyl-2-methyl-	*430*	*T J N*	*ug/Kg*	☼	*5.39*	*611-14-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1,3,5-trimethyl-	*2800*	*T J N*	*ug/Kg*	☼	*5.48*	*108-67-8*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Benzene, 1,2,3-trimethyl-	*960*	*T J N*	*ug/Kg*	☼	*5.63*	*526-73-8*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Undecane	*620*	*T J N*	*ug/Kg*	☼	*5.93*	*1120-21-4*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Dodecane	*400*	*T J N*	*ug/Kg*	☼	*6.36*	*112-40-3*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Tridecane	*390*	*T J N*	*ug/Kg*	☼	*6.75*	*629-50-5*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Naphthalene, 1-methyl-	*390*	*T J N*	*ug/Kg*	☼	*6.89*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Naphthalene, 1-methyl-	*330*	*T J N*	*ug/Kg*	☼	*6.96*	*90-12-0*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Naphthalene, 1,6-dimethyl-	*320*	*T J N*	*ug/Kg*	☼	*7.36*	*575-43-9*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Tridecanoic acid	*520*	*T J N*	*ug/Kg*	☼	*9.08*	*638-53-9*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Phenanthrene, 2,5-dimethyl-	*310*	*T J N*	*ug/Kg*	☼	*9.63*	*3674-66-6*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
9-Octadecenamide, (Z)-	*900*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
13-Docosenamide, (Z)-	*520*	*T J N*	*ug/Kg*	☼	*11.82*	*112-84-5*	*07/15/19 13:57*	*07/17/19 17:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*27 - 127*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
2-Fluorophenol	*68*		*25 - 128*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Phenol-d5	*72*		*29 - 130*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
Terphenyl-d14	*79*		*24 - 146*	*07/15/19 13:57*	*07/17/19 17:48*	*1*
2,4,6-Tribromophenol	*63*		*10 - 150*	*07/15/19 13:57*	*07/17/19 17:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**87.6**		0.01	0.01	%			07/15/19 13:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5

Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1400	720	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Acrolein	ND		2800	1500	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Acrylonitrile	ND	*	1100	440	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Benzene	**8100**		280	37	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromobenzene	ND		280	72	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromochloromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromodichloromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromoform	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Bromomethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2-Butanone (MEK)	ND	*	1400	330	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Carbon disulfide	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Carbon tetrachloride	ND		280	94	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chlorobenzene	ND		280	29	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2-Chloroethyl vinyl ether	ND		550	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chloroform	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1-Chlorohexane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Chloromethane	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
cis-1,2-Dichloroethene	ND		280	42	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
cis-1,3-Dichloropropene	ND		280	66	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Dibromochloromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dibromo-3-Chloropropane	ND		280	180	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dichlorobenzene	ND		280	39	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,3-Dichlorobenzene	ND		280	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,4-Dichlorobenzene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Dichlorodifluoromethane	ND		280	72	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1-Dichloroethane	ND		280	46	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dichloroethane	ND		280	45	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1-Dichloroethene	ND	*	280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2-Dichloropropane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,3-Dichloropropane	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2,2-Dichloropropane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1-Dichloropropene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Ethylbenzene	ND		280	34	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Ethylene Dibromide	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Ethyl methacrylate	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Hexachlorobutadiene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
2-Hexanone	ND		1400	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Isopropylbenzene	ND		280	38	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Methylene bromide	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Methylene Chloride	ND	*	830	550	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
4-Methyl-2-pentanone (MIBK)	ND		1400	280	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Methyl tert-butyl ether	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
m-Xylene & p-Xylene	ND		280	72	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Naphthalene	ND		280	110	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
n-Butylbenzene	ND		280	53	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
N-Propylbenzene	ND		280	50	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
o-Chlorotoluene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
o-Xylene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119
Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5
Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		280	54	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
p-Isopropyltoluene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
sec-Butylbenzene	ND		280	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Styrene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
tert-Butylbenzene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,1,2-Tetrachloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,2,2-Tetrachloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Tetrachloroethene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Toluene	**120**	**J**	280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
trans-1,2-Dichloroethene	ND	*	280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
trans-1,3-Dichloropropene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,3-Trichlorobenzene	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,4-Trichlorobenzene	ND		280	110	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,1-Trichloroethane	ND		280	61	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,1,2-Trichloroethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Trichloroethene	ND		280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Trichlorofluoromethane	ND		280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,3-Trichloropropane	ND		280	170	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,2,4-Trimethylbenzene	**72**	**J**	280	55	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
1,3,5-Trimethylbenzene	ND		280	46	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Vinyl acetate	ND		1400	500	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Vinyl chloride	ND	*	280	140	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100
Xylenes, Total	ND		550	100	ug/Kg	☼	07/22/19 16:12	07/23/19 01:27	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methyl-2-propanol	*500*	*J **	*ug/Kg*	☼	*2.66*	*75-65-0*	*07/22/19 16:12*	*07/23/19 01:27*	*100*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 16:12*	*07/23/19 01:27*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*72 - 122*	*07/22/19 16:12*	*07/23/19 01:27*	*100*
Dibromofluoromethane	*87*		*79 - 123*	*07/22/19 16:12*	*07/23/19 01:27*	*100*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/22/19 16:12*	*07/23/19 01:27*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Acenaphthylene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Anthracene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[a]anthracene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[a]pyrene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[b]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[g,h,i]perylene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Benzo[k]fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Chrysene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Dibenz(a,h)anthracene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Fluoranthene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Fluorene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Indeno[1,2,3-cd]pyrene	ND		7.6	2.3	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
1-Methylnaphthalene	**6.1**	**J**	7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
2-Methylnaphthalene	**7.9**		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119

Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5

Matrix: Solid
Percent Solids: 86.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1
Pyrene	ND		7.6	1.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:41*	*1*
Nitrobenzene-d5	*66*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:41*	*1*
Terphenyl-d14	*102*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Benzenethiol	ND	*	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Benzoic acid	ND		1100	410	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
bis (2-chloroisopropyl) ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Bis(2-ethylhexyl) phthalate	**84**	**J B**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Dibenzofuran	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Di-n-butyl phthalate	**62**	**J B**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dinitrophenol	ND		1100	340	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
1,4-Dioxane	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Indene	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Isophorone	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Client Sample ID: PD-6-SB-54-071119
Date Collected: 07/11/19 15:30
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-5
Matrix: Solid
Percent Solids: 86.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Phenol	**150**	**J**	380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Pyridine	ND		380	170	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
Quinoline	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/15/19 13:57	07/17/19 18:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
9-Octadecenamide, (Z)-	*530*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 18:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*27 - 127*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
2-Fluorophenol	*68*		*25 - 128*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
Nitrobenzene-d5	*73*		*15 - 136*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
Phenol-d5	*71*		*29 - 130*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
Terphenyl-d14	*82*		*24 - 146*	*07/15/19 13:57*	*07/17/19 18:10*	*1*
2,4,6-Tribromophenol	*67*		*10 - 150*	*07/15/19 13:57*	*07/17/19 18:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.3**		0.01	0.01	%			07/15/19 13:33	1

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173042-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173042-2	PD-6-SB-45-071119	96	85	101
400-173042-2 MS	PD-6-SB-45-070819	100	91	100
400-173042-2 MSD	PD-6-SB-45-070819	101	90	101
400-173042-3	PD-6-SB-46-071119	106	90	98
400-173042-4	PD-6-SB-51-071119	93	87	91
400-173042-5	PD-6-SB-54-071119	105	87	100
LCS 400-449049/2-A	Lab Control Sample	102	93	100
MB 400-449049/1-A	Method Blank	96	92	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173042-1	TB-PW-071119-A	99	93	101
MB 400-448405/11	Method Blank	99	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173042-2	PD-6-SB-45-071119	57	63	72	65	78	63
400-173042-2 MS	PD-6-SB-45-070819	65	69	82	75	82	80
400-173042-2 MSD	PD-6-SB-45-070819	66	80	84	83	82	83
400-173042-3	PD-6-SB-46-071119	65	69	79	70	79	68
400-173042-4	PD-6-SB-51-071119	65	68	74	72	79	63
400-173042-5	PD-6-SB-54-071119	62	68	73	71	82	67
LCS 400-448063/2-A	Lab Control Sample	61	68	75	71	83	61
LCS 400-448063/7-A	Lab Control Sample	59	63	76	68	85	70
LCSD 400-448063/3-A	Lab Control Sample Dup	58	61	68	65	81	59
MB 400-448063/1-A	Method Blank	66	73	74	73	88	65

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173042-2	PD-6-SB-45-071119	78	69	105
400-173042-2 MS	PD-6-SB-45-070819	73	67	90
400-173042-2 MSD	PD-6-SB-45-070819	80	72	102
400-173042-3	PD-6-SB-46-071119	67	66	99
400-173042-4	PD-6-SB-51-071119	82	72	103
400-173042-5	PD-6-SB-54-071119	75	66	102
LCS 400-448063/4-A	Lab Control Sample	85	77	107
MB 400-448063/1-A	Method Blank	88	76	119

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173042-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071119-A
Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 18:55	BSW	TAL PEN

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-45-071119
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.964 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/22/19 18:33	RS	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 17:05	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:53	KJA	TAL PEN

Client Sample ID: PD-6-SB-46-071119
Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-46-071119
Date Collected: 07/11/19 13:15
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-3
Matrix: Solid
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.403 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449025	07/23/19 02:16	RS	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 17:27	VC1	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:09	KJA	TAL PEN

Client Sample ID: PD-6-SB-51-071119
Date Collected: 07/11/19 14:05
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-51-071119

Lab Sample ID: 400-173042-4
Date Collected: 07/11/19 14:05
Matrix: Solid
Date Received: 07/12/19 09:19
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.169 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		500	5 mL	5 mL	449025	07/23/19 01:52	RS	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 17:48	VC1	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:25	KJA	TAL PEN

Client Sample ID: PD-6-SB-54-071119

Lab Sample ID: 400-173042-5
Date Collected: 07/11/19 15:30
Matrix: Solid
Date Received: 07/12/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-54-071119

Lab Sample ID: 400-173042-5
Date Collected: 07/11/19 15:30
Matrix: Solid
Date Received: 07/12/19 09:19
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			14.717 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/23/19 01:27	RS	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 18:10	VC1	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:41	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448063/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 14:56	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 03:48	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448405/11
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 15:43	BSW	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449049/1-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 18:08	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448063/2-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:18	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448063/4-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448063/7-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:01	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449049/2-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 17:19	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448063/3-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:39	VC1	TAL PEN

Client Sample ID: PD-6-SB-45-070819
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MS
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-45-070819
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.964 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/22/19 18:57	RS	TAL PEN
Total/NA	Prep	3546			15.07 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:22	VC1	TAL PEN
Total/NA	Prep	3546			15.04 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:20	KJA	TAL PEN

Client Sample ID: PD-6-SB-45-070819
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 13:33	DDQ	TAL PEN

Client Sample ID: PD-6-SB-45-070819
Date Collected: 07/11/19 13:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.964 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		100	5 mL	5 mL	449025	07/22/19 19:21	RS	TAL PEN
Total/NA	Prep	3546			15.01 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:44	VC1	TAL PEN
Total/NA	Prep	3546			15.16 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:36	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

GC/MS VOA

Analysis Batch: 448405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-1	TB-PW-071119-A	Total/NA	Water	8260B	
MB 400-448405/11	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 449025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	8260B	449049
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	8260B	449049
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	8260B	449049
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	8260B	449049
MB 400-449049/1-A	Method Blank	Total/NA	Solid	8260B	449049
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	8260B	449049
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	8260B	449049
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	8260B	449049

Prep Batch: 449049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	5035	
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	5035	
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	5035	
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	5035	
MB 400-449049/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	5035	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	5035	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 448063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	3546	
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	3546	
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	3546	
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	3546	
MB 400-448063/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	3546	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	3546	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	3546	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	3546	

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	8270D	448063
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	8270D	448063
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	8270D	448063
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	8270D	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D	448063
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	8270D	448063

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448063
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	8270D	448063
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	8270D	448063

Analysis Batch: 448527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	8270D LL	448063
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	8270D LL	448063
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	8270D LL	448063
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	8270D LL	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D LL	448063
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	8270D LL	448063
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	8270D LL	448063
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	8270D LL	448063

General Chemistry

Analysis Batch: 448054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173042-2	PD-6-SB-45-071119	Total/NA	Solid	Moisture	
400-173042-3	PD-6-SB-46-071119	Total/NA	Solid	Moisture	
400-173042-4	PD-6-SB-51-071119	Total/NA	Solid	Moisture	
400-173042-5	PD-6-SB-54-071119	Total/NA	Solid	Moisture	
400-173042-2 MS	PD-6-SB-45-070819	Total/NA	Solid	Moisture	
400-173042-2 MSD	PD-6-SB-45-070819	Total/NA	Solid	Moisture	

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 15:43	1
Acrolein	ND		20	10	ug/L			07/17/19 15:43	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 15:43	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 15:43	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 15:43	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 15:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 15:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 15:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 15:43	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 15:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 15:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 15:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 15:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 15:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 15:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 15:43	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 15:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 15:43	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 15:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 15:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 15:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 15:43	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 15:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 15:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 15:43	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 15:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 15:43	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 15:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 15:43	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 15:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 15:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 15:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 15:43	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 15:43*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 15:43*	*1*
Dibromofluoromethane	*92*		*81 - 121*		*07/17/19 15:43*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/17/19 15:43*	*1*

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrolein	ND		50	28	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/22/19 16:12*	*07/22/19 18:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*72 - 122*	*07/22/19 16:12*	*07/22/19 18:08*	*1*
Dibromofluoromethane	*92*		*79 - 123*	*07/22/19 16:12*	*07/22/19 18:08*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/22/19 16:12*	*07/22/19 18:08*	*1*

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	313		ug/Kg		157	48 - 160
Acrolein	500	730		ug/Kg		146	40 - 150
Acrylonitrile	500	868	*	ug/Kg		174	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	52.7		ug/Kg		105	65 - 130
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 130
Bromodichloromethane	50.0	47.3		ug/Kg		95	61 - 130
Bromoform	50.0	52.0		ug/Kg		104	52 - 136
Bromomethane	50.0	49.7		ug/Kg		99	12 - 160
2-Butanone (MEK)	200	270	*	ug/Kg		135	55 - 130
Carbon disulfide	50.0	62.0		ug/Kg		124	46 - 141
Carbon tetrachloride	50.0	46.1		ug/Kg		92	60 - 130
Chlorobenzene	50.0	51.2		ug/Kg		102	70 - 130
Chloroethane	50.0	56.3		ug/Kg		113	55 - 134
2-Chloroethyl vinyl ether	50.0	41.4		ug/Kg		83	10 - 158
Chloroform	50.0	49.0		ug/Kg		98	62 - 130
1-Chlorohexane	50.0	50.4		ug/Kg		101	69 - 130
Chloromethane	50.0	61.4		ug/Kg		123	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	49.5		ug/Kg		99	61 - 130
Dibromochloromethane	50.0	51.6		ug/Kg		103	58 - 132

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	50.0	56.5		ug/Kg		113	49 - 130
1,2-Dichlorobenzene	50.0	55.9		ug/Kg		112	64 - 130
1,3-Dichlorobenzene	50.0	54.9		ug/Kg		110	66 - 130
1,4-Dichlorobenzene	50.0	53.7		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	39.7		ug/Kg		79	34 - 143
1,1-Dichloroethane	50.0	62.4		ug/Kg		125	59 - 130
1,2-Dichloroethane	50.0	48.7		ug/Kg		97	62 - 130
1,1-Dichloroethene	50.0	69.5	*	ug/Kg		139	55 - 137
1,2-Dichloropropane	50.0	50.0		ug/Kg		100	64 - 130
1,3-Dichloropropane	50.0	52.5		ug/Kg		105	67 - 130
2,2-Dichloropropane	50.0	50.6		ug/Kg		101	51 - 132
1,1-Dichloropropene	50.0	48.7		ug/Kg		97	65 - 130
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 130
Ethylene Dibromide	50.0	55.2		ug/Kg		110	67 - 130
Ethyl methacrylate	50.0	56.2		ug/Kg		112	62 - 130
Hexachlorobutadiene	50.0	41.6		ug/Kg		83	62 - 133
2-Hexanone	200	219		ug/Kg		110	57 - 131
Isopropylbenzene	50.0	50.9		ug/Kg		102	70 - 130
Methylene bromide	50.0	49.2		ug/Kg		98	65 - 130
Methylene Chloride	50.0	67.0	*	ug/Kg		134	57 - 132
4-Methyl-2-pentanone (MIBK)	200	243		ug/Kg		122	58 - 130
Methyl tert-butyl ether	50.0	61.1		ug/Kg		122	63 - 130
m-Xylene & p-Xylene	50.0	51.8		ug/Kg		104	70 - 130
Naphthalene	50.0	63.4		ug/Kg		127	45 - 144
n-Butylbenzene	50.0	52.4		ug/Kg		105	66 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.1		ug/Kg		108	67 - 130
o-Xylene	50.0	53.3		ug/Kg		107	70 - 130
p-Chlorotoluene	50.0	54.2		ug/Kg		108	66 - 130
p-Isopropyltoluene	50.0	54.4		ug/Kg		109	68 - 130
sec-Butylbenzene	50.0	53.8		ug/Kg		108	67 - 130
Styrene	50.0	50.9		ug/Kg		102	68 - 130
tert-Butylbenzene	50.0	52.2		ug/Kg		104	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.2		ug/Kg		104	65 - 130
1,1,2,2-Tetrachloroethane	50.0	62.4		ug/Kg		125	60 - 131
Tetrachloroethene	50.0	48.6		ug/Kg		97	67 - 130
Toluene	50.0	54.5		ug/Kg		109	70 - 130
trans-1,2-Dichloroethene	50.0	68.8	*	ug/Kg		138	58 - 134
trans-1,3-Dichloropropene	50.0	50.0		ug/Kg		100	60 - 130
1,2,3-Trichlorobenzene	50.0	49.6		ug/Kg		99	58 - 135
1,2,4-Trichlorobenzene	50.0	47.0		ug/Kg		94	56 - 138
1,1,1-Trichloroethane	50.0	48.1		ug/Kg		96	63 - 130
1,1,2-Trichloroethane	50.0	54.0		ug/Kg		108	65 - 130
Trichloroethene	50.0	50.9		ug/Kg		102	65 - 130
Trichlorofluoromethane	50.0	47.6		ug/Kg		95	61 - 136
1,2,3-Trichloropropane	50.0	61.0		ug/Kg		122	60 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/Kg		109	66 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/Kg		110	67 - 130
Vinyl acetate	100	149		ug/Kg		149	24 - 160

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vinyl chloride			50.0	66.3	*	ug/Kg		133	52 - 132		
Xylenes, Total			100	105		ug/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*72 - 122*
Dibromofluoromethane	*93*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND	F1	26300	39500		ug/Kg	☼	150	10 - 150
Acrolein	ND		65700	92100		ug/Kg	☼	140	10 - 150
Acrylonitrile	ND	F1 *	65700	99900	F1	ug/Kg	☼	152	21 - 141
Benzene	19000		6570	25600		ug/Kg	☼	96	38 - 131
Bromobenzene	ND		6570	7020		ug/Kg	☼	107	28 - 134
Bromochloromethane	ND		6570	7320		ug/Kg	☼	111	37 - 134
Bromodichloromethane	ND		6570	6130		ug/Kg	☼	93	37 - 130
Bromoform	ND		6570	6400		ug/Kg	☼	98	24 - 136
Bromomethane	ND		6570	2740		ug/Kg	☼	42	10 - 150
2-Butanone (MEK)	ND	*	26300	28900		ug/Kg	☼	110	19 - 139
Carbon disulfide	ND		6570	7220		ug/Kg	☼	110	29 - 141
Carbon tetrachloride	ND		6570	5940		ug/Kg	☼	91	36 - 134
Chlorobenzene	ND		6570	6900		ug/Kg	☼	105	37 - 130
Chloroethane	ND		6570	6340		ug/Kg	☼	97	36 - 139
2-Chloroethyl vinyl ether	ND		6570	6120		ug/Kg	☼	93	10 - 150
Chloroform	ND		6570	6640		ug/Kg	☼	101	39 - 130
1-Chlorohexane	ND		6570	6840		ug/Kg	☼	104	32 - 131
Chloromethane	ND		6570	8630		ug/Kg	☼	131	35 - 136
cis-1,2-Dichloroethene	ND		6570	6740		ug/Kg	☼	103	32 - 135
cis-1,3-Dichloropropene	ND		6570	6610		ug/Kg	☼	101	34 - 130
Dibromochloromethane	ND		6570	6710		ug/Kg	☼	102	32 - 132
1,2-Dibromo-3-Chloropropane	ND		6570	7140		ug/Kg	☼	109	14 - 132
1,2-Dichlorobenzene	ND		6570	7400		ug/Kg	☼	113	20 - 130
1,3-Dichlorobenzene	ND		6570	7330		ug/Kg	☼	112	22 - 130
1,4-Dichlorobenzene	ND		6570	7140		ug/Kg	☼	109	21 - 130
Dichlorodifluoromethane	ND		6570	5220		ug/Kg	☼	80	21 - 146
1,1-Dichloroethane	ND		6570	6780		ug/Kg	☼	103	41 - 130
1,2-Dichloroethane	ND		6570	7040		ug/Kg	☼	107	37 - 130
1,1-Dichloroethene	ND	*	6570	8680		ug/Kg	☼	132	39 - 138
1,2-Dichloropropane	ND		6570	6890		ug/Kg	☼	105	39 - 130
1,3-Dichloropropane	ND		6570	7170		ug/Kg	☼	109	39 - 130
2,2-Dichloropropane	ND		6570	5800		ug/Kg	☼	88	32 - 134
1,1-Dichloropropene	ND		6570	6540		ug/Kg	☼	100	38 - 136
Ethylbenzene	150	J	6570	7380		ug/Kg	☼	110	35 - 130
Ethylene Dibromide	ND		6570	7370		ug/Kg	☼	112	35 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethyl methacrylate	ND		6570	7530		ug/Kg	☼	115	10 - 142
Hexachlorobutadiene	ND		6570	5400		ug/Kg	☼	82	10 - 144
2-Hexanone	ND		26300	27300		ug/Kg	☼	104	20 - 142
Isopropylbenzene	ND		6570	7040		ug/Kg	☼	107	31 - 132
Methylene bromide	ND		6570	6670		ug/Kg	☼	102	35 - 130
Methylene Chloride	ND	F1 *	6570	8580		ug/Kg	☼	131	36 - 132
4-Methyl-2-pentanone (MIBK)	ND		26300	31200		ug/Kg	☼	119	21 - 144
Methyl tert-butyl ether	ND		6570	7360		ug/Kg	☼	112	34 - 132
m-Xylene & p-Xylene	ND		6570	7240		ug/Kg	☼	110	35 - 130
Naphthalene	ND		6570	7740		ug/Kg	☼	118	10 - 150
n-Butylbenzene	ND		6570	7000		ug/Kg	☼	107	20 - 133
N-Propylbenzene	ND		6570	7370		ug/Kg	☼	112	29 - 132
o-Chlorotoluene	ND		6570	7430		ug/Kg	☼	113	31 - 130
o-Xylene	ND		6570	7250		ug/Kg	☼	110	35 - 130
p-Chlorotoluene	ND		6570	7330		ug/Kg	☼	112	28 - 130
p-Isopropyltoluene	ND		6570	7340		ug/Kg	☼	112	20 - 137
sec-Butylbenzene	ND		6570	7280		ug/Kg	☼	111	22 - 135
Styrene	ND		6570	6980		ug/Kg	☼	106	31 - 130
tert-Butylbenzene	ND		6570	7240		ug/Kg	☼	110	26 - 133
1,1,1,2-Tetrachloroethane	ND		6570	7110		ug/Kg	☼	108	37 - 130
1,1,2,2-Tetrachloroethane	ND		6570	7870		ug/Kg	☼	120	10 - 149
Tetrachloroethene	ND		6570	6790		ug/Kg	☼	103	27 - 147
Toluene	ND		6570	7230		ug/Kg	☼	110	42 - 130
trans-1,2-Dichloroethene	ND	F1 *	6570	8280		ug/Kg	☼	126	40 - 134
trans-1,3-Dichloropropene	ND		6570	6710		ug/Kg	☼	102	31 - 130
1,2,3-Trichlorobenzene	ND		6570	6120		ug/Kg	☼	93	10 - 146
1,2,4-Trichlorobenzene	ND		6570	5990		ug/Kg	☼	91	10 - 141
1,1,1-Trichloroethane	ND		6570	6340		ug/Kg	☼	97	41 - 130
1,1,2-Trichloroethane	ND		6570	7240		ug/Kg	☼	110	37 - 130
Trichloroethene	ND		6570	6870		ug/Kg	☼	105	34 - 144
Trichlorofluoromethane	ND		6570	5950		ug/Kg	☼	91	41 - 143
1,2,3-Trichloropropane	ND		6570	8000		ug/Kg	☼	122	29 - 133
1,2,4-Trimethylbenzene	ND		6570	7360		ug/Kg	☼	112	26 - 131
1,3,5-Trimethylbenzene	ND		6570	7340		ug/Kg	☼	112	28 - 131
Vinyl acetate	ND	F1	13100	16200		ug/Kg	☼	123	10 - 150
Vinyl chloride	ND	*	6570	8280		ug/Kg	☼	126	35 - 136
Xylenes, Total	ND		13100	14500		ug/Kg	☼	110	35 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*91*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND	F1	26300	40400	F1	ug/Kg	☼	154	10 - 150	2	38
Acrolein	ND		65700	95800		ug/Kg	☼	146	10 - 150	4	44
Acrylonitrile	ND	F1 *	65700	116000	F1	ug/Kg	☼	177	21 - 141	15	37
Benzene	19000		6570	25600		ug/Kg	☼	95	38 - 131	0	36
Bromobenzene	ND		6570	7090		ug/Kg	☼	108	28 - 134	1	37
Bromochloromethane	ND		6570	8130		ug/Kg	☼	124	37 - 134	11	38
Bromodichloromethane	ND		6570	5820		ug/Kg	☼	89	37 - 130	5	34
Bromoform	ND		6570	6360		ug/Kg	☼	97	24 - 136	1	34
Bromomethane	ND		6570	2550		ug/Kg	☼	39	10 - 150	7	47
2-Butanone (MEK)	ND	*	26300	36600		ug/Kg	☼	139	19 - 139	23	41
Carbon disulfide	ND		6570	7530		ug/Kg	☼	115	29 - 141	4	39
Carbon tetrachloride	ND		6570	5870		ug/Kg	☼	89	36 - 134	1	44
Chlorobenzene	ND		6570	6810		ug/Kg	☼	104	37 - 130	1	37
Chloroethane	ND		6570	6200		ug/Kg	☼	94	36 - 139	2	42
2-Chloroethyl vinyl ether	ND		6570	6110		ug/Kg	☼	93	10 - 150	0	38
Chloroform	ND		6570	6740		ug/Kg	☼	103	39 - 130	1	35
1-Chlorohexane	ND		6570	6500		ug/Kg	☼	99	32 - 131	5	48
Chloromethane	ND		6570	8890		ug/Kg	☼	135	35 - 136	3	41
cis-1,2-Dichloroethene	ND		6570	8180		ug/Kg	☼	125	32 - 135	19	35
cis-1,3-Dichloropropene	ND		6570	6430		ug/Kg	☼	98	34 - 130	3	35
Dibromochloromethane	ND		6570	6610		ug/Kg	☼	101	32 - 132	2	34
1,2-Dibromo-3-Chloropropane	ND		6570	6900		ug/Kg	☼	105	14 - 132	3	38
1,2-Dichlorobenzene	ND		6570	7460		ug/Kg	☼	114	20 - 130	1	40
1,3-Dichlorobenzene	ND		6570	7210		ug/Kg	☼	110	22 - 130	2	41
1,4-Dichlorobenzene	ND		6570	7110		ug/Kg	☼	108	21 - 130	0	40
Dichlorodifluoromethane	ND		6570	5150		ug/Kg	☼	78	21 - 146	1	46
1,1-Dichloroethane	ND		6570	8240		ug/Kg	☼	126	41 - 130	19	35
1,2-Dichloroethane	ND		6570	6880		ug/Kg	☼	105	37 - 130	2	32
1,1-Dichloroethene	ND	*	6570	8930		ug/Kg	☼	136	39 - 138	3	37
1,2-Dichloropropane	ND		6570	6680		ug/Kg	☼	102	39 - 130	3	35
1,3-Dichloropropane	ND		6570	7040		ug/Kg	☼	107	39 - 130	2	32
2,2-Dichloropropane	ND		6570	6550		ug/Kg	☼	100	32 - 134	12	41
1,1-Dichloropropene	ND		6570	6390		ug/Kg	☼	97	38 - 136	2	43
Ethylbenzene	150	J	6570	7200		ug/Kg	☼	107	35 - 130	2	46
Ethylene Dibromide	ND		6570	7450		ug/Kg	☼	113	35 - 130	1	31
Ethyl methacrylate	ND		6570	7510		ug/Kg	☼	114	10 - 142	0	39
Hexachlorobutadiene	ND		6570	5430		ug/Kg	☼	83	10 - 144	1	68
2-Hexanone	ND		26300	27400		ug/Kg	☼	104	20 - 142	0	37
Isopropylbenzene	ND		6570	6840		ug/Kg	☼	104	31 - 132	3	51
Methylene bromide	ND		6570	6460		ug/Kg	☼	98	35 - 130	3	34
Methylene Chloride	ND	F1 *	6570	8890	F1	ug/Kg	☼	135	36 - 132	4	38
4-Methyl-2-pentanone (MIBK)	ND		26300	31300		ug/Kg	☼	119	21 - 144	1	39
Methyl tert-butyl ether	ND		6570	8230		ug/Kg	☼	125	34 - 132	11	31
m-Xylene & p-Xylene	ND		6570	7150		ug/Kg	☼	109	35 - 130	1	42
Naphthalene	ND		6570	7980		ug/Kg	☼	122	10 - 150	3	49
n-Butylbenzene	ND		6570	6960		ug/Kg	☼	106	20 - 133	1	50
N-Propylbenzene	ND		6570	7370		ug/Kg	☼	112	29 - 132	0	42
o-Chlorotoluene	ND		6570	7270		ug/Kg	☼	111	31 - 130	2	45

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Xylene	ND		6570	7050		ug/Kg	☼	107	35 - 130	3	37
p-Chlorotoluene	ND		6570	7080		ug/Kg	☼	108	28 - 130	3	42
p-Isopropyltoluene	ND		6570	7410		ug/Kg	☼	113	20 - 137	1	53
sec-Butylbenzene	ND		6570	7250		ug/Kg	☼	110	22 - 135	0	52
Styrene	ND		6570	6800		ug/Kg	☼	104	31 - 130	3	39
tert-Butylbenzene	ND		6570	7030		ug/Kg	☼	107	26 - 133	3	47
1,1,1,2-Tetrachloroethane	ND		6570	6930		ug/Kg	☼	106	37 - 130	3	34
1,1,2,2-Tetrachloroethane	ND		6570	7850		ug/Kg	☼	120	10 - 149	0	44
Tetrachloroethene	ND		6570	6780		ug/Kg	☼	103	27 - 147	0	44
Toluene	ND		6570	7180		ug/Kg	☼	109	42 - 130	1	37
trans-1,2-Dichloroethene	ND	F1 *	6570	9210	F1	ug/Kg	☼	140	40 - 134	11	38
trans-1,3-Dichloropropene	ND		6570	6530		ug/Kg	☼	99	31 - 130	3	34
1,2,3-Trichlorobenzene	ND		6570	6220		ug/Kg	☼	95	10 - 146	2	47
1,2,4-Trichlorobenzene	ND		6570	5940		ug/Kg	☼	90	10 - 141	1	53
1,1,1-Trichloroethane	ND		6570	6160		ug/Kg	☼	94	41 - 130	3	40
1,1,2-Trichloroethane	ND		6570	7190		ug/Kg	☼	109	37 - 130	1	33
Trichloroethene	ND		6570	6720		ug/Kg	☼	102	34 - 144	2	42
Trichlorofluoromethane	ND		6570	6150		ug/Kg	☼	94	41 - 143	3	42
1,2,3-Trichloropropane	ND		6570	7980		ug/Kg	☼	122	29 - 133	0	33
1,2,4-Trimethylbenzene	ND		6570	7320		ug/Kg	☼	112	26 - 131	0	48
1,3,5-Trimethylbenzene	ND		6570	7380		ug/Kg	☼	112	28 - 131	1	46
Vinyl acetate	ND	F1	13100	20500	F1	ug/Kg	☼	156	10 - 150	23	60
Vinyl chloride	ND	*	6570	8560		ug/Kg	☼	130	35 - 136	3	43
Xylenes, Total	ND		13100	14200		ug/Kg	☼	108	35 - 130	2	39

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*72 - 122*
Dibromofluoromethane	*90*		*79 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzenethiol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzoic acid	ND		990	350	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzyl alcohol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-ethylhexyl) phthalate	97.5	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenzofuran	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Diethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-butyl phthalate	71.6	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,4-Dioxane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachloroethane	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Indene	610		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Isophorone	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Nitrobenzene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitrophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitrophenol	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pentachlorophenol	ND		660	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Phenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pyridine	ND		330	150	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Quinoline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Acrylamide	*34.3*	*J*	*ug/Kg*		*4.48*	*79-06-1*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Phenylene diamine	*3920*		*ug/Kg*		*6.43*	*106-50-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
N-Nitro-o-toluidine	*46.8*	*J*	*ug/Kg*		*8.20*	*99-55-8*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Methapyrilene	*59.9*	*J*	*ug/Kg*		*9.43*	*91-80-5*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Dimethylamino azobenzene	*43.0*	*J*	*ug/Kg*		*10.21*	*60-11-7*	*07/15/19 13:57*	*07/17/19 14:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Chlorobenzilate	40.5	J	ug/Kg		10.24	510-15-6	07/15/19 13:57	07/17/19 14:56	1
2-Acetylaminofluorene	70.9	J	ug/Kg		10.78	53-96-3	07/15/19 13:57	07/17/19 14:56	1
Tentatively Identified Compound	None		ug/Kg				07/15/19 13:57	07/17/19 14:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		27 - 127	07/15/19 13:57	07/17/19 14:56	1
2-Fluorophenol	73		25 - 128	07/15/19 13:57	07/17/19 14:56	1
Nitrobenzene-d5	74		15 - 136	07/15/19 13:57	07/17/19 14:56	1
Phenol-d5	73		29 - 130	07/15/19 13:57	07/17/19 14:56	1
Terphenyl-d14	88		24 - 146	07/15/19 13:57	07/17/19 14:56	1
2,4,6-Tribromophenol	65		10 - 150	07/15/19 13:57	07/17/19 14:56	1

Lab Sample ID: LCS 400-448063/2-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	102	J *	ug/Kg		5	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	61		27 - 127
2-Fluorophenol	68		25 - 128
Nitrobenzene-d5	75		15 - 136
Phenol-d5	71		29 - 130
Terphenyl-d14	83		24 - 146
2,4,6-Tribromophenol	61		10 - 150

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1460		ug/Kg		73	36 - 120
Benzoic acid	7770	2930		ug/Kg		38	10 - 139
Benzyl alcohol	2000	1310		ug/Kg		65	10 - 127
Bis(2-chloroethoxy)methane	2000	1250		ug/Kg		63	52 - 120
Bis(2-chloroethyl)ether	2000	1250		ug/Kg		63	50 - 120
bis (2-chloroisopropyl) ether	2000	1390		ug/Kg		69	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1860		ug/Kg		93	58 - 158
4-Bromophenyl phenyl ether	2000	1510		ug/Kg		76	51 - 120
Butyl benzyl phthalate	2000	1710		ug/Kg		85	58 - 126
4-Chloroaniline	2000	1450		ug/Kg		73	34 - 120
4-Chloro-3-methylphenol	2000	1660		ug/Kg		83	57 - 124
2-Chloronaphthalene	2000	1380		ug/Kg		69	55 - 120
2-Chlorophenol	2000	1480		ug/Kg		74	52 - 120
4-Chlorophenyl phenyl ether	2000	1400		ug/Kg		70	56 - 120
Dibenz[a,h]acridine	2000	1350		ug/Kg		68	51 - 135
Dibenzofuran	2000	1410		ug/Kg		70	58 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
3,3'-Dichlorobenzidine	2670	3080		ug/Kg		116	42 - 120
2,4-Dichlorophenol	2000	1560		ug/Kg		78	56 - 120
Diethyl phthalate	2000	1520		ug/Kg		76	56 - 128
2,4-Dimethylphenol	2000	1580		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1450		ug/Kg		72	58 - 120
Di-n-butyl phthalate	2000	1810		ug/Kg		90	64 - 122
4,6-Dinitro-ortho-cresol	4000	3060		ug/Kg		76	35 - 135
2,4-Dinitrophenol	4000	1690		ug/Kg		42	10 - 138
2,4-Dinitrotoluene	2000	1540		ug/Kg		77	59 - 133
2,6-Dinitrotoluene	2000	1490		ug/Kg		74	57 - 123
Di-n-octyl phthalate	2000	1810		ug/Kg		91	57 - 137
1,4-Dioxane	2000	640		ug/Kg		32	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1550		ug/Kg		77	50 - 120
Hexachlorobenzene	2000	1510		ug/Kg		76	49 - 127
Hexachlorocyclopentadiene	2000	1070		ug/Kg		53	10 - 140
Hexachloroethane	2000	1380		ug/Kg		69	45 - 120
Indene	2000	1390		ug/Kg		70	45 - 120
Isophorone	2000	1400		ug/Kg		70	50 - 120
2-Methylphenol	2000	1620		ug/Kg		81	51 - 123
3 & 4 Methylphenol	2000	1460		ug/Kg		73	47 - 123
2-Nitroaniline	2000	1660		ug/Kg		83	55 - 129
3-Nitroaniline	2000	1720		ug/Kg		86	45 - 120
4-Nitroaniline	2000	1790		ug/Kg		89	52 - 126
Nitrobenzene	2000	1420		ug/Kg		71	50 - 120
2-Nitrophenol	2000	1580		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2650		ug/Kg		66	38 - 133
N-Nitrosodimethylamine	2000	1470		ug/Kg		74	35 - 120
N-Nitrosodi-n-propylamine	2000	1450		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1530		ug/Kg		77	54 - 120
Pentachlorophenol	4000	3070		ug/Kg		77	32 - 131
Phenol	2000	1560		ug/Kg		78	51 - 120
Pyridine	4000	2070		ug/Kg		52	29 - 120
Quinoline	2000	1430		ug/Kg		71	10 - 150
2,4,5-Trichlorophenol	2000	1550		ug/Kg		78	53 - 133
2,4,6-Trichlorophenol	2000	1480		ug/Kg		74	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*59*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*76*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*70*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448063/3-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448063

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	704	*	ug/Kg		35	10 - 120	149	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
2-Fluorophenol	*61*		*25 - 128*
Nitrobenzene-d5	*68*		*15 - 136*
Phenol-d5	*65*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2290	1930		ug/Kg	☼	84	40 - 140
Benzoic acid	ND	F1	8910	1810	F1	ug/Kg	☼	20	40 - 140
Benzyl alcohol	ND		2290	1730		ug/Kg	☼	75	40 - 140
Bis(2-chloroethoxy)methane	ND		2290	1620		ug/Kg	☼	71	40 - 140
Bis(2-chloroethyl)ether	ND		2290	1520		ug/Kg	☼	66	40 - 140
bis (2-chloroisopropyl) ether	ND		2290	1790		ug/Kg	☼	78	40 - 140
Bis(2-ethylhexyl) phthalate	110	J B	2290	2310		ug/Kg	☼	96	40 - 140
4-Bromophenyl phenyl ether	ND		2290	1910		ug/Kg	☼	83	40 - 140
Butyl benzyl phthalate	ND		2290	2090		ug/Kg	☼	91	40 - 140
4-Chloroaniline	ND		2290	1850		ug/Kg	☼	81	40 - 140
4-Chloro-3-methylphenol	ND		2290	1980		ug/Kg	☼	86	40 - 140
2-Chloronaphthalene	ND		2290	1780		ug/Kg	☼	78	40 - 140
2-Chlorophenol	ND		2290	1880		ug/Kg	☼	82	40 - 140
4-Chlorophenyl phenyl ether	ND		2290	1790		ug/Kg	☼	78	40 - 140
Dibenz[a,h]acridine	ND		2290	1520		ug/Kg	☼	66	40 - 140
Dibenzofuran	ND		2290	1790		ug/Kg	☼	78	40 - 140
3,3'-Dichlorobenzidine	ND		3060	3890		ug/Kg	☼	127	40 - 140
2,4-Dichlorophenol	ND		2290	2000		ug/Kg	☼	87	40 - 140
Diethyl phthalate	ND		2290	1890		ug/Kg	☼	82	40 - 140
2,4-Dimethylphenol	ND		2290	2000		ug/Kg	☼	87	40 - 140
Dimethyl phthalate	ND		2290	1820		ug/Kg	☼	79	40 - 140
Di-n-butyl phthalate	68	J B	2290	2190		ug/Kg	☼	92	40 - 140
4,6-Dinitro-ortho-cresol	ND		4590	4020		ug/Kg	☼	88	40 - 140
2,4-Dinitrophenol	ND		4590	3180		ug/Kg	☼	69	40 - 140
2,4-Dinitrotoluene	ND		2290	1920		ug/Kg	☼	84	40 - 140
2,6-Dinitrotoluene	ND		2290	1840		ug/Kg	☼	80	40 - 140
Di-n-octyl phthalate	ND		2290	2250		ug/Kg	☼	98	40 - 140
1,4-Dioxane	ND	F1	2290	813	F1	ug/Kg	☼	35	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2290	1860		ug/Kg	☼	81	40 - 140
Hexachlorobenzene	ND		2290	1950		ug/Kg	☼	85	40 - 140
Hexachlorocyclopentadiene	ND		2290	1320		ug/Kg	☼	57	40 - 140
Hexachloroethane	ND		2290	1960		ug/Kg	☼	85	40 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	ND		2290	1800		ug/Kg	☼	78	40 - 140
Isophorone	ND		2290	1750		ug/Kg	☼	76	40 - 140
2-Methylphenol	ND		2290	2050		ug/Kg	☼	89	40 - 140
3 & 4 Methylphenol	ND		2290	1940		ug/Kg	☼	85	40 - 140
2-Nitroaniline	ND		2290	2040		ug/Kg	☼	89	40 - 140
3-Nitroaniline	ND		2290	2050		ug/Kg	☼	89	40 - 140
4-Nitroaniline	ND		2290	2310		ug/Kg	☼	101	40 - 140
Nitrobenzene	ND		2290	1790		ug/Kg	☼	78	40 - 140
2-Nitrophenol	ND		2290	2050		ug/Kg	☼	89	40 - 140
4-Nitrophenol	ND		4590	3310		ug/Kg	☼	72	40 - 140
N-Nitrosodimethylamine	ND		2290	1660		ug/Kg	☼	72	40 - 140
N-Nitrosodi-n-propylamine	ND		2290	1910		ug/Kg	☼	83	40 - 140
N-Nitrosodiphenylamine	ND		2280	1940		ug/Kg	☼	85	40 - 140
Pentachlorophenol	ND		4590	3930		ug/Kg	☼	86	40 - 140
Phenol	ND		2290	1770		ug/Kg	☼	77	40 - 140
Pyridine	ND		4590	2660		ug/Kg	☼	58	40 - 140
Quinoline	ND		2290	1700		ug/Kg	☼	74	40 - 140
2,4,5-Trichlorophenol	ND		2290	1950		ug/Kg	☼	85	40 - 140
2,4,6-Trichlorophenol	ND		2290	1860		ug/Kg	☼	81	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*27 - 127*
2-Fluorophenol	*69*		*25 - 128*
Nitrobenzene-d5	*82*		*15 - 136*
Phenol-d5	*75*		*29 - 130*
Terphenyl-d14	*82*		*24 - 146*
2,4,6-Tribromophenol	*80*		*10 - 150*

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2300	2130		ug/Kg	☼	92	40 - 140	10	30
Benzoic acid	ND	F1	8950	1430	F1	ug/Kg	☼	16	40 - 140	24	30
Benzyl alcohol	ND		2300	1700		ug/Kg	☼	74	40 - 140	1	30
Bis(2-chloroethoxy)methane	ND		2300	1630		ug/Kg	☼	71	40 - 140	1	30
Bis(2-chloroethyl)ether	ND		2300	1720		ug/Kg	☼	75	40 - 140	12	30
bis (2-chloroisopropyl) ether	ND		2300	1850		ug/Kg	☼	80	40 - 140	3	30
Bis(2-ethylhexyl) phthalate	110	J B	2300	2300		ug/Kg	☼	95	40 - 140	0	30
4-Bromophenyl phenyl ether	ND		2300	1950		ug/Kg	☼	85	40 - 140	2	30
Butyl benzyl phthalate	ND		2300	2110		ug/Kg	☼	92	40 - 140	1	30
4-Chloroaniline	ND		2300	1910		ug/Kg	☼	83	40 - 140	3	30
4-Chloro-3-methylphenol	ND		2300	2200		ug/Kg	☼	96	40 - 140	11	30
2-Chloronaphthalene	ND		2300	1770		ug/Kg	☼	77	40 - 140	1	30
2-Chlorophenol	ND		2300	2120		ug/Kg	☼	92	40 - 140	12	30
4-Chlorophenyl phenyl ether	ND		2300	1860		ug/Kg	☼	81	40 - 140	4	30
Dibenz[a,h]acridine	ND		2300	1800		ug/Kg	☼	78	40 - 140	17	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenzofuran	ND		2300	1890		ug/Kg	☼	82	40 - 140	5	30
3,3'-Dichlorobenzidine	ND		3070	4120		ug/Kg	☼	134	40 - 140	6	30
2,4-Dichlorophenol	ND		2300	2030		ug/Kg	☼	88	40 - 140	2	30
Diethyl phthalate	ND		2300	1950		ug/Kg	☼	85	40 - 140	3	30
2,4-Dimethylphenol	ND		2300	2060		ug/Kg	☼	90	40 - 140	3	30
Dimethyl phthalate	ND		2300	1860		ug/Kg	☼	81	40 - 140	2	30
Di-n-butyl phthalate	68	J B	2300	2300		ug/Kg	☼	97	40 - 140	5	30
4,6-Dinitro-ortho-cresol	ND		4610	4240		ug/Kg	☼	92	40 - 140	5	30
2,4-Dinitrophenol	ND		4610	3540		ug/Kg	☼	77	40 - 140	11	30
2,4-Dinitrotoluene	ND		2300	2010		ug/Kg	☼	87	40 - 140	5	30
2,6-Dinitrotoluene	ND		2300	1920		ug/Kg	☼	83	40 - 140	4	30
Di-n-octyl phthalate	ND		2300	2280		ug/Kg	☼	99	40 - 140	1	30
1,4-Dioxane	ND	F1	2300	612	F1	ug/Kg	☼	27	40 - 140	28	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2300	1900		ug/Kg	☼	82	40 - 140	2	30
Hexachlorobenzene	ND		2300	2020		ug/Kg	☼	88	40 - 140	3	30
Hexachlorocyclopentadiene	ND		2300	1410		ug/Kg	☼	61	40 - 140	7	30
Hexachloroethane	ND		2300	1920		ug/Kg	☼	83	40 - 140	2	30
Indene	ND		2300	1800		ug/Kg	☼	78	40 - 140	0	30
Isophorone	ND		2300	1800		ug/Kg	☼	78	40 - 140	3	30
2-Methylphenol	ND		2300	2160		ug/Kg	☼	94	40 - 140	5	30
3 & 4 Methylphenol	ND		2300	1950		ug/Kg	☼	85	40 - 140	1	30
2-Nitroaniline	ND		2300	2120		ug/Kg	☼	92	40 - 140	4	30
3-Nitroaniline	ND		2300	2150		ug/Kg	☼	93	40 - 140	4	30
4-Nitroaniline	ND		2300	2440		ug/Kg	☼	106	40 - 140	5	30
Nitrobenzene	ND		2300	1840		ug/Kg	☼	80	40 - 140	3	30
2-Nitrophenol	ND		2300	2100		ug/Kg	☼	91	40 - 140	2	30
4-Nitrophenol	ND		4610	3580		ug/Kg	☼	78	40 - 140	8	30
N-Nitrosodimethylamine	ND		2300	2120		ug/Kg	☼	92	40 - 140	24	30
N-Nitrosodi-n-propylamine	ND		2300	1940		ug/Kg	☼	84	40 - 140	1	30
N-Nitrosodiphenylamine	ND		2290	1960		ug/Kg	☼	86	40 - 140	1	30
Pentachlorophenol	ND		4610	4260		ug/Kg	☼	92	40 - 140	8	30
Phenol	ND		2300	1960		ug/Kg	☼	85	40 - 140	10	30
Pyridine	ND		4610	3140		ug/Kg	☼	68	40 - 140	17	30
Quinoline	ND		2300	1840		ug/Kg	☼	80	40 - 140	8	30
2,4,5-Trichlorophenol	ND		2300	2050		ug/Kg	☼	89	40 - 140	5	30
2,4,6-Trichlorophenol	ND		2300	1920		ug/Kg	☼	84	40 - 140	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*27 - 127*
2-Fluorophenol	*80*		*25 - 128*
Nitrobenzene-d5	*84*		*15 - 136*
Phenol-d5	*83*		*29 - 130*
Terphenyl-d14	*82*		*24 - 146*
2,4,6-Tribromophenol	*83*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Chrysene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluorene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*27 - 127*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Nitrobenzene-d5	*76*		*15 - 136*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Terphenyl-d14	*119*		*24 - 146*	*07/15/19 13:57*	*07/19/19 03:48*	*1*

Lab Sample ID: LCS 400-448063/4-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	295		ug/Kg		88	57 - 120
Acenaphthylene	333	291		ug/Kg		87	59 - 120
Anthracene	333	293		ug/Kg		88	61 - 120
Benzo[a]anthracene	333	290		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	305		ug/Kg		91	54 - 127
Benzo[b]fluoranthene	333	301		ug/Kg		90	35 - 146
Benzo[g,h,i]perylene	333	283		ug/Kg		85	36 - 150
Benzo[k]fluoranthene	333	311		ug/Kg		93	53 - 139
Chrysene	333	291		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	313		ug/Kg		94	39 - 150
Fluoranthene	333	286		ug/Kg		86	61 - 121
Fluorene	333	312		ug/Kg		94	60 - 120
Indeno[1,2,3-cd]pyrene	333	304		ug/Kg		91	40 - 150
1-Methylnaphthalene	333	277		ug/Kg		83	46 - 120
2-Methylnaphthalene	333	280		ug/Kg		84	46 - 120
Phenanthrene	333	288		ug/Kg		86	59 - 120
Pyrene	333	312		ug/Kg		94	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448063/4-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	77		15 - 136
Terphenyl-d14	107		24 - 146

Lab Sample ID: 400-173042-2 MS
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	28		383	300		ug/Kg	☼	71	40 - 140
Acenaphthylene	ND		383	286		ug/Kg	☼	75	40 - 140
Anthracene	12		383	297		ug/Kg	☼	74	40 - 140
Benzo[a]anthracene	13		383	304		ug/Kg	☼	76	40 - 140
Benzo[a]pyrene	14		383	318		ug/Kg	☼	79	40 - 140
Benzo[b]fluoranthene	ND		383	304		ug/Kg	☼	79	40 - 140
Benzo[g,h,i]perylene	ND		383	322		ug/Kg	☼	84	40 - 140
Benzo[k]fluoranthene	ND		383	296		ug/Kg	☼	77	40 - 140
Chrysene	27		383	317		ug/Kg	☼	76	40 - 140
Dibenz(a,h)anthracene	ND		383	350		ug/Kg	☼	91	40 - 140
Fluoranthene	7.9		383	302		ug/Kg	☼	77	40 - 140
Fluorene	30		383	338		ug/Kg	☼	80	40 - 140
Indeno[1,2,3-cd]pyrene	ND		383	337		ug/Kg	☼	88	40 - 140
1-Methylnaphthalene	280		383	501		ug/Kg	☼	57	40 - 140
2-Methylnaphthalene	350		383	596		ug/Kg	☼	64	40 - 140
Phenanthrene	120		383	403		ug/Kg	☼	74	40 - 140
Pyrene	60		383	351		ug/Kg	☼	76	40 - 140

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	73		27 - 127
Nitrobenzene-d5	67		15 - 136
Terphenyl-d14	90		24 - 146

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	28		380	339		ug/Kg	☼	82	40 - 140	12	30
Acenaphthylene	ND		380	306		ug/Kg	☼	81	40 - 140	7	30
Anthracene	12		380	314		ug/Kg	☼	79	40 - 140	6	30
Benzo[a]anthracene	13		380	319		ug/Kg	☼	80	40 - 140	5	30
Benzo[a]pyrene	14		380	330		ug/Kg	☼	83	40 - 140	4	30
Benzo[b]fluoranthene	ND		380	332		ug/Kg	☼	87	40 - 140	9	30
Benzo[g,h,i]perylene	ND		380	305		ug/Kg	☼	80	40 - 140	5	30
Benzo[k]fluoranthene	ND		380	319		ug/Kg	☼	84	40 - 140	7	30
Chrysene	27		380	323		ug/Kg	☼	78	40 - 140	2	30
Dibenz(a,h)anthracene	ND		380	340		ug/Kg	☼	90	40 - 140	3	30
Fluoranthene	7.9		380	304		ug/Kg	☼	78	40 - 140	1	30
Fluorene	30		380	352		ug/Kg	☼	85	40 - 140	4	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173042-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173042-2 MSD
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: PD-6-SB-45-070819
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno[1,2,3-cd]pyrene	ND		380	325		ug/Kg	☼	85	40 - 140	4	30
1-Methylnaphthalene	280		380	527		ug/Kg	☼	64	40 - 140	5	30
2-Methylnaphthalene	350		380	575		ug/Kg	☼	59	40 - 140	4	30
Phenanthrene	120		380	386		ug/Kg	☼	70	40 - 140	4	30
Pyrene	60		380	364		ug/Kg	☼	80	40 - 140	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
Nitrobenzene-d5	*72*		*15 - 136*
Terphenyl-d14	*102*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

AECOM

400-173042 COC

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Proj	NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/11/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM	LOG CODE:	170 East Rand Avenue, Hartford	State: IL
AECOM Project / Task Number: PreDesign Invest. PW			
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102			
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell			
TELEPHONE: 314-429-0100	FAX: 314-429-0462	Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com	
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel	PHONE NO: 3144290100	E-MAIL: elizabeth.kunkel@aecom.com	AECOM Other ID
SAMPLER NAME(S) (Print): John Bell			LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

Bill Only	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-071119-A	7/11/2019	0:00	Water	X					2			X		
	PD-6-SB-45-071119	7/11/2019	13:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-6-SB-45-071119-MS	7/11/2019	13:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-6-SB-45-071119-MSD	7/11/2019	13:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-6-SB-46-071119	7/11/2019	13:15	Soil	x			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-6-SB-51-071119	7/11/2019	14:05	Soil	x			x	x	5	x	x	x	x	
	PD-6-SB-54-071119	7/11/2019	15:30	Soil	x			x	x	5	x	x	x	x	

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Fedex: (4931 8205 7504), (4931 8205 7515), (4931 8203 6208) - 1011657, 1011656, 1011663, 1011662, 1011661, 1011660	7/11/2019	17:30
Relinquished by: (Signature)	Received by: (Signature)	Date: 07.12.19	Time: 919
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

0.1 °C IR8

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173042-1

Login Number: 173042
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173042-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-173141

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/13/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071219-A	PD-6-SB-071219-EB
PD-6-SB-63-071219	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOCs were detected in the method blanks. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC samples were extracted outside extraction hold time. VOCs and PAHs were detected in the equipment blank. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, SVOCs were re-extracted 5 days outside of the extraction holding time criteria (7 days) in sample PD-6-SB-071219 and equipment blank PD-6-SB-071219-EB. Re-extraction was due to surrogate compound recoveries outside evaluation criteria. Professional judgement was used to qualify as estimated (**J/UJ**); however, not reject the out of holding time data. Holding time exceedances were not greater than two times (2X) criteria; data requiring qualification is summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
PD-6-SB-63-071219	SVOCs	SVOC Detects	**J**
PD-6-SB-63-071219	SVOCs	SVOC Non-detects	**UJ**

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448063/1-A	SVOCs	bis(2-ethylhexyl) phthalate	97.5 µg/Kg
MB 400-448063/1-A	SVOCs	Di-n-butyl phthalate	71.6 µg/Kg
PD-6-SB-071219-EB	VOCs	Benzene	5.4 µg/L
PD-6-SB-071219-EB	VOCs	2-Butanone	2.8 µg/L
PD-6-SB-071219-EB	PAHs	1-Methylnaphthalene	0.020 µg/L
PD-6-SB-071219-EB	PAHs	2-Methylnaphthalene	0.034 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration, ten times (10X) for common laboratory contaminants, did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-6-SB	SVOCs	bis(2-ethylhexyl) phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448145/1002	VOCs	2-Hexanone	**140**	NA	65-137
400-448063/2-A	SVOCs	Benzenethiol	**5**/35	**149**	10-120/30
400-448063/2-A	SVOCs	3,3'-Dichlorobenzidine	133/**145**	**9**	39-135/30
400-448434/22-A	SVOCs	Benzenethiol	**1**/**2**	**24**	10-120/30
400-449437/4-A	SVOCs	Benzenethiol	**3**/50	**178**	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-6-SB-63-071219	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173141-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/13/2019 9:36:02 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/13/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173141-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173141-1

Comments
No additional comments.

Receipt
The samples were received on 7/13/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.5° C and 3.0° C.

Receipt Exceptions

Sample 400-173141-2 (PD-6-SB-071219-EB) is marked as a soil on the COC with 5 containers just like the other soil. 4 water containers were received. (two VOAs and two 1 liter ambers). Sample logged in as a water with the same tests listed on the COC.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448145 recovered outside control limits for the following analyte: 2-Hexanone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071219-A (400-173141-1) and PD-6-SB-071219-EB (400-173141-2). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-448145 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-448145 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: Sample PD-6-SB-071219-EB (400-173141-2) contained Benzene above the reporting limit and 2-Butanone (MEK) above the MDL limit. Reanalysis was performed with concurring results.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448966 and analytical batch 400-448890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448890 recovered outside acceptance criteria, low biased, for 2-Chloroethyl vinyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 400-448966 and analytical batch 400-448890 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-6-SB-63-071219 (400-173141-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Job ID: 400-173141-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 400-448342/5).

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448063 and analytical batch 400-448342 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448063 and analytical batch 400-448342 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: Surrogate compounds were inadvertently omitted during the extraction process for the following sample: PD-6-SB-071219-EB (400-173141-2). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Di-n-octyl phthalate and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448063 contained Indene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The method blank for preparation batch 400-448063 and analytical batch 400-448342 contained Bis(2-ethylhexyl) phthalate and Di-n-octyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered above the upper control limit for Hexachlorobenzene, 4-Chlorophenyl phenyl ether and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered outside acceptance criteria, low biased, for Aniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448434 and 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered above the upper control limit for 2,4-Dinitrophenol, Hexachlorobenzene, 4-Bromophenyl phenyl ether and 2,4-Dinitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448434 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). The samples associated with this method blank were either non-detect or less than the reporting limit.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether, Phenol, Butyl benzyl phthalate, Pyridine, 1,4-Dioxane and 1,2-Diphenylhydrazine (as Azobenzene). A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were

Job ID: 400-173141-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Indene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, N-Nitrosodi-n-propylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: Two of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-6-SB-071219-EB (400-173141-2). Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

Method(s) 8270D LL: The method blank for preparation batch 400-449437 and analytical batch 400-450489 contained Fluoranthene and Pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Surrogate compounds were inadvertently omitted during the extraction process for the following sample: PD-6-SB-071219-EB (400-173141-2). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173141-1	TB-PW-071219-A	Water	07/12/19 00:00	07/13/19 09:09	
400-173141-2	PD-6-SB-071219-EB	Water	07/12/19 14:00	07/13/19 09:09	
400-173141-3	PD-6-SB-63-071219	Solid	07/12/19 09:25	07/13/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: TB-PW-071219-A — Lab Sample ID: 400-173141-1

No Detections.

Client Sample ID: PD-6-SB-071219-EB — Lab Sample ID: 400-173141-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.4		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	2.8	J	25	2.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.020	J H	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.034	J H	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-6-SB-63-071219 — Lab Sample ID: 400-173141-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2300		250	34	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	33	J	250	31	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	110	J	250	51	ug/Kg	50	☼	8260B	Total/NA
1-Methylnaphthalene	6.0	J	7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.2	J	7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1.2	J	7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	110	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	88	J B	370	37	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: TB-PW-071219-A

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 14:42	1
Acrolein	ND		20	10	ug/L			07/16/19 14:42	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 14:42	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 14:42	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 14:42	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 14:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 14:42	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 14:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 14:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 14:42	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 14:42	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 14:42	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 14:42	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 14:42	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 14:42	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 14:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 14:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 14:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 14:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 14:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 14:42	1
2-Hexanone	ND	*	25	3.1	ug/L			07/16/19 14:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 14:42	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 14:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 14:42	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 14:42	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 14:42	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 14:42	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 14:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 14:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 14:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 14:42	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 14:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: TB-PW-071219-A

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 14:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 14:42	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 14:42	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 14:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 14:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 14:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 14:42	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 14:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 14:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 14:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 14:42	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 14:42	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 14:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 14:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 14:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 14:42	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 14:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 14:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*6.0*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/16/19 14:42*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 14:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/16/19 14:42*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/16/19 14:42*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/16/19 14:42*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 15:09	1
Acrolein	ND		20	10	ug/L			07/16/19 15:09	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 15:09	1
Benzene	5.4		1.0	0.38	ug/L			07/16/19 15:09	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 15:09	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 15:09	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 15:09	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 15:09	1
2-Butanone (MEK)	2.8	J	25	2.6	ug/L			07/16/19 15:09	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 15:09	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 15:09	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 15:09	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 15:09	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 15:09	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 15:09	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 15:09	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 15:09	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 15:09	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 15:09	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 15:09	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 15:09	1
2-Hexanone	ND	*	25	3.1	ug/L			07/16/19 15:09	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 15:09	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 15:09	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 15:09	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 15:09	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 15:09	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 15:09	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 15:09	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 15:09	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 15:09	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 15:09	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 15:09	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 15:09	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 15:09	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 15:09	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 15:09	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 15:09	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 15:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 15:09	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 15:09	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 15:09	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 15:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 15:09	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 15:09	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 15:09	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 15:09	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 15:09	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 15:09	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 15:09	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 15:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*210*		*ug/L*		*3.13*	*67-63-0*		*07/16/19 15:09*	*1*
2-Methyl-2-propanol	*8.3*	*J*	*ug/L*		*3.39*	*75-65-0*		*07/16/19 15:09*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 15:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/16/19 15:09*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/16/19 15:09*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/16/19 15:09*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 09:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 09:55*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/17/19 09:55*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/17/19 09:55*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Acenaphthene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Acenaphthylene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Anthracene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[a]anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[a]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[a]pyrene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[b]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[b]fluoranthene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[g,h,i]perylene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[g,h,i]perylene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[k]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[k]fluoranthene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Chrysene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Chrysene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Dibenz(a,h)anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Dibenz(a,h)anthracene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Fluoranthene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Fluorene	ND		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 16:34	1
Fluorene	ND	H	0.20	0.021	ug/L		07/24/19 21:29	08/02/19 20:50	1
Indeno[1,2,3-cd]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Indeno[1,2,3-cd]pyrene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
1-Methylnaphthalene	**0.020**	**J H**	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
2-Methylnaphthalene	**0.034**	**J H**	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Phenanthrene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Pyrene	ND	*	0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Pyrene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*07/31/19 16:34*	*1*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/24/19 21:29*	*08/02/19 20:50*	*1*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*07/31/19 16:34*	*1*
Nitrobenzene-d5	*83*		*19 - 130*	*07/24/19 21:29*	*08/02/19 20:50*	*1*
Terphenyl-d14	*0*	*X **	*33 - 138*	*07/17/19 14:25*	*07/31/19 16:34*	*1*
Terphenyl-d14	*108*		*33 - 138*	*07/24/19 21:29*	*08/02/19 20:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:22	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/17/19 14:25	07/22/19 21:22	1
Benzoic acid	ND		29	7.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 21:22	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/17/19 14:25	07/22/19 21:22	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 21:22	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 21:22	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:22	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:22	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:22	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 21:22	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 21:22	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 21:22	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:22	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/17/19 14:25	07/22/19 21:22	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 21:22	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 21:22	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:22	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:22	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 21:22	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 21:22	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:22	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 21:22	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 21:22	1
Phenol	ND		9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:22	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 21:22	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:22	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzaldehyde	*1.3*	*J*	*ug/L*		*5.14*	*100-52-7*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
Benzo[a]pyrene	*0.54*	*J*	*ug/L*		*12.36*	*50-32-8*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/17/19 14:25*	*07/22/19 21:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*34 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*

Client Sample ID: PD-6-SB-071219-EB **Lab Sample ID: 400-173141-2**
Date Collected: 07/12/19 14:00 **Matrix: Water**
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*0*	*X*	*27 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
Phenol-d5	*0*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
Terphenyl-d14	*0*	*X*	*53 - 125*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*	*07/17/19 14:25*	*07/22/19 21:22*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	10	3.9	ug/L		07/24/19 21:29	07/31/19 01:13	1
Benzenethiol	ND	H *	10	1.7	ug/L		07/24/19 21:29	07/31/19 01:13	1
Benzoic acid	ND	H	30	7.4	ug/L		07/24/19 21:29	07/31/19 01:13	1
Benzyl alcohol	ND	H	10	2.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Bis(2-chloroethoxy)methane	ND	H	10	0.70	ug/L		07/24/19 21:29	07/31/19 01:13	1
Bis(2-ethylhexyl) phthalate	ND	H	10	5.1	ug/L		07/24/19 21:29	07/31/19 01:13	1
Butyl benzyl phthalate	ND	H	10	0.70	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Chloroaniline	ND	H	10	3.5	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Chloro-3-methylphenol	ND	H	10	3.9	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Chlorophenol	ND	H	10	2.2	ug/L		07/24/19 21:29	07/31/19 01:13	1
3,3'-Dichlorobenzidine	ND	H	10	2.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
2,4-Dichlorophenol	ND	H	10	3.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Diethyl phthalate	ND	H	10	0.71	ug/L		07/24/19 21:29	07/31/19 01:13	1
2,4-Dimethylphenol	ND	H	10	3.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
Di-n-butyl phthalate	ND	H	10	2.7	ug/L		07/24/19 21:29	07/31/19 01:13	1
4,6-Dinitro-ortho-cresol	ND	H	10	2.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
2,4-Dinitrophenol	ND	H	30	3.5	ug/L		07/24/19 21:29	07/31/19 01:13	1
Di-n-octyl phthalate	ND	H	10	0.45	ug/L		07/24/19 21:29	07/31/19 01:13	1
1,4-Dioxane	ND	H	10	1.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	10	1.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Hexachloroethane	ND	H	10	4.3	ug/L		07/24/19 21:29	07/31/19 01:13	1
Indene	ND	H	10	1.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Isophorone	ND	H	10	0.58	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Methylphenol	ND	H	10	1.8	ug/L		07/24/19 21:29	07/31/19 01:13	1
3 & 4 Methylphenol	ND	H	20	1.1	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Nitroaniline	ND	H	10	2.2	ug/L		07/24/19 21:29	07/31/19 01:13	1
3-Nitroaniline	ND	H	10	1.8	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Nitroaniline	ND	H	10	2.5	ug/L		07/24/19 21:29	07/31/19 01:13	1
Nitrobenzene	ND	H	10	0.56	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Nitrophenol	ND	H	10	0.66	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Nitrophenol	ND	H	10	2.1	ug/L		07/24/19 21:29	07/31/19 01:13	1
N-Nitrosodimethylamine	ND	H	10	3.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
N-Nitrosodi-n-propylamine	ND	H	10	3.3	ug/L		07/24/19 21:29	07/31/19 01:13	1
N-Nitrosodiphenylamine	ND	H	10	0.48	ug/L		07/24/19 21:29	07/31/19 01:13	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	07/31/19 01:13	1
Phenol	ND	H	10	2.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
Pyridine	ND	H	10	3.2	ug/L		07/24/19 21:29	07/31/19 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*44*		*34 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
2-Fluorophenol	*52*		*10 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
Nitrobenzene-d5	*78*		*27 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*64*		*10 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
Terphenyl-d14	*60*		*53 - 125*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
2,4,6-Tribromophenol	*37*		*15 - 135*	*07/24/19 21:29*	*07/31/19 01:13*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	H	10	0.75	ug/L		07/24/19 21:29	08/01/19 22:43	1
bis (2-chloroisopropyl) ether	ND	H	10	0.82	ug/L		07/24/19 21:29	08/01/19 22:43	1
4-Bromophenyl phenyl ether	ND	H	10	0.32	ug/L		07/24/19 21:29	08/01/19 22:43	1
2-Chloronaphthalene	ND	H	10	0.53	ug/L		07/24/19 21:29	08/01/19 22:43	1
4-Chlorophenyl phenyl ether	ND	H	10	2.0	ug/L		07/24/19 21:29	08/01/19 22:43	1
Dibenz[a,h]acridine	ND	H	10	3.0	ug/L		07/24/19 21:29	08/01/19 22:43	1
Dibenzofuran	ND	H	10	0.53	ug/L		07/24/19 21:29	08/01/19 22:43	1
Dimethyl phthalate	ND	H	10	0.61	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,4-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,6-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/01/19 22:43	1
Hexachlorobenzene	ND	H	10	0.25	ug/L		07/24/19 21:29	08/01/19 22:43	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/01/19 22:43	1
Quinoline	ND	H	10	6.1	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,4,5-Trichlorophenol	ND	H	10	3.8	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,4,6-Trichlorophenol	ND	H	10	3.6	ug/L		07/24/19 21:29	08/01/19 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*46*		*34 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
2-Fluorophenol	*45*		*10 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
Nitrobenzene-d5	*77*		*27 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
Phenol-d5	*60*		*10 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
Terphenyl-d14	*64*		*53 - 125*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
2,4,6-Tribromophenol	*44*		*15 - 135*	*07/24/19 21:29*	*08/01/19 22:43*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-63-071219

Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3

Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	660	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Acrolein	ND		2500	1400	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Acrylonitrile	ND		1000	410	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Benzene	**2300**		250	34	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromobenzene	ND		250	66	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromochloromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromodichloromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromoform	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromomethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2-Butanone (MEK)	ND		1300	310	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Carbon disulfide	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Carbon tetrachloride	ND		250	87	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chlorobenzene	ND		250	26	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2-Chloroethyl vinyl ether	ND		510	250	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chloroform	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1-Chlorohexane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chloromethane	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
cis-1,2-Dichloroethene	ND		250	39	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
cis-1,3-Dichloropropene	ND		250	61	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Dibromochloromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dibromo-3-Chloropropane	ND		250	170	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dichlorobenzene	ND		250	36	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,3-Dichlorobenzene	ND		250	48	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,4-Dichlorobenzene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Dichlorodifluoromethane	ND		250	66	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1-Dichloroethane	ND		250	42	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dichloroethane	ND		250	42	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1-Dichloroethene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dichloropropane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,3-Dichloropropane	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2,2-Dichloropropane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1-Dichloropropene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Ethylbenzene	**33**	**J**	250	31	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Ethylene Dibromide	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Ethyl methacrylate	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Hexachlorobutadiene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2-Hexanone	ND		1300	250	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Isopropylbenzene	ND		250	35	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Methylene bromide	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Methylene Chloride	ND		760	510	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
4-Methyl-2-pentanone (MIBK)	ND		1300	250	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Methyl tert-butyl ether	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
m-Xylene & p-Xylene	ND		250	66	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Naphthalene	ND		250	100	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
n-Butylbenzene	ND		250	49	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
N-Propylbenzene	ND		250	46	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
o-Chlorotoluene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
o-Xylene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50

Client Sample ID: PD-6-SB-63-071219

Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3

Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		250	50	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
p-Isopropyltoluene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
sec-Butylbenzene	ND		250	48	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Styrene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
tert-Butylbenzene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,1,2-Tetrachloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,2,2-Tetrachloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Tetrachloroethene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Toluene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
trans-1,2-Dichloroethene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
trans-1,3-Dichloropropene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,3-Trichlorobenzene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,4-Trichlorobenzene	ND		250	100	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,1-Trichloroethane	ND		250	56	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,2-Trichloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Trichloroethene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Trichlorofluoromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,3-Trichloropropane	ND		250	150	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,4-Trimethylbenzene	**110**	**J**	250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,3,5-Trimethylbenzene	ND		250	42	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Vinyl acetate	ND		1300	460	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Vinyl chloride	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Xylenes, Total	ND		510	97	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethanol	*5700*		*ug/Kg*	☼	*2.03*	*64-17-5*	*07/22/19 07:09*	*07/22/19 15:54*	*50*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 07:09*	*07/22/19 15:54*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*72 - 122*	*07/22/19 07:09*	*07/22/19 15:54*	*50*
Dibromofluoromethane	*95*		*79 - 123*	*07/22/19 07:09*	*07/22/19 15:54*	*50*
Toluene-d8 (Surr)	*104*		*80 - 120*	*07/22/19 07:09*	*07/22/19 15:54*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Acenaphthylene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Anthracene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[a]anthracene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[a]pyrene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[b]fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[g,h,i]perylene	ND		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[k]fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Chrysene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Dibenz(a,h)anthracene	ND		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Fluorene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Indeno[1,2,3-cd]pyrene	ND		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
1-Methylnaphthalene	**6.0**	**J**	7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
2-Methylnaphthalene	**7.2**	**J**	7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-63-071219

Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3

Matrix: Solid
Percent Solids: 86.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**1.2**	**J**	7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Pyrene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:58*	*1*
Nitrobenzene-d5	*65*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:58*	*1*
Terphenyl-d14	*104*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		370	48	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Benzenethiol	ND	*	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Benzoic acid	ND		1100	390	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Benzyl alcohol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Bis(2-chloroethoxy)methane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Bis(2-chloroethyl)ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
bis (2-chloroisopropyl) ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Bis(2-ethylhexyl) phthalate	**110**	**J B**	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Bromophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Butyl benzyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Chloroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Chloro-3-methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Chloronaphthalene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Chlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Chlorophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Dibenz[a,h]acridine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Dibenzofuran	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
3,3'-Dichlorobenzidine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Diethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dimethylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Dimethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Di-n-butyl phthalate	**88**	**J B**	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4,6-Dinitro-ortho-cresol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,6-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Di-n-octyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
1,4-Dioxane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Hexachlorobenzene	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Hexachlorocyclopentadiene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Hexachloroethane	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Indene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Isophorone	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
3 & 4 Methylphenol	ND		740	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
3-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1

Client Sample ID: PD-6-SB-63-071219 **Lab Sample ID: 400-173141-3**
Date Collected: 07/12/19 09:25 **Matrix: Solid**
Date Received: 07/13/19 09:09 **Percent Solids: 86.3**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Nitrobenzene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Nitrophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Nitrophenol	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
N-Nitrosodimethylamine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
N-Nitrosodi-n-propylamine	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
N-Nitrosodiphenylamine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Pentachlorophenol	ND		740	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Phenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Pyridine	ND		370	170	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Quinoline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4,5-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4,6-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*990*	*T J N*	*ug/Kg*	☼	*9.09*	*57-10-3*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
9-Octadecenamide, (Z)-	*940*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
9-Octadecenamide, (Z)-	*500*	*T J N*	*ug/Kg*	☼	*11.83*	*301-02-0*	*07/15/19 13:57*	*07/17/19 18:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*27 - 127*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
2-Fluorophenol	*69*		*25 - 128*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
Nitrobenzene-d5	*75*		*15 - 136*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
Phenol-d5	*72*		*29 - 130*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
Terphenyl-d14	*83*		*24 - 146*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
2,4,6-Tribromophenol	*62*		*10 - 150*	*07/15/19 13:57*	*07/17/19 18:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.3**		0.01	0.01	%			07/15/19 16:27	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (72-122)	DBFM (79-123)	TOL (80-120)
400-173141-3	PD-6-SB-63-071219	104	95	104
LCS 400-448966/2-A	Lab Control Sample	107	102	91
MB 400-448966/1-A	Method Blank	108	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-173141-1	TB-PW-071219-A	101	100	102
400-173141-2	PD-6-SB-071219-EB	102	101	104
400-173141-2 - RA	PD-6-SB-071219-EB	99	99	102
LCS 400-448145/1002	Lab Control Sample	96	100	102
LCS 400-448326/1002	Lab Control Sample	98	98	101
MB 400-448145/4	Method Blank	102	99	103
MB 400-448326/4	Method Blank	99	100	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (27-127)	2FP (25-128)	NBZ (15-136)	PHL (29-130)	TPHL (24-146)	TBP (10-150)
400-173141-3	PD-6-SB-63-071219	63	69	75	72	83	62
LCS 400-448063/2-A	Lab Control Sample	61	68	75	71	83	61
LCS 400-448063/7-A	Lab Control Sample	59	63	76	68	85	70
LCSD 400-448063/3-A	Lab Control Sample Dup	58	61	68	65	81	59
MB 400-448063/1-A	Method Blank	66	73	74	73	88	65

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173141-1
Project/Site: PreDesign Invest PW

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173141-2	PD-6-SB-071219-EB	0 X	0 X	0 X	0 X	0 X	0 X
400-173141-2 - RE	PD-6-SB-071219-EB	44	52	78	64	60	37
400-173141-2 - RERA	PD-6-SB-071219-EB	46	45	77	60	64	44
LCS 400-448434/22-A	Lab Control Sample	67	44	56	47	80	79
LCS 400-448434/2-A	Lab Control Sample	76	39	59	51	89	123
LCS 400-449437/2-A	Lab Control Sample	100	74	100	95	115	112
LCS 400-449437/4-A	Lab Control Sample	45	40	79	60	66	25
LCSD 400-448434/23-A	Lab Control Sample Dup	58	38	58	52	77	84
LCSD 400-448434/3-A	Lab Control Sample Dup	72	37	65	50	84	105
LCSD 400-449437/3-A	Lab Control Sample Dup	100	79	99	92	107	107
LCSD 400-449437/5-A	Lab Control Sample Dup	44	45	81	67	67	34
MB 400-448434/1-A	Method Blank	68	42	61	52	63	90
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173141-3	PD-6-SB-63-071219	77	65	104
LCS 400-448063/4-A	Lab Control Sample	85	77	107
MB 400-448063/1-A	Method Blank	88	76	119

Surrogate Legend
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173141-2	PD-6-SB-071219-EB	0 X	0 X	0 X *
400-173141-2	PD-6-SB-071219-EB	87	83	108
LCS 400-448434/2-A	Lab Control Sample	73	75	104
LCSD 400-448434/3-A	Lab Control Sample Dup	77	75	86
MB 400-448434/1-A	Method Blank	108	102	120

Surrogate Legend
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071219-A
Lab Sample ID: 400-173141-1
Date Collected: 07/12/19 00:00 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 14:42	RS	TAL PEN

Client Sample ID: PD-6-SB-071219-EB
Lab Sample ID: 400-173141-2
Date Collected: 07/12/19 14:00 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 15:09	RS	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	448326	07/17/19 09:55	WPD	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448987	07/22/19 21:22	VC1	TAL PEN
Total/NA	Prep	3520C	RE		985.2 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	1	0.4 mL	1.0 mL	450063	07/31/19 01:13	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		985.2 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450467	08/01/19 22:43	VC1	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 16:34	KJA	TAL PEN
Total/NA	Prep	3520C			985.2 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			450731	08/02/19 20:50	KJA	TAL PEN

Client Sample ID: PD-6-SB-63-071219
Lab Sample ID: 400-173141-3
Date Collected: 07/12/19 09:25 **Matrix: Solid**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 16:27	DDQ	TAL PEN

Client Sample ID: PD-6-SB-63-071219
Lab Sample ID: 400-173141-3
Date Collected: 07/12/19 09:25 **Matrix: Solid**
Date Received: 07/13/19 09:09 **Percent Solids: 86.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.736 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448890	07/22/19 15:54	RS	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 18:31	VC1	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:58	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448063/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 14:56	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 03:48	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448145/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 08:58	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448326/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448326	07/17/19 09:04	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448434/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:11	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 12:39	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448966/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 09:16	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449437/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 20:36	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448063/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:18	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448063/4-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448063/7-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:01	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448145/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 07:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448326/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448326	07/17/19 08:14	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448434/22-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:52	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:33	S1S	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448434/2-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:16	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 12:56	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448966/2-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 07:42	RS	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449437/2-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 10:44	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449437/4-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:04	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-448063/3-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:39	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-448434/23-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:52	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:54	S1S	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-448434/3-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:37	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 13:15	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-449437/3-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 11:08	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-449437/5-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:25	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

GC/MS VOA

Analysis Batch: 448145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-1	TB-PW-071219-A	Total/NA	Water	8260B	
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8260B	
MB 400-448145/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448145/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2 - RA	PD-6-SB-071219-EB	Total/NA	Water	8260B	
MB 400-448326/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448326/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	8260B	448966
MB 400-448966/1-A	Method Blank	Total/NA	Solid	8260B	448966
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	8260B	448966

Prep Batch: 448966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	5035	
MB 400-448966/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 448063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	3546	
MB 400-448063/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	8270D	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D	448063
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448063

Prep Batch: 448434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	3520C	
MB 400-448434/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448434/22-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448434/23-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

GC/MS Semi VOA

Analysis Batch: 448527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	8270D LL	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D LL	448063
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	8270D LL	448063

Analysis Batch: 448799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D	448434
LCS 400-448434/22-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCSD 400-448434/23-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8270D	448434

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	3520C	
400-173141-2 - RERA	PD-6-SB-071219-EB	Total/NA	Water	3520C	
400-173141-2 - RE	PD-6-SB-071219-EB	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2 - RE	PD-6-SB-071219-EB	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

Analysis Batch: 450159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8270D LL	448434
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D LL	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	448434

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2 - RERA	PD-6-SB-071219-EB	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437

Analysis Batch: 450731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8270D LL	449437

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

GC/MS Semi VOA

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

General Chemistry

Analysis Batch: 448054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 08:58	1
Acrolein	ND		20	10	ug/L			07/16/19 08:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 08:58	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 08:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 08:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 08:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 08:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 08:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 08:58	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 08:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 08:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 08:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 08:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 08:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 08:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 08:58	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 08:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 08:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 08:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 08:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 08:58	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 08:58	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 08:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 08:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 08:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 08:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 08:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 08:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 08:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 08:58	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 08:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 08:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 08:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 08:58	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 08:58*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/16/19 08:58*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/16/19 08:58*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/16/19 08:58*	*1*

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	293		ug/L		146	43 - 160
Acrolein	500	603		ug/L		121	38 - 160
Acrylonitrile	500	560		ug/L		112	64 - 142
Benzene	50.0	50.0		ug/L		100	70 - 130
Bromobenzene	50.0	49.2		ug/L		98	70 - 132
Bromochloromethane	50.0	51.7		ug/L		103	70 - 130
Bromodichloromethane	50.0	51.9		ug/L		104	67 - 133
Bromoform	50.0	57.9		ug/L		116	57 - 140
Bromomethane	50.0	36.4		ug/L		73	10 - 160
2-Butanone (MEK)	200	250		ug/L		125	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.2		ug/L		100	61 - 137
Carbon tetrachloride	50.0	56.9		ug/L		114	61 - 137
Chlorobenzene	50.0	52.1		ug/L		104	70 - 130
Chloroethane	50.0	45.7		ug/L		91	55 - 141
2-Chloroethyl vinyl ether	50.0	39.5		ug/L		79	10 - 160
Chloroform	50.0	51.2		ug/L		102	69 - 130
1-Chlorohexane	50.0	56.6		ug/L		113	69 - 130
Chloromethane	50.0	41.6		ug/L		83	58 - 137
cis-1,2-Dichloroethene	50.0	53.4		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	57.6		ug/L		115	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	56.3		ug/L		113	54 - 135
1,2-Dichlorobenzene	50.0	53.2		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	52.1		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	27.4		ug/L		55	41 - 146
1,1-Dichloroethane	50.0	53.5		ug/L		107	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.2		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.5		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	52.0		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	50.6		ug/L		101	70 - 130
Ethylbenzene	50.0	53.5		ug/L		107	70 - 130
Ethylene Dibromide	50.0	52.4		ug/L		105	70 - 130
Ethyl methacrylate	50.0	59.3		ug/L		119	68 - 130
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	280	*	ug/L		140	65 - 137
Isopropylbenzene	50.0	50.9		ug/L		102	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	238		ug/L		119	69 - 138
Methyl tert-butyl ether	50.0	47.2		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	51.4		ug/L		103	47 - 149
n-Butylbenzene	50.0	53.1		ug/L		106	67 - 130
N-Propylbenzene	50.0	53.2		ug/L		106	70 - 130
o-Chlorotoluene	50.0	52.0		ug/L		104	70 - 130
o-Xylene	50.0	52.0		ug/L		104	70 - 130
p-Chlorotoluene	50.0	51.9		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.0		ug/L		102	66 - 130
Styrene	50.0	49.8		ug/L		100	70 - 130
tert-Butylbenzene	50.0	50.8		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	63.2		ug/L		126	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.5		ug/L		105	70 - 131
Tetrachloroethene	50.0	52.2		ug/L		104	65 - 130
Toluene	50.0	53.5		ug/L		107	70 - 130
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.9		ug/L		120	63 - 130
1,2,3-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.5		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	70 - 130
Trichloroethene	50.0	50.7		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	40.5		ug/L		81	65 - 138
1,2,3-Trichloropropane	50.0	49.0		ug/L		98	70 - 130
1,2,4-Trimethylbenzene	50.0	50.6		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	50.4		ug/L		101	69 - 130
Vinyl acetate	100	104		ug/L		104	26 - 160
Vinyl chloride	50.0	41.8		ug/L		84	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 400-448326/4
Matrix: Water
Analysis Batch: 448326

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 09:04	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 09:04*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 09:04*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/17/19 09:04*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/17/19 09:04*	*1*

Lab Sample ID: LCS 400-448326/1002
Matrix: Water
Analysis Batch: 448326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.9		ug/L		110	61 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*98*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrolein	ND		50	28	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/22/19 07:09*	*07/22/19 09:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/22/19 07:09*	*07/22/19 09:16*	*1*
Dibromofluoromethane	*97*		*79 - 123*	*07/22/19 07:09*	*07/22/19 09:16*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/22/19 07:09*	*07/22/19 09:16*	*1*

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	191		ug/Kg		95	48 - 160
Acrolein	500	565		ug/Kg		113	40 - 150
Acrylonitrile	500	438		ug/Kg		88	60 - 130
Benzene	50.0	44.8		ug/Kg		90	65 - 130
Bromobenzene	50.0	44.1		ug/Kg		88	65 - 130
Bromochloromethane	50.0	41.0		ug/Kg		82	65 - 130
Bromodichloromethane	50.0	40.7		ug/Kg		81	61 - 130
Bromoform	50.0	42.0		ug/Kg		84	52 - 136
Bromomethane	50.0	17.2		ug/Kg		34	12 - 160
2-Butanone (MEK)	200	223		ug/Kg		111	55 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	37.8		ug/Kg		76	46 - 141
Carbon tetrachloride	50.0	39.7		ug/Kg		79	60 - 130
Chlorobenzene	50.0	42.6		ug/Kg		85	70 - 130
Chloroethane	50.0	41.8		ug/Kg		84	55 - 134
2-Chloroethyl vinyl ether	50.0	21.4		ug/Kg		43	10 - 158
Chloroform	50.0	41.3		ug/Kg		83	62 - 130
1-Chlorohexane	50.0	39.7		ug/Kg		79	69 - 130
Chloromethane	50.0	40.5		ug/Kg		81	49 - 136
cis-1,2-Dichloroethene	50.0	42.0		ug/Kg		84	53 - 135
cis-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	61 - 130
Dibromochloromethane	50.0	39.3		ug/Kg		79	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	41.0		ug/Kg		82	49 - 130
1,2-Dichlorobenzene	50.0	43.4		ug/Kg		87	64 - 130
1,3-Dichlorobenzene	50.0	44.0		ug/Kg		88	66 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	65 - 130
Dichlorodifluoromethane	50.0	41.5		ug/Kg		83	34 - 143
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	38.8		ug/Kg		78	55 - 137
1,2-Dichloropropane	50.0	44.2		ug/Kg		88	64 - 130
1,3-Dichloropropane	50.0	43.1		ug/Kg		86	67 - 130
2,2-Dichloropropane	50.0	38.2		ug/Kg		76	51 - 132
1,1-Dichloropropene	50.0	41.8		ug/Kg		84	65 - 130
Ethylbenzene	50.0	40.2		ug/Kg		80	70 - 130
Ethylene Dibromide	50.0	42.2		ug/Kg		84	67 - 130
Ethyl methacrylate	50.0	40.1		ug/Kg		80	62 - 130
Hexachlorobutadiene	50.0	50.4		ug/Kg		101	62 - 133
2-Hexanone	200	190		ug/Kg		95	57 - 131
Isopropylbenzene	50.0	39.4		ug/Kg		79	70 - 130
Methylene bromide	50.0	40.5		ug/Kg		81	65 - 130
Methylene Chloride	50.0	44.3		ug/Kg		89	57 - 132
4-Methyl-2-pentanone (MIBK)	200	164		ug/Kg		82	58 - 130
Methyl tert-butyl ether	50.0	39.5		ug/Kg		79	63 - 130
m-Xylene & p-Xylene	50.0	40.8		ug/Kg		82	70 - 130
Naphthalene	50.0	37.1		ug/Kg		74	45 - 144
n-Butylbenzene	50.0	43.9		ug/Kg		88	66 - 130
N-Propylbenzene	50.0	45.2		ug/Kg		90	67 - 130
o-Chlorotoluene	50.0	45.7		ug/Kg		91	67 - 130
o-Xylene	50.0	40.0		ug/Kg		80	70 - 130
p-Chlorotoluene	50.0	46.4		ug/Kg		93	66 - 130
p-Isopropyltoluene	50.0	44.2		ug/Kg		88	68 - 130
sec-Butylbenzene	50.0	44.5		ug/Kg		89	67 - 130
Styrene	50.0	38.3		ug/Kg		77	68 - 130
tert-Butylbenzene	50.0	43.2		ug/Kg		86	67 - 130
1,1,1,2-Tetrachloroethane	50.0	39.4		ug/Kg		79	65 - 130
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/Kg		99	60 - 131
Tetrachloroethene	50.0	35.7		ug/Kg		71	67 - 130
Toluene	50.0	42.1		ug/Kg		84	70 - 130
trans-1,2-Dichloroethene	50.0	41.9		ug/Kg		84	58 - 134

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	39.5		ug/Kg		79	60 - 130
1,2,3-Trichlorobenzene	50.0	43.5		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.3		ug/Kg		85	56 - 138
1,1,1-Trichloroethane	50.0	39.7		ug/Kg		79	63 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/Kg		85	65 - 130
Trichloroethene	50.0	42.1		ug/Kg		84	65 - 130
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	47.0		ug/Kg		94	60 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/Kg		93	66 - 130
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	67 - 130
Vinyl acetate	100	92.2		ug/Kg		92	24 - 160
Vinyl chloride	50.0	47.3		ug/Kg		95	52 - 132
Xylenes, Total	100	80.8		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzenethiol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzoic acid	ND		990	350	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzyl alcohol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-ethylhexyl) phthalate	97.5	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenzofuran	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Diethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-butyl phthalate	71.6	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,4-Dioxane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachloroethane	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Indene	610		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Isophorone	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Nitrobenzene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitrophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitrophenol	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pentachlorophenol	ND		660	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Phenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pyridine	ND		330	150	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Quinoline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Acrylamide	*34.3*	*J*	*ug/Kg*		*4.48*	*79-06-1*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Phenylene diamine	*3920*		*ug/Kg*		*6.43*	*106-50-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
N-Nitro-o-toluidine	*46.8*	*J*	*ug/Kg*		*8.20*	*99-55-8*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Methapyrilene	*59.9*	*J*	*ug/Kg*		*9.43*	*91-80-5*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Dimethylamino azobenzene	*43.0*	*J*	*ug/Kg*		*10.21*	*60-11-7*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Chlorobenzilate	*40.5*	*J*	*ug/Kg*		*10.24*	*510-15-6*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2-Acetylaminofluorene	*70.9*	*J*	*ug/Kg*		*10.78*	*53-96-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/15/19 13:57*	*07/17/19 14:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*27 - 127*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2-Fluorophenol	*73*		*25 - 128*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Phenol-d5	*73*		*29 - 130*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/15/19 13:57*	*07/17/19 14:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 400-448063/2-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	102	J *	ug/Kg		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*61*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*75*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*83*		*24 - 146*
2,4,6-Tribromophenol	*61*		*10 - 150*

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1460		ug/Kg		73	36 - 120
Benzoic acid	7770	2930		ug/Kg		38	10 - 139
Benzyl alcohol	2000	1310		ug/Kg		65	10 - 127
Bis(2-chloroethoxy)methane	2000	1250		ug/Kg		63	52 - 120
Bis(2-chloroethyl)ether	2000	1250		ug/Kg		63	50 - 120
bis (2-chloroisopropyl) ether	2000	1390		ug/Kg		69	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1860		ug/Kg		93	58 - 158
4-Bromophenyl phenyl ether	2000	1510		ug/Kg		76	51 - 120
Butyl benzyl phthalate	2000	1710		ug/Kg		85	58 - 126
4-Chloroaniline	2000	1450		ug/Kg		73	34 - 120
4-Chloro-3-methylphenol	2000	1660		ug/Kg		83	57 - 124
2-Chloronaphthalene	2000	1380		ug/Kg		69	55 - 120
2-Chlorophenol	2000	1480		ug/Kg		74	52 - 120
4-Chlorophenyl phenyl ether	2000	1400		ug/Kg		70	56 - 120
Dibenz[a,h]acridine	2000	1350		ug/Kg		68	51 - 135
Dibenzofuran	2000	1410		ug/Kg		70	58 - 120
3,3'-Dichlorobenzidine	2670	3080		ug/Kg		116	42 - 120
2,4-Dichlorophenol	2000	1560		ug/Kg		78	56 - 120
Diethyl phthalate	2000	1520		ug/Kg		76	56 - 128
2,4-Dimethylphenol	2000	1580		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1450		ug/Kg		72	58 - 120
Di-n-butyl phthalate	2000	1810		ug/Kg		90	64 - 122
4,6-Dinitro-ortho-cresol	4000	3060		ug/Kg		76	35 - 135
2,4-Dinitrophenol	4000	1690		ug/Kg		42	10 - 138
2,4-Dinitrotoluene	2000	1540		ug/Kg		77	59 - 133
2,6-Dinitrotoluene	2000	1490		ug/Kg		74	57 - 123
Di-n-octyl phthalate	2000	1810		ug/Kg		91	57 - 137
1,4-Dioxane	2000	640		ug/Kg		32	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1550		ug/Kg		77	50 - 120
Hexachlorobenzene	2000	1510		ug/Kg		76	49 - 127
Hexachlorocyclopentadiene	2000	1070		ug/Kg		53	10 - 140
Hexachloroethane	2000	1380		ug/Kg		69	45 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	2000	1390		ug/Kg		70	45 - 120
Isophorone	2000	1400		ug/Kg		70	50 - 120
2-Methylphenol	2000	1620		ug/Kg		81	51 - 123
3 & 4 Methylphenol	2000	1460		ug/Kg		73	47 - 123
2-Nitroaniline	2000	1660		ug/Kg		83	55 - 129
3-Nitroaniline	2000	1720		ug/Kg		86	45 - 120
4-Nitroaniline	2000	1790		ug/Kg		89	52 - 126
Nitrobenzene	2000	1420		ug/Kg		71	50 - 120
2-Nitrophenol	2000	1580		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2650		ug/Kg		66	38 - 133
N-Nitrosodimethylamine	2000	1470		ug/Kg		74	35 - 120
N-Nitrosodi-n-propylamine	2000	1450		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1530		ug/Kg		77	54 - 120
Pentachlorophenol	4000	3070		ug/Kg		77	32 - 131
Phenol	2000	1560		ug/Kg		78	51 - 120
Pyridine	4000	2070		ug/Kg		52	29 - 120
Quinoline	2000	1430		ug/Kg		71	10 - 150
2,4,5-Trichlorophenol	2000	1550		ug/Kg		78	53 - 133
2,4,6-Trichlorophenol	2000	1480		ug/Kg		74	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*59*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*76*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*70*		*10 - 150*

Lab Sample ID: LCSD 400-448063/3-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	704	*	ug/Kg		35	10 - 120	149	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
2-Fluorophenol	*61*		*25 - 128*
Nitrobenzene-d5	*68*		*15 - 136*
Phenol-d5	*65*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzenethiol	ND		10	1.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzoic acid	ND		30	7.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzyl alcohol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/17/19 14:25	07/20/19 19:11	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-ethylhexyl) phthalate	13.0		10	5.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/17/19 14:25	07/20/19 19:11	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloroaniline	ND		10	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chlorophenol	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenzofuran	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Diethyl phthalate	ND		10	0.70	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,4-Dioxane	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachloroethane	ND		10	4.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Indene	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Isophorone	ND		10	0.57	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Methylphenol	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitroaniline	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
3-Nitroaniline	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitroaniline	ND		10	2.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
Nitrobenzene	ND		10	0.55	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitrophenol	ND		10	0.65	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitrophenol	ND		10	2.1	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/17/19 14:25	07/20/19 19:11	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Phenol	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Quinoline	ND		10	6.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/17/19 14:25*	*07/20/19 19:11*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2-Fluorophenol	*42*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Nitrobenzene-d5	*61*		*27 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Phenol-d5	*52*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2,4,6-Tribromophenol	*90*		*15 - 135*	*07/17/19 14:25*	*07/20/19 19:11*	*1*

Lab Sample ID: LCS 400-448434/22-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		1	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*56*		*27 - 120*
Phenol-d5	*47*		*10 - 120*
Terphenyl-d14	*80*		*53 - 125*
2,4,6-Tribromophenol	*79*		*15 - 135*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	17.9		ug/L		60	29 - 120
Benzoic acid	117	47.4		ug/L		41	10 - 150
Benzyl alcohol	30.0	20.2		ug/L		67	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.0		ug/L		57	45 - 120
Bis(2-chloroethyl)ether	30.0	15.9		ug/L		53	48 - 120
bis (2-chloroisopropyl) ether	30.0	14.7		ug/L		49	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	19.4		ug/L		65	48 - 150
4-Bromophenyl phenyl ether	30.0	28.3		ug/L		94	55 - 122
Butyl benzyl phthalate	30.0	18.6		ug/L		62	46 - 145
4-Chloroaniline	30.0	14.3		ug/L		48	30 - 120
4-Chloro-3-methylphenol	30.0	21.5		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	22.4		ug/L		75	52 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	30.0	18.3		ug/L		61	34 - 120
4-Chlorophenyl phenyl ether	30.0	26.7		ug/L		89	58 - 124
Dibenz[a,h]acridine	30.0	23.7		ug/L		79	46 - 149
Dibenzofuran	30.0	24.3		ug/L		81	58 - 123
3,3'-Dichlorobenzidine	40.0	53.3		ug/L		133	39 - 135
2,4-Dichlorophenol	30.0	22.6		ug/L		75	39 - 128
Diethyl phthalate	30.0	24.3		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	20.6		ug/L		69	44 - 120
Dimethyl phthalate	30.0	23.6		ug/L		79	50 - 131
Di-n-butyl phthalate	30.0	23.1		ug/L		77	55 - 131
4,6-Dinitro-ortho-cresol	60.0	52.0		ug/L		87	10 - 150
2,4-Dinitrophenol	60.0	67.2		ug/L		112	10 - 150
2,4-Dinitrotoluene	30.0	25.9		ug/L		86	58 - 140
2,6-Dinitrotoluene	30.0	25.2		ug/L		84	57 - 130
Di-n-octyl phthalate	30.0	22.1		ug/L		74	50 - 150
1,4-Dioxane	30.0	10.7		ug/L		36	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	17.7		ug/L		59	47 - 123
Hexachlorobenzene	30.0	32.6		ug/L		109	52 - 131
Hexachlorocyclopentadiene	30.0	11.7	J	ug/L		39	10 - 129
Hexachloroethane	30.0	14.3		ug/L		48	41 - 120
Indene	30.0	18.9		ug/L		63	47 - 120
Isophorone	30.0	17.8		ug/L		59	49 - 120
2-Methylphenol	30.0	18.1		ug/L		60	39 - 123
3 & 4 Methylphenol	30.0	18.4	J	ug/L		61	38 - 121
2-Nitroaniline	30.0	20.0		ug/L		67	47 - 150
3-Nitroaniline	30.0	22.7		ug/L		76	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	18.6		ug/L		62	47 - 120
2-Nitrophenol	30.0	20.6		ug/L		69	28 - 136
4-Nitrophenol	60.0	42.3		ug/L		71	10 - 150
N-Nitrosodimethylamine	30.0	23.6		ug/L		79	22 - 148
N-Nitrosodi-n-propylamine	30.0	19.4		ug/L		65	44 - 120
N-Nitrosodiphenylamine	29.8	22.9		ug/L		77	56 - 120
Pentachlorophenol	60.0	58.6		ug/L		98	15 - 141
Phenol	30.0	15.2		ug/L		51	33 - 120
Pyridine	60.0	29.7		ug/L		49	26 - 120
Quinoline	30.0	21.4		ug/L		71	51 - 129
2,4,5-Trichlorophenol	30.0	25.5		ug/L		85	38 - 147
2,4,6-Trichlorophenol	30.0	25.2		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*34 - 120*
2-Fluorophenol	*39*		*10 - 120*
Nitrobenzene-d5	*59*		*27 - 120*
Phenol-d5	*51*		*10 - 120*
Terphenyl-d14	*89*		*53 - 125*
2,4,6-Tribromophenol	*123*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/23-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		2	10 - 120	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*34 - 120*
2-Fluorophenol	*38*		*10 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
Phenol-d5	*52*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*84*		*15 - 135*

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	18.4		ug/L		61	29 - 120	3	30
Benzoic acid	117	35.8		ug/L		31	10 - 150	28	30
Benzyl alcohol	30.0	22.2		ug/L		74	19 - 125	10	30
Bis(2-chloroethoxy)methane	30.0	18.0		ug/L		60	45 - 120	5	30
Bis(2-chloroethyl)ether	30.0	17.1		ug/L		57	48 - 120	7	30
bis (2-chloroisopropyl) ether	30.0	16.5		ug/L		55	30 - 125	12	30
Bis(2-ethylhexyl) phthalate	30.0	20.0		ug/L		67	48 - 150	3	30
4-Bromophenyl phenyl ether	30.0	29.1		ug/L		97	55 - 122	3	30
Butyl benzyl phthalate	30.0	18.9		ug/L		63	46 - 145	2	30
4-Chloroaniline	30.0	15.1		ug/L		50	30 - 120	5	30
4-Chloro-3-methylphenol	30.0	22.4		ug/L		75	39 - 140	4	30
2-Chloronaphthalene	30.0	22.8		ug/L		76	52 - 120	2	30
2-Chlorophenol	30.0	18.7		ug/L		62	34 - 120	3	30
4-Chlorophenyl phenyl ether	30.0	27.1		ug/L		90	58 - 124	1	30
Dibenz[a,h]acridine	30.0	24.4		ug/L		81	46 - 149	3	30
Dibenzofuran	30.0	24.7		ug/L		82	58 - 123	2	30
3,3'-Dichlorobenzidine	40.0	58.2	*	ug/L		145	39 - 135	9	30
2,4-Dichlorophenol	30.0	23.0		ug/L		77	39 - 128	2	30
Diethyl phthalate	30.0	25.6		ug/L		85	44 - 146	5	30
2,4-Dimethylphenol	30.0	22.4		ug/L		75	44 - 120	8	30
Dimethyl phthalate	30.0	24.2		ug/L		81	50 - 131	2	30
Di-n-butyl phthalate	30.0	24.0		ug/L		80	55 - 131	4	30
4,6-Dinitro-ortho-cresol	60.0	55.3		ug/L		92	10 - 150	6	30
2,4-Dinitrophenol	60.0	70.9		ug/L		118	10 - 150	5	30
2,4-Dinitrotoluene	30.0	25.9		ug/L		86	58 - 140	0	30
2,6-Dinitrotoluene	30.0	25.6		ug/L		85	57 - 130	2	30
Di-n-octyl phthalate	30.0	23.0		ug/L		77	50 - 150	4	30
1,4-Dioxane	30.0	11.2		ug/L		37	25 - 120	4	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.1		ug/L		67	47 - 123	13	30
Hexachlorobenzene	30.0	33.4		ug/L		111	52 - 131	2	30
Hexachlorocyclopentadiene	30.0	10.4	J	ug/L		35	10 - 129	12	30
Hexachloroethane	30.0	13.9		ug/L		46	41 - 120	2	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene	30.0	16.9		ug/L		56	47 - 120	11	30
Isophorone	30.0	19.1		ug/L		64	49 - 120	7	30
2-Methylphenol	30.0	19.4		ug/L		65	39 - 123	7	30
3 & 4 Methylphenol	30.0	20.2		ug/L		67	38 - 121	10	30
2-Nitroaniline	30.0	22.5		ug/L		75	47 - 150	12	30
3-Nitroaniline	30.0	24.5		ug/L		82	34 - 132	8	30
4-Nitroaniline	30.0	33.7		ug/L		112	41 - 135	12	30
Nitrobenzene	30.0	19.6		ug/L		65	47 - 120	5	30
2-Nitrophenol	30.0	20.9		ug/L		70	28 - 136	2	30
4-Nitrophenol	60.0	47.0		ug/L		78	10 - 150	10	30
N-Nitrosodimethylamine	30.0	24.2		ug/L		81	22 - 148	3	30
N-Nitrosodi-n-propylamine	30.0	21.9		ug/L		73	44 - 120	12	30
N-Nitrosodiphenylamine	29.8	23.2		ug/L		78	56 - 120	1	30
Pentachlorophenol	60.0	58.2		ug/L		97	15 - 141	1	30
Phenol	30.0	15.3		ug/L		51	33 - 120	1	30
Pyridine	60.0	32.4		ug/L		54	26 - 120	9	30
Quinoline	30.0	22.8		ug/L		76	51 - 129	6	30
2,4,5-Trichlorophenol	30.0	24.5		ug/L		82	38 - 147	4	30
2,4,6-Trichlorophenol	30.0	26.0		ug/L		87	36 - 139	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*65*		*27 - 120*
Phenol-d5	*50*		*10 - 120*
Terphenyl-d14	*84*		*53 - 125*
2,4,6-Tribromophenol	*105*		*15 - 135*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 21:29	07/30/19 21:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
Indene	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Isophorone	ND		10	0.57	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Phenol	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pyridine	ND		10	3.2	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*07/30/19 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Phenol-d5	*70*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2,4,6-Tribromophenol	*35*		*15 - 135*	*07/24/19 21:29*	*07/30/19 21:00*	*1*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 21:29	08/01/19 20:36	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 21:29	08/01/19 20:36	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 21:29	08/01/19 20:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 21:29	08/01/19 20:36	1
Quinoline	ND		10	6.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 21:29	08/01/19 20:36	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*08/01/19 20:36*	*1*

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	29.3		ug/L		98	29 - 120
Benzoic acid	117	97.7		ug/L		84	10 - 150
Benzyl alcohol	30.0	31.4		ug/L		105	19 - 125
Bis(2-chloroethoxy)methane	30.0	29.9		ug/L		100	45 - 120
Bis(2-chloroethyl)ether	30.0	31.5		ug/L		105	48 - 120
bis (2-chloroisopropyl) ether	30.0	29.8		ug/L		99	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	29.8		ug/L		99	48 - 150
4-Bromophenyl phenyl ether	30.0	30.5		ug/L		102	55 - 122
Butyl benzyl phthalate	30.0	32.3		ug/L		108	46 - 145
4-Chloroaniline	30.0	26.7		ug/L		89	30 - 120
4-Chloro-3-methylphenol	30.0	31.2		ug/L		104	39 - 140
2-Chloronaphthalene	30.0	31.2		ug/L		104	52 - 120
2-Chlorophenol	30.0	28.0		ug/L		93	34 - 120
4-Chlorophenyl phenyl ether	30.0	31.7		ug/L		106	58 - 124
Dibenz[a,h]acridine	30.0	29.5		ug/L		98	46 - 149
Dibenzofuran	30.0	32.1		ug/L		107	58 - 123
3,3'-Dichlorobenzidine	40.0	53.6		ug/L		134	39 - 135
2,4-Dichlorophenol	30.0	30.4		ug/L		101	39 - 128
Diethyl phthalate	30.0	34.4		ug/L		115	44 - 146
2,4-Dimethylphenol	30.0	30.3		ug/L		101	44 - 120
Dimethyl phthalate	30.0	32.5		ug/L		108	50 - 131
Di-n-butyl phthalate	30.0	34.0		ug/L		113	55 - 131
4,6-Dinitro-ortho-cresol	60.0	64.8		ug/L		108	10 - 150
2,4-Dinitrophenol	60.0	67.6		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	37.0		ug/L		123	58 - 140
2,6-Dinitrotoluene	30.0	32.0		ug/L		107	57 - 130
Di-n-octyl phthalate	30.0	30.0	B	ug/L		100	50 - 150
1,4-Dioxane	30.0	20.4		ug/L		68	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	29.8		ug/L		99	47 - 123
Hexachlorobenzene	30.0	30.8		ug/L		103	52 - 131
Hexachlorocyclopentadiene	30.0	13.0	J	ug/L		43	10 - 129
Hexachloroethane	30.0	20.6		ug/L		69	41 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	30.0	28.1		ug/L		94	47 - 120
Isophorone	30.0	30.2		ug/L		101	49 - 120
2-Methylphenol	30.0	31.0		ug/L		103	39 - 123
3 & 4 Methylphenol	30.0	31.2		ug/L		104	38 - 121
2-Nitroaniline	30.0	30.3		ug/L		101	47 - 150
3-Nitroaniline	30.0	28.5		ug/L		95	34 - 132
4-Nitroaniline	30.0	35.2		ug/L		117	41 - 135
Nitrobenzene	30.0	28.0		ug/L		93	47 - 120
2-Nitrophenol	30.0	30.0		ug/L		100	28 - 136
4-Nitrophenol	60.0	63.5		ug/L		106	10 - 150
N-Nitrosodimethylamine	30.0	29.2		ug/L		97	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.7		ug/L		109	44 - 120
N-Nitrosodiphenylamine	29.8	31.0		ug/L		104	56 - 120
Pentachlorophenol	60.0	66.2		ug/L		110	15 - 141
Phenol	30.0	28.4		ug/L		95	33 - 120
Pyridine	60.0	51.7		ug/L		86	26 - 120
Quinoline	30.0	35.2		ug/L		117	51 - 129
2,4,5-Trichlorophenol	30.0	33.4		ug/L		111	38 - 147
2,4,6-Trichlorophenol	30.0	32.9		ug/L		110	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*74*		*10 - 120*
Nitrobenzene-d5	*100*		*27 - 120*
Phenol-d5	*95*		*10 - 120*
Terphenyl-d14	*115*		*53 - 125*
2,4,6-Tribromophenol	*112*		*15 - 135*

Lab Sample ID: LCS 400-449437/4-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*45*		*34 - 120*
2-Fluorophenol	*40*		*10 - 120*
Nitrobenzene-d5	*79*		*27 - 120*
Phenol-d5	*60*		*10 - 120*
Terphenyl-d14	*66*		*53 - 125*
2,4,6-Tribromophenol	*25*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	24.8		ug/L		83	29 - 120	17	30
Benzoic acid	117	92.4		ug/L		79	10 - 150	6	30
Benzyl alcohol	30.0	31.2		ug/L		104	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	29.8		ug/L		99	45 - 120	0	30
Bis(2-chloroethyl)ether	30.0	28.4		ug/L		95	48 - 120	10	30
bis (2-chloroisopropyl) ether	30.0	29.3		ug/L		98	30 - 125	2	30
Bis(2-ethylhexyl) phthalate	30.0	30.2		ug/L		101	48 - 150	1	30
4-Bromophenyl phenyl ether	30.0	29.6		ug/L		99	55 - 122	3	30
Butyl benzyl phthalate	30.0	32.0		ug/L		107	46 - 145	1	30
4-Chloroaniline	30.0	25.5		ug/L		85	30 - 120	4	30
4-Chloro-3-methylphenol	30.0	30.4		ug/L		101	39 - 140	3	30
2-Chloronaphthalene	30.0	31.1		ug/L		104	52 - 120	0	30
2-Chlorophenol	30.0	29.1		ug/L		97	34 - 120	4	30
4-Chlorophenyl phenyl ether	30.0	32.3		ug/L		108	58 - 124	2	30
Dibenz[a,h]acridine	30.0	32.1		ug/L		107	46 - 149	9	30
Dibenzofuran	30.0	32.0		ug/L		107	58 - 123	0	30
3,3'-Dichlorobenzidine	40.0	51.6		ug/L		129	39 - 135	4	30
2,4-Dichlorophenol	30.0	29.5		ug/L		98	39 - 128	3	30
Diethyl phthalate	30.0	34.3		ug/L		114	44 - 146	0	30
2,4-Dimethylphenol	30.0	29.8		ug/L		99	44 - 120	2	30
Dimethyl phthalate	30.0	32.0		ug/L		107	50 - 131	2	30
Di-n-butyl phthalate	30.0	34.3		ug/L		114	55 - 131	1	30
4,6-Dinitro-ortho-cresol	60.0	69.4		ug/L		116	10 - 150	7	30
2,4-Dinitrophenol	60.0	71.6		ug/L		119	10 - 150	6	30
2,4-Dinitrotoluene	30.0	36.9		ug/L		123	58 - 140	0	30
2,6-Dinitrotoluene	30.0	31.8		ug/L		106	57 - 130	1	30
Di-n-octyl phthalate	30.0	30.6	B	ug/L		102	50 - 150	2	30
1,4-Dioxane	30.0	20.6		ug/L		69	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	29.2		ug/L		97	47 - 123	2	30
Hexachlorobenzene	30.0	31.7		ug/L		106	52 - 131	3	30
Hexachlorocyclopentadiene	30.0	12.9	J	ug/L		43	10 - 129	1	30
Hexachloroethane	30.0	21.4		ug/L		71	41 - 120	4	30
Indene	30.0	28.2		ug/L		94	47 - 120	0	30
Isophorone	30.0	29.7		ug/L		99	49 - 120	2	30
2-Methylphenol	30.0	30.5		ug/L		102	39 - 123	1	30
3 & 4 Methylphenol	30.0	31.0		ug/L		103	38 - 121	1	30
2-Nitroaniline	30.0	30.2		ug/L		101	47 - 150	0	30
3-Nitroaniline	30.0	28.3		ug/L		94	34 - 132	0	30
4-Nitroaniline	30.0	36.3		ug/L		121	41 - 135	3	30
Nitrobenzene	30.0	27.8		ug/L		93	47 - 120	1	30
2-Nitrophenol	30.0	30.2		ug/L		101	28 - 136	1	30
4-Nitrophenol	60.0	62.1		ug/L		104	10 - 150	2	30
N-Nitrosodimethylamine	30.0	28.2		ug/L		94	22 - 148	4	30
N-Nitrosodi-n-propylamine	30.0	32.8		ug/L		109	44 - 120	0	30
N-Nitrosodiphenylamine	29.8	30.3		ug/L		102	56 - 120	2	30
Pentachlorophenol	60.0	66.0		ug/L		110	15 - 141	0	30
Phenol	30.0	27.6		ug/L		92	33 - 120	3	30
Pyridine	60.0	49.8		ug/L		83	26 - 120	4	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	34.0		ug/L		113	51 - 129	3	30
2,4,5-Trichlorophenol			30.0	32.7		ug/L		109	38 - 147	2	30
2,4,6-Trichlorophenol			30.0	32.9		ug/L		110	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*79*		*10 - 120*
Nitrobenzene-d5	*99*		*27 - 120*
Phenol-d5	*92*		*10 - 120*
Terphenyl-d14	*107*		*53 - 125*
2,4,6-Tribromophenol	*107*		*15 - 135*

Lab Sample ID: LCSD 400-449437/5-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	14.9	*	ug/L		50	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*
2-Fluorophenol	*45*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*67*		*53 - 125*
2,4,6-Tribromophenol	*34*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Chrysene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluorene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*27 - 127*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Nitrobenzene-d5	*76*		*15 - 136*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Terphenyl-d14	*119*		*24 - 146*	*07/15/19 13:57*	*07/19/19 03:48*	*1*

Lab Sample ID: LCS 400-448063/4-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	295		ug/Kg		88	57 - 120
Acenaphthylene	333	291		ug/Kg		87	59 - 120
Anthracene	333	293		ug/Kg		88	61 - 120
Benzo[a]anthracene	333	290		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	305		ug/Kg		91	54 - 127
Benzo[b]fluoranthene	333	301		ug/Kg		90	35 - 146
Benzo[g,h,i]perylene	333	283		ug/Kg		85	36 - 150
Benzo[k]fluoranthene	333	311		ug/Kg		93	53 - 139
Chrysene	333	291		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	313		ug/Kg		94	39 - 150
Fluoranthene	333	286		ug/Kg		86	61 - 121
Fluorene	333	312		ug/Kg		94	60 - 120
Indeno[1,2,3-cd]pyrene	333	304		ug/Kg		91	40 - 150
1-Methylnaphthalene	333	277		ug/Kg		83	46 - 120
2-Methylnaphthalene	333	280		ug/Kg		84	46 - 120
Phenanthrene	333	288		ug/Kg		86	59 - 120
Pyrene	333	312		ug/Kg		94	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*77*		*15 - 136*
Terphenyl-d14	*107*		*24 - 146*

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Chrysene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluorene	ND		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 12:39	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Pyrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*15 - 122*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Nitrobenzene-d5	*102*		*19 - 130*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Terphenyl-d14	*120*		*33 - 138*	*07/17/19 14:25*	*07/31/19 12:39*	*1*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.6		ug/L		82	41 - 120
Acenaphthylene	30.0	25.7		ug/L		86	44 - 120
Anthracene	30.0	27.0		ug/L		90	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	24.5		ug/L		82	52 - 120
Benzo[b]fluoranthene	30.0	26.5		ug/L		88	53 - 134
Benzo[g,h,i]perylene	30.0	21.3		ug/L		71	47 - 133
Benzo[k]fluoranthene	30.0	22.2		ug/L		74	57 - 134
Chrysene	30.0	25.9		ug/L		86	55 - 122
Dibenz(a,h)anthracene	30.0	20.4		ug/L		68	48 - 146
Fluoranthene	30.0	28.8		ug/L		96	54 - 128
Fluorene	30.0	27.8		ug/L		93	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	21.8		ug/L		73	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	20.1		ug/L		67	32 - 124
Phenanthrene	30.0	27.4		ug/L		91	48 - 120
Pyrene	30.0	31.6		ug/L		105	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*73*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*104*		*33 - 138*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	27.3		ug/L		91	41 - 120	10	56
Acenaphthylene			30.0	27.8		ug/L		93	44 - 120	8	56
Anthracene			30.0	27.3		ug/L		91	49 - 120	1	51
Benzo[a]anthracene			30.0	26.4		ug/L		88	61 - 135	4	49
Benzo[a]pyrene			30.0	26.3		ug/L		88	52 - 120	7	50
Benzo[b]fluoranthene			30.0	29.1		ug/L		97	53 - 134	9	54
Benzo[g,h,i]perylene			30.0	24.0		ug/L		80	47 - 133	12	50
Benzo[k]fluoranthene			30.0	25.6		ug/L		85	57 - 134	14	52
Chrysene			30.0	26.8		ug/L		89	55 - 122	4	50
Dibenz(a,h)anthracene			30.0	21.7		ug/L		72	48 - 146	6	50
Fluoranthene			30.0	30.1		ug/L		100	54 - 128	5	52
Fluorene			30.0	30.7		ug/L		102	45 - 125	10	56
Indeno[1,2,3-cd]pyrene			30.0	23.3		ug/L		78	43 - 142	7	51
1-Methylnaphthalene			30.0	21.2		ug/L		71	41 - 120	7	55
2-Methylnaphthalene			30.0	21.2		ug/L		71	32 - 124	5	57
Phenanthrene			30.0	28.7		ug/L		96	48 - 120	5	56
Pyrene			30.0	28.7		ug/L		96	48 - 132	9	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

400-173141 COC

LAB (LOCATION)
- [ ] ACCUTEST (_____)
- [ ] CALSCIENCE (_____)
- [x] TESTAMERICA (Pensacola)
- [ ] Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- [ ] SGW FDG
- [ ] PIPELINE
- [ ] RETAIL
- [ ] CHEMICALS
- [ ] CONSULTANT
- [ ] LUBES
- [ ] TRANSPORTATION
- [ ] OTHER

Print Bill To Contact Name: James Carrino

PO #: 60592794.1.24.051 | 60592794 - 1.24.050

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

PAGE 1 of 1

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS)
- [x] STANDARD (14 DAY)
- [ ] 5 DAYS
- [ ] 3 DAYS
- [ ] 2 DAYS
- [ ] 24 HOURS
- [ ] RESULTS NEEDED ON WEEKEND

- [ ] LA - RWQCB REPORT FORMAT
- [ ] UST AGENCY:

DELIVERABLES: [ ] LEVEL 1 [x] LEVEL 2 [ ] LEVEL 3 [x] LEVEL 4 [x] OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- [x] SHELL CONTRACT RATE APPLIES
- [ ] STATE REIMBURSEMENT RATE APPLIES
- [ ] EDD NOT NEEDED
- [x] RECEIPT VERIFICATION REQUESTED
- [ ] PROVIDE LEDD DISK

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): James Carrino

State: IL

170 East Rand Avenue, Hartford

AECOM Project / Task Number: PreDesign Invest. PW

LAB USE ONLY

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
TB-PW-071219-A	7/12/2019	0:00	Water	X					2			X		
PD-6-SB-071219-EB	7/12/2019	14:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-6-SB-63-071219	7/12/2019	9:25	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

	Received by (Signature)	Date	Time
Relinquished by (Signature)	Fedex: 7429 5927 5061; 7429 5927 5072 custody seals: 1003190, 1003191, 1003192, 1003193	7/12/2019	18:00
Relinquished by (Signature)			
Relinquished by (Signature)	2.5°, 3.0°C TRB	7/13/19	9:09

Version 10May17

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8/13/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173141-1

Login Number: 173141
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C 3.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Illinois	NELAP		004586	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173141-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 4:40:26 PM

Leah Klingensmith, Senior Project Manager
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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173141-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173141-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-13-19.

Receipt
The samples were received on 7/13/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.5º C and 3.0º C.

Receipt Exceptions

Sample 400-173141-2 (PD-6-SB-071219-EB) is marked as a soil on the COC with 5 containers just like the other soil. 4 water containers were received. (two VOAs and two 1 liter ambers). Sample logged in as a water with the same tests listed on the COC.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448145 recovered outside control limits for the following analyte: 2-Hexanone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071219-A (400-173141-1) and PD-6-SB-071219-EB (400-173141-2). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-448145 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-448145 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: Sample PD-6-SB-071219-EB (400-173141-2) contained Benzene above the reporting limit and 2-Butanone (MEK) above the MDL limit. Reanalysis was performed with concurring results.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448966 and analytical batch 400-448890 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448890 recovered outside acceptance criteria, low biased, for 2-Chloroethyl vinyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 400-448966 and analytical batch 400-448890 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-6-SB-63-071219 (400-173141-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 400-173141-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 400-448342/5).

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448063 and analytical batch 400-448342 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448063 and analytical batch 400-448342 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: Surrogate compounds were inadvertently omitted during the extraction process for the following sample: PD-6-SB-071219-EB (400-173141-2). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448342 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Di-n-octyl phthalate and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448063 contained Indene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The method blank for preparation batch 400-448063 and analytical batch 400-448342 contained Bis(2-ethylhexyl) phthalate and Di-n-octyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered above the upper control limit for Hexachlorobenzene, 4-Chlorophenyl phenyl ether and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered outside acceptance criteria, low biased, for Aniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448434 and 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered above the upper control limit for 2,4-Dinitrophenol, Hexachlorobenzene, 4-Bromophenyl phenyl ether and 2,4-Dinitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448434 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). The samples associated with this method blank were either non-detect or less than the reporting limit.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered outside acceptance criteria,

Job ID: 400-173141-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

low biased, for bis (2-chloroisopropyl) ether, Phenol, Butyl benzyl phthalate, Pyridine, 1,4-Dioxane and 1,2-Diphenylhydrazine (as Azobenzene). A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Indene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, N-Nitrosodi-n-propylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: Two of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-6-SB-071219-EB (400-173141-2). Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

Method(s) 8270D LL: The method blank for preparation batch 400-449437 and analytical batch 400-450489 contained Fluoranthene and Pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Surrogate compounds were inadvertently omitted during the extraction process for the following sample: PD-6-SB-071219-EB (400-173141-2). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173141-1	TB-PW-071219-A	Water	07/12/19 00:00	07/13/19 09:09	
400-173141-2	PD-6-SB-071219-EB	Water	07/12/19 14:00	07/13/19 09:09	
400-173141-3	PD-6-SB-63-071219	Solid	07/12/19 09:25	07/13/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: TB-PW-071219-A — Lab Sample ID: 400-173141-1

No Detections.

Client Sample ID: PD-6-SB-071219-EB — Lab Sample ID: 400-173141-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.4		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	2.8	J	25	2.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.020	J H	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.034	J H	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-6-SB-63-071219 — Lab Sample ID: 400-173141-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2300		250	34	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	33	J	250	31	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	110	J	250	51	ug/Kg	50	☼	8260B	Total/NA
1-Methylnaphthalene	6.0	J	7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	7.2	J	7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1.2	J	7.4	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	110	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Di-n-butyl phthalate	88	J B	370	37	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: TB-PW-071219-A

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 14:42	1
Acrolein	ND		20	10	ug/L			07/16/19 14:42	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 14:42	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 14:42	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 14:42	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 14:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 14:42	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 14:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 14:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 14:42	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 14:42	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 14:42	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 14:42	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 14:42	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 14:42	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 14:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 14:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 14:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 14:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 14:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 14:42	1
2-Hexanone	ND	*	25	3.1	ug/L			07/16/19 14:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 14:42	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 14:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 14:42	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 14:42	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 14:42	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 14:42	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 14:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 14:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 14:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 14:42	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 14:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: TB-PW-071219-A

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 14:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 14:42	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 14:42	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 14:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 14:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 14:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 14:42	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 14:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 14:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 14:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 14:42	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 14:42	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 14:42	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 14:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 14:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 14:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 14:42	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 14:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 14:42	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 14:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*6.0*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/16/19 14:42*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 14:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/16/19 14:42*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/16/19 14:42*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/16/19 14:42*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 15:09	1
Acrolein	ND		20	10	ug/L			07/16/19 15:09	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 15:09	1
Benzene	**5.4**		1.0	0.38	ug/L			07/16/19 15:09	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 15:09	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 15:09	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 15:09	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 15:09	1
2-Butanone (MEK)	**2.8**	**J**	25	2.6	ug/L			07/16/19 15:09	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 15:09	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 15:09	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 15:09	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 15:09	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 15:09	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 15:09	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 15:09	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 15:09	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 15:09	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 15:09	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 15:09	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 15:09	1
2-Hexanone	ND	*	25	3.1	ug/L			07/16/19 15:09	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 15:09	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 15:09	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 15:09	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 15:09	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 15:09	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 15:09	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 15:09	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 15:09	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 15:09	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 15:09	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 15:09	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 15:09	1

Client Sample ID: PD-6-SB-071219-EB
Lab Sample ID: 400-173141-2
Date Collected: 07/12/19 14:00
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 15:09	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 15:09	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 15:09	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 15:09	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 15:09	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 15:09	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 15:09	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 15:09	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 15:09	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 15:09	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 15:09	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 15:09	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 15:09	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 15:09	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 15:09	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 15:09	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 15:09	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 15:09	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 15:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*210*		*ug/L*		*3.13*	*67-63-0*		*07/16/19 15:09*	*1*
2-Methyl-2-propanol	*8.3*	*J*	*ug/L*		*3.39*	*75-65-0*		*07/16/19 15:09*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 15:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/16/19 15:09*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/16/19 15:09*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/16/19 15:09*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 09:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 09:55*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/17/19 09:55*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/17/19 09:55*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Acenaphthene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Acenaphthylene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Anthracene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[a]anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[a]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[a]pyrene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[b]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[b]fluoranthene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[g,h,i]perylene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[g,h,i]perylene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Benzo[k]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Benzo[k]fluoranthene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Chrysene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Chrysene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Dibenz(a,h)anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Dibenz(a,h)anthracene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Fluoranthene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Fluorene	ND		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 16:34	1
Fluorene	ND	H	0.20	0.021	ug/L		07/24/19 21:29	08/02/19 20:50	1
Indeno[1,2,3-cd]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:34	1
Indeno[1,2,3-cd]pyrene	ND	H	0.20	0.041	ug/L		07/24/19 21:29	08/02/19 20:50	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
1-Methylnaphthalene	**0.020**	**J H**	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
2-Methylnaphthalene	**0.034**	**J H**	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Phenanthrene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1
Pyrene	ND	*	0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:34	1
Pyrene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/02/19 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*07/31/19 16:34*	*1*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/24/19 21:29*	*08/02/19 20:50*	*1*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*07/31/19 16:34*	*1*
Nitrobenzene-d5	*83*		*19 - 130*	*07/24/19 21:29*	*08/02/19 20:50*	*1*
Terphenyl-d14	*0*	*X *	*33 - 138*	*07/17/19 14:25*	*07/31/19 16:34*	*1*
Terphenyl-d14	*108*		*33 - 138*	*07/24/19 21:29*	*08/02/19 20:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:22	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/17/19 14:25	07/22/19 21:22	1
Benzoic acid	ND		29	7.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 21:22	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/17/19 14:25	07/22/19 21:22	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 21:22	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 21:22	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:22	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:22	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:22	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 21:22	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 21:22	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 21:22	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:22	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/17/19 14:25	07/22/19 21:22	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 21:22	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 21:22	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:22	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:22	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 21:22	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 21:22	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/17/19 14:25	07/22/19 21:22	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 21:22	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:22	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 21:22	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 21:22	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 21:22	1
Phenol	ND		9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:22	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 21:22	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 21:22	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:22	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/17/19 14:25*	*07/22/19 21:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*34 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
Nitrobenzene-d5	*0*	*X*	*27 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
Phenol-d5	*0*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:22*	*1*

Client Sample ID: PD-6-SB-071219-EB
Lab Sample ID: 400-173141-2
Date Collected: 07/12/19 14:00
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	*0*	*X*	*53 - 125*	*07/17/19 14:25*	*07/22/19 21:22*	*1*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*	*07/17/19 14:25*	*07/22/19 21:22*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	10	3.9	ug/L		07/24/19 21:29	07/31/19 01:13	1
Benzenethiol	ND	H *	10	1.7	ug/L		07/24/19 21:29	07/31/19 01:13	1
Benzoic acid	ND	H	30	7.4	ug/L		07/24/19 21:29	07/31/19 01:13	1
Benzyl alcohol	ND	H	10	2.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Bis(2-chloroethoxy)methane	ND	H	10	0.70	ug/L		07/24/19 21:29	07/31/19 01:13	1
Bis(2-ethylhexyl) phthalate	ND	H	10	5.1	ug/L		07/24/19 21:29	07/31/19 01:13	1
Butyl benzyl phthalate	ND	H	10	0.70	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Chloroaniline	ND	H	10	3.5	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Chloro-3-methylphenol	ND	H	10	3.9	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Chlorophenol	ND	H	10	2.2	ug/L		07/24/19 21:29	07/31/19 01:13	1
3,3'-Dichlorobenzidine	ND	H	10	2.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
2,4-Dichlorophenol	ND	H	10	3.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Diethyl phthalate	ND	H	10	0.71	ug/L		07/24/19 21:29	07/31/19 01:13	1
2,4-Dimethylphenol	ND	H	10	3.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
Di-n-butyl phthalate	ND	H	10	2.7	ug/L		07/24/19 21:29	07/31/19 01:13	1
4,6-Dinitro-ortho-cresol	ND	H	10	2.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
2,4-Dinitrophenol	ND	H	30	3.5	ug/L		07/24/19 21:29	07/31/19 01:13	1
Di-n-octyl phthalate	ND	H	10	0.45	ug/L		07/24/19 21:29	07/31/19 01:13	1
1,4-Dioxane	ND	H	10	1.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	10	1.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Hexachloroethane	ND	H	10	4.3	ug/L		07/24/19 21:29	07/31/19 01:13	1
Indene	ND	H	10	1.0	ug/L		07/24/19 21:29	07/31/19 01:13	1
Isophorone	ND	H	10	0.58	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Methylphenol	ND	H	10	1.8	ug/L		07/24/19 21:29	07/31/19 01:13	1
3 & 4 Methylphenol	ND	H	20	1.1	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Nitroaniline	ND	H	10	2.2	ug/L		07/24/19 21:29	07/31/19 01:13	1
3-Nitroaniline	ND	H	10	1.8	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Nitroaniline	ND	H	10	2.5	ug/L		07/24/19 21:29	07/31/19 01:13	1
Nitrobenzene	ND	H	10	0.56	ug/L		07/24/19 21:29	07/31/19 01:13	1
2-Nitrophenol	ND	H	10	0.66	ug/L		07/24/19 21:29	07/31/19 01:13	1
4-Nitrophenol	ND	H	10	2.1	ug/L		07/24/19 21:29	07/31/19 01:13	1
N-Nitrosodimethylamine	ND	H	10	3.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
N-Nitrosodi-n-propylamine	ND	H	10	3.3	ug/L		07/24/19 21:29	07/31/19 01:13	1
N-Nitrosodiphenylamine	ND	H	10	0.48	ug/L		07/24/19 21:29	07/31/19 01:13	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	07/31/19 01:13	1
Phenol	ND	H	10	2.6	ug/L		07/24/19 21:29	07/31/19 01:13	1
Pyridine	ND	H	10	3.2	ug/L		07/24/19 21:29	07/31/19 01:13	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*	*H*	*ug/L*				*07/24/19 21:29*	*07/31/19 01:13*	*1*

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*44*		*34 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
2-Fluorophenol	*52*		*10 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-071219-EB

Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78*		*27 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
Phenol-d5	*64*		*10 - 120*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
Terphenyl-d14	*60*		*53 - 125*	*07/24/19 21:29*	*07/31/19 01:13*	*1*
2,4,6-Tribromophenol	*37*		*15 - 135*	*07/24/19 21:29*	*07/31/19 01:13*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	H	10	0.75	ug/L		07/24/19 21:29	08/01/19 22:43	1
bis (2-chloroisopropyl) ether	ND	H	10	0.82	ug/L		07/24/19 21:29	08/01/19 22:43	1
4-Bromophenyl phenyl ether	ND	H	10	0.32	ug/L		07/24/19 21:29	08/01/19 22:43	1
2-Chloronaphthalene	ND	H	10	0.53	ug/L		07/24/19 21:29	08/01/19 22:43	1
4-Chlorophenyl phenyl ether	ND	H	10	2.0	ug/L		07/24/19 21:29	08/01/19 22:43	1
Dibenz[a,h]acridine	ND	H	10	3.0	ug/L		07/24/19 21:29	08/01/19 22:43	1
Dibenzofuran	ND	H	10	0.53	ug/L		07/24/19 21:29	08/01/19 22:43	1
Dimethyl phthalate	ND	H	10	0.61	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,4-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,6-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/01/19 22:43	1
Hexachlorobenzene	ND	H	10	0.25	ug/L		07/24/19 21:29	08/01/19 22:43	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/01/19 22:43	1
Quinoline	ND	H	10	6.1	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,4,5-Trichlorophenol	ND	H	10	3.8	ug/L		07/24/19 21:29	08/01/19 22:43	1
2,4,6-Trichlorophenol	ND	H	10	3.6	ug/L		07/24/19 21:29	08/01/19 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*46*		*34 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
2-Fluorophenol	*45*		*10 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
Nitrobenzene-d5	*77*		*27 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
Phenol-d5	*60*		*10 - 120*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
Terphenyl-d14	*64*		*53 - 125*	*07/24/19 21:29*	*08/01/19 22:43*	*1*
2,4,6-Tribromophenol	*44*		*15 - 135*	*07/24/19 21:29*	*08/01/19 22:43*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-63-071219

Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3

Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	660	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Acrolein	ND		2500	1400	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Acrylonitrile	ND		1000	410	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Benzene	**2300**		250	34	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromobenzene	ND		250	66	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromochloromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromodichloromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromoform	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Bromomethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2-Butanone (MEK)	ND		1300	310	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Carbon disulfide	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Carbon tetrachloride	ND		250	87	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chlorobenzene	ND		250	26	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2-Chloroethyl vinyl ether	ND		510	250	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chloroform	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1-Chlorohexane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Chloromethane	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
cis-1,2-Dichloroethene	ND		250	39	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
cis-1,3-Dichloropropene	ND		250	61	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Dibromochloromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dibromo-3-Chloropropane	ND		250	170	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dichlorobenzene	ND		250	36	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,3-Dichlorobenzene	ND		250	48	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,4-Dichlorobenzene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Dichlorodifluoromethane	ND		250	66	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1-Dichloroethane	ND		250	42	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dichloroethane	ND		250	42	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1-Dichloroethene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2-Dichloropropane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,3-Dichloropropane	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2,2-Dichloropropane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1-Dichloropropene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Ethylbenzene	**33**	**J**	250	31	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Ethylene Dibromide	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Ethyl methacrylate	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Hexachlorobutadiene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
2-Hexanone	ND		1300	250	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Isopropylbenzene	ND		250	35	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Methylene bromide	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Methylene Chloride	ND		760	510	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
4-Methyl-2-pentanone (MIBK)	ND		1300	250	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Methyl tert-butyl ether	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
m-Xylene & p-Xylene	ND		250	66	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Naphthalene	ND		250	100	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
n-Butylbenzene	ND		250	49	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
N-Propylbenzene	ND		250	46	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
o-Chlorotoluene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
o-Xylene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-63-071219
Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3
Matrix: Solid
Percent Solids: 86.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		250	50	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
p-Isopropyltoluene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
sec-Butylbenzene	ND		250	48	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Styrene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
tert-Butylbenzene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,1,2-Tetrachloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,2,2-Tetrachloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Tetrachloroethene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Toluene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
trans-1,2-Dichloroethene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
trans-1,3-Dichloropropene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,3-Trichlorobenzene	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,4-Trichlorobenzene	ND		250	100	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,1-Trichloroethane	ND		250	56	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,1,2-Trichloroethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Trichloroethene	ND		250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Trichlorofluoromethane	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,3-Trichloropropane	ND		250	150	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,2,4-Trimethylbenzene	**110**	**J**	250	51	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
1,3,5-Trimethylbenzene	ND		250	42	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Vinyl acetate	ND		1300	460	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Vinyl chloride	ND		250	130	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50
Xylenes, Total	ND		510	97	ug/Kg	☼	07/22/19 07:09	07/22/19 15:54	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethanol	*5700*		*ug/Kg*	☼	*2.03*	*64-17-5*	*07/22/19 07:09*	*07/22/19 15:54*	*50*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 07:09*	*07/22/19 15:54*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*72 - 122*	*07/22/19 07:09*	*07/22/19 15:54*	*50*
Dibromofluoromethane	*95*		*79 - 123*	*07/22/19 07:09*	*07/22/19 15:54*	*50*
Toluene-d8 (Surr)	*104*		*80 - 120*	*07/22/19 07:09*	*07/22/19 15:54*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Acenaphthylene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Anthracene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[a]anthracene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[a]pyrene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[b]fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[g,h,i]perylene	ND		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Benzo[k]fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Chrysene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Dibenz(a,h)anthracene	ND		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Fluoranthene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Fluorene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Indeno[1,2,3-cd]pyrene	ND		7.4	2.2	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
1-Methylnaphthalene	**6.0**	**J**	7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
2-Methylnaphthalene	**7.2**	**J**	7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-63-071219

Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3

Matrix: Solid
Percent Solids: 86.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**1.2**	**J**	7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1
Pyrene	ND		7.4	1.1	ug/Kg	☼	07/15/19 13:57	07/19/19 05:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/15/19 13:57*	*07/19/19 05:58*	*1*
Nitrobenzene-d5	*65*		*15 - 136*	*07/15/19 13:57*	*07/19/19 05:58*	*1*
Terphenyl-d14	*104*		*24 - 146*	*07/15/19 13:57*	*07/19/19 05:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		370	48	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Benzenethiol	ND	*	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Benzoic acid	ND		1100	390	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Benzyl alcohol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Bis(2-chloroethoxy)methane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Bis(2-chloroethyl)ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
bis (2-chloroisopropyl) ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Bis(2-ethylhexyl) phthalate	**110**	**J B**	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Bromophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Butyl benzyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Chloroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Chloro-3-methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Chloronaphthalene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Chlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Chlorophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Dibenz[a,h]acridine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Dibenzofuran	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
3,3'-Dichlorobenzidine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Diethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dimethylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Dimethyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Di-n-butyl phthalate	**88**	**J B**	370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4,6-Dinitro-ortho-cresol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,6-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Di-n-octyl phthalate	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
1,4-Dioxane	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Hexachlorobenzene	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Hexachlorocyclopentadiene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Hexachloroethane	ND		370	110	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Indene	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Isophorone	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Methylphenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
3 & 4 Methylphenol	ND		740	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
3-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Client Sample ID: PD-6-SB-63-071219

Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3

Matrix: Solid
Percent Solids: 86.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Nitrobenzene	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2-Nitrophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
4-Nitrophenol	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
N-Nitrosodimethylamine	ND		370	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
N-Nitrosodi-n-propylamine	ND		370	120	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
N-Nitrosodiphenylamine	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Pentachlorophenol	ND		740	74	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Phenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Pyridine	ND		370	170	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
Quinoline	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4,5-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1
2,4,6-Trichlorophenol	ND		370	37	ug/Kg	☼	07/15/19 13:57	07/17/19 18:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*990*	*T J N*	*ug/Kg*	☼	*9.09*	*57-10-3*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
9-Octadecenamide, (Z)-	*940*	*T J N*	*ug/Kg*	☼	*10.48*	*301-02-0*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
9-Octadecenamide, (Z)-	*500*	*T J N*	*ug/Kg*	☼	*11.83*	*301-02-0*	*07/15/19 13:57*	*07/17/19 18:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*27 - 127*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
2-Fluorophenol	*69*		*25 - 128*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
Nitrobenzene-d5	*75*		*15 - 136*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
Phenol-d5	*72*		*29 - 130*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
Terphenyl-d14	*83*		*24 - 146*	*07/15/19 13:57*	*07/17/19 18:31*	*1*
2,4,6-Tribromophenol	*62*		*10 - 150*	*07/15/19 13:57*	*07/17/19 18:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.3**		0.01	0.01	%			07/15/19 16:27	1

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173141-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173141-3	PD-6-SB-63-071219	104	95	104
LCS 400-448966/2-A	Lab Control Sample	107	102	91
MB 400-448966/1-A	Method Blank	108	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173141-1	TB-PW-071219-A	101	100	102
400-173141-2	PD-6-SB-071219-EB	102	101	104
400-173141-2 - RA	PD-6-SB-071219-EB	99	99	102
LCS 400-448145/1002	Lab Control Sample	96	100	102
LCS 400-448326/1002	Lab Control Sample	98	98	101
MB 400-448145/4	Method Blank	102	99	103
MB 400-448326/4	Method Blank	99	100	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173141-3	PD-6-SB-63-071219	63	69	75	72	83	62
LCS 400-448063/2-A	Lab Control Sample	61	68	75	71	83	61
LCS 400-448063/7-A	Lab Control Sample	59	63	76	68	85	70
LCSD 400-448063/3-A	Lab Control Sample Dup	58	61	68	65	81	59
MB 400-448063/1-A	Method Blank	66	73	74	73	88	65

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173141-1
Project/Site: PreDesign Invest PW

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173141-2	PD-6-SB-071219-EB	0 X	0 X	0 X	0 X	0 X	0 X
400-173141-2 - RE	PD-6-SB-071219-EB	44	52	78	64	60	37
400-173141-2 - RERA	PD-6-SB-071219-EB	46	45	77	60	64	44
LCS 400-448434/22-A	Lab Control Sample	67	44	56	47	80	79
LCS 400-448434/2-A	Lab Control Sample	76	39	59	51	89	123
LCS 400-449437/2-A	Lab Control Sample	100	74	100	95	115	112
LCS 400-449437/4-A	Lab Control Sample	45	40	79	60	66	25
LCSD 400-448434/23-A	Lab Control Sample Dup	58	38	58	52	77	84
LCSD 400-448434/3-A	Lab Control Sample Dup	72	37	65	50	84	105
LCSD 400-449437/3-A	Lab Control Sample Dup	100	79	99	92	107	107
LCSD 400-449437/5-A	Lab Control Sample Dup	44	45	81	67	67	34
MB 400-448434/1-A	Method Blank	68	42	61	52	63	90
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173141-3	PD-6-SB-63-071219	77	65	104
LCS 400-448063/4-A	Lab Control Sample	85	77	107
MB 400-448063/1-A	Method Blank	88	76	119

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173141-2	PD-6-SB-071219-EB	0 X	0 X	0 X *
400-173141-2	PD-6-SB-071219-EB	87	83	108
LCS 400-448434/2-A	Lab Control Sample	73	75	104
LCSD 400-448434/3-A	Lab Control Sample Dup	77	75	86
MB 400-448434/1-A	Method Blank	108	102	120

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173141-1
Project/Site: PreDesign Invest PW

TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173141-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071219-A
Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 14:42	RS	TAL PEN

Client Sample ID: PD-6-SB-071219-EB
Date Collected: 07/12/19 14:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 15:09	RS	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	448326	07/17/19 09:55	WPD	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448987	07/22/19 21:22	VC1	TAL PEN
Total/NA	Prep	3520C	RE		985.2 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	1	0.4 mL	1.0 mL	450063	07/31/19 01:13	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		985.2 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450467	08/01/19 22:43	VC1	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 16:34	KJA	TAL PEN
Total/NA	Prep	3520C			985.2 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			450731	08/02/19 20:50	KJA	TAL PEN

Client Sample ID: PD-6-SB-63-071219
Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448054	07/15/19 16:27	DDQ	TAL PEN

Client Sample ID: PD-6-SB-63-071219
Date Collected: 07/12/19 09:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173141-3
Matrix: Solid
Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.736 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448890	07/22/19 15:54	RS	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448342	07/17/19 18:31	VC1	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 05:58	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448063/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 14:56	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 03:48	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448145/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 08:58	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448326/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448326	07/17/19 09:04	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448434/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:11	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 12:39	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448966/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 09:16	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449437/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 20:36	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448063/2-A
Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:18	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448063/4-A
Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448527	07/19/19 04:04	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448063/7-A
Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 16:01	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448145/1002
Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 07:58	RS	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448326/1002
Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448326	07/17/19 08:14	WPD	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448434/22-A
Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:52	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:33	S1S	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:16	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 12:56	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 07:42	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 10:44	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449437/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:04	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448063/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448063	07/15/19 13:57	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448342	07/17/19 15:39	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448434/23-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:52	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:54	S1S	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448434/3-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:37	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 13:15	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449437/3-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 11:08	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449437/5-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:25	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

GC/MS VOA

Analysis Batch: 448145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-1	TB-PW-071219-A	Total/NA	Water	8260B	
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8260B	
MB 400-448145/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448145/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2 - RA	PD-6-SB-071219-EB	Total/NA	Water	8260B	
MB 400-448326/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448326/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	8260B	448966
MB 400-448966/1-A	Method Blank	Total/NA	Solid	8260B	448966
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	8260B	448966

Prep Batch: 448966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	5035	
MB 400-448966/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 448063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	3546	
MB 400-448063/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 448342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	8270D	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D	448063
LCS 400-448063/2-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCS 400-448063/7-A	Lab Control Sample	Total/NA	Solid	8270D	448063
LCSD 400-448063/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448063

Prep Batch: 448434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	3520C	
MB 400-448434/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448434/22-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448434/23-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

GC/MS Semi VOA

Analysis Batch: 448527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	8270D LL	448063
MB 400-448063/1-A	Method Blank	Total/NA	Solid	8270D LL	448063
LCS 400-448063/4-A	Lab Control Sample	Total/NA	Solid	8270D LL	448063

Analysis Batch: 448799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D	448434
LCS 400-448434/22-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCSD 400-448434/23-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8270D	448434

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	3520C	
400-173141-2 - RERA	PD-6-SB-071219-EB	Total/NA	Water	3520C	
400-173141-2 - RE	PD-6-SB-071219-EB	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2 - RE	PD-6-SB-071219-EB	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

Analysis Batch: 450159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8270D LL	448434
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D LL	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	448434

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2 - RERA	PD-6-SB-071219-EB	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437

Analysis Batch: 450731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-2	PD-6-SB-071219-EB	Total/NA	Water	8270D LL	449437

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

GC/MS Semi VOA

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

General Chemistry

Analysis Batch: 448054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173141-3	PD-6-SB-63-071219	Total/NA	Solid	Moisture	

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 08:58	1
Acrolein	ND		20	10	ug/L			07/16/19 08:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 08:58	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 08:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 08:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 08:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 08:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 08:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 08:58	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 08:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 08:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 08:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 08:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 08:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 08:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 08:58	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 08:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 08:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 08:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 08:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 08:58	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 08:58	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 08:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 08:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 08:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 08:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 08:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 08:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 08:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 08:58	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 08:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 08:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 08:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 08:58	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 08:58*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/16/19 08:58*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/16/19 08:58*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/16/19 08:58*	*1*

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	293		ug/L		146	43 - 160
Acrolein	500	603		ug/L		121	38 - 160
Acrylonitrile	500	560		ug/L		112	64 - 142
Benzene	50.0	50.0		ug/L		100	70 - 130
Bromobenzene	50.0	49.2		ug/L		98	70 - 132
Bromochloromethane	50.0	51.7		ug/L		103	70 - 130
Bromodichloromethane	50.0	51.9		ug/L		104	67 - 133
Bromoform	50.0	57.9		ug/L		116	57 - 140
Bromomethane	50.0	36.4		ug/L		73	10 - 160
2-Butanone (MEK)	200	250		ug/L		125	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.2		ug/L		100	61 - 137
Carbon tetrachloride	50.0	56.9		ug/L		114	61 - 137
Chlorobenzene	50.0	52.1		ug/L		104	70 - 130
Chloroethane	50.0	45.7		ug/L		91	55 - 141
2-Chloroethyl vinyl ether	50.0	39.5		ug/L		79	10 - 160
Chloroform	50.0	51.2		ug/L		102	69 - 130
1-Chlorohexane	50.0	56.6		ug/L		113	69 - 130
Chloromethane	50.0	41.6		ug/L		83	58 - 137
cis-1,2-Dichloroethene	50.0	53.4		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	57.6		ug/L		115	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	56.3		ug/L		113	54 - 135
1,2-Dichlorobenzene	50.0	53.2		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	52.1		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	27.4		ug/L		55	41 - 146
1,1-Dichloroethane	50.0	53.5		ug/L		107	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.2		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.5		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	52.0		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	50.6		ug/L		101	70 - 130
Ethylbenzene	50.0	53.5		ug/L		107	70 - 130
Ethylene Dibromide	50.0	52.4		ug/L		105	70 - 130
Ethyl methacrylate	50.0	59.3		ug/L		119	68 - 130
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	280	*	ug/L		140	65 - 137
Isopropylbenzene	50.0	50.9		ug/L		102	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	238		ug/L		119	69 - 138
Methyl tert-butyl ether	50.0	47.2		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	51.4		ug/L		103	47 - 149
n-Butylbenzene	50.0	53.1		ug/L		106	67 - 130
N-Propylbenzene	50.0	53.2		ug/L		106	70 - 130
o-Chlorotoluene	50.0	52.0		ug/L		104	70 - 130
o-Xylene	50.0	52.0		ug/L		104	70 - 130
p-Chlorotoluene	50.0	51.9		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.0		ug/L		102	66 - 130
Styrene	50.0	49.8		ug/L		100	70 - 130
tert-Butylbenzene	50.0	50.8		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	63.2		ug/L		126	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.5		ug/L		105	70 - 131
Tetrachloroethene	50.0	52.2		ug/L		104	65 - 130
Toluene	50.0	53.5		ug/L		107	70 - 130
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.9		ug/L		120	63 - 130
1,2,3-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.5		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	70 - 130
Trichloroethene	50.0	50.7		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	40.5		ug/L		81	65 - 138
1,2,3-Trichloropropane	50.0	49.0		ug/L		98	70 - 130
1,2,4-Trimethylbenzene	50.0	50.6		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	50.4		ug/L		101	69 - 130
Vinyl acetate	100	104		ug/L		104	26 - 160
Vinyl chloride	50.0	41.8		ug/L		84	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 400-448326/4
Matrix: Water
Analysis Batch: 448326

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 09:04	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 09:04*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 09:04*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/17/19 09:04*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/17/19 09:04*	*1*

Lab Sample ID: LCS 400-448326/1002
Matrix: Water
Analysis Batch: 448326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.9		ug/L		110	61 - 137

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*98*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrolein	ND		50	28	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/22/19 07:09*	*07/22/19 09:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/22/19 07:09*	*07/22/19 09:16*	*1*
Dibromofluoromethane	*97*		*79 - 123*	*07/22/19 07:09*	*07/22/19 09:16*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/22/19 07:09*	*07/22/19 09:16*	*1*

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	191		ug/Kg		95	48 - 160
Acrolein	500	565		ug/Kg		113	40 - 150
Acrylonitrile	500	438		ug/Kg		88	60 - 130
Benzene	50.0	44.8		ug/Kg		90	65 - 130
Bromobenzene	50.0	44.1		ug/Kg		88	65 - 130
Bromochloromethane	50.0	41.0		ug/Kg		82	65 - 130
Bromodichloromethane	50.0	40.7		ug/Kg		81	61 - 130
Bromoform	50.0	42.0		ug/Kg		84	52 - 136
Bromomethane	50.0	17.2		ug/Kg		34	12 - 160
2-Butanone (MEK)	200	223		ug/Kg		111	55 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	37.8		ug/Kg		76	46 - 141
Carbon tetrachloride	50.0	39.7		ug/Kg		79	60 - 130
Chlorobenzene	50.0	42.6		ug/Kg		85	70 - 130
Chloroethane	50.0	41.8		ug/Kg		84	55 - 134
2-Chloroethyl vinyl ether	50.0	21.4		ug/Kg		43	10 - 158
Chloroform	50.0	41.3		ug/Kg		83	62 - 130
1-Chlorohexane	50.0	39.7		ug/Kg		79	69 - 130
Chloromethane	50.0	40.5		ug/Kg		81	49 - 136
cis-1,2-Dichloroethene	50.0	42.0		ug/Kg		84	53 - 135
cis-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	61 - 130
Dibromochloromethane	50.0	39.3		ug/Kg		79	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	41.0		ug/Kg		82	49 - 130
1,2-Dichlorobenzene	50.0	43.4		ug/Kg		87	64 - 130
1,3-Dichlorobenzene	50.0	44.0		ug/Kg		88	66 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	65 - 130
Dichlorodifluoromethane	50.0	41.5		ug/Kg		83	34 - 143
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	38.8		ug/Kg		78	55 - 137
1,2-Dichloropropane	50.0	44.2		ug/Kg		88	64 - 130
1,3-Dichloropropane	50.0	43.1		ug/Kg		86	67 - 130
2,2-Dichloropropane	50.0	38.2		ug/Kg		76	51 - 132
1,1-Dichloropropene	50.0	41.8		ug/Kg		84	65 - 130
Ethylbenzene	50.0	40.2		ug/Kg		80	70 - 130
Ethylene Dibromide	50.0	42.2		ug/Kg		84	67 - 130
Ethyl methacrylate	50.0	40.1		ug/Kg		80	62 - 130
Hexachlorobutadiene	50.0	50.4		ug/Kg		101	62 - 133
2-Hexanone	200	190		ug/Kg		95	57 - 131
Isopropylbenzene	50.0	39.4		ug/Kg		79	70 - 130
Methylene bromide	50.0	40.5		ug/Kg		81	65 - 130
Methylene Chloride	50.0	44.3		ug/Kg		89	57 - 132
4-Methyl-2-pentanone (MIBK)	200	164		ug/Kg		82	58 - 130
Methyl tert-butyl ether	50.0	39.5		ug/Kg		79	63 - 130
m-Xylene & p-Xylene	50.0	40.8		ug/Kg		82	70 - 130
Naphthalene	50.0	37.1		ug/Kg		74	45 - 144
n-Butylbenzene	50.0	43.9		ug/Kg		88	66 - 130
N-Propylbenzene	50.0	45.2		ug/Kg		90	67 - 130
o-Chlorotoluene	50.0	45.7		ug/Kg		91	67 - 130
o-Xylene	50.0	40.0		ug/Kg		80	70 - 130
p-Chlorotoluene	50.0	46.4		ug/Kg		93	66 - 130
p-Isopropyltoluene	50.0	44.2		ug/Kg		88	68 - 130
sec-Butylbenzene	50.0	44.5		ug/Kg		89	67 - 130
Styrene	50.0	38.3		ug/Kg		77	68 - 130
tert-Butylbenzene	50.0	43.2		ug/Kg		86	67 - 130
1,1,1,2-Tetrachloroethane	50.0	39.4		ug/Kg		79	65 - 130
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/Kg		99	60 - 131
Tetrachloroethene	50.0	35.7		ug/Kg		71	67 - 130
Toluene	50.0	42.1		ug/Kg		84	70 - 130
trans-1,2-Dichloroethene	50.0	41.9		ug/Kg		84	58 - 134

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	39.5		ug/Kg		79	60 - 130
1,2,3-Trichlorobenzene	50.0	43.5		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.3		ug/Kg		85	56 - 138
1,1,1-Trichloroethane	50.0	39.7		ug/Kg		79	63 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/Kg		85	65 - 130
Trichloroethene	50.0	42.1		ug/Kg		84	65 - 130
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	47.0		ug/Kg		94	60 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/Kg		93	66 - 130
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	67 - 130
Vinyl acetate	100	92.2		ug/Kg		92	24 - 160
Vinyl chloride	50.0	47.3		ug/Kg		95	52 - 132
Xylenes, Total	100	80.8		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzenethiol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzoic acid	ND		990	350	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Benzyl alcohol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Bis(2-ethylhexyl) phthalate	97.5	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Chlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dibenzofuran	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Diethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-butyl phthalate	71.6	J	330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,4-Dioxane	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Hexachloroethane	ND		330	100	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Indene	610		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Isophorone	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Methylphenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
3-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitroaniline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Nitrobenzene	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2-Nitrophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
4-Nitrophenol	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pentachlorophenol	ND		660	66	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Phenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Pyridine	ND		330	150	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
Quinoline	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/15/19 13:57	07/17/19 14:56	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Acrylamide	*34.3*	*J*	*ug/Kg*		*4.48*	*79-06-1*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Phenylene diamine	*3920*		*ug/Kg*		*6.43*	*106-50-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
N-Nitro-o-toluidine	*46.8*	*J*	*ug/Kg*		*8.20*	*99-55-8*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Methapyrilene	*59.9*	*J*	*ug/Kg*		*9.43*	*91-80-5*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
p-Dimethylamino azobenzene	*43.0*	*J*	*ug/Kg*		*10.21*	*60-11-7*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Chlorobenzilate	*40.5*	*J*	*ug/Kg*		*10.24*	*510-15-6*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2-Acetylaminofluorene	*70.9*	*J*	*ug/Kg*		*10.78*	*53-96-3*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/15/19 13:57*	*07/17/19 14:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*27 - 127*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2-Fluorophenol	*73*		*25 - 128*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Nitrobenzene-d5	*74*		*15 - 136*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Phenol-d5	*73*		*29 - 130*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/15/19 13:57*	*07/17/19 14:56*	*1*
2,4,6-Tribromophenol	*65*		*10 - 150*	*07/15/19 13:57*	*07/17/19 14:56*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 400-448063/2-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	102	J *	ug/Kg		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*61*		*27 - 127*
2-Fluorophenol	*68*		*25 - 128*
Nitrobenzene-d5	*75*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*83*		*24 - 146*
2,4,6-Tribromophenol	*61*		*10 - 150*

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1460		ug/Kg		73	36 - 120
Benzoic acid	7770	2930		ug/Kg		38	10 - 139
Benzyl alcohol	2000	1310		ug/Kg		65	10 - 127
Bis(2-chloroethoxy)methane	2000	1250		ug/Kg		63	52 - 120
Bis(2-chloroethyl)ether	2000	1250		ug/Kg		63	50 - 120
bis (2-chloroisopropyl) ether	2000	1390		ug/Kg		69	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1860		ug/Kg		93	58 - 158
4-Bromophenyl phenyl ether	2000	1510		ug/Kg		76	51 - 120
Butyl benzyl phthalate	2000	1710		ug/Kg		85	58 - 126
4-Chloroaniline	2000	1450		ug/Kg		73	34 - 120
4-Chloro-3-methylphenol	2000	1660		ug/Kg		83	57 - 124
2-Chloronaphthalene	2000	1380		ug/Kg		69	55 - 120
2-Chlorophenol	2000	1480		ug/Kg		74	52 - 120
4-Chlorophenyl phenyl ether	2000	1400		ug/Kg		70	56 - 120
Dibenz[a,h]acridine	2000	1350		ug/Kg		68	51 - 135
Dibenzofuran	2000	1410		ug/Kg		70	58 - 120
3,3'-Dichlorobenzidine	2670	3080		ug/Kg		116	42 - 120
2,4-Dichlorophenol	2000	1560		ug/Kg		78	56 - 120
Diethyl phthalate	2000	1520		ug/Kg		76	56 - 128
2,4-Dimethylphenol	2000	1580		ug/Kg		79	54 - 120
Dimethyl phthalate	2000	1450		ug/Kg		72	58 - 120
Di-n-butyl phthalate	2000	1810		ug/Kg		90	64 - 122
4,6-Dinitro-ortho-cresol	4000	3060		ug/Kg		76	35 - 135
2,4-Dinitrophenol	4000	1690		ug/Kg		42	10 - 138
2,4-Dinitrotoluene	2000	1540		ug/Kg		77	59 - 133
2,6-Dinitrotoluene	2000	1490		ug/Kg		74	57 - 123
Di-n-octyl phthalate	2000	1810		ug/Kg		91	57 - 137
1,4-Dioxane	2000	640		ug/Kg		32	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1550		ug/Kg		77	50 - 120
Hexachlorobenzene	2000	1510		ug/Kg		76	49 - 127
Hexachlorocyclopentadiene	2000	1070		ug/Kg		53	10 - 140
Hexachloroethane	2000	1380		ug/Kg		69	45 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448063/7-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	2000	1390		ug/Kg		70	45 - 120
Isophorone	2000	1400		ug/Kg		70	50 - 120
2-Methylphenol	2000	1620		ug/Kg		81	51 - 123
3 & 4 Methylphenol	2000	1460		ug/Kg		73	47 - 123
2-Nitroaniline	2000	1660		ug/Kg		83	55 - 129
3-Nitroaniline	2000	1720		ug/Kg		86	45 - 120
4-Nitroaniline	2000	1790		ug/Kg		89	52 - 126
Nitrobenzene	2000	1420		ug/Kg		71	50 - 120
2-Nitrophenol	2000	1580		ug/Kg		79	53 - 120
4-Nitrophenol	4000	2650		ug/Kg		66	38 - 133
N-Nitrosodimethylamine	2000	1470		ug/Kg		74	35 - 120
N-Nitrosodi-n-propylamine	2000	1450		ug/Kg		73	48 - 120
N-Nitrosodiphenylamine	1980	1530		ug/Kg		77	54 - 120
Pentachlorophenol	4000	3070		ug/Kg		77	32 - 131
Phenol	2000	1560		ug/Kg		78	51 - 120
Pyridine	4000	2070		ug/Kg		52	29 - 120
Quinoline	2000	1430		ug/Kg		71	10 - 150
2,4,5-Trichlorophenol	2000	1550		ug/Kg		78	53 - 133
2,4,6-Trichlorophenol	2000	1480		ug/Kg		74	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*59*		*27 - 127*
2-Fluorophenol	*63*		*25 - 128*
Nitrobenzene-d5	*76*		*15 - 136*
Phenol-d5	*68*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*70*		*10 - 150*

Lab Sample ID: LCSD 400-448063/3-A
Matrix: Solid
Analysis Batch: 448342

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	704	*	ug/Kg		35	10 - 120	149	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
2-Fluorophenol	*61*		*25 - 128*
Nitrobenzene-d5	*68*		*15 - 136*
Phenol-d5	*65*		*29 - 130*
Terphenyl-d14	*81*		*24 - 146*
2,4,6-Tribromophenol	*59*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzenethiol	ND		10	1.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzoic acid	ND		30	7.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzyl alcohol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/17/19 14:25	07/20/19 19:11	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-ethylhexyl) phthalate	13.0		10	5.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/17/19 14:25	07/20/19 19:11	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloroaniline	ND		10	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chlorophenol	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenzofuran	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Diethyl phthalate	ND		10	0.70	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,4-Dioxane	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachloroethane	ND		10	4.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Indene	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Isophorone	ND		10	0.57	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Methylphenol	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitroaniline	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
3-Nitroaniline	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitroaniline	ND		10	2.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
Nitrobenzene	ND		10	0.55	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitrophenol	ND		10	0.65	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitrophenol	ND		10	2.1	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/17/19 14:25	07/20/19 19:11	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Phenol	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Quinoline	ND		10	6.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentative Identified Compound	*None*		*ug/L*				*07/17/19 14:25*	*07/20/19 19:11*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2-Fluorophenol	*42*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Nitrobenzene-d5	*61*		*27 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Phenol-d5	*52*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2,4,6-Tribromophenol	*90*		*15 - 135*	*07/17/19 14:25*	*07/20/19 19:11*	*1*

Lab Sample ID: LCS 400-448434/22-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		1	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*56*		*27 - 120*
Phenol-d5	*47*		*10 - 120*
Terphenyl-d14	*80*		*53 - 125*
2,4,6-Tribromophenol	*79*		*15 - 135*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	17.9		ug/L		60	29 - 120
Benzoic acid	117	47.4		ug/L		41	10 - 150
Benzyl alcohol	30.0	20.2		ug/L		67	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.0		ug/L		57	45 - 120
Bis(2-chloroethyl)ether	30.0	15.9		ug/L		53	48 - 120
bis (2-chloroisopropyl) ether	30.0	14.7		ug/L		49	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	19.4		ug/L		65	48 - 150
4-Bromophenyl phenyl ether	30.0	28.3		ug/L		94	55 - 122
Butyl benzyl phthalate	30.0	18.6		ug/L		62	46 - 145
4-Chloroaniline	30.0	14.3		ug/L		48	30 - 120
4-Chloro-3-methylphenol	30.0	21.5		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	22.4		ug/L		75	52 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	30.0	18.3		ug/L		61	34 - 120
4-Chlorophenyl phenyl ether	30.0	26.7		ug/L		89	58 - 124
Dibenz[a,h]acridine	30.0	23.7		ug/L		79	46 - 149
Dibenzofuran	30.0	24.3		ug/L		81	58 - 123
3,3'-Dichlorobenzidine	40.0	53.3		ug/L		133	39 - 135
2,4-Dichlorophenol	30.0	22.6		ug/L		75	39 - 128
Diethyl phthalate	30.0	24.3		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	20.6		ug/L		69	44 - 120
Dimethyl phthalate	30.0	23.6		ug/L		79	50 - 131
Di-n-butyl phthalate	30.0	23.1		ug/L		77	55 - 131
4,6-Dinitro-ortho-cresol	60.0	52.0		ug/L		87	10 - 150
2,4-Dinitrophenol	60.0	67.2		ug/L		112	10 - 150
2,4-Dinitrotoluene	30.0	25.9		ug/L		86	58 - 140
2,6-Dinitrotoluene	30.0	25.2		ug/L		84	57 - 130
Di-n-octyl phthalate	30.0	22.1		ug/L		74	50 - 150
1,4-Dioxane	30.0	10.7		ug/L		36	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	17.7		ug/L		59	47 - 123
Hexachlorobenzene	30.0	32.6		ug/L		109	52 - 131
Hexachlorocyclopentadiene	30.0	11.7	J	ug/L		39	10 - 129
Hexachloroethane	30.0	14.3		ug/L		48	41 - 120
Indene	30.0	18.9		ug/L		63	47 - 120
Isophorone	30.0	17.8		ug/L		59	49 - 120
2-Methylphenol	30.0	18.1		ug/L		60	39 - 123
3 & 4 Methylphenol	30.0	18.4	J	ug/L		61	38 - 121
2-Nitroaniline	30.0	20.0		ug/L		67	47 - 150
3-Nitroaniline	30.0	22.7		ug/L		76	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	18.6		ug/L		62	47 - 120
2-Nitrophenol	30.0	20.6		ug/L		69	28 - 136
4-Nitrophenol	60.0	42.3		ug/L		71	10 - 150
N-Nitrosodimethylamine	30.0	23.6		ug/L		79	22 - 148
N-Nitrosodi-n-propylamine	30.0	19.4		ug/L		65	44 - 120
N-Nitrosodiphenylamine	29.8	22.9		ug/L		77	56 - 120
Pentachlorophenol	60.0	58.6		ug/L		98	15 - 141
Phenol	30.0	15.2		ug/L		51	33 - 120
Pyridine	60.0	29.7		ug/L		49	26 - 120
Quinoline	30.0	21.4		ug/L		71	51 - 129
2,4,5-Trichlorophenol	30.0	25.5		ug/L		85	38 - 147
2,4,6-Trichlorophenol	30.0	25.2		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*34 - 120*
2-Fluorophenol	*39*		*10 - 120*
Nitrobenzene-d5	*59*		*27 - 120*
Phenol-d5	*51*		*10 - 120*
Terphenyl-d14	*89*		*53 - 125*
2,4,6-Tribromophenol	*123*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/23-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		2	10 - 120	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*34 - 120*
2-Fluorophenol	*38*		*10 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
Phenol-d5	*52*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*84*		*15 - 135*

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	18.4		ug/L		61	29 - 120	3	30
Benzoic acid			117	35.8		ug/L		31	10 - 150	28	30
Benzyl alcohol			30.0	22.2		ug/L		74	19 - 125	10	30
Bis(2-chloroethoxy)methane			30.0	18.0		ug/L		60	45 - 120	5	30
Bis(2-chloroethyl)ether			30.0	17.1		ug/L		57	48 - 120	7	30
bis (2-chloroisopropyl) ether			30.0	16.5		ug/L		55	30 - 125	12	30
Bis(2-ethylhexyl) phthalate			30.0	20.0		ug/L		67	48 - 150	3	30
4-Bromophenyl phenyl ether			30.0	29.1		ug/L		97	55 - 122	3	30
Butyl benzyl phthalate			30.0	18.9		ug/L		63	46 - 145	2	30
4-Chloroaniline			30.0	15.1		ug/L		50	30 - 120	5	30
4-Chloro-3-methylphenol			30.0	22.4		ug/L		75	39 - 140	4	30
2-Chloronaphthalene			30.0	22.8		ug/L		76	52 - 120	2	30
2-Chlorophenol			30.0	18.7		ug/L		62	34 - 120	3	30
4-Chlorophenyl phenyl ether			30.0	27.1		ug/L		90	58 - 124	1	30
Dibenz[a,h]acridine			30.0	24.4		ug/L		81	46 - 149	3	30
Dibenzofuran			30.0	24.7		ug/L		82	58 - 123	2	30
3,3'-Dichlorobenzidine			40.0	58.2	*	ug/L		145	39 - 135	9	30
2,4-Dichlorophenol			30.0	23.0		ug/L		77	39 - 128	2	30
Diethyl phthalate			30.0	25.6		ug/L		85	44 - 146	5	30
2,4-Dimethylphenol			30.0	22.4		ug/L		75	44 - 120	8	30
Dimethyl phthalate			30.0	24.2		ug/L		81	50 - 131	2	30
Di-n-butyl phthalate			30.0	24.0		ug/L		80	55 - 131	4	30
4,6-Dinitro-ortho-cresol			60.0	55.3		ug/L		92	10 - 150	6	30
2,4-Dinitrophenol			60.0	70.9		ug/L		118	10 - 150	5	30
2,4-Dinitrotoluene			30.0	25.9		ug/L		86	58 - 140	0	30
2,6-Dinitrotoluene			30.0	25.6		ug/L		85	57 - 130	2	30
Di-n-octyl phthalate			30.0	23.0		ug/L		77	50 - 150	4	30
1,4-Dioxane			30.0	11.2		ug/L		37	25 - 120	4	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	20.1		ug/L		67	47 - 123	13	30
Hexachlorobenzene			30.0	33.4		ug/L		111	52 - 131	2	30
Hexachlorocyclopentadiene			30.0	10.4	J	ug/L		35	10 - 129	12	30
Hexachloroethane			30.0	13.9		ug/L		46	41 - 120	2	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene			30.0	16.9		ug/L		56	47 - 120	11	30
Isophorone			30.0	19.1		ug/L		64	49 - 120	7	30
2-Methylphenol			30.0	19.4		ug/L		65	39 - 123	7	30
3 & 4 Methylphenol			30.0	20.2		ug/L		67	38 - 121	10	30
2-Nitroaniline			30.0	22.5		ug/L		75	47 - 150	12	30
3-Nitroaniline			30.0	24.5		ug/L		82	34 - 132	8	30
4-Nitroaniline			30.0	33.7		ug/L		112	41 - 135	12	30
Nitrobenzene			30.0	19.6		ug/L		65	47 - 120	5	30
2-Nitrophenol			30.0	20.9		ug/L		70	28 - 136	2	30
4-Nitrophenol			60.0	47.0		ug/L		78	10 - 150	10	30
N-Nitrosodimethylamine			30.0	24.2		ug/L		81	22 - 148	3	30
N-Nitrosodi-n-propylamine			30.0	21.9		ug/L		73	44 - 120	12	30
N-Nitrosodiphenylamine			29.8	23.2		ug/L		78	56 - 120	1	30
Pentachlorophenol			60.0	58.2		ug/L		97	15 - 141	1	30
Phenol			30.0	15.3		ug/L		51	33 - 120	1	30
Pyridine			60.0	32.4		ug/L		54	26 - 120	9	30
Quinoline			30.0	22.8		ug/L		76	51 - 129	6	30
2,4,5-Trichlorophenol			30.0	24.5		ug/L		82	38 - 147	4	30
2,4,6-Trichlorophenol			30.0	26.0		ug/L		87	36 - 139	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*65*		*27 - 120*
Phenol-d5	*50*		*10 - 120*
Terphenyl-d14	*84*		*53 - 125*
2,4,6-Tribromophenol	*105*		*15 - 135*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 21:29	07/30/19 21:00	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
Indene	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Isophorone	ND		10	0.57	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Phenol	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pyridine	ND		10	3.2	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*07/30/19 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Phenol-d5	*70*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2,4,6-Tribromophenol	*35*		*15 - 135*	*07/24/19 21:29*	*07/30/19 21:00*	*1*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 21:29	08/01/19 20:36	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 21:29	08/01/19 20:36	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 21:29	08/01/19 20:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 21:29	08/01/19 20:36	1
Quinoline	ND		10	6.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 21:29	08/01/19 20:36	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*08/01/19 20:36*	*1*

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	29.3		ug/L		98	29 - 120
Benzoic acid	117	97.7		ug/L		84	10 - 150
Benzyl alcohol	30.0	31.4		ug/L		105	19 - 125
Bis(2-chloroethoxy)methane	30.0	29.9		ug/L		100	45 - 120
Bis(2-chloroethyl)ether	30.0	31.5		ug/L		105	48 - 120
bis (2-chloroisopropyl) ether	30.0	29.8		ug/L		99	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	29.8		ug/L		99	48 - 150
4-Bromophenyl phenyl ether	30.0	30.5		ug/L		102	55 - 122
Butyl benzyl phthalate	30.0	32.3		ug/L		108	46 - 145
4-Chloroaniline	30.0	26.7		ug/L		89	30 - 120
4-Chloro-3-methylphenol	30.0	31.2		ug/L		104	39 - 140
2-Chloronaphthalene	30.0	31.2		ug/L		104	52 - 120
2-Chlorophenol	30.0	28.0		ug/L		93	34 - 120
4-Chlorophenyl phenyl ether	30.0	31.7		ug/L		106	58 - 124
Dibenz[a,h]acridine	30.0	29.5		ug/L		98	46 - 149
Dibenzofuran	30.0	32.1		ug/L		107	58 - 123
3,3'-Dichlorobenzidine	40.0	53.6		ug/L		134	39 - 135
2,4-Dichlorophenol	30.0	30.4		ug/L		101	39 - 128
Diethyl phthalate	30.0	34.4		ug/L		115	44 - 146
2,4-Dimethylphenol	30.0	30.3		ug/L		101	44 - 120
Dimethyl phthalate	30.0	32.5		ug/L		108	50 - 131
Di-n-butyl phthalate	30.0	34.0		ug/L		113	55 - 131
4,6-Dinitro-ortho-cresol	60.0	64.8		ug/L		108	10 - 150
2,4-Dinitrophenol	60.0	67.6		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	37.0		ug/L		123	58 - 140
2,6-Dinitrotoluene	30.0	32.0		ug/L		107	57 - 130
Di-n-octyl phthalate	30.0	30.0	B	ug/L		100	50 - 150
1,4-Dioxane	30.0	20.4		ug/L		68	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	29.8		ug/L		99	47 - 123
Hexachlorobenzene	30.0	30.8		ug/L		103	52 - 131
Hexachlorocyclopentadiene	30.0	13.0	J	ug/L		43	10 - 129
Hexachloroethane	30.0	20.6		ug/L		69	41 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	30.0	28.1		ug/L		94	47 - 120
Isophorone	30.0	30.2		ug/L		101	49 - 120
2-Methylphenol	30.0	31.0		ug/L		103	39 - 123
3 & 4 Methylphenol	30.0	31.2		ug/L		104	38 - 121
2-Nitroaniline	30.0	30.3		ug/L		101	47 - 150
3-Nitroaniline	30.0	28.5		ug/L		95	34 - 132
4-Nitroaniline	30.0	35.2		ug/L		117	41 - 135
Nitrobenzene	30.0	28.0		ug/L		93	47 - 120
2-Nitrophenol	30.0	30.0		ug/L		100	28 - 136
4-Nitrophenol	60.0	63.5		ug/L		106	10 - 150
N-Nitrosodimethylamine	30.0	29.2		ug/L		97	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.7		ug/L		109	44 - 120
N-Nitrosodiphenylamine	29.8	31.0		ug/L		104	56 - 120
Pentachlorophenol	60.0	66.2		ug/L		110	15 - 141
Phenol	30.0	28.4		ug/L		95	33 - 120
Pyridine	60.0	51.7		ug/L		86	26 - 120
Quinoline	30.0	35.2		ug/L		117	51 - 129
2,4,5-Trichlorophenol	30.0	33.4		ug/L		111	38 - 147
2,4,6-Trichlorophenol	30.0	32.9		ug/L		110	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*74*		*10 - 120*
Nitrobenzene-d5	*100*		*27 - 120*
Phenol-d5	*95*		*10 - 120*
Terphenyl-d14	*115*		*53 - 125*
2,4,6-Tribromophenol	*112*		*15 - 135*

Lab Sample ID: LCS 400-449437/4-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*45*		*34 - 120*
2-Fluorophenol	*40*		*10 - 120*
Nitrobenzene-d5	*79*		*27 - 120*
Phenol-d5	*60*		*10 - 120*
Terphenyl-d14	*66*		*53 - 125*
2,4,6-Tribromophenol	*25*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	24.8		ug/L		83	29 - 120	17	30
Benzoic acid			117	92.4		ug/L		79	10 - 150	6	30
Benzyl alcohol			30.0	31.2		ug/L		104	19 - 125	1	30
Bis(2-chloroethoxy)methane			30.0	29.8		ug/L		99	45 - 120	0	30
Bis(2-chloroethyl)ether			30.0	28.4		ug/L		95	48 - 120	10	30
bis (2-chloroisopropyl) ether			30.0	29.3		ug/L		98	30 - 125	2	30
Bis(2-ethylhexyl) phthalate			30.0	30.2		ug/L		101	48 - 150	1	30
4-Bromophenyl phenyl ether			30.0	29.6		ug/L		99	55 - 122	3	30
Butyl benzyl phthalate			30.0	32.0		ug/L		107	46 - 145	1	30
4-Chloroaniline			30.0	25.5		ug/L		85	30 - 120	4	30
4-Chloro-3-methylphenol			30.0	30.4		ug/L		101	39 - 140	3	30
2-Chloronaphthalene			30.0	31.1		ug/L		104	52 - 120	0	30
2-Chlorophenol			30.0	29.1		ug/L		97	34 - 120	4	30
4-Chlorophenyl phenyl ether			30.0	32.3		ug/L		108	58 - 124	2	30
Dibenz[a,h]acridine			30.0	32.1		ug/L		107	46 - 149	9	30
Dibenzofuran			30.0	32.0		ug/L		107	58 - 123	0	30
3,3'-Dichlorobenzidine			40.0	51.6		ug/L		129	39 - 135	4	30
2,4-Dichlorophenol			30.0	29.5		ug/L		98	39 - 128	3	30
Diethyl phthalate			30.0	34.3		ug/L		114	44 - 146	0	30
2,4-Dimethylphenol			30.0	29.8		ug/L		99	44 - 120	2	30
Dimethyl phthalate			30.0	32.0		ug/L		107	50 - 131	2	30
Di-n-butyl phthalate			30.0	34.3		ug/L		114	55 - 131	1	30
4,6-Dinitro-ortho-cresol			60.0	69.4		ug/L		116	10 - 150	7	30
2,4-Dinitrophenol			60.0	71.6		ug/L		119	10 - 150	6	30
2,4-Dinitrotoluene			30.0	36.9		ug/L		123	58 - 140	0	30
2,6-Dinitrotoluene			30.0	31.8		ug/L		106	57 - 130	1	30
Di-n-octyl phthalate			30.0	30.6	B	ug/L		102	50 - 150	2	30
1,4-Dioxane			30.0	20.6		ug/L		69	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	29.2		ug/L		97	47 - 123	2	30
Hexachlorobenzene			30.0	31.7		ug/L		106	52 - 131	3	30
Hexachlorocyclopentadiene			30.0	12.9	J	ug/L		43	10 - 129	1	30
Hexachloroethane			30.0	21.4		ug/L		71	41 - 120	4	30
Indene			30.0	28.2		ug/L		94	47 - 120	0	30
Isophorone			30.0	29.7		ug/L		99	49 - 120	2	30
2-Methylphenol			30.0	30.5		ug/L		102	39 - 123	1	30
3 & 4 Methylphenol			30.0	31.0		ug/L		103	38 - 121	1	30
2-Nitroaniline			30.0	30.2		ug/L		101	47 - 150	0	30
3-Nitroaniline			30.0	28.3		ug/L		94	34 - 132	0	30
4-Nitroaniline			30.0	36.3		ug/L		121	41 - 135	3	30
Nitrobenzene			30.0	27.8		ug/L		93	47 - 120	1	30
2-Nitrophenol			30.0	30.2		ug/L		101	28 - 136	1	30
4-Nitrophenol			60.0	62.1		ug/L		104	10 - 150	2	30
N-Nitrosodimethylamine			30.0	28.2		ug/L		94	22 - 148	4	30
N-Nitrosodi-n-propylamine			30.0	32.8		ug/L		109	44 - 120	0	30
N-Nitrosodiphenylamine			29.8	30.3		ug/L		102	56 - 120	2	30
Pentachlorophenol			60.0	66.0		ug/L		110	15 - 141	0	30
Phenol			30.0	27.6		ug/L		92	33 - 120	3	30
Pyridine			60.0	49.8		ug/L		83	26 - 120	4	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	34.0		ug/L		113	51 - 129	3	30
2,4,5-Trichlorophenol			30.0	32.7		ug/L		109	38 - 147	2	30
2,4,6-Trichlorophenol			30.0	32.9		ug/L		110	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*79*		*10 - 120*
Nitrobenzene-d5	*99*		*27 - 120*
Phenol-d5	*92*		*10 - 120*
Terphenyl-d14	*107*		*53 - 125*
2,4,6-Tribromophenol	*107*		*15 - 135*

Lab Sample ID: LCSD 400-449437/5-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	14.9	*	ug/L		50	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*
2-Fluorophenol	*45*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*67*		*53 - 125*
2,4,6-Tribromophenol	*34*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Chrysene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Fluorene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448063/1-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448063

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1
Pyrene	ND		6.6	1.0	ug/Kg		07/15/19 13:57	07/19/19 03:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*27 - 127*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Nitrobenzene-d5	*76*		*15 - 136*	*07/15/19 13:57*	*07/19/19 03:48*	*1*
Terphenyl-d14	*119*		*24 - 146*	*07/15/19 13:57*	*07/19/19 03:48*	*1*

Lab Sample ID: LCS 400-448063/4-A
Matrix: Solid
Analysis Batch: 448527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448063

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	295		ug/Kg		88	57 - 120
Acenaphthylene	333	291		ug/Kg		87	59 - 120
Anthracene	333	293		ug/Kg		88	61 - 120
Benzo[a]anthracene	333	290		ug/Kg		87	61 - 120
Benzo[a]pyrene	333	305		ug/Kg		91	54 - 127
Benzo[b]fluoranthene	333	301		ug/Kg		90	35 - 146
Benzo[g,h,i]perylene	333	283		ug/Kg		85	36 - 150
Benzo[k]fluoranthene	333	311		ug/Kg		93	53 - 139
Chrysene	333	291		ug/Kg		87	60 - 120
Dibenz(a,h)anthracene	333	313		ug/Kg		94	39 - 150
Fluoranthene	333	286		ug/Kg		86	61 - 121
Fluorene	333	312		ug/Kg		94	60 - 120
Indeno[1,2,3-cd]pyrene	333	304		ug/Kg		91	40 - 150
1-Methylnaphthalene	333	277		ug/Kg		83	46 - 120
2-Methylnaphthalene	333	280		ug/Kg		84	46 - 120
Phenanthrene	333	288		ug/Kg		86	59 - 120
Pyrene	333	312		ug/Kg		94	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*27 - 127*
Nitrobenzene-d5	*77*		*15 - 136*
Terphenyl-d14	*107*		*24 - 146*

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Chrysene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluorene	ND		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 12:39	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Pyrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*15 - 122*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Nitrobenzene-d5	*102*		*19 - 130*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Terphenyl-d14	*120*		*33 - 138*	*07/17/19 14:25*	*07/31/19 12:39*	*1*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.6		ug/L		82	41 - 120
Acenaphthylene	30.0	25.7		ug/L		86	44 - 120
Anthracene	30.0	27.0		ug/L		90	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	24.5		ug/L		82	52 - 120
Benzo[b]fluoranthene	30.0	26.5		ug/L		88	53 - 134
Benzo[g,h,i]perylene	30.0	21.3		ug/L		71	47 - 133
Benzo[k]fluoranthene	30.0	22.2		ug/L		74	57 - 134
Chrysene	30.0	25.9		ug/L		86	55 - 122
Dibenz(a,h)anthracene	30.0	20.4		ug/L		68	48 - 146
Fluoranthene	30.0	28.8		ug/L		96	54 - 128
Fluorene	30.0	27.8		ug/L		93	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	21.8		ug/L		73	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	20.1		ug/L		67	32 - 124
Phenanthrene	30.0	27.4		ug/L		91	48 - 120
Pyrene	30.0	31.6		ug/L		105	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*73*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*104*		*33 - 138*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173141-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	27.3		ug/L		91	41 - 120	10	56
Acenaphthylene			30.0	27.8		ug/L		93	44 - 120	8	56
Anthracene			30.0	27.3		ug/L		91	49 - 120	1	51
Benzo[a]anthracene			30.0	26.4		ug/L		88	61 - 135	4	49
Benzo[a]pyrene			30.0	26.3		ug/L		88	52 - 120	7	50
Benzo[b]fluoranthene			30.0	29.1		ug/L		97	53 - 134	9	54
Benzo[g,h,i]perylene			30.0	24.0		ug/L		80	47 - 133	12	50
Benzo[k]fluoranthene			30.0	25.6		ug/L		85	57 - 134	14	52
Chrysene			30.0	26.8		ug/L		89	55 - 122	4	50
Dibenz(a,h)anthracene			30.0	21.7		ug/L		72	48 - 146	6	50
Fluoranthene			30.0	30.1		ug/L		100	54 - 128	5	52
Fluorene			30.0	30.7		ug/L		102	45 - 125	10	56
Indeno[1,2,3-cd]pyrene			30.0	23.3		ug/L		78	43 - 142	7	51
1-Methylnaphthalene			30.0	21.2		ug/L		71	41 - 120	7	55
2-Methylnaphthalene			30.0	21.2		ug/L		71	32 - 124	5	57
Phenanthrene			30.0	28.7		ug/L		96	48 - 120	5	56
Pyrene			30.0	28.7		ug/L		96	48 - 132	9	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

400-173141 COC

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER

Print Bill To Contact Name: James Carrino

PlaNet Site or Project ID: 25278

PO #: 60592794.1.24.051 | 60592794 - 1.24.050

GSAP Project ID: USPC/00114/R/02

PAGE: 1 of 1

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID

SAMPLER NAME(S) (Print): James Carrino

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
- ☑ STANDARD (14 DAY)
- ☐ 5 DAYS
- ☐ 3 DAYS
- ☐ 2 DAYS
- ☐ 24 HOURS
- ☐ RESULTS NEEDED ON WEEKEND

- ☐ LA - RWQCB REPORT FORMAT
- ☐ UST AGENCY:

DELIVERABLES:
- ☐ LEVEL 1
- ☑ LEVEL 2
- ☐ LEVEL 3
- ☑ LEVEL 4
- ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-071219-A	7/12/2019	0:00	Water	X					2			X		
	PD-6-SB-071219-EB	7/12/2019	14:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-6-SB-63-071219	7/12/2019	9:25	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	Fedex: 7429 5927 5061; 7429 5927 5072 custody seals: 1003190, 1003191, 1003192, 1003193	7/12/2019	18:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature) 2.5, 3.0 C TRB	Date 7/13/19	Time 9:09

Version: 10May17

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173141-1

Login Number: 173141
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C 3.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173141-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-173189

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/2/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071519-A	PD-17-SB-45-071519
PD-17-SB-55-071519	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the SVOC compound benzenethiol was detected in the method blank. The PAH LCS/LCSD RPD for pyrene was outside evaluation criteria. SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-17-SB-55-071519. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448373/1-A	SVOCs	Benzenethiol	45.4 μg/Kg

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448373/7-A/8-A	PAHs	Pyrene	62/88	**33**	53-122/30

Analytical data with LCSLCSD RPD alone outside evaluation criteria, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-17-SB-55-071519 was spiked and duplicated for SVOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-17-SB-55-071519	SVOCs	Benzoic acid	**0**/**0**	NA	40-140/30
PD-17-SB-55-071519	SVOCs	Benzyl alcohol	**23**/**35**	**44**	40-140/30
PD-17-SB-55-071519	SVOCs	Bis(2-chloroethoxy)methane	**35**/44	21	40-140/30
PD-17-SB-55-071519	SVOCs	Bis(2-chloroethyl)ether	**32**/**37**	15	40-140/30
PD-17-SB-55-071519	SVOCs	bis (2-chloroisopropyl) ether	**31**/**36**	17	40-140/30
PD-17-SB-55-071519	SVOCs	4,6-Dinitro-ortho-cresol	53/72	**31**	40-140/30
PD-17-SB-55-071519	SVOCs	2,4-Dinitrophenol	**34**/**29**	16	40-140/30
PD-17-SB-55-071519	SVOCs	1,4-Dioxane	**26**/**29**	11	40-140/30
PD-17-SB-55-071519	SVOCs	Hexachlorocyclopenta-diene	43/**33**	26	40-140/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-17-SB-55-071519	SVOCs	Benzoic acid	**UJ**
PD-17-SB-55-071519	SVOCs	Benzyl alcohol	**UJ**

Sample ID	Parameter	Analyte	Qualification
PD-17-SB-55-071519	SVOCs	Bis(2-chloroethoxy)methane	**UJ**
PD-17-SB-55-071519	SVOCs	Bis(2-chloroethyl)ether	**UJ**
PD-17-SB-55-071519	SVOCs	bis (2-chloroisopropyl) ether	**UJ**
PD-17-SB-55-071519	SVOCs	2,4-Dinitrophenol	**UJ**
PD-17-SB-55-071519	SVOCs	1,4-Dioxane	**UJ**
PD-17-SB-55-071519	SVOCs	Hexachlorocyclopentadiene	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

Yes

Sample ID	Sample Duplicate ID
PD-17-SB-45-071519	PD-17-SB-45-071519-DUP

Were laboratory duplicate sample RPDs within evaluation criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173189-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/2/2019 3:54:44 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/2/2019

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Laboratory Job ID: 400-173189-1

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Job ID: 400-173189-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173189-1

Comments
No additional comments.

Receipt
The samples were received on 7/16/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

GC/MS VOA
Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-071519-A (400-173189-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448890 recovered outside acceptance criteria, low biased, for 2-Chloroethyl vinyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-17-SB-45-071519 (400-173189-2) and PD-17-SB-55-071519 (400-173189-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for N-Nitrosodimethylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, Benzyl alcohol, Nitrobenzene, Phenol, Isophorone, N-Nitrosodi-n-propylamine, 2,2'-oxybis[1-chloropropane], 1,2-Diphenylhydrazine (as Azobenzene), Pyridine and Bis(2-chloroethoxy)methane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448373 and analytical batch 400-448563 contained Benzenethiol above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-17-SB-55-071519 (400-173189-3). These results have been reported and qualified.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-448806 recovered above the upper control limit for Pyrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Job ID: 400-173189-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D LL: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448373 and analytical batch 400-449887 recovered outside control limits for the following analytes: Pyrene.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448373 and analytical batch 400-448563 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448373 and analytical batch 400-448563 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173189-1	TB-PW-071519-A	Water	07/15/19 00:00	07/16/19 09:10	
400-173189-2	PD-17-SB-45-071519	Solid	07/15/19 13:24	07/16/19 09:10	
400-173189-3	PD-17-SB-55-071519	Solid	07/15/19 14:55	07/16/19 09:10	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A

Lab Sample ID: 400-173189-1

No Detections.

Client Sample ID: PD-17-SB-45-071519

Lab Sample ID: 400-173189-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6500		260	35	ug/Kg	50	☼	8260B	Total/NA
sec-Butylbenzene	130	J	260	50	ug/Kg	50	☼	8260B	Total/NA
1,1,2,2-Tetrachloroethane	130	J	260	130	ug/Kg	50	☼	8260B	Total/NA
Acenaphthene	22		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	15		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	49		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	64		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	31		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	20		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	11		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	100		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	12		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	23		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	30		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	10		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	71		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	39		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	140		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	160	*	7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA

Client Sample ID: PD-17-SB-55-071519

Lab Sample ID: 400-173189-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	32000		1100	140	ug/Kg	200	☼	8260B	Total/NA
Ethylbenzene	470	J	1100	130	ug/Kg	200	☼	8260B	Total/NA
m-Xylene & p-Xylene	480	J	1100	280	ug/Kg	200	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	1100		1100	210	ug/Kg	200	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	260	J	1100	180	ug/Kg	200	☼	8260B	Total/NA
Xylenes, Total	570	J	2100	400	ug/Kg	200	☼	8260B	Total/NA
1-Methylnaphthalene	8.0		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	12		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	8.7		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A
Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 18:07	1
Acrolein	ND		20	10	ug/L			07/17/19 18:07	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 18:07	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 18:07	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 18:07	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 18:07	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 18:07	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 18:07	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 18:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 18:07	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 18:07	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 18:07	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 18:07	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 18:07	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:07	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 18:07	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 18:07	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 18:07	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 18:07	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 18:07	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 18:07	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 18:07	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 18:07	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 18:07	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 18:07	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 18:07	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 18:07	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 18:07	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 18:07	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 18:07	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 18:07	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 18:07	1
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 18:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A
Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 18:07	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 18:07	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 18:07	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 18:07	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 18:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 18:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 18:07	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 18:07	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 18:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 18:07	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 18:07	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 18:07	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 18:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 18:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 18:07	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 18:07	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 18:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 18:07*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 18:07*	*1*
Dibromofluoromethane	*91*		*81 - 121*		*07/17/19 18:07*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/17/19 18:07*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519

Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2

Matrix: Solid
Percent Solids: 86.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	680	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Acrolein	ND		2600	1500	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Acrylonitrile	ND		1000	420	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Benzene	**6500**		260	35	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromobenzene	ND		260	68	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromochloromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromodichloromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromoform	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromomethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2-Butanone (MEK)	ND		1300	310	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Carbon disulfide	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Carbon tetrachloride	ND		260	89	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chlorobenzene	ND		260	27	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chloroethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2-Chloroethyl vinyl ether	ND		520	260	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chloroform	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1-Chlorohexane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chloromethane	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
cis-1,2-Dichloroethene	ND		260	40	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
cis-1,3-Dichloropropene	ND		260	63	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Dibromochloromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dibromo-3-Chloropropane	ND		260	170	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dichlorobenzene	ND		260	37	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,3-Dichlorobenzene	ND		260	50	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,4-Dichlorobenzene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Dichlorodifluoromethane	ND		260	68	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1-Dichloroethane	ND		260	43	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dichloroethane	ND		260	43	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1-Dichloroethene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,3-Dichloropropane	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1-Dichloropropene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Ethylbenzene	ND		260	32	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Ethylene Dibromide	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Ethyl methacrylate	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Hexachlorobutadiene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2-Hexanone	ND		1300	260	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Isopropylbenzene	ND		260	35	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Methylene bromide	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Methylene Chloride	ND		780	520	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
4-Methyl-2-pentanone (MIBK)	ND		1300	260	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Methyl tert-butyl ether	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
m-Xylene & p-Xylene	ND		260	68	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Naphthalene	ND		260	100	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
n-Butylbenzene	ND		260	50	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
N-Propylbenzene	ND		260	47	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
o-Chlorotoluene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
o-Xylene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid
Percent Solids: 86.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		260	51	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
p-Isopropyltoluene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
sec-Butylbenzene	**130**	**J**	260	50	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Styrene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
tert-Butylbenzene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,1,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,2,2-Tetrachloroethane	**130**	**J**	260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Tetrachloroethene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Toluene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
trans-1,2-Dichloroethene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
trans-1,3-Dichloropropene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,3-Trichlorobenzene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,4-Trichlorobenzene	ND		260	100	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,1-Trichloroethane	ND		260	57	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,2-Trichloroethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Trichloroethene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Trichlorofluoromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,3-Trichloropropane	ND		260	160	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,4-Trimethylbenzene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,3,5-Trimethylbenzene	ND		260	43	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Vinyl acetate	ND		1300	470	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Vinyl chloride	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Xylenes, Total	ND		520	99	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isooctane	*140*	*J*	*ug/Kg*	☼	*3.65*	*540-84-1*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Pentane, 2,3,3-trimethyl-	*270*	*T J N*	*ug/Kg*	☼	*4.45*	*560-21-4*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
9-Octadecyne	*420*	*T J N*	*ug/Kg*	☼	*6.34*	*35365-59-4*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
trans-Decalin, 2-methyl-	*650*	*T J N*	*ug/Kg*	☼	*8.26*	*1000152-47-3*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Benzene, 1,2,3,5-tetramethyl-	*910*	*T J N*	*ug/Kg*	☼	*8.40*	*527-53-7*	*07/22/19 07:09*	*07/22/19 16:21*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*72 - 122*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Dibromofluoromethane	*94*		*79 - 123*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/22/19 07:09*	*07/22/19 16:21*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**22**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Acenaphthylene	ND		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Anthracene	**15**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[a]anthracene	**49**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[a]pyrene	**64**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[b]fluoranthene	**31**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[g,h,i]perylene	**20**		7.6	2.3	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[k]fluoranthene	**11**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Chrysene	**100**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Dibenz(a,h)anthracene	**12**		7.6	2.3	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Fluoranthene	**23**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid
Percent Solids: 86.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	30		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Indeno[1,2,3-cd]pyrene	10		7.6	2.3	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
1-Methylnaphthalene	71		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
2-Methylnaphthalene	39		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Phenanthrene	140		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Pyrene	160	*	7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/24/19 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*27 - 127*	*07/17/19 10:15*	*07/20/19 19:20*	*1*
Nitrobenzene-d5	*77*		*15 - 136*	*07/17/19 10:15*	*07/20/19 19:20*	*1*
Terphenyl-d14	*132*		*24 - 146*	*07/17/19 10:15*	*07/20/19 19:20*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		380	50	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Benzenethiol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Benzoic acid	ND	UJ	1100	400	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Benzyl alcohol	ND	UJ	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Bis(2-chloroethoxy)methane	ND	UJ	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Bis(2-chloroethyl)ether	ND	UJ	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
bis (2-chloroisopropyl) ether	ND	UJ	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Bis(2-ethylhexyl) phthalate	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Butyl benzyl phthalate	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Chlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Dibenz[a,h]acridine	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Dibenzofuran	ND		380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Diethyl phthalate	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Dimethyl phthalate	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Di-n-butyl phthalate	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dinitrophenol	ND	UJ	1100	330	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,6-Dinitrotoluene	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Di-n-octyl phthalate	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
1,4-Dioxane	ND	UJ	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Hexachlorocyclopentadiene	ND	UJ	380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Hexachloroethane	ND		380	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Indene	ND		380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Isophorone	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Nitroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Nitrophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
N-Nitrosodi-n-propylamine	ND		380	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
N-Nitrosodiphenylamine	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Phenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Pyridine	ND		380	170	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Quinoline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/17/19 10:15*	*07/18/19 22:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 127*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
2-Fluorophenol	*48*		*25 - 128*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
Nitrobenzene-d5	*49*		*15 - 136*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
Phenol-d5	*45*		*29 - 130*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
Terphenyl-d14	*69*		*24 - 146*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
2,4,6-Tribromophenol	*91*		*10 - 150*	*07/17/19 10:15*	*07/18/19 22:37*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.1**		0.01	0.01	%			07/18/19 13:06	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-55-071519
Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3
Matrix: Solid
Percent Solids: 82.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5300	2800	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Acrolein	ND		11000	5900	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Acrylonitrile	ND		4200	1700	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Benzene	**32000**		1100	140	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromobenzene	ND		1100	280	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromochloromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromodichloromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromoform	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromomethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2-Butanone (MEK)	ND		5300	1300	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Carbon disulfide	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Carbon tetrachloride	ND		1100	360	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chlorobenzene	ND		1100	110	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2-Chloroethyl vinyl ether	ND		2100	1100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chloroform	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1-Chlorohexane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chloromethane	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
cis-1,2-Dichloroethene	ND		1100	160	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
cis-1,3-Dichloropropene	ND		1100	250	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Dibromochloromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dibromo-3-Chloropropane	ND		1100	700	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dichlorobenzene	ND		1100	150	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,3-Dichlorobenzene	ND		1100	200	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,4-Dichlorobenzene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Dichlorodifluoromethane	ND		1100	280	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1-Dichloroethane	ND		1100	180	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dichloroethane	ND		1100	170	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1-Dichloroethene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dichloropropane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,3-Dichloropropane	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2,2-Dichloropropane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1-Dichloropropene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Ethylbenzene	**470**	**J**	1100	130	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Ethylene Dibromide	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Ethyl methacrylate	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Hexachlorobutadiene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2-Hexanone	ND		5300	1100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Isopropylbenzene	ND		1100	140	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Methylene bromide	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Methylene Chloride	ND		3200	2100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
4-Methyl-2-pentanone (MIBK)	ND		5300	1100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Methyl tert-butyl ether	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
m-Xylene & p-Xylene	**480**	**J**	1100	280	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Naphthalene	ND		1100	420	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
n-Butylbenzene	ND		1100	200	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
N-Propylbenzene	ND		1100	190	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
o-Chlorotoluene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
o-Xylene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-55-071519

Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3

Matrix: Solid
Percent Solids: 82.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
p-Isopropyltoluene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
sec-Butylbenzene	ND		1100	200	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Styrene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
tert-Butylbenzene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,1,2-Tetrachloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,2,2-Tetrachloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Tetrachloroethene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Toluene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
trans-1,2-Dichloroethene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
trans-1,3-Dichloropropene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,3-Trichlorobenzene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,4-Trichlorobenzene	ND		1100	420	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,1-Trichloroethane	ND		1100	230	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,2-Trichloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Trichloroethene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Trichlorofluoromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,3-Trichloropropane	ND		1100	640	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,4-Trimethylbenzene	**1100**		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,3,5-Trimethylbenzene	**260**	**J**	1100	180	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Vinyl acetate	ND		5300	1900	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Vinyl chloride	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Xylenes, Total	**570**	**J**	2100	400	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
3-Ethyltoluene	*290*	*J*	*ug/Kg*	☼	*6.86*	*620-14-4*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
2-Ethyltoluene	*220*	*J*	*ug/Kg*	☼	*7.08*	*611-14-3*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
1,2,3-Trimethylbenzene	*320*	*J*	*ug/Kg*	☼	*7.54*	*526-73-8*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
Naphthalene, 1,6-dimethyl-	*1900*	*T J N*	*ug/Kg*	☼	*11.25*	*575-43-9*	*07/22/19 07:09*	*07/22/19 17:40*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*72 - 122*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
Dibromofluoromethane	*90*		*79 - 123*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/22/19 07:09*	*07/22/19 17:40*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-55-071519
Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3
Matrix: Solid
Percent Solids: 82.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	8.0		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
2-Methylnaphthalene	12		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Phenanthrene	8.7		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Pyrene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/17/19 10:15*	*07/20/19 19:36*	*1*
Nitrobenzene-d5	*65*		*15 - 136*	*07/17/19 10:15*	*07/20/19 19:36*	*1*
Terphenyl-d14	*98*		*24 - 146*	*07/17/19 10:15*	*07/20/19 19:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Benzoic acid	ND	F1	1200	410	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Benzyl alcohol	ND	F1 F2	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Bis(2-chloroethoxy)methane	ND	F1	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Bis(2-chloroethyl)ether	ND	F1	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
bis (2-chloroisopropyl) ether	ND	F1	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Bis(2-ethylhexyl) phthalate	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
3,3'-Dichlorobenzidine	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4,6-Dinitro-ortho-cresol	ND	F2	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dinitrophenol	ND	F1	1200	340	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
1,4-Dioxane	ND	F1	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Hexachlorocyclopentadiene	ND	F1	390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Indene	ND		390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Isophorone	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-55-071519
Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3
Matrix: Solid
Percent Solids: 82.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Phenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Pyridine	ND		390	180	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Quinoline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1,1'-Biphenyl, 4-fluoro-	*360*	*T J N*	*ug/Kg*	☼	*7.10*	*324-74-3*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Anthracene-D10-	*830*	*T J N*	*ug/Kg*	☼	*8.74*	*1719-06-8*	*07/17/19 10:15*	*07/18/19 22:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*27 - 127*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
2-Fluorophenol	*42*		*25 - 128*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Nitrobenzene-d5	*39*		*15 - 136*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Phenol-d5	*15*	*X*	*29 - 130*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Terphenyl-d14	*51*		*24 - 146*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
2,4,6-Tribromophenol	*75*		*10 - 150*	*07/17/19 10:15*	*07/18/19 22:12*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.1**		0.01	0.01	%			07/18/19 13:06	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173189-2	PD-17-SB-45-071519	101	94	101
400-173189-3	PD-17-SB-55-071519	112	90	99
LCS 400-448966/2-A	Lab Control Sample	107	102	91
MB 400-448966/1-A	Method Blank	108	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173189-1	TB-PW-071519-A	99	91	103
LCS 400-448405/1003	Lab Control Sample	104	93	101
MB 400-448405/11	Method Blank	99	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173189-2	PD-17-SB-45-071519	68	48	49	45	69	91
400-173189-3	PD-17-SB-55-071519	52	42	39	15 X	51	75
400-173189-3 MS	PD-17-SB-55-071519	60	44	54	42	56	70
400-173189-3 MSD	PD-17-SB-55-071519	72	53	60	51	68	86
LCS 400-448373/2-A	Lab Control Sample	53	59	89	71	66	63
LCSD 400-448373/6-A	Lab Control Sample Dup	52	39	38	37	54	64
MB 400-448373/1-A	Method Blank	50	34	35	35	52	63

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173189-2	PD-17-SB-45-071519	89	77	132
400-173189-3	PD-17-SB-55-071519	78	65	98
LCS 400-448373/7-A	Lab Control Sample	88	67	104
LCSD 400-448373/8-A	Lab Control Sample Dup	69	49	107
MB 400-448373/1-A	Method Blank	84	73	121

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A

Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 18:07	BSW	TAL PEN

Client Sample ID: PD-17-SB-45-071519

Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Client Sample ID: PD-17-SB-45-071519

Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.599 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448890	07/22/19 16:21	RS	TAL PEN
Total/NA	Prep	3546			15.13 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 22:37	VC1	TAL PEN
Total/NA	Prep	3546			15.13 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448806	07/20/19 19:20	VC1	TAL PEN
Total/NA	Prep	3546			15.13 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/24/19 22:50	PP1	TAL PEN

Client Sample ID: PD-17-SB-55-071519

Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Client Sample ID: PD-17-SB-55-071519

Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.213 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	448890	07/22/19 17:40	RS	TAL PEN
Total/NA	Prep	3546			15.42 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 22:12	VC1	TAL PEN
Total/NA	Prep	3546			15.42 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448806	07/20/19 19:36	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/18/19 19:42	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448806	07/20/19 18:33	VC1	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448405/11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 15:43	BSW	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 09:16	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448373/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 16:19	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448373/7-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/24/19 22:14	PP1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448405/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 14:14	BSW	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 07:42	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448373/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/18/19 20:32	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448373/8-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 17:02	KJA	TAL PEN

Client Sample ID: PD-17-SB-55-071519
Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3 MS
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.20 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 21:22	VC1	TAL PEN

Client Sample ID: PD-17-SB-55-071519
Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3 MSD
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.12 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 21:47	VC1	TAL PEN

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2 DU
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

GC/MS VOA

Analysis Batch: 448405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-1	TB-PW-071519-A	Total/NA	Water	8260B	
MB 400-448405/11	Method Blank	Total/NA	Water	8260B	
LCS 400-448405/1003	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8260B	448966
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	8260B	448966
MB 400-448966/1-A	Method Blank	Total/NA	Solid	8260B	448966
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	8260B	448966

Prep Batch: 448966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	5035	
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	5035	
MB 400-448966/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 448373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	3546	
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	3546	
MB 400-448373/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448373/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448373/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448373/6-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-448373/8-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173189-3 MS	PD-17-SB-55-071519	Total/NA	Solid	3546	
400-173189-3 MSD	PD-17-SB-55-071519	Total/NA	Solid	3546	

Analysis Batch: 448563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8270D	448373
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	8270D	448373
MB 400-448373/1-A	Method Blank	Total/NA	Solid	8270D	448373
LCSD 400-448373/6-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448373
400-173189-3 MS	PD-17-SB-55-071519	Total/NA	Solid	8270D	448373
400-173189-3 MSD	PD-17-SB-55-071519	Total/NA	Solid	8270D	448373

Analysis Batch: 448806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8270D LL	448373
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	8270D LL	448373
MB 400-448373/1-A	Method Blank	Total/NA	Solid	8270D LL	448373

Analysis Batch: 449423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8270D LL	448373
LCS 400-448373/7-A	Lab Control Sample	Total/NA	Solid	8270D LL	448373

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

GC/MS Semi VOA

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-448373/8-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	448373

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448373/2-A	Lab Control Sample	Total/NA	Solid	8270D	448373

General Chemistry

Analysis Batch: 448557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	Moisture	
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	Moisture	
400-173189-2 DU	PD-17-SB-45-071519	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 15:43	1
Acrolein	ND		20	10	ug/L			07/17/19 15:43	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 15:43	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 15:43	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 15:43	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 15:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 15:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 15:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 15:43	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 15:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 15:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 15:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 15:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 15:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 15:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 15:43	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 15:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 15:43	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 15:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 15:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 15:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 15:43	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 15:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 15:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 15:43	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 15:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 15:43	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 15:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 15:43	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 15:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 15:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 15:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 15:43	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 15:43*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 15:43*	*1*
Dibromofluoromethane	*92*		*81 - 121*		*07/17/19 15:43*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/17/19 15:43*	*1*

Lab Sample ID: LCS 400-448405/1003
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	204		ug/L		102	43 - 160
Acrolein	500	487		ug/L		97	38 - 160
Acrylonitrile	500	564		ug/L		113	64 - 142
Benzene	50.0	46.4		ug/L		93	70 - 130
Bromobenzene	50.0	50.8		ug/L		102	70 - 132
Bromochloromethane	50.0	50.3		ug/L		101	70 - 130
Bromodichloromethane	50.0	42.9		ug/L		86	67 - 133
Bromoform	50.0	45.4		ug/L		91	57 - 140
Bromomethane	50.0	36.7		ug/L		73	10 - 160
2-Butanone (MEK)	200	179		ug/L		89	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448405/1003
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	41.9		ug/L		84	61 - 137
Carbon tetrachloride	50.0	43.8		ug/L		88	61 - 137
Chlorobenzene	50.0	48.2		ug/L		96	70 - 130
Chloroethane	50.0	41.1		ug/L		82	55 - 141
2-Chloroethyl vinyl ether	50.0	36.3		ug/L		73	10 - 160
Chloroform	50.0	47.1		ug/L		94	69 - 130
1-Chlorohexane	50.0	48.9		ug/L		98	69 - 130
Chloromethane	50.0	46.8		ug/L		94	58 - 137
cis-1,2-Dichloroethene	50.0	46.9		ug/L		94	68 - 130
cis-1,3-Dichloropropene	50.0	44.5		ug/L		89	69 - 132
Dibromochloromethane	50.0	48.5		ug/L		97	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	46.2		ug/L		92	54 - 135
1,2-Dichlorobenzene	50.0	52.9		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.4		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	51.3		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	38.3		ug/L		77	41 - 146
1,1-Dichloroethane	50.0	47.2		ug/L		94	70 - 130
1,2-Dichloroethane	50.0	46.6		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	46.2		ug/L		92	70 - 130
1,3-Dichloropropane	50.0	48.6		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	41.2		ug/L		82	52 - 135
1,1-Dichloropropene	50.0	45.8		ug/L		92	70 - 130
Ethylbenzene	50.0	50.4		ug/L		101	70 - 130
Ethylene Dibromide	50.0	50.1		ug/L		100	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	40.2		ug/L		80	53 - 140
2-Hexanone	200	185		ug/L		93	65 - 137
Isopropylbenzene	50.0	49.5		ug/L		99	70 - 130
Methylene bromide	50.0	43.8		ug/L		88	70 - 130
Methylene Chloride	50.0	50.4		ug/L		101	66 - 135
4-Methyl-2-pentanone (MIBK)	200	206		ug/L		103	69 - 138
Methyl tert-butyl ether	50.0	43.4		ug/L		87	66 - 130
m-Xylene & p-Xylene	50.0	50.0		ug/L		100	70 - 130
Naphthalene	50.0	50.5		ug/L		101	47 - 149
n-Butylbenzene	50.0	50.9		ug/L		102	67 - 130
N-Propylbenzene	50.0	53.5		ug/L		107	70 - 130
o-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
o-Xylene	50.0	50.3		ug/L		101	70 - 130
p-Chlorotoluene	50.0	53.2		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	52.1		ug/L		104	65 - 130
sec-Butylbenzene	50.0	51.7		ug/L		103	66 - 130
Styrene	50.0	48.1		ug/L		96	70 - 130
tert-Butylbenzene	50.0	50.7		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.0		ug/L		98	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/L		106	70 - 131
Tetrachloroethene	50.0	47.2		ug/L		94	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.5		ug/L		101	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448405/1003
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	45.8		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	42.8		ug/L		86	60 - 138
1,2,4-Trichlorobenzene	50.0	42.7		ug/L		85	60 - 140
1,1,1-Trichloroethane	50.0	46.0		ug/L		92	68 - 130
1,1,2-Trichloroethane	50.0	48.7		ug/L		97	70 - 130
Trichloroethene	50.0	48.0		ug/L		96	70 - 130
Trichlorofluoromethane	50.0	38.3		ug/L		77	65 - 138
1,2,3-Trichloropropane	50.0	53.4		ug/L		107	70 - 130
1,2,4-Trimethylbenzene	50.0	52.4		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	52.7		ug/L		105	69 - 130
Vinyl acetate	100	104		ug/L		104	26 - 160
Vinyl chloride	50.0	47.2		ug/L		94	59 - 136
Xylenes, Total	100	100		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*93*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrolein	ND		50	28	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/22/19 07:09	07/22/19 09:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 122	07/22/19 07:09	07/22/19 09:16	1
Dibromofluoromethane	97		79 - 123	07/22/19 07:09	07/22/19 09:16	1
Toluene-d8 (Surr)	99		80 - 120	07/22/19 07:09	07/22/19 09:16	1

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	191		ug/Kg		95	48 - 160
Acrolein	500	565		ug/Kg		113	40 - 150
Acrylonitrile	500	438		ug/Kg		88	60 - 130
Benzene	50.0	44.8		ug/Kg		90	65 - 130
Bromobenzene	50.0	44.1		ug/Kg		88	65 - 130
Bromochloromethane	50.0	41.0		ug/Kg		82	65 - 130
Bromodichloromethane	50.0	40.7		ug/Kg		81	61 - 130
Bromoform	50.0	42.0		ug/Kg		84	52 - 136
Bromomethane	50.0	17.2		ug/Kg		34	12 - 160
2-Butanone (MEK)	200	223		ug/Kg		111	55 - 130
Carbon disulfide	50.0	37.8		ug/Kg		76	46 - 141
Carbon tetrachloride	50.0	39.7		ug/Kg		79	60 - 130
Chlorobenzene	50.0	42.6		ug/Kg		85	70 - 130
Chloroethane	50.0	41.8		ug/Kg		84	55 - 134
2-Chloroethyl vinyl ether	50.0	21.4		ug/Kg		43	10 - 158
Chloroform	50.0	41.3		ug/Kg		83	62 - 130
1-Chlorohexane	50.0	39.7		ug/Kg		79	69 - 130
Chloromethane	50.0	40.5		ug/Kg		81	49 - 136
cis-1,2-Dichloroethene	50.0	42.0		ug/Kg		84	53 - 135
cis-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	61 - 130
Dibromochloromethane	50.0	39.3		ug/Kg		79	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	41.0		ug/Kg		82	49 - 130
1,2-Dichlorobenzene	50.0	43.4		ug/Kg		87	64 - 130
1,3-Dichlorobenzene	50.0	44.0		ug/Kg		88	66 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	65 - 130
Dichlorodifluoromethane	50.0	41.5		ug/Kg		83	34 - 143
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	38.8		ug/Kg		78	55 - 137
1,2-Dichloropropane	50.0	44.2		ug/Kg		88	64 - 130
1,3-Dichloropropane	50.0	43.1		ug/Kg		86	67 - 130
2,2-Dichloropropane	50.0	38.2		ug/Kg		76	51 - 132
1,1-Dichloropropene	50.0	41.8		ug/Kg		84	65 - 130
Ethylbenzene	50.0	40.2		ug/Kg		80	70 - 130
Ethylene Dibromide	50.0	42.2		ug/Kg		84	67 - 130
Ethyl methacrylate	50.0	40.1		ug/Kg		80	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	50.4		ug/Kg		101	62 - 133
2-Hexanone	200	190		ug/Kg		95	57 - 131
Isopropylbenzene	50.0	39.4		ug/Kg		79	70 - 130
Methylene bromide	50.0	40.5		ug/Kg		81	65 - 130
Methylene Chloride	50.0	44.3		ug/Kg		89	57 - 132
4-Methyl-2-pentanone (MIBK)	200	164		ug/Kg		82	58 - 130
Methyl tert-butyl ether	50.0	39.5		ug/Kg		79	63 - 130
m-Xylene & p-Xylene	50.0	40.8		ug/Kg		82	70 - 130
Naphthalene	50.0	37.1		ug/Kg		74	45 - 144
n-Butylbenzene	50.0	43.9		ug/Kg		88	66 - 130
N-Propylbenzene	50.0	45.2		ug/Kg		90	67 - 130
o-Chlorotoluene	50.0	45.7		ug/Kg		91	67 - 130
o-Xylene	50.0	40.0		ug/Kg		80	70 - 130
p-Chlorotoluene	50.0	46.4		ug/Kg		93	66 - 130
p-Isopropyltoluene	50.0	44.2		ug/Kg		88	68 - 130
sec-Butylbenzene	50.0	44.5		ug/Kg		89	67 - 130
Styrene	50.0	38.3		ug/Kg		77	68 - 130
tert-Butylbenzene	50.0	43.2		ug/Kg		86	67 - 130
1,1,1,2-Tetrachloroethane	50.0	39.4		ug/Kg		79	65 - 130
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/Kg		99	60 - 131
Tetrachloroethene	50.0	35.7		ug/Kg		71	67 - 130
Toluene	50.0	42.1		ug/Kg		84	70 - 130
trans-1,2-Dichloroethene	50.0	41.9		ug/Kg		84	58 - 134
trans-1,3-Dichloropropene	50.0	39.5		ug/Kg		79	60 - 130
1,2,3-Trichlorobenzene	50.0	43.5		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.3		ug/Kg		85	56 - 138
1,1,1-Trichloroethane	50.0	39.7		ug/Kg		79	63 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/Kg		85	65 - 130
Trichloroethene	50.0	42.1		ug/Kg		84	65 - 130
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	47.0		ug/Kg		94	60 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/Kg		93	66 - 130
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	67 - 130
Vinyl acetate	100	92.2		ug/Kg		92	24 - 160
Vinyl chloride	50.0	47.3		ug/Kg		95	52 - 132
Xylenes, Total	100	80.8		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Benzenethiol	45.4	J	330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Benzoic acid	ND		990	350	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Benzyl alcohol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Bis(2-ethylhexyl) phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Chloroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Chlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Dibenzofuran	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Diethyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
1,4-Dioxane	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Hexachloroethane	ND		330	100	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Indene	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Isophorone	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Methylphenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Nitroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
3-Nitroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Nitroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Nitrobenzene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Nitrophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Nitrophenol	ND		330	110	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Pentachlorophenol	ND		660	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Phenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		330	150	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Quinoline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
alpha,alpha-Dimethyl phenethylamine	*80.2*	*J*	*ug/Kg*		*6.43*	*122-09-8*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/17/19 10:15*	*07/18/19 19:42*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*50*		*27 - 127*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
2-Fluorophenol	*34*		*25 - 128*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Nitrobenzene-d5	*35*		*15 - 136*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Phenol-d5	*35*		*29 - 130*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Terphenyl-d14	*52*		*24 - 146*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
2,4,6-Tribromophenol	*63*		*10 - 150*	*07/17/19 10:15*	*07/18/19 19:42*	*1*

Lab Sample ID: LCS 400-448373/2-A
Matrix: Solid
Analysis Batch: 450467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1540		ug/Kg		77	36 - 120
Benzoic acid	7770	1200		ug/Kg		16	10 - 139
Benzyl alcohol	2000	1710		ug/Kg		86	10 - 127
Bis(2-chloroethoxy)methane	2000	1210		ug/Kg		61	52 - 120
Bis(2-chloroethyl)ether	2000	1180		ug/Kg		59	50 - 120
bis (2-chloroisopropyl) ether	2000	959		ug/Kg		48	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1460		ug/Kg		73	58 - 158
4-Bromophenyl phenyl ether	2000	1350		ug/Kg		67	51 - 120
Butyl benzyl phthalate	2000	1300		ug/Kg		65	58 - 126
4-Chloroaniline	2000	1870		ug/Kg		94	34 - 120
4-Chloro-3-methylphenol	2000	1360		ug/Kg		68	57 - 124
2-Chloronaphthalene	2000	1180		ug/Kg		59	55 - 120
2-Chlorophenol	2000	1290		ug/Kg		64	52 - 120
4-Chlorophenyl phenyl ether	2000	1350		ug/Kg		67	56 - 120
Dibenz[a,h]acridine	2000	1350		ug/Kg		68	51 - 135
Dibenzofuran	2000	1260		ug/Kg		63	58 - 120
3,3'-Dichlorobenzidine	2670	2800		ug/Kg		105	42 - 120
2,4-Dichlorophenol	2000	1420		ug/Kg		71	56 - 120
Diethyl phthalate	2000	1620		ug/Kg		81	56 - 128
2,4-Dimethylphenol	2000	1640		ug/Kg		82	54 - 120
Dimethyl phthalate	2000	1320		ug/Kg		66	58 - 120
Di-n-butyl phthalate	2000	1590		ug/Kg		80	64 - 122
4,6-Dinitro-ortho-cresol	4000	3080		ug/Kg		77	35 - 135
2,4-Dinitrophenol	4000	3020		ug/Kg		76	10 - 138
2,4-Dinitrotoluene	2000	1200		ug/Kg		60	59 - 133
2,6-Dinitrotoluene	2000	1140		ug/Kg		57	57 - 123

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448373/2-A
Matrix: Solid
Analysis Batch: 450467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Di-n-octyl phthalate	2000	1390		ug/Kg		70	57 - 137
1,4-Dioxane	2000	894		ug/Kg		45	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1670		ug/Kg		84	50 - 120
Hexachlorobenzene	2000	1540		ug/Kg		77	49 - 127
Hexachlorocyclopentadiene	2000	684		ug/Kg		34	10 - 140
Hexachloroethane	2000	1530		ug/Kg		76	45 - 120
Indene	2000	1290		ug/Kg		64	45 - 120
Isophorone	2000	1470		ug/Kg		74	50 - 120
2-Methylphenol	2000	1590		ug/Kg		80	51 - 123
3 & 4 Methylphenol	2000	1690		ug/Kg		85	47 - 123
2-Nitroaniline	2000	1730		ug/Kg		86	55 - 129
3-Nitroaniline	2000	1730		ug/Kg		87	45 - 120
4-Nitroaniline	2000	1540		ug/Kg		77	52 - 126
Nitrobenzene	2000	1520		ug/Kg		76	50 - 120
2-Nitrophenol	2000	1280		ug/Kg		64	53 - 120
4-Nitrophenol	4000	4750		ug/Kg		119	38 - 133
N-Nitrosodimethylamine	2000	1650		ug/Kg		82	35 - 120
N-Nitrosodi-n-propylamine	2000	1940		ug/Kg		97	48 - 120
N-Nitrosodiphenylamine	1980	1260		ug/Kg		64	54 - 120
Pentachlorophenol	4000	2740		ug/Kg		69	32 - 131
Phenol	2000	1680		ug/Kg		84	51 - 120
Pyridine	4000	2060		ug/Kg		51	29 - 120
Quinoline	2000	1150		ug/Kg		58	10 - 150
2,4,5-Trichlorophenol	2000	1320		ug/Kg		66	53 - 133
2,4,6-Trichlorophenol	2000	1370		ug/Kg		69	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*27 - 127*
2-Fluorophenol	*59*		*25 - 128*
Nitrobenzene-d5	*89*		*15 - 136*
Phenol-d5	*71*		*29 - 130*
Terphenyl-d14	*66*		*24 - 146*
2,4,6-Tribromophenol	*63*		*10 - 150*

Lab Sample ID: LCSD 400-448373/6-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	633		ug/Kg		32	10 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*52*		*27 - 127*
2-Fluorophenol	*39*		*25 - 128*
Nitrobenzene-d5	*38*		*15 - 136*
Phenol-d5	*37*		*29 - 130*
Terphenyl-d14	*54*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448373/6-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448373

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	64		10 - 150

Lab Sample ID: 400-173189-3 MS
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		2400	1160		ug/Kg	☼	48	40 - 140
Benzoic acid	ND	F1	9340	ND	F1	ug/Kg	☼	0	40 - 140
Benzyl alcohol	ND	F1 F2	2400	544	F1	ug/Kg	☼	23	40 - 140
Bis(2-chloroethoxy)methane	ND	F1	2400	852	F1	ug/Kg	☼	35	40 - 140
Bis(2-chloroethyl)ether	ND	F1	2400	777	F1	ug/Kg	☼	32	40 - 140
bis (2-chloroisopropyl) ether	ND	F1	2400	742	F1	ug/Kg	☼	31	40 - 140
Bis(2-ethylhexyl) phthalate	ND		2400	1270		ug/Kg	☼	53	40 - 140
4-Bromophenyl phenyl ether	ND		2400	1570		ug/Kg	☼	65	40 - 140
Butyl benzyl phthalate	ND		2400	1210		ug/Kg	☼	50	40 - 140
4-Chloroaniline	ND		2400	1370		ug/Kg	☼	57	40 - 140
4-Chloro-3-methylphenol	ND		2400	1310		ug/Kg	☼	55	40 - 140
2-Chloronaphthalene	ND		2400	1610		ug/Kg	☼	67	40 - 140
2-Chlorophenol	ND		2400	1250		ug/Kg	☼	52	40 - 140
4-Chlorophenyl phenyl ether	ND		2400	1580		ug/Kg	☼	66	40 - 140
Dibenz[a,h]acridine	ND		2400	1680		ug/Kg	☼	70	40 - 140
Dibenzofuran	ND		2400	1430		ug/Kg	☼	60	40 - 140
3,3'-Dichlorobenzidine	ND		3210	2490		ug/Kg	☼	78	40 - 140
2,4-Dichlorophenol	ND		2400	1460		ug/Kg	☼	61	40 - 140
Diethyl phthalate	ND		2400	1560		ug/Kg	☼	65	40 - 140
2,4-Dimethylphenol	ND		2400	1520		ug/Kg	☼	63	40 - 140
Dimethyl phthalate	ND		2400	1530		ug/Kg	☼	64	40 - 140
Di-n-butyl phthalate	ND		2400	1480		ug/Kg	☼	61	40 - 140
4,6-Dinitro-ortho-cresol	ND	F2	4810	2560		ug/Kg	☼	53	40 - 140
2,4-Dinitrophenol	ND	F1	4810	1620	F1	ug/Kg	☼	34	40 - 140
2,4-Dinitrotoluene	ND		2400	1530		ug/Kg	☼	64	40 - 140
2,6-Dinitrotoluene	ND		2400	1540		ug/Kg	☼	64	40 - 140
Di-n-octyl phthalate	ND		2400	1340		ug/Kg	☼	56	40 - 140
1,4-Dioxane	ND	F1	2400	635	F1	ug/Kg	☼	26	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND		2400	1100		ug/Kg	☼	46	40 - 140
Hexachlorobenzene	ND		2400	1600		ug/Kg	☼	66	40 - 140
Hexachlorocyclopentadiene	ND	F1	2400	1040		ug/Kg	☼	43	40 - 140
Hexachloroethane	ND		2400	1040		ug/Kg	☼	43	40 - 140
Indene	ND		2400	1200		ug/Kg	☼	50	40 - 140
Isophorone	ND		2400	973		ug/Kg	☼	40	40 - 140
2-Methylphenol	ND		2400	1480		ug/Kg	☼	62	40 - 140
3 & 4 Methylphenol	ND		2400	1380		ug/Kg	☼	58	40 - 140
2-Nitroaniline	ND		2400	1320		ug/Kg	☼	55	40 - 140
3-Nitroaniline	ND		2400	2430		ug/Kg	☼	101	40 - 140
4-Nitroaniline	ND		2400	2070		ug/Kg	☼	86	40 - 140
Nitrobenzene	ND		2400	1040		ug/Kg	☼	43	40 - 140
2-Nitrophenol	ND		2400	1120		ug/Kg	☼	47	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173189-3 MS
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitrophenol	ND		4810	4150		ug/Kg	☼	86	40 - 140
N-Nitrosodimethylamine	ND		2400	2780		ug/Kg	☼	116	40 - 140
N-Nitrosodi-n-propylamine	ND		2400	1140		ug/Kg	☼	47	40 - 140
N-Nitrosodiphenylamine	ND		2380	1540		ug/Kg	☼	65	40 - 140
Pentachlorophenol	ND		4810	3070		ug/Kg	☼	64	40 - 140
Phenol	ND		2400	1250		ug/Kg	☼	52	40 - 140
Pyridine	ND		4810	2010		ug/Kg	☼	42	40 - 140
Quinoline	ND		2400	1480		ug/Kg	☼	62	40 - 140
2,4,5-Trichlorophenol	ND		2400	1660		ug/Kg	☼	69	40 - 140
2,4,6-Trichlorophenol	ND		2400	1560		ug/Kg	☼	65	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*27 - 127*
2-Fluorophenol	*44*		*25 - 128*
Nitrobenzene-d5	*54*		*15 - 136*
Phenol-d5	*42*		*29 - 130*
Terphenyl-d14	*56*		*24 - 146*
2,4,6-Tribromophenol	*70*		*10 - 150*

Lab Sample ID: 400-173189-3 MSD
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		2420	1510		ug/Kg	☼	63	40 - 140	26	30
Benzoic acid	ND	F1	9390	ND	F1	ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	ND	F1 F2	2420	850	F2 F1	ug/Kg	☼	35	40 - 140	44	30
Bis(2-chloroethoxy)methane	ND	F1	2420	1050		ug/Kg	☼	44	40 - 140	21	30
Bis(2-chloroethyl)ether	ND	F1	2420	902	F1	ug/Kg	☼	37	40 - 140	15	30
bis (2-chloroisopropyl) ether	ND	F1	2420	876	F1	ug/Kg	☼	36	40 - 140	17	30
Bis(2-ethylhexyl) phthalate	ND		2420	1630		ug/Kg	☼	67	40 - 140	25	30
4-Bromophenyl phenyl ether	ND		2420	1960		ug/Kg	☼	81	40 - 140	22	30
Butyl benzyl phthalate	ND		2420	1540		ug/Kg	☼	64	40 - 140	24	30
4-Chloroaniline	ND		2420	1690		ug/Kg	☼	70	40 - 140	21	30
4-Chloro-3-methylphenol	ND		2420	1560		ug/Kg	☼	64	40 - 140	17	30
2-Chloronaphthalene	ND		2420	1850		ug/Kg	☼	77	40 - 140	14	30
2-Chlorophenol	ND		2420	1530		ug/Kg	☼	63	40 - 140	20	30
4-Chlorophenyl phenyl ether	ND		2420	1980		ug/Kg	☼	82	40 - 140	23	30
Dibenz[a,h]acridine	ND		2420	2020		ug/Kg	☼	84	40 - 140	18	30
Dibenzofuran	ND		2420	1760		ug/Kg	☼	73	40 - 140	21	30
3,3'-Dichlorobenzidine	ND		3220	3010		ug/Kg	☼	93	40 - 140	19	30
2,4-Dichlorophenol	ND		2420	1790		ug/Kg	☼	74	40 - 140	20	30
Diethyl phthalate	ND		2420	1940		ug/Kg	☼	80	40 - 140	21	30
2,4-Dimethylphenol	ND		2420	1880		ug/Kg	☼	78	40 - 140	21	30
Dimethyl phthalate	ND		2420	1800		ug/Kg	☼	74	40 - 140	16	30
Di-n-butyl phthalate	ND		2420	1850		ug/Kg	☼	77	40 - 140	23	30
4,6-Dinitro-ortho-cresol	ND	F2	4830	3490	F2	ug/Kg	☼	72	40 - 140	31	30
2,4-Dinitrophenol	ND	F1	4830	1380	F1	ug/Kg	☼	29	40 - 140	16	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173189-3 MSD
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrotoluene	ND		2420	1880		ug/Kg	☼	78	40 - 140	21	30
2,6-Dinitrotoluene	ND		2420	1840		ug/Kg	☼	76	40 - 140	17	30
Di-n-octyl phthalate	ND		2420	1680		ug/Kg	☼	70	40 - 140	23	30
1,4-Dioxane	ND	F1	2420	712	F1	ug/Kg	☼	29	40 - 140	11	30
1,2-Diphenylhydrazine (as Azobenzene)	ND		2420	1400		ug/Kg	☼	58	40 - 140	24	30
Hexachlorobenzene	ND		2420	2000		ug/Kg	☼	83	40 - 140	22	30
Hexachlorocyclopentadiene	ND	F1	2420	797	F1	ug/Kg	☼	33	40 - 140	26	30
Hexachloroethane	ND		2420	1270		ug/Kg	☼	53	40 - 140	20	30
Indene	ND		2420	1410		ug/Kg	☼	58	40 - 140	16	30
Isophorone	ND		2420	1220		ug/Kg	☼	51	40 - 140	23	30
2-Methylphenol	ND		2420	1780		ug/Kg	☼	74	40 - 140	19	30
3 & 4 Methylphenol	ND		2420	1710		ug/Kg	☼	71	40 - 140	21	30
2-Nitroaniline	ND		2420	1590		ug/Kg	☼	66	40 - 140	18	30
3-Nitroaniline	ND		2420	2610		ug/Kg	☼	108	40 - 140	7	30
4-Nitroaniline	ND		2420	2540		ug/Kg	☼	105	40 - 140	21	30
Nitrobenzene	ND		2420	1250		ug/Kg	☼	52	40 - 140	19	30
2-Nitrophenol	ND		2420	1440		ug/Kg	☼	60	40 - 140	25	30
4-Nitrophenol	ND		4830	5120		ug/Kg	☼	106	40 - 140	21	30
N-Nitrosodimethylamine	ND		2420	3150		ug/Kg	☼	131	40 - 140	13	30
N-Nitrosodi-n-propylamine	ND		2420	1420		ug/Kg	☼	59	40 - 140	22	30
N-Nitrosodiphenylamine	ND		2400	1880		ug/Kg	☼	79	40 - 140	20	30
Pentachlorophenol	ND		4830	3830		ug/Kg	☼	79	40 - 140	22	30
Phenol	ND		2420	1500		ug/Kg	☼	62	40 - 140	19	30
Pyridine	ND		4830	2420		ug/Kg	☼	50	40 - 140	18	30
Quinoline	ND		2420	1830		ug/Kg	☼	76	40 - 140	21	30
2,4,5-Trichlorophenol	ND		2420	2030		ug/Kg	☼	84	40 - 140	20	30
2,4,6-Trichlorophenol	ND		2420	1880		ug/Kg	☼	78	40 - 140	19	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*27 - 127*
2-Fluorophenol	*53*		*25 - 128*
Nitrobenzene-d5	*60*		*15 - 136*
Phenol-d5	*51*		*29 - 130*
Terphenyl-d14	*68*		*24 - 146*
2,4,6-Tribromophenol	*86*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448806

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Anthracene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448806

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Chrysene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Fluorene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Pyrene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*27 - 127*	*07/17/19 10:15*	*07/20/19 18:33*	*1*
Nitrobenzene-d5	*73*		*15 - 136*	*07/17/19 10:15*	*07/20/19 18:33*	*1*
Terphenyl-d14	*121*		*24 - 146*	*07/17/19 10:15*	*07/20/19 18:33*	*1*

Lab Sample ID: LCS 400-448373/7-A
Matrix: Solid
Analysis Batch: 449423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	206		ug/Kg		62	57 - 120
Acenaphthylene	333	196		ug/Kg		59	59 - 120
Anthracene	333	204		ug/Kg		61	61 - 120
Benzo[a]anthracene	333	207		ug/Kg		62	61 - 120
Benzo[a]pyrene	333	215		ug/Kg		64	54 - 127
Benzo[b]fluoranthene	333	211		ug/Kg		63	35 - 146
Benzo[g,h,i]perylene	333	239		ug/Kg		72	36 - 150
Benzo[k]fluoranthene	333	213		ug/Kg		64	53 - 139
Chrysene	333	212		ug/Kg		64	60 - 120
Dibenz(a,h)anthracene	333	243		ug/Kg		73	39 - 150
Fluoranthene	333	218		ug/Kg		65	61 - 121
Fluorene	333	218		ug/Kg		65	60 - 120
Indeno[1,2,3-cd]pyrene	333	241		ug/Kg		72	40 - 150
1-Methylnaphthalene	333	179		ug/Kg		54	46 - 120
2-Methylnaphthalene	333	178		ug/Kg		53	46 - 120
Phenanthrene	333	202		ug/Kg		61	59 - 120
Pyrene	333	208		ug/Kg		62	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*27 - 127*
Nitrobenzene-d5	*67*		*15 - 136*
Terphenyl-d14	*104*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-448373/8-A
Matrix: Solid
Analysis Batch: 449887

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	218		ug/Kg		66	57 - 120	6	30
Acenaphthylene	333	203		ug/Kg		61	59 - 120	4	30
Anthracene	333	223		ug/Kg		67	61 - 120	9	30
Benzo[a]anthracene	333	217		ug/Kg		65	61 - 120	5	30
Benzo[a]pyrene	333	228		ug/Kg		68	54 - 127	6	30
Benzo[b]fluoranthene	333	239		ug/Kg		72	35 - 146	12	30
Benzo[g,h,i]perylene	333	257		ug/Kg		77	36 - 150	7	30
Benzo[k]fluoranthene	333	223		ug/Kg		67	53 - 139	5	30
Chrysene	333	219		ug/Kg		66	60 - 120	3	30
Dibenz(a,h)anthracene	333	254		ug/Kg		76	39 - 150	5	30
Fluoranthene	333	220		ug/Kg		66	61 - 121	1	30
Fluorene	333	228		ug/Kg		68	60 - 120	5	30
Indeno[1,2,3-cd]pyrene	333	246		ug/Kg		74	40 - 150	2	30
1-Methylnaphthalene	333	221		ug/Kg		66	46 - 120	21	30
2-Methylnaphthalene	333	208		ug/Kg		62	46 - 120	15	30
Phenanthrene	333	215		ug/Kg		64	59 - 120	6	30
Pyrene	333	292	*	ug/Kg		88	53 - 122	33	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*27 - 127*
Nitrobenzene-d5	*49*		*15 - 136*
Terphenyl-d14	*107*		*24 - 146*

Method: Moisture - Percent Moisture

Lab Sample ID: 400-173189-2 DU
Matrix: Solid
Analysis Batch: 448557

Client Sample ID: PD-17-SB-45-071519
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	86.1		85.2		%		1	10

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/15/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:
SAMPLER NAME(S) (Print): James Carrino
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-071519-A	7/15/2019	0:00	Water	X					2			X		
	PD-17-SB-45-071519	7/15/2019	13:24	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-17-SB-55-071519	7/15/2019	14:55	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

400-173189 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

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Relinquished by: (Signature)	Received by: (Signature) 4931 8203 7410 / Fedex: 4931 8203 7421 4931 8203 7432	Date: 7/15/2019	Time: 18:00
Relinquished by: (Signature)	Received by: (Signature) 4.4°C IR8	Date: 07.16.19	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version 16May17

Custody Seal #s: 1003194, 1003195, 1003196, 1003197, 1003198, 1003199

8/2/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173189-1

Login Number: 173189
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173189-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 11:40:06 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Certification Summary 43

Job ID: 400-173189-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173189-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 8-2-19.

Receipt
The samples were received on 7/16/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4º C.

GC/MS VOA
Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-071519-A (400-173189-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448890 recovered outside acceptance criteria, low biased, for 2-Chloroethyl vinyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-17-SB-45-071519 (400-173189-2) and PD-17-SB-55-071519 (400-173189-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for N-Nitrosodimethylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, Benzyl alcohol, Nitrobenzene, Phenol, Isophorone, N-Nitrosodi-n-propylamine, 2,2'-oxybis[1-chloropropane], 1,2-Diphenylhydrazine (as Azobenzene), Pyridine and Bis(2-chloroethoxy)methane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448373 and analytical batch 400-448563 contained Benzenethiol above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-17-SB-55-071519 (400-173189-3). These results have been reported and qualified.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-448806 recovered above the upper control

Job ID: 400-173189-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

limit for Pyrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448373 and analytical batch 400-449887 recovered outside control limits for the following analytes: Pyrene.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448373 and analytical batch 400-448563 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448373 and analytical batch 400-448563 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173189-1	TB-PW-071519-A	Water	07/15/19 00:00	07/16/19 09:10	
400-173189-2	PD-17-SB-45-071519	Solid	07/15/19 13:24	07/16/19 09:10	
400-173189-3	PD-17-SB-55-071519	Solid	07/15/19 14:55	07/16/19 09:10	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A — Lab Sample ID: 400-173189-1

No Detections.

Client Sample ID: PD-17-SB-45-071519 — Lab Sample ID: 400-173189-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6500		260	35	ug/Kg	50	☼	8260B	Total/NA
sec-Butylbenzene	130	J	260	50	ug/Kg	50	☼	8260B	Total/NA
1,1,2,2-Tetrachloroethane	130	J	260	130	ug/Kg	50	☼	8260B	Total/NA
Acenaphthene	22		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	15		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	49		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	64		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	31		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	20		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	11		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	100		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Dibenz(a,h)anthracene	12		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	23		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	30		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	10		7.6	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	71		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	39		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	140		7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	160	*	7.6	1.2	ug/Kg	1	☼	8270D LL	Total/NA

Client Sample ID: PD-17-SB-55-071519 — Lab Sample ID: 400-173189-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	32000		1100	140	ug/Kg	200	☼	8260B	Total/NA
Ethylbenzene	470	J	1100	130	ug/Kg	200	☼	8260B	Total/NA
m-Xylene & p-Xylene	480	J	1100	280	ug/Kg	200	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	1100		1100	210	ug/Kg	200	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	260	J	1100	180	ug/Kg	200	☼	8260B	Total/NA
Xylenes, Total	570	J	2100	400	ug/Kg	200	☼	8260B	Total/NA
1-Methylnaphthalene	8.0		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	12		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	8.7		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A

Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 18:07	1
Acrolein	ND		20	10	ug/L			07/17/19 18:07	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 18:07	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 18:07	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 18:07	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 18:07	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 18:07	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 18:07	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 18:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 18:07	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 18:07	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 18:07	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 18:07	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 18:07	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:07	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 18:07	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 18:07	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 18:07	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 18:07	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 18:07	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 18:07	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 18:07	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 18:07	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 18:07	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 18:07	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 18:07	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 18:07	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 18:07	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 18:07	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 18:07	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 18:07	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 18:07	1
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 18:07	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: TB-PW-071519-A
Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 18:07	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 18:07	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 18:07	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 18:07	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 18:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 18:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 18:07	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 18:07	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 18:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 18:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 18:07	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 18:07	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 18:07	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 18:07	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 18:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 18:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 18:07	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 18:07	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 18:07	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 18:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 18:07*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 18:07*	*1*
Dibromofluoromethane	*91*		*81 - 121*		*07/17/19 18:07*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/17/19 18:07*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519

Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2

Matrix: Solid
Percent Solids: 86.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	680	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Acrolein	ND		2600	1500	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Acrylonitrile	ND		1000	420	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Benzene	**6500**		260	35	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromobenzene	ND		260	68	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromochloromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromodichloromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromoform	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Bromomethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2-Butanone (MEK)	ND		1300	310	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Carbon disulfide	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Carbon tetrachloride	ND		260	89	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chlorobenzene	ND		260	27	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chloroethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2-Chloroethyl vinyl ether	ND		520	260	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chloroform	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1-Chlorohexane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Chloromethane	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
cis-1,2-Dichloroethene	ND		260	40	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
cis-1,3-Dichloropropene	ND		260	63	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Dibromochloromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dibromo-3-Chloropropane	ND		260	170	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dichlorobenzene	ND		260	37	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,3-Dichlorobenzene	ND		260	50	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,4-Dichlorobenzene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Dichlorodifluoromethane	ND		260	68	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1-Dichloroethane	ND		260	43	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dichloroethane	ND		260	43	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1-Dichloroethene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,3-Dichloropropane	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1-Dichloropropene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Ethylbenzene	ND		260	32	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Ethylene Dibromide	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Ethyl methacrylate	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Hexachlorobutadiene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
2-Hexanone	ND		1300	260	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Isopropylbenzene	ND		260	35	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Methylene bromide	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Methylene Chloride	ND		780	520	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
4-Methyl-2-pentanone (MIBK)	ND		1300	260	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Methyl tert-butyl ether	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
m-Xylene & p-Xylene	ND		260	68	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Naphthalene	ND		260	100	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
n-Butylbenzene	ND		260	50	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
N-Propylbenzene	ND		260	47	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
o-Chlorotoluene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
o-Xylene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid
Percent Solids: 86.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		260	51	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
p-Isopropyltoluene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
sec-Butylbenzene	**130**	**J**	260	50	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Styrene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
tert-Butylbenzene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,1,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,2,2-Tetrachloroethane	**130**	**J**	260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Tetrachloroethene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Toluene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
trans-1,2-Dichloroethene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
trans-1,3-Dichloropropene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,3-Trichlorobenzene	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,4-Trichlorobenzene	ND		260	100	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,1-Trichloroethane	ND		260	57	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,1,2-Trichloroethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Trichloroethene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Trichlorofluoromethane	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,3-Trichloropropane	ND		260	160	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,2,4-Trimethylbenzene	ND		260	52	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
1,3,5-Trimethylbenzene	ND		260	43	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Vinyl acetate	ND		1300	470	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Vinyl chloride	ND		260	130	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50
Xylenes, Total	ND		520	99	ug/Kg	☼	07/22/19 07:09	07/22/19 16:21	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isooctane	*140*	*J*	*ug/Kg*	☼	*3.65*	*540-84-1*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Pentane, 2,3,3-trimethyl-	*270*	*T J N*	*ug/Kg*	☼	*4.45*	*560-21-4*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Unknown	*400*	*T J*	*ug/Kg*	☼	*6.16*		*07/22/19 07:09*	*07/22/19 16:21*	*50*
9-Octadecyne	*420*	*T J N*	*ug/Kg*	☼	*6.34*	*35365-59-4*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Unknown	*600*	*T J*	*ug/Kg*	☼	*7.98*		*07/22/19 07:09*	*07/22/19 16:21*	*50*
trans-Decalin, 2-methyl-	*650*	*T J N*	*ug/Kg*	☼	*8.26*	*1000152-47-3*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Benzene, 1,2,3,5-tetramethyl-	*910*	*T J N*	*ug/Kg*	☼	*8.40*	*527-53-7*	*07/22/19 07:09*	*07/22/19 16:21*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*72 - 122*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Dibromofluoromethane	*94*		*79 - 123*	*07/22/19 07:09*	*07/22/19 16:21*	*50*
Toluene-d8 (Surr)	*101*		*80 - 120*	*07/22/19 07:09*	*07/22/19 16:21*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**22**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Acenaphthylene	ND		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Anthracene	**15**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[a]anthracene	**49**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[a]pyrene	**64**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[b]fluoranthene	**31**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[g,h,i]perylene	**20**		7.6	2.3	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Benzo[k]fluoranthene	**11**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Chrysene	**100**		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-SB-45-071519
Lab Sample ID: 400-173189-2
Date Collected: 07/15/19 13:24
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 86.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	12		7.6	2.3	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Fluoranthene	23		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Fluorene	30		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Indeno[1,2,3-cd]pyrene	10		7.6	2.3	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
1-Methylnaphthalene	71		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
2-Methylnaphthalene	39		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Phenanthrene	140		7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:20	1
Pyrene	160	*	7.6	1.2	ug/Kg	☼	07/17/19 10:15	07/24/19 22:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*27 - 127*	*07/17/19 10:15*	*07/20/19 19:20*	*1*
Nitrobenzene-d5	*77*		*15 - 136*	*07/17/19 10:15*	*07/20/19 19:20*	*1*
Terphenyl-d14	*132*		*24 - 146*	*07/17/19 10:15*	*07/20/19 19:20*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	380	50	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Benzenethiol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Benzyl alcohol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Bis(2-chloroethoxy)methane	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Bis(2-chloroethyl)ether	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
bis (2-chloroisopropyl) ether	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Bis(2-ethylhexyl) phthalate	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Bromophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Butyl benzyl phthalate	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Chloroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Chloro-3-methylphenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Chloronaphthalene	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Chlorophenol	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Chlorophenyl phenyl ether	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Dibenz[a,h]acridine	ND		380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Dibenzofuran	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
3,3'-Dichlorobenzidine	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dichlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Diethyl phthalate	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dimethylphenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Dimethyl phthalate	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Di-n-butyl phthalate	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4,6-Dinitro-ortho-cresol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4-Dinitrotoluene	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,6-Dinitrotoluene	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Di-n-octyl phthalate	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
1,4-Dioxane	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Hexachlorobenzene	ND		380	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Hexachlorocyclopentadiene	ND		380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Hexachloroethane	ND	*	380	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2
Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND	*	380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Isophorone	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Methylphenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
3 & 4 Methylphenol	ND		760	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Nitroaniline	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
3-Nitroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Nitroaniline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Nitrobenzene	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2-Nitrophenol	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
4-Nitrophenol	ND		380	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
N-Nitrosodimethylamine	ND		380	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
N-Nitrosodi-n-propylamine	ND	*	380	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
N-Nitrosodiphenylamine	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Pentachlorophenol	ND		760	76	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Phenol	ND	*	380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Pyridine	ND		380	170	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
Quinoline	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4,5-Trichlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1
2,4,6-Trichlorophenol	ND		380	38	ug/Kg	☼	07/17/19 10:15	07/18/19 22:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/17/19 10:15*	*07/18/19 22:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 127*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
2-Fluorophenol	*48*		*25 - 128*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
Nitrobenzene-d5	*49*		*15 - 136*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
Phenol-d5	*45*		*29 - 130*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
Terphenyl-d14	*69*		*24 - 146*	*07/17/19 10:15*	*07/18/19 22:37*	*1*
2,4,6-Tribromophenol	*91*		*10 - 150*	*07/17/19 10:15*	*07/18/19 22:37*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.1**		0.01	0.01	%			07/18/19 13:06	1

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 82.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5300	2800	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Acrolein	ND		11000	5900	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Acrylonitrile	ND		4200	1700	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Benzene	**32000**		1100	140	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromobenzene	ND		1100	280	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromochloromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromodichloromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromoform	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Bromomethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2-Butanone (MEK)	ND		5300	1300	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Carbon disulfide	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Carbon tetrachloride	ND		1100	360	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chlorobenzene	ND		1100	110	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2-Chloroethyl vinyl ether	ND		2100	1100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chloroform	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1-Chlorohexane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Chloromethane	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
cis-1,2-Dichloroethene	ND		1100	160	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
cis-1,3-Dichloropropene	ND		1100	250	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Dibromochloromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dibromo-3-Chloropropane	ND		1100	700	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dichlorobenzene	ND		1100	150	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,3-Dichlorobenzene	ND		1100	200	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,4-Dichlorobenzene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Dichlorodifluoromethane	ND		1100	280	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1-Dichloroethane	ND		1100	180	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dichloroethane	ND		1100	170	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1-Dichloroethene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2-Dichloropropane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,3-Dichloropropane	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2,2-Dichloropropane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1-Dichloropropene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Ethylbenzene	**470**	**J**	1100	130	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Ethylene Dibromide	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Ethyl methacrylate	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Hexachlorobutadiene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
2-Hexanone	ND		5300	1100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Isopropylbenzene	ND		1100	140	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Methylene bromide	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Methylene Chloride	ND		3200	2100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
4-Methyl-2-pentanone (MIBK)	ND		5300	1100	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Methyl tert-butyl ether	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
m-Xylene & p-Xylene	**480**	**J**	1100	280	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Naphthalene	ND		1100	420	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
n-Butylbenzene	ND		1100	200	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
N-Propylbenzene	ND		1100	190	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
o-Chlorotoluene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
o-Xylene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 82.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
p-Isopropyltoluene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
sec-Butylbenzene	ND		1100	200	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Styrene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
tert-Butylbenzene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,1,2-Tetrachloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,2,2-Tetrachloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Tetrachloroethene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Toluene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
trans-1,2-Dichloroethene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
trans-1,3-Dichloropropene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,3-Trichlorobenzene	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,4-Trichlorobenzene	ND		1100	420	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,1-Trichloroethane	ND		1100	230	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,1,2-Trichloroethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Trichloroethene	ND		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Trichlorofluoromethane	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,3-Trichloropropane	ND		1100	640	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,2,4-Trimethylbenzene	**1100**		1100	210	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
1,3,5-Trimethylbenzene	**260**	**J**	1100	180	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Vinyl acetate	ND		5300	1900	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Vinyl chloride	ND		1100	530	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200
Xylenes, Total	**570**	**J**	2100	400	ug/Kg	☼	07/22/19 07:09	07/22/19 17:40	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1200*	*T J*	*ug/Kg*	☼	*4.21*		*07/22/19 07:09*	*07/22/19 17:40*	*200*
3-Ethyltoluene	*290*	*J*	*ug/Kg*	☼	*6.86*	*620-14-4*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
2-Ethyltoluene	*220*	*J*	*ug/Kg*	☼	*7.08*	*611-14-3*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
1,2,3-Trimethylbenzene	*320*	*J*	*ug/Kg*	☼	*7.54*	*526-73-8*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
Naphthalene, 1,6-dimethyl-	*1900*	*T J N*	*ug/Kg*	☼	*11.25*	*575-43-9*	*07/22/19 07:09*	*07/22/19 17:40*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*72 - 122*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
Dibromofluoromethane	*90*		*79 - 123*	*07/22/19 07:09*	*07/22/19 17:40*	*200*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/22/19 07:09*	*07/22/19 17:40*	*200*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 82.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
1-Methylnaphthalene	**8.0**		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
2-Methylnaphthalene	**12**		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Phenanthrene	**8.7**		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1
Pyrene	ND		7.8	1.2	ug/Kg	☼	07/17/19 10:15	07/20/19 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/17/19 10:15*	*07/20/19 19:36*	*1*
Nitrobenzene-d5	*65*		*15 - 136*	*07/17/19 10:15*	*07/20/19 19:36*	*1*
Terphenyl-d14	*98*		*24 - 146*	*07/17/19 10:15*	*07/20/19 19:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	390	51	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Benzoic acid	ND	F1	1200	410	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Benzyl alcohol	ND	F1 F2	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Bis(2-chloroethoxy)methane	ND	F1	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Bis(2-chloroethyl)ether	ND	F1	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
bis (2-chloroisopropyl) ether	ND	F1 *	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Bis(2-ethylhexyl) phthalate	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Butyl benzyl phthalate	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Chlorophenol	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Dibenzofuran	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
3,3'-Dichlorobenzidine	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Diethyl phthalate	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Dimethyl phthalate	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Di-n-butyl phthalate	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4,6-Dinitro-ortho-cresol	ND	F2	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dinitrophenol	ND	F1	1200	340	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4-Dinitrotoluene	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,6-Dinitrotoluene	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Di-n-octyl phthalate	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
1,4-Dioxane	ND	F1 *	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Hexachlorobenzene	ND		390	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Hexachlorocyclopentadiene	ND	F1	390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Hexachloroethane	ND	*	390	120	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Indene	ND	*	390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Isophorone	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 82.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Nitroaniline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2-Nitrophenol	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
N-Nitrosodi-n-propylamine	ND	*	390	130	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
N-Nitrosodiphenylamine	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Phenol	ND	*	390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Pyridine	ND		390	180	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
Quinoline	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/17/19 10:15	07/18/19 22:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2200*	*T J*	*ug/Kg*	☼	*6.41*		*07/17/19 10:15*	*07/18/19 22:12*	*1*
1,1'-Biphenyl, 4-fluoro-	*360*	*T J N*	*ug/Kg*	☼	*7.10*	*324-74-3*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Unknown	*1500*	*T J*	*ug/Kg*	☼	*7.61*		*07/17/19 10:15*	*07/18/19 22:12*	*1*
Anthracene-D10-	*830*	*T J N*	*ug/Kg*	☼	*8.74*	*1719-06-8*	*07/17/19 10:15*	*07/18/19 22:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*27 - 127*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
2-Fluorophenol	*42*		*25 - 128*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Nitrobenzene-d5	*39*		*15 - 136*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Phenol-d5	*15*	*X*	*29 - 130*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
Terphenyl-d14	*51*		*24 - 146*	*07/17/19 10:15*	*07/18/19 22:12*	*1*
2,4,6-Tribromophenol	*75*		*10 - 150*	*07/17/19 10:15*	*07/18/19 22:12*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.1**		0.01	0.01	%			07/18/19 13:06	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173189-2	PD-17-SB-45-071519	101	94	101
400-173189-3	PD-17-SB-55-071519	112	90	99
LCS 400-448966/2-A	Lab Control Sample	107	102	91
MB 400-448966/1-A	Method Blank	108	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173189-1	TB-PW-071519-A	99	91	103
MB 400-448405/11	Method Blank	99	92	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173189-2	PD-17-SB-45-071519	68	48	49	45	69	91
400-173189-3	PD-17-SB-55-071519	52	42	39	15 X	51	75
400-173189-3 MS	PD-17-SB-55-071519	60	44	54	42	56	70
400-173189-3 MSD	PD-17-SB-55-071519	72	53	60	51	68	86
LCSD 400-448373/6-A	Lab Control Sample Dup	52	39	38	37	54	64
MB 400-448373/1-A	Method Blank	50	34	35	35	52	63

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173189-2	PD-17-SB-45-071519	89	77	132

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173189-3	PD-17-SB-55-071519	78	65	98
LCS 400-448373/7-A	Lab Control Sample	88	67	104
LCS 400-460308/2-A	Lab Control Sample	80	66	103
LCS 400-461376/2-A	Lab Control Sample	71	73	76
LCSD 400-448373/8-A	Lab Control Sample Dup	69	49	107
LCSD 400-460308/3-A	Lab Control Sample Dup	79	65	96
LCSD 400-461376/3-A	Lab Control Sample Dup	45	28	82
MB 400-448373/1-A	Method Blank	84	73	121

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071519-A
Lab Sample ID: 400-173189-1
Date Collected: 07/15/19 00:00
Matrix: Water
Date Received: 07/16/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 18:07	BSW	TAL PEN

Client Sample ID: PD-17-SB-45-071519
Lab Sample ID: 400-173189-2
Date Collected: 07/15/19 13:24
Matrix: Solid
Date Received: 07/16/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Client Sample ID: PD-17-SB-45-071519
Lab Sample ID: 400-173189-2
Date Collected: 07/15/19 13:24
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.599 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	448890	07/22/19 16:21	RS	TAL PEN
Total/NA	Prep	3546			15.13 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 22:37	VC1	TAL PEN
Total/NA	Prep	3546			15.13 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448806	07/20/19 19:20	VC1	TAL PEN
Total/NA	Prep	3546			15.13 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/24/19 22:50	PP1	TAL PEN

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.213 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		200	5 mL	5 mL	448890	07/22/19 17:40	RS	TAL PEN
Total/NA	Prep	3546			15.42 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 22:12	VC1	TAL PEN
Total/NA	Prep	3546			15.42 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448806	07/20/19 19:36	VC1	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448373/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/18/19 19:42	VC1	TAL PEN
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			448806	07/20/19 18:33	VC1	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448405/11
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448405	07/17/19 15:43	BSW	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448966/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 09:16	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448373/7-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/24/19 22:14	PP1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448966/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 07:42	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-460308/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	460308	10/06/19 18:48	AH	TAL PEN
Total/NA	Analysis	8270D LL		5			461188	10/11/19 13:49	DS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-461376/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	461376	10/13/19 20:26	AH	TAL PEN
Total/NA	Analysis	8270D LL		5			462128	10/17/19 22:49	DS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448373/6-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/18/19 20:32	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448373/8-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.00 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 17:02	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-460308/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	460308	10/06/19 18:48	AH	TAL PEN
Total/NA	Analysis	8270D LL		5			461188	10/11/19 14:05	DS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-461376/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	461376	10/13/19 20:26	AH	TAL PEN
Total/NA	Analysis	8270D LL		5			462128	10/17/19 23:04	DS	TAL PEN

Client Sample ID: PD-17-SB-55-071519
Lab Sample ID: 400-173189-3 MS
Date Collected: 07/15/19 14:55
Matrix: Solid
Date Received: 07/16/19 09:10
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.20 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 21:22	VC1	TAL PEN

Client Sample ID: PD-17-SB-55-071519
Date Collected: 07/15/19 14:55
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-3 MSD
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.12 g	1 mL	448373	07/17/19 10:15	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 21:47	VC1	TAL PEN

Client Sample ID: PD-17-SB-45-071519
Date Collected: 07/15/19 13:24
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173189-2 DU
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

GC/MS VOA

Analysis Batch: 448405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-1	TB-PW-071519-A	Total/NA	Water	8260B	
MB 400-448405/11	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 448890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8260B	448966
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	8260B	448966
MB 400-448966/1-A	Method Blank	Total/NA	Solid	8260B	448966
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	8260B	448966

Prep Batch: 448966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	5035	
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	5035	
MB 400-448966/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 448373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	3546	
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	3546	
MB 400-448373/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448373/7-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448373/6-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-448373/8-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173189-3 MS	PD-17-SB-55-071519	Total/NA	Solid	3546	
400-173189-3 MSD	PD-17-SB-55-071519	Total/NA	Solid	3546	

Analysis Batch: 448563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8270D	448373
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	8270D	448373
MB 400-448373/1-A	Method Blank	Total/NA	Solid	8270D	448373
LCSD 400-448373/6-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448373
400-173189-3 MS	PD-17-SB-55-071519	Total/NA	Solid	8270D	448373
400-173189-3 MSD	PD-17-SB-55-071519	Total/NA	Solid	8270D	448373

Analysis Batch: 448806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8270D LL	448373
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	8270D LL	448373
MB 400-448373/1-A	Method Blank	Total/NA	Solid	8270D LL	448373

Analysis Batch: 449423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	8270D LL	448373
LCS 400-448373/7-A	Lab Control Sample	Total/NA	Solid	8270D LL	448373

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

GC/MS Semi VOA

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-448373/8-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	448373

Prep Batch: 460308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-460308/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-460308/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 461188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-460308/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	460308
LCSD 400-460308/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	460308

Prep Batch: 461376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-461376/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-461376/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 462128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-461376/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	461376
LCSD 400-461376/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	461376

General Chemistry

Analysis Batch: 448557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173189-2	PD-17-SB-45-071519	Total/NA	Solid	Moisture	
400-173189-3	PD-17-SB-55-071519	Total/NA	Solid	Moisture	
400-173189-2 DU	PD-17-SB-45-071519	Total/NA	Solid	Moisture	

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/17/19 15:43	1
Acrolein	ND		20	10	ug/L			07/17/19 15:43	1
Acrylonitrile	ND		10	2.8	ug/L			07/17/19 15:43	1
Benzene	ND		1.0	0.38	ug/L			07/17/19 15:43	1
Bromobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Bromoform	ND		5.0	0.71	ug/L			07/17/19 15:43	1
Bromomethane	ND		1.0	0.98	ug/L			07/17/19 15:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/17/19 15:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Chloroethane	ND		1.0	0.76	ug/L			07/17/19 15:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/17/19 15:43	1
Chloroform	ND		1.0	0.60	ug/L			07/17/19 15:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Chloromethane	ND		1.0	0.83	ug/L			07/17/19 15:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/17/19 15:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/17/19 15:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/17/19 15:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/17/19 15:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/17/19 15:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/17/19 15:43	1
2-Hexanone	ND		25	3.1	ug/L			07/17/19 15:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/17/19 15:43	1
Methylene bromide	ND		5.0	0.59	ug/L			07/17/19 15:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/17/19 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/17/19 15:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/17/19 15:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/17/19 15:43	1
Naphthalene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/17/19 15:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/17/19 15:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/17/19 15:43	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448405/11
Matrix: Water
Analysis Batch: 448405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/17/19 15:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/17/19 15:43	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
Styrene	ND		1.0	1.0	ug/L			07/17/19 15:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/17/19 15:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/17/19 15:43	1
Toluene	ND		1.0	0.41	ug/L			07/17/19 15:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/17/19 15:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/17/19 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/17/19 15:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/17/19 15:43	1
Trichloroethene	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/17/19 15:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/17/19 15:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/17/19 15:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/17/19 15:43	1
Vinyl acetate	ND		25	2.0	ug/L			07/17/19 15:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/17/19 15:43	1
Xylenes, Total	ND		10	1.6	ug/L			07/17/19 15:43	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/17/19 15:43*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/17/19 15:43*	*1*
Dibromofluoromethane	*92*		*81 - 121*		*07/17/19 15:43*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/17/19 15:43*	*1*

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrolein	ND		50	28	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/22/19 07:09*	*07/22/19 09:16*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/22/19 07:09*	*07/22/19 09:16*	*1*
Dibromofluoromethane	*97*		*79 - 123*	*07/22/19 07:09*	*07/22/19 09:16*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*07/22/19 07:09*	*07/22/19 09:16*	*1*

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	191		ug/Kg		95	48 - 160
Acrolein	500	565		ug/Kg		113	40 - 150
Acrylonitrile	500	438		ug/Kg		88	60 - 130
Benzene	50.0	44.8		ug/Kg		90	65 - 130
Bromobenzene	50.0	44.1		ug/Kg		88	65 - 130
Bromochloromethane	50.0	41.0		ug/Kg		82	65 - 130
Bromodichloromethane	50.0	40.7		ug/Kg		81	61 - 130
Bromoform	50.0	42.0		ug/Kg		84	52 - 136
Bromomethane	50.0	17.2		ug/Kg		34	12 - 160
2-Butanone (MEK)	200	223		ug/Kg		111	55 - 130
Carbon disulfide	50.0	37.8		ug/Kg		76	46 - 141
Carbon tetrachloride	50.0	39.7		ug/Kg		79	60 - 130
Chlorobenzene	50.0	42.6		ug/Kg		85	70 - 130
Chloroethane	50.0	41.8		ug/Kg		84	55 - 134
2-Chloroethyl vinyl ether	50.0	21.4		ug/Kg		43	10 - 158
Chloroform	50.0	41.3		ug/Kg		83	62 - 130
1-Chlorohexane	50.0	39.7		ug/Kg		79	69 - 130
Chloromethane	50.0	40.5		ug/Kg		81	49 - 136
cis-1,2-Dichloroethene	50.0	42.0		ug/Kg		84	53 - 135
cis-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	61 - 130
Dibromochloromethane	50.0	39.3		ug/Kg		79	58 - 132

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	50.0	41.0		ug/Kg		82	49 - 130
1,2-Dichlorobenzene	50.0	43.4		ug/Kg		87	64 - 130
1,3-Dichlorobenzene	50.0	44.0		ug/Kg		88	66 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	65 - 130
Dichlorodifluoromethane	50.0	41.5		ug/Kg		83	34 - 143
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	38.8		ug/Kg		78	55 - 137
1,2-Dichloropropane	50.0	44.2		ug/Kg		88	64 - 130
1,3-Dichloropropane	50.0	43.1		ug/Kg		86	67 - 130
2,2-Dichloropropane	50.0	38.2		ug/Kg		76	51 - 132
1,1-Dichloropropene	50.0	41.8		ug/Kg		84	65 - 130
Ethylbenzene	50.0	40.2		ug/Kg		80	70 - 130
Ethylene Dibromide	50.0	42.2		ug/Kg		84	67 - 130
Ethyl methacrylate	50.0	40.1		ug/Kg		80	62 - 130
Hexachlorobutadiene	50.0	50.4		ug/Kg		101	62 - 133
2-Hexanone	200	190		ug/Kg		95	57 - 131
Isopropylbenzene	50.0	39.4		ug/Kg		79	70 - 130
Methylene bromide	50.0	40.5		ug/Kg		81	65 - 130
Methylene Chloride	50.0	44.3		ug/Kg		89	57 - 132
4-Methyl-2-pentanone (MIBK)	200	164		ug/Kg		82	58 - 130
Methyl tert-butyl ether	50.0	39.5		ug/Kg		79	63 - 130
m-Xylene & p-Xylene	50.0	40.8		ug/Kg		82	70 - 130
Naphthalene	50.0	37.1		ug/Kg		74	45 - 144
n-Butylbenzene	50.0	43.9		ug/Kg		88	66 - 130
N-Propylbenzene	50.0	45.2		ug/Kg		90	67 - 130
o-Chlorotoluene	50.0	45.7		ug/Kg		91	67 - 130
o-Xylene	50.0	40.0		ug/Kg		80	70 - 130
p-Chlorotoluene	50.0	46.4		ug/Kg		93	66 - 130
p-Isopropyltoluene	50.0	44.2		ug/Kg		88	68 - 130
sec-Butylbenzene	50.0	44.5		ug/Kg		89	67 - 130
Styrene	50.0	38.3		ug/Kg		77	68 - 130
tert-Butylbenzene	50.0	43.2		ug/Kg		86	67 - 130
1,1,1,2-Tetrachloroethane	50.0	39.4		ug/Kg		79	65 - 130
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/Kg		99	60 - 131
Tetrachloroethene	50.0	35.7		ug/Kg		71	67 - 130
Toluene	50.0	42.1		ug/Kg		84	70 - 130
trans-1,2-Dichloroethene	50.0	41.9		ug/Kg		84	58 - 134
trans-1,3-Dichloropropene	50.0	39.5		ug/Kg		79	60 - 130
1,2,3-Trichlorobenzene	50.0	43.5		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.3		ug/Kg		85	56 - 138
1,1,1-Trichloroethane	50.0	39.7		ug/Kg		79	63 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/Kg		85	65 - 130
Trichloroethene	50.0	42.1		ug/Kg		84	65 - 130
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	47.0		ug/Kg		94	60 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/Kg		93	66 - 130
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	67 - 130
Vinyl acetate	100	92.2		ug/Kg		92	24 - 160

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	50.0	47.3		ug/Kg		95	52 - 132
Xylenes, Total	100	80.8		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Benzenethiol	45.4	J	330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Benzoic acid	ND		990	350	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Benzyl alcohol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Bis(2-ethylhexyl) phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Chloroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Chlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Dibenzofuran	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Diethyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
1,4-Dioxane	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Hexachloroethane	ND		330	100	ug/Kg		07/17/19 10:15	07/18/19 19:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Isophorone	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Methylphenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Nitroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
3-Nitroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Nitroaniline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Nitrobenzene	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2-Nitrophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
4-Nitrophenol	ND		330	110	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Pentachlorophenol	ND		660	66	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Phenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Pyridine	ND		330	150	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
Quinoline	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/17/19 10:15	07/18/19 19:42	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
alpha,alpha-Dimethyl phenethylamine	*80.2*	*J*	*ug/Kg*		*6.43*	*122-09-8*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/17/19 10:15*	*07/18/19 19:42*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*27 - 127*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
2-Fluorophenol	*34*		*25 - 128*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Nitrobenzene-d5	*35*		*15 - 136*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Phenol-d5	*35*		*29 - 130*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
Terphenyl-d14	*52*		*24 - 146*	*07/17/19 10:15*	*07/18/19 19:42*	*1*
2,4,6-Tribromophenol	*63*		*10 - 150*	*07/17/19 10:15*	*07/18/19 19:42*	*1*

Lab Sample ID: LCSD 400-448373/6-A
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448373

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	633		ug/Kg		32	10 - 120	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*52*		*27 - 127*
2-Fluorophenol	*39*		*25 - 128*
Nitrobenzene-d5	*38*		*15 - 136*
Phenol-d5	*37*		*29 - 130*
Terphenyl-d14	*54*		*24 - 146*
2,4,6-Tribromophenol	*64*		*10 - 150*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173189-3 MS
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	*	2400	1160		ug/Kg	☼	48	40 - 140
Benzoic acid	ND	F1	9340	ND	F1	ug/Kg	☼	0	40 - 140
Benzyl alcohol	ND	F1 F2	2400	544	F1	ug/Kg	☼	23	40 - 140
Bis(2-chloroethoxy)methane	ND	F1	2400	852	F1	ug/Kg	☼	35	40 - 140
Bis(2-chloroethyl)ether	ND	F1	2400	777	F1	ug/Kg	☼	32	40 - 140
bis (2-chloroisopropyl) ether	ND	F1 *	2400	742	F1	ug/Kg	☼	31	40 - 140
Bis(2-ethylhexyl) phthalate	ND	*	2400	1270		ug/Kg	☼	53	40 - 140
4-Bromophenyl phenyl ether	ND		2400	1570		ug/Kg	☼	65	40 - 140
Butyl benzyl phthalate	ND	*	2400	1210		ug/Kg	☼	50	40 - 140
4-Chloroaniline	ND		2400	1370		ug/Kg	☼	57	40 - 140
4-Chloro-3-methylphenol	ND		2400	1310		ug/Kg	☼	55	40 - 140
2-Chloronaphthalene	ND		2400	1610		ug/Kg	☼	67	40 - 140
2-Chlorophenol	ND	*	2400	1250		ug/Kg	☼	52	40 - 140
4-Chlorophenyl phenyl ether	ND		2400	1580		ug/Kg	☼	66	40 - 140
Dibenz[a,h]acridine	ND		2400	1680		ug/Kg	☼	70	40 - 140
Dibenzofuran	ND	*	2400	1430		ug/Kg	☼	60	40 - 140
3,3'-Dichlorobenzidine	ND		3210	2490		ug/Kg	☼	78	40 - 140
2,4-Dichlorophenol	ND		2400	1460		ug/Kg	☼	61	40 - 140
Diethyl phthalate	ND	*	2400	1560		ug/Kg	☼	65	40 - 140
2,4-Dimethylphenol	ND		2400	1520		ug/Kg	☼	63	40 - 140
Dimethyl phthalate	ND	*	2400	1530		ug/Kg	☼	64	40 - 140
Di-n-butyl phthalate	ND	*	2400	1480		ug/Kg	☼	61	40 - 140
4,6-Dinitro-ortho-cresol	ND	F2	4810	2560		ug/Kg	☼	53	40 - 140
2,4-Dinitrophenol	ND	F1	4810	1620	F1	ug/Kg	☼	34	40 - 140
2,4-Dinitrotoluene	ND	*	2400	1530		ug/Kg	☼	64	40 - 140
2,6-Dinitrotoluene	ND	*	2400	1540		ug/Kg	☼	64	40 - 140
Di-n-octyl phthalate	ND	*	2400	1340		ug/Kg	☼	56	40 - 140
1,4-Dioxane	ND	F1 *	2400	635	F1	ug/Kg	☼	26	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	2400	1100		ug/Kg	☼	46	40 - 140
Hexachlorobenzene	ND		2400	1600		ug/Kg	☼	66	40 - 140
Hexachlorocyclopentadiene	ND	F1	2400	1040		ug/Kg	☼	43	40 - 140
Hexachloroethane	ND	*	2400	1040		ug/Kg	☼	43	40 - 140
Indene	ND	*	2400	1200		ug/Kg	☼	50	40 - 140
Isophorone	ND	*	2400	973		ug/Kg	☼	40	40 - 140
2-Methylphenol	ND		2400	1480		ug/Kg	☼	62	40 - 140
3 & 4 Methylphenol	ND		2400	1380		ug/Kg	☼	58	40 - 140
2-Nitroaniline	ND	*	2400	1320		ug/Kg	☼	55	40 - 140
3-Nitroaniline	ND		2400	2430		ug/Kg	☼	101	40 - 140
4-Nitroaniline	ND		2400	2070		ug/Kg	☼	86	40 - 140
Nitrobenzene	ND		2400	1040		ug/Kg	☼	43	40 - 140
2-Nitrophenol	ND	*	2400	1120		ug/Kg	☼	47	40 - 140
4-Nitrophenol	ND		4810	4150		ug/Kg	☼	86	40 - 140
N-Nitrosodimethylamine	ND		2400	2780		ug/Kg	☼	116	40 - 140
N-Nitrosodi-n-propylamine	ND	*	2400	1140		ug/Kg	☼	47	40 - 140
N-Nitrosodiphenylamine	ND	*	2380	1540		ug/Kg	☼	65	40 - 140
Pentachlorophenol	ND		4810	3070		ug/Kg	☼	64	40 - 140
Phenol	ND	*	2400	1250		ug/Kg	☼	52	40 - 140
Pyridine	ND		4810	2010		ug/Kg	☼	42	40 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173189-3 MS
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	ND		2400	1480		ug/Kg	☼	62	40 - 140
2,4,5-Trichlorophenol	ND		2400	1660		ug/Kg	☼	69	40 - 140
2,4,6-Trichlorophenol	ND		2400	1560		ug/Kg	☼	65	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*27 - 127*
2-Fluorophenol	*44*		*25 - 128*
Nitrobenzene-d5	*54*		*15 - 136*
Phenol-d5	*42*		*29 - 130*
Terphenyl-d14	*56*		*24 - 146*
2,4,6-Tribromophenol	*70*		*10 - 150*

Lab Sample ID: 400-173189-3 MSD
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND	*	2420	1510		ug/Kg	☼	63	40 - 140	26	30
Benzoic acid	ND	F1	9390	ND	F1	ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	ND	F1 F2	2420	850	F2 F1	ug/Kg	☼	35	40 - 140	44	30
Bis(2-chloroethoxy)methane	ND	F1	2420	1050		ug/Kg	☼	44	40 - 140	21	30
Bis(2-chloroethyl)ether	ND	F1	2420	902	F1	ug/Kg	☼	37	40 - 140	15	30
bis (2-chloroisopropyl) ether	ND	F1 *	2420	876	F1	ug/Kg	☼	36	40 - 140	17	30
Bis(2-ethylhexyl) phthalate	ND	*	2420	1630		ug/Kg	☼	67	40 - 140	25	30
4-Bromophenyl phenyl ether	ND		2420	1960		ug/Kg	☼	81	40 - 140	22	30
Butyl benzyl phthalate	ND	*	2420	1540		ug/Kg	☼	64	40 - 140	24	30
4-Chloroaniline	ND		2420	1690		ug/Kg	☼	70	40 - 140	21	30
4-Chloro-3-methylphenol	ND		2420	1560		ug/Kg	☼	64	40 - 140	17	30
2-Chloronaphthalene	ND		2420	1850		ug/Kg	☼	77	40 - 140	14	30
2-Chlorophenol	ND	*	2420	1530		ug/Kg	☼	63	40 - 140	20	30
4-Chlorophenyl phenyl ether	ND		2420	1980		ug/Kg	☼	82	40 - 140	23	30
Dibenz[a,h]acridine	ND		2420	2020		ug/Kg	☼	84	40 - 140	18	30
Dibenzofuran	ND	*	2420	1760		ug/Kg	☼	73	40 - 140	21	30
3,3'-Dichlorobenzidine	ND		3220	3010		ug/Kg	☼	93	40 - 140	19	30
2,4-Dichlorophenol	ND		2420	1790		ug/Kg	☼	74	40 - 140	20	30
Diethyl phthalate	ND	*	2420	1940		ug/Kg	☼	80	40 - 140	21	30
2,4-Dimethylphenol	ND		2420	1880		ug/Kg	☼	78	40 - 140	21	30
Dimethyl phthalate	ND	*	2420	1800		ug/Kg	☼	74	40 - 140	16	30
Di-n-butyl phthalate	ND	*	2420	1850		ug/Kg	☼	77	40 - 140	23	30
4,6-Dinitro-ortho-cresol	ND	F2	4830	3490	F2	ug/Kg	☼	72	40 - 140	31	30
2,4-Dinitrophenol	ND	F1	4830	1380	F1	ug/Kg	☼	29	40 - 140	16	30
2,4-Dinitrotoluene	ND	*	2420	1880		ug/Kg	☼	78	40 - 140	21	30
2,6-Dinitrotoluene	ND	*	2420	1840		ug/Kg	☼	76	40 - 140	17	30
Di-n-octyl phthalate	ND	*	2420	1680		ug/Kg	☼	70	40 - 140	23	30
1,4-Dioxane	ND	F1 *	2420	712	F1	ug/Kg	☼	29	40 - 140	11	30
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	2420	1400		ug/Kg	☼	58	40 - 140	24	30
Hexachlorobenzene	ND		2420	2000		ug/Kg	☼	83	40 - 140	22	30
Hexachlorocyclopentadiene	ND	F1	2420	797	F1	ug/Kg	☼	33	40 - 140	26	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173189-3 MSD
Matrix: Solid
Analysis Batch: 448563

Client Sample ID: PD-17-SB-55-071519
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	ND	*	2420	1270		ug/Kg	☼	53	40 - 140	20	30
Indene	ND	*	2420	1410		ug/Kg	☼	58	40 - 140	16	30
Isophorone	ND	*	2420	1220		ug/Kg	☼	51	40 - 140	23	30
2-Methylphenol	ND		2420	1780		ug/Kg	☼	74	40 - 140	19	30
3 & 4 Methylphenol	ND		2420	1710		ug/Kg	☼	71	40 - 140	21	30
2-Nitroaniline	ND	*	2420	1590		ug/Kg	☼	66	40 - 140	18	30
3-Nitroaniline	ND		2420	2610		ug/Kg	☼	108	40 - 140	7	30
4-Nitroaniline	ND		2420	2540		ug/Kg	☼	105	40 - 140	21	30
Nitrobenzene	ND		2420	1250		ug/Kg	☼	52	40 - 140	19	30
2-Nitrophenol	ND	*	2420	1440		ug/Kg	☼	60	40 - 140	25	30
4-Nitrophenol	ND		4830	5120		ug/Kg	☼	106	40 - 140	21	30
N-Nitrosodimethylamine	ND		2420	3150		ug/Kg	☼	131	40 - 140	13	30
N-Nitrosodi-n-propylamine	ND	*	2420	1420		ug/Kg	☼	59	40 - 140	22	30
N-Nitrosodiphenylamine	ND	*	2400	1880		ug/Kg	☼	79	40 - 140	20	30
Pentachlorophenol	ND		4830	3830		ug/Kg	☼	79	40 - 140	22	30
Phenol	ND	*	2420	1500		ug/Kg	☼	62	40 - 140	19	30
Pyridine	ND		4830	2420		ug/Kg	☼	50	40 - 140	18	30
Quinoline	ND		2420	1830		ug/Kg	☼	76	40 - 140	21	30
2,4,5-Trichlorophenol	ND		2420	2030		ug/Kg	☼	84	40 - 140	20	30
2,4,6-Trichlorophenol	ND		2420	1880		ug/Kg	☼	78	40 - 140	19	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*27 - 127*
2-Fluorophenol	*53*		*25 - 128*
Nitrobenzene-d5	*60*		*15 - 136*
Phenol-d5	*51*		*29 - 130*
Terphenyl-d14	*68*		*24 - 146*
2,4,6-Tribromophenol	*86*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448806

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Anthracene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Chrysene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Fluorene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448373/1-A
Matrix: Solid
Analysis Batch: 448806

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448373

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1
Pyrene	ND		6.6	1.0	ug/Kg		07/17/19 10:15	07/20/19 18:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*27 - 127*	*07/17/19 10:15*	*07/20/19 18:33*	*1*
Nitrobenzene-d5	*73*		*15 - 136*	*07/17/19 10:15*	*07/20/19 18:33*	*1*
Terphenyl-d14	*121*		*24 - 146*	*07/17/19 10:15*	*07/20/19 18:33*	*1*

Lab Sample ID: LCS 400-448373/7-A
Matrix: Solid
Analysis Batch: 449423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	206		ug/Kg		62	57 - 120
Acenaphthylene	333	196		ug/Kg		59	59 - 120
Anthracene	333	204		ug/Kg		61	61 - 120
Benzo[a]anthracene	333	207		ug/Kg		62	61 - 120
Benzo[a]pyrene	333	215		ug/Kg		64	54 - 127
Benzo[b]fluoranthene	333	211		ug/Kg		63	35 - 146
Benzo[g,h,i]perylene	333	239		ug/Kg		72	36 - 150
Benzo[k]fluoranthene	333	213		ug/Kg		64	53 - 139
Chrysene	333	212		ug/Kg		64	60 - 120
Dibenz(a,h)anthracene	333	243		ug/Kg		73	39 - 150
Fluoranthene	333	218		ug/Kg		65	61 - 121
Fluorene	333	218		ug/Kg		65	60 - 120
Indeno[1,2,3-cd]pyrene	333	241		ug/Kg		72	40 - 150
1-Methylnaphthalene	333	179		ug/Kg		54	46 - 120
2-Methylnaphthalene	333	178		ug/Kg		53	46 - 120
Phenanthrene	333	202		ug/Kg		61	59 - 120
Pyrene	333	208		ug/Kg		62	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*27 - 127*
Nitrobenzene-d5	*67*		*15 - 136*
Terphenyl-d14	*104*		*24 - 146*

Lab Sample ID: LCSD 400-448373/8-A
Matrix: Solid
Analysis Batch: 449887

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448373

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	218		ug/Kg		66	57 - 120	6	30
Acenaphthylene	333	203		ug/Kg		61	59 - 120	4	30
Anthracene	333	223		ug/Kg		67	61 - 120	9	30
Benzo[a]anthracene	333	217		ug/Kg		65	61 - 120	5	30
Benzo[a]pyrene	333	228		ug/Kg		68	54 - 127	6	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-448373/8-A
Matrix: Solid
Analysis Batch: 449887

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448373

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene			333	239		ug/Kg		72	35 - 146	12	30
Benzo[g,h,i]perylene			333	257		ug/Kg		77	36 - 150	7	30
Benzo[k]fluoranthene			333	223		ug/Kg		67	53 - 139	5	30
Chrysene			333	219		ug/Kg		66	60 - 120	3	30
Dibenz(a,h)anthracene			333	254		ug/Kg		76	39 - 150	5	30
Fluoranthene			333	220		ug/Kg		66	61 - 121	1	30
Fluorene			333	228		ug/Kg		68	60 - 120	5	30
Indeno[1,2,3-cd]pyrene			333	246		ug/Kg		74	40 - 150	2	30
1-Methylnaphthalene			333	221		ug/Kg		66	46 - 120	21	30
2-Methylnaphthalene			333	208		ug/Kg		62	46 - 120	15	30
Phenanthrene			333	215		ug/Kg		64	59 - 120	6	30
Pyrene			333	292	*	ug/Kg		88	53 - 122	33	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*27 - 127*
Nitrobenzene-d5	*49*		*15 - 136*
Terphenyl-d14	*107*		*24 - 146*

Lab Sample ID: LCS 400-460308/2-A
Matrix: Solid
Analysis Batch: 461188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 460308

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene			333	315		ug/Kg		95	57 - 120		
Acenaphthylene			333	301		ug/Kg		90	59 - 120		
Anthracene			333	351		ug/Kg		105	61 - 120		
Benzo[a]anthracene			333	330		ug/Kg		99	61 - 120		
Benzo[a]pyrene			333	306		ug/Kg		92	54 - 127		
Benzo[b]fluoranthene			333	270		ug/Kg		81	35 - 146		
Benzo[g,h,i]perylene			333	339		ug/Kg		102	36 - 150		
Benzo[k]fluoranthene			333	329		ug/Kg		99	53 - 139		
Chrysene			333	347		ug/Kg		104	60 - 120		
Dibenz(a,h)anthracene			333	402		ug/Kg		121	39 - 150		
Fluoranthene			333	283		ug/Kg		85	61 - 121		
Fluorene			333	330		ug/Kg		99	60 - 120		
Indeno[1,2,3-cd]pyrene			333	340		ug/Kg		102	40 - 150		
1-Methylnaphthalene			333	274		ug/Kg		82	46 - 120		
2-Methylnaphthalene			333	284		ug/Kg		85	46 - 120		
Phenanthrene			333	341		ug/Kg		102	59 - 120		
Pyrene			333	362		ug/Kg		109	53 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
Nitrobenzene-d5	*66*		*15 - 136*
Terphenyl-d14	*103*		*24 - 146*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-460308/3-A
Matrix: Solid
Analysis Batch: 461188

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 460308

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	276		ug/Kg		83	57 - 120	13	30
Acenaphthylene			333	283		ug/Kg		85	59 - 120	6	30
Anthracene			333	303		ug/Kg		91	61 - 120	15	30
Benzo[a]anthracene			333	276		ug/Kg		83	61 - 120	18	30
Benzo[a]pyrene			333	250		ug/Kg		75	54 - 127	20	30
Benzo[b]fluoranthene			333	231		ug/Kg		69	35 - 146	16	30
Benzo[g,h,i]perylene			333	280		ug/Kg		84	36 - 150	19	30
Benzo[k]fluoranthene			333	261		ug/Kg		78	53 - 139	23	30
Chrysene			333	298		ug/Kg		89	60 - 120	15	30
Dibenz(a,h)anthracene			333	328		ug/Kg		98	39 - 150	20	30
Fluoranthene			333	252		ug/Kg		76	61 - 121	11	30
Fluorene			333	283		ug/Kg		85	60 - 120	15	30
Indeno[1,2,3-cd]pyrene			333	281		ug/Kg		84	40 - 150	19	30
1-Methylnaphthalene			333	244		ug/Kg		73	46 - 120	12	30
2-Methylnaphthalene			333	249		ug/Kg		75	46 - 120	13	30
Phenanthrene			333	284		ug/Kg		85	59 - 120	18	30
Pyrene			333	308		ug/Kg		92	53 - 122	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*79*		*27 - 127*
Nitrobenzene-d5	*65*		*15 - 136*
Terphenyl-d14	*96*		*24 - 146*

Lab Sample ID: LCS 400-461376/2-A
Matrix: Solid
Analysis Batch: 462128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461376

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene			2000	1440		ug/Kg		72	57 - 120
Acenaphthylene			2000	1440		ug/Kg		72	59 - 120
Anthracene			2000	1550		ug/Kg		78	61 - 120
Benzo[a]anthracene			2000	1480		ug/Kg		74	61 - 120
Benzo[a]pyrene			2000	1370		ug/Kg		68	54 - 127
Benzo[b]fluoranthene			2000	1440		ug/Kg		72	35 - 146
Benzo[g,h,i]perylene			2000	646	*	ug/Kg		32	36 - 150
Benzo[k]fluoranthene			2000	1690		ug/Kg		84	53 - 139
Chrysene			2000	1470		ug/Kg		73	60 - 120
Dibenz(a,h)anthracene			2000	1000		ug/Kg		50	39 - 150
Fluoranthene			2000	1470		ug/Kg		73	61 - 121
Fluorene			2000	1560		ug/Kg		78	60 - 120
Indeno[1,2,3-cd]pyrene			2000	818		ug/Kg		41	40 - 150
1-Methylnaphthalene			2000	1330		ug/Kg		67	46 - 120
2-Methylnaphthalene			2000	1340		ug/Kg		67	46 - 120
Phenanthrene			2000	1510		ug/Kg		75	59 - 120
Pyrene			2000	1510		ug/Kg		75	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*27 - 127*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173189-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-461376/2-A
Matrix: Solid
Analysis Batch: 462128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 461376

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	73		15 - 136
Terphenyl-d14	76		24 - 146

Lab Sample ID: LCSD 400-461376/3-A
Matrix: Solid
Analysis Batch: 462128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 461376

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			2000	1220		ug/Kg		61	57 - 120	17	30
Acenaphthylene			2000	1190		ug/Kg		60	59 - 120	18	30
Anthracene			2000	1720		ug/Kg		86	61 - 120	10	30
Benzo[a]anthracene			2000	1760		ug/Kg		88	61 - 120	18	30
Benzo[a]pyrene			2000	1670		ug/Kg		83	54 - 127	20	30
Benzo[b]fluoranthene			2000	1790		ug/Kg		89	35 - 146	22	30
Benzo[g,h,i]perylene			2000	585	*	ug/Kg		29	36 - 150	10	30
Benzo[k]fluoranthene			2000	2180		ug/Kg		109	53 - 139	25	30
Chrysene			2000	1750		ug/Kg		88	60 - 120	18	30
Dibenz(a,h)anthracene			2000	915		ug/Kg		46	39 - 150	9	30
Fluoranthene			2000	1670		ug/Kg		83	61 - 121	13	30
Fluorene			2000	1560		ug/Kg		78	60 - 120	0	30
Indeno[1,2,3-cd]pyrene			2000	767	*	ug/Kg		38	40 - 150	6	30
1-Methylnaphthalene			2000	827	*	ug/Kg		41	46 - 120	47	30
2-Methylnaphthalene			2000	793	*	ug/Kg		40	46 - 120	51	30
Phenanthrene			2000	1670		ug/Kg		83	59 - 120	10	30
Pyrene			2000	1680		ug/Kg		84	53 - 122	11	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	45		27 - 127
Nitrobenzene-d5	28		15 - 136
Terphenyl-d14	82		24 - 146

Method: Moisture - Percent Moisture

Lab Sample ID: 400-173189-2 DU
Matrix: Solid
Analysis Batch: 448557

Client Sample ID: PD-17-SB-45-071519
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	86.1			85.2		%				1	10

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)

☐CALSCIENCE (_____)

☑TESTAMERICA (___Pensacola_____

☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name: James Carrino

PO #: 60592794.1.24.051 | 60592794 - 1.24.050

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

☐CHECK IF NO INCIDENT # APPLIES

DATE 7/15/2019

PAGE: ___1___ of ___1___

SAMPLING COMPANY: AECOM

LOG CODE:

170 East Rand Avenue, Hartford | State: IL

AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel

PHONE NO.: 3144290100

E-MAIL: elizabeth.kunkel@aecom.com

AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

SAMPLER NAME(S) (Print): James Carrino

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

400-173189 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
	TB-PW-071519-A	7/15/2019	0:00	Water	X					2			X		
	PD-17-SB-45-071519	7/15/2019	13:24	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-17-SB-55-071519	7/15/2019	14:55	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by: (Signature)	Received by: (Signature) 4931 8203 7410 Fedex: 4931 8203 7421 4931 8203 7432	Date: 7/15/2019	Time: 18:00
Relinquished by: (Signature)	Received by: (Signature) 4.4°C IR8	Date: 07.16.19	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

custody Seal #s: 1003194, 1003195, 1003196, 1003197, 1003198, 1003199

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173189-1

Login Number: 173189
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173189-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
Arkansas DEQ	State	88-0689	09-01-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kansas	NELAP	E-10253	08-16-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-20
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-20
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20
West Virginia DEP	State	136	06-30-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-173270

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/6/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071619-A	PD-7-SB-27-071619
PD-17-SB-27-071219-EB	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOC bis(2-ethylhexyl) phthalate was detected in the method blank. SVOC butyl benzyl phthalate was detected in the equipment blank. SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria in sample PD-7-SB-27-071619. SVOC surrogates were outside criteria in two quality control samples. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448517/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	45.4 µg/Kg
PD-17-SB-27-071219-EB	SVOCs	butyl benzyl Phthalate	0.67 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448517/2-A	SVOCs	Bis(2-chloroethoxy)methane	**51**/NA	NA	52-120
400-448517/2-A	SVOCs	Butyl benzyl phthalate	**55**/NA	NA	58-126
400-448517/2-A	SVOCs	3,3'-Dichlorobenzidine	**141**/NA	NA	42-120
400-448517/15-A	SVOCs	Benzenethiol	**9**/**8**	12	10-120/30

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

Sample ID	Parameter	Analyte	Qualification
PD-7-SB-27-071619	SVOCs	Bis(2-chloroethoxy)methane	**UJ**
PD-7-SB-27-071619	SVOCs	Butyl benzyl phthalate	**UJ**
PD-7-SB-27-071619	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
LCS 400-448720/2-A	SVOCs	2,4,6-Tribromophenol	**155**	15-135
MB 400-448720/1-A	SVOCs	Terphenyl-d_{14}	**49**	53-125

Qualifications due to surrogate recoveries were not required if only one of three either acid or base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-7-SB-27-071619 was spiked and duplicated for SVOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	Crieria (%)
PD-7-SB-27-071619	SVOCs	Aniline	78/**36**	**72**	40-140/30
PD-7-SB-27-071619	SVOCs	Benzoic acid	**6**/**0**	NA	40-140/30
PD-7-SB-27-071619	SVOCs	Benzyl alcohol	70/**37**	**62**	40-140/30

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	Crieria (%)
PD-7-SB-27-071619	SVOCs	Bis(2-chloroethoxy)methane	64/**39**	**48**	40-140/30
PD-7-SB-27-071619	SVOCs	4-Bromophenyl phenyl ether	74/**39**	**60**	40-140/30
PD-7-SB-27-071619	SVOCs	Dibenz[a,h]acridine	73/40	**58**	40-140/30
PD-7-SB-27-071619	SVOCs	4,6-Dinitro-ortho-cresol	66/**30**	**72**	40-140/30
PD-7-SB-27-071619	SVOCs	2,4-Dinitrophenol	48/**17**	**94**	40-140/30
PD-7-SB-27-071619	SVOCs	2,4-Dinitrotoluene	77/42	**57**	40-140/30
PD-7-SB-27-071619	SVOCs	1,4-Dioxane	**22**/**9**	**86**	40-140/30
PD-7-SB-27-071619	SVOCs	Hexachlorocyclopentadiene	66/**36**	**58**	40-140/30
PD-7-SB-27-071619	SVOCs	Indene	71/**34**	**70**	40-140/30
PD-7-SB-27-071619	SVOCs	Pentachlorophenol	84/**36**	**79**	40-140/30
PD-7-SB-27-071619	SVOCs	Pyridine	54/45	**45**	40-140/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-7-SB-27-071619	SVOCs	Aniline	**UJ**
PD-7-SB-27-071619	SVOCs	Benzoic acid	**UJ**
PD-7-SB-27-071619	SVOCs	Benzyl alcohol	**UJ**
PD-7-SB-27-071619	SVOCs	Bis(2-chloroethoxy)methane	**UJ**
PD-7-SB-27-071619	SVOCs	4-Bromophenyl phenyl ether	**UJ**
PD-7-SB-27-071619	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-7-SB-27-071619	SVOCs	4,6-Dinitro-ortho-cresol	**UJ**
PD-7-SB-27-071619	SVOCs	2,4-Dinitrophenol	**UJ**
PD-7-SB-27-071619	SVOCs	2,4-Dinitrotoluene	**UJ**
PD-7-SB-27-071619	SVOCs	1,4-Dioxane	**UJ**
PD-7-SB-27-071619	SVOCs	Hexachlorocyclopentadiene	**UJ**
PD-7-SB-27-071619	SVOCs	Indene	**UJ**
PD-7-SB-27-071619	SVOCs	Pentachlorophenol	**UJ**
PD-7-SB-27-071619	SVOCs	Pyridine	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detetcted in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173270-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/6/2019 4:32:15 PM

Leah Klingensmith, Senior Project Manager
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Reviewed
on
8/6/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Job ID: 400-173270-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173270-1

Comments
No additional comments.

Receipt
The samples were received on 7/17/2019 8:58 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.0° C, 1.6° C and 2.1° C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448915 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448915 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071619-A (400-173270-1) and PD-17-SB-27-071219-EB (400-173270-3). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448890 recovered outside acceptance criteria, low biased, for 2-Chloroethyl vinyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-448720/1-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448720 and analytical batch 400-449178 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448517 and analytical batch 400-448999 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Job ID: 400-173270-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The method blank for preparation batch 400-448517 and analytical batch 400-448999 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448517 and analytical batch 400-448999 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448517 and analytical batch 400-448999 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448999 recovered above the upper control limit for N-Nitrosodimethylamine and Bis(2-ethylhexyl) phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-448517 and analytical batch 400-449209: 3,3'-Dichlorobenzidine, Butyl benzyl phthalate and Bis(2-chloroethoxy)methane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (LCS 400-448720/2-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448720 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Bromophenyl phenyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448517 and analytical batch 400-449423 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D LL: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448517 and analytical batch 400-449423 recovered outside control limits for the following analytes: Benzo[k]fluoranthene.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449815 recovered above the upper control limit for Benzo[g,h,i]perylene, Indeno[1,2,3-cd]pyrene and Dibenz(a,h)anthracene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448517 and analytical batch 400-449815 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Job ID: 400-173270-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173270-1	TB-PW-071619-A	Water	07/16/19 00:00	07/17/19 08:58	
400-173270-2	PD-7-SB-27-071619	Solid	07/16/19 14:15	07/17/19 08:58	
400-173270-3	PD-17-SB-27-071219-EB	Water	07/16/19 13:15	07/17/19 08:58	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A — Lab Sample ID: 400-173270-1

No Detections.

Client Sample ID: PD-7-SB-27-071619 — Lab Sample ID: 400-173270-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	25	J	36	19	ug/Kg	1	☼	8260B	Total/NA
Benzene	2.2	J	7.1	0.96	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	1.4	J	7.1	0.87	ug/Kg	1	☼	8260B	Total/NA
Toluene	2.2	J	7.1	1.4	ug/Kg	1	☼	8260B	Total/NA

Client Sample ID: PD-17-SB-27-071219-EB — Lab Sample ID: 400-173270-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.67	J	9.7	0.67	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 14:01	1
Acrolein	ND		20	10	ug/L			07/22/19 14:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 14:01	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 14:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 14:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 14:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 14:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 14:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 14:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 14:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 14:01	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 14:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 14:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 14:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 14:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 14:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 14:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 14:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 14:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 14:01	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 14:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 14:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 14:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 14:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 14:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 14:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 14:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 14:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 14:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 14:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 14:01	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 14:01	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 14:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 14:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 14:01	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 14:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 14:01	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 14:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 14:01	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 14:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 14:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 14:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 14:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 14:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 14:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 14:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 14:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 14:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 14:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 14:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 14:01*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 14:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/22/19 14:01*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**25**	**J**	36	19	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Acrolein	ND		71	40	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Acrylonitrile	ND		29	11	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Benzene	**2.2**	**J**	7.1	0.96	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromobenzene	ND		7.1	1.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromochloromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromodichloromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromoform	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromomethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2-Butanone (MEK)	ND		36	8.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Carbon disulfide	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Carbon tetrachloride	ND		7.1	2.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chlorobenzene	ND		7.1	0.74	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2-Chloroethyl vinyl ether	ND		14	7.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chloroform	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1-Chlorohexane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chloromethane	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
cis-1,2-Dichloroethene	ND		7.1	1.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
cis-1,3-Dichloropropene	ND		7.1	1.7	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Dibromochloromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dibromo-3-Chloropropane	ND		7.1	4.7	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dichlorobenzene	ND		7.1	1.0	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,3-Dichlorobenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,4-Dichlorobenzene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Dichlorodifluoromethane	ND		7.1	1.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1-Dichloroethane	ND		7.1	1.2	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dichloroethane	ND		7.1	1.2	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1-Dichloroethene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dichloropropane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,3-Dichloropropane	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2,2-Dichloropropane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1-Dichloropropene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Ethylbenzene	**1.4**	**J**	7.1	0.87	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Ethylene Dibromide	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Ethyl methacrylate	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Hexachlorobutadiene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2-Hexanone	ND		36	7.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Isopropylbenzene	ND		7.1	0.97	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Methylene bromide	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Methylene Chloride	ND		21	14	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
4-Methyl-2-pentanone (MIBK)	ND		36	7.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Methyl tert-butyl ether	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
m-Xylene & p-Xylene	ND		7.1	1.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Naphthalene	ND		7.1	2.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
n-Butylbenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
N-Propylbenzene	ND		7.1	1.3	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
o-Chlorotoluene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
o-Xylene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
p-Isopropyltoluene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
sec-Butylbenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Styrene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
tert-Butylbenzene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,1,2-Tetrachloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,2,2-Tetrachloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Tetrachloroethene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Toluene	**2.2**	**J**	7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
trans-1,2-Dichloroethene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
trans-1,3-Dichloropropene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,3-Trichlorobenzene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,4-Trichlorobenzene	ND		7.1	2.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,1-Trichloroethane	ND		7.1	1.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,2-Trichloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Trichloroethene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Trichlorofluoromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,3-Trichloropropane	ND		7.1	4.3	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,4-Trimethylbenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,3,5-Trimethylbenzene	ND		7.1	1.2	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Vinyl acetate	ND		36	13	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Vinyl chloride	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Xylenes, Total	ND		14	2.7	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1.8*	*J*	*ug/Kg*	☼	*2.72*	*110-54-3*	*07/22/19 07:09*	*07/22/19 15:28*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 07:09*	*07/22/19 15:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/22/19 07:09*	*07/22/19 15:28*	*1*
Dibromofluoromethane	*98*		*79 - 123*	*07/22/19 07:09*	*07/22/19 15:28*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*	*07/22/19 07:09*	*07/22/19 15:28*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Acenaphthylene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Anthracene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[a]anthracene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[a]pyrene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[b]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[g,h,i]perylene	ND		8.5	2.6	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[k]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Chrysene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Dibenz(a,h)anthracene	ND		8.5	2.6	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Fluorene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Indeno[1,2,3-cd]pyrene	ND		8.5	2.6	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
1-Methylnaphthalene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
2-Methylnaphthalene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Pyrene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/19/19 09:00*	*07/28/19 18:07*	*1*
Nitrobenzene-d5	*75*		*15 - 136*	*07/19/19 09:00*	*07/28/19 18:07*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/19/19 09:00*	*07/28/19 18:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F1 F2 UJ	420	55	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Benzenethiol	ND	* UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Benzoic acid	ND	F1 UJ	1300	450	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Benzyl alcohol	ND	F1 F2 UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Bis(2-chloroethoxy)methane	ND	F1 F2 * UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
bis (2-chloroisopropyl) ether	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Bis(2-ethylhexyl) phthalate	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Bromophenyl phenyl ether	ND	F1 F2 UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Butyl benzyl phthalate	ND	F2 * UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Chloroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Chloro-3-methylphenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Chloronaphthalene	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Chlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Chlorophenyl phenyl ether	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Dibenz[a,h]acridine	ND	F1 F2 UJ	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Dibenzofuran	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
3,3'-Dichlorobenzidine	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dichlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Diethyl phthalate	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dimethylphenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Dimethyl phthalate	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Di-n-butyl phthalate	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4,6-Dinitro-ortho-cresol	ND	F1 F2 UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dinitrophenol	ND	F1 F2 UJ	1300	370	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dinitrotoluene	ND	F2 UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,6-Dinitrotoluene	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Di-n-octyl phthalate	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
1,4-Dioxane	ND	F1 F2 UJ	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Hexachlorobenzene	ND	F2	420	130	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Hexachlorocyclopentadiene	ND	F1 F2 UJ	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Hexachloroethane	ND	F2	420	130	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Indene	ND	F1 F2 UJ	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Isophorone	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Methylphenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
3 & 4 Methylphenol	ND	F2	850	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Nitroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
3-Nitroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Nitrobenzene	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Nitrophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Nitrophenol	ND	F2	420	140	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
N-Nitrosodimethylamine	ND	F2	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
N-Nitrosodi-n-propylamine	ND	F2	420	140	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
N-Nitrosodiphenylamine	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Pentachlorophenol	ND	F1 F2 UJ	850	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Phenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Pyridine	ND	F1 F2 UJ	420	190	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Quinoline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4,5-Trichlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4,6-Trichlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1100*	*T J*	*ug/Kg*	☼	*4.45*		*07/19/19 09:00*	*07/22/19 21:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*27 - 127*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
2-Fluorophenol	*55*		*25 - 128*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
Phenol-d5	*60*		*29 - 130*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
Terphenyl-d14	*53*		*24 - 146*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
2,4,6-Tribromophenol	*37*		*10 - 150*	*07/19/19 09:00*	*07/22/19 21:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**76.7**		0.01	0.01	%			07/18/19 13:06	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-17-SB-27-071219-EB

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 19:17	1
Acrolein	ND		20	10	ug/L			07/22/19 19:17	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 19:17	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 14:17	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 19:17	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 19:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 19:17	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 19:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 14:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 19:17	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 19:17	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 19:17	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 19:17	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 19:17	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 19:17	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 19:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 19:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 19:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 19:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 19:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 19:17	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 19:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 19:17	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 19:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 19:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 19:17	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 19:17	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 19:17	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 19:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 19:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 19:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 19:17	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 19:17	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-17-SB-27-071219-EB

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 19:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 19:17	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 19:17	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 19:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 19:17	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 19:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 19:17	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 19:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 19:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 19:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 19:17	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 19:17	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 19:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 19:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 19:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 19:17	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 19:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 19:17	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*140*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 19:17*	*1*
2-Methyl-2-propanol	*7.8*	*J*	*ug/L*		*3.38*	*75-65-0*		*07/22/19 19:17*	*1*
n-Butyl acetate	*1.7*		*ug/L*		*6.46*	*123-86-4*		*07/22/19 19:17*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 19:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/22/19 19:17*	*1*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 14:17*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/22/19 19:17*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 14:17*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 19:17*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 14:17*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-17-SB-27-071219-EB

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	08/05/19 13:43	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/03/19 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*15 - 122*	*07/19/19 14:04*	*08/05/19 13:43*	*1*
Nitrobenzene-d5	*50*		*19 - 130*	*07/19/19 14:04*	*08/05/19 13:43*	*1*
Terphenyl-d14	*62*		*33 - 138*	*07/19/19 14:04*	*08/05/19 13:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 18:33	1
Benzoic acid	ND		29	7.0	ug/L		07/19/19 14:04	07/23/19 18:33	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:33	1
Bis(2-chloroethyl)ether	ND		9.7	0.71	ug/L		07/19/19 14:04	07/23/19 18:33	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/19/19 14:04	07/23/19 18:33	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 18:33	1
Butyl benzyl phthalate	**0.67**	**J**	9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 18:33	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:33	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 18:33	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 18:33	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
Di-n-octyl phthalate	ND		9.7	0.42	ug/L		07/19/19 14:04	07/23/19 18:33	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:33	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 18:33	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 18:33	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-17-SB-27-071219-EB

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 18:33	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 18:33	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:33	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 18:33	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/19/19 14:04	07/23/19 18:33	1
Pentachlorophenol	ND		19	1.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:33	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
13-Docosenamide, (Z)-	*11*	*T J N*	*ug/L*		*11.79*	*112-84-5*	*07/19/19 14:04*	*07/23/19 18:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
2-Fluorophenol	*14*		*10 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
Phenol-d5	*45*		*10 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
2,4,6-Tribromophenol	*56*		*15 - 135*	*07/19/19 14:04*	*07/23/19 18:33*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173270-2	PD-7-SB-27-071619	108	98	106
LCS 400-448966/2-A	Lab Control Sample	107	102	91
MB 400-448966/1-A	Method Blank	108	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173270-1	TB-PW-071619-A	101	97	102
400-173270-3	PD-17-SB-27-071219-EB	102	100	103
400-173270-3	PD-17-SB-27-071219-EB	101	97	101
LCS 400-448915/1002	Lab Control Sample	97	97	103
LCS 400-449267/1002	Lab Control Sample	99	95	100
MB 400-448915/4	Method Blank	101	98	103
MB 400-449267/4	Method Blank	101	97	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173270-2	PD-7-SB-27-071619	48	55	62	60	53	37
400-173270-2 MS	PD-7-SB-27-071619	59	64	83	72	64	64
400-173270-2 MSD	PD-7-SB-27-071619	33	37	51	42	36	35
LCS 400-448517/15-A	Lab Control Sample	41	46	50	49	50	38
LCS 400-448517/2-A	Lab Control Sample	66	49	53	48	71	102
LCSD 400-448517/16-A	Lab Control Sample Dup	39	44	49	48	49	37
MB 400-448517/1-A	Method Blank	48	53	58	56	54	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173270-3	PD-17-SB-27-071219-EB	52	14	75	45	66	56
LCS 400-448720/19-A	Lab Control Sample	55	24	77	54	71	63
LCS 400-448720/2-A	Lab Control Sample	92	11	67	38	114	155 X
LCSD 400-448720/20-A	Lab Control Sample Dup	72	33	91	61	96	72
MB 400-448720/1-A	Method Blank	42	21	59	43	49 X	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173270-2	PD-7-SB-27-071619	77	75	94
LCS 400-448517/11-A	Lab Control Sample	57	55	72
LCSD 400-448517/12-A	Lab Control Sample Dup	51	51	63
MB 400-448517/1-A	Method Blank	82	81	108

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173270-3	PD-17-SB-27-071219-EB	48	50	62
LCS 400-448720/2-A	Lab Control Sample	84	58	127
MB 400-448720/1-A	Method Blank	92	65	
MB 400-448720/1-A	Method Blank			117

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A
Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 14:01	RS	TAL PEN

Client Sample ID: PD-7-SB-27-071619
Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Client Sample ID: PD-7-SB-27-071619
Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2
Matrix: Solid
Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.571 g	5.00 mL	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 15:28	RS	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 21:48	VC1	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 18:07	KJA	TAL PEN

Client Sample ID: PD-17-SB-27-071219-EB
Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 19:17	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 14:17	WPD	TAL PEN
Total/NA	Prep	3520C			1035.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 18:33	VC1	TAL PEN
Total/NA	Prep	3520C			1035.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 15:24	KJA	TAL PEN
Total/NA	Prep	3520C			1035.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 13:43	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 18:59	VC1	TAL PEN
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 16:47	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448720/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 15:20	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:50	KJA	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 20:41	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448915/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 09:16	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449267/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 08:41	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448517/11-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 17:03	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448517/15-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 20:02	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448517/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449209	07/23/19 19:50	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:22	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 22:41	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 20:57	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448915/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 07:42	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449267/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 07:52	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448517/12-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 17:19	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448517/16-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 20:24	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:43	VC1	TAL PEN

Client Sample ID: PD-7-SB-27-071619
Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2 MS
Matrix: Solid
Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.5 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 21:06	VC1	TAL PEN

Client Sample ID: PD-7-SB-27-071619
Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2 MSD
Matrix: Solid
Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.26 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 21:27	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

GC/MS VOA

Analysis Batch: 448890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	8260B	448966
MB 400-448966/1-A	Method Blank	Total/NA	Solid	8260B	448966
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	8260B	448966

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-1	TB-PW-071619-A	Total/NA	Water	8260B	
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

Prep Batch: 448966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	5035	
MB 400-448966/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 449267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8260B	
MB 400-449267/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449267/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	3546	
MB 400-448517/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448517/11-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448517/15-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-448517/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448517/12-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-448517/16-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173270-2 MS	PD-7-SB-27-071619	Total/NA	Solid	3546	
400-173270-2 MSD	PD-7-SB-27-071619	Total/NA	Solid	3546	

Prep Batch: 448720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	3520C	
MB 400-448720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	8270D	448517
MB 400-448517/1-A	Method Blank	Total/NA	Solid	8270D	448517
LCS 400-448517/15-A	Lab Control Sample	Total/NA	Solid	8270D	448517
LCSD 400-448517/16-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448517

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2 MS	PD-7-SB-27-071619	Total/NA	Solid	8270D	448517
400-173270-2 MSD	PD-7-SB-27-071619	Total/NA	Solid	8270D	448517

Analysis Batch: 449178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8270D	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D	448720
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	8270D	448720
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	8270D	448720

Analysis Batch: 449209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448517/2-A	Lab Control Sample	Total/NA	Solid	8270D	448517

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D	448720

Analysis Batch: 449815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	8270D LL	448517
MB 400-448517/1-A	Method Blank	Total/NA	Solid	8270D LL	448517
LCS 400-448517/11-A	Lab Control Sample	Total/NA	Solid	8270D LL	448517
LCSD 400-448517/12-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	448517

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448720

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8270D LL	448720

General Chemistry

Analysis Batch: 448557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	294		ug/L		147	43 - 160
Acrolein	500	667		ug/L		133	38 - 160
Acrylonitrile	500	616		ug/L		123	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	54.1		ug/L		108	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.2		ug/L		110	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	34.5		ug/L		69	10 - 160
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.6		ug/L		109	61 - 137
Carbon tetrachloride	50.0	60.5		ug/L		121	61 - 137
Chlorobenzene	50.0	56.6		ug/L		113	70 - 130
Chloroethane	50.0	49.1		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	49.3		ug/L		99	10 - 160
Chloroform	50.0	53.9		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.5		ug/L		121	69 - 130
Chloromethane	50.0	44.1		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	58.1		ug/L		116	68 - 130
cis-1,3-Dichloropropene	50.0	59.7		ug/L		119	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.7		ug/L		123	54 - 135
1,2-Dichlorobenzene	50.0	57.7		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	25.0		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	57.8		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	58.2		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.3		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	56.5		ug/L		113	52 - 135
1,1-Dichloropropene	50.0	55.4		ug/L		111	70 - 130
Ethylbenzene	50.0	58.8		ug/L		118	70 - 130
Ethylene Dibromide	50.0	57.3		ug/L		115	70 - 130
Ethyl methacrylate	50.0	65.1		ug/L		130	68 - 130
Hexachlorobutadiene	50.0	52.0		ug/L		104	53 - 140
2-Hexanone	200	306	*	ug/L		153	65 - 137
Isopropylbenzene	50.0	56.2		ug/L		112	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	259		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	51.0		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	57.9		ug/L		116	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	57.7		ug/L		115	67 - 130
N-Propylbenzene	50.0	58.8		ug/L		118	70 - 130
o-Chlorotoluene	50.0	57.4		ug/L		115	70 - 130
o-Xylene	50.0	57.3		ug/L		115	70 - 130
p-Chlorotoluene	50.0	57.1		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	58.1		ug/L		116	65 - 130
sec-Butylbenzene	50.0	56.2		ug/L		112	66 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
tert-Butylbenzene	50.0	55.7		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.3	*	ug/L		137	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.0		ug/L		116	70 - 131
Tetrachloroethene	50.0	57.4		ug/L		115	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	65.0		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	52.6		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	60 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.9		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	70 - 130
1,2,4-Trimethylbenzene	50.0	55.5		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	55.8		ug/L		112	69 - 130
Vinyl acetate	100	117		ug/L		117	26 - 160
Vinyl chloride	50.0	45.3		ug/L		91	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrolein	ND		50	28	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/22/19 07:09	07/22/19 09:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 122	07/22/19 07:09	07/22/19 09:16	1
Dibromofluoromethane	97		79 - 123	07/22/19 07:09	07/22/19 09:16	1
Toluene-d8 (Surr)	99		80 - 120	07/22/19 07:09	07/22/19 09:16	1

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	191		ug/Kg		95	48 - 160
Acrolein	500	565		ug/Kg		113	40 - 150
Acrylonitrile	500	438		ug/Kg		88	60 - 130
Benzene	50.0	44.8		ug/Kg		90	65 - 130
Bromobenzene	50.0	44.1		ug/Kg		88	65 - 130
Bromochloromethane	50.0	41.0		ug/Kg		82	65 - 130
Bromodichloromethane	50.0	40.7		ug/Kg		81	61 - 130
Bromoform	50.0	42.0		ug/Kg		84	52 - 136
Bromomethane	50.0	17.2		ug/Kg		34	12 - 160
2-Butanone (MEK)	200	223		ug/Kg		111	55 - 130
Carbon disulfide	50.0	37.8		ug/Kg		76	46 - 141
Carbon tetrachloride	50.0	39.7		ug/Kg		79	60 - 130
Chlorobenzene	50.0	42.6		ug/Kg		85	70 - 130
Chloroethane	50.0	41.8		ug/Kg		84	55 - 134
2-Chloroethyl vinyl ether	50.0	21.4		ug/Kg		43	10 - 158
Chloroform	50.0	41.3		ug/Kg		83	62 - 130
1-Chlorohexane	50.0	39.7		ug/Kg		79	69 - 130
Chloromethane	50.0	40.5		ug/Kg		81	49 - 136
cis-1,2-Dichloroethene	50.0	42.0		ug/Kg		84	53 - 135
cis-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	61 - 130
Dibromochloromethane	50.0	39.3		ug/Kg		79	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	41.0		ug/Kg		82	49 - 130
1,2-Dichlorobenzene	50.0	43.4		ug/Kg		87	64 - 130
1,3-Dichlorobenzene	50.0	44.0		ug/Kg		88	66 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	65 - 130
Dichlorodifluoromethane	50.0	41.5		ug/Kg		83	34 - 143
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	38.8		ug/Kg		78	55 - 137
1,2-Dichloropropane	50.0	44.2		ug/Kg		88	64 - 130
1,3-Dichloropropane	50.0	43.1		ug/Kg		86	67 - 130
2,2-Dichloropropane	50.0	38.2		ug/Kg		76	51 - 132
1,1-Dichloropropene	50.0	41.8		ug/Kg		84	65 - 130
Ethylbenzene	50.0	40.2		ug/Kg		80	70 - 130
Ethylene Dibromide	50.0	42.2		ug/Kg		84	67 - 130
Ethyl methacrylate	50.0	40.1		ug/Kg		80	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	50.4		ug/Kg		101	62 - 133
2-Hexanone	200	190		ug/Kg		95	57 - 131
Isopropylbenzene	50.0	39.4		ug/Kg		79	70 - 130
Methylene bromide	50.0	40.5		ug/Kg		81	65 - 130
Methylene Chloride	50.0	44.3		ug/Kg		89	57 - 132
4-Methyl-2-pentanone (MIBK)	200	164		ug/Kg		82	58 - 130
Methyl tert-butyl ether	50.0	39.5		ug/Kg		79	63 - 130
m-Xylene & p-Xylene	50.0	40.8		ug/Kg		82	70 - 130
Naphthalene	50.0	37.1		ug/Kg		74	45 - 144
n-Butylbenzene	50.0	43.9		ug/Kg		88	66 - 130
N-Propylbenzene	50.0	45.2		ug/Kg		90	67 - 130
o-Chlorotoluene	50.0	45.7		ug/Kg		91	67 - 130
o-Xylene	50.0	40.0		ug/Kg		80	70 - 130
p-Chlorotoluene	50.0	46.4		ug/Kg		93	66 - 130
p-Isopropyltoluene	50.0	44.2		ug/Kg		88	68 - 130
sec-Butylbenzene	50.0	44.5		ug/Kg		89	67 - 130
Styrene	50.0	38.3		ug/Kg		77	68 - 130
tert-Butylbenzene	50.0	43.2		ug/Kg		86	67 - 130
1,1,1,2-Tetrachloroethane	50.0	39.4		ug/Kg		79	65 - 130
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/Kg		99	60 - 131
Tetrachloroethene	50.0	35.7		ug/Kg		71	67 - 130
Toluene	50.0	42.1		ug/Kg		84	70 - 130
trans-1,2-Dichloroethene	50.0	41.9		ug/Kg		84	58 - 134
trans-1,3-Dichloropropene	50.0	39.5		ug/Kg		79	60 - 130
1,2,3-Trichlorobenzene	50.0	43.5		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.3		ug/Kg		85	56 - 138
1,1,1-Trichloroethane	50.0	39.7		ug/Kg		79	63 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/Kg		85	65 - 130
Trichloroethene	50.0	42.1		ug/Kg		84	65 - 130
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	47.0		ug/Kg		94	60 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/Kg		93	66 - 130
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	67 - 130
Vinyl acetate	100	92.2		ug/Kg		92	24 - 160
Vinyl chloride	50.0	47.3		ug/Kg		95	52 - 132
Xylenes, Total	100	80.8		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/24/19 08:41	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 08:41	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 08:41*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 08:41*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 08:41*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 08:41*	*1*

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	55.5		ug/L		111	70 - 130
2-Butanone (MEK)	200	254		ug/L		127	61 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Benzenethiol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Benzoic acid	ND		990	350	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Benzyl alcohol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Bis(2-ethylhexyl) phthalate	45.4	J	330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Chloroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Chlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Dibenzofuran	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Diethyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
1,4-Dioxane	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Hexachloroethane	ND		330	100	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Indene	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Isophorone	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Methylphenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Nitroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
3-Nitroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Nitroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Nitrobenzene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Nitrophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Nitrophenol	ND		330	110	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Pentachlorophenol	ND		660	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Phenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Pyridine	ND		330	150	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Quinoline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/19/19 09:00*	*07/22/19 18:59*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*27 - 127*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
2-Fluorophenol	*53*		*25 - 128*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
Nitrobenzene-d5	*58*		*15 - 136*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
Phenol-d5	*56*		*29 - 130*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
Terphenyl-d14	*54*		*24 - 146*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
2,4,6-Tribromophenol	*40*		*10 - 150*	*07/19/19 09:00*	*07/22/19 18:59*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448517/15-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	180	J *	ug/Kg		9	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*41*		*27 - 127*
2-Fluorophenol	*46*		*25 - 128*
Nitrobenzene-d5	*50*		*15 - 136*
Phenol-d5	*49*		*29 - 130*
Terphenyl-d14	*50*		*24 - 146*
2,4,6-Tribromophenol	*38*		*10 - 150*

Lab Sample ID: LCS 400-448517/2-A
Matrix: Solid
Analysis Batch: 449209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	953		ug/Kg		48	36 - 120
Benzoic acid	7770	2610		ug/Kg		34	10 - 139
Benzyl alcohol	2000	1130		ug/Kg		56	10 - 127
Bis(2-chloroethoxy)methane	2000	1020	*	ug/Kg		51	52 - 120
Bis(2-chloroethyl)ether	2000	998		ug/Kg		50	50 - 120
bis (2-chloroisopropyl) ether	2000	856		ug/Kg		43	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1230		ug/Kg		62	58 - 158
4-Bromophenyl phenyl ether	2000	1820		ug/Kg		91	51 - 120
Butyl benzyl phthalate	2000	1110	*	ug/Kg		55	58 - 126
4-Chloroaniline	2000	1170		ug/Kg		59	34 - 120
4-Chloro-3-methylphenol	2000	1330		ug/Kg		67	57 - 124
2-Chloronaphthalene	2000	1460		ug/Kg		73	55 - 120
2-Chlorophenol	2000	1270		ug/Kg		63	52 - 120
4-Chlorophenyl phenyl ether	2000	1700		ug/Kg		85	56 - 120
Dibenz[a,h]acridine	2000	1640		ug/Kg		82	51 - 135
Dibenzofuran	2000	1460		ug/Kg		73	58 - 120
3,3'-Dichlorobenzidine	2670	3760	*	ug/Kg		141	42 - 120
2,4-Dichlorophenol	2000	1430		ug/Kg		71	56 - 120
Diethyl phthalate	2000	1550		ug/Kg		78	56 - 128
2,4-Dimethylphenol	2000	1300		ug/Kg		65	54 - 120
Dimethyl phthalate	2000	1510		ug/Kg		75	58 - 120
Di-n-butyl phthalate	2000	1460		ug/Kg		73	64 - 122
4,6-Dinitro-ortho-cresol	4000	3610		ug/Kg		90	35 - 135
2,4-Dinitrophenol	4000	4670		ug/Kg		117	10 - 138
2,4-Dinitrotoluene	2000	1580		ug/Kg		79	59 - 133
2,6-Dinitrotoluene	2000	1580		ug/Kg		79	57 - 123
Di-n-octyl phthalate	2000	1430		ug/Kg		71	57 - 137
1,4-Dioxane	2000	595		ug/Kg		30	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1110		ug/Kg		56	50 - 120
Hexachlorobenzene	2000	2080		ug/Kg		104	49 - 127
Hexachlorocyclopentadiene	2000	1050		ug/Kg		52	10 - 140
Hexachloroethane	2000	1090		ug/Kg		55	45 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448517/2-A
Matrix: Solid
Analysis Batch: 449209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	2000	1070		ug/Kg		54	45 - 120
Isophorone	2000	1070		ug/Kg		53	50 - 120
2-Methylphenol	2000	1160		ug/Kg		58	51 - 123
3 & 4 Methylphenol	2000	1210		ug/Kg		60	47 - 123
2-Nitroaniline	2000	1240		ug/Kg		62	55 - 129
3-Nitroaniline	2000	1510		ug/Kg		76	45 - 120
4-Nitroaniline	2000	1920		ug/Kg		96	52 - 126
Nitrobenzene	2000	1070		ug/Kg		53	50 - 120
2-Nitrophenol	2000	1210		ug/Kg		61	53 - 120
4-Nitrophenol	4000	2950		ug/Kg		74	38 - 133
N-Nitrosodimethylamine	2000	1310		ug/Kg		65	35 - 120
N-Nitrosodi-n-propylamine	2000	1210		ug/Kg		61	48 - 120
N-Nitrosodiphenylamine	1980	1400		ug/Kg		70	54 - 120
Pentachlorophenol	4000	3790		ug/Kg		95	32 - 131
Phenol	2000	1140		ug/Kg		57	51 - 120
Pyridine	4000	1630		ug/Kg		41	29 - 120
Quinoline	2000	1250		ug/Kg		63	10 - 150
2,4,5-Trichlorophenol	2000	1620		ug/Kg		81	53 - 133
2,4,6-Trichlorophenol	2000	1610		ug/Kg		81	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*27 - 127*
2-Fluorophenol	*49*		*25 - 128*
Nitrobenzene-d5	*53*		*15 - 136*
Phenol-d5	*48*		*29 - 130*
Terphenyl-d14	*71*		*24 - 146*
2,4,6-Tribromophenol	*102*		*10 - 150*

Lab Sample ID: LCSD 400-448517/16-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	155	J *	ug/Kg		8	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*39*		*27 - 127*
2-Fluorophenol	*44*		*25 - 128*
Nitrobenzene-d5	*49*		*15 - 136*
Phenol-d5	*48*		*29 - 130*
Terphenyl-d14	*49*		*24 - 146*
2,4,6-Tribromophenol	*37*		*10 - 150*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173270-2 MS
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: PD-7-SB-27-071619
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	F1 F2	2520	1970		ug/Kg	☼	78	40 - 140
Benzoic acid	ND	F1	9800	604	J F1	ug/Kg	☼	6	40 - 140
Benzyl alcohol	ND	F1 F2	2520	1770		ug/Kg	☼	70	40 - 140
Bis(2-chloroethoxy)methane	ND	F1 F2 *	2520	1610		ug/Kg	☼	64	40 - 140
Bis(2-chloroethyl)ether	ND		2520	1460		ug/Kg	☼	58	40 - 140
bis (2-chloroisopropyl) ether	ND	F2	2520	1850		ug/Kg	☼	73	40 - 140
Bis(2-ethylhexyl) phthalate	ND	F2	2520	2020		ug/Kg	☼	80	40 - 140
4-Bromophenyl phenyl ether	ND	F1 F2	2520	1870		ug/Kg	☼	74	40 - 140
Butyl benzyl phthalate	ND	F2 *	2520	1900		ug/Kg	☼	75	40 - 140
4-Chloroaniline	ND	F2	2520	2210		ug/Kg	☼	87	40 - 140
4-Chloro-3-methylphenol	ND	F2	2520	2200		ug/Kg	☼	87	40 - 140
2-Chloronaphthalene	ND	F2	2520	1760		ug/Kg	☼	70	40 - 140
2-Chlorophenol	ND	F2	2520	1940		ug/Kg	☼	77	40 - 140
4-Chlorophenyl phenyl ether	ND	F2	2520	1840		ug/Kg	☼	73	40 - 140
Dibenz[a,h]acridine	ND	F1 F2	2520	1520	*	ug/Kg	☼	60	40 - 140
Dibenzofuran	ND	F2	2520	1840		ug/Kg	☼	73	40 - 140
3,3'-Dichlorobenzidine	ND	F2 *	3360	3810		ug/Kg	☼	113	40 - 140
2,4-Dichlorophenol	ND	F2	2520	2070		ug/Kg	☼	82	40 - 140
Diethyl phthalate	ND	F2	2520	2190		ug/Kg	☼	87	40 - 140
2,4-Dimethylphenol	ND	F2	2520	2070		ug/Kg	☼	82	40 - 140
Dimethyl phthalate	ND	F2	2520	1950		ug/Kg	☼	77	40 - 140
Di-n-butyl phthalate	ND	F2	2520	2290		ug/Kg	☼	91	40 - 140
4,6-Dinitro-ortho-cresol	ND	F1 F2	5050	3310		ug/Kg	☼	66	40 - 140
2,4-Dinitrophenol	ND	F1 F2	5050	2410		ug/Kg	☼	48	40 - 140
2,4-Dinitrotoluene	ND	F2	2520	1950		ug/Kg	☼	77	40 - 140
2,6-Dinitrotoluene	ND	F2	2520	1880		ug/Kg	☼	74	40 - 140
Di-n-octyl phthalate	ND	F2	2520	2010		ug/Kg	☼	80	40 - 140
1,4-Dioxane	ND	F1 F2	2520	568	F1	ug/Kg	☼	22	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND	F2	2520	2000		ug/Kg	☼	79	40 - 140
Hexachlorobenzene	ND	F2	2520	2070		ug/Kg	☼	82	40 - 140
Hexachlorocyclopentadiene	ND	F1 F2	2520	1650		ug/Kg	☼	66	40 - 140
Hexachloroethane	ND	F2	2520	1860		ug/Kg	☼	74	40 - 140
Indene	ND	F1 F2	2520	1800		ug/Kg	☼	71	40 - 140
Isophorone	ND	F2	2520	1860		ug/Kg	☼	74	40 - 140
2-Methylphenol	ND	F2	2520	2130		ug/Kg	☼	84	40 - 140
3 & 4 Methylphenol	ND	F2	2520	2000		ug/Kg	☼	79	40 - 140
2-Nitroaniline	ND	F2	2520	2280		ug/Kg	☼	91	40 - 140
3-Nitroaniline	ND	F2	2520	2350		ug/Kg	☼	93	40 - 140
4-Nitroaniline	ND	F2	2520	2490		ug/Kg	☼	99	40 - 140
Nitrobenzene	ND	F2	2520	1870		ug/Kg	☼	74	40 - 140
2-Nitrophenol	ND	F2	2520	1930		ug/Kg	☼	77	40 - 140
4-Nitrophenol	ND	F2	5050	4630		ug/Kg	☼	92	40 - 140
N-Nitrosodimethylamine	ND	F2	2520	2120		ug/Kg	☼	84	40 - 140
N-Nitrosodi-n-propylamine	ND	F2	2520	2030		ug/Kg	☼	80	40 - 140
N-Nitrosodiphenylamine	ND	F2	2500	1890		ug/Kg	☼	76	40 - 140
Pentachlorophenol	ND	F1 F2	5050	4220		ug/Kg	☼	84	40 - 140
Phenol	ND	F2	2520	1780		ug/Kg	☼	70	40 - 140
Pyridine	ND	F1 F2	5050	2720		ug/Kg	☼	54	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173270-2 MS
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: PD-7-SB-27-071619
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	ND	F2	2520	1880		ug/Kg	☼	75	40 - 140
2,4,5-Trichlorophenol	ND	F2	2520	1970		ug/Kg	☼	78	40 - 140
2,4,6-Trichlorophenol	ND	F2	2520	1910		ug/Kg	☼	76	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*59*		*27 - 127*
2-Fluorophenol	*64*		*25 - 128*
Nitrobenzene-d5	*83*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*64*		*24 - 146*
2,4,6-Tribromophenol	*64*		*10 - 150*

Lab Sample ID: 400-173270-2 MSD
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: PD-7-SB-27-071619
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND	F1 F2	2560	927	F1 F2	ug/Kg	☼	36	40 - 140	72	30
Benzoic acid	ND	F1	9950	ND	F1	ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	ND	F1 F2	2560	938	F1 F2	ug/Kg	☼	37	40 - 140	62	30
Bis(2-chloroethoxy)methane	ND	F1 F2 *	2560	989	F1 F2	ug/Kg	☼	39	40 - 140	48	30
Bis(2-chloroethyl)ether	ND		2560	1080		ug/Kg	☼	42	40 - 140	30	30
bis (2-chloroisopropyl) ether	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	41	30
Bis(2-ethylhexyl) phthalate	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	49	30
4-Bromophenyl phenyl ether	ND	F1 F2	2560	1010	F1 F2	ug/Kg	☼	39	40 - 140	60	30
Butyl benzyl phthalate	ND	F2 *	2560	1140	F2	ug/Kg	☼	44	40 - 140	50	30
4-Chloroaniline	ND	F2	2560	1250	F2	ug/Kg	☼	49	40 - 140	56	30
4-Chloro-3-methylphenol	ND	F2	2560	1220	F2	ug/Kg	☼	48	40 - 140	57	30
2-Chloronaphthalene	ND	F2	2560	1030	F2	ug/Kg	☼	40	40 - 140	53	30
2-Chlorophenol	ND	F2	2560	1150	F2	ug/Kg	☼	45	40 - 140	51	30
4-Chlorophenyl phenyl ether	ND	F2	2560	1020	F2	ug/Kg	☼	40	40 - 140	58	30
Dibenz[a,h]acridine	ND	F1 F2	2560	875	F1 F2	ug/Kg	☼	34	40 - 140	54	30
Dibenzofuran	ND	F2	2560	1040	F2	ug/Kg	☼	41	40 - 140	55	30
3,3'-Dichlorobenzidine	ND	F2 *	3420	2000	F2	ug/Kg	☼	59	40 - 140	62	30
2,4-Dichlorophenol	ND	F2	2560	1170	F2	ug/Kg	☼	46	40 - 140	55	30
Diethyl phthalate	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	56	30
2,4-Dimethylphenol	ND	F2	2560	1300	F2	ug/Kg	☼	51	40 - 140	46	30
Dimethyl phthalate	ND	F2	2560	1100	F2	ug/Kg	☼	43	40 - 140	56	30
Di-n-butyl phthalate	ND	F2	2560	1280	F2	ug/Kg	☼	50	40 - 140	57	30
4,6-Dinitro-ortho-cresol	ND	F1 F2	5130	1550	F1 F2	ug/Kg	☼	30	40 - 140	72	30
2,4-Dinitrophenol	ND	F1 F2	5130	868	J F1 F2	ug/Kg	☼	17	40 - 140	94	30
2,4-Dinitrotoluene	ND	F2	2560	1090	F2	ug/Kg	☼	42	40 - 140	57	30
2,6-Dinitrotoluene	ND	F2	2560	1060	F2	ug/Kg	☼	41	40 - 140	56	30
Di-n-octyl phthalate	ND	F2	2560	1200	F2	ug/Kg	☼	47	40 - 140	51	30
1,4-Dioxane	ND	F1 F2	2560	227	J F1 F2	ug/Kg	☼	9	40 - 140	86	30
1,2-Diphenylhydrazine (as Azobenzene)	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	52	30
Hexachlorobenzene	ND	F2	2560	1010	F2	ug/Kg	☼	40	40 - 140	69	30
Hexachlorocyclopentadiene	ND	F1 F2	2560	911	F1 F2	ug/Kg	☼	36	40 - 140	58	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173270-2 MSD
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: PD-7-SB-27-071619
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	ND	F2	2560	1160	F2	ug/Kg	☼	45	40 - 140	46	30
Indene	ND	F1 F2	2560	865	F1 F2	ug/Kg	☼	34	40 - 140	70	30
Isophorone	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	45	30
2-Methylphenol	ND	F2	2560	1340	F2	ug/Kg	☼	52	40 - 140	46	30
3 & 4 Methylphenol	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	48	30
2-Nitroaniline	ND	F2	2560	1320	F2	ug/Kg	☼	51	40 - 140	54	30
3-Nitroaniline	ND	F2	2560	1300	F2	ug/Kg	☼	51	40 - 140	58	30
4-Nitroaniline	ND	F2	2560	1310	F2	ug/Kg	☼	51	40 - 140	62	30
Nitrobenzene	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	45	30
2-Nitrophenol	ND	F2	2560	1190	F2	ug/Kg	☼	47	40 - 140	47	30
4-Nitrophenol	ND	F2	5130	2210	F2	ug/Kg	☼	43	40 - 140	71	30
N-Nitrosodimethylamine	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	57	30
N-Nitrosodi-n-propylamine	ND	F2	2560	1310	F2	ug/Kg	☼	51	40 - 140	43	30
N-Nitrosodiphenylamine	ND	F2	2540	1060	F2	ug/Kg	☼	42	40 - 140	56	30
Pentachlorophenol	ND	F1 F2	5130	1830	F1 F2	ug/Kg	☼	36	40 - 140	79	30
Phenol	ND	F2	2560	1210	F2	ug/Kg	☼	47	40 - 140	38	30
Pyridine	ND	F1 F2	5130	1720	F1 F2	ug/Kg	☼	34	40 - 140	45	30
Quinoline	ND	F2	2560	1030	F2	ug/Kg	☼	40	40 - 140	58	30
2,4,5-Trichlorophenol	ND	F2	2560	1050	F2	ug/Kg	☼	41	40 - 140	61	30
2,4,6-Trichlorophenol	ND	F2	2560	1050	F2	ug/Kg	☼	41	40 - 140	58	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*33*		*27 - 127*
2-Fluorophenol	*37*		*25 - 128*
Nitrobenzene-d5	*51*		*15 - 136*
Phenol-d5	*42*		*29 - 130*
Terphenyl-d14	*36*		*24 - 146*
2,4,6-Tribromophenol	*35*		*10 - 150*

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzenethiol	ND		10	1.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/19/19 14:04	07/23/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/19/19 14:04	07/23/19 15:20	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Diethyl phthalate	ND		10	0.70	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Isophorone	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Nitrobenzene	ND		10	0.55	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitrophenol	ND		10	0.65	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Phenol	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pyridine	ND		10	3.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Quinoline	ND		10	6.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 15:20*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*42*		*34 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2-Fluorophenol	*21*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Phenol-d5	*43*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	49	X	53 - 125	07/19/19 14:04	07/23/19 15:20	1
2,4,6-Tribromophenol	40		15 - 135	07/19/19 14:04	07/23/19 15:20	1

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	1.83	J *	ug/L		6	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	55		34 - 120
2-Fluorophenol	24		10 - 120
Nitrobenzene-d5	77		27 - 120
Phenol-d5	54		10 - 120
Terphenyl-d14	71		53 - 125
2,4,6-Tribromophenol	63		15 - 135

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.5		ug/L		75	29 - 120
Benzoic acid	117	38.8		ug/L		33	10 - 150
Benzyl alcohol	30.0	25.9		ug/L		86	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.1		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	20.1		ug/L		67	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.9		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150
4-Bromophenyl phenyl ether	30.0	40.5	*	ug/L		135	55 - 122
Butyl benzyl phthalate	30.0	23.0		ug/L		77	46 - 145
4-Chloroaniline	30.0	18.0		ug/L		60	30 - 120
4-Chloro-3-methylphenol	30.0	24.6		ug/L		82	39 - 140
2-Chloronaphthalene	30.0	27.8		ug/L		93	52 - 120
2-Chlorophenol	30.0	10.4		ug/L		35	34 - 120
4-Chlorophenyl phenyl ether	30.0	35.3		ug/L		118	58 - 124
Dibenz[a,h]acridine	30.0	32.8		ug/L		109	46 - 149
Dibenzofuran	30.0	31.3		ug/L		104	58 - 123
3,3'-Dichlorobenzidine	40.0	89.1	*	ug/L		223	39 - 135
2,4-Dichlorophenol	30.0	19.6		ug/L		65	39 - 128
Diethyl phthalate	30.0	31.9		ug/L		106	44 - 146
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	32.8		ug/L		109	50 - 131
Di-n-butyl phthalate	30.0	31.6		ug/L		105	55 - 131
4,6-Dinitro-ortho-cresol	60.0	62.0		ug/L		103	10 - 150
2,4-Dinitrophenol	60.0	72.2		ug/L		120	10 - 150
2,4-Dinitrotoluene	30.0	34.9		ug/L		116	58 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,6-Dinitrotoluene	30.0	34.5		ug/L		115	57 - 130
Di-n-octyl phthalate	30.0	29.2		ug/L		97	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.9		ug/L		83	47 - 123
Hexachlorobenzene	30.0	44.7	*	ug/L		149	52 - 131
Hexachlorocyclopentadiene	30.0	12.2	J	ug/L		41	10 - 129
Hexachloroethane	30.0	17.7		ug/L		59	41 - 120
Indene	30.0	20.4		ug/L		68	47 - 120
Isophorone	30.0	21.9		ug/L		73	49 - 120
2-Methylphenol	30.0	17.8		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	20.0		ug/L		67	38 - 121
2-Nitroaniline	30.0	27.3		ug/L		91	47 - 150
3-Nitroaniline	30.0	30.9		ug/L		103	34 - 132
4-Nitroaniline	30.0	40.4		ug/L		135	41 - 135
Nitrobenzene	30.0	22.8		ug/L		76	47 - 120
2-Nitrophenol	30.0	14.9		ug/L		50	28 - 136
4-Nitrophenol	60.0	65.7		ug/L		109	10 - 150
N-Nitrosodimethylamine	30.0	26.9		ug/L		90	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120
Pentachlorophenol	60.0	81.0		ug/L		135	15 - 141
Phenol	30.0	11.2		ug/L		37	33 - 120
Pyridine	60.0	33.4		ug/L		56	26 - 120
Quinoline	30.0	28.2		ug/L		94	51 - 129
2,4,5-Trichlorophenol	30.0	28.9		ug/L		96	38 - 147
2,4,6-Trichlorophenol	30.0	27.2		ug/L		91	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*11*		*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*38*		*10 - 120*
Terphenyl-d14	*114*		*53 - 125*
2,4,6-Tribromophenol	*155*	*X*	*15 - 135*

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	1.82	J *	ug/L		6	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*33*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*61*		*10 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	72		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Anthracene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Chrysene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Fluorene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Pyrene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	82		27 - 127	07/19/19 09:00	07/28/19 16:47	1
Nitrobenzene-d5	81		15 - 136	07/19/19 09:00	07/28/19 16:47	1
Terphenyl-d14	108		24 - 146	07/19/19 09:00	07/28/19 16:47	1

Lab Sample ID: LCS 400-448517/11-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	265		ug/Kg		80	57 - 120
Acenaphthylene	333	251		ug/Kg		75	59 - 120
Anthracene	333	276		ug/Kg		83	61 - 120
Benzo[a]anthracene	333	274		ug/Kg		82	61 - 120
Benzo[a]pyrene	333	289		ug/Kg		87	54 - 127
Benzo[b]fluoranthene	333	287		ug/Kg		86	35 - 146
Benzo[g,h,i]perylene	333	335		ug/Kg		101	36 - 150
Benzo[k]fluoranthene	333	278		ug/Kg		83	53 - 139
Chrysene	333	278		ug/Kg		84	60 - 120
Dibenz(a,h)anthracene	333	351		ug/Kg		105	39 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448517/11-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoranthene	333	268		ug/Kg		80	61 - 121
Fluorene	333	282		ug/Kg		85	60 - 120
Indeno[1,2,3-cd]pyrene	333	341		ug/Kg		102	40 - 150
1-Methylnaphthalene	333	237		ug/Kg		71	46 - 120
2-Methylnaphthalene	333	238		ug/Kg		71	46 - 120
Phenanthrene	333	267		ug/Kg		80	59 - 120
Pyrene	333	290		ug/Kg		87	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*27 - 127*
Nitrobenzene-d5	*55*		*15 - 136*
Terphenyl-d14	*72*		*24 - 146*

Lab Sample ID: LCSD 400-448517/12-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	215		ug/Kg		65	57 - 120	21	30
Acenaphthylene	333	204		ug/Kg		61	59 - 120	21	30
Anthracene	333	218		ug/Kg		65	61 - 120	24	30
Benzo[a]anthracene	333	216		ug/Kg		65	61 - 120	24	30
Benzo[a]pyrene	333	226		ug/Kg		68	54 - 127	24	30
Benzo[b]fluoranthene	333	220		ug/Kg		66	35 - 146	26	30
Benzo[g,h,i]perylene	333	268		ug/Kg		80	36 - 150	22	30
Benzo[k]fluoranthene	333	218		ug/Kg		65	53 - 139	24	30
Chrysene	333	222		ug/Kg		66	60 - 120	23	30
Dibenz(a,h)anthracene	333	279		ug/Kg		84	39 - 150	23	30
Fluoranthene	333	213		ug/Kg		64	61 - 121	23	30
Fluorene	333	223		ug/Kg		67	60 - 120	23	30
Indeno[1,2,3-cd]pyrene	333	270		ug/Kg		81	40 - 150	23	30
1-Methylnaphthalene	333	196		ug/Kg		59	46 - 120	19	30
2-Methylnaphthalene	333	197		ug/Kg		59	46 - 120	19	30
Phenanthrene	333	212		ug/Kg		64	59 - 120	23	30
Pyrene	333	228		ug/Kg		68	53 - 122	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*27 - 127*
Nitrobenzene-d5	*51*		*15 - 136*
Terphenyl-d14	*63*		*24 - 146*

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/29/19 20:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/19/19 14:04*	*07/29/19 20:41*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/19/19 14:04*	*07/29/19 20:41*	*1*

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*117*		*33 - 138*	*07/19/19 14:04*	*08/03/19 12:50*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	29.9		ug/L		100	41 - 120
Acenaphthylene	30.0	27.9		ug/L		93	44 - 120
Anthracene	30.0	30.2		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	27.7		ug/L		92	61 - 135
Benzo[a]pyrene	30.0	28.9		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	30.4		ug/L		101	53 - 134
Benzo[g,h,i]perylene	30.0	28.3		ug/L		94	47 - 133
Benzo[k]fluoranthene	30.0	30.7		ug/L		102	57 - 134
Chrysene	30.0	28.3		ug/L		94	55 - 122
Dibenz(a,h)anthracene	30.0	30.5		ug/L		102	48 - 146
Fluoranthene	30.0	29.1		ug/L		97	54 - 128
Fluorene	30.0	33.8		ug/L		113	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	29.5		ug/L		98	43 - 142
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124
Phenanthrene	30.0	29.6		ug/L		99	48 - 120
Pyrene	30.0	15.5		ug/L		52	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*127*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (__Pensacola__)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER _____

Print Bill To Contact Name: James Carrino

PO #: 60592794.1.24.051 | 60592794 - 1.24.050

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

☐ CHECK IF NO INCIDENT # APPLIES

DATE 7/16/2019

PAGE ___1___ of ___1___

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): James Carrino

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS)
- ☑ STANDARD (14 DAY)
- ☐ 5 DAYS
- ☐ 3 DAYS
- ☐ 2 DAYS
- ☐ 24 HOURS
- ☐ RESULTS NEEDED ON WEEKEND

- ☐ LA - RWQCB REPORT FORMAT
- ☐ UST AGENCY:

DELIVERABLES
- ☐ LEVEL 1
- ☑ LEVEL 2
- ☐ LEVEL 3
- ☑ LEVEL 4
- ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

400-173270 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
TB-PW-071619-A	7/16/2019	0:00	Water	X					2			X		
PD-7-SB-27-071619	7/16/2019	14:15	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-17-SB-071219-EB	7/16/2019	13:15	Water	X			x		4	x		x	x	

	Received by (Signature)	Date	Time
Relinquished by (Signature)	Fedex:4782 2882 5355; 4782 2882 5366; 4782 2882 5344 custody seals:1013814, 1013815, 1011624, 1011625, 1011528, 1011529	7/16/2019	18:00
Relinquished by (Signature)	Received by (Signature)	Date	Time
Relinquished by (Signature)	Received by (Signature) 2.1C, 1.6C, 0.0CTR 7/17/19	Date	Time 8:58

Version: 10May17

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8/6/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173270-1

Login Number: 173270
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C 1.6°C 0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173270-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 9:00:32 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173270-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173270-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-6-19.

Receipt
The samples were received on 7/17/2019 8:58 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.0º C, 1.6º C and 2.1º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448915 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448915 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071619-A (400-173270-1) and PD-17-SB-27-071219-EB (400-173270-3). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448890 recovered outside acceptance criteria, low biased, for 2-Chloroethyl vinyl ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte: Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-448720/1-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448720 and analytical batch 400-449178 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch

Job ID: 400-173270-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

400-448517 and analytical batch 400-448999 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The method blank for preparation batch 400-448517 and analytical batch 400-448999 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448517 and analytical batch 400-448999 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448517 and analytical batch 400-448999 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448999 recovered above the upper control limit for N-Nitrosodimethylamine and Bis(2-ethylhexyl) phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-448517 and analytical batch 400-449209: 3,3'-Dichlorobenzidine, Butyl benzyl phthalate and Bis(2-chloroethoxy)methane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (LCS 400-448720/2-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448720 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Bromophenyl phenyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448517 and analytical batch 400-449423 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D LL: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448517 and analytical batch 400-449423 recovered outside control limits for the following analytes: Benzo[k]fluoranthene.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449815 recovered above the upper control limit for Benzo[g,h,i]perylene, Indeno[1,2,3-cd]pyrene and Dibenz(a,h)anthracene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448517 and analytical batch 400-449815 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 400-173270-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173270-1	TB-PW-071619-A	Water	07/16/19 00:00	07/17/19 08:58	
400-173270-2	PD-7-SB-27-071619	Solid	07/16/19 14:15	07/17/19 08:58	
400-173270-3	PD-17-SB-27-071219-EB	Water	07/16/19 13:15	07/17/19 08:58	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A — Lab Sample ID: 400-173270-1

No Detections.

Client Sample ID: PD-7-SB-27-071619 — Lab Sample ID: 400-173270-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	25	J	36	19	ug/Kg	1	☼	8260B	Total/NA
Benzene	2.2	J	7.1	0.96	ug/Kg	1	☼	8260B	Total/NA
Ethylbenzene	1.4	J	7.1	0.87	ug/Kg	1	☼	8260B	Total/NA
Toluene	2.2	J	7.1	1.4	ug/Kg	1	☼	8260B	Total/NA

Client Sample ID: PD-17-SB-27-071219-EB — Lab Sample ID: 400-173270-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Butyl benzyl phthalate	0.67	J	9.7	0.67	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 14:01	1
Acrolein	ND		20	10	ug/L			07/22/19 14:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 14:01	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 14:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 14:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 14:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 14:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 14:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 14:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 14:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 14:01	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 14:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 14:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 14:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 14:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 14:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 14:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 14:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 14:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 14:01	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 14:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 14:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 14:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 14:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 14:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 14:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 14:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 14:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 14:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 14:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 14:01	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 14:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: TB-PW-071619-A
Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 14:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 14:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 14:01	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 14:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 14:01	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 14:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 14:01	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 14:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 14:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 14:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 14:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 14:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 14:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 14:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 14:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 14:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 14:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 14:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 14:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 14:01*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 14:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/22/19 14:01*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**25**	**J**	36	19	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Acrolein	ND		71	40	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Acrylonitrile	ND		29	11	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Benzene	**2.2**	**J**	7.1	0.96	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromobenzene	ND		7.1	1.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromochloromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromodichloromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromoform	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Bromomethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2-Butanone (MEK)	ND		36	8.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Carbon disulfide	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Carbon tetrachloride	ND		7.1	2.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chlorobenzene	ND		7.1	0.74	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2-Chloroethyl vinyl ether	ND		14	7.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chloroform	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1-Chlorohexane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Chloromethane	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
cis-1,2-Dichloroethene	ND		7.1	1.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
cis-1,3-Dichloropropene	ND		7.1	1.7	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Dibromochloromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dibromo-3-Chloropropane	ND		7.1	4.7	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dichlorobenzene	ND		7.1	1.0	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,3-Dichlorobenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,4-Dichlorobenzene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Dichlorodifluoromethane	ND		7.1	1.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1-Dichloroethane	ND		7.1	1.2	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dichloroethane	ND		7.1	1.2	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1-Dichloroethene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2-Dichloropropane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,3-Dichloropropane	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2,2-Dichloropropane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1-Dichloropropene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Ethylbenzene	**1.4**	**J**	7.1	0.87	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Ethylene Dibromide	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Ethyl methacrylate	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Hexachlorobutadiene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
2-Hexanone	ND		36	7.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Isopropylbenzene	ND		7.1	0.97	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Methylene bromide	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Methylene Chloride	ND		21	14	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
4-Methyl-2-pentanone (MIBK)	ND		36	7.1	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Methyl tert-butyl ether	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
m-Xylene & p-Xylene	ND		7.1	1.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Naphthalene	ND		7.1	2.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
n-Butylbenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
N-Propylbenzene	ND		7.1	1.3	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
o-Chlorotoluene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
o-Xylene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
p-Isopropyltoluene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
sec-Butylbenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Styrene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
tert-Butylbenzene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,1,2-Tetrachloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,2,2-Tetrachloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Tetrachloroethene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Toluene	**2.2**	**J**	7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
trans-1,2-Dichloroethene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
trans-1,3-Dichloropropene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,3-Trichlorobenzene	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,4-Trichlorobenzene	ND		7.1	2.9	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,1-Trichloroethane	ND		7.1	1.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,1,2-Trichloroethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Trichloroethene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Trichlorofluoromethane	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,3-Trichloropropane	ND		7.1	4.3	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,2,4-Trimethylbenzene	ND		7.1	1.4	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
1,3,5-Trimethylbenzene	ND		7.1	1.2	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Vinyl acetate	ND		36	13	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Vinyl chloride	ND		7.1	3.6	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1
Xylenes, Total	ND		14	2.7	ug/Kg	☼	07/22/19 07:09	07/22/19 15:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1.8*	*J*	*ug/Kg*	☼	*2.72*	*110-54-3*	*07/22/19 07:09*	*07/22/19 15:28*	*1*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/22/19 07:09*	*07/22/19 15:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*72 - 122*	*07/22/19 07:09*	*07/22/19 15:28*	*1*
Dibromofluoromethane	*98*		*79 - 123*	*07/22/19 07:09*	*07/22/19 15:28*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*	*07/22/19 07:09*	*07/22/19 15:28*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Acenaphthylene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Anthracene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[a]anthracene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[a]pyrene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[b]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[g,h,i]perylene	ND		8.5	2.6	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Benzo[k]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Chrysene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Dibenz(a,h)anthracene	ND		8.5	2.6	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Fluorene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Indeno[1,2,3-cd]pyrene	ND		8.5	2.6	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
1-Methylnaphthalene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
2-Methylnaphthalene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619
Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2
Matrix: Solid
Percent Solids: 76.7

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1
Pyrene	ND		8.5	1.3	ug/Kg	☼	07/19/19 09:00	07/28/19 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*27 - 127*	*07/19/19 09:00*	*07/28/19 18:07*	*1*
Nitrobenzene-d5	*75*		*15 - 136*	*07/19/19 09:00*	*07/28/19 18:07*	*1*
Terphenyl-d14	*94*		*24 - 146*	*07/19/19 09:00*	*07/28/19 18:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F2 F1	420	55	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Benzenethiol	ND	*	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Benzoic acid	ND	F1	1300	450	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Benzyl alcohol	ND	F2 F1	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Bis(2-chloroethoxy)methane	ND	F2 F1 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
bis (2-chloroisopropyl) ether	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Bis(2-ethylhexyl) phthalate	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Bromophenyl phenyl ether	ND	F2 F1 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Butyl benzyl phthalate	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Chloroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Chloro-3-methylphenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Chloronaphthalene	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Chlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Chlorophenyl phenyl ether	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Dibenz[a,h]acridine	ND	F2 F1 *	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Dibenzofuran	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
3,3'-Dichlorobenzidine	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dichlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Diethyl phthalate	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dimethylphenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Dimethyl phthalate	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Di-n-butyl phthalate	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4,6-Dinitro-ortho-cresol	ND	F2 F1	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dinitrophenol	ND	F2 F1	1300	370	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4-Dinitrotoluene	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,6-Dinitrotoluene	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Di-n-octyl phthalate	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
1,4-Dioxane	ND	F1 F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Hexachlorobenzene	ND	F2	420	130	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Hexachlorocyclopentadiene	ND	F2 F1	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Hexachloroethane	ND	F2	420	130	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Indene	ND	F2 F1	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Isophorone	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Methylphenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
3 & 4 Methylphenol	ND	F2	850	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Nitroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
3-Nitroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-7-SB-27-071619

Date Collected: 07/16/19 14:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-2

Matrix: Solid
Percent Solids: 76.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Nitrobenzene	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2-Nitrophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
4-Nitrophenol	ND	F2	420	140	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
N-Nitrosodimethylamine	ND	F2	420	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
N-Nitrosodi-n-propylamine	ND	F2	420	140	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
N-Nitrosodiphenylamine	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Pentachlorophenol	ND	F2 F1	850	85	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Phenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Pyridine	ND	F2 F1	420	190	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
Quinoline	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4,5-Trichlorophenol	ND	F2 *	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1
2,4,6-Trichlorophenol	ND	F2	420	42	ug/Kg	☼	07/19/19 09:00	07/22/19 21:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/19/19 09:00*	*07/22/19 21:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*27 - 127*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
2-Fluorophenol	*55*		*25 - 128*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
Nitrobenzene-d5	*62*		*15 - 136*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
Phenol-d5	*60*		*29 - 130*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
Terphenyl-d14	*53*		*24 - 146*	*07/19/19 09:00*	*07/22/19 21:48*	*1*
2,4,6-Tribromophenol	*37*		*10 - 150*	*07/19/19 09:00*	*07/22/19 21:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	76.7		0.01	0.01	%			07/18/19 13:06	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-17-SB-27-071219-EB

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173270-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 19:17	1
Acrolein	ND		20	10	ug/L			07/22/19 19:17	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 19:17	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 14:17	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 19:17	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 19:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 19:17	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 19:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 14:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 19:17	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 19:17	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 19:17	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 19:17	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 19:17	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 19:17	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 19:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 19:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 19:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 19:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 19:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 19:17	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 19:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 19:17	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 19:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 19:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 19:17	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 19:17	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 19:17	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 19:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 19:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 19:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 19:17	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 19:17	1

Client: AECOM Technical Services Inc.
Job ID: 400-173270-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-SB-27-071219-EB
Lab Sample ID: 400-173270-3
Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 19:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 19:17	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 19:17	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 19:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 19:17	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 19:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 19:17	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 19:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 19:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 19:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 19:17	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 19:17	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 19:17	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 19:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 19:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 19:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 19:17	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 19:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 19:17	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 19:17	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*140*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 19:17*	*1*
2-Methyl-2-propanol	*7.8*	*J*	*ug/L*		*3.38*	*75-65-0*		*07/22/19 19:17*	*1*
n-Butyl acetate	*1.7*		*ug/L*		*6.46*	*123-86-4*		*07/22/19 19:17*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 19:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/22/19 19:17*	*1*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 14:17*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/22/19 19:17*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 14:17*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 19:17*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 14:17*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Client Sample ID: PD-17-SB-27-071219-EB

Lab Sample ID: 400-173270-3

Date Collected: 07/16/19 13:15

Matrix: Water

Date Received: 07/17/19 08:58

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	08/05/19 13:43	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/03/19 15:24	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 13:43	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/03/19 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*15 - 122*	*07/19/19 14:04*	*08/05/19 13:43*	*1*
Nitrobenzene-d5	*50*		*19 - 130*	*07/19/19 14:04*	*08/05/19 13:43*	*1*
Terphenyl-d14	*62*		*33 - 138*	*07/19/19 14:04*	*08/05/19 13:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 18:33	1
Benzoic acid	ND		29	7.0	ug/L		07/19/19 14:04	07/23/19 18:33	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:33	1
Bis(2-chloroethyl)ether	ND		9.7	0.71	ug/L		07/19/19 14:04	07/23/19 18:33	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/19/19 14:04	07/23/19 18:33	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 18:33	1
Butyl benzyl phthalate	**0.67**	**J**	9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 18:33	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:33	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 18:33	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 18:33	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
Di-n-octyl phthalate	ND		9.7	0.42	ug/L		07/19/19 14:04	07/23/19 18:33	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:33	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 18:33	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 18:33	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173270-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-SB-27-071219-EB
Lab Sample ID: 400-173270-3
Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 18:33	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 18:33	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 18:33	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 18:33	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:33	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 18:33	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/19/19 14:04	07/23/19 18:33	1
Pentachlorophenol	ND		19	1.7	ug/L		07/19/19 14:04	07/23/19 18:33	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:33	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 18:33	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 18:33	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
13-Docosenamide, (Z)-	*11*	*T J N*	*ug/L*		*11.79*	*112-84-5*	*07/19/19 14:04*	*07/23/19 18:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
2-Fluorophenol	*14*		*10 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
Phenol-d5	*45*		*10 - 120*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/19/19 14:04*	*07/23/19 18:33*	*1*
2,4,6-Tribromophenol	*56*		*15 - 135*	*07/19/19 14:04*	*07/23/19 18:33*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173270-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173270-2	PD-7-SB-27-071619	108	98	106
LCS 400-448966/2-A	Lab Control Sample	107	102	91
MB 400-448966/1-A	Method Blank	108	97	99

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173270-1	TB-PW-071619-A	101	97	102
400-173270-3	PD-17-SB-27-071219-EB	102	100	103
400-173270-3	PD-17-SB-27-071219-EB	101	97	101
LCS 400-448915/1002	Lab Control Sample	97	97	103
LCS 400-449267/1002	Lab Control Sample	99	95	100
MB 400-448915/4	Method Blank	101	98	103
MB 400-449267/4	Method Blank	101	97	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173270-2	PD-7-SB-27-071619	48	55	62	60	53	37
400-173270-2 MS	PD-7-SB-27-071619	59	64	83	72	64	64
400-173270-2 MSD	PD-7-SB-27-071619	33	37	51	42	36	35
LCSD 400-448517/16-A	Lab Control Sample Dup	39	44	49	48	49	37
MB 400-448517/1-A	Method Blank	48	53	58	56	54	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173270-1
Project/Site: PreDesign Invest PW

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173270-3	PD-17-SB-27-071219-EB	52	14	75	45	66	56
LCS 400-448720/19-A	Lab Control Sample	55	24	77	54	71	63
LCS 400-448720/2-A	Lab Control Sample	92	11	67	38	114	155 X
LCSD 400-448720/20-A	Lab Control Sample Dup	72	33	91	61	96	72
MB 400-448720/1-A	Method Blank	42	21	59	43	49 X	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173270-2	PD-7-SB-27-071619	77	75	94
LCS 400-448517/11-A	Lab Control Sample	57	55	72
LCSD 400-448517/12-A	Lab Control Sample Dup	51	51	63
MB 400-448517/1-A	Method Blank	82	81	108

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173270-3	PD-17-SB-27-071219-EB	48	50	62
LCS 400-448720/2-A	Lab Control Sample	84	58	127
MB 400-448720/1-A	Method Blank	92	65	
MB 400-448720/1-A	Method Blank			117

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173270-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071619-A — Lab Sample ID: 400-173270-1

Date Collected: 07/16/19 00:00 — **Matrix: Water**
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 14:01	RS	TAL PEN

Client Sample ID: PD-7-SB-27-071619 — Lab Sample ID: 400-173270-2

Date Collected: 07/16/19 14:15 — **Matrix: Solid**
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448557	07/18/19 13:06	BKG	TAL PEN

Client Sample ID: PD-7-SB-27-071619 — Lab Sample ID: 400-173270-2

Date Collected: 07/16/19 14:15 — **Matrix: Solid**
Date Received: 07/17/19 08:58 — **Percent Solids: 76.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.571 g	5.00 mL	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 15:28	RS	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448999	07/22/19 21:48	VC1	TAL PEN
Total/NA	Prep	3546			15.21 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 18:07	KJA	TAL PEN

Client Sample ID: PD-17-SB-27-071219-EB — Lab Sample ID: 400-173270-3

Date Collected: 07/16/19 13:15 — **Matrix: Water**
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 19:17	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 14:17	WPD	TAL PEN
Total/NA	Prep	3520C			1035.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 18:33	VC1	TAL PEN
Total/NA	Prep	3520C			1035.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 15:24	KJA	TAL PEN
Total/NA	Prep	3520C			1035.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 13:43	KJA	TAL PEN

Client Sample ID: Method Blank — Lab Sample ID: MB 400-448517/1-A

Date Collected: N/A — **Matrix: Solid**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 18:59	VC1	TAL PEN
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 16:47	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448720/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 15:20	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:50	KJA	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 20:41	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448915/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448966/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 09:16	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449267/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 08:41	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448517/11-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 17:03	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448720/19-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:22	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448720/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 22:41	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 20:57	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448915/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448966/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	448966	07/22/19 07:09	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	448890	07/22/19 07:42	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449267/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 07:52	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448517/12-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			449815	07/28/19 17:19	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448517/16-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 20:24	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448720/20-A

Date Collected: N/A
Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:43	VC1	TAL PEN

Client Sample ID: PD-7-SB-27-071619
Lab Sample ID: 400-173270-2 MS

Date Collected: 07/16/19 14:15
Matrix: Solid

Date Received: 07/17/19 08:58
Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.5 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 21:06	VC1	TAL PEN

Client Sample ID: PD-7-SB-27-071619
Lab Sample ID: 400-173270-2 MSD

Date Collected: 07/16/19 14:15
Matrix: Solid

Date Received: 07/17/19 08:58
Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.26 g	1 mL	448517	07/19/19 09:00	KLR	TAL PEN
Total/NA	Analysis	8270D		1			448999	07/22/19 21:27	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

GC/MS VOA

Analysis Batch: 448890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	8260B	448966
MB 400-448966/1-A	Method Blank	Total/NA	Solid	8260B	448966
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	8260B	448966

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-1	TB-PW-071619-A	Total/NA	Water	8260B	
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

Prep Batch: 448966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	5035	
MB 400-448966/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-448966/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 449267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8260B	
MB 400-449267/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449267/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	3546	
MB 400-448517/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-448517/11-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-448517/12-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-448517/16-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173270-2 MS	PD-7-SB-27-071619	Total/NA	Solid	3546	
400-173270-2 MSD	PD-7-SB-27-071619	Total/NA	Solid	3546	

Prep Batch: 448720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	3520C	
MB 400-448720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	8270D	448517
MB 400-448517/1-A	Method Blank	Total/NA	Solid	8270D	448517
LCSD 400-448517/16-A	Lab Control Sample Dup	Total/NA	Solid	8270D	448517
400-173270-2 MS	PD-7-SB-27-071619	Total/NA	Solid	8270D	448517
400-173270-2 MSD	PD-7-SB-27-071619	Total/NA	Solid	8270D	448517

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

GC/MS Semi VOA

Analysis Batch: 449178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8270D	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D	448720
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	8270D	448720
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	8270D	448720

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D	448720

Analysis Batch: 449815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	8270D LL	448517
MB 400-448517/1-A	Method Blank	Total/NA	Solid	8270D LL	448517
LCS 400-448517/11-A	Lab Control Sample	Total/NA	Solid	8270D LL	448517
LCSD 400-448517/12-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	448517

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448720

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-3	PD-17-SB-27-071219-EB	Total/NA	Water	8270D LL	448720

General Chemistry

Analysis Batch: 448557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173270-2	PD-7-SB-27-071619	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	294		ug/L		147	43 - 160
Acrolein	500	667		ug/L		133	38 - 160
Acrylonitrile	500	616		ug/L		123	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	54.1		ug/L		108	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.2		ug/L		110	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	34.5		ug/L		69	10 - 160
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.6		ug/L		109	61 - 137
Carbon tetrachloride	50.0	60.5		ug/L		121	61 - 137
Chlorobenzene	50.0	56.6		ug/L		113	70 - 130
Chloroethane	50.0	49.1		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	49.3		ug/L		99	10 - 160
Chloroform	50.0	53.9		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.5		ug/L		121	69 - 130
Chloromethane	50.0	44.1		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	58.1		ug/L		116	68 - 130
cis-1,3-Dichloropropene	50.0	59.7		ug/L		119	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.7		ug/L		123	54 - 135
1,2-Dichlorobenzene	50.0	57.7		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	25.0		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	57.8		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	58.2		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.3		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	56.5		ug/L		113	52 - 135
1,1-Dichloropropene	50.0	55.4		ug/L		111	70 - 130
Ethylbenzene	50.0	58.8		ug/L		118	70 - 130
Ethylene Dibromide	50.0	57.3		ug/L		115	70 - 130
Ethyl methacrylate	50.0	65.1		ug/L		130	68 - 130
Hexachlorobutadiene	50.0	52.0		ug/L		104	53 - 140
2-Hexanone	200	306	*	ug/L		153	65 - 137
Isopropylbenzene	50.0	56.2		ug/L		112	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	259		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	51.0		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	57.9		ug/L		116	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	57.7		ug/L		115	67 - 130
N-Propylbenzene	50.0	58.8		ug/L		118	70 - 130
o-Chlorotoluene	50.0	57.4		ug/L		115	70 - 130
o-Xylene	50.0	57.3		ug/L		115	70 - 130
p-Chlorotoluene	50.0	57.1		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	58.1		ug/L		116	65 - 130
sec-Butylbenzene	50.0	56.2		ug/L		112	66 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
tert-Butylbenzene	50.0	55.7		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.3	*	ug/L		137	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.0		ug/L		116	70 - 131
Tetrachloroethene	50.0	57.4		ug/L		115	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	65.0		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	52.6		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	60 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.9		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	70 - 130
1,2,4-Trimethylbenzene	50.0	55.5		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	55.8		ug/L		112	69 - 130
Vinyl acetate	100	117		ug/L		117	26 - 160
Vinyl chloride	50.0	45.3		ug/L		91	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrolein	ND		50	28	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 07:09	07/22/19 09:16	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 07:09	07/22/19 09:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448966/1-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448966

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/22/19 07:09	07/22/19 09:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 122	07/22/19 07:09	07/22/19 09:16	1
Dibromofluoromethane	97		79 - 123	07/22/19 07:09	07/22/19 09:16	1
Toluene-d8 (Surr)	99		80 - 120	07/22/19 07:09	07/22/19 09:16	1

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	191		ug/Kg		95	48 - 160
Acrolein	500	565		ug/Kg		113	40 - 150
Acrylonitrile	500	438		ug/Kg		88	60 - 130
Benzene	50.0	44.8		ug/Kg		90	65 - 130
Bromobenzene	50.0	44.1		ug/Kg		88	65 - 130
Bromochloromethane	50.0	41.0		ug/Kg		82	65 - 130
Bromodichloromethane	50.0	40.7		ug/Kg		81	61 - 130
Bromoform	50.0	42.0		ug/Kg		84	52 - 136
Bromomethane	50.0	17.2		ug/Kg		34	12 - 160
2-Butanone (MEK)	200	223		ug/Kg		111	55 - 130
Carbon disulfide	50.0	37.8		ug/Kg		76	46 - 141
Carbon tetrachloride	50.0	39.7		ug/Kg		79	60 - 130
Chlorobenzene	50.0	42.6		ug/Kg		85	70 - 130
Chloroethane	50.0	41.8		ug/Kg		84	55 - 134
2-Chloroethyl vinyl ether	50.0	21.4		ug/Kg		43	10 - 158
Chloroform	50.0	41.3		ug/Kg		83	62 - 130
1-Chlorohexane	50.0	39.7		ug/Kg		79	69 - 130
Chloromethane	50.0	40.5		ug/Kg		81	49 - 136
cis-1,2-Dichloroethene	50.0	42.0		ug/Kg		84	53 - 135
cis-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	61 - 130
Dibromochloromethane	50.0	39.3		ug/Kg		79	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	41.0		ug/Kg		82	49 - 130
1,2-Dichlorobenzene	50.0	43.4		ug/Kg		87	64 - 130
1,3-Dichlorobenzene	50.0	44.0		ug/Kg		88	66 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/Kg		87	65 - 130
Dichlorodifluoromethane	50.0	41.5		ug/Kg		83	34 - 143
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	38.8		ug/Kg		78	55 - 137
1,2-Dichloropropane	50.0	44.2		ug/Kg		88	64 - 130
1,3-Dichloropropane	50.0	43.1		ug/Kg		86	67 - 130
2,2-Dichloropropane	50.0	38.2		ug/Kg		76	51 - 132
1,1-Dichloropropene	50.0	41.8		ug/Kg		84	65 - 130
Ethylbenzene	50.0	40.2		ug/Kg		80	70 - 130
Ethylene Dibromide	50.0	42.2		ug/Kg		84	67 - 130
Ethyl methacrylate	50.0	40.1		ug/Kg		80	62 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448966/2-A
Matrix: Solid
Analysis Batch: 448890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	50.4		ug/Kg		101	62 - 133
2-Hexanone	200	190		ug/Kg		95	57 - 131
Isopropylbenzene	50.0	39.4		ug/Kg		79	70 - 130
Methylene bromide	50.0	40.5		ug/Kg		81	65 - 130
Methylene Chloride	50.0	44.3		ug/Kg		89	57 - 132
4-Methyl-2-pentanone (MIBK)	200	164		ug/Kg		82	58 - 130
Methyl tert-butyl ether	50.0	39.5		ug/Kg		79	63 - 130
m-Xylene & p-Xylene	50.0	40.8		ug/Kg		82	70 - 130
Naphthalene	50.0	37.1		ug/Kg		74	45 - 144
n-Butylbenzene	50.0	43.9		ug/Kg		88	66 - 130
N-Propylbenzene	50.0	45.2		ug/Kg		90	67 - 130
o-Chlorotoluene	50.0	45.7		ug/Kg		91	67 - 130
o-Xylene	50.0	40.0		ug/Kg		80	70 - 130
p-Chlorotoluene	50.0	46.4		ug/Kg		93	66 - 130
p-Isopropyltoluene	50.0	44.2		ug/Kg		88	68 - 130
sec-Butylbenzene	50.0	44.5		ug/Kg		89	67 - 130
Styrene	50.0	38.3		ug/Kg		77	68 - 130
tert-Butylbenzene	50.0	43.2		ug/Kg		86	67 - 130
1,1,1,2-Tetrachloroethane	50.0	39.4		ug/Kg		79	65 - 130
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/Kg		99	60 - 131
Tetrachloroethene	50.0	35.7		ug/Kg		71	67 - 130
Toluene	50.0	42.1		ug/Kg		84	70 - 130
trans-1,2-Dichloroethene	50.0	41.9		ug/Kg		84	58 - 134
trans-1,3-Dichloropropene	50.0	39.5		ug/Kg		79	60 - 130
1,2,3-Trichlorobenzene	50.0	43.5		ug/Kg		87	58 - 135
1,2,4-Trichlorobenzene	50.0	42.3		ug/Kg		85	56 - 138
1,1,1-Trichloroethane	50.0	39.7		ug/Kg		79	63 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/Kg		85	65 - 130
Trichloroethene	50.0	42.1		ug/Kg		84	65 - 130
Trichlorofluoromethane	50.0	38.9		ug/Kg		78	61 - 136
1,2,3-Trichloropropane	50.0	47.0		ug/Kg		94	60 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/Kg		93	66 - 130
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	67 - 130
Vinyl acetate	100	92.2		ug/Kg		92	24 - 160
Vinyl chloride	50.0	47.3		ug/Kg		95	52 - 132
Xylenes, Total	100	80.8		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/24/19 08:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 08:41	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 08:41*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 08:41*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 08:41*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 08:41*	*1*

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	55.5		ug/L		111	70 - 130
2-Butanone (MEK)	200	254		ug/L		127	61 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Benzenethiol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Benzoic acid	ND		990	350	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Benzyl alcohol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Bis(2-ethylhexyl) phthalate	45.4	J	330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Chloroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Chlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Dibenzofuran	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Diethyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
1,4-Dioxane	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Hexachloroethane	ND		330	100	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Indene	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Isophorone	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Methylphenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Nitroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
3-Nitroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Nitroaniline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Nitrobenzene	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2-Nitrophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
4-Nitrophenol	ND		330	110	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Pentachlorophenol	ND		660	66	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Phenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Pyridine	ND		330	150	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
Quinoline	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/19/19 09:00	07/22/19 18:59	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/19/19 09:00*	*07/22/19 18:59*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*27 - 127*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
2-Fluorophenol	*53*		*25 - 128*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
Nitrobenzene-d5	*58*		*15 - 136*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
Phenol-d5	*56*		*29 - 130*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
Terphenyl-d14	*54*		*24 - 146*	*07/19/19 09:00*	*07/22/19 18:59*	*1*
2,4,6-Tribromophenol	*40*		*10 - 150*	*07/19/19 09:00*	*07/22/19 18:59*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448517/16-A
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448517

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	155	J *	ug/Kg		8	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*39*		*27 - 127*
2-Fluorophenol	*44*		*25 - 128*
Nitrobenzene-d5	*49*		*15 - 136*
Phenol-d5	*48*		*29 - 130*
Terphenyl-d14	*49*		*24 - 146*
2,4,6-Tribromophenol	*37*		*10 - 150*

Lab Sample ID: 400-173270-2 MS
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: PD-7-SB-27-071619
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	F2 F1	2520	1970		ug/Kg	☼	78	40 - 140
Benzoic acid	ND	F1	9800	604	J F1	ug/Kg	☼	6	40 - 140
Benzyl alcohol	ND	F2 F1	2520	1770		ug/Kg	☼	70	40 - 140
Bis(2-chloroethoxy)methane	ND	F2 F1 *	2520	1610		ug/Kg	☼	64	40 - 140
Bis(2-chloroethyl)ether	ND		2520	1460		ug/Kg	☼	58	40 - 140
bis (2-chloroisopropyl) ether	ND	F2	2520	1850		ug/Kg	☼	73	40 - 140
Bis(2-ethylhexyl) phthalate	ND	F2 *	2520	2020		ug/Kg	☼	80	40 - 140
4-Bromophenyl phenyl ether	ND	F2 F1 *	2520	1870		ug/Kg	☼	74	40 - 140
Butyl benzyl phthalate	ND	F2 *	2520	1900		ug/Kg	☼	75	40 - 140
4-Chloroaniline	ND	F2	2520	2210		ug/Kg	☼	87	40 - 140
4-Chloro-3-methylphenol	ND	F2	2520	2200		ug/Kg	☼	87	40 - 140
2-Chloronaphthalene	ND	F2 *	2520	1760		ug/Kg	☼	70	40 - 140
2-Chlorophenol	ND	F2	2520	1940		ug/Kg	☼	77	40 - 140
4-Chlorophenyl phenyl ether	ND	F2 *	2520	1840		ug/Kg	☼	73	40 - 140
Dibenz[a,h]acridine	ND	F2 F1 *	2520	1520	*	ug/Kg	☼	60	40 - 140
Dibenzofuran	ND	F2 *	2520	1840		ug/Kg	☼	73	40 - 140
3,3'-Dichlorobenzidine	ND	F2	3360	3810		ug/Kg	☼	113	40 - 140
2,4-Dichlorophenol	ND	F2	2520	2070		ug/Kg	☼	82	40 - 140
Diethyl phthalate	ND	F2	2520	2190		ug/Kg	☼	87	40 - 140
2,4-Dimethylphenol	ND	F2	2520	2070		ug/Kg	☼	82	40 - 140
Dimethyl phthalate	ND	F2 *	2520	1950		ug/Kg	☼	77	40 - 140
Di-n-butyl phthalate	ND	F2 *	2520	2290		ug/Kg	☼	91	40 - 140
4,6-Dinitro-ortho-cresol	ND	F2 F1	5050	3310		ug/Kg	☼	66	40 - 140
2,4-Dinitrophenol	ND	F2 F1	5050	2410		ug/Kg	☼	48	40 - 140
2,4-Dinitrotoluene	ND	F2 *	2520	1950		ug/Kg	☼	77	40 - 140
2,6-Dinitrotoluene	ND	F2 *	2520	1880		ug/Kg	☼	74	40 - 140
Di-n-octyl phthalate	ND	F2 *	2520	2010		ug/Kg	☼	80	40 - 140
1,4-Dioxane	ND	F1 F2	2520	568	F1	ug/Kg	☼	22	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND	F2	2520	2000		ug/Kg	☼	79	40 - 140
Hexachlorobenzene	ND	F2	2520	2070		ug/Kg	☼	82	40 - 140
Hexachlorocyclopentadiene	ND	F2 F1	2520	1650		ug/Kg	☼	66	40 - 140
Hexachloroethane	ND	F2	2520	1860		ug/Kg	☼	74	40 - 140

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173270-2 MS
Client Sample ID: PD-7-SB-27-071619
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 448999
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	ND	F2 F1	2520	1800		ug/Kg	☼	71	40 - 140
Isophorone	ND	F2	2520	1860		ug/Kg	☼	74	40 - 140
2-Methylphenol	ND	F2	2520	2130		ug/Kg	☼	84	40 - 140
3 & 4 Methylphenol	ND	F2	2520	2000		ug/Kg	☼	79	40 - 140
2-Nitroaniline	ND	F2	2520	2280		ug/Kg	☼	91	40 - 140
3-Nitroaniline	ND	F2	2520	2350		ug/Kg	☼	93	40 - 140
4-Nitroaniline	ND	F2	2520	2490		ug/Kg	☼	99	40 - 140
Nitrobenzene	ND	F2	2520	1870		ug/Kg	☼	74	40 - 140
2-Nitrophenol	ND	F2	2520	1930		ug/Kg	☼	77	40 - 140
4-Nitrophenol	ND	F2	5050	4630		ug/Kg	☼	92	40 - 140
N-Nitrosodimethylamine	ND	F2	2520	2120		ug/Kg	☼	84	40 - 140
N-Nitrosodi-n-propylamine	ND	F2	2520	2030		ug/Kg	☼	80	40 - 140
N-Nitrosodiphenylamine	ND	F2 *	2500	1890		ug/Kg	☼	76	40 - 140
Pentachlorophenol	ND	F2 F1	5050	4220		ug/Kg	☼	84	40 - 140
Phenol	ND	F2	2520	1780		ug/Kg	☼	70	40 - 140
Pyridine	ND	F2 F1	5050	2720		ug/Kg	☼	54	40 - 140
Quinoline	ND	F2	2520	1880		ug/Kg	☼	75	40 - 140
2,4,5-Trichlorophenol	ND	F2 *	2520	1970		ug/Kg	☼	78	40 - 140
2,4,6-Trichlorophenol	ND	F2	2520	1910		ug/Kg	☼	76	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*59*		*27 - 127*
2-Fluorophenol	*64*		*25 - 128*
Nitrobenzene-d5	*83*		*15 - 136*
Phenol-d5	*72*		*29 - 130*
Terphenyl-d14	*64*		*24 - 146*
2,4,6-Tribromophenol	*64*		*10 - 150*

Lab Sample ID: 400-173270-2 MSD
Client Sample ID: PD-7-SB-27-071619
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 448999
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND	F2 F1	2560	927	F1 F2	ug/Kg	☼	36	40 - 140	72	30
Benzoic acid	ND	F1	9950	ND	F1	ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	ND	F2 F1	2560	938	F1 F2	ug/Kg	☼	37	40 - 140	62	30
Bis(2-chloroethoxy)methane	ND	F2 F1 *	2560	989	F1 F2	ug/Kg	☼	39	40 - 140	48	30
Bis(2-chloroethyl)ether	ND		2560	1080		ug/Kg	☼	42	40 - 140	30	30
bis (2-chloroisopropyl) ether	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	41	30
Bis(2-ethylhexyl) phthalate	ND	F2 *	2560	1230	F2	ug/Kg	☼	48	40 - 140	49	30
4-Bromophenyl phenyl ether	ND	F2 F1 *	2560	1010	F1 F2	ug/Kg	☼	39	40 - 140	60	30
Butyl benzyl phthalate	ND	F2 *	2560	1140	F2	ug/Kg	☼	44	40 - 140	50	30
4-Chloroaniline	ND	F2	2560	1250	F2	ug/Kg	☼	49	40 - 140	56	30
4-Chloro-3-methylphenol	ND	F2	2560	1220	F2	ug/Kg	☼	48	40 - 140	57	30
2-Chloronaphthalene	ND	F2 *	2560	1030	F2	ug/Kg	☼	40	40 - 140	53	30
2-Chlorophenol	ND	F2	2560	1150	F2	ug/Kg	☼	45	40 - 140	51	30
4-Chlorophenyl phenyl ether	ND	F2 *	2560	1020	F2	ug/Kg	☼	40	40 - 140	58	30
Dibenz[a,h]acridine	ND	F2 F1 *	2560	875	F1 F2	ug/Kg	☼	34	40 - 140	54	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173270-2 MSD
Matrix: Solid
Analysis Batch: 448999

Client Sample ID: PD-7-SB-27-071619
Prep Type: Total/NA
Prep Batch: 448517

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibenzofuran	ND	F2 *	2560	1040	F2	ug/Kg	☼	41	40 - 140	55	30
3,3'-Dichlorobenzidine	ND	F2	3420	2000	F2	ug/Kg	☼	59	40 - 140	62	30
2,4-Dichlorophenol	ND	F2	2560	1170	F2	ug/Kg	☼	46	40 - 140	55	30
Diethyl phthalate	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	56	30
2,4-Dimethylphenol	ND	F2	2560	1300	F2	ug/Kg	☼	51	40 - 140	46	30
Dimethyl phthalate	ND	F2 *	2560	1100	F2	ug/Kg	☼	43	40 - 140	56	30
Di-n-butyl phthalate	ND	F2 *	2560	1280	F2	ug/Kg	☼	50	40 - 140	57	30
4,6-Dinitro-ortho-cresol	ND	F2 F1	5130	1550	F1 F2	ug/Kg	☼	30	40 - 140	72	30
2,4-Dinitrophenol	ND	F2 F1	5130	868	J F1 F2	ug/Kg	☼	17	40 - 140	94	30
2,4-Dinitrotoluene	ND	F2 *	2560	1090	F2	ug/Kg	☼	42	40 - 140	57	30
2,6-Dinitrotoluene	ND	F2 *	2560	1060	F2	ug/Kg	☼	41	40 - 140	56	30
Di-n-octyl phthalate	ND	F2 *	2560	1200	F2	ug/Kg	☼	47	40 - 140	51	30
1,4-Dioxane	ND	F1 F2	2560	227	J F1 F2	ug/Kg	☼	9	40 - 140	86	30
1,2-Diphenylhydrazine (as Azobenzene)	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	52	30
Hexachlorobenzene	ND	F2	2560	1010	F2	ug/Kg	☼	40	40 - 140	69	30
Hexachlorocyclopentadiene	ND	F2 F1	2560	911	F1 F2	ug/Kg	☼	36	40 - 140	58	30
Hexachloroethane	ND	F2	2560	1160	F2	ug/Kg	☼	45	40 - 140	46	30
Indene	ND	F2 F1	2560	865	F1 F2	ug/Kg	☼	34	40 - 140	70	30
Isophorone	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	45	30
2-Methylphenol	ND	F2	2560	1340	F2	ug/Kg	☼	52	40 - 140	46	30
3 & 4 Methylphenol	ND	F2	2560	1230	F2	ug/Kg	☼	48	40 - 140	48	30
2-Nitroaniline	ND	F2	2560	1320	F2	ug/Kg	☼	51	40 - 140	54	30
3-Nitroaniline	ND	F2	2560	1300	F2	ug/Kg	☼	51	40 - 140	58	30
4-Nitroaniline	ND	F2	2560	1310	F2	ug/Kg	☼	51	40 - 140	62	30
Nitrobenzene	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	45	30
2-Nitrophenol	ND	F2	2560	1190	F2	ug/Kg	☼	47	40 - 140	47	30
4-Nitrophenol	ND	F2	5130	2210	F2	ug/Kg	☼	43	40 - 140	71	30
N-Nitrosodimethylamine	ND	F2	2560	1180	F2	ug/Kg	☼	46	40 - 140	57	30
N-Nitrosodi-n-propylamine	ND	F2	2560	1310	F2	ug/Kg	☼	51	40 - 140	43	30
N-Nitrosodiphenylamine	ND	F2 *	2540	1060	F2	ug/Kg	☼	42	40 - 140	56	30
Pentachlorophenol	ND	F2 F1	5130	1830	F1 F2	ug/Kg	☼	36	40 - 140	79	30
Phenol	ND	F2	2560	1210	F2	ug/Kg	☼	47	40 - 140	38	30
Pyridine	ND	F2 F1	5130	1720	F1 F2	ug/Kg	☼	34	40 - 140	45	30
Quinoline	ND	F2	2560	1030	F2	ug/Kg	☼	40	40 - 140	58	30
2,4,5-Trichlorophenol	ND	F2 *	2560	1050	F2	ug/Kg	☼	41	40 - 140	61	30
2,4,6-Trichlorophenol	ND	F2	2560	1050	F2	ug/Kg	☼	41	40 - 140	58	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*33*		*27 - 127*
2-Fluorophenol	*37*		*25 - 128*
Nitrobenzene-d5	*51*		*15 - 136*
Phenol-d5	*42*		*29 - 130*
Terphenyl-d14	*36*		*24 - 146*
2,4,6-Tribromophenol	*35*		*10 - 150*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzenethiol	ND		10	1.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/19/19 14:04	07/23/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/19/19 14:04	07/23/19 15:20	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Diethyl phthalate	ND		10	0.70	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Isophorone	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Nitrobenzene	ND		10	0.55	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitrophenol	ND		10	0.65	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Phenol	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Quinoline	ND		10	6.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentative Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 15:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2-Fluorophenol	*21*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Phenol-d5	*43*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Terphenyl-d14	*49*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2,4,6-Tribromophenol	*40*		*15 - 135*	*07/19/19 14:04*	*07/23/19 15:20*	*1*

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	1.83	J *	ug/L		6	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*55*		*34 - 120*
2-Fluorophenol	*24*		*10 - 120*
Nitrobenzene-d5	*77*		*27 - 120*
Phenol-d5	*54*		*10 - 120*
Terphenyl-d14	*71*		*53 - 125*
2,4,6-Tribromophenol	*63*		*15 - 135*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.5		ug/L		75	29 - 120
Benzoic acid	117	38.8		ug/L		33	10 - 150
Benzyl alcohol	30.0	25.9		ug/L		86	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.1		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	20.1		ug/L		67	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.9		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150
4-Bromophenyl phenyl ether	30.0	40.5	*	ug/L		135	55 - 122
Butyl benzyl phthalate	30.0	23.0		ug/L		77	46 - 145
4-Chloroaniline	30.0	18.0		ug/L		60	30 - 120
4-Chloro-3-methylphenol	30.0	24.6		ug/L		82	39 - 140
2-Chloronaphthalene	30.0	27.8		ug/L		93	52 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	30.0	10.4		ug/L		35	34 - 120
4-Chlorophenyl phenyl ether	30.0	35.3		ug/L		118	58 - 124
Dibenz[a,h]acridine	30.0	32.8		ug/L		109	46 - 149
Dibenzofuran	30.0	31.3		ug/L		104	58 - 123
3,3'-Dichlorobenzidine	40.0	89.1	*	ug/L		223	39 - 135
2,4-Dichlorophenol	30.0	19.6		ug/L		65	39 - 128
Diethyl phthalate	30.0	31.9		ug/L		106	44 - 146
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	32.8		ug/L		109	50 - 131
Di-n-butyl phthalate	30.0	31.6		ug/L		105	55 - 131
4,6-Dinitro-ortho-cresol	60.0	62.0		ug/L		103	10 - 150
2,4-Dinitrophenol	60.0	72.2		ug/L		120	10 - 150
2,4-Dinitrotoluene	30.0	34.9		ug/L		116	58 - 140
2,6-Dinitrotoluene	30.0	34.5		ug/L		115	57 - 130
Di-n-octyl phthalate	30.0	29.2		ug/L		97	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.9		ug/L		83	47 - 123
Hexachlorobenzene	30.0	44.7	*	ug/L		149	52 - 131
Hexachlorocyclopentadiene	30.0	12.2	J	ug/L		41	10 - 129
Hexachloroethane	30.0	17.7		ug/L		59	41 - 120
Indene	30.0	20.4		ug/L		68	47 - 120
Isophorone	30.0	21.9		ug/L		73	49 - 120
2-Methylphenol	30.0	17.8		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	20.0		ug/L		67	38 - 121
2-Nitroaniline	30.0	27.3		ug/L		91	47 - 150
3-Nitroaniline	30.0	30.9		ug/L		103	34 - 132
4-Nitroaniline	30.0	40.4		ug/L		135	41 - 135
Nitrobenzene	30.0	22.8		ug/L		76	47 - 120
2-Nitrophenol	30.0	14.9		ug/L		50	28 - 136
4-Nitrophenol	60.0	65.7		ug/L		109	10 - 150
N-Nitrosodimethylamine	30.0	26.9		ug/L		90	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120
Pentachlorophenol	60.0	81.0		ug/L		135	15 - 141
Phenol	30.0	11.2		ug/L		37	33 - 120
Pyridine	60.0	33.4		ug/L		56	26 - 120
Quinoline	30.0	28.2		ug/L		94	51 - 129
2,4,5-Trichlorophenol	30.0	28.9		ug/L		96	38 - 147
2,4,6-Trichlorophenol	30.0	27.2		ug/L		91	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*11*		*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*38*		*10 - 120*
Terphenyl-d14	*114*		*53 - 125*
2,4,6-Tribromophenol	*155*	*X*	*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	1.82	J *	ug/L		6	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*33*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*61*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*72*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448517/1-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Anthracene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Chrysene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Fluorene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1
Pyrene	ND		6.6	1.0	ug/Kg		07/19/19 09:00	07/28/19 16:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*27 - 127*	*07/19/19 09:00*	*07/28/19 16:47*	*1*
Nitrobenzene-d5	*81*		*15 - 136*	*07/19/19 09:00*	*07/28/19 16:47*	*1*
Terphenyl-d14	*108*		*24 - 146*	*07/19/19 09:00*	*07/28/19 16:47*	*1*

Lab Sample ID: LCS 400-448517/11-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene			333	265		ug/Kg		80	57 - 120
Acenaphthylene			333	251		ug/Kg		75	59 - 120
Anthracene			333	276		ug/Kg		83	61 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448517/11-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448517

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzo[a]anthracene			333	274		ug/Kg		82	61 - 120		
Benzo[a]pyrene			333	289		ug/Kg		87	54 - 127		
Benzo[b]fluoranthene			333	287		ug/Kg		86	35 - 146		
Benzo[g,h,i]perylene			333	335		ug/Kg		101	36 - 150		
Benzo[k]fluoranthene			333	278		ug/Kg		83	53 - 139		
Chrysene			333	278		ug/Kg		84	60 - 120		
Dibenz(a,h)anthracene			333	351		ug/Kg		105	39 - 150		
Fluoranthene			333	268		ug/Kg		80	61 - 121		
Fluorene			333	282		ug/Kg		85	60 - 120		
Indeno[1,2,3-cd]pyrene			333	341		ug/Kg		102	40 - 150		
1-Methylnaphthalene			333	237		ug/Kg		71	46 - 120		
2-Methylnaphthalene			333	238		ug/Kg		71	46 - 120		
Phenanthrene			333	267		ug/Kg		80	59 - 120		
Pyrene			333	290		ug/Kg		87	53 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*27 - 127*
Nitrobenzene-d5	*55*		*15 - 136*
Terphenyl-d14	*72*		*24 - 146*

Lab Sample ID: LCSD 400-448517/12-A
Matrix: Solid
Analysis Batch: 449815

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448517

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	215		ug/Kg		65	57 - 120	21	30
Acenaphthylene			333	204		ug/Kg		61	59 - 120	21	30
Anthracene			333	218		ug/Kg		65	61 - 120	24	30
Benzo[a]anthracene			333	216		ug/Kg		65	61 - 120	24	30
Benzo[a]pyrene			333	226		ug/Kg		68	54 - 127	24	30
Benzo[b]fluoranthene			333	220		ug/Kg		66	35 - 146	26	30
Benzo[g,h,i]perylene			333	268		ug/Kg		80	36 - 150	22	30
Benzo[k]fluoranthene			333	218		ug/Kg		65	53 - 139	24	30
Chrysene			333	222		ug/Kg		66	60 - 120	23	30
Dibenz(a,h)anthracene			333	279		ug/Kg		84	39 - 150	23	30
Fluoranthene			333	213		ug/Kg		64	61 - 121	23	30
Fluorene			333	223		ug/Kg		67	60 - 120	23	30
Indeno[1,2,3-cd]pyrene			333	270		ug/Kg		81	40 - 150	23	30
1-Methylnaphthalene			333	196		ug/Kg		59	46 - 120	19	30
2-Methylnaphthalene			333	197		ug/Kg		59	46 - 120	19	30
Phenanthrene			333	212		ug/Kg		64	59 - 120	23	30
Pyrene			333	228		ug/Kg		68	53 - 122	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*27 - 127*
Nitrobenzene-d5	*51*		*15 - 136*
Terphenyl-d14	*63*		*24 - 146*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/29/19 20:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/19/19 14:04*	*07/29/19 20:41*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/19/19 14:04*	*07/29/19 20:41*	*1*

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*117*		*33 - 138*	*07/19/19 14:04*	*08/03/19 12:50*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	29.9		ug/L		100	41 - 120
Acenaphthylene	30.0	27.9		ug/L		93	44 - 120
Anthracene	30.0	30.2		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	27.7		ug/L		92	61 - 135
Benzo[a]pyrene	30.0	28.9		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	30.4		ug/L		101	53 - 134
Benzo[g,h,i]perylene	30.0	28.3		ug/L		94	47 - 133
Benzo[k]fluoranthene	30.0	30.7		ug/L		102	57 - 134
Chrysene	30.0	28.3		ug/L		94	55 - 122
Dibenz(a,h)anthracene	30.0	30.5		ug/L		102	48 - 146
Fluoranthene	30.0	29.1		ug/L		97	54 - 128
Fluorene	30.0	33.8		ug/L		113	45 - 125

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173270-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Indeno[1,2,3-cd]pyrene			30.0	29.5		ug/L		98	43 - 142		
1-Methylnaphthalene			30.0	22.4		ug/L		75	41 - 120		
2-Methylnaphthalene			30.0	20.3		ug/L		68	32 - 124		
Phenanthrene			30.0	29.6		ug/L		99	48 - 120		
Pyrene			30.0	15.5		ug/L		52	48 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*127*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/16/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): James Carrino

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH; Moisture

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

400-173270 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
TB-PW-071619-A	7/16/2019	0:00	Water	X					2			X		
PD-7-SB-27-071619	7/16/2019	14:15	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-17-SB-071219-EB	7/16/2019	13:15	Water	X			x		4	x		x	x	

	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Fedex:4782 2882 5355; 4782 2882 5366; 4782 2882 5344 custody seals:1013814, 1013815, 1011624, 1011625, 1011528, 1011529	7/16/2019	18:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature) 2.1C, 1.6C, 0.0CTR	7/17/19	8:58

Version: 10May17

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10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173270-1

Login Number: 173270
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C 1.6°C 0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173270-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-173406

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/12/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071819-A	PD-7-SB-43-071819
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the compounds bis(2-ethylhexyl) phthalate and fluoranthene were detected in the SVOC and PAH method blanks. VOC LCS recoveries were outside evaluation criteria. The SVOC surrogate phenol-d_5 was outside evaluation criteria in samples PD-7-SB-43-071819 and PD-7-SB-51-071819. Additionally, the RPD between analytical results for PAHs in field duplicate pair PD-7-SB-51-071819/PD-7-SB-51-071819-Dup was outside evaluation criteria; therefore, results were qualified as estimated (**J**/**J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-449892/1-A	SVOCs	bis(2-ethylhexyl) phthalate	43.1 μg/Kg
MB 400-449132/1-A	SVOCs	Fluoranthene	1.97 μg/Kg

Qualifications due to blank contamination are included in the following table. Analytical

data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-7-SB-51-071819	SVOCs	bis(2-ethylhexyl) Phthalate -RE	-	**U**
PD-7-SB-51-071819-Dup	SVOCs	bis(2-ethylhexyl) Phthalate -RE	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448915/1002	VOCs	2-Hexanone	**153**	NA	65-137
400-448915/1002	VOCs	1,1,1,2-Tetrachloroethane	**137**	NA	67-131
400-449049/2-A	VOCs	Acrylonitrile	**174**	NA	60-130
400-449049/2-A	VOCs	2-Butanone	**135**	NA	55-130
400-449049/2-A	VOCs	1,1-Dichloroethene	**139**	NA	55-137
400-449049/2-A	VOCs	Methylene chloride	**134**	NA	57-132
400-449049/2-A	VOCs	trans-1,2-Dichloroethene	**138**	NA	58-134
400-449049/2-A	VOCs	Vinyl chloride	**133**	NA	52-132

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-7-SB-43-071819	SVOC	Phenol-d_5	**25**	29-130
PD-7-SB-51-071819	SVOC	Phenol-d_5	**8**	29-130

Qualifications due to surrogate recoveries were not required if only one of three acid fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP

Were field duplicate sample RPDs within evaluation criteria?

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP	PAHs	Acenaphthene	**62**	**J/J**
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP	PAHs	Anthracene	**74**	**J/J**
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP	PAHs	Benzo[a]anthracene	**67**	**J/J**
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP	PAHs	Benzo[a]pyrene	**62**	**J/J**
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP	PAHs	Fluorene	**67**	**J/J**
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP-DL	PAHs	1-Methylnaphthalene	**102**	**J/J**
PD-7-SB-51-071819	PD-7-SB-51-071819-DUP-DL	PAHs	2-Methylnaphthalene	**108**	**J/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173406-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/12/2019 4:11:29 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed
on
8/12/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173406-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173406-1

Comments
No additional comments.

Receipt
The samples were received on 7/19/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.5° C, 4.3° C and 4.5° C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448915 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448915 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-071819-A (400-173406-1). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-449049 and analytical batch 400-449025 recovered outside control limits for the following analytes: 1,1-Dichloroethene, 2-Butanone (MEK), Acrylonitrile, Methylene Chloride, trans-1,2-Dichloroethene and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-7-SB-43-071819 (400-173406-2), PD-7-SB-51-071819 (400-173406-3) and PD-7-SB-51-071819-DUP (400-173406-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449132 and analytical batch 400-449369 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449541 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate, Butyl benzyl phthalate, 4,6-Dinitro-2-methylphenol and Di-n-octyl phthalate. The samples associated with this CCV were either non-detects or less then the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449541 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Surrogate recovery for the LCSD was outside the control limits: (LCSD 400-449132/5-A). All of the target compounds are within the acceptance criteria; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered above the upper control limit for Nitrobenzene, N-Nitrosodi-n-propylamine, 2,4-Dimethylphenol and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-449892 and analytical batch 400-450467 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction

Job ID: 400-173406-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene . A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-449132 and analytical batch 400-450726 contained Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Diethyl phthalate, Hexachlorocyclopentadiene, Dibenzofuran, Dimethyl phthalate, 2-Chloronaphthalene, 4-Chlorophenyl phenyl ether and 2,4-Dinitrotoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-7-SB-43-071819 (400-173406-2) and PD-7-SB-51-071819 (400-173406-3). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449132 recovered outside control limits for the flagged analytes. The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-7-SB-51-071819-DUP (400-173406-4). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449132 and analytical batch 400-449369 recovered outside control limits for most analytes. The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-449132 and analytical batch 400-450726 contained Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173406-1	TB-PW-071819-A	Water	07/18/19 00:00	07/19/19 09:15	
400-173406-2	PD-7-SB-43-071819	Solid	07/18/19 10:20	07/19/19 09:15	
400-173406-3	PD-7-SB-51-071819	Solid	07/18/19 11:00	07/19/19 09:15	
400-173406-4	PD-7-SB-51-071819-DUP	Solid	07/18/19 11:00	07/19/19 09:15	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: TB-PW-071819-A — Lab Sample ID: 400-173406-1

No Detections.

Client Sample ID: PD-7-SB-43-071819 — Lab Sample ID: 400-173406-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	54	J	310	42	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	230	J	310	38	ug/Kg	50	☼	8260B	Total/NA
Isopropylbenzene	150	J	310	43	ug/Kg	50	☼	8260B	Total/NA
m-Xylene & p-Xylene	510		310	81	ug/Kg	50	☼	8260B	Total/NA
Naphthalene	280	J	310	130	ug/Kg	50	☼	8260B	Total/NA
n-Butylbenzene	260	J	310	60	ug/Kg	50	☼	8260B	Total/NA
N-Propylbenzene	300	J	310	56	ug/Kg	50	☼	8260B	Total/NA
p-Isopropyltoluene	100	J	310	63	ug/Kg	50	☼	8260B	Total/NA
sec-Butylbenzene	150	J	310	60	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	2200		310	63	ug/Kg	50	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	600		310	52	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	560	J	630	120	ug/Kg	50	☼	8260B	Total/NA
Acenaphthene	150		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	130		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	130		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	150		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	40		8.5	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	260		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	62	B	8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	300		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	15		8.5	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1100		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	450		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - DL	4000		42	6.4	ug/Kg	5	☼	8270D LL	Total/NA
2-Methylnaphthalene - DL	5600		42	6.4	ug/Kg	5	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate - RA	73	J	420	42	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RE	63	J B	420	42	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-7-SB-51-071819 — Lab Sample ID: 400-173406-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	22000	J	67000	8200	ug/Kg	10000	☼	8260B	Total/NA
m-Xylene & p-Xylene	51000	J	67000	17000	ug/Kg	10000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	56000	J	67000	13000	ug/Kg	10000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	19000	J	67000	11000	ug/Kg	10000	☼	8260B	Total/NA
Xylenes, Total	60000	J	130000	26000	ug/Kg	10000	☼	8260B	Total/NA
Benzene - DL	5200000		130000	18000	ug/Kg	20000	☼	8260B	Total/NA
Acenaphthene	110	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	55	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	60	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	74	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	40		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	19		8.8	2.7	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	120		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	31	B	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	150	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	9.1		8.8	2.7	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	2000	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819 (Continued)

Lab Sample ID: 400-173406-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	2700	J	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	420		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	190		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate - RA	77	J	440	44	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RE	~~67~~	J B U	440	44	ug/Kg	1	☼	8270D	Total/NA
Indene - RE	120	J	440	89	ug/Kg	1	☼	8270D	Total/NA
Phenol - RE	640		440	44	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-7-SB-51-071819-DUP

Lab Sample ID: 400-173406-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	20000	J	60000	7300	ug/Kg	10000	☼	8260B	Total/NA
m-Xylene & p-Xylene	47000	J	60000	16000	ug/Kg	10000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	49000	J	60000	12000	ug/Kg	10000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	15000	J	60000	10000	ug/Kg	10000	☼	8260B	Total/NA
Xylenes, Total	55000	J	120000	23000	ug/Kg	10000	☼	8260B	Total/NA
Benzene - DL	5000000		120000	16000	ug/Kg	20000	☼	8260B	Total/NA
Acenaphthene	210	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	120	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	120	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	140	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	66		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	31		8.2	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	190		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	60	B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	300	J	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	18		8.2	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1100		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	410		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - DL	6200	J	82	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene - DL	9000	J	82	12	ug/Kg	10	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate - RA	67	J	410	41	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RE	~~56~~	J B U	410	41	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: TB-PW-071819-A

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 14:27	1
Acrolein	ND		20	10	ug/L			07/22/19 14:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 14:27	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 14:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 14:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 14:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 14:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 14:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 14:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 14:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 14:27	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 14:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 14:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 14:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 14:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 14:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 14:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 14:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 14:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 14:27	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 14:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 14:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 14:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 14:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 14:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 14:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 14:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 14:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 14:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 14:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 14:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 14:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: TB-PW-071819-A

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 14:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 14:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 14:27	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 14:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 14:27	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 14:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 14:27	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 14:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 14:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 14:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 14:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 14:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 14:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 14:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 14:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 14:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 14:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*11*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 14:27*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 14:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/22/19 14:27*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 14:27*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 14:27*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2

Matrix: Solid
Percent Solids: 77.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1600	810	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Acrolein	ND		3100	1800	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Acrylonitrile	ND	*	1300	500	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Benzene	**54**	**J**	310	42	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromobenzene	ND		310	81	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromochloromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromodichloromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromoform	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromomethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2-Butanone (MEK)	ND	*	1600	380	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Carbon disulfide	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Carbon tetrachloride	ND		310	110	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chlorobenzene	ND		310	33	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2-Chloroethyl vinyl ether	ND		630	310	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chloroform	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1-Chlorohexane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chloromethane	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
cis-1,2-Dichloroethene	ND		310	48	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
cis-1,3-Dichloropropene	ND		310	75	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Dibromochloromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dibromo-3-Chloropropane	ND		310	210	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dichlorobenzene	ND		310	44	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,3-Dichlorobenzene	ND		310	60	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,4-Dichlorobenzene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Dichlorodifluoromethane	ND		310	81	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1-Dichloroethane	ND		310	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dichloroethane	ND		310	51	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1-Dichloroethene	ND	*	310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dichloropropane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,3-Dichloropropane	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2,2-Dichloropropane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1-Dichloropropene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Ethylbenzene	**230**	**J**	310	38	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Ethylene Dibromide	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Ethyl methacrylate	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Hexachlorobutadiene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2-Hexanone	ND		1600	310	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Isopropylbenzene	**150**	**J**	310	43	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Methylene bromide	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Methylene Chloride	ND	*	940	630	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
4-Methyl-2-pentanone (MIBK)	ND		1600	310	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Methyl tert-butyl ether	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
m-Xylene & p-Xylene	**510**		310	81	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Naphthalene	**280**	**J**	310	130	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
n-Butylbenzene	**260**	**J**	310	60	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
N-Propylbenzene	**300**	**J**	310	56	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
o-Chlorotoluene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
o-Xylene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50

Client Sample ID: PD-7-SB-43-071819
Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2
Matrix: Solid
Percent Solids: 77.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		310	61	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
p-Isopropyltoluene	**100**	**J**	310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
sec-Butylbenzene	**150**	**J**	310	60	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Styrene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
tert-Butylbenzene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,1,2-Tetrachloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,2,2-Tetrachloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Tetrachloroethene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Toluene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
trans-1,2-Dichloroethene	ND	*	310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
trans-1,3-Dichloropropene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,3-Trichlorobenzene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,4-Trichlorobenzene	ND		310	130	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,1-Trichloroethane	ND		310	69	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,2-Trichloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Trichloroethene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Trichlorofluoromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,3-Trichloropropane	ND		310	190	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,4-Trimethylbenzene	**2200**		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,3,5-Trimethylbenzene	**600**		310	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Vinyl acetate	ND		1600	570	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Vinyl chloride	ND	*	310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Xylenes, Total	**560**	**J**	630	120	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane, 3-methyl-	*360*	*T J N*	*ug/Kg*	☼	*2.76*	*96-14-0*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Hexane	*340*	*	*ug/Kg*	☼	*2.92*	*110-54-3*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Hexane, 3-methyl-	*560*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Isooctane	*560*		*ug/Kg*	☼	*3.94*	*540-84-1*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
n-Heptane	*250*	*J*	*ug/Kg*	☼	*4.04*	*142-82-5*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Methylcyclohexane	*370*		*ug/Kg*	☼	*4.43*	*108-87-2*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Pentane, 2,3,4-trimethyl-	*570*	*T J N*	*ug/Kg*	☼	*4.68*	*565-75-3*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Heptane, 3-methyl-	*350*	*T J N*	*ug/Kg*	☼	*4.90*	*589-81-1*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Octane, 3-methyl-	*390*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Octane, 2,6-dimethyl-	*560*	*T J N*	*ug/Kg*	☼	*6.62*	*2051-30-1*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Nonane, 4-methyl-	*1100*	*T J N*	*ug/Kg*	☼	*6.89*	*17301-94-9*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
3-Ethyltoluene	*690*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
2-Ethyltoluene	*340*		*ug/Kg*	☼	*7.44*	*611-14-3*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
1,2,3-Trimethylbenzene	*640*		*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
p-Diethylbenzene	*520*		*ug/Kg*	☼	*8.10*	*105-05-5*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Benzene, 1-methyl-2-propyl-	*820*	*T J N*	*ug/Kg*	☼	*8.26*	*1074-17-5*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Benzene, 1-methyl-2-(1-methylethyl)-	*1300*	*T J N*	*ug/Kg*	☼	*8.35*	*527-84-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Benzene, 1-methyl-2-(1-methylethyl)-	*480*	*T J N*	*ug/Kg*	☼	*8.41*	*527-84-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
2-Methylnaphthalene	*770*		*ug/Kg*	☼	*10.74*	*91-57-6*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
1-Methylnaphthalene	*560*		*ug/Kg*	☼	*10.91*	*90-12-0*	*07/22/19 16:12*	*07/23/19 01:03*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 122*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Dibromofluoromethane	*86*		*79 - 123*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/22/19 16:12*	*07/23/19 01:03*	*50*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2

Matrix: Solid
Percent Solids: 77.9

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**150**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Acenaphthylene	ND		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Anthracene	**130**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[a]anthracene	**130**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[a]pyrene	**150**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[b]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[g,h,i]perylene	**40**		8.5	2.6	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[k]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Chrysene	**260**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Dibenz(a,h)anthracene	ND		8.5	2.6	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Fluoranthene	**62**	**B**	8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Fluorene	**300**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Indeno[1,2,3-cd]pyrene	**15**		8.5	2.6	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Phenanthrene	**1100**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Pyrene	**450**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*27 - 127*	*07/23/19 10:39*	*08/03/19 11:58*	*1*
Nitrobenzene-d5	*63*		*15 - 136*	*07/23/19 10:39*	*08/03/19 11:58*	*1*
Terphenyl-d14	*78*		*24 - 146*	*07/23/19 10:39*	*08/03/19 11:58*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**4000**		42	6.4	ug/Kg	☼	07/23/19 10:39	08/05/19 13:08	5
2-Methylnaphthalene	**5600**		42	6.4	ug/Kg	☼	07/23/19 10:39	08/05/19 13:08	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	420	55	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Benzenethiol	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Benzoic acid	ND		1300	450	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Bis(2-chloroethoxy)methane	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
bis (2-chloroisopropyl) ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Chloroaniline	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Chloro-3-methylphenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Chloronaphthalene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Chlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Dibenzofuran	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4-Dichlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Diethyl phthalate	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4-Dimethylphenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Dimethyl phthalate	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Di-n-butyl phthalate	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4-Dinitrophenol	ND		1300	370	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4-Dinitrotoluene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,6-Dinitrotoluene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
1,4-Dioxane	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2

Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND	*	420	130	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Indene	ND	*	420	85	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Isophorone	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Methylphenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
3 & 4 Methylphenol	ND	*	850	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Nitroaniline	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
3-Nitroaniline	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Nitrobenzene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Nitrophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
N-Nitrosodimethylamine	ND	*	420	85	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
N-Nitrosodi-n-propylamine	ND	*	420	140	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
N-Nitrosodiphenylamine	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Pentachlorophenol	ND		850	85	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Phenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Quinoline	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4,5-Trichlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Bis(2-ethylhexyl) phthalate	**73**	**J**	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
4-Bromophenyl phenyl ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Butyl benzyl phthalate	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
4-Chlorophenyl phenyl ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Dibenz[a,h]acridine	ND	*	420	85	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
3,3'-Dichlorobenzidine	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Hexachlorobenzene	ND	*	420	130	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Hexachlorocyclopentadiene	ND		420	85	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Pyridine	ND		420	190	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
2,4,6-Trichlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, propyl-	*3200*	*T J N*	*ug/Kg*	☼	*5.21*	*103-65-1*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2-methyl-	*2900*	*T J N*	*ug/Kg*	☼	*5.25*	*611-14-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2-methyl-	*4800*	*T J N*	*ug/Kg*	☼	*5.27*	*611-14-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2-methyl-	*1700*	*T J N*	*ug/Kg*	☼	*5.36*	*611-14-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Decane	*4700*	*T J N*	*ug/Kg*	☼	*5.43*	*124-18-5*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1,2,3-trimethyl-	*9800*	*T J N*	*ug/Kg*	☼	*5.45*	*526-73-8*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Decane, 4-methyl-	*4500*	*T J N*	*ug/Kg*	☼	*5.54*	*2847-72-5*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2-methyl-	*4800*	*T J N*	*ug/Kg*	☼	*5.60*	*611-14-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Cyclohexane, butyl-	*2800*	*T J N*	*ug/Kg*	☼	*5.65*	*1678-93-9*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1,4-diethyl-	*5700*	*T J N*	*ug/Kg*	☼	*5.75*	*105-05-5*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*3400*	*T J N*	*ug/Kg*	☼	*5.89*	*933-98-2*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1,2,4,5-tetramethyl-	*2500*	*T J N*	*ug/Kg*	☼	*6.06*	*95-93-2*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
1-Methyldecahydronaphthalene	*3400*	*T J N*	*ug/Kg*	☼	*6.16*	*2958-75-0*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Dodecane	*7200*	*T J N*	*ug/Kg*	☼	*6.33*	*112-40-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*

Client Sample ID: PD-7-SB-43-071819
Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2
Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Undecane, 2,6-dimethyl-	7300	T J N	ug/Kg	☼	6.38	17301-23-4	07/23/19 10:39	07/25/19 20:46	1
Naphthalene	3400	T J N	ug/Kg	☼	6.41	91-20-3	07/23/19 10:39	07/25/19 20:46	1
Tridecane	5500	T J N	ug/Kg	☼	6.72	629-50-5	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	1700	T J N	ug/Kg	☼	6.82	2809-64-5	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1-methyl-	5100	T J N	ug/Kg	☼	6.86	90-12-0	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1-methyl-	4100	T J N	ug/Kg	☼	6.93	90-12-0	07/23/19 10:39	07/25/19 20:46	1
Tridecane, 2-methyl-	3900	T J N	ug/Kg	☼	6.96	1560-96-9	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1,6-dimethyl-	4300	T J N	ug/Kg	☼	7.28	575-43-9	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 2,7-dimethyl-	3500	T J N	ug/Kg	☼	7.35	582-16-1	07/23/19 10:39	07/25/19 20:46	1
Pentadecane	3000	T J N	ug/Kg	☼	7.45	629-62-9	07/23/19 10:39	07/25/19 20:46	1
3-Methyl-4-(methoxycarbonyl)hexa-2,4-dienoic acid	2500	T J N	ug/Kg	☼	7.97	1000104-10-8	07/23/19 10:39	07/25/19 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	48		27 - 127	07/23/19 10:39	07/25/19 20:46	1
2-Fluorophenol	43		25 - 128	07/23/19 10:39	07/25/19 20:46	1
Nitrobenzene-d5	52		15 - 136	07/23/19 10:39	07/25/19 20:46	1
Phenol-d5	60		29 - 130	07/23/19 10:39	07/25/19 20:46	1
Terphenyl-d14	53		24 - 146	07/23/19 10:39	07/25/19 20:46	1
2,4,6-Tribromophenol	48		10 - 150	07/23/19 10:39	07/25/19 20:46	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		420	54	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Benzoic acid	ND		1300	440	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Bis(2-chloroethoxy)methane	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
bis (2-chloroisopropyl) ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Bis(2-ethylhexyl) phthalate	**63**	**J B**	420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Bromophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Butyl benzyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Chloroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Chloro-3-methylphenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Chloronaphthalene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Chlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Chlorophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Dibenz[a,h]acridine	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Dibenzofuran	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
3,3'-Dichlorobenzidine	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dichlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Diethyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dimethylphenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Dimethyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Di-n-butyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dinitrophenol	ND		1300	370	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819
Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2
Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
1,4-Dioxane	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Hexachlorobenzene	ND		420	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Hexachlorocyclopentadiene	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Hexachloroethane	ND		420	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Indene	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Isophorone	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Methylphenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
3 & 4 Methylphenol	ND		840	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Nitroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
3-Nitroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Nitrobenzene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Nitrophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
N-Nitrosodimethylamine	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
N-Nitrosodi-n-propylamine	ND		420	140	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
N-Nitrosodiphenylamine	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Pentachlorophenol	ND		840	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Phenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Pyridine	ND		420	190	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Quinoline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4,5-Trichlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4,6-Trichlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*27 - 127*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
2-Fluorophenol	*82*		*25 - 128*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
Nitrobenzene-d5	*92*		*15 - 136*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
Phenol-d5	*25*	*X*	*29 - 130*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
2,4,6-Tribromophenol	*91*		*10 - 150*	*07/29/19 11:41*	*08/03/19 14:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**77.9**		0.01	0.01	%			07/20/19 12:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3

Matrix: Solid
Percent Solids: 74.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		340000	170000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Acrolein	ND		670000	380000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Acrylonitrile	ND	*	270000	110000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromobenzene	ND		67000	17000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromochloromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromodichloromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromoform	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromomethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2-Butanone (MEK)	ND	*	340000	81000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Carbon disulfide	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Carbon tetrachloride	ND		67000	23000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chlorobenzene	ND		67000	7000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2-Chloroethyl vinyl ether	ND		130000	67000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chloroform	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1-Chlorohexane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chloromethane	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
cis-1,2-Dichloroethene	ND		67000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
cis-1,3-Dichloropropene	ND		67000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Dibromochloromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dibromo-3-Chloropropane	ND		67000	44000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dichlorobenzene	ND		67000	9500	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,3-Dichlorobenzene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,4-Dichlorobenzene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Dichlorodifluoromethane	ND		67000	17000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1-Dichloroethane	ND		67000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dichloroethane	ND		67000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1-Dichloroethene	ND	*	67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dichloropropane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,3-Dichloropropane	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2,2-Dichloropropane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1-Dichloropropene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Ethylbenzene	**22000**	**J**	67000	8200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Ethylene Dibromide	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Ethyl methacrylate	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Hexachlorobutadiene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2-Hexanone	ND		340000	67000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Isopropylbenzene	ND		67000	9100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Methylene bromide	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Methylene Chloride	ND	*	200000	130000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
4-Methyl-2-pentanone (MIBK)	ND		340000	67000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Methyl tert-butyl ether	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
m-Xylene & p-Xylene	**51000**	**J**	67000	17000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Naphthalene	ND		67000	27000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
n-Butylbenzene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
N-Propylbenzene	ND		67000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
o-Chlorotoluene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
o-Xylene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
p-Chlorotoluene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819
Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3
Matrix: Solid
Percent Solids: 74.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
sec-Butylbenzene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Styrene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
tert-Butylbenzene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,1,2-Tetrachloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,2,2-Tetrachloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Tetrachloroethene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Toluene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
trans-1,2-Dichloroethene	ND	*	67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
trans-1,3-Dichloropropene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,3-Trichlorobenzene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,4-Trichlorobenzene	ND		67000	27000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,1-Trichloroethane	ND		67000	15000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,2-Trichloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Trichloroethene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Trichlorofluoromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,3-Trichloropropane	ND		67000	40000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,4-Trimethylbenzene	**56000**	**J**	67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,3,5-Trimethylbenzene	**19000**	**J**	67000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Vinyl acetate	ND		340000	120000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Vinyl chloride	ND	*	67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Xylenes, Total	**60000**	**J**	130000	26000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*35000*	*J **	*ug/Kg*	☼	*2.92*	*110-54-3*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Isooctane	*26000*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
3-Ethyltoluene	*22000*	*J*	*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
1,2,3-Trimethylbenzene	*18000*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Undecane	*89000*	*T J N*	*ug/Kg*	☼	*8.18*	*1120-21-4*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*72 - 122*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Dibromofluoromethane	*89*		*79 - 123*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Toluene-d8 (Surr)	*92*		*80 - 120*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5200000**		130000	18000	ug/Kg	☼	07/24/19 14:48	07/25/19 02:36	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*72 - 122*	*07/24/19 14:48*	*07/25/19 02:36*	*20000*
Dibromofluoromethane	*85*		*79 - 123*	*07/24/19 14:48*	*07/25/19 02:36*	*20000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/24/19 14:48*	*07/25/19 02:36*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**110**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Acenaphthylene	ND		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Anthracene	**55**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[a]anthracene	**60**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[a]pyrene	**74**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819
Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3
Matrix: Solid
Percent Solids: 74.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**40**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[g,h,i]perylene	**19**		8.8	2.7	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[k]fluoranthene	ND		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Chrysene	**120**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Dibenz(a,h)anthracene	ND		8.8	2.7	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Fluoranthene	**31**	**B**	8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Fluorene	**150**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Indeno[1,2,3-cd]pyrene	**9.1**		8.8	2.7	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
1-Methylnaphthalene	**2000**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
2-Methylnaphthalene	**2700**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Phenanthrene	**420**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Pyrene	**190**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*27 - 127*	*07/23/19 10:39*	*08/03/19 12:16*	*1*
Nitrobenzene-d5	*37*		*15 - 136*	*07/23/19 10:39*	*08/03/19 12:16*	*1*
Terphenyl-d14	*64*		*24 - 146*	*07/23/19 10:39*	*08/03/19 12:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	440	58	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Benzenethiol	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Benzoic acid	ND		1300	470	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Benzyl alcohol	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Bis(2-chloroethoxy)methane	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
bis (2-chloroisopropyl) ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Chloroaniline	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Chloro-3-methylphenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Chloronaphthalene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Chlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Dibenzofuran	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4-Dichlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Diethyl phthalate	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4-Dimethylphenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Dimethyl phthalate	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Di-n-butyl phthalate	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4-Dinitrophenol	ND		1300	390	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4-Dinitrotoluene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,6-Dinitrotoluene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
1,4-Dioxane	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Hexachloroethane	ND	*	440	130	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Indene	ND	*	440	88	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Isophorone	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Methylphenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
3 & 4 Methylphenol	ND	*	880	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Nitroaniline	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
3-Nitroaniline	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Nitrobenzene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1

Client Sample ID: PD-7-SB-51-071819 **Lab Sample ID: 400-173406-3**
Date Collected: 07/18/19 11:00 **Matrix: Solid**
Date Received: 07/19/19 09:15 **Percent Solids: 74.0**

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Nitrophenol	ND		440	150	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
N-Nitrosodimethylamine	ND	*	440	88	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
N-Nitrosodi-n-propylamine	ND	*	440	150	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
N-Nitrosodiphenylamine	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Pentachlorophenol	ND		880	88	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Phenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Quinoline	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4,5-Trichlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Bis(2-ethylhexyl) phthalate	**77**	**J**	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
4-Bromophenyl phenyl ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Butyl benzyl phthalate	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
4-Chlorophenyl phenyl ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Dibenz[a,h]acridine	ND	*	440	88	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
3,3'-Dichlorobenzidine	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
4,6-Dinitro-ortho-cresol	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Di-n-octyl phthalate	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Hexachlorobenzene	ND	*	440	130	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Hexachlorocyclopentadiene	ND		440	88	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
4-Nitroaniline	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Pyridine	ND		440	200	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
2,4,6-Trichlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*1900*	*T J*	*ug/Kg*	☼	*4.84*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, propyl-	*2200*	*T J N*	*ug/Kg*	☼	*5.21*	*103-65-1*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1-ethyl-2-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*5.27*	*611-14-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Decane	*5900*	*T J N*	*ug/Kg*	☼	*5.42*	*124-18-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1,2,3-trimethyl-	*7300*	*T J N*	*ug/Kg*	☼	*5.44*	*526-73-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Decane, 4-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*5.54*	*2847-72-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1,2,3-trimethyl-	*2900*	*T J N*	*ug/Kg*	☼	*5.60*	*526-73-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*2100*	*T J*	*ug/Kg*	☼	*5.72*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1,4-diethyl-	*4000*	*T J N*	*ug/Kg*	☼	*5.75*	*105-05-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*2300*	*T J N*	*ug/Kg*	☼	*5.89*	*934-80-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Dodecane	*9000*	*T J N*	*ug/Kg*	☼	*6.33*	*112-40-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Undecane, 2,6-dimethyl-	*5100*	*T J N*	*ug/Kg*	☼	*6.38*	*17301-23-4*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene	*2500*	*T J N*	*ug/Kg*	☼	*6.41*	*91-20-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Dodecane, 2-methyl-	*2300*	*T J N*	*ug/Kg*	☼	*6.58*	*1560-97-0*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Tridecane	*7700*	*T J N*	*ug/Kg*	☼	*6.72*	*629-50-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 1-methyl-	*3400*	*T J N*	*ug/Kg*	☼	*6.86*	*90-12-0*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 2-methyl-	*2800*	*T J N*	*ug/Kg*	☼	*6.93*	*91-57-6*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Tridecane, 2-methyl-	*2700*	*T J N*	*ug/Kg*	☼	*6.95*	*1560-96-9*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Dodecane, 2,6,10-trimethyl-	*2100*	*T J N*	*ug/Kg*	☼	*7.00*	*3891-98-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 1,6-dimethyl-	*2800*	*T J N*	*ug/Kg*	☼	*7.28*	*575-43-9*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Pentadecane, 4-methyl-	*3300*	*T J N*	*ug/Kg*	☼	*7.31*	*2801-87-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 2,3-dimethyl-	*3900*	*T J N*	*ug/Kg*	☼	*7.33*	*581-40-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3

Matrix: Solid
Percent Solids: 74.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Naphthalene, 1,6-dimethyl-	2200	T J N	ug/Kg	☼	7.35	575-43-9	07/23/19 10:39	07/25/19 21:07	1
Pentadecane	4700	T J N	ug/Kg	☼	7.45	629-62-9	07/23/19 10:39	07/25/19 21:07	1
Hexadecane	2700	T J N	ug/Kg	☼	7.80	544-76-3	07/23/19 10:39	07/25/19 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	39		27 - 127	07/23/19 10:39	07/25/19 21:07	1
2-Fluorophenol	38		25 - 128	07/23/19 10:39	07/25/19 21:07	1
Nitrobenzene-d5	45		15 - 136	07/23/19 10:39	07/25/19 21:07	1
Phenol-d5	49		29 - 130	07/23/19 10:39	07/25/19 21:07	1
Terphenyl-d14	45		24 - 146	07/23/19 10:39	07/25/19 21:07	1
2,4,6-Tribromophenol	42		10 - 150	07/23/19 10:39	07/25/19 21:07	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		440	58	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Benzoic acid	ND		1300	470	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Benzyl alcohol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Bis(2-chloroethoxy)methane	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Bis(2-chloroethyl)ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
bis (2-chloroisopropyl) ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Bis(2-ethylhexyl) phthalate	67	J B	440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Bromophenyl phenyl ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Butyl benzyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Chloroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Chloro-3-methylphenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Chloronaphthalene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Chlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Chlorophenyl phenyl ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Dibenz[a,h]acridine	ND		440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Dibenzofuran	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
3,3'-Dichlorobenzidine	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dichlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Diethyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dimethylphenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Dimethyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Di-n-butyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4,6-Dinitro-ortho-cresol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dinitrophenol	ND		1300	390	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dinitrotoluene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,6-Dinitrotoluene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Di-n-octyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
1,4-Dioxane	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Hexachlorobenzene	ND		440	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Hexachlorocyclopentadiene	ND		440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Hexachloroethane	ND		440	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Indene	120	J	440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Isophorone	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Methylphenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819
Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3
Matrix: Solid
Percent Solids: 74.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		890	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Nitroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
3-Nitroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Nitroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Nitrobenzene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Nitrophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Nitrophenol	ND		440	150	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
N-Nitrosodimethylamine	ND		440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
N-Nitrosodi-n-propylamine	ND		440	150	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
N-Nitrosodiphenylamine	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Pentachlorophenol	ND		890	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Phenol	**640**		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Pyridine	ND		440	200	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Quinoline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4,5-Trichlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4,6-Trichlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*27 - 127*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
2-Fluorophenol	*86*		*25 - 128*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
Nitrobenzene-d5	*81*		*15 - 136*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
Phenol-d5	*8*	*X*	*29 - 130*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
Terphenyl-d14	*106*		*24 - 146*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
2,4,6-Tribromophenol	*98*		*10 - 150*	*07/29/19 11:41*	*08/03/19 14:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**74.0**		0.01	0.01	%			07/20/19 12:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		300000	160000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Acrolein	ND		600000	340000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Acrylonitrile	ND	*	240000	96000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromobenzene	ND		60000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromochloromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromodichloromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromoform	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromomethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2-Butanone (MEK)	ND	*	300000	72000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Carbon disulfide	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Carbon tetrachloride	ND		60000	20000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chlorobenzene	ND		60000	6300	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2-Chloroethyl vinyl ether	ND		120000	60000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chloroform	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1-Chlorohexane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chloromethane	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
cis-1,2-Dichloroethene	ND		60000	9200	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
cis-1,3-Dichloropropene	ND		60000	14000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Dibromochloromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dibromo-3-Chloropropane	ND		60000	40000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dichlorobenzene	ND		60000	8600	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,3-Dichlorobenzene	ND		60000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,4-Dichlorobenzene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Dichlorodifluoromethane	ND		60000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1-Dichloroethane	ND		60000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dichloroethane	ND		60000	9900	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1-Dichloroethene	ND	*	60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dichloropropane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,3-Dichloropropane	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2,2-Dichloropropane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1-Dichloropropene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Ethylbenzene	**20000**	**J**	60000	7300	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Ethylene Dibromide	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Ethyl methacrylate	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Hexachlorobutadiene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2-Hexanone	ND		300000	60000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Isopropylbenzene	ND		60000	8200	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Methylene bromide	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Methylene Chloride	ND	*	180000	120000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
4-Methyl-2-pentanone (MIBK)	ND		300000	60000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Methyl tert-butyl ether	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
m-Xylene & p-Xylene	**47000**	**J**	60000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Naphthalene	ND		60000	24000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
n-Butylbenzene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
N-Propylbenzene	ND		60000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
o-Chlorotoluene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
o-Xylene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
p-Chlorotoluene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
sec-Butylbenzene	ND		60000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Styrene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
tert-Butylbenzene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,1,2-Tetrachloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,2,2-Tetrachloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Tetrachloroethene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Toluene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
trans-1,2-Dichloroethene	ND	*	60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
trans-1,3-Dichloropropene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,3-Trichlorobenzene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,4-Trichlorobenzene	ND		60000	24000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,1-Trichloroethane	ND		60000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,2-Trichloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Trichloroethene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Trichlorofluoromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,3-Trichloropropane	ND		60000	36000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,4-Trimethylbenzene	**49000**	**J**	60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,3,5-Trimethylbenzene	**15000**	**J**	60000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Vinyl acetate	ND		300000	110000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Vinyl chloride	ND	*	60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Xylenes, Total	**55000**	**J**	120000	23000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*34000*	*J **	*ug/Kg*	☼	*2.93*	*110-54-3*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Isooctane	*26000*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
1,2,3-Trimethylbenzene	*16000*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Undecane	*86000*	*T J N*	*ug/Kg*	☼	*8.18*	*1120-21-4*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Dibromofluoromethane	*90*		*79 - 123*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Toluene-d8 (Surr)	*97*		*80 - 120*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5000000**		120000	16000	ug/Kg	☼	07/24/19 14:48	07/25/19 03:00	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*72 - 122*	*07/24/19 14:48*	*07/25/19 03:00*	*20000*
Dibromofluoromethane	*85*		*79 - 123*	*07/24/19 14:48*	*07/25/19 03:00*	*20000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/24/19 14:48*	*07/25/19 03:00*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**210**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Anthracene	**120**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[a]anthracene	**120**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[a]pyrene	**140**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[b]fluoranthene	**66**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	**31**		8.2	2.5	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Chrysene	**190**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Fluoranthene	**60**	B	8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Fluorene	**300**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Indeno[1,2,3-cd]pyrene	**18**		8.2	2.5	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Phenanthrene	**1100**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Pyrene	**410**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*38*		*27 - 127*	*07/23/19 10:41*	*08/03/19 12:33*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/23/19 10:41*	*08/03/19 12:33*	*1*
Terphenyl-d14	*78*		*24 - 146*	*07/23/19 10:41*	*08/03/19 12:33*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**6200**		82	12	ug/Kg	☼	07/23/19 10:41	08/05/19 13:25	10
2-Methylnaphthalene	**9000**		82	12	ug/Kg	☼	07/23/19 10:41	08/05/19 13:25	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	410	54	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Benzenethiol	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Bis(2-chloroethoxy)methane	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
bis (2-chloroisopropyl) ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Chloroaniline	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Chloro-3-methylphenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Chloronaphthalene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Chlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Dibenzofuran	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4-Dichlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Diethyl phthalate	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4-Dimethylphenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Dimethyl phthalate	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Di-n-butyl phthalate	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4-Dinitrotoluene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,6-Dinitrotoluene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
1,4-Dioxane	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Hexachloroethane	ND	*	410	120	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Indene	ND	*	410	82	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Isophorone	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Methylphenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
3 & 4 Methylphenol	ND	*	820	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Nitroaniline	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Nitrobenzene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Nitrophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
N-Nitrosodimethylamine	ND	*	410	82	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
N-Nitrosodi-n-propylamine	ND	*	410	140	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
N-Nitrosodiphenylamine	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Phenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Quinoline	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4,5-Trichlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Bis(2-ethylhexyl) phthalate	67	J U	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
4-Bromophenyl phenyl ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
4-Chlorophenyl phenyl ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Dibenz[a,h]acridine	ND	*	410	82	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
3,3'-Dichlorobenzidine	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Hexachlorobenzene	ND	*	410	120	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Pyridine	ND		410	190	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
2,4,6-Trichlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*3100*	*T J N*	*ug/Kg*	☼	*4.61*	*100-41-4*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1-ethyl-3-methyl-	*2100*	*T J N*	*ug/Kg*	☼	*5.25*	*620-14-4*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1-ethyl-2-methyl-	*2400*	*T J N*	*ug/Kg*	☼	*5.36*	*611-14-3*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Decane	*7900*	*T J N*	*ug/Kg*	☼	*5.43*	*124-18-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1,2,3-trimethyl-	*7300*	*T J N*	*ug/Kg*	☼	*5.45*	*526-73-8*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Decane, 4-methyl-	*6800*	*T J N*	*ug/Kg*	☼	*5.54*	*2847-72-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1,2,3-trimethyl-	*6100*	*T J N*	*ug/Kg*	☼	*5.60*	*526-73-8*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1-ethyl-2,4-dimethyl-	*2000*	*T J N*	*ug/Kg*	☼	*5.87*	*874-41-9*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1,2,3,5-tetramethyl-	*3600*	*T J N*	*ug/Kg*	☼	*6.07*	*527-53-7*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Naphthalene, decahydro-2-methyl-	*2400*	*T J N*	*ug/Kg*	☼	*6.09*	*2958-76-1*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Undecane, 2-methyl-	*5700*	*T J N*	*ug/Kg*	☼	*6.19*	*7045-71-8*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Dodecane	*13000*	*T J N*	*ug/Kg*	☼	*6.34*	*112-40-3*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Azulene	*7300*	*T J N*	*ug/Kg*	☼	*6.41*	*275-51-4*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Tridecane	*11000*	*T J N*	*ug/Kg*	☼	*6.73*	*629-50-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Naphthalene, 1,2,3,4-tetrahydro-5-methyl-	*2100*	*T J N*	*ug/Kg*	☼	*6.82*	*2809-64-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzocycloheptatriene	*6500*	*T J N*	*ug/Kg*	☼	*6.86*	*264-09-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Naphthalene, 2-methyl-	*5500*	*T J N*	*ug/Kg*	☼	*6.93*	*91-57-6*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Tridecane, 3-methyl-	*1800*	*T J N*	*ug/Kg*	☼	*6.99*	*6418-41-3*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Dodecane, 2,6,10-trimethyl-	*7600*	*T J N*	*ug/Kg*	☼	*7.01*	*3891-98-3*	*07/23/19 10:41*	*07/25/19 21:28*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Naphthalene, 2,7-dimethyl-	4000	T J N	ug/Kg	☼	7.36	582-16-1	07/23/19 10:41	07/25/19 21:28	1
Pentadecane	7300	T J N	ug/Kg	☼	7.46	629-62-9	07/23/19 10:41	07/25/19 21:28	1
Naphthalene, 1,6-dimethyl-	1700	T J N	ug/Kg	☼	7.48	575-43-9	07/23/19 10:41	07/25/19 21:28	1
Naphthalene, 2,3,6-trimethyl-	3200	T J N	ug/Kg	☼	7.71	829-26-5	07/23/19 10:41	07/25/19 21:28	1
Hexadecane	5800	T J N	ug/Kg	☼	7.81	544-76-3	07/23/19 10:41	07/25/19 21:28	1
Pentadecane, 2,6,10-trimethyl-	3500	T J N	ug/Kg	☼	7.97	3892-00-0	07/23/19 10:41	07/25/19 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	51		27 - 127	07/23/19 10:41	07/25/19 21:28	1
2-Fluorophenol	40		25 - 128	07/23/19 10:41	07/25/19 21:28	1
Nitrobenzene-d5	6	X	15 - 136	07/23/19 10:41	07/25/19 21:28	1
Phenol-d5	43		29 - 130	07/23/19 10:41	07/25/19 21:28	1
Terphenyl-d14	54		24 - 146	07/23/19 10:41	07/25/19 21:28	1
2,4,6-Tribromophenol	74		10 - 150	07/23/19 10:41	07/25/19 21:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	53	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Bis(2-ethylhexyl) phthalate	**56**	**J B**	410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Dibenz[a,h]acridine	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
3,3'-Dichlorobenzidine	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Hexachlorocyclopentadiene	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Isophorone	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
3 & 4 Methylphenol	ND		810	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Nitrobenzene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
N-Nitrosodimethylamine	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Pentachlorophenol	ND		810	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Phenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Pyridine	ND		410	180	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Quinoline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*27 - 127*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
2-Fluorophenol	*55*		*25 - 128*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
Phenol-d5	*63*		*29 - 130*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
Terphenyl-d14	*61*		*24 - 146*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
2,4,6-Tribromophenol	*49*		*10 - 150*	*07/29/19 11:41*	*08/01/19 20:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.7**		0.01	0.01	%			07/20/19 12:58	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173406-2	PD-7-SB-43-071819	93	86	100
400-173406-3	PD-7-SB-51-071819	96	89	92
400-173406-3 - DL	PD-7-SB-51-071819	102	85	98
400-173406-4	PD-7-SB-51-071819-DUP	99	90	97
400-173406-4 - DL	PD-7-SB-51-071819-DUP	105	85	98
LCS 400-449049/2-A	Lab Control Sample	102	93	100
LCS 400-449435/2-A	Lab Control Sample	104	88	98
MB 400-449049/1-A	Method Blank	96	92	100
MB 400-449435/1-A	Method Blank	100	88	100

Surrogate Legend
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173406-1	TB-PW-071819-A	100	98	104
LCS 400-448915/1002	Lab Control Sample	97	97	103
MB 400-448915/4	Method Blank	101	98	103

Surrogate Legend
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173406-2 - RA	PD-7-SB-43-071819	48	43	52	60	53	48
400-173406-2 - RE	PD-7-SB-43-071819	84	82	92	25 X	88	91
400-173406-3 - RA	PD-7-SB-51-071819	39	38	45	49	45	42
400-173406-3 - RE	PD-7-SB-51-071819	91	86	81	8 X	106	98
400-173406-4 - RA	PD-7-SB-51-071819-DUP	51	40	6 X	43	54	74
400-173406-4 - RE	PD-7-SB-51-071819-DUP	45	55	69	63	61	49
LCS 400-449132/4-A	Lab Control Sample	38	29	28	29	40	51
LCS 400-449132/6-A	Lab Control Sample	39	30	30	31	42	63
LCS 400-449892/2-A	Lab Control Sample	74	68	71	69	82	81
LCSD 400-449132/5-A	Lab Control Sample Dup	29	24 X	24	24 X	34	48
MB 400-449132/1-A - RA	Method Blank	43	50	61	56	62	35
MB 400-449892/1-A	Method Blank	48	59	80	68	66	40

Surrogate Legend
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173406-2	PD-7-SB-43-071819	62	63	78
400-173406-3	PD-7-SB-51-071819	56	37	64
400-173406-4	PD-7-SB-51-071819-DUP	38	72	78
LCS 400-449132/2-A	Lab Control Sample	44	39	58
LCSD 400-449132/3-A	Lab Control Sample Dup	58	47	67
MB 400-449132/1-A	Method Blank	57	49	70

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071819-A

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 14:27	RS	TAL PEN

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448822	07/20/19 12:58	MEH	TAL PEN

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2
Matrix: Solid
Percent Solids: 77.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.623 g	5.00 mL	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	449025	07/23/19 01:03	RS	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 19:28	VC1	TAL PEN
Total/NA	Prep	3546	RE		15.20 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D	RE	1			450762	08/03/19 14:28	VC1	TAL PEN
Total/NA	Prep	3546	RA		15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	449541	07/25/19 20:46	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 11:58	KJA	TAL PEN
Total/NA	Prep	3546	DL		15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			450940	08/05/19 13:08	KJA	TAL PEN

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448822	07/20/19 12:58	MEH	TAL PEN

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3
Matrix: Solid
Percent Solids: 74.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.809 g	5.00 mL	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449025	07/23/19 02:40	RS	TAL PEN
Total/NA	Prep	5035	DL		6.809 g	5.00 mL	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449415	07/25/19 02:36	CAR	TAL PEN
Total/NA	Prep	3546			15.12 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 19:50	VC1	TAL PEN

Client Sample ID: PD-7-SB-51-071819

Lab Sample ID: 400-173406-3

Date Collected: 07/18/19 11:00

Matrix: Solid

Date Received: 07/19/19 09:15

Percent Solids: 74.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546	RE		15.10 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D	RE	1			450762	08/03/19 14:53	VC1	TAL PEN
Total/NA	Prep	3546	RA		15.12 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	449541	07/25/19 21:07	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:16	KJA	TAL PEN

Client Sample ID: PD-7-SB-51-071819-DUP

Lab Sample ID: 400-173406-4

Date Collected: 07/18/19 11:00

Matrix: Solid

Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448822	07/20/19 12:58	MEH	TAL PEN

Client Sample ID: PD-7-SB-51-071819-DUP

Lab Sample ID: 400-173406-4

Date Collected: 07/18/19 11:00

Matrix: Solid

Date Received: 07/19/19 09:15

Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.6 g	5.00 mL	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449025	07/23/19 03:04	RS	TAL PEN
Total/NA	Prep	5035	DL		6.6 g	5.00 mL	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449415	07/25/19 03:00	CAR	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 20:11	VC1	TAL PEN
Total/NA	Prep	3546	RA		15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	449541	07/25/19 21:28	VC1	TAL PEN
Total/NA	Prep	3546	RE		15.28 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D	RE	1			450467	08/01/19 20:15	VC1	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:33	KJA	TAL PEN
Total/NA	Prep	3546	DL		15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D LL	DL	10			450940	08/05/19 13:25	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448915/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449049/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 18:08	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449132/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 16:37	VC1	TAL PEN
Total/NA	Prep	3546	RA		15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D	RA	1			449541	07/25/19 18:18	VC1	TAL PEN
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 11:24	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449435/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449415	07/24/19 18:53	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449892/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 17:23	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448915/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449049/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 17:19	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449132/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 11:41	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449132/4-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 16:58	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449132/6-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 17:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449435/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449415	07/24/19 17:52	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449892/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 14:03	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449132/3-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 10:50	KJA	TAL PEN

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449132/5-A

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 17:20	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

GC/MS VOA

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-1	TB-PW-071819-A	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8260B	449049
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8260B	449049
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8260B	449049
MB 400-449049/1-A	Method Blank	Total/NA	Solid	8260B	449049
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	8260B	449049

Prep Batch: 449049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	5035	
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	5035	
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	5035	
MB 400-449049/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 449415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-3 - DL	PD-7-SB-51-071819	Total/NA	Solid	8260B	449435
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	8260B	449435
MB 400-449435/1-A	Method Blank	Total/NA	Solid	8260B	449435
LCS 400-449435/2-A	Lab Control Sample	Total/NA	Solid	8260B	449435

Prep Batch: 449435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-3 - DL	PD-7-SB-51-071819	Total/NA	Solid	5035	
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	5035	
MB 400-449435/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-449435/2-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 449132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-2 - DL	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-2 - RA	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	3546	
400-173406-3 - RA	PD-7-SB-51-071819	Total/NA	Solid	3546	
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
400-173406-4 - RA	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
MB 400-449132/1-A	Method Blank	Total/NA	Solid	3546	
MB 400-449132/1-A - RA	Method Blank	Total/NA	Solid	3546	
LCS 400-449132/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449132/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449132/6-A	Lab Control Sample	Total/NA	Solid	3546	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

GC/MS Semi VOA (Continued)

Prep Batch: 449132 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-449132/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-449132/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8270D	449132
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8270D	449132
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D	449132
MB 400-449132/1-A	Method Blank	Total/NA	Solid	8270D	449132
LCS 400-449132/4-A	Lab Control Sample	Total/NA	Solid	8270D	449132
LCS 400-449132/6-A	Lab Control Sample	Total/NA	Solid	8270D	449132
LCSD 400-449132/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	449132

Analysis Batch: 449541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - RA	PD-7-SB-43-071819	Total/NA	Solid	8270D	449132
400-173406-3 - RA	PD-7-SB-51-071819	Total/NA	Solid	8270D	449132
400-173406-4 - RA	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D	449132
MB 400-449132/1-A - RA	Method Blank	Total/NA	Solid	8270D	449132

Prep Batch: 449892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - RE	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-3 - RE	PD-7-SB-51-071819	Total/NA	Solid	3546	
400-173406-4 - RE	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
MB 400-449892/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-449892/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-4 - RE	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D	449892
MB 400-449892/1-A	Method Blank	Total/NA	Solid	8270D	449892

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8270D LL	449132
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8270D LL	449132
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D LL	449132
MB 400-449132/1-A	Method Blank	Total/NA	Solid	8270D LL	449132
LCS 400-449132/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	449132
LCSD 400-449132/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	449132

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - RE	PD-7-SB-43-071819	Total/NA	Solid	8270D	449892
400-173406-3 - RE	PD-7-SB-51-071819	Total/NA	Solid	8270D	449892
LCS 400-449892/2-A	Lab Control Sample	Total/NA	Solid	8270D	449892

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - DL	PD-7-SB-43-071819	Total/NA	Solid	8270D LL	449132

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

GC/MS Semi VOA (Continued)

Analysis Batch: 450940 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D LL	449132

General Chemistry

Analysis Batch: 448822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	Moisture	
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	Moisture	
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	294		ug/L		147	43 - 160
Acrolein	500	667		ug/L		133	38 - 160
Acrylonitrile	500	616		ug/L		123	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	54.1		ug/L		108	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.2		ug/L		110	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	34.5		ug/L		69	10 - 160
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.6		ug/L		109	61 - 137
Carbon tetrachloride	50.0	60.5		ug/L		121	61 - 137
Chlorobenzene	50.0	56.6		ug/L		113	70 - 130
Chloroethane	50.0	49.1		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	49.3		ug/L		99	10 - 160
Chloroform	50.0	53.9		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.5		ug/L		121	69 - 130
Chloromethane	50.0	44.1		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	58.1		ug/L		116	68 - 130
cis-1,3-Dichloropropene	50.0	59.7		ug/L		119	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.7		ug/L		123	54 - 135
1,2-Dichlorobenzene	50.0	57.7		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	25.0		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	57.8		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	58.2		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.3		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	56.5		ug/L		113	52 - 135
1,1-Dichloropropene	50.0	55.4		ug/L		111	70 - 130
Ethylbenzene	50.0	58.8		ug/L		118	70 - 130
Ethylene Dibromide	50.0	57.3		ug/L		115	70 - 130
Ethyl methacrylate	50.0	65.1		ug/L		130	68 - 130
Hexachlorobutadiene	50.0	52.0		ug/L		104	53 - 140
2-Hexanone	200	306	*	ug/L		153	65 - 137
Isopropylbenzene	50.0	56.2		ug/L		112	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	259		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	51.0		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	57.9		ug/L		116	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	57.7		ug/L		115	67 - 130
N-Propylbenzene	50.0	58.8		ug/L		118	70 - 130
o-Chlorotoluene	50.0	57.4		ug/L		115	70 - 130
o-Xylene	50.0	57.3		ug/L		115	70 - 130
p-Chlorotoluene	50.0	57.1		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	58.1		ug/L		116	65 - 130
sec-Butylbenzene	50.0	56.2		ug/L		112	66 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
tert-Butylbenzene	50.0	55.7		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.3	*	ug/L		137	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.0		ug/L		116	70 - 131
Tetrachloroethene	50.0	57.4		ug/L		115	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	65.0		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	52.6		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	60 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.9		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	70 - 130
1,2,4-Trimethylbenzene	50.0	55.5		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	55.8		ug/L		112	69 - 130
Vinyl acetate	100	117		ug/L		117	26 - 160
Vinyl chloride	50.0	45.3		ug/L		91	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrolein	ND		50	28	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/22/19 16:12	07/22/19 18:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		72 - 122	07/22/19 16:12	07/22/19 18:08	1
Dibromofluoromethane	92		79 - 123	07/22/19 16:12	07/22/19 18:08	1
Toluene-d8 (Surr)	100		80 - 120	07/22/19 16:12	07/22/19 18:08	1

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	313		ug/Kg		157	48 - 160
Acrolein	500	730		ug/Kg		146	40 - 150
Acrylonitrile	500	868	*	ug/Kg		174	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	52.7		ug/Kg		105	65 - 130
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 130
Bromodichloromethane	50.0	47.3		ug/Kg		95	61 - 130
Bromoform	50.0	52.0		ug/Kg		104	52 - 136
Bromomethane	50.0	49.7		ug/Kg		99	12 - 160
2-Butanone (MEK)	200	270	*	ug/Kg		135	55 - 130
Carbon disulfide	50.0	62.0		ug/Kg		124	46 - 141
Carbon tetrachloride	50.0	46.1		ug/Kg		92	60 - 130
Chlorobenzene	50.0	51.2		ug/Kg		102	70 - 130
Chloroethane	50.0	56.3		ug/Kg		113	55 - 134
2-Chloroethyl vinyl ether	50.0	41.4		ug/Kg		83	10 - 158
Chloroform	50.0	49.0		ug/Kg		98	62 - 130
1-Chlorohexane	50.0	50.4		ug/Kg		101	69 - 130
Chloromethane	50.0	61.4		ug/Kg		123	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	49.5		ug/Kg		99	61 - 130
Dibromochloromethane	50.0	51.6		ug/Kg		103	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	56.5		ug/Kg		113	49 - 130
1,2-Dichlorobenzene	50.0	55.9		ug/Kg		112	64 - 130
1,3-Dichlorobenzene	50.0	54.9		ug/Kg		110	66 - 130
1,4-Dichlorobenzene	50.0	53.7		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	39.7		ug/Kg		79	34 - 143
1,1-Dichloroethane	50.0	62.4		ug/Kg		125	59 - 130
1,2-Dichloroethane	50.0	48.7		ug/Kg		97	62 - 130
1,1-Dichloroethene	50.0	69.5	*	ug/Kg		139	55 - 137
1,2-Dichloropropane	50.0	50.0		ug/Kg		100	64 - 130
1,3-Dichloropropane	50.0	52.5		ug/Kg		105	67 - 130
2,2-Dichloropropane	50.0	50.6		ug/Kg		101	51 - 132
1,1-Dichloropropene	50.0	48.7		ug/Kg		97	65 - 130
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 130
Ethylene Dibromide	50.0	55.2		ug/Kg		110	67 - 130
Ethyl methacrylate	50.0	56.2		ug/Kg		112	62 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	41.6		ug/Kg		83	62 - 133
2-Hexanone	200	219		ug/Kg		110	57 - 131
Isopropylbenzene	50.0	50.9		ug/Kg		102	70 - 130
Methylene bromide	50.0	49.2		ug/Kg		98	65 - 130
Methylene Chloride	50.0	67.0	*	ug/Kg		134	57 - 132
4-Methyl-2-pentanone (MIBK)	200	243		ug/Kg		122	58 - 130
Methyl tert-butyl ether	50.0	61.1		ug/Kg		122	63 - 130
m-Xylene & p-Xylene	50.0	51.8		ug/Kg		104	70 - 130
Naphthalene	50.0	63.4		ug/Kg		127	45 - 144
n-Butylbenzene	50.0	52.4		ug/Kg		105	66 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.1		ug/Kg		108	67 - 130
o-Xylene	50.0	53.3		ug/Kg		107	70 - 130
p-Chlorotoluene	50.0	54.2		ug/Kg		108	66 - 130
p-Isopropyltoluene	50.0	54.4		ug/Kg		109	68 - 130
sec-Butylbenzene	50.0	53.8		ug/Kg		108	67 - 130
Styrene	50.0	50.9		ug/Kg		102	68 - 130
tert-Butylbenzene	50.0	52.2		ug/Kg		104	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.2		ug/Kg		104	65 - 130
1,1,2,2-Tetrachloroethane	50.0	62.4		ug/Kg		125	60 - 131
Tetrachloroethene	50.0	48.6		ug/Kg		97	67 - 130
Toluene	50.0	54.5		ug/Kg		109	70 - 130
trans-1,2-Dichloroethene	50.0	68.8	*	ug/Kg		138	58 - 134
trans-1,3-Dichloropropene	50.0	50.0		ug/Kg		100	60 - 130
1,2,3-Trichlorobenzene	50.0	49.6		ug/Kg		99	58 - 135
1,2,4-Trichlorobenzene	50.0	47.0		ug/Kg		94	56 - 138
1,1,1-Trichloroethane	50.0	48.1		ug/Kg		96	63 - 130
1,1,2-Trichloroethane	50.0	54.0		ug/Kg		108	65 - 130
Trichloroethene	50.0	50.9		ug/Kg		102	65 - 130
Trichlorofluoromethane	50.0	47.6		ug/Kg		95	61 - 136
1,2,3-Trichloropropane	50.0	61.0		ug/Kg		122	60 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/Kg		109	66 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/Kg		110	67 - 130
Vinyl acetate	100	149		ug/Kg		149	24 - 160
Vinyl chloride	50.0	66.3	*	ug/Kg		133	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*72 - 122*
Dibromofluoromethane	*93*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-449435/1-A
Matrix: Solid
Analysis Batch: 449415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449435

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		07/24/19 14:48	07/24/19 18:53	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449435/1-A
Matrix: Solid
Analysis Batch: 449415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449435

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/24/19 14:48	07/24/19 18:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/24/19 14:48	07/24/19 18:53	1
Dibromofluoromethane	88		79 - 123	07/24/19 14:48	07/24/19 18:53	1
Toluene-d8 (Surr)	100		80 - 120	07/24/19 14:48	07/24/19 18:53	1

Lab Sample ID: LCS 400-449435/2-A
Matrix: Solid
Analysis Batch: 449415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449435

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.2		ug/Kg		98	65 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	104		72 - 122
Dibromofluoromethane	88		79 - 123
Toluene-d8 (Surr)	98		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Benzenethiol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Benzoic acid	ND		990	350	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Benzyl alcohol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Bis(2-ethylhexyl) phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
4-Chloroaniline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Chlorophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Dibenzofuran	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Diethyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
1,4-Dioxane	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Hexachloroethane	ND		330	100	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Indene	ND		330	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Isophorone	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Methylphenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Nitroaniline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
3-Nitroaniline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Nitrobenzene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Nitrophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
4-Nitrophenol	ND		330	110	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Pentachlorophenol	ND		660	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Phenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Quinoline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/23/19 10:39*	*07/24/19 16:37*	*1*

Lab Sample ID: LCS 400-449132/4-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	508		ug/Kg		25	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*38*		*27 - 127*
2-Fluorophenol	*29*		*25 - 128*
Nitrobenzene-d5	*28*		*15 - 136*
Phenol-d5	*29*		*29 - 130*
Terphenyl-d14	*40*		*24 - 146*
2,4,6-Tribromophenol	*51*		*10 - 150*

Lab Sample ID: LCS 400-449132/6-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	568	*	ug/Kg		28	36 - 120
Benzoic acid	7770	2140		ug/Kg		28	10 - 139
Benzyl alcohol	2000	707		ug/Kg		35	10 - 127

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449132/6-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	2000	561	*	ug/Kg		28	52 - 120
Bis(2-chloroethyl)ether	2000	498	*	ug/Kg		25	50 - 120
bis (2-chloroisopropyl) ether	2000	475	*	ug/Kg		24	34 - 120
Bis(2-ethylhexyl) phthalate	2000	650	*	ug/Kg		32	58 - 158
4-Bromophenyl phenyl ether	2000	1060		ug/Kg		53	51 - 120
Butyl benzyl phthalate	2000	592	*	ug/Kg		30	58 - 126
4-Chloroaniline	2000	518	*	ug/Kg		26	34 - 120
4-Chloro-3-methylphenol	2000	773	*	ug/Kg		39	57 - 124
2-Chloronaphthalene	2000	779	*	ug/Kg		39	55 - 120
2-Chlorophenol	2000	716	*	ug/Kg		36	52 - 120
4-Chlorophenyl phenyl ether	2000	915	*	ug/Kg		46	56 - 120
Dibenz[a,h]acridine	2000	1140		ug/Kg		57	51 - 135
Dibenzofuran	2000	778	*	ug/Kg		39	58 - 120
3,3'-Dichlorobenzidine	2670	2070		ug/Kg		78	42 - 120
2,4-Dichlorophenol	2000	835	*	ug/Kg		42	56 - 120
Diethyl phthalate	2000	793	*	ug/Kg		40	56 - 128
2,4-Dimethylphenol	2000	753	*	ug/Kg		38	54 - 120
Dimethyl phthalate	2000	803	*	ug/Kg		40	58 - 120
Di-n-butyl phthalate	2000	779	*	ug/Kg		39	64 - 122
4,6-Dinitro-ortho-cresol	4000	2160		ug/Kg		54	35 - 135
2,4-Dinitrophenol	4000	2410		ug/Kg		60	10 - 138
2,4-Dinitrotoluene	2000	867	*	ug/Kg		43	59 - 133
2,6-Dinitrotoluene	2000	840	*	ug/Kg		42	57 - 123
Di-n-octyl phthalate	2000	755	*	ug/Kg		38	57 - 137
1,4-Dioxane	2000	294	J *	ug/Kg		15	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	633	*	ug/Kg		32	50 - 120
Hexachlorobenzene	2000	1180		ug/Kg		59	49 - 127
Hexachlorocyclopentadiene	2000	634		ug/Kg		32	10 - 140
Hexachloroethane	2000	624	*	ug/Kg		31	45 - 120
Indene	2000	680	*	ug/Kg		34	45 - 120
Isophorone	2000	613	*	ug/Kg		31	50 - 120
2-Methylphenol	2000	647	*	ug/Kg		32	51 - 123
3 & 4 Methylphenol	2000	689	*	ug/Kg		34	47 - 123
2-Nitroaniline	2000	699	*	ug/Kg		35	55 - 129
3-Nitroaniline	2000	757	*	ug/Kg		38	45 - 120
4-Nitroaniline	2000	1090		ug/Kg		54	52 - 126
Nitrobenzene	2000	624	*	ug/Kg		31	50 - 120
2-Nitrophenol	2000	695	*	ug/Kg		35	53 - 120
4-Nitrophenol	4000	1670		ug/Kg		42	38 - 133
N-Nitrosodimethylamine	2000	663	*	ug/Kg		33	35 - 120
N-Nitrosodi-n-propylamine	2000	707	*	ug/Kg		35	48 - 120
N-Nitrosodiphenylamine	1980	826	*	ug/Kg		42	54 - 120
Pentachlorophenol	4000	2140		ug/Kg		54	32 - 131
Phenol	2000	597	*	ug/Kg		30	51 - 120
Pyridine	4000	780	*	ug/Kg		20	29 - 120
Quinoline	2000	874		ug/Kg		44	10 - 150
2,4,5-Trichlorophenol	2000	863	*	ug/Kg		43	53 - 133
2,4,6-Trichlorophenol	2000	884	*	ug/Kg		44	51 - 125

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	39		27 - 127
2-Fluorophenol	30		25 - 128
Nitrobenzene-d5	30		15 - 136
Phenol-d5	31		29 - 130
Terphenyl-d14	42		24 - 146
2,4,6-Tribromophenol	63		10 - 150

Lab Sample ID: LCSD 400-449132/5-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449132

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	297	J	ug/Kg		15	10 - 120	NaN	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	29		27 - 127
2-Fluorophenol	24	X	25 - 128
Nitrobenzene-d5	24		15 - 136
Phenol-d5	24	X	29 - 130
Terphenyl-d14	34		24 - 146
2,4,6-Tribromophenol	48		10 - 150

Lab Sample ID: MB 400-449892/1-A
Matrix: Solid
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Benzoic acid	ND		990	350	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Benzyl alcohol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Bis(2-ethylhexyl) phthalate	43.1	J	330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Chloroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Chlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Dibenzofuran	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Diethyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/29/19 11:41	08/01/19 17:23	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449892/1-A
Matrix: Solid
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
1,4-Dioxane	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Hexachloroethane	ND		330	100	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Indene	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Isophorone	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Methylphenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Nitroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
3-Nitroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Nitroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Nitrobenzene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Nitrophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Nitrophenol	ND		330	110	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Pentachlorophenol	ND		660	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Phenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Pyridine	ND		330	150	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Quinoline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/29/19 11:41*	*08/01/19 17:23*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*27 - 127*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
2-Fluorophenol	*59*		*25 - 128*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
Nitrobenzene-d5	*80*		*15 - 136*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
Phenol-d5	*68*		*29 - 130*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
Terphenyl-d14	*66*		*24 - 146*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
2,4,6-Tribromophenol	*40*		*10 - 150*	*07/29/19 11:41*	*08/01/19 17:23*	*1*

Lab Sample ID: LCS 400-449892/2-A
Matrix: Solid
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1330		ug/Kg		67	36 - 120
Benzoic acid	7770	3560		ug/Kg		46	10 - 139
Benzyl alcohol	2000	1340		ug/Kg		67	10 - 127

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449892/2-A
Matrix: Solid
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	2000	1310		ug/Kg		66	52 - 120
Bis(2-chloroethyl)ether	2000	1270		ug/Kg		64	50 - 120
bis (2-chloroisopropyl) ether	2000	1260		ug/Kg		63	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1430		ug/Kg		71	58 - 158
4-Bromophenyl phenyl ether	2000	1460		ug/Kg		73	51 - 120
Butyl benzyl phthalate	2000	1540		ug/Kg		77	58 - 126
4-Chloroaniline	2000	1200		ug/Kg		60	34 - 120
4-Chloro-3-methylphenol	2000	1440		ug/Kg		72	57 - 124
2-Chloronaphthalene	2000	1370		ug/Kg		68	55 - 120
2-Chlorophenol	2000	1300		ug/Kg		65	52 - 120
4-Chlorophenyl phenyl ether	2000	1590		ug/Kg		79	56 - 120
Dibenz[a,h]acridine	2000	1500		ug/Kg		75	51 - 135
Dibenzofuran	2000	1510		ug/Kg		75	58 - 120
3,3'-Dichlorobenzidine	2670	2080		ug/Kg		78	42 - 120
2,4-Dichlorophenol	2000	1360		ug/Kg		68	56 - 120
Diethyl phthalate	2000	1570		ug/Kg		79	56 - 128
2,4-Dimethylphenol	2000	1370		ug/Kg		68	54 - 120
Dimethyl phthalate	2000	1460		ug/Kg		73	58 - 120
Di-n-butyl phthalate	2000	1600		ug/Kg		80	64 - 122
4,6-Dinitro-ortho-cresol	4000	1460		ug/Kg		36	35 - 135
2,4-Dinitrophenol	4000	1250		ug/Kg		31	10 - 138
2,4-Dinitrotoluene	2000	1680		ug/Kg		84	59 - 133
2,6-Dinitrotoluene	2000	1430		ug/Kg		72	57 - 123
Di-n-octyl phthalate	2000	1460		ug/Kg		73	57 - 137
1,4-Dioxane	2000	704		ug/Kg		35	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	1580		ug/Kg		79	49 - 127
Hexachlorocyclopentadiene	2000	776		ug/Kg		39	10 - 140
Hexachloroethane	2000	1170		ug/Kg		58	45 - 120
Indene	2000	1070		ug/Kg		54	45 - 120
Isophorone	2000	1310		ug/Kg		65	50 - 120
2-Methylphenol	2000	1380		ug/Kg		69	51 - 123
3 & 4 Methylphenol	2000	1380		ug/Kg		69	47 - 123
2-Nitroaniline	2000	1370		ug/Kg		69	55 - 129
3-Nitroaniline	2000	1450		ug/Kg		72	45 - 120
4-Nitroaniline	2000	1640		ug/Kg		82	52 - 126
Nitrobenzene	2000	1220		ug/Kg		61	50 - 120
2-Nitrophenol	2000	1310		ug/Kg		65	53 - 120
4-Nitrophenol	4000	2600		ug/Kg		65	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1390		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1390		ug/Kg		70	54 - 120
Pentachlorophenol	4000	2890		ug/Kg		72	32 - 131
Phenol	2000	1310		ug/Kg		66	51 - 120
Pyridine	4000	1990		ug/Kg		50	29 - 120
Quinoline	2000	1670		ug/Kg		83	10 - 150
2,4,5-Trichlorophenol	2000	1480		ug/Kg		74	53 - 133
2,4,6-Trichlorophenol	2000	1460		ug/Kg		73	51 - 125

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		27 - 127
2-Fluorophenol	68		25 - 128
Nitrobenzene-d5	71		15 - 136
Phenol-d5	69		29 - 130
Terphenyl-d14	82		24 - 146
2,4,6-Tribromophenol	81		10 - 150

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 449541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4-Bromophenyl phenyl ether - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Butyl benzyl phthalate - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4-Chlorophenyl phenyl ether - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4,6-Dinitro-ortho-cresol - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Hexachlorobenzene - RA	ND		330	100	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Hexachlorocyclopentadiene - RA	ND		330	66	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4-Nitrophenol - RA	ND		330	110	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Pyridine - RA	ND		330	150	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
2,4,6-Trichlorophenol - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound - RA	None		ug/Kg				07/23/19 10:39	07/25/19 18:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl - RA	43		27 - 127	07/23/19 10:39	07/25/19 18:18	1
2-Fluorophenol - RA	50		25 - 128	07/23/19 10:39	07/25/19 18:18	1
Nitrobenzene-d5 - RA	61		15 - 136	07/23/19 10:39	07/25/19 18:18	1
Phenol-d5 - RA	56		29 - 130	07/23/19 10:39	07/25/19 18:18	1
Terphenyl-d14 - RA	62		24 - 146	07/23/19 10:39	07/25/19 18:18	1
2,4,6-Tribromophenol - RA	35		10 - 150	07/23/19 10:39	07/25/19 18:18	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Anthracene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Fluoranthene	1.97	J	6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Fluorene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Pyrene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*27 - 127*	*07/23/19 10:39*	*08/03/19 11:24*	*1*
Nitrobenzene-d5	*49*		*15 - 136*	*07/23/19 10:39*	*08/03/19 11:24*	*1*
Terphenyl-d14	*70*		*24 - 146*	*07/23/19 10:39*	*08/03/19 11:24*	*1*

Lab Sample ID: LCS 400-449132/2-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	251		ug/Kg		75	57 - 120
Acenaphthylene	333	268		ug/Kg		80	59 - 120
Anthracene	333	256		ug/Kg		77	61 - 120
Benzo[a]anthracene	333	250		ug/Kg		75	61 - 120
Benzo[a]pyrene	333	271		ug/Kg		81	54 - 127
Benzo[b]fluoranthene	333	256		ug/Kg		77	35 - 146
Benzo[g,h,i]perylene	333	245		ug/Kg		73	36 - 150
Benzo[k]fluoranthene	333	257		ug/Kg		77	53 - 139
Chrysene	333	242		ug/Kg		73	60 - 120
Dibenz(a,h)anthracene	333	232		ug/Kg		70	39 - 150
Fluoranthene	333	247		ug/Kg		74	61 - 121
Fluorene	333	265		ug/Kg		79	60 - 120
Indeno[1,2,3-cd]pyrene	333	246		ug/Kg		74	40 - 150
1-Methylnaphthalene	333	264		ug/Kg		79	46 - 120
2-Methylnaphthalene	333	255		ug/Kg		77	46 - 120
Phenanthrene	333	256		ug/Kg		77	59 - 120
Pyrene	333	240		ug/Kg		72	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*27 - 127*
Nitrobenzene-d5	*39*		*15 - 136*
Terphenyl-d14	*58*		*24 - 146*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449132/3-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449132

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	256		ug/Kg		77	57 - 120	2	30
Acenaphthylene			333	280		ug/Kg		84	59 - 120	4	30
Anthracene			333	259		ug/Kg		78	61 - 120	1	30
Benzo[a]anthracene			333	251		ug/Kg		75	61 - 120	0	30
Benzo[a]pyrene			333	284		ug/Kg		85	54 - 127	5	30
Benzo[b]fluoranthene			333	252		ug/Kg		76	35 - 146	2	30
Benzo[g,h,i]perylene			333	255		ug/Kg		77	36 - 150	4	30
Benzo[k]fluoranthene			333	280		ug/Kg		84	53 - 139	9	30
Chrysene			333	246		ug/Kg		74	60 - 120	2	30
Dibenz(a,h)anthracene			333	251		ug/Kg		75	39 - 150	8	30
Fluoranthene			333	270		ug/Kg		81	61 - 121	9	30
Fluorene			333	276		ug/Kg		83	60 - 120	4	30
Indeno[1,2,3-cd]pyrene			333	253		ug/Kg		76	40 - 150	3	30
1-Methylnaphthalene			333	263		ug/Kg		79	46 - 120	0	30
2-Methylnaphthalene			333	241		ug/Kg		72	46 - 120	6	30
Phenanthrene			333	269		ug/Kg		81	59 - 120	5	30
Pyrene			333	237		ug/Kg		71	53 - 122	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
Nitrobenzene-d5	*47*		*15 - 136*
Terphenyl-d14	*67*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

400-173406 COC

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK
James Carrino	25278	DAT
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE		State	AECOM Project / Task Number:
AECOM		170 East Rand Avenue, Hartford	IL	PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO.	E-MAIL	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

SAMPLER NAME(S) (Print): Paul LaFleur — LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH; Moisture

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-071819-A	7/18/2019	0:00	Water	X					2			X		
	PD-7-SB-43-071819	7/18/2019	10:20	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-7-SB-51-071819	7/18/2019	11:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-7-SB-51-071819-DUP	7/18/2019	11:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

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Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	Fedex 4931 8203 7513 4931 8203 7465 / 4931 8203 7465 Fedex	7/18/2019	18:00
Relinquished by (Signature)	Received by (Signature)	Date	Time
Relinquished by (Signature)	Received by (Signature) [signature]	Date 7-19-19	Time 9:15

Version: 10May17

Custody Seals: 1011628, 1011629, 1011650, 1011651, 1011649, 1011648

2.5°, 4.5°, 4.3° IR7

CONFIDENTIAL SETTLEMENT COMMUNICATION

8/12/2019

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173406-1

Login Number: 173406
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C, 4.5°C, 4.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Illinois	NELAP		004586	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173406-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 9:48:16 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173406-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173406-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 8-12-19.

Receipt
The samples were received on 7/19/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.5º C, 4.3º C and 4.5º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448915 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448915 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-071819-A (400-173406-1). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 400-449049 and analytical batch 400-449025 recovered outside control limits for the following analytes: 1,1-Dichloroethene, 2-Butanone (MEK), Acrylonitrile, Methylene Chloride, trans-1,2-Dichloroethene and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-7-SB-43-071819 (400-173406-2), PD-7-SB-51-071819 (400-173406-3) and PD-7-SB-51-071819-DUP (400-173406-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449132 and analytical batch 400-449369 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449541 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate, Butyl benzyl phthalate, 4,6-Dinitro-2-methylphenol and Di-n-octyl phthalate. The samples associated with this CCV were either non-detects or less then the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449541 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Surrogate recovery for the LCSD was outside the control limits: (LCSD 400-449132/5-A). All of the target compounds are within the acceptance criteria; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered above the upper control limit for Nitrobenzene, N-Nitrosodi-n-propylamine, 2,4-Dimethylphenol and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 400-173406-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The method blank for preparation batch 400-449892 and analytical batch 400-450467 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene . A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-449132 and analytical batch 400-450726 contained Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Diethyl phthalate, Hexachlorocyclopentadiene, Dibenzofuran, Dimethyl phthalate, 2-Chloronaphthalene, 4-Chlorophenyl phenyl ether and 2,4-Dinitrotoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-7-SB-43-071819 (400-173406-2) and PD-7-SB-51-071819 (400-173406-3). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449132 recovered outside control limits for the flagged analytes. The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-7-SB-51-071819-DUP (400-173406-4). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449132 and analytical batch 400-449369 recovered outside control limits for most analytes. The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-449132 and analytical batch 400-450726 contained Fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173406-1	TB-PW-071819-A	Water	07/18/19 00:00	07/19/19 09:15	
400-173406-2	PD-7-SB-43-071819	Solid	07/18/19 10:20	07/19/19 09:15	
400-173406-3	PD-7-SB-51-071819	Solid	07/18/19 11:00	07/19/19 09:15	
400-173406-4	PD-7-SB-51-071819-DUP	Solid	07/18/19 11:00	07/19/19 09:15	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: TB-PW-071819-A — Lab Sample ID: 400-173406-1

No Detections.

Client Sample ID: PD-7-SB-43-071819 — Lab Sample ID: 400-173406-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	54	J	310	42	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	230	J	310	38	ug/Kg	50	☼	8260B	Total/NA
Isopropylbenzene	150	J	310	43	ug/Kg	50	☼	8260B	Total/NA
m-Xylene & p-Xylene	510		310	81	ug/Kg	50	☼	8260B	Total/NA
Naphthalene	280	J	310	130	ug/Kg	50	☼	8260B	Total/NA
n-Butylbenzene	260	J	310	60	ug/Kg	50	☼	8260B	Total/NA
N-Propylbenzene	300	J	310	56	ug/Kg	50	☼	8260B	Total/NA
p-Isopropyltoluene	100	J	310	63	ug/Kg	50	☼	8260B	Total/NA
sec-Butylbenzene	150	J	310	60	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	2200		310	63	ug/Kg	50	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	600		310	52	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	560	J	630	120	ug/Kg	50	☼	8260B	Total/NA
Acenaphthene	150		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	130		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	130		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	150		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	40		8.5	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	260		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	62	B	8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	300		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	15		8.5	2.6	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1100		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	450		8.5	1.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - DL	4000		42	6.4	ug/Kg	5	☼	8270D LL	Total/NA
2-Methylnaphthalene - DL	5600		42	6.4	ug/Kg	5	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	73	J	420	42	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RE	63	J B	420	42	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-7-SB-51-071819 — Lab Sample ID: 400-173406-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	22000	J	67000	8200	ug/Kg	10000	☼	8260B	Total/NA
m-Xylene & p-Xylene	51000	J	67000	17000	ug/Kg	10000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	56000	J	67000	13000	ug/Kg	10000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	19000	J	67000	11000	ug/Kg	10000	☼	8260B	Total/NA
Xylenes, Total	60000	J	130000	26000	ug/Kg	10000	☼	8260B	Total/NA
Benzene - DL	5200000		130000	18000	ug/Kg	20000	☼	8260B	Total/NA
Acenaphthene	110		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	55		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	60		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	74		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	40		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	19		8.8	2.7	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	120		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	31	B	8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	150		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	9.1		8.8	2.7	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	2000		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819 (Continued) — Lab Sample ID: 400-173406-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	2700		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	420		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	190		8.8	1.3	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	77	J	440	44	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RE	67	J B	440	44	ug/Kg	1	☼	8270D	Total/NA
Indene - RE	120	J	440	89	ug/Kg	1	☼	8270D	Total/NA
Phenol - RE	640		440	44	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-7-SB-51-071819-DUP — Lab Sample ID: 400-173406-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	20000	J	60000	7300	ug/Kg	10000	☼	8260B	Total/NA
m-Xylene & p-Xylene	47000	J	60000	16000	ug/Kg	10000	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	49000	J	60000	12000	ug/Kg	10000	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	15000	J	60000	10000	ug/Kg	10000	☼	8260B	Total/NA
Xylenes, Total	55000	J	120000	23000	ug/Kg	10000	☼	8260B	Total/NA
Benzene - DL	5000000		120000	16000	ug/Kg	20000	☼	8260B	Total/NA
Acenaphthene	210		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	120		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	120		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	140		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	66		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	31		8.2	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	190		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	60	B	8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	300		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	18		8.2	2.5	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	1100		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	410		8.2	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene - DL	6200		82	12	ug/Kg	10	☼	8270D LL	Total/NA
2-Methylnaphthalene - DL	9000		82	12	ug/Kg	10	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	67	J	410	41	ug/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RE	56	J B	410	41	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: TB-PW-071819-A

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 14:27	1
Acrolein	ND		20	10	ug/L			07/22/19 14:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 14:27	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 14:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 14:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 14:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 14:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 14:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 14:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 14:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 14:27	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 14:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 14:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 14:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 14:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 14:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 14:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 14:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 14:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 14:27	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 14:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 14:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 14:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 14:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 14:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 14:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 14:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 14:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 14:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 14:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 14:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 14:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: TB-PW-071819-A

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 14:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 14:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 14:27	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 14:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 14:27	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 14:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 14:27	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 14:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 14:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 14:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 14:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 14:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 14:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 14:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 14:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 14:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 14:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 14:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 14:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 14:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*11*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 14:27*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 14:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/22/19 14:27*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 14:27*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 14:27*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2

Matrix: Solid
Percent Solids: 77.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1600	810	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Acrolein	ND		3100	1800	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Acrylonitrile	ND	*	1300	500	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Benzene	**54**	**J**	310	42	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromobenzene	ND		310	81	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromochloromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromodichloromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromoform	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Bromomethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2-Butanone (MEK)	ND	*	1600	380	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Carbon disulfide	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Carbon tetrachloride	ND		310	110	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chlorobenzene	ND		310	33	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2-Chloroethyl vinyl ether	ND		630	310	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chloroform	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1-Chlorohexane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Chloromethane	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
cis-1,2-Dichloroethene	ND		310	48	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
cis-1,3-Dichloropropene	ND		310	75	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Dibromochloromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dibromo-3-Chloropropane	ND		310	210	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dichlorobenzene	ND		310	44	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,3-Dichlorobenzene	ND		310	60	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,4-Dichlorobenzene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Dichlorodifluoromethane	ND		310	81	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1-Dichloroethane	ND		310	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dichloroethane	ND		310	51	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1-Dichloroethene	ND	*	310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2-Dichloropropane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,3-Dichloropropane	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2,2-Dichloropropane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1-Dichloropropene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Ethylbenzene	**230**	**J**	310	38	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Ethylene Dibromide	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Ethyl methacrylate	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Hexachlorobutadiene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
2-Hexanone	ND		1600	310	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Isopropylbenzene	**150**	**J**	310	43	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Methylene bromide	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Methylene Chloride	ND	*	940	630	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
4-Methyl-2-pentanone (MIBK)	ND		1600	310	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Methyl tert-butyl ether	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
m-Xylene & p-Xylene	**510**		310	81	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Naphthalene	**280**	**J**	310	130	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
n-Butylbenzene	**260**	**J**	310	60	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
N-Propylbenzene	**300**	**J**	310	56	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
o-Chlorotoluene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
o-Xylene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-SB-43-071819
Lab Sample ID: 400-173406-2
Date Collected: 07/18/19 10:20
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 77.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		310	61	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
p-Isopropyltoluene	**100**	**J**	310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
sec-Butylbenzene	**150**	**J**	310	60	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Styrene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
tert-Butylbenzene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,1,2-Tetrachloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,2,2-Tetrachloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Tetrachloroethene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Toluene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
trans-1,2-Dichloroethene	ND	*	310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
trans-1,3-Dichloropropene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,3-Trichlorobenzene	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,4-Trichlorobenzene	ND		310	130	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,1-Trichloroethane	ND		310	69	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,1,2-Trichloroethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Trichloroethene	ND		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Trichlorofluoromethane	ND		310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,3-Trichloropropane	ND		310	190	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,2,4-Trimethylbenzene	**2200**		310	63	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
1,3,5-Trimethylbenzene	**600**		310	52	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Vinyl acetate	ND		1600	570	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Vinyl chloride	ND	*	310	160	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50
Xylenes, Total	**560**	**J**	630	120	ug/Kg	☼	07/22/19 16:12	07/23/19 01:03	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*660*	*T J*	*ug/Kg*	☼	*3.72*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Hexane, 3-methyl-	*560*	*T J N*	*ug/Kg*	☼	*3.78*	*589-34-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Isooctane	*560*		*ug/Kg*	☼	*3.94*	*540-84-1*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Pentane, 2,3,4-trimethyl-	*570*	*T J N*	*ug/Kg*	☼	*4.68*	*565-75-3*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*1000*	*T J*	*ug/Kg*	☼	*4.77*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*590*	*T J*	*ug/Kg*	☼	*5.90*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Octane, 3-methyl-	*390*	*T J N*	*ug/Kg*	☼	*5.98*	*2216-33-3*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Octane, 2,6-dimethyl-	*560*	*T J N*	*ug/Kg*	☼	*6.62*	*2051-30-1*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*380*	*T J*	*ug/Kg*	☼	*6.69*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*1200*	*T J*	*ug/Kg*	☼	*6.73*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Nonane, 4-methyl-	*1100*	*T J N*	*ug/Kg*	☼	*6.89*	*17301-94-9*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
3-Ethyltoluene	*690*		*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
1,2,3-Trimethylbenzene	*640*		*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
p-Diethylbenzene	*520*		*ug/Kg*	☼	*8.10*	*105-05-5*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Benzene, 1-methyl-2-propyl-	*820*	*T J N*	*ug/Kg*	☼	*8.26*	*1074-17-5*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Benzene, 1-methyl-2-(1-methylethyl)-	*1300*	*T J N*	*ug/Kg*	☼	*8.35*	*527-84-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Benzene, 1-methyl-2-(1-methylethyl)-	*480*	*T J N*	*ug/Kg*	☼	*8.41*	*527-84-4*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*740*	*T J*	*ug/Kg*	☼	*8.51*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*560*	*T J*	*ug/Kg*	☼	*8.63*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*1700*	*T J*	*ug/Kg*	☼	*9.11*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*1000*	*T J*	*ug/Kg*	☼	*9.55*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
Unknown	*480*	*T J*	*ug/Kg*	☼	*10.56*		*07/22/19 16:12*	*07/23/19 01:03*	*50*
2-Methylnaphthalene	*770*		*ug/Kg*	☼	*10.74*	*91-57-6*	*07/22/19 16:12*	*07/23/19 01:03*	*50*
1-Methylnaphthalene	*560*		*ug/Kg*	☼	*10.91*	*90-12-0*	*07/22/19 16:12*	*07/23/19 01:03*	*50*

Client Sample ID: PD-7-SB-43-071819
Lab Sample ID: 400-173406-2
Date Collected: 07/18/19 10:20
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 77.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		72 - 122	07/22/19 16:12	07/23/19 01:03	50
Dibromofluoromethane	86		79 - 123	07/22/19 16:12	07/23/19 01:03	50
Toluene-d8 (Surr)	100		80 - 120	07/22/19 16:12	07/23/19 01:03	50

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**150**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Acenaphthylene	ND		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Anthracene	**130**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[a]anthracene	**130**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[a]pyrene	**150**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[b]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[g,h,i]perylene	**40**		8.5	2.6	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Benzo[k]fluoranthene	ND		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Chrysene	**260**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Dibenz(a,h)anthracene	ND		8.5	2.6	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Fluoranthene	**62**	**B**	8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Fluorene	**300**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Indeno[1,2,3-cd]pyrene	**15**		8.5	2.6	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Phenanthrene	**1100**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1
Pyrene	**450**		8.5	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	62		27 - 127	07/23/19 10:39	08/03/19 11:58	1
Nitrobenzene-d5	63		15 - 136	07/23/19 10:39	08/03/19 11:58	1
Terphenyl-d14	78		24 - 146	07/23/19 10:39	08/03/19 11:58	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**4000**		42	6.4	ug/Kg	☼	07/23/19 10:39	08/05/19 13:08	5
2-Methylnaphthalene	**5600**		42	6.4	ug/Kg	☼	07/23/19 10:39	08/05/19 13:08	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	420	55	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Benzenethiol	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Benzoic acid	ND		1300	450	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Bis(2-chloroethoxy)methane	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Bis(2-chloroethyl)ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
bis (2-chloroisopropyl) ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Bis(2-ethylhexyl) phthalate	**73**	**J**	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
4-Bromophenyl phenyl ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Butyl benzyl phthalate	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
4-Chloroaniline	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Chloro-3-methylphenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Chloronaphthalene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Chlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Chlorophenyl phenyl ether	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Dibenz[a,h]acridine	ND	*	420	85	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Dibenzofuran	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819
Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2
Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
2,4-Dichlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Diethyl phthalate	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4-Dimethylphenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Dimethyl phthalate	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Di-n-butyl phthalate	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
2,4-Dinitrophenol	ND		1300	370	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4-Dinitrotoluene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,6-Dinitrotoluene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
1,4-Dioxane	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Hexachlorobenzene	ND	*	420	130	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Hexachlorocyclopentadiene	ND		420	85	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Hexachloroethane	ND	*	420	130	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Indene	ND	*	420	85	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Isophorone	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Methylphenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
3 & 4 Methylphenol	ND	*	850	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Nitroaniline	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
3-Nitroaniline	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Nitrobenzene	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2-Nitrophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
N-Nitrosodimethylamine	ND	*	420	85	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
N-Nitrosodi-n-propylamine	ND	*	420	140	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
N-Nitrosodiphenylamine	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Pentachlorophenol	ND		850	85	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Phenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
Pyridine	ND		420	190	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1
Quinoline	ND		420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4,5-Trichlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/24/19 19:28	1
2,4,6-Trichlorophenol	ND	*	420	42	ug/Kg	☼	07/23/19 10:39	07/25/19 20:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, 1-ethyl-2-methyl-	*4800*	*T J N*	*ug/Kg*	☼	*5.27*	*611-14-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Decane	*4700*	*T J N*	*ug/Kg*	☼	*5.43*	*124-18-5*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1,2,3-trimethyl-	*9800*	*T J N*	*ug/Kg*	☼	*5.45*	*526-73-8*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Decane, 4-methyl-	*4500*	*T J N*	*ug/Kg*	☼	*5.54*	*2847-72-5*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2-methyl-	*4800*	*T J N*	*ug/Kg*	☼	*5.60*	*611-14-3*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1,4-diethyl-	*5700*	*T J N*	*ug/Kg*	☼	*5.75*	*105-05-5*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*3400*	*T J N*	*ug/Kg*	☼	*5.89*	*933-98-2*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Unknown	*3500*	*T J*	*ug/Kg*	☼	*5.96*		*07/23/19 10:39*	*07/25/19 20:46*	*1*
Unknown	*4200*	*T J*	*ug/Kg*	☼	*6.12*		*07/23/19 10:39*	*07/25/19 20:46*	*1*
Unknown	*3500*	*T J*	*ug/Kg*	☼	*6.14*		*07/23/19 10:39*	*07/25/19 20:46*	*1*
1-Methyldecahydronaphthalene	*3400*	*T J N*	*ug/Kg*	☼	*6.16*	*2958-75-0*	*07/23/19 10:39*	*07/25/19 20:46*	*1*
Unknown	*3800*	*T J*	*ug/Kg*	☼	*6.18*		*07/23/19 10:39*	*07/25/19 20:46*	*1*

Client Sample ID: PD-7-SB-43-071819
Lab Sample ID: 400-173406-2
Date Collected: 07/18/19 10:20
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6400	T J	ug/Kg	☼	6.22		07/23/19 10:39	07/25/19 20:46	1
Unknown	3800	T J	ug/Kg	☼	6.29		07/23/19 10:39	07/25/19 20:46	1
Dodecane	7200	T J N	ug/Kg	☼	6.33	112-40-3	07/23/19 10:39	07/25/19 20:46	1
Undecane, 2,6-dimethyl-	7300	T J N	ug/Kg	☼	6.38	17301-23-4	07/23/19 10:39	07/25/19 20:46	1
Naphthalene	3400	T J N	ug/Kg	☼	6.41	91-20-3	07/23/19 10:39	07/25/19 20:46	1
Unknown	5200	T J	ug/Kg	☼	6.61		07/23/19 10:39	07/25/19 20:46	1
Tridecane	5500	T J N	ug/Kg	☼	6.72	629-50-5	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1-methyl-	5100	T J N	ug/Kg	☼	6.86	90-12-0	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1-methyl-	4100	T J N	ug/Kg	☼	6.93	90-12-0	07/23/19 10:39	07/25/19 20:46	1
Tridecane, 2-methyl-	3900	T J N	ug/Kg	☼	6.96	1560-96-9	07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 1,6-dimethyl-	4300	T J N	ug/Kg	☼	7.28	575-43-9	07/23/19 10:39	07/25/19 20:46	1
Unknown	5200	T J	ug/Kg	☼	7.31		07/23/19 10:39	07/25/19 20:46	1
Naphthalene, 2,7-dimethyl-	3500	T J N	ug/Kg	☼	7.35	582-16-1	07/23/19 10:39	07/25/19 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	48		27 - 127	07/23/19 10:39	07/25/19 20:46	1
2-Fluorophenol	43		25 - 128	07/23/19 10:39	07/25/19 20:46	1
Nitrobenzene-d5	52		15 - 136	07/23/19 10:39	07/25/19 20:46	1
Phenol-d5	60		29 - 130	07/23/19 10:39	07/25/19 20:46	1
Terphenyl-d14	53		24 - 146	07/23/19 10:39	07/25/19 20:46	1
2,4,6-Tribromophenol	48		10 - 150	07/23/19 10:39	07/25/19 20:46	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		420	54	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Benzoic acid	ND		1300	440	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Benzyl alcohol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Bis(2-chloroethoxy)methane	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Bis(2-chloroethyl)ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
bis (2-chloroisopropyl) ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Bis(2-ethylhexyl) phthalate	**63**	**J B**	420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Bromophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Butyl benzyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Chloroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Chloro-3-methylphenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Chloronaphthalene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Chlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Chlorophenyl phenyl ether	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Dibenz[a,h]acridine	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Dibenzofuran	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
3,3'-Dichlorobenzidine	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dichlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Diethyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dimethylphenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Dimethyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Di-n-butyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4,6-Dinitro-ortho-cresol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dinitrophenol	ND		1300	370	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-43-071819

Date Collected: 07/18/19 10:20
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-2

Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Di-n-octyl phthalate	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
1,4-Dioxane	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Hexachlorobenzene	ND		420	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Hexachlorocyclopentadiene	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Hexachloroethane	ND		420	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Indene	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Isophorone	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Methylphenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
3 & 4 Methylphenol	ND		840	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Nitroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
3-Nitroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Nitroaniline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Nitrobenzene	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2-Nitrophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
4-Nitrophenol	ND		420	140	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
N-Nitrosodimethylamine	ND		420	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
N-Nitrosodi-n-propylamine	ND		420	140	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
N-Nitrosodiphenylamine	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Pentachlorophenol	ND		840	84	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Phenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Pyridine	ND		420	190	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
Quinoline	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4,5-Trichlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1
2,4,6-Trichlorophenol	ND		420	42	ug/Kg	☼	07/29/19 11:41	08/03/19 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*27 - 127*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
2-Fluorophenol	*82*		*25 - 128*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
Nitrobenzene-d5	*92*		*15 - 136*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
Phenol-d5	*25*	*X*	*29 - 130*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/29/19 11:41*	*08/03/19 14:28*	*1*
2,4,6-Tribromophenol	*91*		*10 - 150*	*07/29/19 11:41*	*08/03/19 14:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**77.9**		0.01	0.01	%			07/20/19 12:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3

Matrix: Solid
Percent Solids: 74.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		340000	170000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Acrolein	ND		670000	380000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Acrylonitrile	ND	*	270000	110000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromobenzene	ND		67000	17000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromochloromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromodichloromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromoform	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Bromomethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2-Butanone (MEK)	ND	*	340000	81000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Carbon disulfide	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Carbon tetrachloride	ND		67000	23000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chlorobenzene	ND		67000	7000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2-Chloroethyl vinyl ether	ND		130000	67000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chloroform	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1-Chlorohexane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Chloromethane	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
cis-1,2-Dichloroethene	ND		67000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
cis-1,3-Dichloropropene	ND		67000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Dibromochloromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dibromo-3-Chloropropane	ND		67000	44000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dichlorobenzene	ND		67000	9500	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,3-Dichlorobenzene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,4-Dichlorobenzene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Dichlorodifluoromethane	ND		67000	17000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1-Dichloroethane	ND		67000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dichloroethane	ND		67000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1-Dichloroethene	ND	*	67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2-Dichloropropane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,3-Dichloropropane	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2,2-Dichloropropane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1-Dichloropropene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Ethylbenzene	**22000**	**J**	67000	8200	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Ethylene Dibromide	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Ethyl methacrylate	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Hexachlorobutadiene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
2-Hexanone	ND		340000	67000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Isopropylbenzene	ND		67000	9100	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Methylene bromide	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Methylene Chloride	ND	*	200000	130000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
4-Methyl-2-pentanone (MIBK)	ND		340000	67000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Methyl tert-butyl ether	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
m-Xylene & p-Xylene	**51000**	**J**	67000	17000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Naphthalene	ND		67000	27000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
n-Butylbenzene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
N-Propylbenzene	ND		67000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
o-Chlorotoluene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
o-Xylene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
p-Chlorotoluene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000

Client Sample ID: PD-7-SB-51-071819
Lab Sample ID: 400-173406-3
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 74.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
sec-Butylbenzene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Styrene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
tert-Butylbenzene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,1,2-Tetrachloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,2,2-Tetrachloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Tetrachloroethene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Toluene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
trans-1,2-Dichloroethene	ND	*	67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
trans-1,3-Dichloropropene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,3-Trichlorobenzene	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,4-Trichlorobenzene	ND		67000	27000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,1-Trichloroethane	ND		67000	15000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,1,2-Trichloroethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Trichloroethene	ND		67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Trichlorofluoromethane	ND		67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,3-Trichloropropane	ND		67000	40000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,2,4-Trimethylbenzene	**56000**	**J**	67000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
1,3,5-Trimethylbenzene	**19000**	**J**	67000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Vinyl acetate	ND		340000	120000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Vinyl chloride	ND	*	67000	34000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000
Xylenes, Total	**60000**	**J**	130000	26000	ug/Kg	☼	07/22/19 16:12	07/23/19 02:40	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*35000*	*J **	*ug/Kg*	☼	*2.92*	*110-54-3*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Isooctane	*26000*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
3-Ethyltoluene	*22000*	*J*	*ug/Kg*	☼	*7.21*	*620-14-4*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
1,2,3-Trimethylbenzene	*18000*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Undecane	*89000*	*T J N*	*ug/Kg*	☼	*8.18*	*1120-21-4*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*72 - 122*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Dibromofluoromethane	*89*		*79 - 123*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*
Toluene-d8 (Surr)	*92*		*80 - 120*	*07/22/19 16:12*	*07/23/19 02:40*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5200000**		130000	18000	ug/Kg	☼	07/24/19 14:48	07/25/19 02:36	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*72 - 122*	*07/24/19 14:48*	*07/25/19 02:36*	*20000*
Dibromofluoromethane	*85*		*79 - 123*	*07/24/19 14:48*	*07/25/19 02:36*	*20000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/24/19 14:48*	*07/25/19 02:36*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**110**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Acenaphthylene	ND		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Anthracene	**55**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[a]anthracene	**60**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[a]pyrene	**74**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3

Matrix: Solid
Percent Solids: 74.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**40**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[g,h,i]perylene	**19**		8.8	2.7	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Benzo[k]fluoranthene	ND		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Chrysene	**120**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Dibenz(a,h)anthracene	ND		8.8	2.7	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Fluoranthene	**31**	**B**	8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Fluorene	**150**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Indeno[1,2,3-cd]pyrene	**9.1**		8.8	2.7	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
1-Methylnaphthalene	**2000**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
2-Methylnaphthalene	**2700**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Phenanthrene	**420**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1
Pyrene	**190**		8.8	1.3	ug/Kg	☼	07/23/19 10:39	08/03/19 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*27 - 127*	*07/23/19 10:39*	*08/03/19 12:16*	*1*
Nitrobenzene-d5	*37*		*15 - 136*	*07/23/19 10:39*	*08/03/19 12:16*	*1*
Terphenyl-d14	*64*		*24 - 146*	*07/23/19 10:39*	*08/03/19 12:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	440	58	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Benzenethiol	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Benzoic acid	ND		1300	470	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Benzyl alcohol	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Bis(2-chloroethoxy)methane	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Bis(2-chloroethyl)ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
bis (2-chloroisopropyl) ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Bis(2-ethylhexyl) phthalate	**77**	**J**	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
4-Bromophenyl phenyl ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Butyl benzyl phthalate	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
4-Chloroaniline	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Chloro-3-methylphenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Chloronaphthalene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Chlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Chlorophenyl phenyl ether	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Dibenz[a,h]acridine	ND	*	440	88	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Dibenzofuran	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
3,3'-Dichlorobenzidine	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
2,4-Dichlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Diethyl phthalate	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4-Dimethylphenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Dimethyl phthalate	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Di-n-butyl phthalate	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4,6-Dinitro-ortho-cresol	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
2,4-Dinitrophenol	ND		1300	390	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4-Dinitrotoluene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,6-Dinitrotoluene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Di-n-octyl phthalate	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
1,4-Dioxane	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-SB-51-071819
Lab Sample ID: 400-173406-3
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 74.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Hexachlorobenzene	ND	*	440	130	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Hexachlorocyclopentadiene	ND		440	88	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Hexachloroethane	ND	*	440	130	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Indene	ND	*	440	88	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Isophorone	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Methylphenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
3 & 4 Methylphenol	ND	*	880	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Nitroaniline	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
3-Nitroaniline	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Nitroaniline	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Nitrobenzene	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2-Nitrophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
4-Nitrophenol	ND		440	150	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
N-Nitrosodimethylamine	ND	*	440	88	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
N-Nitrosodi-n-propylamine	ND	*	440	150	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
N-Nitrosodiphenylamine	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Pentachlorophenol	ND		880	88	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Phenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
Pyridine	ND		440	200	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1
Quinoline	ND		440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4,5-Trichlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/24/19 19:50	1
2,4,6-Trichlorophenol	ND	*	440	44	ug/Kg	☼	07/23/19 10:39	07/25/19 21:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, 1-ethyl-2-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*5.27*	*611-14-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Decane	*5900*	*T J N*	*ug/Kg*	☼	*5.42*	*124-18-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1,2,3-trimethyl-	*7300*	*T J N*	*ug/Kg*	☼	*5.44*	*526-73-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Decane, 4-methyl-	*3000*	*T J N*	*ug/Kg*	☼	*5.54*	*2847-72-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1,2,3-trimethyl-	*2900*	*T J N*	*ug/Kg*	☼	*5.60*	*526-73-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Benzene, 1,4-diethyl-	*4000*	*T J N*	*ug/Kg*	☼	*5.75*	*105-05-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*2600*	*T J*	*ug/Kg*	☼	*6.12*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*2900*	*T J*	*ug/Kg*	☼	*6.18*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*4600*	*T J*	*ug/Kg*	☼	*6.21*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*2300*	*T J*	*ug/Kg*	☼	*6.28*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Dodecane	*9000*	*T J N*	*ug/Kg*	☼	*6.33*	*112-40-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Undecane, 2,6-dimethyl-	*5100*	*T J N*	*ug/Kg*	☼	*6.38*	*17301-23-4*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene	*2500*	*T J N*	*ug/Kg*	☼	*6.41*	*91-20-3*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*4100*	*T J*	*ug/Kg*	☼	*6.55*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Dodecane, 2-methyl-	*2300*	*T J N*	*ug/Kg*	☼	*6.58*	*1560-97-0*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Unknown	*4100*	*T J*	*ug/Kg*	☼	*6.61*		*07/23/19 10:39*	*07/25/19 21:07*	*1*
Tridecane	*7700*	*T J N*	*ug/Kg*	☼	*6.72*	*629-50-5*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 1-methyl-	*3400*	*T J N*	*ug/Kg*	☼	*6.86*	*90-12-0*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 2-methyl-	*2800*	*T J N*	*ug/Kg*	☼	*6.93*	*91-57-6*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Tridecane, 2-methyl-	*2700*	*T J N*	*ug/Kg*	☼	*6.95*	*1560-96-9*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 1,6-dimethyl-	*2800*	*T J N*	*ug/Kg*	☼	*7.28*	*575-43-9*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Pentadecane, 4-methyl-	*3300*	*T J N*	*ug/Kg*	☼	*7.31*	*2801-87-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Naphthalene, 2,3-dimethyl-	*3900*	*T J N*	*ug/Kg*	☼	*7.33*	*581-40-8*	*07/23/19 10:39*	*07/25/19 21:07*	*1*
Pentadecane	*4700*	*T J N*	*ug/Kg*	☼	*7.45*	*629-62-9*	*07/23/19 10:39*	*07/25/19 21:07*	*1*

Client Sample ID: PD-7-SB-51-071819
Lab Sample ID: 400-173406-3
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 74.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexadecane	2700	T J N	ug/Kg	☼	7.80	544-76-3	07/23/19 10:39	07/25/19 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	39		27 - 127	07/23/19 10:39	07/25/19 21:07	1
2-Fluorophenol	38		25 - 128	07/23/19 10:39	07/25/19 21:07	1
Nitrobenzene-d5	45		15 - 136	07/23/19 10:39	07/25/19 21:07	1
Phenol-d5	49		29 - 130	07/23/19 10:39	07/25/19 21:07	1
Terphenyl-d14	45		24 - 146	07/23/19 10:39	07/25/19 21:07	1
2,4,6-Tribromophenol	42		10 - 150	07/23/19 10:39	07/25/19 21:07	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		440	58	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Benzoic acid	ND		1300	470	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Benzyl alcohol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Bis(2-chloroethoxy)methane	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Bis(2-chloroethyl)ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
bis (2-chloroisopropyl) ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Bis(2-ethylhexyl) phthalate	**67**	**J B**	440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Bromophenyl phenyl ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Butyl benzyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Chloroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Chloro-3-methylphenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Chloronaphthalene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Chlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Chlorophenyl phenyl ether	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Dibenz[a,h]acridine	ND		440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Dibenzofuran	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
3,3'-Dichlorobenzidine	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dichlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Diethyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dimethylphenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Dimethyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Di-n-butyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4,6-Dinitro-ortho-cresol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dinitrophenol	ND		1300	390	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4-Dinitrotoluene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,6-Dinitrotoluene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Di-n-octyl phthalate	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
1,4-Dioxane	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Hexachlorobenzene	ND		440	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Hexachlorocyclopentadiene	ND		440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Hexachloroethane	ND		440	130	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Indene	**120**	**J**	440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Isophorone	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Methylphenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
3 & 4 Methylphenol	ND		890	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Nitroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-3

Matrix: Solid
Percent Solids: 74.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Nitroaniline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Nitrobenzene	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2-Nitrophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
4-Nitrophenol	ND		440	150	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
N-Nitrosodimethylamine	ND		440	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
N-Nitrosodi-n-propylamine	ND		440	150	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
N-Nitrosodiphenylamine	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Pentachlorophenol	ND		890	89	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Phenol	**640**		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Pyridine	ND		440	200	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
Quinoline	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4,5-Trichlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1
2,4,6-Trichlorophenol	ND		440	44	ug/Kg	☼	07/29/19 11:41	08/03/19 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*27 - 127*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
2-Fluorophenol	*86*		*25 - 128*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
Nitrobenzene-d5	*81*		*15 - 136*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
Phenol-d5	*8*	*X*	*29 - 130*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
Terphenyl-d14	*106*		*24 - 146*	*07/29/19 11:41*	*08/03/19 14:53*	*1*
2,4,6-Tribromophenol	*98*		*10 - 150*	*07/29/19 11:41*	*08/03/19 14:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**74.0**		0.01	0.01	%			07/20/19 12:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		300000	160000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Acrolein	ND		600000	340000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Acrylonitrile	ND	*	240000	96000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromobenzene	ND		60000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromochloromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromodichloromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromoform	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Bromomethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2-Butanone (MEK)	ND	*	300000	72000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Carbon disulfide	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Carbon tetrachloride	ND		60000	20000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chlorobenzene	ND		60000	6300	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2-Chloroethyl vinyl ether	ND		120000	60000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chloroform	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1-Chlorohexane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Chloromethane	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
cis-1,2-Dichloroethene	ND		60000	9200	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
cis-1,3-Dichloropropene	ND		60000	14000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Dibromochloromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dibromo-3-Chloropropane	ND		60000	40000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dichlorobenzene	ND		60000	8600	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,3-Dichlorobenzene	ND		60000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,4-Dichlorobenzene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Dichlorodifluoromethane	ND		60000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1-Dichloroethane	ND		60000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dichloroethane	ND		60000	9900	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1-Dichloroethene	ND	*	60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2-Dichloropropane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,3-Dichloropropane	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2,2-Dichloropropane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1-Dichloropropene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Ethylbenzene	**20000**	**J**	60000	7300	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Ethylene Dibromide	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Ethyl methacrylate	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Hexachlorobutadiene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
2-Hexanone	ND		300000	60000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Isopropylbenzene	ND		60000	8200	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Methylene bromide	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Methylene Chloride	ND	*	180000	120000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
4-Methyl-2-pentanone (MIBK)	ND		300000	60000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Methyl tert-butyl ether	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
m-Xylene & p-Xylene	**47000**	**J**	60000	16000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Naphthalene	ND		60000	24000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
n-Butylbenzene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
N-Propylbenzene	ND		60000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
o-Chlorotoluene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
o-Xylene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
p-Chlorotoluene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000

Client Sample ID: PD-7-SB-51-071819-DUP
Lab Sample ID: 400-173406-4
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 79.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
sec-Butylbenzene	ND		60000	11000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Styrene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
tert-Butylbenzene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,1,2-Tetrachloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,2,2-Tetrachloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Tetrachloroethene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Toluene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
trans-1,2-Dichloroethene	ND	*	60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
trans-1,3-Dichloropropene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,3-Trichlorobenzene	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,4-Trichlorobenzene	ND		60000	24000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,1-Trichloroethane	ND		60000	13000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,1,2-Trichloroethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Trichloroethene	ND		60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Trichlorofluoromethane	ND		60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,3-Trichloropropane	ND		60000	36000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,2,4-Trimethylbenzene	**49000**	**J**	60000	12000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
1,3,5-Trimethylbenzene	**15000**	**J**	60000	10000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Vinyl acetate	ND		300000	110000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Vinyl chloride	ND	*	60000	30000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000
Xylenes, Total	**55000**	**J**	120000	23000	ug/Kg	☼	07/22/19 16:12	07/23/19 03:04	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*34000*	*J **	*ug/Kg*	☼	*2.93*	*110-54-3*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Isooctane	*26000*	*J*	*ug/Kg*	☼	*3.94*	*540-84-1*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
1,2,3-Trimethylbenzene	*16000*	*J*	*ug/Kg*	☼	*7.90*	*526-73-8*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Undecane	*86000*	*T J N*	*ug/Kg*	☼	*8.18*	*1120-21-4*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Dibromofluoromethane	*90*		*79 - 123*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*
Toluene-d8 (Surr)	*97*		*80 - 120*	*07/22/19 16:12*	*07/23/19 03:04*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5000000**		120000	16000	ug/Kg	☼	07/24/19 14:48	07/25/19 03:00	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*72 - 122*	*07/24/19 14:48*	*07/25/19 03:00*	*20000*
Dibromofluoromethane	*85*		*79 - 123*	*07/24/19 14:48*	*07/25/19 03:00*	*20000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/24/19 14:48*	*07/25/19 03:00*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**210**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Acenaphthylene	ND		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Anthracene	**120**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[a]anthracene	**120**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[a]pyrene	**140**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[b]fluoranthene	**66**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-SB-51-071819-DUP
Lab Sample ID: 400-173406-4
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 79.7

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	**31**		8.2	2.5	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Benzo[k]fluoranthene	ND		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Chrysene	**190**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Dibenz(a,h)anthracene	ND		8.2	2.5	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Fluoranthene	**60**	**B**	8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Fluorene	**300**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Indeno[1,2,3-cd]pyrene	**18**		8.2	2.5	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Phenanthrene	**1100**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1
Pyrene	**410**		8.2	1.2	ug/Kg	☼	07/23/19 10:41	08/03/19 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*38*		*27 - 127*	*07/23/19 10:41*	*08/03/19 12:33*	*1*
Nitrobenzene-d5	*72*		*15 - 136*	*07/23/19 10:41*	*08/03/19 12:33*	*1*
Terphenyl-d14	*78*		*24 - 146*	*07/23/19 10:41*	*08/03/19 12:33*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**6200**		82	12	ug/Kg	☼	07/23/19 10:41	08/05/19 13:25	10
2-Methylnaphthalene	**9000**		82	12	ug/Kg	☼	07/23/19 10:41	08/05/19 13:25	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	410	54	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Benzenethiol	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Benzoic acid	ND		1200	440	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Bis(2-chloroethoxy)methane	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Bis(2-chloroethyl)ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
bis (2-chloroisopropyl) ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Bis(2-ethylhexyl) phthalate	**67**	**J**	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
4-Bromophenyl phenyl ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
4-Chloroaniline	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Chloro-3-methylphenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Chloronaphthalene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Chlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Chlorophenyl phenyl ether	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Dibenz[a,h]acridine	ND	*	410	82	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Dibenzofuran	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
3,3'-Dichlorobenzidine	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
2,4-Dichlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Diethyl phthalate	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4-Dimethylphenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Dimethyl phthalate	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Di-n-butyl phthalate	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4-Dinitrotoluene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,6-Dinitrotoluene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Client Sample ID: PD-7-SB-51-071819-DUP

Date Collected: 07/18/19 11:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173406-4

Matrix: Solid
Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Hexachlorobenzene	ND	*	410	120	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Hexachlorocyclopentadiene	ND		410	82	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Hexachloroethane	ND	*	410	120	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Indene	ND	*	410	82	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Isophorone	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Methylphenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
3 & 4 Methylphenol	ND	*	820	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Nitroaniline	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
3-Nitroaniline	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Nitrobenzene	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2-Nitrophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
N-Nitrosodimethylamine	ND	*	410	82	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
N-Nitrosodi-n-propylamine	ND	*	410	140	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
N-Nitrosodiphenylamine	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Pentachlorophenol	ND		820	82	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Phenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
Pyridine	ND		410	190	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1
Quinoline	ND		410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4,5-Trichlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/24/19 20:11	1
2,4,6-Trichlorophenol	ND	*	410	41	ug/Kg	☼	07/23/19 10:41	07/25/19 21:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*5600*	*T J*	*ug/Kg*	☼	*4.84*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*5100*	*T J*	*ug/Kg*	☼	*5.27*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Decane	*7900*	*T J N*	*ug/Kg*	☼	*5.43*	*124-18-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1,2,3-trimethyl-	*7300*	*T J N*	*ug/Kg*	☼	*5.45*	*526-73-8*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Decane, 4-methyl-	*6800*	*T J N*	*ug/Kg*	☼	*5.54*	*2847-72-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzene, 1,2,3-trimethyl-	*6100*	*T J N*	*ug/Kg*	☼	*5.60*	*526-73-8*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*5700*	*T J*	*ug/Kg*	☼	*5.75*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*8700*	*T J*	*ug/Kg*	☼	*5.97*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*4700*	*T J*	*ug/Kg*	☼	*6.12*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Undecane, 2-methyl-	*5700*	*T J N*	*ug/Kg*	☼	*6.19*	*7045-71-8*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*8500*	*T J*	*ug/Kg*	☼	*6.22*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*5400*	*T J*	*ug/Kg*	☼	*6.29*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Dodecane	*13000*	*T J N*	*ug/Kg*	☼	*6.34*	*112-40-3*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Azulene	*7300*	*T J N*	*ug/Kg*	☼	*6.41*	*275-51-4*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*4100*	*T J*	*ug/Kg*	☼	*6.48*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*4200*	*T J*	*ug/Kg*	☼	*6.59*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*6400*	*T J*	*ug/Kg*	☼	*6.62*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Tridecane	*11000*	*T J N*	*ug/Kg*	☼	*6.73*	*629-50-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Benzocycloheptatriene	*6500*	*T J N*	*ug/Kg*	☼	*6.86*	*264-09-5*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Naphthalene, 2-methyl-	*5500*	*T J N*	*ug/Kg*	☼	*6.93*	*91-57-6*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*4500*	*T J*	*ug/Kg*	☼	*6.96*		*07/23/19 10:41*	*07/25/19 21:28*	*1*
Dodecane, 2,6,10-trimethyl-	*7600*	*T J N*	*ug/Kg*	☼	*7.01*	*3891-98-3*	*07/23/19 10:41*	*07/25/19 21:28*	*1*
Unknown	*5300*	*T J*	*ug/Kg*	☼	*7.32*		*07/23/19 10:41*	*07/25/19 21:28*	*1*

Client Sample ID: PD-7-SB-51-071819-DUP
Lab Sample ID: 400-173406-4
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Pentadecane	7300	T J N	ug/Kg	☼	7.46	629-62-9	07/23/19 10:41	07/25/19 21:28	1
Hexadecane	5800	T J N	ug/Kg	☼	7.81	544-76-3	07/23/19 10:41	07/25/19 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	51		27 - 127	07/23/19 10:41	07/25/19 21:28	1
2-Fluorophenol	40		25 - 128	07/23/19 10:41	07/25/19 21:28	1
Nitrobenzene-d5	6	X	15 - 136	07/23/19 10:41	07/25/19 21:28	1
Phenol-d5	43		29 - 130	07/23/19 10:41	07/25/19 21:28	1
Terphenyl-d14	54		24 - 146	07/23/19 10:41	07/25/19 21:28	1
2,4,6-Tribromophenol	74		10 - 150	07/23/19 10:41	07/25/19 21:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		410	53	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Benzoic acid	ND		1200	430	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Benzyl alcohol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Bis(2-chloroethoxy)methane	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Bis(2-chloroethyl)ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
bis (2-chloroisopropyl) ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Bis(2-ethylhexyl) phthalate	**56**	**J B**	410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Bromophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Butyl benzyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Chloroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Chloro-3-methylphenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Chloronaphthalene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Chlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Chlorophenyl phenyl ether	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Dibenz[a,h]acridine	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Dibenzofuran	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
3,3'-Dichlorobenzidine	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dichlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Diethyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dimethylphenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Dimethyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Di-n-butyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4,6-Dinitro-ortho-cresol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dinitrophenol	ND		1200	360	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,6-Dinitrotoluene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Di-n-octyl phthalate	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
1,4-Dioxane	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Hexachlorobenzene	ND		410	120	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Hexachlorocyclopentadiene	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Hexachloroethane	ND		410	120	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Indene	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Isophorone	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Methylphenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
3 & 4 Methylphenol	ND		810	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-SB-51-071819-DUP
Lab Sample ID: 400-173406-4
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 79.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
3-Nitroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Nitroaniline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Nitrobenzene	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2-Nitrophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
4-Nitrophenol	ND		410	140	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
N-Nitrosodimethylamine	ND		410	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
N-Nitrosodi-n-propylamine	ND		410	140	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
N-Nitrosodiphenylamine	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Pentachlorophenol	ND		810	81	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Phenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Pyridine	ND		410	180	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
Quinoline	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4,5-Trichlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1
2,4,6-Trichlorophenol	ND		410	41	ug/Kg	☼	07/29/19 11:41	08/01/19 20:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*27 - 127*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
2-Fluorophenol	*55*		*25 - 128*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
Nitrobenzene-d5	*69*		*15 - 136*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
Phenol-d5	*63*		*29 - 130*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
Terphenyl-d14	*61*		*24 - 146*	*07/29/19 11:41*	*08/01/19 20:15*	*1*
2,4,6-Tribromophenol	*49*		*10 - 150*	*07/29/19 11:41*	*08/01/19 20:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.7**		0.01	0.01	%			07/20/19 12:58	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173406-2	PD-7-SB-43-071819	93	86	100
400-173406-3	PD-7-SB-51-071819	96	89	92
400-173406-3 - DL	PD-7-SB-51-071819	102	85	98
400-173406-4	PD-7-SB-51-071819-DUP	99	90	97
400-173406-4 - DL	PD-7-SB-51-071819-DUP	105	85	98
LCS 400-449049/2-A	Lab Control Sample	102	93	100
LCS 400-449435/2-A	Lab Control Sample	104	88	98
MB 400-449049/1-A	Method Blank	96	92	100
MB 400-449435/1-A	Method Blank	100	88	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173406-1	TB-PW-071819-A	100	98	104
LCS 400-448915/1002	Lab Control Sample	97	97	103
MB 400-448915/4	Method Blank	101	98	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173406-2	PD-7-SB-43-071819	48	43	52	60	53	48
400-173406-2 - RE	PD-7-SB-43-071819	84	82	92	25 X	88	91
400-173406-3	PD-7-SB-51-071819	39	38	45	49	45	42
400-173406-3 - RE	PD-7-SB-51-071819	91	86	81	8 X	106	98
400-173406-4	PD-7-SB-51-071819-DUP	51	40	6 X	43	54	74
400-173406-4 - RE	PD-7-SB-51-071819-DUP	45	55	69	63	61	49
LCS 400-449132/4-A	Lab Control Sample	38	29	28	29	40	51
LCS 400-449132/6-A	Lab Control Sample	39	30	30	31	42	63
LCS 400-449892/2-A	Lab Control Sample	74	68	71	69	82	81
LCSD 400-449132/5-A	Lab Control Sample Dup	29	24 X	24	24 X	34	48
MB 400-449132/1-A - RA	Method Blank	43	50	61	56	62	35
MB 400-449892/1-A	Method Blank	48	59	80	68	66	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173406-2	PD-7-SB-43-071819	62	63	78
400-173406-3	PD-7-SB-51-071819	56	37	64
400-173406-4	PD-7-SB-51-071819-DUP	38	72	78
LCS 400-449132/2-A	Lab Control Sample	44	39	58
LCSD 400-449132/3-A	Lab Control Sample Dup	58	47	67
MB 400-449132/1-A	Method Blank	57	49	70

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071819-A
Lab Sample ID: 400-173406-1
Date Collected: 07/18/19 00:00
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 14:27	RS	TAL PEN

Client Sample ID: PD-7-SB-43-071819
Lab Sample ID: 400-173406-2
Date Collected: 07/18/19 10:20
Matrix: Solid
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448822	07/20/19 12:58	MEH	TAL PEN

Client Sample ID: PD-7-SB-43-071819
Lab Sample ID: 400-173406-2
Date Collected: 07/18/19 10:20
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 77.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.623 g	5.00 mL	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	449025	07/23/19 01:03	RS	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 19:28	VC1	TAL PEN
Total/NA	Prep	3546	RE		15.20 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D	RE	1			450762	08/03/19 14:28	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449541	07/25/19 20:46	VC1	TAL PEN
Total/NA	Prep	3546			15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 11:58	KJA	TAL PEN
Total/NA	Prep	3546	DL		15.02 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			450940	08/05/19 13:08	KJA	TAL PEN

Client Sample ID: PD-7-SB-51-071819
Lab Sample ID: 400-173406-3
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448822	07/20/19 12:58	MEH	TAL PEN

Client Sample ID: PD-7-SB-51-071819
Lab Sample ID: 400-173406-3
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 74.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.809 g	5.00 mL	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449025	07/23/19 02:40	RS	TAL PEN
Total/NA	Prep	5035	DL		6.809 g	5.00 mL	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449415	07/25/19 02:36	CAR	TAL PEN
Total/NA	Prep	3546			15.12 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 19:50	VC1	TAL PEN

Client Sample ID: PD-7-SB-51-071819

Lab Sample ID: 400-173406-3
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 74.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546	RE		15.10 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D	RE	1			450762	08/03/19 14:53	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449541	07/25/19 21:07	VC1	TAL PEN
Total/NA	Prep	3546			15.12 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:16	KJA	TAL PEN

Client Sample ID: PD-7-SB-51-071819-DUP

Lab Sample ID: 400-173406-4
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			448822	07/20/19 12:58	MEH	TAL PEN

Client Sample ID: PD-7-SB-51-071819-DUP

Lab Sample ID: 400-173406-4
Date Collected: 07/18/19 11:00
Matrix: Solid
Date Received: 07/19/19 09:15
Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.6 g	5.00 mL	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449025	07/23/19 03:04	RS	TAL PEN
Total/NA	Prep	5035	DL		6.6 g	5.00 mL	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449415	07/25/19 03:00	CAR	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 20:11	VC1	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449541	07/25/19 21:28	VC1	TAL PEN
Total/NA	Prep	3546	RE		15.28 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D	RE	1			450467	08/01/19 20:15	VC1	TAL PEN
Total/NA	Prep	3546			15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:33	KJA	TAL PEN
Total/NA	Prep	3546	DL		15.11 g	1 mL	449132	07/23/19 10:41	KLR	TAL PEN
Total/NA	Analysis	8270D LL	DL	10			450940	08/05/19 13:25	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448915/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449049/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 18:08	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449132/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 16:37	VC1	TAL PEN
Total/NA	Prep	3546	RA		15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D	RA	1			449541	07/25/19 18:18	VC1	TAL PEN
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 11:24	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449435/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449415	07/24/19 18:53	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449892/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 17:23	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448915/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449049/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449049	07/22/19 16:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449025	07/22/19 17:19	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449132/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 11:41	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449132/4-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 16:58	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449132/6-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 17:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449435/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	449435	07/24/19 14:48	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449415	07/24/19 17:52	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449892/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449892	07/29/19 11:41	SHB	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 14:03	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449132/3-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 10:50	KJA	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449132/5-A

Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449132	07/23/19 10:39	KLR	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 17:20	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

GC/MS VOA

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-1	TB-PW-071819-A	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8260B	449049
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8260B	449049
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8260B	449049
MB 400-449049/1-A	Method Blank	Total/NA	Solid	8260B	449049
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	8260B	449049

Prep Batch: 449049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	5035	
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	5035	
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	5035	
MB 400-449049/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-449049/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 449415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-3 - DL	PD-7-SB-51-071819	Total/NA	Solid	8260B	449435
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	8260B	449435
MB 400-449435/1-A	Method Blank	Total/NA	Solid	8260B	449435
LCS 400-449435/2-A	Lab Control Sample	Total/NA	Solid	8260B	449435

Prep Batch: 449435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-3 - DL	PD-7-SB-51-071819	Total/NA	Solid	5035	
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	5035	
MB 400-449435/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-449435/2-A	Lab Control Sample	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 449132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-2 - DL	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	3546	
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
MB 400-449132/1-A	Method Blank	Total/NA	Solid	3546	
MB 400-449132/1-A - RA	Method Blank	Total/NA	Solid	3546	
LCS 400-449132/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449132/4-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449132/6-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-449132/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-449132/5-A	Lab Control Sample Dup	Total/NA	Solid	3546	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

GC/MS Semi VOA

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8270D	449132
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8270D	449132
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D	449132
MB 400-449132/1-A	Method Blank	Total/NA	Solid	8270D	449132
LCS 400-449132/4-A	Lab Control Sample	Total/NA	Solid	8270D	449132
LCS 400-449132/6-A	Lab Control Sample	Total/NA	Solid	8270D	449132
LCSD 400-449132/5-A	Lab Control Sample Dup	Total/NA	Solid	8270D	449132

Analysis Batch: 449541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8270D	449132
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8270D	449132
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D	449132
MB 400-449132/1-A - RA	Method Blank	Total/NA	Solid	8270D	449132

Prep Batch: 449892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - RE	PD-7-SB-43-071819	Total/NA	Solid	3546	
400-173406-3 - RE	PD-7-SB-51-071819	Total/NA	Solid	3546	
400-173406-4 - RE	PD-7-SB-51-071819-DUP	Total/NA	Solid	3546	
MB 400-449892/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-449892/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-4 - RE	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D	449892
MB 400-449892/1-A	Method Blank	Total/NA	Solid	8270D	449892

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	8270D LL	449132
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	8270D LL	449132
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D LL	449132
MB 400-449132/1-A	Method Blank	Total/NA	Solid	8270D LL	449132
LCS 400-449132/2-A	Lab Control Sample	Total/NA	Solid	8270D LL	449132
LCSD 400-449132/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	449132

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - RE	PD-7-SB-43-071819	Total/NA	Solid	8270D	449892
400-173406-3 - RE	PD-7-SB-51-071819	Total/NA	Solid	8270D	449892
LCS 400-449892/2-A	Lab Control Sample	Total/NA	Solid	8270D	449892

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2 - DL	PD-7-SB-43-071819	Total/NA	Solid	8270D LL	449132
400-173406-4 - DL	PD-7-SB-51-071819-DUP	Total/NA	Solid	8270D LL	449132

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

General Chemistry

Analysis Batch: 448822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173406-2	PD-7-SB-43-071819	Total/NA	Solid	Moisture	
400-173406-3	PD-7-SB-51-071819	Total/NA	Solid	Moisture	
400-173406-4	PD-7-SB-51-071819-DUP	Total/NA	Solid	Moisture	

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	294		ug/L		147	43 - 160
Acrolein	500	667		ug/L		133	38 - 160
Acrylonitrile	500	616		ug/L		123	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	54.1		ug/L		108	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.2		ug/L		110	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	34.5		ug/L		69	10 - 160
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.6		ug/L		109	61 - 137
Carbon tetrachloride	50.0	60.5		ug/L		121	61 - 137
Chlorobenzene	50.0	56.6		ug/L		113	70 - 130
Chloroethane	50.0	49.1		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	49.3		ug/L		99	10 - 160
Chloroform	50.0	53.9		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.5		ug/L		121	69 - 130
Chloromethane	50.0	44.1		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	58.1		ug/L		116	68 - 130
cis-1,3-Dichloropropene	50.0	59.7		ug/L		119	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.7		ug/L		123	54 - 135
1,2-Dichlorobenzene	50.0	57.7		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	25.0		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	57.8		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	58.2		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.3		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	56.5		ug/L		113	52 - 135
1,1-Dichloropropene	50.0	55.4		ug/L		111	70 - 130
Ethylbenzene	50.0	58.8		ug/L		118	70 - 130
Ethylene Dibromide	50.0	57.3		ug/L		115	70 - 130
Ethyl methacrylate	50.0	65.1		ug/L		130	68 - 130
Hexachlorobutadiene	50.0	52.0		ug/L		104	53 - 140
2-Hexanone	200	306	*	ug/L		153	65 - 137
Isopropylbenzene	50.0	56.2		ug/L		112	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	259		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	51.0		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	57.9		ug/L		116	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	57.7		ug/L		115	67 - 130
N-Propylbenzene	50.0	58.8		ug/L		118	70 - 130
o-Chlorotoluene	50.0	57.4		ug/L		115	70 - 130
o-Xylene	50.0	57.3		ug/L		115	70 - 130
p-Chlorotoluene	50.0	57.1		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	58.1		ug/L		116	65 - 130
sec-Butylbenzene	50.0	56.2		ug/L		112	66 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
tert-Butylbenzene	50.0	55.7		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.3	*	ug/L		137	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.0		ug/L		116	70 - 131
Tetrachloroethene	50.0	57.4		ug/L		115	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	65.0		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	52.6		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	60 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.9		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	70 - 130
1,2,4-Trimethylbenzene	50.0	55.5		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	55.8		ug/L		112	69 - 130
Vinyl acetate	100	117		ug/L		117	26 - 160
Vinyl chloride	50.0	45.3		ug/L		91	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrolein	ND		50	28	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Benzene	ND		5.0	0.67	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromoform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloroform	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
2-Hexanone	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methylene Chloride	ND		15	10	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Styrene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Toluene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/22/19 16:12	07/22/19 18:08	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/22/19 16:12	07/22/19 18:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449049/1-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449049

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/22/19 16:12	07/22/19 18:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		72 - 122	07/22/19 16:12	07/22/19 18:08	1
Dibromofluoromethane	92		79 - 123	07/22/19 16:12	07/22/19 18:08	1
Toluene-d8 (Surr)	100		80 - 120	07/22/19 16:12	07/22/19 18:08	1

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	313		ug/Kg		157	48 - 160
Acrolein	500	730		ug/Kg		146	40 - 150
Acrylonitrile	500	868	*	ug/Kg		174	60 - 130
Benzene	50.0	50.1		ug/Kg		100	65 - 130
Bromobenzene	50.0	52.7		ug/Kg		105	65 - 130
Bromochloromethane	50.0	56.0		ug/Kg		112	65 - 130
Bromodichloromethane	50.0	47.3		ug/Kg		95	61 - 130
Bromoform	50.0	52.0		ug/Kg		104	52 - 136
Bromomethane	50.0	49.7		ug/Kg		99	12 - 160
2-Butanone (MEK)	200	270	*	ug/Kg		135	55 - 130
Carbon disulfide	50.0	62.0		ug/Kg		124	46 - 141
Carbon tetrachloride	50.0	46.1		ug/Kg		92	60 - 130
Chlorobenzene	50.0	51.2		ug/Kg		102	70 - 130
Chloroethane	50.0	56.3		ug/Kg		113	55 - 134
2-Chloroethyl vinyl ether	50.0	41.4		ug/Kg		83	10 - 158
Chloroform	50.0	49.0		ug/Kg		98	62 - 130
1-Chlorohexane	50.0	50.4		ug/Kg		101	69 - 130
Chloromethane	50.0	61.4		ug/Kg		123	49 - 136
cis-1,2-Dichloroethene	50.0	59.4		ug/Kg		119	53 - 135
cis-1,3-Dichloropropene	50.0	49.5		ug/Kg		99	61 - 130
Dibromochloromethane	50.0	51.6		ug/Kg		103	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	56.5		ug/Kg		113	49 - 130
1,2-Dichlorobenzene	50.0	55.9		ug/Kg		112	64 - 130
1,3-Dichlorobenzene	50.0	54.9		ug/Kg		110	66 - 130
1,4-Dichlorobenzene	50.0	53.7		ug/Kg		107	65 - 130
Dichlorodifluoromethane	50.0	39.7		ug/Kg		79	34 - 143
1,1-Dichloroethane	50.0	62.4		ug/Kg		125	59 - 130
1,2-Dichloroethane	50.0	48.7		ug/Kg		97	62 - 130
1,1-Dichloroethene	50.0	69.5	*	ug/Kg		139	55 - 137
1,2-Dichloropropane	50.0	50.0		ug/Kg		100	64 - 130
1,3-Dichloropropane	50.0	52.5		ug/Kg		105	67 - 130
2,2-Dichloropropane	50.0	50.6		ug/Kg		101	51 - 132
1,1-Dichloropropene	50.0	48.7		ug/Kg		97	65 - 130
Ethylbenzene	50.0	52.4		ug/Kg		105	70 - 130
Ethylene Dibromide	50.0	55.2		ug/Kg		110	67 - 130
Ethyl methacrylate	50.0	56.2		ug/Kg		112	62 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449049/2-A
Matrix: Solid
Analysis Batch: 449025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	41.6		ug/Kg		83	62 - 133
2-Hexanone	200	219		ug/Kg		110	57 - 131
Isopropylbenzene	50.0	50.9		ug/Kg		102	70 - 130
Methylene bromide	50.0	49.2		ug/Kg		98	65 - 130
Methylene Chloride	50.0	67.0	*	ug/Kg		134	57 - 132
4-Methyl-2-pentanone (MIBK)	200	243		ug/Kg		122	58 - 130
Methyl tert-butyl ether	50.0	61.1		ug/Kg		122	63 - 130
m-Xylene & p-Xylene	50.0	51.8		ug/Kg		104	70 - 130
Naphthalene	50.0	63.4		ug/Kg		127	45 - 144
n-Butylbenzene	50.0	52.4		ug/Kg		105	66 - 130
N-Propylbenzene	50.0	55.6		ug/Kg		111	67 - 130
o-Chlorotoluene	50.0	54.1		ug/Kg		108	67 - 130
o-Xylene	50.0	53.3		ug/Kg		107	70 - 130
p-Chlorotoluene	50.0	54.2		ug/Kg		108	66 - 130
p-Isopropyltoluene	50.0	54.4		ug/Kg		109	68 - 130
sec-Butylbenzene	50.0	53.8		ug/Kg		108	67 - 130
Styrene	50.0	50.9		ug/Kg		102	68 - 130
tert-Butylbenzene	50.0	52.2		ug/Kg		104	67 - 130
1,1,1,2-Tetrachloroethane	50.0	52.2		ug/Kg		104	65 - 130
1,1,2,2-Tetrachloroethane	50.0	62.4		ug/Kg		125	60 - 131
Tetrachloroethene	50.0	48.6		ug/Kg		97	67 - 130
Toluene	50.0	54.5		ug/Kg		109	70 - 130
trans-1,2-Dichloroethene	50.0	68.8	*	ug/Kg		138	58 - 134
trans-1,3-Dichloropropene	50.0	50.0		ug/Kg		100	60 - 130
1,2,3-Trichlorobenzene	50.0	49.6		ug/Kg		99	58 - 135
1,2,4-Trichlorobenzene	50.0	47.0		ug/Kg		94	56 - 138
1,1,1-Trichloroethane	50.0	48.1		ug/Kg		96	63 - 130
1,1,2-Trichloroethane	50.0	54.0		ug/Kg		108	65 - 130
Trichloroethene	50.0	50.9		ug/Kg		102	65 - 130
Trichlorofluoromethane	50.0	47.6		ug/Kg		95	61 - 136
1,2,3-Trichloropropane	50.0	61.0		ug/Kg		122	60 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/Kg		109	66 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/Kg		110	67 - 130
Vinyl acetate	100	149		ug/Kg		149	24 - 160
Vinyl chloride	50.0	66.3	*	ug/Kg		133	52 - 132
Xylenes, Total	100	105		ug/Kg		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*72 - 122*
Dibromofluoromethane	*93*		*79 - 123*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-449435/1-A
Matrix: Solid
Analysis Batch: 449415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449435

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		07/24/19 14:48	07/24/19 18:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449435/1-A
Matrix: Solid
Analysis Batch: 449415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449435

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/24/19 14:48	07/24/19 18:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 122	07/24/19 14:48	07/24/19 18:53	1
Dibromofluoromethane	88		79 - 123	07/24/19 14:48	07/24/19 18:53	1
Toluene-d8 (Surr)	100		80 - 120	07/24/19 14:48	07/24/19 18:53	1

Lab Sample ID: LCS 400-449435/2-A
Matrix: Solid
Analysis Batch: 449415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449435

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	49.2		ug/Kg		98	65 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	104		72 - 122
Dibromofluoromethane	88		79 - 123
Toluene-d8 (Surr)	98		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Benzenethiol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Benzoic acid	ND		990	350	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Benzyl alcohol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Bis(2-ethylhexyl) phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
4-Chloroaniline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Chlorophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Dibenzofuran	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Diethyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
1,4-Dioxane	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Hexachloroethane	ND		330	100	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Indene	ND		330	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Isophorone	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Methylphenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Nitroaniline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
3-Nitroaniline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Nitrobenzene	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2-Nitrophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
4-Nitrophenol	ND		330	110	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Pentachlorophenol	ND		660	66	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Phenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
Quinoline	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/23/19 10:39	07/24/19 16:37	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/23/19 10:39*	*07/24/19 16:37*	*1*

Lab Sample ID: LCS 400-449132/4-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	508		ug/Kg		25	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*38*		*27 - 127*
2-Fluorophenol	*29*		*25 - 128*
Nitrobenzene-d5	*28*		*15 - 136*
Phenol-d5	*29*		*29 - 130*
Terphenyl-d14	*40*		*24 - 146*
2,4,6-Tribromophenol	*51*		*10 - 150*

Lab Sample ID: LCS 400-449132/6-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	568	*	ug/Kg		28	36 - 120
Benzoic acid	7770	2140		ug/Kg		28	10 - 139
Benzyl alcohol	2000	707		ug/Kg		35	10 - 127

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449132/6-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	2000	561	*	ug/Kg		28	52 - 120
Bis(2-chloroethyl)ether	2000	498	*	ug/Kg		25	50 - 120
bis (2-chloroisopropyl) ether	2000	475	*	ug/Kg		24	34 - 120
Bis(2-ethylhexyl) phthalate	2000	650	*	ug/Kg		32	58 - 158
4-Bromophenyl phenyl ether	2000	1060		ug/Kg		53	51 - 120
Butyl benzyl phthalate	2000	592	*	ug/Kg		30	58 - 126
4-Chloroaniline	2000	518	*	ug/Kg		26	34 - 120
4-Chloro-3-methylphenol	2000	773	*	ug/Kg		39	57 - 124
2-Chloronaphthalene	2000	779	*	ug/Kg		39	55 - 120
2-Chlorophenol	2000	716	*	ug/Kg		36	52 - 120
4-Chlorophenyl phenyl ether	2000	915	*	ug/Kg		46	56 - 120
Dibenz[a,h]acridine	2000	1140		ug/Kg		57	51 - 135
Dibenzofuran	2000	778	*	ug/Kg		39	58 - 120
3,3'-Dichlorobenzidine	2670	2070		ug/Kg		78	42 - 120
2,4-Dichlorophenol	2000	835	*	ug/Kg		42	56 - 120
Diethyl phthalate	2000	793	*	ug/Kg		40	56 - 128
2,4-Dimethylphenol	2000	753	*	ug/Kg		38	54 - 120
Dimethyl phthalate	2000	803	*	ug/Kg		40	58 - 120
Di-n-butyl phthalate	2000	779	*	ug/Kg		39	64 - 122
4,6-Dinitro-ortho-cresol	4000	2160		ug/Kg		54	35 - 135
2,4-Dinitrophenol	4000	2410		ug/Kg		60	10 - 138
2,4-Dinitrotoluene	2000	867	*	ug/Kg		43	59 - 133
2,6-Dinitrotoluene	2000	840	*	ug/Kg		42	57 - 123
Di-n-octyl phthalate	2000	755	*	ug/Kg		38	57 - 137
1,4-Dioxane	2000	294	J *	ug/Kg		15	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	633	*	ug/Kg		32	50 - 120
Hexachlorobenzene	2000	1180		ug/Kg		59	49 - 127
Hexachlorocyclopentadiene	2000	634		ug/Kg		32	10 - 140
Hexachloroethane	2000	624	*	ug/Kg		31	45 - 120
Indene	2000	680	*	ug/Kg		34	45 - 120
Isophorone	2000	613	*	ug/Kg		31	50 - 120
2-Methylphenol	2000	647	*	ug/Kg		32	51 - 123
3 & 4 Methylphenol	2000	689	*	ug/Kg		34	47 - 123
2-Nitroaniline	2000	699	*	ug/Kg		35	55 - 129
3-Nitroaniline	2000	757	*	ug/Kg		38	45 - 120
4-Nitroaniline	2000	1090		ug/Kg		54	52 - 126
Nitrobenzene	2000	624	*	ug/Kg		31	50 - 120
2-Nitrophenol	2000	695	*	ug/Kg		35	53 - 120
4-Nitrophenol	4000	1670		ug/Kg		42	38 - 133
N-Nitrosodimethylamine	2000	663	*	ug/Kg		33	35 - 120
N-Nitrosodi-n-propylamine	2000	707	*	ug/Kg		35	48 - 120
N-Nitrosodiphenylamine	1980	826	*	ug/Kg		42	54 - 120
Pentachlorophenol	4000	2140		ug/Kg		54	32 - 131
Phenol	2000	597	*	ug/Kg		30	51 - 120
Pyridine	4000	780	*	ug/Kg		20	29 - 120
Quinoline	2000	874		ug/Kg		44	10 - 150
2,4,5-Trichlorophenol	2000	863	*	ug/Kg		43	53 - 133
2,4,6-Trichlorophenol	2000	884	*	ug/Kg		44	51 - 125

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	39		27 - 127
2-Fluorophenol	30		25 - 128
Nitrobenzene-d5	30		15 - 136
Phenol-d5	31		29 - 130
Terphenyl-d14	42		24 - 146
2,4,6-Tribromophenol	63		10 - 150

Lab Sample ID: LCSD 400-449132/5-A
Matrix: Solid
Analysis Batch: 449369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449132

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			2000	297	J	ug/Kg		15	10 - 120	NaN	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	29		27 - 127
2-Fluorophenol	24	X	25 - 128
Nitrobenzene-d5	24		15 - 136
Phenol-d5	24	X	29 - 130
Terphenyl-d14	34		24 - 146
2,4,6-Tribromophenol	48		10 - 150

Lab Sample ID: MB 400-449892/1-A
Matrix: Solid
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Benzoic acid	ND		990	350	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Benzyl alcohol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Bis(2-ethylhexyl) phthalate	43.1	J	330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Chloroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Chlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Dibenzofuran	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Diethyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/29/19 11:41	08/01/19 17:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449892/1-A
Matrix: Solid
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449892

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
1,4-Dioxane	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Hexachloroethane	ND		330	100	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Indene	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Isophorone	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Methylphenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Nitroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
3-Nitroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Nitroaniline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Nitrobenzene	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2-Nitrophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
4-Nitrophenol	ND		330	110	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Pentachlorophenol	ND		660	66	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Phenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Pyridine	ND		330	150	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
Quinoline	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/29/19 11:41	08/01/19 17:23	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/29/19 11:41*	*08/01/19 17:23*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*27 - 127*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
2-Fluorophenol	*59*		*25 - 128*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
Nitrobenzene-d5	*80*		*15 - 136*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
Phenol-d5	*68*		*29 - 130*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
Terphenyl-d14	*66*		*24 - 146*	*07/29/19 11:41*	*08/01/19 17:23*	*1*
2,4,6-Tribromophenol	*40*		*10 - 150*	*07/29/19 11:41*	*08/01/19 17:23*	*1*

Lab Sample ID: LCS 400-449892/2-A
Matrix: Solid
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1330		ug/Kg		67	36 - 120
Benzoic acid	7770	3560		ug/Kg		46	10 - 139
Benzyl alcohol	2000	1340		ug/Kg		67	10 - 127

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449892/2-A
Matrix: Solid
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	2000	1310		ug/Kg		66	52 - 120
Bis(2-chloroethyl)ether	2000	1270		ug/Kg		64	50 - 120
bis (2-chloroisopropyl) ether	2000	1260		ug/Kg		63	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1430		ug/Kg		71	58 - 158
4-Bromophenyl phenyl ether	2000	1460		ug/Kg		73	51 - 120
Butyl benzyl phthalate	2000	1540		ug/Kg		77	58 - 126
4-Chloroaniline	2000	1200		ug/Kg		60	34 - 120
4-Chloro-3-methylphenol	2000	1440		ug/Kg		72	57 - 124
2-Chloronaphthalene	2000	1370		ug/Kg		68	55 - 120
2-Chlorophenol	2000	1300		ug/Kg		65	52 - 120
4-Chlorophenyl phenyl ether	2000	1590		ug/Kg		79	56 - 120
Dibenz[a,h]acridine	2000	1500		ug/Kg		75	51 - 135
Dibenzofuran	2000	1510		ug/Kg		75	58 - 120
3,3'-Dichlorobenzidine	2670	2080		ug/Kg		78	42 - 120
2,4-Dichlorophenol	2000	1360		ug/Kg		68	56 - 120
Diethyl phthalate	2000	1570		ug/Kg		79	56 - 128
2,4-Dimethylphenol	2000	1370		ug/Kg		68	54 - 120
Dimethyl phthalate	2000	1460		ug/Kg		73	58 - 120
Di-n-butyl phthalate	2000	1600		ug/Kg		80	64 - 122
4,6-Dinitro-ortho-cresol	4000	1460		ug/Kg		36	35 - 135
2,4-Dinitrophenol	4000	1250		ug/Kg		31	10 - 138
2,4-Dinitrotoluene	2000	1680		ug/Kg		84	59 - 133
2,6-Dinitrotoluene	2000	1430		ug/Kg		72	57 - 123
Di-n-octyl phthalate	2000	1460		ug/Kg		73	57 - 137
1,4-Dioxane	2000	704		ug/Kg		35	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1480		ug/Kg		74	50 - 120
Hexachlorobenzene	2000	1580		ug/Kg		79	49 - 127
Hexachlorocyclopentadiene	2000	776		ug/Kg		39	10 - 140
Hexachloroethane	2000	1170		ug/Kg		58	45 - 120
Indene	2000	1070		ug/Kg		54	45 - 120
Isophorone	2000	1310		ug/Kg		65	50 - 120
2-Methylphenol	2000	1380		ug/Kg		69	51 - 123
3 & 4 Methylphenol	2000	1380		ug/Kg		69	47 - 123
2-Nitroaniline	2000	1370		ug/Kg		69	55 - 129
3-Nitroaniline	2000	1450		ug/Kg		72	45 - 120
4-Nitroaniline	2000	1640		ug/Kg		82	52 - 126
Nitrobenzene	2000	1220		ug/Kg		61	50 - 120
2-Nitrophenol	2000	1310		ug/Kg		65	53 - 120
4-Nitrophenol	4000	2600		ug/Kg		65	38 - 133
N-Nitrosodimethylamine	2000	1160		ug/Kg		58	35 - 120
N-Nitrosodi-n-propylamine	2000	1390		ug/Kg		70	48 - 120
N-Nitrosodiphenylamine	1980	1390		ug/Kg		70	54 - 120
Pentachlorophenol	4000	2890		ug/Kg		72	32 - 131
Phenol	2000	1310		ug/Kg		66	51 - 120
Pyridine	4000	1990		ug/Kg		50	29 - 120
Quinoline	2000	1670		ug/Kg		83	10 - 150
2,4,5-Trichlorophenol	2000	1480		ug/Kg		74	53 - 133
2,4,6-Trichlorophenol	2000	1460		ug/Kg		73	51 - 125

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		27 - 127
2-Fluorophenol	68		25 - 128
Nitrobenzene-d5	71		15 - 136
Phenol-d5	69		29 - 130
Terphenyl-d14	82		24 - 146
2,4,6-Tribromophenol	81		10 - 150

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 449541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4-Bromophenyl phenyl ether - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Butyl benzyl phthalate - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4-Chlorophenyl phenyl ether - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4,6-Dinitro-ortho-cresol - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Hexachlorobenzene - RA	ND		330	100	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Hexachlorocyclopentadiene - RA	ND		330	66	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
4-Nitrophenol - RA	ND		330	110	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
Pyridine - RA	ND		330	150	ug/Kg		07/23/19 10:39	07/25/19 18:18	1
2,4,6-Trichlorophenol - RA	ND		330	33	ug/Kg		07/23/19 10:39	07/25/19 18:18	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound - RA	None		ug/Kg				07/23/19 10:39	07/25/19 18:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl - RA	43		27 - 127	07/23/19 10:39	07/25/19 18:18	1
2-Fluorophenol - RA	50		25 - 128	07/23/19 10:39	07/25/19 18:18	1
Nitrobenzene-d5 - RA	61		15 - 136	07/23/19 10:39	07/25/19 18:18	1
Phenol-d5 - RA	56		29 - 130	07/23/19 10:39	07/25/19 18:18	1
Terphenyl-d14 - RA	62		24 - 146	07/23/19 10:39	07/25/19 18:18	1
2,4,6-Tribromophenol - RA	35		10 - 150	07/23/19 10:39	07/25/19 18:18	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Anthracene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[a]anthracene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[a]pyrene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[b]fluoranthene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449132/1-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449132

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Fluoranthene	1.97	J	6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Fluorene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1
Pyrene	ND		6.6	1.0	ug/Kg		07/23/19 10:39	08/03/19 11:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*27 - 127*	*07/23/19 10:39*	*08/03/19 11:24*	*1*
Nitrobenzene-d5	*49*		*15 - 136*	*07/23/19 10:39*	*08/03/19 11:24*	*1*
Terphenyl-d14	*70*		*24 - 146*	*07/23/19 10:39*	*08/03/19 11:24*	*1*

Lab Sample ID: LCS 400-449132/2-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	251		ug/Kg		75	57 - 120
Acenaphthylene	333	268		ug/Kg		80	59 - 120
Anthracene	333	256		ug/Kg		77	61 - 120
Benzo[a]anthracene	333	250		ug/Kg		75	61 - 120
Benzo[a]pyrene	333	271		ug/Kg		81	54 - 127
Benzo[b]fluoranthene	333	256		ug/Kg		77	35 - 146
Benzo[g,h,i]perylene	333	245		ug/Kg		73	36 - 150
Benzo[k]fluoranthene	333	257		ug/Kg		77	53 - 139
Chrysene	333	242		ug/Kg		73	60 - 120
Dibenz(a,h)anthracene	333	232		ug/Kg		70	39 - 150
Fluoranthene	333	247		ug/Kg		74	61 - 121
Fluorene	333	265		ug/Kg		79	60 - 120
Indeno[1,2,3-cd]pyrene	333	246		ug/Kg		74	40 - 150
1-Methylnaphthalene	333	264		ug/Kg		79	46 - 120
2-Methylnaphthalene	333	255		ug/Kg		77	46 - 120
Phenanthrene	333	256		ug/Kg		77	59 - 120
Pyrene	333	240		ug/Kg		72	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*27 - 127*
Nitrobenzene-d5	*39*		*15 - 136*
Terphenyl-d14	*58*		*24 - 146*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173406-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449132/3-A
Matrix: Solid
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449132

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	256		ug/Kg		77	57 - 120	2	30
Acenaphthylene			333	280		ug/Kg		84	59 - 120	4	30
Anthracene			333	259		ug/Kg		78	61 - 120	1	30
Benzo[a]anthracene			333	251		ug/Kg		75	61 - 120	0	30
Benzo[a]pyrene			333	284		ug/Kg		85	54 - 127	5	30
Benzo[b]fluoranthene			333	252		ug/Kg		76	35 - 146	2	30
Benzo[g,h,i]perylene			333	255		ug/Kg		77	36 - 150	4	30
Benzo[k]fluoranthene			333	280		ug/Kg		84	53 - 139	9	30
Chrysene			333	246		ug/Kg		74	60 - 120	2	30
Dibenz(a,h)anthracene			333	251		ug/Kg		75	39 - 150	8	30
Fluoranthene			333	270		ug/Kg		81	61 - 121	9	30
Fluorene			333	276		ug/Kg		83	60 - 120	4	30
Indeno[1,2,3-cd]pyrene			333	253		ug/Kg		76	40 - 150	3	30
1-Methylnaphthalene			333	263		ug/Kg		79	46 - 120	0	30
2-Methylnaphthalene			333	241		ug/Kg		72	46 - 120	6	30
Phenanthrene			333	269		ug/Kg		81	59 - 120	5	30
Pyrene			333	237		ug/Kg		71	53 - 122	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*27 - 127*
Nitrobenzene-d5	*47*		*15 - 136*
Terphenyl-d14	*67*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

400-173406 COC

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK
James Carrino	25278	DAT
PO #	**GSAP Project ID**	PAGE: ___1___ of ___1___
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID
SAMPLER NAME(S) (Print): Paul LaFleur | LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH	Moisture	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: Container PID Readings or Laboratory Notes
	TB-PW-071819-A	7/18/2019	0:00	Water	X					2			X		
	PD-7-SB-43-071819	7/18/2019	10:20	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-7-SB-51-071819	7/18/2019	11:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-7-SB-51-071819-DUP	7/18/2019	11:00	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Fedex 4931 8203 7513 4931 8203 7465 4931 8203 7654 Fedex	7/18/2019	18:00
		7.19.19	9:15

Version: 10May17

Custody Seals: 1011628, 1011629, 1011650, 1011651, 1011649, 1011648
2.5°C, 4.5°C, 4.3°C IR7

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10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173406-1

Login Number: 173406
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C, 4.5°C, 4.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173406-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Soil Data Review

Laboratory SDG: 400-173530

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/7/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-072219-A	PD-14-SB-45-072219
PD-14-SB-49-072219	PD-14-SB-49-072219-DUP
PD-14-SB-55-072219	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated analytes were detected in the method blanks. SVOC LCS recoveries were outside evaluation criteria. SVOC surrogate recoveries were outside evaluation criteria in matrix spike sample PD-14-SB-45-072219. SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-14-SB-45-072219. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-449523/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	51.5 µg/Kg
MB 400-449523/1-A	PAHs	Benzo[a]anthracene	1.56 µg/Kg
MB 400-449523/1-A	PAHs	Benzo[a]pyrene	1.20 µg/Kg
MB 400-449523/1-A	PAHs	Benzo[b]fluoranthene	1.35 µg/Kg

Qualifications due to blank contamination are included in the following table. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-14-SB-45-072219	PAHs	Benzo[a]anthracene	-	**U**
PD-14-SB-45-072219	PAHs	Benzo[a]pyrene	-	**U**
PD-14-SB-45-072219	PAHs	Benzo[b]fluoranthene	-	**U**
PD-14-SB-45-072219	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-14-SB-49-072219	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-14-SB-49-072219-DUP	SVOCs	Benzo[a]pyrene	-	**U**
PD-14-SB-49-072219-DUP	SVOCs	bis(2-ethylhexyl Phthalate	-	**U**
PD-14-SB-55-072219	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449523/2-A	SVOCs	bis(2-chloroethoxy)Methane	**51**	NA	52-120
400-449523/2-A	SVOCs	3,3'-Dichlorobenzidine	**195**	NA	42-120
400-449523/2-A	SVOCs	Hexachlorobenzene	**136**	NA	49-127
400-449523/2-A	SVOCs	4-Nitroaniline	**140**	NA	52-126

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

Sample ID	Parameter	Analyte	Qualification
PD-14-SB-45-072219	SVOCs	bis(2-chloroethoxy)Methane	**UJ**
PD-14-SB-49-072219	SVOCs	bis(2-chloroethoxy)Methane	**UJ**
PD-14-SB-49-072219-DUP	SVOCs	bis(2-chloroethoxy)Methane	**UJ**
PD-14-SB-55-072219	SVOCs	bis(2-chloroethoxy)Methane	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-14-SB-45-072219-MS	SVOCs	2-Fluorobiphenyl	**2**	27-127
PD-14-SB-45-072219-MS	SVOCs	2-Fluorophenol	**10**	25-128
PD-14-SB-45-072219-MS	SVOCs	Nitrobenzene-d_5	**6**	15-136
PD-14-SB-45-072219-MS	SVOCs	Phenol-d_5	**16**	29-130
PD-14-SB-45-072219-MS	SVOCs	Terphenyl-d_{14}	**4**	24-146

Matrix spike sample PD-14-SB-45-072219-MS is a quality control sample and does not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-14-SB-45-072219 was spiked and duplicated for VOCs and SVOCs.

Were MS/MSD recoveries within evaluation criteria?

No, SVOC MS/MSD recoveries were outside evaluation criteria for multiple analytes.

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-14-SB-45-072219	SVOCs	SVOC non-detects	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-14-SB-49-072219	PD-14-SB-49-072219-DUP

Were field duplicate sample RPDs within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173530-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/7/2019 12:58:48 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/7/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Job ID: 400-173530-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173530-1

Comments
No additional comments.

Receipt
The samples were received on 7/23/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.8° C, 2.4° C and 2.7° C.

GC/MS VOA
Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-072219-A (400-173530-1). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-14-SB-45-072219 (400-173530-2), PD-14-SB-49-072219 (400-173530-3), PD-14-SB-49-072219-DUP (400-173530-4) and PD-14-SB-55-072219 (400-173530-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-449615 was outside method criteria for the following analytes: 2 Ethyl 1 Hexanol, Ethylene Oxide, and Tert butyl formate. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for Dibenz[a,h]acridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for N-Nitrosodimethylamine, 2,4,6-Trichlorophenol, 2,4-Dinitrophenol, 4-Nitrophenol, 2,4,5-Trichlorophenol, Diethyl phthalate, 2,6-Dinitrotoluene, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 2,4-Dichlorophenol, 4,6-Dinitro-2-methylphenol, 4-Bromophenyl phenyl ether and 2,4-Dimethylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Quinoline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449523 and analytical batch 400-449722 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Nitroaniline. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-449523 and analytical batch 400-449722: Bis(2-chloroethoxy)methane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: (400-173530-D-2-A MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-449523 and analytical batch 400-449722 were outside control limits. Sample matrix interference is suspected.

Method(s) 8270D LL: The method blank for preparation batch 400-449523 and analytical batch 400-450940 contained

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Job ID: 400-173530-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Benzo[a]anthracene, Benzo[a]pyrene and Benzo[b]fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-451066 recovered outside acceptance criteria, low biased, for Benzo[g,h,i]perylene and Indeno[1,2,3-cd]pyrene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173530-1	TB-PW-072219-A	Water	07/22/19 00:00	07/23/19 09:09	
400-173530-2	PD-14-SB-45-072219	Solid	07/22/19 10:45	07/23/19 09:09	
400-173530-3	PD-14-SB-49-072219	Solid	07/22/19 12:55	07/23/19 09:09	
400-173530-4	PD-14-SB-49-072219-DUP	Solid	07/22/19 12:55	07/23/19 09:09	
400-173530-5	PD-14-SB-55-072219	Solid	07/22/19 13:50	07/23/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A — Lab Sample ID: 400-173530-1

No Detections.

Client Sample ID: PD-14-SB-45-072219 — Lab Sample ID: 400-173530-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	290000		11000	1500	ug/Kg	2000	☼	8260B	Total/NA
Benzo[a]anthracene	2.1	J B U	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	1.2	J B U	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	1.5	J B U	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	3.4	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	3.0	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	2.1	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	1.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	78	J B F1 F2 U	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	120	J F1 F2	390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-14-SB-49-072219 — Lab Sample ID: 400-173530-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	23000000		980000	130000	ug/Kg	200000	☼	8260B	Total/NA
Acenaphthene	5.8	J	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	9.6		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	15	B	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	11	B	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	18	B	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	5.7	J	7.5	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	6.5	J	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	14		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	35		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	8.5		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.8	J	7.5	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	22		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	26		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	43		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	27		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	74	J B U	370	37	ug/Kg	1	☼	8270D	Total/NA
Phenol	1100		370	37	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-14-SB-49-072219-DUP — Lab Sample ID: 400-173530-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	13000000		280000	38000	ug/Kg	50000	☼	8260B	Total/NA
Acenaphthene	5.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	8.7		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	10	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	5.9	J B U	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	8.6	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	2.9	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	8.9		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	27		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	7.4	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	2.8	J	7.8	2.4	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	20		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP (Continued)

Lab Sample ID: 400-173530-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	24		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	34		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	19		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~58~~	J B U	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	520		390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-14-SB-55-072219

Lab Sample ID: 400-173530-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	10000		260	35	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	90	J	260	32	ug/Kg	50	☼	8260B	Total/NA
m-Xylene & p-Xylene	200	J	260	69	ug/Kg	50	☼	8260B	Total/NA
o-Xylene	61	J	260	53	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	150	J	260	53	ug/Kg	50	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	50	J	260	44	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	260	J	530	100	ug/Kg	50	☼	8260B	Total/NA
1-Methylnaphthalene	11		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	26		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~67~~	J B U	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	95	J	390	39	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 11:46	1
Acrolein	ND		20	10	ug/L			07/29/19 11:46	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 11:46	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 11:46	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 11:46	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 11:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 11:46	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 11:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 11:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 11:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 11:46	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 11:46	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 11:46	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 11:46	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 11:46	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 11:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 11:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 11:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 11:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 11:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 11:46	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 11:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 11:46	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 11:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 11:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 11:46	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 11:46	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 11:46	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 11:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 11:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 11:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 11:46	1
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 11:46	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 11:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 11:46	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 11:46	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 11:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 11:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 11:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 11:46	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 11:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 11:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 11:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 11:46	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 11:46	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 11:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 11:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 11:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 11:46	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 11:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 11:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 11:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 11:46*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/29/19 11:46*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/29/19 11:46*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-45-072219

Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2

Matrix: Solid
Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		54000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Acrolein	ND		110000	61000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Acrylonitrile	ND		43000	17000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Benzene	**290000**		11000	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromobenzene	ND		11000	2800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromochloromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromodichloromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromoform	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromomethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2-Butanone (MEK)	ND		54000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Carbon disulfide	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Carbon tetrachloride	ND		11000	3700	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chlorobenzene	ND		11000	1100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2-Chloroethyl vinyl ether	ND		22000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chloroform	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1-Chlorohexane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chloromethane	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
cis-1,2-Dichloroethene	ND		11000	1700	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
cis-1,3-Dichloropropene	ND		11000	2600	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Dibromochloromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dibromo-3-Chloropropane	ND		11000	7200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dichlorobenzene	ND		11000	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,3-Dichlorobenzene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,4-Dichlorobenzene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Dichlorodifluoromethane	ND		11000	2800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1-Dichloroethane	ND		11000	1800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dichloroethane	ND		11000	1800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1-Dichloroethene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dichloropropane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,3-Dichloropropane	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2,2-Dichloropropane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1-Dichloropropene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Ethylbenzene	ND		11000	1300	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Ethylene Dibromide	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Ethyl methacrylate	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Hexachlorobutadiene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2-Hexanone	ND		54000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Isopropylbenzene	ND		11000	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Methylene bromide	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Methylene Chloride	ND		33000	22000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
4-Methyl-2-pentanone (MIBK)	ND		54000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Methyl tert-butyl ether	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
m-Xylene & p-Xylene	ND		11000	2800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Naphthalene	ND		11000	4300	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
n-Butylbenzene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
N-Propylbenzene	ND		11000	2000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
o-Chlorotoluene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
o-Xylene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2
Matrix: Solid
Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
p-Isopropyltoluene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
sec-Butylbenzene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Styrene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
tert-Butylbenzene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,1,2-Tetrachloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,2,2-Tetrachloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Tetrachloroethene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Toluene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
trans-1,2-Dichloroethene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
trans-1,3-Dichloropropene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,3-Trichlorobenzene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,4-Trichlorobenzene	ND		11000	4300	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,1-Trichloroethane	ND		11000	2400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,2-Trichloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Trichloroethene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Trichlorofluoromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,3-Trichloropropane	ND		11000	6500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,4-Trimethylbenzene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,3,5-Trimethylbenzene	ND		11000	1800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Vinyl acetate	ND		54000	20000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Vinyl chloride	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Xylenes, Total	ND		22000	4100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/31/19 05:54*	*07/31/19 09:52*	*2000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/31/19 05:54*	*07/31/19 09:52*	*2000*
Dibromofluoromethane	*100*		*79 - 123*	*07/31/19 05:54*	*07/31/19 09:52*	*2000*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/31/19 05:54*	*07/31/19 09:52*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[a]anthracene	~~2.1~~ J B U		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[a]pyrene	~~1.2~~ J B U		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[b]fluoranthene	~~1.5~~ J B U		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Fluoranthene	2.8 J		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
1-Methylnaphthalene	3.4 J		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
2-Methylnaphthalene	3.0 J		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Phenanthrene	2.1 J		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-45-072219

Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2

Matrix: Solid
Percent Solids: 83.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	1.8	J	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:06*	*1*
Nitrobenzene-d5	*95*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:06*	*1*
Terphenyl-d14	*128*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:06*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F1 F2 UJ	390	51	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Benzoic acid	ND	F1	1200	410	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Benzyl alcohol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Bis(2-chloroethoxy)methane	ND	* F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Bis(2-chloroethyl)ether	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
bis (2-chloroisopropyl) ether	ND	F1	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Bis(2-ethylhexyl) phthalate	78	J B F1 F2 U	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Bromophenyl phenyl ether	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Butyl benzyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Chloroaniline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Chloro-3-methylphenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Chloronaphthalene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Chlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Chlorophenyl phenyl ether	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Dibenz[a,h]acridine	ND	F1 F2	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Dibenzofuran	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
3,3'-Dichlorobenzidine	ND	* F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dichlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Diethyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dimethylphenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Dimethyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Di-n-butyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4,6-Dinitro-ortho-cresol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dinitrophenol	ND	F1	1200	340	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dinitrotoluene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,6-Dinitrotoluene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Di-n-octyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
1,4-Dioxane	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Hexachlorobenzene	ND	* F1 F2	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Hexachlorocyclopentadiene	ND	F1	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Hexachloroethane	ND	F1	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Indene	ND	F1	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Isophorone	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Methylphenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
3 & 4 Methylphenol	ND	F1 F2	780	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Nitroaniline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
3-Nitroaniline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Nitroaniline	ND	* F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Nitrophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Nitrophenol	ND	F1 F2	390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
N-Nitrosodimethylamine	ND	F1 F2	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
N-Nitrosodi-n-propylamine	ND	F1 F2	390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
N-Nitrosodiphenylamine	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Pentachlorophenol	ND	F1 F2	780	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Phenol	**120**	**J F1 F2**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Pyridine	ND	F1 F2	390	180	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Quinoline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4,5-Trichlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4,6-Trichlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2900*	*T J*	*ug/Kg*	☼	*4.24*		*07/25/19 15:10*	*07/27/19 01:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*27 - 127*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
Nitrobenzene-d5	*59*		*15 - 136*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
Phenol-d5	*58*		*29 - 130*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
Terphenyl-d14	*87*		*24 - 146*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
2,4,6-Tribromophenol	*98*		*10 - 150*	*07/25/19 15:10*	*07/27/19 01:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**83.0**		0.01	0.01	%			07/25/19 11:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		240000	130000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Acrolein	ND		490000	270000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Acrylonitrile	ND		200000	78000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromobenzene	ND		49000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromochloromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromodichloromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromoform	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromomethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2-Butanone (MEK)	ND		240000	59000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Carbon disulfide	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Carbon tetrachloride	ND		49000	17000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chlorobenzene	ND		49000	5100	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2-Chloroethyl vinyl ether	ND		98000	49000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chloroform	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1-Chlorohexane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chloromethane	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
cis-1,2-Dichloroethene	ND		49000	7400	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
cis-1,3-Dichloropropene	ND		49000	12000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Dibromochloromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dibromo-3-Chloropropane	ND		49000	32000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dichlorobenzene	ND		49000	6900	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,3-Dichlorobenzene	ND		49000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,4-Dichlorobenzene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Dichlorodifluoromethane	ND		49000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1-Dichloroethane	ND		49000	8100	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dichloroethane	ND		49000	8000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1-Dichloroethene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dichloropropane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,3-Dichloropropane	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2,2-Dichloropropane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1-Dichloropropene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Ethylbenzene	ND		49000	6000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Ethylene Dibromide	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Ethyl methacrylate	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Hexachlorobutadiene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2-Hexanone	ND		240000	49000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Isopropylbenzene	ND		49000	6600	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Methylene bromide	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Methylene Chloride	ND		150000	98000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
4-Methyl-2-pentanone (MIBK)	ND		240000	49000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Methyl tert-butyl ether	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
m-Xylene & p-Xylene	ND		49000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Naphthalene	ND		49000	20000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
n-Butylbenzene	ND		49000	9400	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
N-Propylbenzene	ND		49000	8800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
o-Chlorotoluene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
o-Xylene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
p-Chlorotoluene	ND		49000	9600	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
sec-Butylbenzene	ND		49000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Styrene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
tert-Butylbenzene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,1,2-Tetrachloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,2,2-Tetrachloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Tetrachloroethene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Toluene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
trans-1,2-Dichloroethene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
trans-1,3-Dichloropropene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,3-Trichlorobenzene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,4-Trichlorobenzene	ND		49000	20000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,1-Trichloroethane	ND		49000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,2-Trichloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Trichloroethene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Trichlorofluoromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,3-Trichloropropane	ND		49000	29000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,4-Trimethylbenzene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,3,5-Trimethylbenzene	ND		49000	8100	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Vinyl acetate	ND		240000	89000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Vinyl chloride	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Xylenes, Total	ND		98000	19000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane	*61000*	*T J N*	*ug/Kg*	☼	*1.21*	*106-97-8*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*
Pentane	*77000*	*T J N*	*ug/Kg*	☼	*1.66*	*109-66-0*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*
Dibromofluoromethane	*99*		*79 - 123*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**23000000**		980000	130000	ug/Kg	☼	08/04/19 09:06	08/04/19 17:07	200000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*08/04/19 09:06*	*08/04/19 17:07*	*200000*
Dibromofluoromethane	*110*		*79 - 123*	*08/04/19 09:06*	*08/04/19 17:07*	*200000*
Toluene-d8 (Surr)	*96*		*80 - 120*	*08/04/19 09:06*	*08/04/19 17:07*	*200000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**5.8**	**J**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Acenaphthylene	ND		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Anthracene	**9.6**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[a]anthracene	**15**	**B**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[a]pyrene	**11**	**B**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[b]fluoranthene	**18**	**B**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[g,h,i]perylene	**5.7**	**J**	7.5	2.3	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[k]fluoranthene	**6.5**	**J**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219

Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3

Matrix: Solid
Percent Solids: 86.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	**14**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Dibenz(a,h)anthracene	ND		7.5	2.3	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Fluoranthene	**35**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Fluorene	**8.5**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Indeno[1,2,3-cd]pyrene	**4.8**	**J**	7.5	2.3	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
1-Methylnaphthalene	**22**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
2-Methylnaphthalene	**26**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Phenanthrene	**43**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Pyrene	**27**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:23*	*1*
Nitrobenzene-d5	*81*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:23*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:23*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		370	49	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Benzenethiol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Benzyl alcohol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Bis(2-chloroethoxy)methane	ND	* UJ	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Bis(2-chloroethyl)ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
bis (2-chloroisopropyl) ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Bis(2-ethylhexyl) phthalate	~~74~~	**J B** U	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Bromophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Butyl benzyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Chloroaniline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Chloro-3-methylphenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Chloronaphthalene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Chlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Chlorophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Dibenz[a,h]acridine	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Dibenzofuran	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
3,3'-Dichlorobenzidine	ND	*	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dichlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Diethyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dimethylphenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Dimethyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Di-n-butyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4,6-Dinitro-ortho-cresol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,6-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Di-n-octyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
1,4-Dioxane	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Hexachlorobenzene	ND	*	370	110	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Hexachlorocyclopentadiene	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		370	110	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Indene	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Isophorone	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Methylphenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
3 & 4 Methylphenol	ND		750	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Nitroaniline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
3-Nitroaniline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Nitroaniline	ND	*	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Nitrobenzene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Nitrophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Nitrophenol	ND		370	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
N-Nitrosodimethylamine	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
N-Nitrosodi-n-propylamine	ND		370	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
N-Nitrosodiphenylamine	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Pentachlorophenol	ND		750	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Phenol	**1100**		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Pyridine	ND		370	170	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Quinoline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4,5-Trichlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4,6-Trichlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*3200*	*T J*	*ug/Kg*	☼	*4.24*		*07/25/19 15:10*	*07/27/19 02:09*	*1*
3 & 4 Chlorophenol	*60*	*J*	*ug/Kg*	☼	*6.18*	*STL00941*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Caprolactam	*45*	*J*	*ug/Kg*	☼	*6.54*	*105-60-2*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
2,3-Dinitrotoluene	*64*	*J*	*ug/Kg*	☼	*7.51*	*602-01-7*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
o-Phenylphenol	*55*	*J*	*ug/Kg*	☼	*7.54*	*90-43-7*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
1-Naphthylamine	*40*	*J*	*ug/Kg*	☼	*7.58*	*134-32-7*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Disulfoton	*95*	*J*	*ug/Kg*	☼	*8.49*	*298-04-4*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Phenanthrene	*38*	*J*	*ug/Kg*	☼	*8.51*	*85-01-8*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Benzidine	*350*	*J*	*ug/Kg*	☼	*9.63*	*92-87-5*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Aramite Peak 1	*46*	*J*	*ug/Kg*	☼	*9.81*	*STL00690*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Aramite Peak 2	*37*	*J*	*ug/Kg*	☼	*9.81*	*STL00691*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Chlorobenzilate	*41*	*J*	*ug/Kg*	☼	*9.91*	*510-15-6*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Benzo[b]fluoranthene	*45*	*J*	*ug/Kg*	☼	*11.88*	*205-99-2*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
7,12-Dimethylbenz(a)anthracene	*93*	*J *	*ug/Kg*	☼	*11.93*	*57-97-6*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Benzo[a]pyrene	*39*	*J*	*ug/Kg*	☼	*12.15*	*50-32-8*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
3-Methylcholanthrene	*47*	*J*	*ug/Kg*	☼	*12.57*	*56-49-5*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Indeno[1,2,3-cd]pyrene	*39*	*J*	*ug/Kg*	☼	*13.38*	*193-39-5*	*07/25/19 15:10*	*07/27/19 02:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
2-Fluorophenol	*53*		*25 - 128*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Nitrobenzene-d5	*52*		*15 - 136*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Phenol-d5	*53*		*29 - 130*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Terphenyl-d14	*79*		*24 - 146*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
2,4,6-Tribromophenol	*96*		*10 - 150*	*07/25/19 15:10*	*07/27/19 02:09*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.8		0.01	0.01	%			07/25/19 11:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-4
Matrix: Solid
Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		280000	150000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Acrolein	ND		560000	310000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Acrylonitrile	ND		220000	90000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromobenzene	ND		56000	15000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromochloromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromodichloromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromoform	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromomethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2-Butanone (MEK)	ND		280000	67000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Carbon disulfide	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Carbon tetrachloride	ND		56000	19000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chlorobenzene	ND		56000	5800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2-Chloroethyl vinyl ether	ND		110000	56000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chloroform	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1-Chlorohexane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chloromethane	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
cis-1,2-Dichloroethene	ND		56000	8500	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
cis-1,3-Dichloropropene	ND		56000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Dibromochloromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dibromo-3-Chloropropane	ND		56000	37000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dichlorobenzene	ND		56000	8000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,3-Dichlorobenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,4-Dichlorobenzene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Dichlorodifluoromethane	ND		56000	15000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1-Dichloroethane	ND		56000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dichloroethane	ND		56000	9200	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1-Dichloroethene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dichloropropane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,3-Dichloropropane	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2,2-Dichloropropane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1-Dichloropropene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Ethylbenzene	ND		56000	6900	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Ethylene Dibromide	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Ethyl methacrylate	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Hexachlorobutadiene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2-Hexanone	ND		280000	56000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Isopropylbenzene	ND		56000	7600	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Methylene bromide	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Methylene Chloride	ND		170000	110000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
4-Methyl-2-pentanone (MIBK)	ND		280000	56000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Methyl tert-butyl ether	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
m-Xylene & p-Xylene	ND		56000	15000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Naphthalene	ND		56000	22000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
n-Butylbenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
N-Propylbenzene	ND		56000	10000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
o-Chlorotoluene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
o-Xylene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
p-Chlorotoluene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP

Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-4

Matrix: Solid
Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
sec-Butylbenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Styrene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
tert-Butylbenzene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,1,2-Tetrachloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,2,2-Tetrachloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Tetrachloroethene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Toluene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
trans-1,2-Dichloroethene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
trans-1,3-Dichloropropene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,3-Trichlorobenzene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,4-Trichlorobenzene	ND		56000	22000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,1-Trichloroethane	ND		56000	12000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,2-Trichloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Trichloroethene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Trichlorofluoromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,3-Trichloropropane	ND		56000	34000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,4-Trimethylbenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,3,5-Trimethylbenzene	ND		56000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Vinyl acetate	ND		280000	100000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Vinyl chloride	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Xylenes, Total	ND		110000	21000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/31/19 05:54*	*07/31/19 10:58*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/31/19 05:54*	*07/31/19 10:58*	*10000*
Dibromofluoromethane	*99*		*79 - 123*	*07/31/19 05:54*	*07/31/19 10:58*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/31/19 05:54*	*07/31/19 10:58*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**13000000**		280000	38000	ug/Kg	☼	08/03/19 10:12	08/03/19 21:43	50000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 122*	*08/03/19 10:12*	*08/03/19 21:43*	*50000*
Dibromofluoromethane	*101*		*79 - 123*	*08/03/19 10:12*	*08/03/19 21:43*	*50000*
Toluene-d8 (Surr)	*95*		*80 - 120*	*08/03/19 10:12*	*08/03/19 21:43*	*50000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**5.8**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Anthracene	**8.7**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[a]anthracene	**10**	**B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[a]pyrene	**5.9**	**J B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[b]fluoranthene	**8.6**	**B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[k]fluoranthene	**2.9**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Chrysene	**8.9**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-4
Matrix: Solid
Percent Solids: 82.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Fluoranthene	**27**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Fluorene	**7.4**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Indeno[1,2,3-cd]pyrene	**2.8**	**J**	7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
1-Methylnaphthalene	**20**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
2-Methylnaphthalene	**24**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Phenanthrene	**34**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Pyrene	**19**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:41*	*1*
Nitrobenzene-d5	*89*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:41*	*1*
Terphenyl-d14	*110*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Bis(2-chloroethoxy)methane	ND	* UJ	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Bis(2-ethylhexyl) phthalate	~~58~~	**J B** U	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Hexachlorobenzene	ND	*	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP

Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-4

Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Isophorone	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Phenol	**520**		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Pyridine	ND		390	180	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Quinoline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*330*	*T J N*	*ug/Kg*	☼	*3.62*	*108-88-3*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Unknown	*1900*	*T J*	*ug/Kg*	☼	*4.23*		*07/25/19 15:10*	*07/27/19 02:30*	*1*
Acetophenone	*39*	*J*	*ug/Kg*	☼	*5.57*	*98-86-2*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
3 & 4 Chlorophenol	*63*	*J*	*ug/Kg*	☼	*6.19*	*STL00941*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Caprolactam	*46*	*J*	*ug/Kg*	☼	*6.54*	*105-60-2*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
o-Phenylphenol	*52*	*J*	*ug/Kg*	☼	*7.51*	*90-43-7*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
N-Nitro-o-toluidine	*48*	*J*	*ug/Kg*	☼	*7.88*	*99-55-8*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Aramite Peak 1	*47*	*J*	*ug/Kg*	☼	*9.81*	*STL00690*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Benzo[a]pyrene	*43*	*J*	*ug/Kg*	☼	*12.25*	*50-32-8*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
3-Methylcholanthrene	*49*	*J*	*ug/Kg*	☼	*12.57*	*56-49-5*	*07/25/19 15:10*	*07/27/19 02:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*27 - 127*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Nitrobenzene-d5	*56*		*15 - 136*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Phenol-d5	*57*		*29 - 130*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Terphenyl-d14	*86*		*24 - 146*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
2,4,6-Tribromophenol	*100*		*10 - 150*	*07/25/19 15:10*	*07/27/19 02:30*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.3**		0.01	0.01	%			07/25/19 11:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219

Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5

Matrix: Solid
Percent Solids: 84.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	690	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Acrolein	ND		2600	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Acrylonitrile	ND		1100	420	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Benzene	**10000**		260	35	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromobenzene	ND		260	69	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromochloromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromodichloromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromoform	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromomethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2-Butanone (MEK)	ND		1300	320	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Carbon disulfide	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Carbon tetrachloride	ND		260	90	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chlorobenzene	ND		260	28	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2-Chloroethyl vinyl ether	ND		530	260	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chloroform	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1-Chlorohexane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chloromethane	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
cis-1,2-Dichloroethene	ND		260	40	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
cis-1,3-Dichloropropene	ND		260	64	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Dibromochloromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dibromo-3-Chloropropane	ND		260	170	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dichlorobenzene	ND		260	38	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,3-Dichlorobenzene	ND		260	50	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,4-Dichlorobenzene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Dichlorodifluoromethane	ND		260	69	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1-Dichloroethane	ND		260	44	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dichloroethane	ND		260	43	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1-Dichloroethene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,3-Dichloropropane	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1-Dichloropropene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Ethylbenzene	**90**	**J**	260	32	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Ethylene Dibromide	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Ethyl methacrylate	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Hexachlorobutadiene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2-Hexanone	ND		1300	260	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Isopropylbenzene	ND		260	36	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Methylene bromide	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Methylene Chloride	ND		790	530	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
4-Methyl-2-pentanone (MIBK)	ND		1300	260	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Methyl tert-butyl ether	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
m-Xylene & p-Xylene	**200**	**J**	260	69	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Naphthalene	ND		260	110	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
n-Butylbenzene	ND		260	51	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
N-Propylbenzene	ND		260	48	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
o-Chlorotoluene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
o-Xylene	**61**	**J**	260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219
Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5
Matrix: Solid
Percent Solids: 84.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		260	52	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
p-Isopropyltoluene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
sec-Butylbenzene	ND		260	50	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Styrene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
tert-Butylbenzene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,1,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,2,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Tetrachloroethene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Toluene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
trans-1,2-Dichloroethene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
trans-1,3-Dichloropropene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,3-Trichlorobenzene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,4-Trichlorobenzene	ND		260	110	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,1-Trichloroethane	ND		260	58	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,2-Trichloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Trichloroethene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Trichlorofluoromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,3-Trichloropropane	ND		260	160	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,4-Trimethylbenzene	**150**	**J**	260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,3,5-Trimethylbenzene	**50**	**J**	260	44	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Vinyl acetate	ND		1300	480	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Vinyl chloride	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Xylenes, Total	**260**	**J**	530	100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*530*	*T J N*	*ug/Kg*	☼	*1.63*	*109-66-0*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Pentane, 3-methyl-	*300*	*T J N*	*ug/Kg*	☼	*2.31*	*96-14-0*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Hexane	*260*		*ug/Kg*	☼	*2.46*	*110-54-3*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Cyclopentane, methyl-	*390*	*T J N*	*ug/Kg*	☼	*2.81*	*96-37-7*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Cyclohexane	*70*	*J*	*ug/Kg*	☼	*3.19*	*110-82-7*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
n-Heptane	*140*	*J*	*ug/Kg*	☼	*3.51*	*142-82-5*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Methylcyclohexane	*99*	*J*	*ug/Kg*	☼	*3.87*	*108-87-2*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
3-Ethyltoluene	*88*	*J*	*ug/Kg*	☼	*6.59*	*620-14-4*	*07/31/19 05:54*	*07/31/19 09:30*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Dibromofluoromethane	*99*		*79 - 123*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/31/19 05:54*	*07/31/19 09:30*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219
Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5
Matrix: Solid
Percent Solids: 84.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
1-Methylnaphthalene	**11**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
2-Methylnaphthalene	**26**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Phenanthrene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Pyrene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:58*	*1*
Nitrobenzene-d5	*86*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:58*	*1*
Terphenyl-d14	*112*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Benzoic acid	ND		1200	420	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Bis(2-chloroethoxy)methane	ND	* UJ	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Bis(2-ethylhexyl) phthalate	~~67~~ J B U		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Hexachlorobenzene	ND	*	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219
Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5
Matrix: Solid
Percent Solids: 84.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Isophorone	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Phenol	**95**	**J**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Pyridine	ND		390	180	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Quinoline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2400*	*T J*	*ug/Kg*	☼	*4.23*		*07/25/19 15:10*	*07/27/19 02:52*	*1*
Disulfoton	*99*	*J*	*ug/Kg*	☼	*8.49*	*298-04-4*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
3-Methylcholanthrene	*49*	*J*	*ug/Kg*	☼	*12.66*	*56-49-5*	*07/25/19 15:10*	*07/27/19 02:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 127*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
2-Fluorophenol	*52*		*25 - 128*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
Nitrobenzene-d5	*52*		*15 - 136*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
Phenol-d5	*52*		*29 - 130*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
2,4,6-Tribromophenol	*98*		*10 - 150*	*07/25/19 15:10*	*07/27/19 02:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.1**		0.01	0.01	%			07/25/19 11:19	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173530-2	PD-14-SB-45-072219	98	100	100
400-173530-2 MS	PD-14-SB-45-072219	94	102	99
400-173530-2 MSD	PD-14-SB-45-072219	96	103	98
400-173530-3	PD-14-SB-49-072219	98	99	98
400-173530-3 - DL	PD-14-SB-49-072219	97	110	96
400-173530-4	PD-14-SB-49-072219-DUP	97	99	98
400-173530-4 - DL	PD-14-SB-49-072219-DUP	93	101	95
400-173530-5	PD-14-SB-55-072219	99	99	98
LCS 400-450151/2-A	Lab Control Sample	100	104	97
LCS 400-450813/2-A	Lab Control Sample	97	101	96
LCS 400-450871/2-A	Lab Control Sample	90	106	92
MB 400-450151/1-A	Method Blank	98	105	97
MB 400-450813/1-A	Method Blank	94	101	97
MB 400-450871/1-A	Method Blank	94	110	94

Surrogate Legend
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173530-1	TB-PW-072219-A	99	96	103
LCS 400-449839/1002	Lab Control Sample	100	96	101
MB 400-449839/4	Method Blank	99	96	102

Surrogate Legend
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173530-2	PD-14-SB-45-072219	75	57	59	58	87	98
400-173530-2 MS	PD-14-SB-45-072219	2 X	10 X	6 X	16 X	4 X	23
400-173530-2 MSD	PD-14-SB-45-072219	60	47	52	50	55	93
400-173530-3	PD-14-SB-49-072219	67	53	52	53	79	96
400-173530-4	PD-14-SB-49-072219-DUP	73	57	56	57	86	100
400-173530-5	PD-14-SB-55-072219	68	52	52	52	88	98
LCS 400-449523/2-A	Lab Control Sample	75	53	53	56	85	114
LCS 400-449523/9-A	Lab Control Sample	67	51	52	51	79	99
LCSD 400-449523/10-A	Lab Control Sample Dup	65	50	51	51	76	90
MB 400-449523/1-A	Method Blank	72	57	57	55	83	102

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173530-2	PD-14-SB-45-072219	99	95	128
400-173530-3	PD-14-SB-49-072219	87	81	100
400-173530-4	PD-14-SB-49-072219-DUP	96	89	110
400-173530-5	PD-14-SB-55-072219	94	86	112
LCS 400-449523/11-A	Lab Control Sample	78	72	93
LCSD 400-449523/12-A	Lab Control Sample Dup	80	70	93
MB 400-449523/1-A	Method Blank	78	71	100

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A
Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 11:46	WPD	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2
Matrix: Solid
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.833 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		2000	5 mL	5 mL	450144	07/31/19 09:52	RS	TAL PEN
Total/NA	Prep	3546			15.25 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 01:47	VC1	TAL PEN
Total/NA	Prep	3546			15.25 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:06	KJA	TAL PEN

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.996 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	450144	07/31/19 10:36	RS	TAL PEN
Total/NA	Prep	5035	DL		6.996 g	5.00 g	450871	08/04/19 09:06	RS	TAL PEN
Total/NA	Analysis	8260B	DL	200000	5 mL	5 mL	450866	08/04/19 17:07	RS	TAL PEN
Total/NA	Prep	3546			15.29 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 02:09	VC1	TAL PEN
Total/NA	Prep	3546			15.29 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:23	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP

Lab Sample ID: 400-173530-4
Matrix: Solid
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-49-072219-DUP

Lab Sample ID: 400-173530-4
Matrix: Solid
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09
Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	DL		6.692 g	5.00 g	450813	08/03/19 10:12	RS	TAL PEN
Total/NA	Analysis	8260B	DL	50000	5 mL	5 mL	450779	08/03/19 21:43	RS	TAL PEN
Total/NA	Prep	5035			6.692 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	450144	07/31/19 10:58	RS	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 02:30	VC1	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:41	KJA	TAL PEN

Client Sample ID: PD-14-SB-55-072219

Lab Sample ID: 400-173530-5
Matrix: Solid
Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-55-072219

Lab Sample ID: 400-173530-5
Matrix: Solid
Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.835 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	450144	07/31/19 09:30	RS	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 02:52	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:58	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/26/19 23:39	VC1	TAL PEN
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 12:19	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449839/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:57	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450144	07/31/19 07:58	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-450813/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450813	08/03/19 10:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450779	08/03/19 11:46	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-450871/1-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450871	08/04/19 09:06	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450866	08/04/19 11:04	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449523/11-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 12:35	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449523/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 00:43	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449523/9-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 00:00	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449839/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:08	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-450151/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450144	07/31/19 07:01	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-450813/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450813	08/03/19 10:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450779	08/03/19 10:45	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-450871/2-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450871	08/04/19 09:06	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450866	08/04/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449523/10-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 00:21	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449523/12-A
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 12:51	KJA	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MS
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.833 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		2000	5 mL	5 mL	450144	07/31/19 11:20	RS	TAL PEN
Total/NA	Prep	3546			15.23 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 01:04	VC1	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.833 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		2000	5 mL	5 mL	450144	07/31/19 11:42	RS	TAL PEN
Total/NA	Prep	3546			15.38 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 01:26	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

GC/MS VOA

Analysis Batch: 449839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-1	TB-PW-072219-A	Total/NA	Water	8260B	
MB 400-449839/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449839/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 450144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	8260B	450151
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	8260B	450151
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	8260B	450151
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	8260B	450151
MB 400-450151/1-A	Method Blank	Total/NA	Solid	8260B	450151
LCS 400-450151/2-A	Lab Control Sample	Total/NA	Solid	8260B	450151
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	8260B	450151
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	8260B	450151

Prep Batch: 450151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	5035	
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	5035	
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	5035	
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	5035	
MB 400-450151/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-450151/2-A	Lab Control Sample	Total/NA	Solid	5035	
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	5035	
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	5035	

Analysis Batch: 450779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-4 - DL	PD-14-SB-49-072219-DUP	Total/NA	Solid	8260B	450813
MB 400-450813/1-A	Method Blank	Total/NA	Solid	8260B	450813
LCS 400-450813/2-A	Lab Control Sample	Total/NA	Solid	8260B	450813

Prep Batch: 450813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-4 - DL	PD-14-SB-49-072219-DUP	Total/NA	Solid	5035	
MB 400-450813/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-450813/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 450866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-3 - DL	PD-14-SB-49-072219	Total/NA	Solid	8260B	450871
MB 400-450871/1-A	Method Blank	Total/NA	Solid	8260B	450871
LCS 400-450871/2-A	Lab Control Sample	Total/NA	Solid	8260B	450871

Prep Batch: 450871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-3 - DL	PD-14-SB-49-072219	Total/NA	Solid	5035	
MB 400-450871/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-450871/2-A	Lab Control Sample	Total/NA	Solid	5035	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

GC/MS Semi VOA

Prep Batch: 449523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	3546	
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	3546	
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	3546	
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	3546	
MB 400-449523/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-449523/11-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449523/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449523/9-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-449523/10-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-449523/12-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	3546	
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	3546	

Analysis Batch: 449722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	8270D	449523
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	8270D	449523
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	8270D	449523
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	8270D	449523
MB 400-449523/1-A	Method Blank	Total/NA	Solid	8270D	449523
LCS 400-449523/2-A	Lab Control Sample	Total/NA	Solid	8270D	449523
LCS 400-449523/9-A	Lab Control Sample	Total/NA	Solid	8270D	449523
LCSD 400-449523/10-A	Lab Control Sample Dup	Total/NA	Solid	8270D	449523
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	8270D	449523
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	8270D	449523

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-449523/1-A	Method Blank	Total/NA	Solid	8270D LL	449523
LCS 400-449523/11-A	Lab Control Sample	Total/NA	Solid	8270D LL	449523
LCSD 400-449523/12-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	449523

Analysis Batch: 451066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	8270D LL	449523
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	8270D LL	449523
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	8270D LL	449523
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	8270D LL	449523

General Chemistry

Analysis Batch: 449480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	Moisture	
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	Moisture	
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	Moisture	
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	Moisture	
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	Moisture	
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449839/4
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 10:57	1
Acrolein	ND		20	10	ug/L			07/29/19 10:57	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 10:57	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 10:57	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 10:57	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 10:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 10:57	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 10:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 10:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 10:57	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 10:57	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 10:57	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 10:57	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 10:57	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:57	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 10:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 10:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 10:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 10:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 10:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 10:57	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 10:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 10:57	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 10:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 10:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 10:57	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 10:57	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 10:57	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 10:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 10:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 10:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 10:57	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449839/4
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 10:57	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 10:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 10:57	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 10:57	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 10:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 10:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 10:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 10:57	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 10:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 10:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 10:57	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 10:57	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 10:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 10:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 10:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 10:57	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 10:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 10:57	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 10:57*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 10:57*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/29/19 10:57*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/29/19 10:57*	*1*

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	226		ug/L		113	43 - 160
Acrolein	500	606		ug/L		121	38 - 160
Acrylonitrile	500	571		ug/L		114	64 - 142
Benzene	50.0	51.5		ug/L		103	70 - 130
Bromobenzene	50.0	52.8		ug/L		106	70 - 132
Bromochloromethane	50.0	52.0		ug/L		104	70 - 130
Bromodichloromethane	50.0	49.1		ug/L		98	67 - 133
Bromoform	50.0	56.9		ug/L		114	57 - 140
Bromomethane	50.0	44.2		ug/L		88	10 - 160
2-Butanone (MEK)	200	221		ug/L		110	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	49.4		ug/L		99	61 - 137
Carbon tetrachloride	50.0	52.9		ug/L		106	61 - 137
Chlorobenzene	50.0	52.3		ug/L		105	70 - 130
Chloroethane	50.0	53.2		ug/L		106	55 - 141
2-Chloroethyl vinyl ether	50.0	50.5		ug/L		101	10 - 160
Chloroform	50.0	49.9		ug/L		100	69 - 130
1-Chlorohexane	50.0	55.6		ug/L		111	69 - 130
Chloromethane	50.0	62.0		ug/L		124	58 - 137
cis-1,2-Dichloroethene	50.0	54.6		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	54.7		ug/L		109	69 - 132
Dibromochloromethane	50.0	55.2		ug/L		110	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	53.0		ug/L		106	54 - 135
1,2-Dichlorobenzene	50.0	53.7		ug/L		107	67 - 130
1,3-Dichlorobenzene	50.0	54.1		ug/L		108	70 - 130
1,4-Dichlorobenzene	50.0	53.6		ug/L		107	70 - 130
Dichlorodifluoromethane	50.0	48.2		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	55.0		ug/L		110	70 - 130
1,2-Dichloroethane	50.0	48.3		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	45.6		ug/L		91	63 - 134
1,2-Dichloropropane	50.0	55.9		ug/L		112	70 - 130
1,3-Dichloropropane	50.0	54.3		ug/L		109	70 - 130
2,2-Dichloropropane	50.0	51.1		ug/L		102	52 - 135
1,1-Dichloropropene	50.0	50.8		ug/L		102	70 - 130
Ethylbenzene	50.0	53.1		ug/L		106	70 - 130
Ethylene Dibromide	50.0	51.1		ug/L		102	70 - 130
Ethyl methacrylate	50.0	57.6		ug/L		115	68 - 130
Hexachlorobutadiene	50.0	48.8		ug/L		98	53 - 140
2-Hexanone	200	258		ug/L		129	65 - 137
Isopropylbenzene	50.0	50.1		ug/L		100	70 - 130
Methylene bromide	50.0	46.3		ug/L		93	70 - 130
Methylene Chloride	50.0	51.4		ug/L		103	66 - 135
4-Methyl-2-pentanone (MIBK)	200	227		ug/L		113	69 - 138
Methyl tert-butyl ether	50.0	47.4		ug/L		95	66 - 130
m-Xylene & p-Xylene	50.0	52.0		ug/L		104	70 - 130
Naphthalene	50.0	50.0		ug/L		100	47 - 149
n-Butylbenzene	50.0	53.2		ug/L		106	67 - 130
N-Propylbenzene	50.0	55.9		ug/L		112	70 - 130
o-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
o-Xylene	50.0	51.6		ug/L		103	70 - 130
p-Chlorotoluene	50.0	53.5		ug/L		107	70 - 130
p-Isopropyltoluene	50.0	53.8		ug/L		108	65 - 130
sec-Butylbenzene	50.0	52.2		ug/L		104	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	51.0		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	61.1		ug/L		122	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.2		ug/L		110	70 - 131
Tetrachloroethene	50.0	53.8		ug/L		108	65 - 130
Toluene	50.0	53.2		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	51.5		ug/L		103	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	57.9		ug/L		116	63 - 130
1,2,3-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	50.2		ug/L		100	60 - 140
1,1,1-Trichloroethane	50.0	49.1		ug/L		98	68 - 130
1,1,2-Trichloroethane	50.0	54.2		ug/L		108	70 - 130
Trichloroethene	50.0	50.8		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	44.3		ug/L		89	65 - 138
1,2,3-Trichloropropane	50.0	51.6		ug/L		103	70 - 130
1,2,4-Trimethylbenzene	50.0	51.6		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.9		ug/L		104	69 - 130
Vinyl acetate	100	108		ug/L		108	26 - 160
Vinyl chloride	50.0	57.0		ug/L		114	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450151

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Acrolein	ND		50	28	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Benzene	ND		5.0	0.67	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromoform	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chloroform	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/31/19 05:54	07/31/19 07:58	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450151

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2-Hexanone	ND		25	5.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Methylene Chloride	ND		15	10	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Styrene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Toluene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/31/19 05:54	07/31/19 07:58	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450151

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/31/19 05:54	07/31/19 07:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 122	07/31/19 05:54	07/31/19 07:58	1
Dibromofluoromethane	105		79 - 123	07/31/19 05:54	07/31/19 07:58	1
Toluene-d8 (Surr)	97		80 - 120	07/31/19 05:54	07/31/19 07:58	1

Lab Sample ID: LCS 400-450151/2-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	158		ug/Kg		79	48 - 160
Acrolein	500	402		ug/Kg		80	40 - 150
Acrylonitrile	500	433		ug/Kg		87	60 - 130
Benzene	50.0	42.5		ug/Kg		85	65 - 130
Bromobenzene	50.0	40.9		ug/Kg		82	65 - 130
Bromochloromethane	50.0	40.2		ug/Kg		80	65 - 130
Bromodichloromethane	50.0	41.1		ug/Kg		82	61 - 130
Bromoform	50.0	34.9		ug/Kg		70	52 - 136
Bromomethane	50.0	38.8		ug/Kg		78	12 - 160
2-Butanone (MEK)	200	153		ug/Kg		76	55 - 130
Carbon disulfide	50.0	41.9		ug/Kg		84	46 - 141
Carbon tetrachloride	50.0	42.3		ug/Kg		85	60 - 130
Chlorobenzene	50.0	41.3		ug/Kg		83	70 - 130
Chloroethane	50.0	43.9		ug/Kg		88	55 - 134
2-Chloroethyl vinyl ether	50.0	39.3		ug/Kg		79	10 - 158
Chloroform	50.0	41.2		ug/Kg		82	62 - 130
1-Chlorohexane	50.0	43.8		ug/Kg		88	69 - 130
Chloromethane	50.0	49.5		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	43.7		ug/Kg		87	53 - 135
cis-1,3-Dichloropropene	50.0	40.7		ug/Kg		81	61 - 130
Dibromochloromethane	50.0	38.5		ug/Kg		77	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	35.7		ug/Kg		71	49 - 130
1,2-Dichlorobenzene	50.0	40.2		ug/Kg		80	64 - 130
1,3-Dichlorobenzene	50.0	40.7		ug/Kg		81	66 - 130
1,4-Dichlorobenzene	50.0	39.9		ug/Kg		80	65 - 130
Dichlorodifluoromethane	50.0	43.9		ug/Kg		88	34 - 143
1,1-Dichloroethane	50.0	43.8		ug/Kg		88	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	44.1		ug/Kg		88	55 - 137
1,2-Dichloropropane	50.0	44.5		ug/Kg		89	64 - 130
1,3-Dichloropropane	50.0	40.6		ug/Kg		81	67 - 130
2,2-Dichloropropane	50.0	38.6		ug/Kg		77	51 - 132
1,1-Dichloropropene	50.0	42.0		ug/Kg		84	65 - 130
Ethylbenzene	50.0	41.0		ug/Kg		82	70 - 130
Ethylene Dibromide	50.0	39.1		ug/Kg		78	67 - 130
Ethyl methacrylate	50.0	37.7		ug/Kg		75	62 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450151/2-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	43.7		ug/Kg		87	62 - 133
2-Hexanone	200	155		ug/Kg		78	57 - 131
Isopropylbenzene	50.0	40.4		ug/Kg		81	70 - 130
Methylene bromide	50.0	41.7		ug/Kg		83	65 - 130
Methylene Chloride	50.0	38.5		ug/Kg		77	57 - 132
4-Methyl-2-pentanone (MIBK)	200	174		ug/Kg		87	58 - 130
Methyl tert-butyl ether	50.0	37.4		ug/Kg		75	63 - 130
m-Xylene & p-Xylene	50.0	40.5		ug/Kg		81	70 - 130
Naphthalene	50.0	39.1		ug/Kg		78	45 - 144
n-Butylbenzene	50.0	41.5		ug/Kg		83	66 - 130
N-Propylbenzene	50.0	41.6		ug/Kg		83	67 - 130
o-Chlorotoluene	50.0	40.7		ug/Kg		81	67 - 130
o-Xylene	50.0	40.6		ug/Kg		81	70 - 130
p-Chlorotoluene	50.0	41.2		ug/Kg		82	66 - 130
p-Isopropyltoluene	50.0	41.5		ug/Kg		83	68 - 130
sec-Butylbenzene	50.0	41.1		ug/Kg		82	67 - 130
Styrene	50.0	39.7		ug/Kg		79	68 - 130
tert-Butylbenzene	50.0	40.2		ug/Kg		80	67 - 130
1,1,1,2-Tetrachloroethane	50.0	40.4		ug/Kg		81	65 - 130
1,1,2,2-Tetrachloroethane	50.0	40.6		ug/Kg		81	60 - 131
Tetrachloroethene	50.0	39.7		ug/Kg		79	67 - 130
Toluene	50.0	39.8		ug/Kg		80	70 - 130
trans-1,2-Dichloroethene	50.0	42.4		ug/Kg		85	58 - 134
trans-1,3-Dichloropropene	50.0	36.8		ug/Kg		74	60 - 130
1,2,3-Trichlorobenzene	50.0	38.9		ug/Kg		78	58 - 135
1,2,4-Trichlorobenzene	50.0	41.6		ug/Kg		83	56 - 138
1,1,1-Trichloroethane	50.0	41.5		ug/Kg		83	63 - 130
1,1,2-Trichloroethane	50.0	39.8		ug/Kg		80	65 - 130
Trichloroethene	50.0	43.3		ug/Kg		87	65 - 130
Trichlorofluoromethane	50.0	42.0		ug/Kg		84	61 - 136
1,2,3-Trichloropropane	50.0	38.3		ug/Kg		77	60 - 130
1,2,4-Trimethylbenzene	50.0	41.5		ug/Kg		83	66 - 130
1,3,5-Trimethylbenzene	50.0	41.1		ug/Kg		82	67 - 130
Vinyl acetate	100	81.9		ug/Kg		82	24 - 160
Vinyl chloride	50.0	44.8		ug/Kg		90	52 - 132
Xylenes, Total	100	81.1		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*104*		*79 - 123*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		435000	316000		ug/Kg	☼	73	10 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		1090000	816000		ug/Kg	☼	75	10 - 150
Acrylonitrile	ND		1090000	873000		ug/Kg	☼	80	21 - 141
Benzene	290000		109000	371000		ug/Kg	☼	75	38 - 131
Bromobenzene	ND		109000	79300		ug/Kg	☼	73	28 - 134
Bromochloromethane	ND		109000	81700		ug/Kg	☼	75	37 - 134
Bromodichloromethane	ND		109000	80200		ug/Kg	☼	74	37 - 130
Bromoform	ND		109000	68400		ug/Kg	☼	63	24 - 136
Bromomethane	ND		109000	74400		ug/Kg	☼	68	10 - 150
2-Butanone (MEK)	ND		435000	312000		ug/Kg	☼	72	19 - 139
Carbon disulfide	ND		109000	78200		ug/Kg	☼	72	29 - 141
Carbon tetrachloride	ND		109000	83300		ug/Kg	☼	77	36 - 134
Chlorobenzene	ND		109000	85300		ug/Kg	☼	78	37 - 130
Chloroethane	ND		109000	90300		ug/Kg	☼	83	36 - 139
2-Chloroethyl vinyl ether	ND		109000	80600		ug/Kg	☼	74	10 - 150
Chloroform	ND		109000	83400		ug/Kg	☼	77	39 - 130
1-Chlorohexane	ND		109000	91300		ug/Kg	☼	84	32 - 131
Chloromethane	ND		109000	99600		ug/Kg	☼	92	35 - 136
cis-1,2-Dichloroethene	ND		109000	86600		ug/Kg	☼	80	32 - 135
cis-1,3-Dichloropropene	ND		109000	79900		ug/Kg	☼	74	34 - 130
Dibromochloromethane	ND		109000	77200		ug/Kg	☼	71	32 - 132
1,2-Dibromo-3-Chloropropane	ND		109000	67200		ug/Kg	☼	62	14 - 132
1,2-Dichlorobenzene	ND		109000	81200		ug/Kg	☼	75	20 - 130
1,3-Dichlorobenzene	ND		109000	80300		ug/Kg	☼	74	22 - 130
1,4-Dichlorobenzene	ND		109000	80800		ug/Kg	☼	74	21 - 130
Dichlorodifluoromethane	ND		109000	91400		ug/Kg	☼	84	21 - 146
1,1-Dichloroethane	ND		109000	88100		ug/Kg	☼	81	41 - 130
1,2-Dichloroethane	ND		109000	90000		ug/Kg	☼	83	37 - 130
1,1-Dichloroethene	ND		109000	86000		ug/Kg	☼	79	39 - 138
1,2-Dichloropropane	ND		109000	89800		ug/Kg	☼	83	39 - 130
1,3-Dichloropropane	ND		109000	85600		ug/Kg	☼	79	39 - 130
2,2-Dichloropropane	ND		109000	73400		ug/Kg	☼	68	32 - 134
1,1-Dichloropropene	ND		109000	83300		ug/Kg	☼	77	38 - 136
Ethylbenzene	ND		109000	83700		ug/Kg	☼	77	35 - 130
Ethylene Dibromide	ND		109000	81900		ug/Kg	☼	75	35 - 130
Ethyl methacrylate	ND		109000	78200		ug/Kg	☼	72	10 - 142
Hexachlorobutadiene	ND		109000	86200		ug/Kg	☼	79	10 - 144
2-Hexanone	ND		435000	321000		ug/Kg	☼	74	20 - 142
Isopropylbenzene	ND		109000	82900		ug/Kg	☼	76	31 - 132
Methylene bromide	ND		109000	86200		ug/Kg	☼	79	35 - 130
Methylene Chloride	ND		109000	77500		ug/Kg	☼	71	36 - 132
4-Methyl-2-pentanone (MIBK)	ND		435000	346000		ug/Kg	☼	80	21 - 144
Methyl tert-butyl ether	ND		109000	73800		ug/Kg	☼	68	34 - 132
m-Xylene & p-Xylene	ND		109000	82500		ug/Kg	☼	76	35 - 130
Naphthalene	ND		109000	77200		ug/Kg	☼	71	10 - 150
n-Butylbenzene	ND		109000	82800		ug/Kg	☼	76	20 - 133
N-Propylbenzene	ND		109000	80400		ug/Kg	☼	74	29 - 132
o-Chlorotoluene	ND		109000	79600		ug/Kg	☼	73	31 - 130
o-Xylene	ND		109000	83800		ug/Kg	☼	77	35 - 130
p-Chlorotoluene	ND		109000	80000		ug/Kg	☼	74	28 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		109000	80200		ug/Kg	☼	74	20 - 137
sec-Butylbenzene	ND		109000	81500		ug/Kg	☼	75	22 - 135
Styrene	ND		109000	82000		ug/Kg	☼	75	31 - 130
tert-Butylbenzene	ND		109000	80100		ug/Kg	☼	74	26 - 133
1,1,1,2-Tetrachloroethane	ND		109000	80600		ug/Kg	☼	74	37 - 130
1,1,2,2-Tetrachloroethane	ND		109000	81300		ug/Kg	☼	75	10 - 149
Tetrachloroethene	ND		109000	81800		ug/Kg	☼	75	27 - 147
Toluene	ND		109000	82200		ug/Kg	☼	76	42 - 130
trans-1,2-Dichloroethene	ND		109000	85500		ug/Kg	☼	79	40 - 134
trans-1,3-Dichloropropene	ND		109000	72800		ug/Kg	☼	67	31 - 130
1,2,3-Trichlorobenzene	ND		109000	77500		ug/Kg	☼	71	10 - 146
1,2,4-Trichlorobenzene	ND		109000	81600		ug/Kg	☼	75	10 - 141
1,1,1-Trichloroethane	ND		109000	82800		ug/Kg	☼	76	41 - 130
1,1,2-Trichloroethane	ND		109000	83800		ug/Kg	☼	77	37 - 130
Trichloroethene	ND		109000	85800		ug/Kg	☼	79	34 - 144
Trichlorofluoromethane	ND		109000	83700		ug/Kg	☼	77	41 - 143
1,2,3-Trichloropropane	ND		109000	77400		ug/Kg	☼	71	29 - 133
1,2,4-Trimethylbenzene	ND		109000	79900		ug/Kg	☼	74	26 - 131
1,3,5-Trimethylbenzene	ND		109000	80600		ug/Kg	☼	74	28 - 131
Vinyl acetate	ND		217000	160000		ug/Kg	☼	74	10 - 150
Vinyl chloride	ND		109000	90500		ug/Kg	☼	83	35 - 136
Xylenes, Total	ND		217000	166000		ug/Kg	☼	76	35 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		435000	331000		ug/Kg	☼	76	10 - 150	4	38
Acrolein	ND		1090000	841000		ug/Kg	☼	77	10 - 150	3	44
Acrylonitrile	ND		1090000	925000		ug/Kg	☼	85	21 - 141	6	37
Benzene	290000		109000	351000		ug/Kg	☼	57	38 - 131	6	36
Bromobenzene	ND		109000	83700		ug/Kg	☼	77	28 - 134	5	37
Bromochloromethane	ND		109000	86700		ug/Kg	☼	80	37 - 134	6	38
Bromodichloromethane	ND		109000	86900		ug/Kg	☼	80	37 - 130	8	34
Bromoform	ND		109000	72500		ug/Kg	☼	67	24 - 136	6	34
Bromomethane	ND		109000	76600		ug/Kg	☼	71	10 - 150	3	47
2-Butanone (MEK)	ND		435000	322000		ug/Kg	☼	74	19 - 139	3	41
Carbon disulfide	ND		109000	83800		ug/Kg	☼	77	29 - 141	7	39
Carbon tetrachloride	ND		109000	84800		ug/Kg	☼	78	36 - 134	2	44
Chlorobenzene	ND		109000	85300		ug/Kg	☼	78	37 - 130	0	37
Chloroethane	ND		109000	91300		ug/Kg	☼	84	36 - 139	1	42
2-Chloroethyl vinyl ether	ND		109000	82100		ug/Kg	☼	76	10 - 150	2	38

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		109000	86700		ug/Kg	☼	80	39 - 130	4	35
1-Chlorohexane	ND		109000	88200		ug/Kg	☼	81	32 - 131	3	48
Chloromethane	ND		109000	100000		ug/Kg	☼	92	35 - 136	1	41
cis-1,2-Dichloroethene	ND		109000	91300		ug/Kg	☼	84	32 - 135	5	35
cis-1,3-Dichloropropene	ND		109000	84200		ug/Kg	☼	77	34 - 130	5	35
Dibromochloromethane	ND		109000	79400		ug/Kg	☼	73	32 - 132	3	34
1,2-Dibromo-3-Chloropropane	ND		109000	73100		ug/Kg	☼	67	14 - 132	8	38
1,2-Dichlorobenzene	ND		109000	84000		ug/Kg	☼	77	20 - 130	3	40
1,3-Dichlorobenzene	ND		109000	82300		ug/Kg	☼	76	22 - 130	2	41
1,4-Dichlorobenzene	ND		109000	82900		ug/Kg	☼	76	21 - 130	3	40
Dichlorodifluoromethane	ND		109000	92600		ug/Kg	☼	85	21 - 146	1	46
1,1-Dichloroethane	ND		109000	92800		ug/Kg	☼	85	41 - 130	5	35
1,2-Dichloroethane	ND		109000	93200		ug/Kg	☼	86	37 - 130	3	32
1,1-Dichloroethene	ND		109000	91700		ug/Kg	☼	84	39 - 138	6	37
1,2-Dichloropropane	ND		109000	94100		ug/Kg	☼	87	39 - 130	5	35
1,3-Dichloropropane	ND		109000	85600		ug/Kg	☼	79	39 - 130	0	32
2,2-Dichloropropane	ND		109000	77700		ug/Kg	☼	71	32 - 134	6	41
1,1-Dichloropropene	ND		109000	86300		ug/Kg	☼	79	38 - 136	4	43
Ethylbenzene	ND		109000	84100		ug/Kg	☼	77	35 - 130	1	46
Ethylene Dibromide	ND		109000	83600		ug/Kg	☼	77	35 - 130	2	31
Ethyl methacrylate	ND		109000	79300		ug/Kg	☼	73	10 - 142	1	39
Hexachlorobutadiene	ND		109000	88300		ug/Kg	☼	81	10 - 144	2	68
2-Hexanone	ND		435000	323000		ug/Kg	☼	74	20 - 142	1	37
Isopropylbenzene	ND		109000	82200		ug/Kg	☼	76	31 - 132	1	51
Methylene bromide	ND		109000	88600		ug/Kg	☼	82	35 - 130	3	34
Methylene Chloride	ND		109000	80500		ug/Kg	☼	74	36 - 132	4	38
4-Methyl-2-pentanone (MIBK)	ND		435000	364000		ug/Kg	☼	84	21 - 144	5	39
Methyl tert-butyl ether	ND		109000	78800		ug/Kg	☼	72	34 - 132	7	31
m-Xylene & p-Xylene	ND		109000	82700		ug/Kg	☼	76	35 - 130	0	42
Naphthalene	ND		109000	82900		ug/Kg	☼	76	10 - 150	7	49
n-Butylbenzene	ND		109000	83600		ug/Kg	☼	77	20 - 133	1	50
N-Propylbenzene	ND		109000	82400		ug/Kg	☼	76	29 - 132	2	42
o-Chlorotoluene	ND		109000	81600		ug/Kg	☼	75	31 - 130	2	45
o-Xylene	ND		109000	84100		ug/Kg	☼	77	35 - 130	0	37
p-Chlorotoluene	ND		109000	83600		ug/Kg	☼	77	28 - 130	4	42
p-Isopropyltoluene	ND		109000	83200		ug/Kg	☼	77	20 - 137	4	53
sec-Butylbenzene	ND		109000	84000		ug/Kg	☼	77	22 - 135	3	52
Styrene	ND		109000	80700		ug/Kg	☼	74	31 - 130	2	39
tert-Butylbenzene	ND		109000	81400		ug/Kg	☼	75	26 - 133	2	47
1,1,1,2-Tetrachloroethane	ND		109000	81600		ug/Kg	☼	75	37 - 130	1	34
1,1,2,2-Tetrachloroethane	ND		109000	84200		ug/Kg	☼	77	10 - 149	3	44
Tetrachloroethene	ND		109000	82000		ug/Kg	☼	75	27 - 147	0	44
Toluene	ND		109000	81600		ug/Kg	☼	75	42 - 130	1	37
trans-1,2-Dichloroethene	ND		109000	88500		ug/Kg	☼	81	40 - 134	3	38
trans-1,3-Dichloropropene	ND		109000	74500		ug/Kg	☼	69	31 - 130	2	34
1,2,3-Trichlorobenzene	ND		109000	81900		ug/Kg	☼	75	10 - 146	6	47
1,2,4-Trichlorobenzene	ND		109000	85200		ug/Kg	☼	78	10 - 141	4	53
1,1,1-Trichloroethane	ND		109000	85800		ug/Kg	☼	79	41 - 130	4	40
1,1,2-Trichloroethane	ND		109000	83900		ug/Kg	☼	77	37 - 130	0	33

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		109000	89300		ug/Kg	☼	82	34 - 144	4	42
Trichlorofluoromethane	ND		109000	82900		ug/Kg	☼	76	41 - 143	1	42
1,2,3-Trichloropropane	ND		109000	81300		ug/Kg	☼	75	29 - 133	5	33
1,2,4-Trimethylbenzene	ND		109000	82400		ug/Kg	☼	76	26 - 131	3	48
1,3,5-Trimethylbenzene	ND		109000	83200		ug/Kg	☼	77	28 - 131	3	46
Vinyl acetate	ND		217000	168000		ug/Kg	☼	78	10 - 150	5	60
Vinyl chloride	ND		109000	92900		ug/Kg	☼	86	35 - 136	3	43
Xylenes, Total	ND		217000	167000		ug/Kg	☼	77	35 - 130	0	39

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*72 - 122*
Dibromofluoromethane	*103*		*79 - 123*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 400-450813/1-A
Matrix: Solid
Analysis Batch: 450779

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		08/03/19 10:12	08/03/19 11:46	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*08/03/19 10:12*	*08/03/19 11:46*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*72 - 122*	*08/03/19 10:12*	*08/03/19 11:46*	*1*
Dibromofluoromethane	*101*		*79 - 123*	*08/03/19 10:12*	*08/03/19 11:46*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*08/03/19 10:12*	*08/03/19 11:46*	*1*

Lab Sample ID: LCS 400-450813/2-A
Matrix: Solid
Analysis Batch: 450779

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	52.7		ug/Kg		105	65 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*72 - 122*
Dibromofluoromethane	*101*		*79 - 123*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: MB 400-450871/1-A
Matrix: Solid
Analysis Batch: 450866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		08/04/19 09:06	08/04/19 11:04	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450871/1-A
Matrix: Solid
Analysis Batch: 450866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450871

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				08/04/19 09:06	08/04/19 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		72 - 122	08/04/19 09:06	08/04/19 11:04	1
Dibromofluoromethane	110		79 - 123	08/04/19 09:06	08/04/19 11:04	1
Toluene-d8 (Surr)	94		80 - 120	08/04/19 09:06	08/04/19 11:04	1

Lab Sample ID: LCS 400-450871/2-A
Matrix: Solid
Analysis Batch: 450866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.6		ug/Kg		97	65 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	90		72 - 122
Dibromofluoromethane	106		79 - 123
Toluene-d8 (Surr)	92		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Benzenethiol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Benzoic acid	ND		990	350	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Benzyl alcohol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Bis(2-ethylhexyl) phthalate	51.5	J	330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Chloroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Chlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Dibenzofuran	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Diethyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
1,4-Dioxane	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Hexachloroethane	ND		330	100	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Indene	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Isophorone	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Methylphenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Nitroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
3-Nitroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Nitroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Nitrobenzene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Nitrophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Nitrophenol	ND		330	110	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Pentachlorophenol	ND		660	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Phenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Pyridine	ND		330	150	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Quinoline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/25/19 15:10	07/26/19 23:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		27 - 127	07/25/19 15:10	07/26/19 23:39	1
2-Fluorophenol	57		25 - 128	07/25/19 15:10	07/26/19 23:39	1
Nitrobenzene-d5	57		15 - 136	07/25/19 15:10	07/26/19 23:39	1
Phenol-d5	55		29 - 130	07/25/19 15:10	07/26/19 23:39	1
Terphenyl-d14	83		24 - 146	07/25/19 15:10	07/26/19 23:39	1
2,4,6-Tribromophenol	102		10 - 150	07/25/19 15:10	07/26/19 23:39	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449523/2-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1110		ug/Kg		55	36 - 120
Benzoic acid	7770	2120		ug/Kg		27	10 - 139
Benzyl alcohol	2000	1350		ug/Kg		67	10 - 127
Bis(2-chloroethoxy)methane	2000	1020	*	ug/Kg		51	52 - 120
Bis(2-chloroethyl)ether	2000	1030		ug/Kg		52	50 - 120
bis (2-chloroisopropyl) ether	2000	1010		ug/Kg		50	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1480		ug/Kg		74	58 - 158
4-Bromophenyl phenyl ether	2000	2160		ug/Kg		108	51 - 120
Butyl benzyl phthalate	2000	1310		ug/Kg		66	58 - 126
4-Chloroaniline	2000	972		ug/Kg		49	34 - 120
4-Chloro-3-methylphenol	2000	1470		ug/Kg		74	57 - 124
2-Chloronaphthalene	2000	1560		ug/Kg		78	55 - 120
2-Chlorophenol	2000	1430		ug/Kg		72	52 - 120
4-Chlorophenyl phenyl ether	2000	1910		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1630		ug/Kg		81	51 - 135
Dibenzofuran	2000	1650		ug/Kg		83	58 - 120
3,3'-Dichlorobenzidine	2670	5210	*	ug/Kg		195	42 - 120
2,4-Dichlorophenol	2000	1550		ug/Kg		77	56 - 120
Diethyl phthalate	2000	2070		ug/Kg		104	56 - 128
2,4-Dimethylphenol	2000	1470		ug/Kg		74	54 - 120
Dimethyl phthalate	2000	1720		ug/Kg		86	58 - 120
Di-n-butyl phthalate	2000	1780		ug/Kg		89	64 - 122
4,6-Dinitro-ortho-cresol	4000	1400		ug/Kg		35	35 - 135
2,4-Dinitrophenol	4000	1660		ug/Kg		42	10 - 138
2,4-Dinitrotoluene	2000	1720		ug/Kg		86	59 - 133
2,6-Dinitrotoluene	2000	1690		ug/Kg		85	57 - 123
Di-n-octyl phthalate	2000	1770		ug/Kg		89	57 - 137
1,4-Dioxane	2000	630		ug/Kg		31	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1370		ug/Kg		68	50 - 120
Hexachlorobenzene	2000	2710	*	ug/Kg		136	49 - 127
Hexachlorocyclopentadiene	2000	550		ug/Kg		27	10 - 140
Hexachloroethane	2000	1220		ug/Kg		61	45 - 120
Indene	2000	1090		ug/Kg		54	45 - 120
Isophorone	2000	1120		ug/Kg		56	50 - 120
2-Methylphenol	2000	1370		ug/Kg		68	51 - 123
3 & 4 Methylphenol	2000	1490		ug/Kg		74	47 - 123
2-Nitroaniline	2000	1530		ug/Kg		77	55 - 129
3-Nitroaniline	2000	1720		ug/Kg		86	45 - 120
4-Nitroaniline	2000	2810	*	ug/Kg		140	52 - 126
Nitrobenzene	2000	1150		ug/Kg		58	50 - 120
2-Nitrophenol	2000	1150		ug/Kg		58	53 - 120
4-Nitrophenol	4000	4860		ug/Kg		122	38 - 133
N-Nitrosodimethylamine	2000	1560		ug/Kg		78	35 - 120
N-Nitrosodi-n-propylamine	2000	1490		ug/Kg		74	48 - 120
N-Nitrosodiphenylamine	1980	1640		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4510		ug/Kg		113	32 - 131
Phenol	2000	1250		ug/Kg		63	51 - 120
Pyridine	4000	1510		ug/Kg		38	29 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449523/2-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	2000	1220		ug/Kg		61	10 - 150
2,4,5-Trichlorophenol	2000	1820		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1800		ug/Kg		90	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*27 - 127*
2-Fluorophenol	*53*		*25 - 128*
Nitrobenzene-d5	*53*		*15 - 136*
Phenol-d5	*56*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*114*		*10 - 150*

Lab Sample ID: LCS 400-449523/9-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	2000	289	J	ug/Kg		14	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*27 - 127*
2-Fluorophenol	*51*		*25 - 128*
Nitrobenzene-d5	*52*		*15 - 136*
Phenol-d5	*51*		*29 - 130*
Terphenyl-d14	*79*		*24 - 146*
2,4,6-Tribromophenol	*99*		*10 - 150*

Lab Sample ID: LCSD 400-449523/10-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	449		ug/Kg		22	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*27 - 127*
2-Fluorophenol	*50*		*25 - 128*
Nitrobenzene-d5	*51*		*15 - 136*
Phenol-d5	*51*		*29 - 130*
Terphenyl-d14	*76*		*24 - 146*
2,4,6-Tribromophenol	*90*		*10 - 150*

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	F1 F2	2370	283	J F1	ug/Kg	☼	12	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	ND	F1	9220	ND	F1	ug/Kg	☼	0	40 - 140
Benzyl alcohol	ND	F1 F2	2370	417	F1	ug/Kg	☼	18	40 - 140
Bis(2-chloroethoxy)methane	ND	* F1 F2	2370	230	J F1	ug/Kg	☼	10	40 - 140
Bis(2-chloroethyl)ether	ND	F1 F2	2370	158	J F1	ug/Kg	☼	7	40 - 140
bis (2-chloroisopropyl) ether	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Bis(2-ethylhexyl) phthalate	78	J B F1 F2	2370	344	J F1	ug/Kg	☼	11	40 - 140
4-Bromophenyl phenyl ether	ND	F1 F2	2370	148	J F1	ug/Kg	☼	6	40 - 140
Butyl benzyl phthalate	ND	F1 F2	2370	150	J F1	ug/Kg	☼	6	40 - 140
4-Chloroaniline	ND	F1 F2	2370	282	J F1	ug/Kg	☼	12	40 - 140
4-Chloro-3-methylphenol	ND	F1 F2	2370	417	F1	ug/Kg	☼	18	40 - 140
2-Chloronaphthalene	ND	F1 F2	2370	41.7	J F1	ug/Kg	☼	2	40 - 140
2-Chlorophenol	ND	F1 F2	2370	285	J F1	ug/Kg	☼	12	40 - 140
4-Chlorophenyl phenyl ether	ND	F1 F2	2370	89.3	J F1	ug/Kg	☼	4	40 - 140
Dibenz[a,h]acridine	ND	F1 F2	2370	147	J F1	ug/Kg	☼	6	40 - 140
Dibenzofuran	ND	F1 F2	2370	69.3	J F1	ug/Kg	☼	3	40 - 140
3,3'-Dichlorobenzidine	ND	* F1 F2	3160	366	J F1	ug/Kg	☼	12	40 - 140
2,4-Dichlorophenol	ND	F1 F2	2370	354	J F1	ug/Kg	☼	15	40 - 140
Diethyl phthalate	ND	F1 F2	2370	271	J F1	ug/Kg	☼	11	40 - 140
2,4-Dimethylphenol	ND	F1 F2	2370	406	F1	ug/Kg	☼	17	40 - 140
Dimethyl phthalate	ND	F1 F2	2370	301	J F1	ug/Kg	☼	13	40 - 140
Di-n-butyl phthalate	ND	F1 F2	2370	274	J F1	ug/Kg	☼	12	40 - 140
4,6-Dinitro-ortho-cresol	ND	F1 F2	4750	200	J F1	ug/Kg	☼	4	40 - 140
2,4-Dinitrophenol	ND	F1	4750	ND	F1	ug/Kg	☼	0	40 - 140
2,4-Dinitrotoluene	ND	F1 F2	2370	273	J F1	ug/Kg	☼	12	40 - 140
2,6-Dinitrotoluene	ND	F1 F2	2370	332	J F1	ug/Kg	☼	14	40 - 140
Di-n-octyl phthalate	ND	F1 F2	2370	372	J F1	ug/Kg	☼	16	40 - 140
1,4-Dioxane	ND	F1 F2	2370	87.1	J F1	ug/Kg	☼	4	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND	F1 F2	2370	83.2	J F1	ug/Kg	☼	4	40 - 140
Hexachlorobenzene	ND	* F1 F2	2370	146	J F1	ug/Kg	☼	6	40 - 140
Hexachlorocyclopentadiene	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Hexachloroethane	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Indene	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Isophorone	ND	F1 F2	2370	282	J F1	ug/Kg	☼	12	40 - 140
2-Methylphenol	ND	F1 F2	2370	385	J F1	ug/Kg	☼	16	40 - 140
3 & 4 Methylphenol	ND	F1 F2	2370	410	J F1	ug/Kg	☼	17	40 - 140
2-Nitroaniline	ND	F1 F2	2370	385	J F1	ug/Kg	☼	16	40 - 140
3-Nitroaniline	ND	F1 F2	2370	426	F1	ug/Kg	☼	18	40 - 140
4-Nitroaniline	ND	* F1 F2	2370	632	F1	ug/Kg	☼	27	40 - 140
Nitrobenzene	ND	F1 F2	2370	155	J F1	ug/Kg	☼	7	40 - 140
2-Nitrophenol	ND	F1 F2	2370	234	J F1	ug/Kg	☼	10	40 - 140
4-Nitrophenol	ND	F1 F2	4750	692	F1	ug/Kg	☼	15	40 - 140
N-Nitrosodimethylamine	ND	F1 F2	2370	478	F1	ug/Kg	☼	20	40 - 140
N-Nitrosodi-n-propylamine	ND	F1 F2	2370	277	J F1	ug/Kg	☼	12	40 - 140
N-Nitrosodiphenylamine	ND	F1 F2	2350	195	J F1	ug/Kg	☼	8	40 - 140
Pentachlorophenol	ND	F1 F2	4750	570	J F1	ug/Kg	☼	12	40 - 140
Phenol	120	J F1 F2	2370	452	F1	ug/Kg	☼	14	40 - 140
Pyridine	ND	F1 F2	4750	236	J F1	ug/Kg	☼	5	40 - 140
Quinoline	ND	F1 F2	2370	315	J F1	ug/Kg	☼	13	40 - 140

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	ND	F1 F2	2370	393	F1	ug/Kg	☼	17	40 - 140
2,4,6-Trichlorophenol	ND	F1 F2	2370	401	F1	ug/Kg	☼	17	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*2*	*X*	*27 - 127*
2-Fluorophenol	*10*	*X*	*25 - 128*
Nitrobenzene-d5	*6*	*X*	*15 - 136*
Phenol-d5	*16*	*X*	*29 - 130*
Terphenyl-d14	*4*	*X*	*24 - 146*
2,4,6-Tribromophenol	*23*		*10 - 150*

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND	F1 F2	2350	1130	F2	ug/Kg	☼	48	40 - 140	120	30
Benzoic acid	ND	F1	9130	ND	F1	ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	ND	F1 F2	2350	1420	F2	ug/Kg	☼	60	40 - 140	109	30
Bis(2-chloroethoxy)methane	ND	* F1 F2	2350	1150	F2	ug/Kg	☼	49	40 - 140	134	30
Bis(2-chloroethyl)ether	ND	F1 F2	2350	1090	F2	ug/Kg	☼	47	40 - 140	150	30
bis (2-chloroisopropyl) ether	ND	F1	2350	1040		ug/Kg	☼	44	40 - 140	NC	30
Bis(2-ethylhexyl) phthalate	78	J B F1 F2	2350	1080	F2	ug/Kg	☼	43	40 - 140	104	30
4-Bromophenyl phenyl ether	ND	F1 F2	2350	1800	F2	ug/Kg	☼	77	40 - 140	170	30
Butyl benzyl phthalate	ND	F1 F2	2350	1000	F2	ug/Kg	☼	43	40 - 140	148	30
4-Chloroaniline	ND	F1 F2	2350	1100	F2	ug/Kg	☼	47	40 - 140	119	30
4-Chloro-3-methylphenol	ND	F1 F2	2350	1630	F2	ug/Kg	☼	69	40 - 140	118	30
2-Chloronaphthalene	ND	F1 F2	2350	1510	F2	ug/Kg	☼	64	40 - 140	189	30
2-Chlorophenol	ND	F1 F2	2350	1500	F2	ug/Kg	☼	64	40 - 140	136	30
4-Chlorophenyl phenyl ether	ND	F1 F2	2350	1660	F2	ug/Kg	☼	71	40 - 140	180	30
Dibenz[a,h]acridine	ND	F1 F2	2350	201	J F1 F2	ug/Kg	☼	9	40 - 140	31	30
Dibenzofuran	ND	F1 F2	2350	1530	F2	ug/Kg	☼	65	40 - 140	183	30
3,3'-Dichlorobenzidine	ND	* F1 F2	3130	4310	F2	ug/Kg	☼	137	40 - 140	169	30
2,4-Dichlorophenol	ND	F1 F2	2350	1650	F2	ug/Kg	☼	70	40 - 140	129	30
Diethyl phthalate	ND	F1 F2	2350	1890	F2	ug/Kg	☼	80	40 - 140	150	30
2,4-Dimethylphenol	ND	F1 F2	2350	1670	F2	ug/Kg	☼	71	40 - 140	122	30
Dimethyl phthalate	ND	F1 F2	2350	1690	F2	ug/Kg	☼	72	40 - 140	140	30
Di-n-butyl phthalate	ND	F1 F2	2350	1370	F2	ug/Kg	☼	58	40 - 140	133	30
4,6-Dinitro-ortho-cresol	ND	F1 F2	4700	1010	F1 F2	ug/Kg	☼	21	40 - 140	134	30
2,4-Dinitrophenol	ND	F1	4700	519	J F1	ug/Kg	☼	11	40 - 140	NC	30
2,4-Dinitrotoluene	ND	F1 F2	2350	1630	F2	ug/Kg	☼	69	40 - 140	142	30
2,6-Dinitrotoluene	ND	F1 F2	2350	1640	F2	ug/Kg	☼	70	40 - 140	133	30
Di-n-octyl phthalate	ND	F1 F2	2350	1280	F2	ug/Kg	☼	55	40 - 140	110	30
1,4-Dioxane	ND	F1 F2	2350	576	F1 F2	ug/Kg	☼	24	40 - 140	147	30
1,2-Diphenylhydrazine (as Azobenzene)	ND	F1 F2	2350	1250	F2	ug/Kg	☼	53	40 - 140	175	30
Hexachlorobenzene	ND	* F1 F2	2350	2270	F2	ug/Kg	☼	97	40 - 140	176	30
Hexachlorocyclopentadiene	ND	F1	2350	249	J F1	ug/Kg	☼	11	40 - 140	NC	30
Hexachloroethane	ND	F1	2350	1170		ug/Kg	☼	50	40 - 140	NC	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene	ND	F1	2350	1090		ug/Kg	☼	46	40 - 140	NC	30
Isophorone	ND	F1 F2	2350	1310	F2	ug/Kg	☼	56	40 - 140	129	30
2-Methylphenol	ND	F1 F2	2350	1440	F2	ug/Kg	☼	61	40 - 140	115	30
3 & 4 Methylphenol	ND	F1 F2	2350	1510	F2	ug/Kg	☼	64	40 - 140	115	30
2-Nitroaniline	ND	F1 F2	2350	1490	F2	ug/Kg	☼	63	40 - 140	118	30
3-Nitroaniline	ND	F1 F2	2350	1690	F2	ug/Kg	☼	72	40 - 140	119	30
4-Nitroaniline	ND	* F1 F2	2350	2260	F2	ug/Kg	☼	96	40 - 140	113	30
Nitrobenzene	ND	F1 F2	2350	1380	F2	ug/Kg	☼	59	40 - 140	160	30
2-Nitrophenol	ND	F1 F2	2350	1280	F2	ug/Kg	☼	55	40 - 140	138	30
4-Nitrophenol	ND	F1 F2	4700	4270	F2	ug/Kg	☼	91	40 - 140	144	30
N-Nitrosodimethylamine	ND	F1 F2	2350	1750	F2	ug/Kg	☼	74	40 - 140	114	30
N-Nitrosodi-n-propylamine	ND	F1 F2	2350	1560	F2	ug/Kg	☼	67	40 - 140	140	30
N-Nitrosodiphenylamine	ND	F1 F2	2330	1570	F2	ug/Kg	☼	67	40 - 140	156	30
Pentachlorophenol	ND	F1 F2	4700	3790	F2	ug/Kg	☼	81	40 - 140	148	30
Phenol	120	J F1 F2	2350	1450	F2	ug/Kg	☼	57	40 - 140	105	30
Pyridine	ND	F1 F2	4700	1810	F1 F2	ug/Kg	☼	38	40 - 140	154	30
Quinoline	ND	F1 F2	2350	135	J F1 F2	ug/Kg	☼	6	40 - 140	80	30
2,4,5-Trichlorophenol	ND	F1 F2	2350	1770	F2	ug/Kg	☼	75	40 - 140	127	30
2,4,6-Trichlorophenol	ND	F1 F2	2350	1740	F2	ug/Kg	☼	74	40 - 140	125	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*27 - 127*
2-Fluorophenol	*47*		*25 - 128*
Nitrobenzene-d5	*52*		*15 - 136*
Phenol-d5	*50*		*29 - 130*
Terphenyl-d14	*55*		*24 - 146*
2,4,6-Tribromophenol	*93*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Anthracene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[a]anthracene	1.56	J	6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[a]pyrene	1.20	J	6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[b]fluoranthene	1.35	J	6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Chrysene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Fluorene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Pyrene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/25/19 15:10*	*08/05/19 12:19*	*1*
Nitrobenzene-d5	*71*		*15 - 136*	*07/25/19 15:10*	*08/05/19 12:19*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/25/19 15:10*	*08/05/19 12:19*	*1*

Lab Sample ID: LCS 400-449523/11-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	279		ug/Kg		84	57 - 120
Acenaphthylene	333	265		ug/Kg		79	59 - 120
Anthracene	333	272		ug/Kg		82	61 - 120
Benzo[a]anthracene	333	279		ug/Kg		84	61 - 120
Benzo[a]pyrene	333	265		ug/Kg		79	54 - 127
Benzo[b]fluoranthene	333	272		ug/Kg		82	35 - 146
Benzo[g,h,i]perylene	333	276		ug/Kg		83	36 - 150
Benzo[k]fluoranthene	333	259		ug/Kg		78	53 - 139
Chrysene	333	267		ug/Kg		80	60 - 120
Dibenz(a,h)anthracene	333	313		ug/Kg		94	39 - 150
Fluoranthene	333	285		ug/Kg		85	61 - 121
Fluorene	333	283		ug/Kg		85	60 - 120
Indeno[1,2,3-cd]pyrene	333	271		ug/Kg		81	40 - 150
1-Methylnaphthalene	333	271		ug/Kg		81	46 - 120
2-Methylnaphthalene	333	279		ug/Kg		84	46 - 120
Phenanthrene	333	277		ug/Kg		83	59 - 120
Pyrene	333	272		ug/Kg		82	53 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
Nitrobenzene-d5	*72*		*15 - 136*
Terphenyl-d14	*93*		*24 - 146*

Lab Sample ID: LCSD 400-449523/12-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	333	295		ug/Kg		88	57 - 120	5	30
Acenaphthylene	333	279		ug/Kg		84	59 - 120	5	30
Anthracene	333	281		ug/Kg		84	61 - 120	3	30
Benzo[a]anthracene	333	291		ug/Kg		87	61 - 120	4	30
Benzo[a]pyrene	333	281		ug/Kg		84	54 - 127	6	30
Benzo[b]fluoranthene	333	283		ug/Kg		85	35 - 146	4	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449523/12-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449523

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			333	290		ug/Kg		87	36 - 150	5	30
Benzo[k]fluoranthene			333	292		ug/Kg		87	53 - 139	12	30
Chrysene			333	283		ug/Kg		85	60 - 120	6	30
Dibenz(a,h)anthracene			333	319		ug/Kg		96	39 - 150	2	30
Fluoranthene			333	297		ug/Kg		89	61 - 121	4	30
Fluorene			333	298		ug/Kg		89	60 - 120	5	30
Indeno[1,2,3-cd]pyrene			333	280		ug/Kg		84	40 - 150	3	30
1-Methylnaphthalene			333	275		ug/Kg		83	46 - 120	2	30
2-Methylnaphthalene			333	281		ug/Kg		84	46 - 120	1	30
Phenanthrene			333	285		ug/Kg		85	59 - 120	3	30
Pyrene			333	289		ug/Kg		87	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
Nitrobenzene-d5	*70*		*15 - 136*
Terphenyl-d14	*93*		*24 - 146*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (___Pensacola_____)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/22/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY	AECOM
LOG CODE	
ADDRESS	100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to)	Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE	314-429-0100
FAX	314-429-0462
Bill To Contact E-MAIL	elizabeth.kunkel@aecom.com
TURNAROUND TIME (CALENDAR DAYS)	☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT	☐ UST AGENCY:
DELIVERABLES	☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C°	Cooler #1 / Cooler #2 / Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

170 East Rand Avenue, Hartford	State: IL
AECOM Project / Task Number:	PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location)	Elizabeth Kunkel
PHONE NO	3144290100
E-MAIL	elizabeth.kunkel@aecom.com
AECOM Other ID	
SAMPLER NAME(S) (Print)	James Carrino
LAB USE ONLY	

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

400-173530 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
TB-PW-072219-A	7/22/2019	0:00	Water	X					2			X		
PD-14-SB-45-072219	7/22/2019	10:45	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-14-SB-45-072219-MS	7/22/2019	10:45	Soil	X			x	x	4		x	x		Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-14-SB-45-072219-MSD	7/22/2019	10:45	Soil	X			x	x	4		x	x		Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-14-SB-49-072219	7/22/2019	12:55	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-14-SB-49-072219-DUP	7/22/2019	12:55	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
PD-14-SB-55-072219	7/22/2019	13:50	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	Fedex 4931 8203 7524, 4931 8203 7351, 4931 8203 7362 , custody seal: 1011642, 1011643, 1011644, 1011645, 1011646, 1011647	7/22/2019	18:00
	[signature] 1.8°C, 2.7°C, 2.4°C, IL8	7/23/19	9:09

Version 10May17

8/7/2019

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173530-1

Login Number: 173530
List Number: 1
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8°C, 2.7°C, 2.4°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173530-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 10:38:35 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173530-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173530-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-7-19.

Receipt
The samples were received on 7/23/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.8º C, 2.4º C and 2.7º C.

GC/MS VOA
Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-072219-A (400-173530-1). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-14-SB-45-072219 (400-173530-2), PD-14-SB-49-072219 (400-173530-3), PD-14-SB-49-072219-DUP (400-173530-4) and PD-14-SB-55-072219 (400-173530-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-449615 was outside method criteria for the following analytes: 2 Ethyl 1 Hexanol, Ethylene Oxide, and Tert butyl formate. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analytes is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for Dibenz[a,h]acridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for N-Nitrosodimethylamine, 2,4,6-Trichlorophenol, 2,4-Dinitrophenol, 4-Nitrophenol, 2,4,5-Trichlorophenol, Diethyl phthalate, 2,6-Dinitrotoluene, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 2,4-Dichlorophenol, 4,6-Dinitro-2-methylphenol, 4-Bromophenyl phenyl ether and 2,4-Dimethylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Quinoline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449523 and analytical batch 400-449722 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Nitroaniline. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-449523 and analytical batch 400-449722: Bis(2-chloroethoxy)methane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: (400-173530-D-2-A MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-449523 and analytical batch 400-449722 were outside control limits. Sample matrix interference is suspected.

Job ID: 400-173530-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D LL: The method blank for preparation batch 400-449523 and analytical batch 400-450940 contained Benzo[a]anthracene, Benzo[a]pyrene and Benzo[b]fluoranthene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-451066 recovered outside acceptance criteria, low biased, for Benzo[g,h,i]perylene and Indeno[1,2,3-cd]pyrene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173530-1	TB-PW-072219-A	Water	07/22/19 00:00	07/23/19 09:09	
400-173530-2	PD-14-SB-45-072219	Solid	07/22/19 10:45	07/23/19 09:09	
400-173530-3	PD-14-SB-49-072219	Solid	07/22/19 12:55	07/23/19 09:09	
400-173530-4	PD-14-SB-49-072219-DUP	Solid	07/22/19 12:55	07/23/19 09:09	
400-173530-5	PD-14-SB-55-072219	Solid	07/22/19 13:50	07/23/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A — Lab Sample ID: 400-173530-1

No Detections.

Client Sample ID: PD-14-SB-45-072219 — Lab Sample ID: 400-173530-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	290000		11000	1500	ug/Kg	2000	☼	8260B	Total/NA
Benzo[a]anthracene	2.1	J B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	1.2	J B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	1.5	J B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	2.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	3.4	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	3.0	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	2.1	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	1.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	78	J B F1 F2	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	120	J F1 F2	390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-14-SB-49-072219 — Lab Sample ID: 400-173530-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	23000000		980000	130000	ug/Kg	200000	☼	8260B	Total/NA
Acenaphthene	5.8	J	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	9.6		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	15	B	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	11	B	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	18	B	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[g,h,i]perylene	5.7	J	7.5	2.3	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	6.5	J	7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	14		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	35		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	8.5		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	4.8	J	7.5	2.3	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	22		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	26		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	43		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	27		7.5	1.1	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	74	J B	370	37	ug/Kg	1	☼	8270D	Total/NA
Phenol	1100		370	37	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-14-SB-49-072219-DUP — Lab Sample ID: 400-173530-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	13000000		280000	38000	ug/Kg	50000	☼	8260B	Total/NA
Acenaphthene	5.8	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Anthracene	8.7		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]anthracene	10	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[a]pyrene	5.9	J B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[b]fluoranthene	8.6	B	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Benzo[k]fluoranthene	2.9	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Chrysene	8.9		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluoranthene	27		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Fluorene	7.4	J	7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	2.8	J	7.8	2.4	ug/Kg	1	☼	8270D LL	Total/NA
1-Methylnaphthalene	20		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP (Continued)

Lab Sample ID: 400-173530-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	24		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Phenanthrene	34		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Pyrene	19		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	58	J B	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	520		390	39	ug/Kg	1	☼	8270D	Total/NA

Client Sample ID: PD-14-SB-55-072219

Lab Sample ID: 400-173530-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	10000		260	35	ug/Kg	50	☼	8260B	Total/NA
Ethylbenzene	90	J	260	32	ug/Kg	50	☼	8260B	Total/NA
m-Xylene & p-Xylene	200	J	260	69	ug/Kg	50	☼	8260B	Total/NA
o-Xylene	61	J	260	53	ug/Kg	50	☼	8260B	Total/NA
1,2,4-Trimethylbenzene	150	J	260	53	ug/Kg	50	☼	8260B	Total/NA
1,3,5-Trimethylbenzene	50	J	260	44	ug/Kg	50	☼	8260B	Total/NA
Xylenes, Total	260	J	530	100	ug/Kg	50	☼	8260B	Total/NA
1-Methylnaphthalene	11		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
2-Methylnaphthalene	26		7.8	1.2	ug/Kg	1	☼	8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	67	J B	390	39	ug/Kg	1	☼	8270D	Total/NA
Phenol	95	J	390	39	ug/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 11:46	1
Acrolein	ND		20	10	ug/L			07/29/19 11:46	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 11:46	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 11:46	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 11:46	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 11:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 11:46	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 11:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 11:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 11:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 11:46	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 11:46	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 11:46	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 11:46	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 11:46	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 11:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 11:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 11:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 11:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 11:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 11:46	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 11:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 11:46	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 11:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 11:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 11:46	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 11:46	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 11:46	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 11:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 11:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 11:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 11:46	1
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 11:46	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: TB-PW-072219-A

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 11:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 11:46	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 11:46	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 11:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 11:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 11:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 11:46	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 11:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 11:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 11:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 11:46	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 11:46	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 11:46	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 11:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 11:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 11:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 11:46	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 11:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 11:46	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 11:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 11:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 11:46*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/29/19 11:46*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/29/19 11:46*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-SB-45-072219
Lab Sample ID: 400-173530-2
Date Collected: 07/22/19 10:45
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		54000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Acrolein	ND		110000	61000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Acrylonitrile	ND		43000	17000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Benzene	**290000**		11000	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromobenzene	ND		11000	2800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromochloromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromodichloromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromoform	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Bromomethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2-Butanone (MEK)	ND		54000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Carbon disulfide	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Carbon tetrachloride	ND		11000	3700	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chlorobenzene	ND		11000	1100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2-Chloroethyl vinyl ether	ND		22000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chloroform	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1-Chlorohexane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Chloromethane	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
cis-1,2-Dichloroethene	ND		11000	1700	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
cis-1,3-Dichloropropene	ND		11000	2600	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Dibromochloromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dibromo-3-Chloropropane	ND		11000	7200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dichlorobenzene	ND		11000	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,3-Dichlorobenzene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,4-Dichlorobenzene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Dichlorodifluoromethane	ND		11000	2800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1-Dichloroethane	ND		11000	1800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dichloroethane	ND		11000	1800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1-Dichloroethene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2-Dichloropropane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,3-Dichloropropane	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2,2-Dichloropropane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1-Dichloropropene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Ethylbenzene	ND		11000	1300	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Ethylene Dibromide	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Ethyl methacrylate	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Hexachlorobutadiene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
2-Hexanone	ND		54000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Isopropylbenzene	ND		11000	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Methylene bromide	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Methylene Chloride	ND		33000	22000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
4-Methyl-2-pentanone (MIBK)	ND		54000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Methyl tert-butyl ether	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
m-Xylene & p-Xylene	ND		11000	2800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Naphthalene	ND		11000	4300	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
n-Butylbenzene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
N-Propylbenzene	ND		11000	2000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
o-Chlorotoluene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
o-Xylene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2
Matrix: Solid
Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
p-Isopropyltoluene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
sec-Butylbenzene	ND		11000	2100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Styrene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
tert-Butylbenzene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,1,2-Tetrachloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,2,2-Tetrachloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Tetrachloroethene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Toluene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
trans-1,2-Dichloroethene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
trans-1,3-Dichloropropene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,3-Trichlorobenzene	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,4-Trichlorobenzene	ND		11000	4300	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,1-Trichloroethane	ND		11000	2400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,1,2-Trichloroethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Trichloroethene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Trichlorofluoromethane	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,3-Trichloropropane	ND		11000	6500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,2,4-Trimethylbenzene	ND		11000	2200	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
1,3,5-Trimethylbenzene	ND		11000	1800	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Vinyl acetate	ND		54000	20000	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Vinyl chloride	ND		11000	5400	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000
Xylenes, Total	ND		22000	4100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:52	2000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/31/19 05:54*	*07/31/19 09:52*	*2000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/31/19 05:54*	*07/31/19 09:52*	*2000*
Dibromofluoromethane	*100*		*79 - 123*	*07/31/19 05:54*	*07/31/19 09:52*	*2000*
Toluene-d8 (Surr)	*100*		*80 - 120*	*07/31/19 05:54*	*07/31/19 09:52*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[a]anthracene	**2.1**	**J B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[a]pyrene	**1.2**	**J B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[b]fluoranthene	**1.5**	**J B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Fluoranthene	**2.8**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
1-Methylnaphthalene	**3.4**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
2-Methylnaphthalene	**3.0**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1
Phenanthrene	**2.1**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-SB-45-072219
Lab Sample ID: 400-173530-2
Date Collected: 07/22/19 10:45
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 83.0

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**1.8**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:06*	*1*
Nitrobenzene-d5	*95*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:06*	*1*
Terphenyl-d14	*128*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:06*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F1 F2	390	51	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Benzoic acid	ND	F1	1200	410	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Benzyl alcohol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Bis(2-chloroethoxy)methane	ND	F1 F2 *	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Bis(2-chloroethyl)ether	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
bis (2-chloroisopropyl) ether	ND	F1	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Bis(2-ethylhexyl) phthalate	**78**	**J B F1 F2**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Bromophenyl phenyl ether	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Butyl benzyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Chloroaniline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Chloro-3-methylphenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Chloronaphthalene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Chlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Chlorophenyl phenyl ether	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Dibenz[a,h]acridine	ND	F1 F2	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Dibenzofuran	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
3,3'-Dichlorobenzidine	ND	F1 F2 *	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dichlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Diethyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dimethylphenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Dimethyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Di-n-butyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4,6-Dinitro-ortho-cresol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dinitrophenol	ND	F1	1200	340	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4-Dinitrotoluene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,6-Dinitrotoluene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Di-n-octyl phthalate	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
1,4-Dioxane	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Hexachlorobenzene	ND	F1 F2 *	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Hexachlorocyclopentadiene	ND	F1	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Hexachloroethane	ND	F1	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Indene	ND	F1	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Isophorone	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Methylphenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
3 & 4 Methylphenol	ND	F1 F2	780	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Nitroaniline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
3-Nitroaniline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Nitroaniline	ND	F1 F2 *	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2-Nitrophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
4-Nitrophenol	ND	F1 F2	390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
N-Nitrosodimethylamine	ND	F1 F2	390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
N-Nitrosodi-n-propylamine	ND	F1 F2	390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
N-Nitrosodiphenylamine	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Pentachlorophenol	ND	F1 F2	780	78	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Phenol	**120**	**J F1 F2**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Pyridine	ND	F1 F2	390	180	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
Quinoline	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4,5-Trichlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1
2,4,6-Trichlorophenol	ND	F1 F2	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 01:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/25/19 15:10*	*07/27/19 01:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*27 - 127*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
Nitrobenzene-d5	*59*		*15 - 136*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
Phenol-d5	*58*		*29 - 130*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
Terphenyl-d14	*87*		*24 - 146*	*07/25/19 15:10*	*07/27/19 01:47*	*1*
2,4,6-Tribromophenol	*98*		*10 - 150*	*07/25/19 15:10*	*07/27/19 01:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**83.0**		0.01	0.01	%			07/25/19 11:19	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		240000	130000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Acrolein	ND		490000	270000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Acrylonitrile	ND		200000	78000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromobenzene	ND		49000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromochloromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromodichloromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromoform	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Bromomethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2-Butanone (MEK)	ND		240000	59000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Carbon disulfide	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Carbon tetrachloride	ND		49000	17000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chlorobenzene	ND		49000	5100	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2-Chloroethyl vinyl ether	ND		98000	49000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chloroform	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1-Chlorohexane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Chloromethane	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
cis-1,2-Dichloroethene	ND		49000	7400	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
cis-1,3-Dichloropropene	ND		49000	12000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Dibromochloromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dibromo-3-Chloropropane	ND		49000	32000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dichlorobenzene	ND		49000	6900	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,3-Dichlorobenzene	ND		49000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,4-Dichlorobenzene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Dichlorodifluoromethane	ND		49000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1-Dichloroethane	ND		49000	8100	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dichloroethane	ND		49000	8000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1-Dichloroethene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2-Dichloropropane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,3-Dichloropropane	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2,2-Dichloropropane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1-Dichloropropene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Ethylbenzene	ND		49000	6000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Ethylene Dibromide	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Ethyl methacrylate	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Hexachlorobutadiene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
2-Hexanone	ND		240000	49000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Isopropylbenzene	ND		49000	6600	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Methylene bromide	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Methylene Chloride	ND		150000	98000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
4-Methyl-2-pentanone (MIBK)	ND		240000	49000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Methyl tert-butyl ether	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
m-Xylene & p-Xylene	ND		49000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Naphthalene	ND		49000	20000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
n-Butylbenzene	ND		49000	9400	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
N-Propylbenzene	ND		49000	8800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
o-Chlorotoluene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
o-Xylene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
p-Chlorotoluene	ND		49000	9600	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
sec-Butylbenzene	ND		49000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Styrene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
tert-Butylbenzene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,1,2-Tetrachloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,2,2-Tetrachloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Tetrachloroethene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Toluene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
trans-1,2-Dichloroethene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
trans-1,3-Dichloropropene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,3-Trichlorobenzene	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,4-Trichlorobenzene	ND		49000	20000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,1-Trichloroethane	ND		49000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,1,2-Trichloroethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Trichloroethene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Trichlorofluoromethane	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,3-Trichloropropane	ND		49000	29000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,2,4-Trimethylbenzene	ND		49000	9800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
1,3,5-Trimethylbenzene	ND		49000	8100	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Vinyl acetate	ND		240000	89000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Vinyl chloride	ND		49000	24000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000
Xylenes, Total	ND		98000	19000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:36	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane	*61000*	*T J N*	*ug/Kg*	☼	*1.21*	*106-97-8*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*
Pentane	*77000*	*T J N*	*ug/Kg*	☼	*1.66*	*109-66-0*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 122*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*
Dibromofluoromethane	*99*		*79 - 123*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/31/19 05:54*	*07/31/19 10:36*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**23000000**		980000	130000	ug/Kg	☼	08/04/19 09:06	08/04/19 17:07	200000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*08/04/19 09:06*	*08/04/19 17:07*	*200000*
Dibromofluoromethane	*110*		*79 - 123*	*08/04/19 09:06*	*08/04/19 17:07*	*200000*
Toluene-d8 (Surr)	*96*		*80 - 120*	*08/04/19 09:06*	*08/04/19 17:07*	*200000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**5.8**	**J**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Acenaphthylene	ND		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Anthracene	**9.6**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[a]anthracene	**15**	**B**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[a]pyrene	**11**	**B**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[b]fluoranthene	**18**	**B**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[g,h,i]perylene	**5.7**	**J**	7.5	2.3	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Benzo[k]fluoranthene	**6.5**	**J**	7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3
Matrix: Solid
Percent Solids: 86.8

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	**14**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Dibenz(a,h)anthracene	ND		7.5	2.3	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Fluoranthene	**35**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Fluorene	**8.5**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Indeno[1,2,3-cd]pyrene	**4.8**	**J**	7.5	2.3	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
1-Methylnaphthalene	**22**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
2-Methylnaphthalene	**26**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Phenanthrene	**43**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1
Pyrene	**27**		7.5	1.1	ug/Kg	☼	07/25/19 15:10	08/06/19 10:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:23*	*1*
Nitrobenzene-d5	*81*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:23*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:23*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		370	49	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Benzenethiol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Benzoic acid	ND		1100	400	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Benzyl alcohol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Bis(2-chloroethoxy)methane	ND	*	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Bis(2-chloroethyl)ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
bis (2-chloroisopropyl) ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Bis(2-ethylhexyl) phthalate	**74**	**J B**	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Bromophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Butyl benzyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Chloroaniline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Chloro-3-methylphenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Chloronaphthalene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Chlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Chlorophenyl phenyl ether	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Dibenz[a,h]acridine	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Dibenzofuran	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
3,3'-Dichlorobenzidine	ND	*	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dichlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Diethyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dimethylphenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Dimethyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Di-n-butyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4,6-Dinitro-ortho-cresol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dinitrophenol	ND		1100	330	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,6-Dinitrotoluene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Di-n-octyl phthalate	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
1,4-Dioxane	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Hexachlorobenzene	ND	*	370	110	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Hexachlorocyclopentadiene	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219

Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-3

Matrix: Solid
Percent Solids: 86.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		370	110	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Indene	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Isophorone	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Methylphenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
3 & 4 Methylphenol	ND		750	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Nitroaniline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
3-Nitroaniline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Nitroaniline	ND	*	370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Nitrobenzene	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2-Nitrophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
4-Nitrophenol	ND		370	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
N-Nitrosodimethylamine	ND		370	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
N-Nitrosodi-n-propylamine	ND		370	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
N-Nitrosodiphenylamine	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Pentachlorophenol	ND		750	75	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Phenol	**1100**		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Pyridine	ND		370	170	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
Quinoline	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4,5-Trichlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1
2,4,6-Trichlorophenol	ND		370	37	ug/Kg	☼	07/25/19 15:10	07/27/19 02:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/25/19 15:10*	*07/27/19 02:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*27 - 127*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
2-Fluorophenol	*53*		*25 - 128*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Nitrobenzene-d5	*52*		*15 - 136*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Phenol-d5	*53*		*29 - 130*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
Terphenyl-d14	*79*		*24 - 146*	*07/25/19 15:10*	*07/27/19 02:09*	*1*
2,4,6-Tribromophenol	*96*		*10 - 150*	*07/25/19 15:10*	*07/27/19 02:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86.8**		0.01	0.01	%			07/25/19 11:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP

Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-4

Matrix: Solid
Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		280000	150000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Acrolein	ND		560000	310000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Acrylonitrile	ND		220000	90000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromobenzene	ND		56000	15000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromochloromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromodichloromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromoform	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Bromomethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2-Butanone (MEK)	ND		280000	67000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Carbon disulfide	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Carbon tetrachloride	ND		56000	19000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chlorobenzene	ND		56000	5800	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2-Chloroethyl vinyl ether	ND		110000	56000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chloroform	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1-Chlorohexane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Chloromethane	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
cis-1,2-Dichloroethene	ND		56000	8500	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
cis-1,3-Dichloropropene	ND		56000	13000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Dibromochloromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dibromo-3-Chloropropane	ND		56000	37000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dichlorobenzene	ND		56000	8000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,3-Dichlorobenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,4-Dichlorobenzene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Dichlorodifluoromethane	ND		56000	15000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1-Dichloroethane	ND		56000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dichloroethane	ND		56000	9200	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1-Dichloroethene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2-Dichloropropane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,3-Dichloropropane	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2,2-Dichloropropane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1-Dichloropropene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Ethylbenzene	ND		56000	6900	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Ethylene Dibromide	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Ethyl methacrylate	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Hexachlorobutadiene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
2-Hexanone	ND		280000	56000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Isopropylbenzene	ND		56000	7600	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Methylene bromide	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Methylene Chloride	ND		170000	110000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
4-Methyl-2-pentanone (MIBK)	ND		280000	56000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Methyl tert-butyl ether	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
m-Xylene & p-Xylene	ND		56000	15000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Naphthalene	ND		56000	22000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
n-Butylbenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
N-Propylbenzene	ND		56000	10000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
o-Chlorotoluene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
o-Xylene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
p-Chlorotoluene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-49-072219-DUP
Date Collected: 07/22/19 12:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-4
Matrix: Solid
Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
sec-Butylbenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Styrene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
tert-Butylbenzene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,1,2-Tetrachloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,2,2-Tetrachloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Tetrachloroethene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Toluene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
trans-1,2-Dichloroethene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
trans-1,3-Dichloropropene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,3-Trichlorobenzene	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,4-Trichlorobenzene	ND		56000	22000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,1-Trichloroethane	ND		56000	12000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,1,2-Trichloroethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Trichloroethene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Trichlorofluoromethane	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,3-Trichloropropane	ND		56000	34000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,2,4-Trimethylbenzene	ND		56000	11000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
1,3,5-Trimethylbenzene	ND		56000	9300	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Vinyl acetate	ND		280000	100000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Vinyl chloride	ND		56000	28000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000
Xylenes, Total	ND		110000	21000	ug/Kg	☼	07/31/19 05:54	07/31/19 10:58	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/31/19 05:54*	*07/31/19 10:58*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*72 - 122*	*07/31/19 05:54*	*07/31/19 10:58*	*10000*
Dibromofluoromethane	*99*		*79 - 123*	*07/31/19 05:54*	*07/31/19 10:58*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/31/19 05:54*	*07/31/19 10:58*	*10000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**13000000**		280000	38000	ug/Kg	☼	08/03/19 10:12	08/03/19 21:43	50000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 122*	*08/03/19 10:12*	*08/03/19 21:43*	*50000*
Dibromofluoromethane	*101*		*79 - 123*	*08/03/19 10:12*	*08/03/19 21:43*	*50000*
Toluene-d8 (Surr)	*95*		*80 - 120*	*08/03/19 10:12*	*08/03/19 21:43*	*50000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**5.8**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Anthracene	**8.7**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[a]anthracene	**10**	**B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[a]pyrene	**5.9**	**J B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[b]fluoranthene	**8.6**	**B**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Benzo[k]fluoranthene	**2.9**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Chrysene	**8.9**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-SB-49-072219-DUP
Lab Sample ID: 400-173530-4
Date Collected: 07/22/19 12:55
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 82.3

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Fluoranthene	**27**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Fluorene	**7.4**	**J**	7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Indeno[1,2,3-cd]pyrene	**2.8**	**J**	7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
1-Methylnaphthalene	**20**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
2-Methylnaphthalene	**24**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Phenanthrene	**34**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1
Pyrene	**19**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:41*	*1*
Nitrobenzene-d5	*89*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:41*	*1*
Terphenyl-d14	*110*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Benzoic acid	ND		1200	410	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Bis(2-chloroethoxy)methane	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Bis(2-ethylhexyl) phthalate	**58**	**J B**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Hexachlorobenzene	ND	*	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-SB-49-072219-DUP
Lab Sample ID: 400-173530-4
Date Collected: 07/22/19 12:55
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Isophorone	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Phenol	**520**		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Pyridine	ND		390	180	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
Quinoline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*330*	*T J N*	*ug/Kg*	☼	*3.62*	*108-88-3*	*07/25/19 15:10*	*07/27/19 02:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*27 - 127*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Nitrobenzene-d5	*56*		*15 - 136*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Phenol-d5	*57*		*29 - 130*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
Terphenyl-d14	*86*		*24 - 146*	*07/25/19 15:10*	*07/27/19 02:30*	*1*
2,4,6-Tribromophenol	*100*		*10 - 150*	*07/25/19 15:10*	*07/27/19 02:30*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.3**		0.01	0.01	%			07/25/19 11:19	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219

Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5

Matrix: Solid
Percent Solids: 84.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	690	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Acrolein	ND		2600	1500	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Acrylonitrile	ND		1100	420	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Benzene	**10000**		260	35	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromobenzene	ND		260	69	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromochloromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromodichloromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromoform	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Bromomethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2-Butanone (MEK)	ND		1300	320	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Carbon disulfide	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Carbon tetrachloride	ND		260	90	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chlorobenzene	ND		260	28	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2-Chloroethyl vinyl ether	ND		530	260	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chloroform	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1-Chlorohexane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Chloromethane	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
cis-1,2-Dichloroethene	ND		260	40	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
cis-1,3-Dichloropropene	ND		260	64	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Dibromochloromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dibromo-3-Chloropropane	ND		260	170	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dichlorobenzene	ND		260	38	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,3-Dichlorobenzene	ND		260	50	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,4-Dichlorobenzene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Dichlorodifluoromethane	ND		260	69	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1-Dichloroethane	ND		260	44	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dichloroethane	ND		260	43	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1-Dichloroethene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,3-Dichloropropane	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2,2-Dichloropropane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1-Dichloropropene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Ethylbenzene	**90**	**J**	260	32	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Ethylene Dibromide	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Ethyl methacrylate	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Hexachlorobutadiene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
2-Hexanone	ND		1300	260	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Isopropylbenzene	ND		260	36	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Methylene bromide	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Methylene Chloride	ND		790	530	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
4-Methyl-2-pentanone (MIBK)	ND		1300	260	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Methyl tert-butyl ether	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
m-Xylene & p-Xylene	**200**	**J**	260	69	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Naphthalene	ND		260	110	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
n-Butylbenzene	ND		260	51	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
N-Propylbenzene	ND		260	48	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
o-Chlorotoluene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
o-Xylene	**61**	**J**	260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50

Client Sample ID: PD-14-SB-55-072219
Lab Sample ID: 400-173530-5
Date Collected: 07/22/19 13:50
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 84.1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		260	52	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
p-Isopropyltoluene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
sec-Butylbenzene	ND		260	50	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Styrene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
tert-Butylbenzene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,1,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,2,2-Tetrachloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Tetrachloroethene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Toluene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
trans-1,2-Dichloroethene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
trans-1,3-Dichloropropene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,3-Trichlorobenzene	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,4-Trichlorobenzene	ND		260	110	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,1-Trichloroethane	ND		260	58	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,1,2-Trichloroethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Trichloroethene	ND		260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Trichlorofluoromethane	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,3-Trichloropropane	ND		260	160	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,2,4-Trimethylbenzene	**150**	**J**	260	53	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
1,3,5-Trimethylbenzene	**50**	**J**	260	44	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Vinyl acetate	ND		1300	480	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Vinyl chloride	ND		260	130	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50
Xylenes, Total	**260**	**J**	530	100	ug/Kg	☼	07/31/19 05:54	07/31/19 09:30	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*530*	*T J N*	*ug/Kg*	☼	*1.63*	*109-66-0*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Pentane, 3-methyl-	*300*	*T J N*	*ug/Kg*	☼	*2.31*	*96-14-0*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Hexane	*260*		*ug/Kg*	☼	*2.46*	*110-54-3*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Cyclopentane, methyl-	*390*	*T J N*	*ug/Kg*	☼	*2.81*	*96-37-7*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Cyclohexane	*70*	*J*	*ug/Kg*	☼	*3.19*	*110-82-7*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
n-Heptane	*140*	*J*	*ug/Kg*	☼	*3.51*	*142-82-5*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Methylcyclohexane	*99*	*J*	*ug/Kg*	☼	*3.87*	*108-87-2*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
3-Ethyltoluene	*88*	*J*	*ug/Kg*	☼	*6.59*	*620-14-4*	*07/31/19 05:54*	*07/31/19 09:30*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*72 - 122*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Dibromofluoromethane	*99*		*79 - 123*	*07/31/19 05:54*	*07/31/19 09:30*	*50*
Toluene-d8 (Surr)	*98*		*80 - 120*	*07/31/19 05:54*	*07/31/19 09:30*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Acenaphthylene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Anthracene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[a]anthracene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[a]pyrene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[b]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[g,h,i]perylene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Benzo[k]fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Chrysene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219
Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5
Matrix: Solid
Percent Solids: 84.1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Fluoranthene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Fluorene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Indeno[1,2,3-cd]pyrene	ND		7.8	2.4	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
1-Methylnaphthalene	**11**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
2-Methylnaphthalene	**26**		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Phenanthrene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1
Pyrene	ND		7.8	1.2	ug/Kg	☼	07/25/19 15:10	08/06/19 10:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*27 - 127*	*07/25/19 15:10*	*08/06/19 10:58*	*1*
Nitrobenzene-d5	*86*		*15 - 136*	*07/25/19 15:10*	*08/06/19 10:58*	*1*
Terphenyl-d14	*112*		*24 - 146*	*07/25/19 15:10*	*08/06/19 10:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		390	51	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Benzenethiol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Benzoic acid	ND		1200	420	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Benzyl alcohol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Bis(2-chloroethoxy)methane	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Bis(2-chloroethyl)ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
bis (2-chloroisopropyl) ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Bis(2-ethylhexyl) phthalate	**67**	**J B**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Bromophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Butyl benzyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Chloroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Chloro-3-methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Chloronaphthalene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Chlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Chlorophenyl phenyl ether	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Dibenz[a,h]acridine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Dibenzofuran	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
3,3'-Dichlorobenzidine	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Diethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dimethylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Dimethyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Di-n-butyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4,6-Dinitro-ortho-cresol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dinitrophenol	ND		1200	340	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,6-Dinitrotoluene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Di-n-octyl phthalate	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
1,4-Dioxane	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Hexachlorobenzene	ND	*	390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Hexachlorocyclopentadiene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Hexachloroethane	ND		390	120	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Client Sample ID: PD-14-SB-55-072219

Date Collected: 07/22/19 13:50
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-5

Matrix: Solid
Percent Solids: 84.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Isophorone	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Methylphenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
3 & 4 Methylphenol	ND		780	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
3-Nitroaniline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Nitroaniline	ND	*	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Nitrobenzene	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2-Nitrophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
4-Nitrophenol	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
N-Nitrosodimethylamine	ND		390	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
N-Nitrosodi-n-propylamine	ND		390	130	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
N-Nitrosodiphenylamine	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Pentachlorophenol	ND		780	78	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Phenol	**95**	**J**	390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Pyridine	ND		390	180	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
Quinoline	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4,5-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1
2,4,6-Trichlorophenol	ND		390	39	ug/Kg	☼	07/25/19 15:10	07/27/19 02:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*	☼			*07/25/19 15:10*	*07/27/19 02:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*27 - 127*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
2-Fluorophenol	*52*		*25 - 128*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
Nitrobenzene-d5	*52*		*15 - 136*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
Phenol-d5	*52*		*29 - 130*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
Terphenyl-d14	*88*		*24 - 146*	*07/25/19 15:10*	*07/27/19 02:52*	*1*
2,4,6-Tribromophenol	*98*		*10 - 150*	*07/25/19 15:10*	*07/27/19 02:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.1**		0.01	0.01	%			07/25/19 11:19	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(72-122)	(79-123)	(80-120)
400-173530-2	PD-14-SB-45-072219	98	100	100
400-173530-2 MS	PD-14-SB-45-072219	94	102	99
400-173530-2 MSD	PD-14-SB-45-072219	96	103	98
400-173530-3	PD-14-SB-49-072219	98	99	98
400-173530-3 - DL	PD-14-SB-49-072219	97	110	96
400-173530-4	PD-14-SB-49-072219-DUP	97	99	98
400-173530-4 - DL	PD-14-SB-49-072219-DUP	93	101	95
400-173530-5	PD-14-SB-55-072219	99	99	98
LCS 400-450151/2-A	Lab Control Sample	100	104	97
LCS 400-450813/2-A	Lab Control Sample	97	101	96
LCS 400-450871/2-A	Lab Control Sample	90	106	92
MB 400-450151/1-A	Method Blank	98	105	97
MB 400-450813/1-A	Method Blank	94	101	97
MB 400-450871/1-A	Method Blank	94	110	94

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173530-1	TB-PW-072219-A	99	96	103
LCS 400-449839/1002	Lab Control Sample	100	96	101
MB 400-449839/4	Method Blank	99	96	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(27-127)	(25-128)	(15-136)	(29-130)	(24-146)	(10-150)
400-173530-2	PD-14-SB-45-072219	75	57	59	58	87	98
400-173530-2 MS	PD-14-SB-45-072219	2 X	10 X	6 X	16 X	4 X	23
400-173530-2 MSD	PD-14-SB-45-072219	60	47	52	50	55	93
400-173530-3	PD-14-SB-49-072219	67	53	52	53	79	96
400-173530-4	PD-14-SB-49-072219-DUP	73	57	56	57	86	100
400-173530-5	PD-14-SB-55-072219	68	52	52	52	88	98
LCS 400-449523/2-A	Lab Control Sample	75	53	53	56	85	114
LCSD 400-449523/10-A	Lab Control Sample Dup	65	50	51	51	76	90
MB 400-449523/1-A	Method Blank	72	57	57	55	83	102

Surrogate Legend

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(27-127)	(15-136)	(24-146)
400-173530-2	PD-14-SB-45-072219	99	95	128
400-173530-3	PD-14-SB-49-072219	87	81	100
400-173530-4	PD-14-SB-49-072219-DUP	96	89	110
400-173530-5	PD-14-SB-55-072219	94	86	112
LCS 400-449523/11-A	Lab Control Sample	78	72	93
LCSD 400-449523/12-A	Lab Control Sample Dup	80	70	93
MB 400-449523/1-A	Method Blank	78	71	100

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-072219-A
Lab Sample ID: 400-173530-1
Date Collected: 07/22/19 00:00
Matrix: Water
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 11:46	WPD	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Lab Sample ID: 400-173530-2
Date Collected: 07/22/19 10:45
Matrix: Solid
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Lab Sample ID: 400-173530-2
Date Collected: 07/22/19 10:45
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.833 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		2000	5 mL	5 mL	450144	07/31/19 09:52	RS	TAL PEN
Total/NA	Prep	3546			15.25 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449722	07/27/19 01:47	VC1	TAL PEN
Total/NA	Prep	3546			15.25 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:06	KJA	TAL PEN

Client Sample ID: PD-14-SB-49-072219
Lab Sample ID: 400-173530-3
Date Collected: 07/22/19 12:55
Matrix: Solid
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-49-072219
Lab Sample ID: 400-173530-3
Date Collected: 07/22/19 12:55
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.996 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	450144	07/31/19 10:36	RS	TAL PEN
Total/NA	Prep	5035	DL		6.996 g	5.00 g	450871	08/04/19 09:06	RS	TAL PEN
Total/NA	Analysis	8260B	DL	200000	5 mL	5 mL	450866	08/04/19 17:07	RS	TAL PEN
Total/NA	Prep	3546			15.29 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449722	07/27/19 02:09	VC1	TAL PEN
Total/NA	Prep	3546			15.29 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:23	KJA	TAL PEN

Client Sample ID: PD-14-SB-49-072219-DUP
Lab Sample ID: 400-173530-4
Date Collected: 07/22/19 12:55
Matrix: Solid
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-49-072219-DUP
Lab Sample ID: 400-173530-4
Date Collected: 07/22/19 12:55
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035	DL		6.692 g	5.00 g	450813	08/03/19 10:12	RS	TAL PEN
Total/NA	Analysis	8260B	DL	50000	5 mL	5 mL	450779	08/03/19 21:43	RS	TAL PEN
Total/NA	Prep	5035			6.692 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	450144	07/31/19 10:58	RS	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449722	07/27/19 02:30	VC1	TAL PEN
Total/NA	Prep	3546			15.47 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:41	KJA	TAL PEN

Client Sample ID: PD-14-SB-55-072219
Lab Sample ID: 400-173530-5
Date Collected: 07/22/19 13:50
Matrix: Solid
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-55-072219
Lab Sample ID: 400-173530-5
Date Collected: 07/22/19 13:50
Matrix: Solid
Date Received: 07/23/19 09:09
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.835 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		50	5 mL	5 mL	450144	07/31/19 09:30	RS	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449722	07/27/19 02:52	VC1	TAL PEN
Total/NA	Prep	3546			15.03 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 10:58	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449523/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/26/19 23:39	VC1	TAL PEN
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 12:19	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449839/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:57	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450151/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450144	07/31/19 07:58	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450813/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450813	08/03/19 10:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450779	08/03/19 11:46	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450871/1-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450871	08/04/19 09:06	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450866	08/04/19 11:04	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449523/11-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 12:35	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449523/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 00:43	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449839/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:08	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450151/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450144	07/31/19 07:01	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450813/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450813	08/03/19 10:12	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450779	08/03/19 10:45	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450871/2-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5.00 g	450871	08/04/19 09:06	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450866	08/04/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449523/10-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 00:21	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449523/12-A
Date Collected: N/A
Matrix: Solid
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 12:51	KJA	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MS
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.833 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		2000	5 mL	5 mL	450144	07/31/19 11:20	RS	TAL PEN
Total/NA	Prep	3546			15.23 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 01:04	VC1	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			449480	07/25/19 11:19	BKG	TAL PEN

Client Sample ID: PD-14-SB-45-072219
Date Collected: 07/22/19 10:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.833 g	5.00 g	450151	07/31/19 05:54	RS	TAL PEN
Total/NA	Analysis	8260B		2000	5 mL	5 mL	450144	07/31/19 11:42	RS	TAL PEN
Total/NA	Prep	3546			15.38 g	1 mL	449523	07/25/19 15:10	SHB	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/27/19 01:26	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

GC/MS VOA

Analysis Batch: 449839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-1	TB-PW-072219-A	Total/NA	Water	8260B	
MB 400-449839/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449839/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 450144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	8260B	450151
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	8260B	450151
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	8260B	450151
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	8260B	450151
MB 400-450151/1-A	Method Blank	Total/NA	Solid	8260B	450151
LCS 400-450151/2-A	Lab Control Sample	Total/NA	Solid	8260B	450151
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	8260B	450151
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	8260B	450151

Prep Batch: 450151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	5035	
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	5035	
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	5035	
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	5035	
MB 400-450151/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-450151/2-A	Lab Control Sample	Total/NA	Solid	5035	
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	5035	
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	5035	

Analysis Batch: 450779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-4 - DL	PD-14-SB-49-072219-DUP	Total/NA	Solid	8260B	450813
MB 400-450813/1-A	Method Blank	Total/NA	Solid	8260B	450813
LCS 400-450813/2-A	Lab Control Sample	Total/NA	Solid	8260B	450813

Prep Batch: 450813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-4 - DL	PD-14-SB-49-072219-DUP	Total/NA	Solid	5035	
MB 400-450813/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-450813/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 450866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-3 - DL	PD-14-SB-49-072219	Total/NA	Solid	8260B	450871
MB 400-450871/1-A	Method Blank	Total/NA	Solid	8260B	450871
LCS 400-450871/2-A	Lab Control Sample	Total/NA	Solid	8260B	450871

Prep Batch: 450871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-3 - DL	PD-14-SB-49-072219	Total/NA	Solid	5035	
MB 400-450871/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-450871/2-A	Lab Control Sample	Total/NA	Solid	5035	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

GC/MS Semi VOA

Prep Batch: 449523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	3546	
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	3546	
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	3546	
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	3546	
MB 400-449523/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-449523/11-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 400-449523/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 400-449523/10-A	Lab Control Sample Dup	Total/NA	Solid	3546	
LCSD 400-449523/12-A	Lab Control Sample Dup	Total/NA	Solid	3546	
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	3546	
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	3546	

Analysis Batch: 449722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	8270D	449523
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	8270D	449523
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	8270D	449523
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	8270D	449523
MB 400-449523/1-A	Method Blank	Total/NA	Solid	8270D	449523
LCS 400-449523/2-A	Lab Control Sample	Total/NA	Solid	8270D	449523
LCSD 400-449523/10-A	Lab Control Sample Dup	Total/NA	Solid	8270D	449523
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	8270D	449523
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	8270D	449523

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-449523/1-A	Method Blank	Total/NA	Solid	8270D LL	449523
LCS 400-449523/11-A	Lab Control Sample	Total/NA	Solid	8270D LL	449523
LCSD 400-449523/12-A	Lab Control Sample Dup	Total/NA	Solid	8270D LL	449523

Analysis Batch: 451066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	8270D LL	449523
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	8270D LL	449523
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	8270D LL	449523
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	8270D LL	449523

General Chemistry

Analysis Batch: 449480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173530-2	PD-14-SB-45-072219	Total/NA	Solid	Moisture	
400-173530-3	PD-14-SB-49-072219	Total/NA	Solid	Moisture	
400-173530-4	PD-14-SB-49-072219-DUP	Total/NA	Solid	Moisture	
400-173530-5	PD-14-SB-55-072219	Total/NA	Solid	Moisture	
400-173530-2 MS	PD-14-SB-45-072219	Total/NA	Solid	Moisture	
400-173530-2 MSD	PD-14-SB-45-072219	Total/NA	Solid	Moisture	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449839/4
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 10:57	1
Acrolein	ND		20	10	ug/L			07/29/19 10:57	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 10:57	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 10:57	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 10:57	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 10:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 10:57	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 10:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 10:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 10:57	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 10:57	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 10:57	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 10:57	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 10:57	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:57	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 10:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 10:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 10:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 10:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 10:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 10:57	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 10:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 10:57	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 10:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 10:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 10:57	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 10:57	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 10:57	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 10:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 10:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 10:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 10:57	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449839/4
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 10:57	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 10:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 10:57	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 10:57	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 10:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 10:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 10:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 10:57	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 10:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 10:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 10:57	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:57	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 10:57	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 10:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 10:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 10:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 10:57	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 10:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 10:57	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 10:57	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 10:57*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 10:57*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/29/19 10:57*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/29/19 10:57*	*1*

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	226		ug/L		113	43 - 160
Acrolein	500	606		ug/L		121	38 - 160
Acrylonitrile	500	571		ug/L		114	64 - 142
Benzene	50.0	51.5		ug/L		103	70 - 130
Bromobenzene	50.0	52.8		ug/L		106	70 - 132
Bromochloromethane	50.0	52.0		ug/L		104	70 - 130
Bromodichloromethane	50.0	49.1		ug/L		98	67 - 133
Bromoform	50.0	56.9		ug/L		114	57 - 140
Bromomethane	50.0	44.2		ug/L		88	10 - 160
2-Butanone (MEK)	200	221		ug/L		110	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	49.4		ug/L		99	61 - 137
Carbon tetrachloride	50.0	52.9		ug/L		106	61 - 137
Chlorobenzene	50.0	52.3		ug/L		105	70 - 130
Chloroethane	50.0	53.2		ug/L		106	55 - 141
2-Chloroethyl vinyl ether	50.0	50.5		ug/L		101	10 - 160
Chloroform	50.0	49.9		ug/L		100	69 - 130
1-Chlorohexane	50.0	55.6		ug/L		111	69 - 130
Chloromethane	50.0	62.0		ug/L		124	58 - 137
cis-1,2-Dichloroethene	50.0	54.6		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	54.7		ug/L		109	69 - 132
Dibromochloromethane	50.0	55.2		ug/L		110	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	53.0		ug/L		106	54 - 135
1,2-Dichlorobenzene	50.0	53.7		ug/L		107	67 - 130
1,3-Dichlorobenzene	50.0	54.1		ug/L		108	70 - 130
1,4-Dichlorobenzene	50.0	53.6		ug/L		107	70 - 130
Dichlorodifluoromethane	50.0	48.2		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	55.0		ug/L		110	70 - 130
1,2-Dichloroethane	50.0	48.3		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	45.6		ug/L		91	63 - 134
1,2-Dichloropropane	50.0	55.9		ug/L		112	70 - 130
1,3-Dichloropropane	50.0	54.3		ug/L		109	70 - 130
2,2-Dichloropropane	50.0	51.1		ug/L		102	52 - 135
1,1-Dichloropropene	50.0	50.8		ug/L		102	70 - 130
Ethylbenzene	50.0	53.1		ug/L		106	70 - 130
Ethylene Dibromide	50.0	51.1		ug/L		102	70 - 130
Ethyl methacrylate	50.0	57.6		ug/L		115	68 - 130
Hexachlorobutadiene	50.0	48.8		ug/L		98	53 - 140
2-Hexanone	200	258		ug/L		129	65 - 137
Isopropylbenzene	50.0	50.1		ug/L		100	70 - 130
Methylene bromide	50.0	46.3		ug/L		93	70 - 130
Methylene Chloride	50.0	51.4		ug/L		103	66 - 135
4-Methyl-2-pentanone (MIBK)	200	227		ug/L		113	69 - 138
Methyl tert-butyl ether	50.0	47.4		ug/L		95	66 - 130
m-Xylene & p-Xylene	50.0	52.0		ug/L		104	70 - 130
Naphthalene	50.0	50.0		ug/L		100	47 - 149
n-Butylbenzene	50.0	53.2		ug/L		106	67 - 130
N-Propylbenzene	50.0	55.9		ug/L		112	70 - 130
o-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
o-Xylene	50.0	51.6		ug/L		103	70 - 130
p-Chlorotoluene	50.0	53.5		ug/L		107	70 - 130
p-Isopropyltoluene	50.0	53.8		ug/L		108	65 - 130
sec-Butylbenzene	50.0	52.2		ug/L		104	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	51.0		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	61.1		ug/L		122	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.2		ug/L		110	70 - 131
Tetrachloroethene	50.0	53.8		ug/L		108	65 - 130
Toluene	50.0	53.2		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	51.5		ug/L		103	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	57.9		ug/L		116	63 - 130
1,2,3-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	50.2		ug/L		100	60 - 140
1,1,1-Trichloroethane	50.0	49.1		ug/L		98	68 - 130
1,1,2-Trichloroethane	50.0	54.2		ug/L		108	70 - 130
Trichloroethene	50.0	50.8		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	44.3		ug/L		89	65 - 138
1,2,3-Trichloropropane	50.0	51.6		ug/L		103	70 - 130
1,2,4-Trimethylbenzene	50.0	51.6		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.9		ug/L		104	69 - 130
Vinyl acetate	100	108		ug/L		108	26 - 160
Vinyl chloride	50.0	57.0		ug/L		114	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450151

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	13	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Acrolein	ND		50	28	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Acrylonitrile	ND		20	8.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Benzene	ND		5.0	0.67	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromobenzene	ND		5.0	1.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromochloromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromodichloromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromoform	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Bromomethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2-Butanone (MEK)	ND		25	6.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Carbon disulfide	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Carbon tetrachloride	ND		5.0	1.7	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chlorobenzene	ND		5.0	0.52	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chloroform	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1-Chlorohexane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Chloromethane	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
cis-1,2-Dichloroethene	ND		5.0	0.76	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
cis-1,3-Dichloropropene	ND		5.0	1.2	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Dibromochloromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	3.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dichlorobenzene	ND		5.0	0.71	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,3-Dichlorobenzene	ND		5.0	0.95	ug/Kg		07/31/19 05:54	07/31/19 07:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450151

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Dichlorodifluoromethane	ND		5.0	1.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1-Dichloroethane	ND		5.0	0.83	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dichloroethane	ND		5.0	0.82	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1-Dichloroethene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,3-Dichloropropane	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2,2-Dichloropropane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1-Dichloropropene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Ethylbenzene	ND		5.0	0.61	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Ethylene Dibromide	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Ethyl methacrylate	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Hexachlorobutadiene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
2-Hexanone	ND		25	5.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Isopropylbenzene	ND		5.0	0.68	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Methylene bromide	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Methylene Chloride	ND		15	10	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	5.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Methyl tert-butyl ether	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
m-Xylene & p-Xylene	ND		5.0	1.3	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Naphthalene	ND		5.0	2.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
n-Butylbenzene	ND		5.0	0.96	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
N-Propylbenzene	ND		5.0	0.90	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
o-Chlorotoluene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
o-Xylene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
p-Chlorotoluene	ND		5.0	0.98	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
p-Isopropyltoluene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
sec-Butylbenzene	ND		5.0	0.95	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Styrene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
tert-Butylbenzene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,1,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Tetrachloroethene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Toluene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,3-Trichlorobenzene	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,4-Trichlorobenzene	ND		5.0	2.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,1-Trichloroethane	ND		5.0	1.1	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,1,2-Trichloroethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Trichloroethene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Trichlorofluoromethane	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,3-Trichloropropane	ND		5.0	3.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,2,4-Trimethylbenzene	ND		5.0	1.0	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
1,3,5-Trimethylbenzene	ND		5.0	0.83	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Vinyl acetate	ND		25	9.1	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Vinyl chloride	ND		5.0	2.5	ug/Kg		07/31/19 05:54	07/31/19 07:58	1
Xylenes, Total	ND		10	1.9	ug/Kg		07/31/19 05:54	07/31/19 07:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450151/1-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450151

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				07/31/19 05:54	07/31/19 07:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 122	07/31/19 05:54	07/31/19 07:58	1
Dibromofluoromethane	105		79 - 123	07/31/19 05:54	07/31/19 07:58	1
Toluene-d8 (Surr)	97		80 - 120	07/31/19 05:54	07/31/19 07:58	1

Lab Sample ID: LCS 400-450151/2-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	158		ug/Kg		79	48 - 160
Acrolein	500	402		ug/Kg		80	40 - 150
Acrylonitrile	500	433		ug/Kg		87	60 - 130
Benzene	50.0	42.5		ug/Kg		85	65 - 130
Bromobenzene	50.0	40.9		ug/Kg		82	65 - 130
Bromochloromethane	50.0	40.2		ug/Kg		80	65 - 130
Bromodichloromethane	50.0	41.1		ug/Kg		82	61 - 130
Bromoform	50.0	34.9		ug/Kg		70	52 - 136
Bromomethane	50.0	38.8		ug/Kg		78	12 - 160
2-Butanone (MEK)	200	153		ug/Kg		76	55 - 130
Carbon disulfide	50.0	41.9		ug/Kg		84	46 - 141
Carbon tetrachloride	50.0	42.3		ug/Kg		85	60 - 130
Chlorobenzene	50.0	41.3		ug/Kg		83	70 - 130
Chloroethane	50.0	43.9		ug/Kg		88	55 - 134
2-Chloroethyl vinyl ether	50.0	39.3		ug/Kg		79	10 - 158
Chloroform	50.0	41.2		ug/Kg		82	62 - 130
1-Chlorohexane	50.0	43.8		ug/Kg		88	69 - 130
Chloromethane	50.0	49.5		ug/Kg		99	49 - 136
cis-1,2-Dichloroethene	50.0	43.7		ug/Kg		87	53 - 135
cis-1,3-Dichloropropene	50.0	40.7		ug/Kg		81	61 - 130
Dibromochloromethane	50.0	38.5		ug/Kg		77	58 - 132
1,2-Dibromo-3-Chloropropane	50.0	35.7		ug/Kg		71	49 - 130
1,2-Dichlorobenzene	50.0	40.2		ug/Kg		80	64 - 130
1,3-Dichlorobenzene	50.0	40.7		ug/Kg		81	66 - 130
1,4-Dichlorobenzene	50.0	39.9		ug/Kg		80	65 - 130
Dichlorodifluoromethane	50.0	43.9		ug/Kg		88	34 - 143
1,1-Dichloroethane	50.0	43.8		ug/Kg		88	59 - 130
1,2-Dichloroethane	50.0	40.2		ug/Kg		80	62 - 130
1,1-Dichloroethene	50.0	44.1		ug/Kg		88	55 - 137
1,2-Dichloropropane	50.0	44.5		ug/Kg		89	64 - 130
1,3-Dichloropropane	50.0	40.6		ug/Kg		81	67 - 130
2,2-Dichloropropane	50.0	38.6		ug/Kg		77	51 - 132
1,1-Dichloropropene	50.0	42.0		ug/Kg		84	65 - 130
Ethylbenzene	50.0	41.0		ug/Kg		82	70 - 130
Ethylene Dibromide	50.0	39.1		ug/Kg		78	67 - 130
Ethyl methacrylate	50.0	37.7		ug/Kg		75	62 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450151/2-A
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	43.7		ug/Kg		87	62 - 133
2-Hexanone	200	155		ug/Kg		78	57 - 131
Isopropylbenzene	50.0	40.4		ug/Kg		81	70 - 130
Methylene bromide	50.0	41.7		ug/Kg		83	65 - 130
Methylene Chloride	50.0	38.5		ug/Kg		77	57 - 132
4-Methyl-2-pentanone (MIBK)	200	174		ug/Kg		87	58 - 130
Methyl tert-butyl ether	50.0	37.4		ug/Kg		75	63 - 130
m-Xylene & p-Xylene	50.0	40.5		ug/Kg		81	70 - 130
Naphthalene	50.0	39.1		ug/Kg		78	45 - 144
n-Butylbenzene	50.0	41.5		ug/Kg		83	66 - 130
N-Propylbenzene	50.0	41.6		ug/Kg		83	67 - 130
o-Chlorotoluene	50.0	40.7		ug/Kg		81	67 - 130
o-Xylene	50.0	40.6		ug/Kg		81	70 - 130
p-Chlorotoluene	50.0	41.2		ug/Kg		82	66 - 130
p-Isopropyltoluene	50.0	41.5		ug/Kg		83	68 - 130
sec-Butylbenzene	50.0	41.1		ug/Kg		82	67 - 130
Styrene	50.0	39.7		ug/Kg		79	68 - 130
tert-Butylbenzene	50.0	40.2		ug/Kg		80	67 - 130
1,1,1,2-Tetrachloroethane	50.0	40.4		ug/Kg		81	65 - 130
1,1,2,2-Tetrachloroethane	50.0	40.6		ug/Kg		81	60 - 131
Tetrachloroethene	50.0	39.7		ug/Kg		79	67 - 130
Toluene	50.0	39.8		ug/Kg		80	70 - 130
trans-1,2-Dichloroethene	50.0	42.4		ug/Kg		85	58 - 134
trans-1,3-Dichloropropene	50.0	36.8		ug/Kg		74	60 - 130
1,2,3-Trichlorobenzene	50.0	38.9		ug/Kg		78	58 - 135
1,2,4-Trichlorobenzene	50.0	41.6		ug/Kg		83	56 - 138
1,1,1-Trichloroethane	50.0	41.5		ug/Kg		83	63 - 130
1,1,2-Trichloroethane	50.0	39.8		ug/Kg		80	65 - 130
Trichloroethene	50.0	43.3		ug/Kg		87	65 - 130
Trichlorofluoromethane	50.0	42.0		ug/Kg		84	61 - 136
1,2,3-Trichloropropane	50.0	38.3		ug/Kg		77	60 - 130
1,2,4-Trimethylbenzene	50.0	41.5		ug/Kg		83	66 - 130
1,3,5-Trimethylbenzene	50.0	41.1		ug/Kg		82	67 - 130
Vinyl acetate	100	81.9		ug/Kg		82	24 - 160
Vinyl chloride	50.0	44.8		ug/Kg		90	52 - 132
Xylenes, Total	100	81.1		ug/Kg		81	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*72 - 122*
Dibromofluoromethane	*104*		*79 - 123*
Toluene-d8 (Surr)	*97*		*80 - 120*

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		435000	316000		ug/Kg	☼	73	10 - 150

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		1090000	816000		ug/Kg	☼	75	10 - 150
Acrylonitrile	ND		1090000	873000		ug/Kg	☼	80	21 - 141
Benzene	290000		109000	371000		ug/Kg	☼	75	38 - 131
Bromobenzene	ND		109000	79300		ug/Kg	☼	73	28 - 134
Bromochloromethane	ND		109000	81700		ug/Kg	☼	75	37 - 134
Bromodichloromethane	ND		109000	80200		ug/Kg	☼	74	37 - 130
Bromoform	ND		109000	68400		ug/Kg	☼	63	24 - 136
Bromomethane	ND		109000	74400		ug/Kg	☼	68	10 - 150
2-Butanone (MEK)	ND		435000	312000		ug/Kg	☼	72	19 - 139
Carbon disulfide	ND		109000	78200		ug/Kg	☼	72	29 - 141
Carbon tetrachloride	ND		109000	83300		ug/Kg	☼	77	36 - 134
Chlorobenzene	ND		109000	85300		ug/Kg	☼	78	37 - 130
Chloroethane	ND		109000	90300		ug/Kg	☼	83	36 - 139
2-Chloroethyl vinyl ether	ND		109000	80600		ug/Kg	☼	74	10 - 150
Chloroform	ND		109000	83400		ug/Kg	☼	77	39 - 130
1-Chlorohexane	ND		109000	91300		ug/Kg	☼	84	32 - 131
Chloromethane	ND		109000	99600		ug/Kg	☼	92	35 - 136
cis-1,2-Dichloroethene	ND		109000	86600		ug/Kg	☼	80	32 - 135
cis-1,3-Dichloropropene	ND		109000	79900		ug/Kg	☼	74	34 - 130
Dibromochloromethane	ND		109000	77200		ug/Kg	☼	71	32 - 132
1,2-Dibromo-3-Chloropropane	ND		109000	67200		ug/Kg	☼	62	14 - 132
1,2-Dichlorobenzene	ND		109000	81200		ug/Kg	☼	75	20 - 130
1,3-Dichlorobenzene	ND		109000	80300		ug/Kg	☼	74	22 - 130
1,4-Dichlorobenzene	ND		109000	80800		ug/Kg	☼	74	21 - 130
Dichlorodifluoromethane	ND		109000	91400		ug/Kg	☼	84	21 - 146
1,1-Dichloroethane	ND		109000	88100		ug/Kg	☼	81	41 - 130
1,2-Dichloroethane	ND		109000	90000		ug/Kg	☼	83	37 - 130
1,1-Dichloroethene	ND		109000	86000		ug/Kg	☼	79	39 - 138
1,2-Dichloropropane	ND		109000	89800		ug/Kg	☼	83	39 - 130
1,3-Dichloropropane	ND		109000	85600		ug/Kg	☼	79	39 - 130
2,2-Dichloropropane	ND		109000	73400		ug/Kg	☼	68	32 - 134
1,1-Dichloropropene	ND		109000	83300		ug/Kg	☼	77	38 - 136
Ethylbenzene	ND		109000	83700		ug/Kg	☼	77	35 - 130
Ethylene Dibromide	ND		109000	81900		ug/Kg	☼	75	35 - 130
Ethyl methacrylate	ND		109000	78200		ug/Kg	☼	72	10 - 142
Hexachlorobutadiene	ND		109000	86200		ug/Kg	☼	79	10 - 144
2-Hexanone	ND		435000	321000		ug/Kg	☼	74	20 - 142
Isopropylbenzene	ND		109000	82900		ug/Kg	☼	76	31 - 132
Methylene bromide	ND		109000	86200		ug/Kg	☼	79	35 - 130
Methylene Chloride	ND		109000	77500		ug/Kg	☼	71	36 - 132
4-Methyl-2-pentanone (MIBK)	ND		435000	346000		ug/Kg	☼	80	21 - 144
Methyl tert-butyl ether	ND		109000	73800		ug/Kg	☼	68	34 - 132
m-Xylene & p-Xylene	ND		109000	82500		ug/Kg	☼	76	35 - 130
Naphthalene	ND		109000	77200		ug/Kg	☼	71	10 - 150
n-Butylbenzene	ND		109000	82800		ug/Kg	☼	76	20 - 133
N-Propylbenzene	ND		109000	80400		ug/Kg	☼	74	29 - 132
o-Chlorotoluene	ND		109000	79600		ug/Kg	☼	73	31 - 130
o-Xylene	ND		109000	83800		ug/Kg	☼	77	35 - 130
p-Chlorotoluene	ND		109000	80000		ug/Kg	☼	74	28 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		109000	80200		ug/Kg	☼	74	20 - 137
sec-Butylbenzene	ND		109000	81500		ug/Kg	☼	75	22 - 135
Styrene	ND		109000	82000		ug/Kg	☼	75	31 - 130
tert-Butylbenzene	ND		109000	80100		ug/Kg	☼	74	26 - 133
1,1,1,2-Tetrachloroethane	ND		109000	80600		ug/Kg	☼	74	37 - 130
1,1,2,2-Tetrachloroethane	ND		109000	81300		ug/Kg	☼	75	10 - 149
Tetrachloroethene	ND		109000	81800		ug/Kg	☼	75	27 - 147
Toluene	ND		109000	82200		ug/Kg	☼	76	42 - 130
trans-1,2-Dichloroethene	ND		109000	85500		ug/Kg	☼	79	40 - 134
trans-1,3-Dichloropropene	ND		109000	72800		ug/Kg	☼	67	31 - 130
1,2,3-Trichlorobenzene	ND		109000	77500		ug/Kg	☼	71	10 - 146
1,2,4-Trichlorobenzene	ND		109000	81600		ug/Kg	☼	75	10 - 141
1,1,1-Trichloroethane	ND		109000	82800		ug/Kg	☼	76	41 - 130
1,1,2-Trichloroethane	ND		109000	83800		ug/Kg	☼	77	37 - 130
Trichloroethene	ND		109000	85800		ug/Kg	☼	79	34 - 144
Trichlorofluoromethane	ND		109000	83700		ug/Kg	☼	77	41 - 143
1,2,3-Trichloropropane	ND		109000	77400		ug/Kg	☼	71	29 - 133
1,2,4-Trimethylbenzene	ND		109000	79900		ug/Kg	☼	74	26 - 131
1,3,5-Trimethylbenzene	ND		109000	80600		ug/Kg	☼	74	28 - 131
Vinyl acetate	ND		217000	160000		ug/Kg	☼	74	10 - 150
Vinyl chloride	ND		109000	90500		ug/Kg	☼	83	35 - 136
Xylenes, Total	ND		217000	166000		ug/Kg	☼	76	35 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*72 - 122*
Dibromofluoromethane	*102*		*79 - 123*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		435000	331000		ug/Kg	☼	76	10 - 150	4	38
Acrolein	ND		1090000	841000		ug/Kg	☼	77	10 - 150	3	44
Acrylonitrile	ND		1090000	925000		ug/Kg	☼	85	21 - 141	6	37
Benzene	290000		109000	351000		ug/Kg	☼	57	38 - 131	6	36
Bromobenzene	ND		109000	83700		ug/Kg	☼	77	28 - 134	5	37
Bromochloromethane	ND		109000	86700		ug/Kg	☼	80	37 - 134	6	38
Bromodichloromethane	ND		109000	86900		ug/Kg	☼	80	37 - 130	8	34
Bromoform	ND		109000	72500		ug/Kg	☼	67	24 - 136	6	34
Bromomethane	ND		109000	76600		ug/Kg	☼	71	10 - 150	3	47
2-Butanone (MEK)	ND		435000	322000		ug/Kg	☼	74	19 - 139	3	41
Carbon disulfide	ND		109000	83800		ug/Kg	☼	77	29 - 141	7	39
Carbon tetrachloride	ND		109000	84800		ug/Kg	☼	78	36 - 134	2	44
Chlorobenzene	ND		109000	85300		ug/Kg	☼	78	37 - 130	0	37
Chloroethane	ND		109000	91300		ug/Kg	☼	84	36 - 139	1	42
2-Chloroethyl vinyl ether	ND		109000	82100		ug/Kg	☼	76	10 - 150	2	38

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 450144

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 450151

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		109000	86700		ug/Kg	☼	80	39 - 130	4	35
1-Chlorohexane	ND		109000	88200		ug/Kg	☼	81	32 - 131	3	48
Chloromethane	ND		109000	100000		ug/Kg	☼	92	35 - 136	1	41
cis-1,2-Dichloroethene	ND		109000	91300		ug/Kg	☼	84	32 - 135	5	35
cis-1,3-Dichloropropene	ND		109000	84200		ug/Kg	☼	77	34 - 130	5	35
Dibromochloromethane	ND		109000	79400		ug/Kg	☼	73	32 - 132	3	34
1,2-Dibromo-3-Chloropropane	ND		109000	73100		ug/Kg	☼	67	14 - 132	8	38
1,2-Dichlorobenzene	ND		109000	84000		ug/Kg	☼	77	20 - 130	3	40
1,3-Dichlorobenzene	ND		109000	82300		ug/Kg	☼	76	22 - 130	2	41
1,4-Dichlorobenzene	ND		109000	82900		ug/Kg	☼	76	21 - 130	3	40
Dichlorodifluoromethane	ND		109000	92600		ug/Kg	☼	85	21 - 146	1	46
1,1-Dichloroethane	ND		109000	92800		ug/Kg	☼	85	41 - 130	5	35
1,2-Dichloroethane	ND		109000	93200		ug/Kg	☼	86	37 - 130	3	32
1,1-Dichloroethene	ND		109000	91700		ug/Kg	☼	84	39 - 138	6	37
1,2-Dichloropropane	ND		109000	94100		ug/Kg	☼	87	39 - 130	5	35
1,3-Dichloropropane	ND		109000	85600		ug/Kg	☼	79	39 - 130	0	32
2,2-Dichloropropane	ND		109000	77700		ug/Kg	☼	71	32 - 134	6	41
1,1-Dichloropropene	ND		109000	86300		ug/Kg	☼	79	38 - 136	4	43
Ethylbenzene	ND		109000	84100		ug/Kg	☼	77	35 - 130	1	46
Ethylene Dibromide	ND		109000	83600		ug/Kg	☼	77	35 - 130	2	31
Ethyl methacrylate	ND		109000	79300		ug/Kg	☼	73	10 - 142	1	39
Hexachlorobutadiene	ND		109000	88300		ug/Kg	☼	81	10 - 144	2	68
2-Hexanone	ND		435000	323000		ug/Kg	☼	74	20 - 142	1	37
Isopropylbenzene	ND		109000	82200		ug/Kg	☼	76	31 - 132	1	51
Methylene bromide	ND		109000	88600		ug/Kg	☼	82	35 - 130	3	34
Methylene Chloride	ND		109000	80500		ug/Kg	☼	74	36 - 132	4	38
4-Methyl-2-pentanone (MIBK)	ND		435000	364000		ug/Kg	☼	84	21 - 144	5	39
Methyl tert-butyl ether	ND		109000	78800		ug/Kg	☼	72	34 - 132	7	31
m-Xylene & p-Xylene	ND		109000	82700		ug/Kg	☼	76	35 - 130	0	42
Naphthalene	ND		109000	82900		ug/Kg	☼	76	10 - 150	7	49
n-Butylbenzene	ND		109000	83600		ug/Kg	☼	77	20 - 133	1	50
N-Propylbenzene	ND		109000	82400		ug/Kg	☼	76	29 - 132	2	42
o-Chlorotoluene	ND		109000	81600		ug/Kg	☼	75	31 - 130	2	45
o-Xylene	ND		109000	84100		ug/Kg	☼	77	35 - 130	0	37
p-Chlorotoluene	ND		109000	83600		ug/Kg	☼	77	28 - 130	4	42
p-Isopropyltoluene	ND		109000	83200		ug/Kg	☼	77	20 - 137	4	53
sec-Butylbenzene	ND		109000	84000		ug/Kg	☼	77	22 - 135	3	52
Styrene	ND		109000	80700		ug/Kg	☼	74	31 - 130	2	39
tert-Butylbenzene	ND		109000	81400		ug/Kg	☼	75	26 - 133	2	47
1,1,1,2-Tetrachloroethane	ND		109000	81600		ug/Kg	☼	75	37 - 130	1	34
1,1,2,2-Tetrachloroethane	ND		109000	84200		ug/Kg	☼	77	10 - 149	3	44
Tetrachloroethene	ND		109000	82000		ug/Kg	☼	75	27 - 147	0	44
Toluene	ND		109000	81600		ug/Kg	☼	75	42 - 130	1	37
trans-1,2-Dichloroethene	ND		109000	88500		ug/Kg	☼	81	40 - 134	3	38
trans-1,3-Dichloropropene	ND		109000	74500		ug/Kg	☼	69	31 - 130	2	34
1,2,3-Trichlorobenzene	ND		109000	81900		ug/Kg	☼	75	10 - 146	6	47
1,2,4-Trichlorobenzene	ND		109000	85200		ug/Kg	☼	78	10 - 141	4	53
1,1,1-Trichloroethane	ND		109000	85800		ug/Kg	☼	79	41 - 130	4	40
1,1,2-Trichloroethane	ND		109000	83900		ug/Kg	☼	77	37 - 130	0	33

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD — **Client Sample ID: PD-14-SB-45-072219**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 450144 — **Prep Batch: 450151**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		109000	89300		ug/Kg	☼	82	34 - 144	4	42
Trichlorofluoromethane	ND		109000	82900		ug/Kg	☼	76	41 - 143	1	42
1,2,3-Trichloropropane	ND		109000	81300		ug/Kg	☼	75	29 - 133	5	33
1,2,4-Trimethylbenzene	ND		109000	82400		ug/Kg	☼	76	26 - 131	3	48
1,3,5-Trimethylbenzene	ND		109000	83200		ug/Kg	☼	77	28 - 131	3	46
Vinyl acetate	ND		217000	168000		ug/Kg	☼	78	10 - 150	5	60
Vinyl chloride	ND		109000	92900		ug/Kg	☼	86	35 - 136	3	43
Xylenes, Total	ND		217000	167000		ug/Kg	☼	77	35 - 130	0	39

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*72 - 122*
Dibromofluoromethane	*103*		*79 - 123*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 400-450813/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 450779 — **Prep Batch: 450813**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		08/03/19 10:12	08/03/19 11:46	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*08/03/19 10:12*	*08/03/19 11:46*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*72 - 122*	*08/03/19 10:12*	*08/03/19 11:46*	*1*
Dibromofluoromethane	*101*		*79 - 123*	*08/03/19 10:12*	*08/03/19 11:46*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*08/03/19 10:12*	*08/03/19 11:46*	*1*

Lab Sample ID: LCS 400-450813/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 450779 — **Prep Batch: 450813**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	52.7		ug/Kg		105	65 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*72 - 122*
Dibromofluoromethane	*101*		*79 - 123*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: MB 400-450871/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 450866 — **Prep Batch: 450871**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		5.0	0.67	ug/Kg		08/04/19 09:06	08/04/19 11:04	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450871/1-A
Matrix: Solid
Analysis Batch: 450866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450871

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/Kg				08/04/19 09:06	08/04/19 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		72 - 122	08/04/19 09:06	08/04/19 11:04	1
Dibromofluoromethane	110		79 - 123	08/04/19 09:06	08/04/19 11:04	1
Toluene-d8 (Surr)	94		80 - 120	08/04/19 09:06	08/04/19 11:04	1

Lab Sample ID: LCS 400-450871/2-A
Matrix: Solid
Analysis Batch: 450866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450871

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	48.6		ug/Kg		97	65 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	90		72 - 122
Dibromofluoromethane	106		79 - 123
Toluene-d8 (Surr)	92		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		330	43	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Benzenethiol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Benzoic acid	ND		990	350	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Benzyl alcohol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Bis(2-chloroethoxy)methane	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Bis(2-chloroethyl)ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
bis (2-chloroisopropyl) ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Bis(2-ethylhexyl) phthalate	51.5	J	330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Bromophenyl phenyl ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Butyl benzyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Chloroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Chloro-3-methylphenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Chloronaphthalene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Chlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Chlorophenyl phenyl ether	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Dibenz[a,h]acridine	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Dibenzofuran	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
3,3'-Dichlorobenzidine	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dichlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Diethyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dimethylphenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Dimethyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4,6-Dinitro-ortho-cresol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dinitrophenol	ND		990	290	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4-Dinitrotoluene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,6-Dinitrotoluene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Di-n-octyl phthalate	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
1,4-Dioxane	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Hexachlorobenzene	ND		330	100	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Hexachlorocyclopentadiene	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Hexachloroethane	ND		330	100	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Indene	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Isophorone	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Methylphenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
3 & 4 Methylphenol	ND		660	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Nitroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
3-Nitroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Nitroaniline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Nitrobenzene	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2-Nitrophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
4-Nitrophenol	ND		330	110	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
N-Nitrosodimethylamine	ND		330	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
N-Nitrosodi-n-propylamine	ND		330	110	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
N-Nitrosodiphenylamine	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Pentachlorophenol	ND		660	66	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Phenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Pyridine	ND		330	150	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
Quinoline	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4,5-Trichlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1
2,4,6-Trichlorophenol	ND		330	33	ug/Kg		07/25/19 15:10	07/26/19 23:39	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/Kg*				*07/25/19 15:10*	*07/26/19 23:39*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*27 - 127*	*07/25/19 15:10*	*07/26/19 23:39*	*1*
2-Fluorophenol	*57*		*25 - 128*	*07/25/19 15:10*	*07/26/19 23:39*	*1*
Nitrobenzene-d5	*57*		*15 - 136*	*07/25/19 15:10*	*07/26/19 23:39*	*1*
Phenol-d5	*55*		*29 - 130*	*07/25/19 15:10*	*07/26/19 23:39*	*1*
Terphenyl-d14	*83*		*24 - 146*	*07/25/19 15:10*	*07/26/19 23:39*	*1*
2,4,6-Tribromophenol	*102*		*10 - 150*	*07/25/19 15:10*	*07/26/19 23:39*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449523/2-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	2000	1110		ug/Kg		55	36 - 120
Benzoic acid	7770	2120		ug/Kg		27	10 - 139
Benzyl alcohol	2000	1350		ug/Kg		67	10 - 127
Bis(2-chloroethoxy)methane	2000	1020	*	ug/Kg		51	52 - 120
Bis(2-chloroethyl)ether	2000	1030		ug/Kg		52	50 - 120
bis (2-chloroisopropyl) ether	2000	1010		ug/Kg		50	34 - 120
Bis(2-ethylhexyl) phthalate	2000	1480		ug/Kg		74	58 - 158
4-Bromophenyl phenyl ether	2000	2160		ug/Kg		108	51 - 120
Butyl benzyl phthalate	2000	1310		ug/Kg		66	58 - 126
4-Chloroaniline	2000	972		ug/Kg		49	34 - 120
4-Chloro-3-methylphenol	2000	1470		ug/Kg		74	57 - 124
2-Chloronaphthalene	2000	1560		ug/Kg		78	55 - 120
2-Chlorophenol	2000	1430		ug/Kg		72	52 - 120
4-Chlorophenyl phenyl ether	2000	1910		ug/Kg		95	56 - 120
Dibenz[a,h]acridine	2000	1630		ug/Kg		81	51 - 135
Dibenzofuran	2000	1650		ug/Kg		83	58 - 120
3,3'-Dichlorobenzidine	2670	5210	*	ug/Kg		195	42 - 120
2,4-Dichlorophenol	2000	1550		ug/Kg		77	56 - 120
Diethyl phthalate	2000	2070		ug/Kg		104	56 - 128
2,4-Dimethylphenol	2000	1470		ug/Kg		74	54 - 120
Dimethyl phthalate	2000	1720		ug/Kg		86	58 - 120
Di-n-butyl phthalate	2000	1780		ug/Kg		89	64 - 122
4,6-Dinitro-ortho-cresol	4000	1400		ug/Kg		35	35 - 135
2,4-Dinitrophenol	4000	1660		ug/Kg		42	10 - 138
2,4-Dinitrotoluene	2000	1720		ug/Kg		86	59 - 133
2,6-Dinitrotoluene	2000	1690		ug/Kg		85	57 - 123
Di-n-octyl phthalate	2000	1770		ug/Kg		89	57 - 137
1,4-Dioxane	2000	630		ug/Kg		31	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	2000	1370		ug/Kg		68	50 - 120
Hexachlorobenzene	2000	2710	*	ug/Kg		136	49 - 127
Hexachlorocyclopentadiene	2000	550		ug/Kg		27	10 - 140
Hexachloroethane	2000	1220		ug/Kg		61	45 - 120
Indene	2000	1090		ug/Kg		54	45 - 120
Isophorone	2000	1120		ug/Kg		56	50 - 120
2-Methylphenol	2000	1370		ug/Kg		68	51 - 123
3 & 4 Methylphenol	2000	1490		ug/Kg		74	47 - 123
2-Nitroaniline	2000	1530		ug/Kg		77	55 - 129
3-Nitroaniline	2000	1720		ug/Kg		86	45 - 120
4-Nitroaniline	2000	2810	*	ug/Kg		140	52 - 126
Nitrobenzene	2000	1150		ug/Kg		58	50 - 120
2-Nitrophenol	2000	1150		ug/Kg		58	53 - 120
4-Nitrophenol	4000	4860		ug/Kg		122	38 - 133
N-Nitrosodimethylamine	2000	1560		ug/Kg		78	35 - 120
N-Nitrosodi-n-propylamine	2000	1490		ug/Kg		74	48 - 120
N-Nitrosodiphenylamine	1980	1640		ug/Kg		83	54 - 120
Pentachlorophenol	4000	4510		ug/Kg		113	32 - 131
Phenol	2000	1250		ug/Kg		63	51 - 120
Pyridine	4000	1510		ug/Kg		38	29 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449523/2-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	2000	1220		ug/Kg		61	10 - 150
2,4,5-Trichlorophenol	2000	1820		ug/Kg		91	53 - 133
2,4,6-Trichlorophenol	2000	1800		ug/Kg		90	51 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*27 - 127*
2-Fluorophenol	*53*		*25 - 128*
Nitrobenzene-d5	*53*		*15 - 136*
Phenol-d5	*56*		*29 - 130*
Terphenyl-d14	*85*		*24 - 146*
2,4,6-Tribromophenol	*114*		*10 - 150*

Lab Sample ID: LCSD 400-449523/10-A
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	2000	449		ug/Kg		22	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*27 - 127*
2-Fluorophenol	*50*		*25 - 128*
Nitrobenzene-d5	*51*		*15 - 136*
Phenol-d5	*51*		*29 - 130*
Terphenyl-d14	*76*		*24 - 146*
2,4,6-Tribromophenol	*90*		*10 - 150*

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	F1 F2	2370	283	J F1	ug/Kg	☼	12	40 - 140
Benzoic acid	ND	F1	9220	ND	F1	ug/Kg	☼	0	40 - 140
Benzyl alcohol	ND	F1 F2	2370	417	F1	ug/Kg	☼	18	40 - 140
Bis(2-chloroethoxy)methane	ND	F1 F2 *	2370	230	J F1	ug/Kg	☼	10	40 - 140
Bis(2-chloroethyl)ether	ND	F1 F2	2370	158	J F1	ug/Kg	☼	7	40 - 140
bis (2-chloroisopropyl) ether	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Bis(2-ethylhexyl) phthalate	78	J B F1 F2	2370	344	J F1	ug/Kg	☼	11	40 - 140
4-Bromophenyl phenyl ether	ND	F1 F2	2370	148	J F1	ug/Kg	☼	6	40 - 140
Butyl benzyl phthalate	ND	F1 F2	2370	150	J F1	ug/Kg	☼	6	40 - 140
4-Chloroaniline	ND	F1 F2	2370	282	J F1	ug/Kg	☼	12	40 - 140
4-Chloro-3-methylphenol	ND	F1 F2	2370	417	F1	ug/Kg	☼	18	40 - 140
2-Chloronaphthalene	ND	F1 F2	2370	41.7	J F1	ug/Kg	☼	2	40 - 140
2-Chlorophenol	ND	F1 F2	2370	285	J F1	ug/Kg	☼	12	40 - 140
4-Chlorophenyl phenyl ether	ND	F1 F2	2370	89.3	J F1	ug/Kg	☼	4	40 - 140
Dibenz[a,h]acridine	ND	F1 F2	2370	147	J F1	ug/Kg	☼	6	40 - 140
Dibenzofuran	ND	F1 F2	2370	69.3	J F1	ug/Kg	☼	3	40 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MS
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
3,3'-Dichlorobenzidine	ND	F1 F2 *	3160	366	J F1	ug/Kg	☼	12	40 - 140
2,4-Dichlorophenol	ND	F1 F2	2370	354	J F1	ug/Kg	☼	15	40 - 140
Diethyl phthalate	ND	F1 F2	2370	271	J F1	ug/Kg	☼	11	40 - 140
2,4-Dimethylphenol	ND	F1 F2	2370	406	F1	ug/Kg	☼	17	40 - 140
Dimethyl phthalate	ND	F1 F2	2370	301	J F1	ug/Kg	☼	13	40 - 140
Di-n-butyl phthalate	ND	F1 F2	2370	274	J F1	ug/Kg	☼	12	40 - 140
4,6-Dinitro-ortho-cresol	ND	F1 F2	4750	200	J F1	ug/Kg	☼	4	40 - 140
2,4-Dinitrophenol	ND	F1	4750	ND	F1	ug/Kg	☼	0	40 - 140
2,4-Dinitrotoluene	ND	F1 F2	2370	273	J F1	ug/Kg	☼	12	40 - 140
2,6-Dinitrotoluene	ND	F1 F2	2370	332	J F1	ug/Kg	☼	14	40 - 140
Di-n-octyl phthalate	ND	F1 F2	2370	372	J F1	ug/Kg	☼	16	40 - 140
1,4-Dioxane	ND	F1 F2	2370	87.1	J F1	ug/Kg	☼	4	40 - 140
1,2-Diphenylhydrazine (as Azobenzene)	ND	F1 F2	2370	83.2	J F1	ug/Kg	☼	4	40 - 140
Hexachlorobenzene	ND	F1 F2 *	2370	146	J F1	ug/Kg	☼	6	40 - 140
Hexachlorocyclopentadiene	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Hexachloroethane	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Indene	ND	F1	2370	ND	F1	ug/Kg	☼	0	40 - 140
Isophorone	ND	F1 F2	2370	282	J F1	ug/Kg	☼	12	40 - 140
2-Methylphenol	ND	F1 F2	2370	385	J F1	ug/Kg	☼	16	40 - 140
3 & 4 Methylphenol	ND	F1 F2	2370	410	J F1	ug/Kg	☼	17	40 - 140
2-Nitroaniline	ND	F1 F2	2370	385	J F1	ug/Kg	☼	16	40 - 140
3-Nitroaniline	ND	F1 F2	2370	426	F1	ug/Kg	☼	18	40 - 140
4-Nitroaniline	ND	F1 F2 *	2370	632	F1	ug/Kg	☼	27	40 - 140
Nitrobenzene	ND	F1 F2	2370	155	J F1	ug/Kg	☼	7	40 - 140
2-Nitrophenol	ND	F1 F2	2370	234	J F1	ug/Kg	☼	10	40 - 140
4-Nitrophenol	ND	F1 F2	4750	692	F1	ug/Kg	☼	15	40 - 140
N-Nitrosodimethylamine	ND	F1 F2	2370	478	F1	ug/Kg	☼	20	40 - 140
N-Nitrosodi-n-propylamine	ND	F1 F2	2370	277	J F1	ug/Kg	☼	12	40 - 140
N-Nitrosodiphenylamine	ND	F1 F2	2350	195	J F1	ug/Kg	☼	8	40 - 140
Pentachlorophenol	ND	F1 F2	4750	570	J F1	ug/Kg	☼	12	40 - 140
Phenol	120	J F1 F2	2370	452	F1	ug/Kg	☼	14	40 - 140
Pyridine	ND	F1 F2	4750	236	J F1	ug/Kg	☼	5	40 - 140
Quinoline	ND	F1 F2	2370	315	J F1	ug/Kg	☼	13	40 - 140
2,4,5-Trichlorophenol	ND	F1 F2	2370	393	F1	ug/Kg	☼	17	40 - 140
2,4,6-Trichlorophenol	ND	F1 F2	2370	401	F1	ug/Kg	☼	17	40 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*2*	*X*	*27 - 127*
2-Fluorophenol	*10*	*X*	*25 - 128*
Nitrobenzene-d5	*6*	*X*	*15 - 136*
Phenol-d5	*16*	*X*	*29 - 130*
Terphenyl-d14	*4*	*X*	*24 - 146*
2,4,6-Tribromophenol	*23*		*10 - 150*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND	F1 F2	2350	1130	F2	ug/Kg	☼	48	40 - 140	120	30
Benzoic acid	ND	F1	9130	ND	F1	ug/Kg	☼	0	40 - 140	NC	30
Benzyl alcohol	ND	F1 F2	2350	1420	F2	ug/Kg	☼	60	40 - 140	109	30
Bis(2-chloroethoxy)methane	ND	F1 F2 *	2350	1150	F2	ug/Kg	☼	49	40 - 140	134	30
Bis(2-chloroethyl)ether	ND	F1 F2	2350	1090	F2	ug/Kg	☼	47	40 - 140	150	30
bis (2-chloroisopropyl) ether	ND	F1	2350	1040		ug/Kg	☼	44	40 - 140	NC	30
Bis(2-ethylhexyl) phthalate	78	J B F1 F2	2350	1080	F2	ug/Kg	☼	43	40 - 140	104	30
4-Bromophenyl phenyl ether	ND	F1 F2	2350	1800	F2	ug/Kg	☼	77	40 - 140	170	30
Butyl benzyl phthalate	ND	F1 F2	2350	1000	F2	ug/Kg	☼	43	40 - 140	148	30
4-Chloroaniline	ND	F1 F2	2350	1100	F2	ug/Kg	☼	47	40 - 140	119	30
4-Chloro-3-methylphenol	ND	F1 F2	2350	1630	F2	ug/Kg	☼	69	40 - 140	118	30
2-Chloronaphthalene	ND	F1 F2	2350	1510	F2	ug/Kg	☼	64	40 - 140	189	30
2-Chlorophenol	ND	F1 F2	2350	1500	F2	ug/Kg	☼	64	40 - 140	136	30
4-Chlorophenyl phenyl ether	ND	F1 F2	2350	1660	F2	ug/Kg	☼	71	40 - 140	180	30
Dibenz[a,h]acridine	ND	F1 F2	2350	201	J F1 F2	ug/Kg	☼	9	40 - 140	31	30
Dibenzofuran	ND	F1 F2	2350	1530	F2	ug/Kg	☼	65	40 - 140	183	30
3,3'-Dichlorobenzidine	ND	F1 F2 *	3130	4310	F2	ug/Kg	☼	137	40 - 140	169	30
2,4-Dichlorophenol	ND	F1 F2	2350	1650	F2	ug/Kg	☼	70	40 - 140	129	30
Diethyl phthalate	ND	F1 F2	2350	1890	F2	ug/Kg	☼	80	40 - 140	150	30
2,4-Dimethylphenol	ND	F1 F2	2350	1670	F2	ug/Kg	☼	71	40 - 140	122	30
Dimethyl phthalate	ND	F1 F2	2350	1690	F2	ug/Kg	☼	72	40 - 140	140	30
Di-n-butyl phthalate	ND	F1 F2	2350	1370	F2	ug/Kg	☼	58	40 - 140	133	30
4,6-Dinitro-ortho-cresol	ND	F1 F2	4700	1010	F1 F2	ug/Kg	☼	21	40 - 140	134	30
2,4-Dinitrophenol	ND	F1	4700	519	J F1	ug/Kg	☼	11	40 - 140	NC	30
2,4-Dinitrotoluene	ND	F1 F2	2350	1630	F2	ug/Kg	☼	69	40 - 140	142	30
2,6-Dinitrotoluene	ND	F1 F2	2350	1640	F2	ug/Kg	☼	70	40 - 140	133	30
Di-n-octyl phthalate	ND	F1 F2	2350	1280	F2	ug/Kg	☼	55	40 - 140	110	30
1,4-Dioxane	ND	F1 F2	2350	576	F1 F2	ug/Kg	☼	24	40 - 140	147	30
1,2-Diphenylhydrazine (as Azobenzene)	ND	F1 F2	2350	1250	F2	ug/Kg	☼	53	40 - 140	175	30
Hexachlorobenzene	ND	F1 F2 *	2350	2270	F2	ug/Kg	☼	97	40 - 140	176	30
Hexachlorocyclopentadiene	ND	F1	2350	249	J F1	ug/Kg	☼	11	40 - 140	NC	30
Hexachloroethane	ND	F1	2350	1170		ug/Kg	☼	50	40 - 140	NC	30
Indene	ND	F1	2350	1090		ug/Kg	☼	46	40 - 140	NC	30
Isophorone	ND	F1 F2	2350	1310	F2	ug/Kg	☼	56	40 - 140	129	30
2-Methylphenol	ND	F1 F2	2350	1440	F2	ug/Kg	☼	61	40 - 140	115	30
3 & 4 Methylphenol	ND	F1 F2	2350	1510	F2	ug/Kg	☼	64	40 - 140	115	30
2-Nitroaniline	ND	F1 F2	2350	1490	F2	ug/Kg	☼	63	40 - 140	118	30
3-Nitroaniline	ND	F1 F2	2350	1690	F2	ug/Kg	☼	72	40 - 140	119	30
4-Nitroaniline	ND	F1 F2 *	2350	2260	F2	ug/Kg	☼	96	40 - 140	113	30
Nitrobenzene	ND	F1 F2	2350	1380	F2	ug/Kg	☼	59	40 - 140	160	30
2-Nitrophenol	ND	F1 F2	2350	1280	F2	ug/Kg	☼	55	40 - 140	138	30
4-Nitrophenol	ND	F1 F2	4700	4270	F2	ug/Kg	☼	91	40 - 140	144	30
N-Nitrosodimethylamine	ND	F1 F2	2350	1750	F2	ug/Kg	☼	74	40 - 140	114	30
N-Nitrosodi-n-propylamine	ND	F1 F2	2350	1560	F2	ug/Kg	☼	67	40 - 140	140	30
N-Nitrosodiphenylamine	ND	F1 F2	2330	1570	F2	ug/Kg	☼	67	40 - 140	156	30
Pentachlorophenol	ND	F1 F2	4700	3790	F2	ug/Kg	☼	81	40 - 140	148	30
Phenol	120	J F1 F2	2350	1450	F2	ug/Kg	☼	57	40 - 140	105	30
Pyridine	ND	F1 F2	4700	1810	F1 F2	ug/Kg	☼	38	40 - 140	154	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173530-2 MSD
Matrix: Solid
Analysis Batch: 449722

Client Sample ID: PD-14-SB-45-072219
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline	ND	F1 F2	2350	135	J F1 F2	ug/Kg	☼	6	40 - 140	80	30
2,4,5-Trichlorophenol	ND	F1 F2	2350	1770	F2	ug/Kg	☼	75	40 - 140	127	30
2,4,6-Trichlorophenol	ND	F1 F2	2350	1740	F2	ug/Kg	☼	74	40 - 140	125	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*27 - 127*
2-Fluorophenol	*47*		*25 - 128*
Nitrobenzene-d5	*52*		*15 - 136*
Phenol-d5	*50*		*29 - 130*
Terphenyl-d14	*55*		*24 - 146*
2,4,6-Tribromophenol	*93*		*10 - 150*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449523/1-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449523

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Acenaphthylene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Anthracene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[a]anthracene	1.56	J	6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[a]pyrene	1.20	J	6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[b]fluoranthene	1.35	J	6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[g,h,i]perylene	ND		6.6	2.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Benzo[k]fluoranthene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Chrysene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Dibenz(a,h)anthracene	ND		6.6	2.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Fluoranthene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Fluorene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Indeno[1,2,3-cd]pyrene	ND		6.6	2.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
1-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
2-Methylnaphthalene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Phenanthrene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1
Pyrene	ND		6.6	1.0	ug/Kg		07/25/19 15:10	08/05/19 12:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*27 - 127*	*07/25/19 15:10*	*08/05/19 12:19*	*1*
Nitrobenzene-d5	*71*		*15 - 136*	*07/25/19 15:10*	*08/05/19 12:19*	*1*
Terphenyl-d14	*100*		*24 - 146*	*07/25/19 15:10*	*08/05/19 12:19*	*1*

Lab Sample ID: LCS 400-449523/11-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	279		ug/Kg		84	57 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449523/11-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449523

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthylene			333	265		ug/Kg		79	59 - 120		
Anthracene			333	272		ug/Kg		82	61 - 120		
Benzo[a]anthracene			333	279		ug/Kg		84	61 - 120		
Benzo[a]pyrene			333	265		ug/Kg		79	54 - 127		
Benzo[b]fluoranthene			333	272		ug/Kg		82	35 - 146		
Benzo[g,h,i]perylene			333	276		ug/Kg		83	36 - 150		
Benzo[k]fluoranthene			333	259		ug/Kg		78	53 - 139		
Chrysene			333	267		ug/Kg		80	60 - 120		
Dibenz(a,h)anthracene			333	313		ug/Kg		94	39 - 150		
Fluoranthene			333	285		ug/Kg		85	61 - 121		
Fluorene			333	283		ug/Kg		85	60 - 120		
Indeno[1,2,3-cd]pyrene			333	271		ug/Kg		81	40 - 150		
1-Methylnaphthalene			333	271		ug/Kg		81	46 - 120		
2-Methylnaphthalene			333	279		ug/Kg		84	46 - 120		
Phenanthrene			333	277		ug/Kg		83	59 - 120		
Pyrene			333	272		ug/Kg		82	53 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*27 - 127*
Nitrobenzene-d5	*72*		*15 - 136*
Terphenyl-d14	*93*		*24 - 146*

Lab Sample ID: LCSD 400-449523/12-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449523

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			333	295		ug/Kg		88	57 - 120	5	30
Acenaphthylene			333	279		ug/Kg		84	59 - 120	5	30
Anthracene			333	281		ug/Kg		84	61 - 120	3	30
Benzo[a]anthracene			333	291		ug/Kg		87	61 - 120	4	30
Benzo[a]pyrene			333	281		ug/Kg		84	54 - 127	6	30
Benzo[b]fluoranthene			333	283		ug/Kg		85	35 - 146	4	30
Benzo[g,h,i]perylene			333	290		ug/Kg		87	36 - 150	5	30
Benzo[k]fluoranthene			333	292		ug/Kg		87	53 - 139	12	30
Chrysene			333	283		ug/Kg		85	60 - 120	6	30
Dibenz(a,h)anthracene			333	319		ug/Kg		96	39 - 150	2	30
Fluoranthene			333	297		ug/Kg		89	61 - 121	4	30
Fluorene			333	298		ug/Kg		89	60 - 120	5	30
Indeno[1,2,3-cd]pyrene			333	280		ug/Kg		84	40 - 150	3	30
1-Methylnaphthalene			333	275		ug/Kg		83	46 - 120	2	30
2-Methylnaphthalene			333	281		ug/Kg		84	46 - 120	1	30
Phenanthrene			333	285		ug/Kg		85	59 - 120	3	30
Pyrene			333	289		ug/Kg		87	53 - 122	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*27 - 127*
Nitrobenzene-d5	*70*		*15 - 136*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173530-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449523/12-A
Matrix: Solid
Analysis Batch: 450940

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449523

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	93		24 - 146

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/22/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794.1.24.051 / 60592794 - 1.24.050	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE	State	AECOM Project / Task Number:
AECOM		170 East Rand Avenue, Hartford	IL / PreDesign Invest. PW

ADDRESS	EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO	E-MAIL	AECOM Other ID
100 N Broadway, 20th Floor; St. Louis, MO 63102	Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

SAMPLER NAME(S) (Print): James Carrino — LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 (LL) PAH; Moisture

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

400-173530 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Sample ID	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 (LL) PAH	Moisture	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-072219-A	7/22/2019	0:00	Water	X					2			X		
	PD-14-SB-45-072219	7/22/2019	10:45	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-14-SB-45-072219-MS	7/22/2019	10:45	Soil	X			x	x	4		x	x		Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-14-SB-45-072219-MSD	7/22/2019	10:45	Soil	X			x	x	4		x	x		Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-14-SB-49-072219	7/22/2019	12:55	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-14-SB-49-072219-DUP	7/22/2019	12:55	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve
	PD-14-SB-55-072219	7/22/2019	13:50	Soil	X			x	x	5	x	x	x	x	Sodium Bi Sulfate (Preserve), Methanol, Preserve

	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Fedex: 4931 8203 7524; 4931 8203 7351, 4931 8203 7362 ; custody seal: 1011642, 1011643, 1011644, 1011645, 1011646, 1011647	7/22/2019	18:00
Relinquished by: (Signature)			
Relinquished by: (Signature)	Received by: (Signature) 1.8C, 2.7C, 2.4C, ICE	7/23/19	9:09

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173530-1

Login Number: 173530
List Number: 1
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8°C, 2.7°C, 2.4°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173530-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 19061617

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/8/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062519-B	PD-1-GWP-34-062519
PD-1-GWP-44-062519	PD-1-GWP-53-062519

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative, SVOC LCS recoveries were outside evaluation criteria. The VOC compound trichloroethene MS recovery was outside evaluation criteria in sample PD-1-GWP-34-062519. These issues are addressed further in the appropriate sections of this data review.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
154692	SVOCs	Pyridine	**0**/49.2	**200**	19-84.3/40
154692	SVOCs	Quinoline	**15.8**/87.5	**138.8**	45.3-133/40

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS

recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-1-GWP-34-062519	SVOCs	Pyridine	**UJ**
PD-1-GWP-34-062519	SVOCs	Quinoline	**UJ**
PD-1-GWP-44-062519	SVOCs	Pyridine	**UJ**
PD-1-GWP-44-062519	SVOCs	Quinoline	**UJ**
PD-1-GWP-53-062519	SVOCs	Pyridine	**UJ**
PD-1-GWP-53-062519	SVOCs	Quinoline	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested samples PD-1-GWP-34-062519 and PD-1-GWP-44-062519 were spiked and duplicated for VOCs

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-1-GWP-34-062519	VOCs	Trichloroethene	**122.4**	NA	69.4-117

Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound trichloroethene was non-detect in sample PD-1-GWP-34-062519. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

July 01, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

RE: PreDesign Invest. PW

WorkOrder: 19061617

Dear Elizabeth Kunkel:

TEKLAB, INC received 4 samples on 6/25/2019 5:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 7/1/2019

Report Contents

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061617
Report Date: 01-Jul-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
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Accreditations	5
Laboratory Results	6
Sample Summary	20
Dates Report	21
Quality Control Results	22
Receiving Check List	44
Chain of Custody	Appended

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon
B -	Analyte detected in associated Method Blank
C -	RL shown is a Client Requested Quantitation Limit
E -	Value above quantitation range
H -	Holding times exceeded
I -	Associated internal standard was outside method criteria
J -	Analyte detected below quantitation limits
M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit
R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits
T -	TIC(Tentatively identified compound)
X -	Value exceeds Maximum Contaminant Level

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061617
Report Date: 01-Jul-2019

Cooler Receipt Temp: 5.8 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	EHurley@teklabinc.com

Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
Fax	(217) 698-1005
Email	KKlostermann@teklabinc.com

Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-001
Client Sample ID: TB-PW-062519-B
Matrix: TRIP BLANK
Collection Date: 06/25/2019 17:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/26/2019 8:50	154693
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
2-Butanone	NELAP	10.0		ND	µg/L	1	06/26/2019 8:50	154693
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/26/2019 8:50	154693
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/26/2019 8:50	154693
Acetone	NELAP	10.0		ND	µg/L	1	06/26/2019 8:50	154693
Acrolein	NELAP	20.0		ND	µg/L	1	06/26/2019 8:50	154693
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
Benzene	NELAP	0.5		ND	µg/L	1	06/26/2019 8:50	154693
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Bromoform	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Bromomethane	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Chloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Chloroform	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Chloromethane	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-001
Client Sample ID: TB-PW-062519-B
Matrix: TRIP BLANK
Collection Date: 06/25/2019 17:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Naphthalene	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
o-Xylene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Styrene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/26/2019 8:50	154693
Toluene	NELAP	2.0	J	0.1	µg/L	1	06/26/2019 8:50	154693
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/26/2019 8:50	154693
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/26/2019 8:50	154693
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/26/2019 8:50	154693
Surr: 1,2-Dichloroethane-d4	*	79.6-118		104.5	%REC	1	06/26/2019 8:50	154693
Surr: 4-Bromofluorobenzene	*	83.9-115		89.8	%REC	1	06/26/2019 8:50	154693
Surr: Dibromofluoromethane	*	84.9-113		100.9	%REC	1	06/26/2019 8:50	154693
Surr: Toluene-d8	*	86.7-112		96.0	%REC	1	06/26/2019 8:50	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-002
Client Sample ID: PD-1-GWP-34-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/26/2019 14:01	154669
1-Methylnaphthalene	*	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
2-Methylnaphthalene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Acenaphthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Acenaphthylene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Anthracene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Chrysene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Fluorene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Phenanthrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:01	154669
Surr: 2-Fluorobiphenyl	*	13.8-99.2		59.4	%REC	1	06/26/2019 14:01	154669
Surr: Nitrobenzene-d5	*	15.3-96.2		53.0	%REC	1	06/26/2019 14:01	154669
Surr: p-Terphenyl-d14	*	10-109		54.6	%REC	1	06/26/2019 14:01	154669
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/27/2019 10:48	154692
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/27/2019 10:48	154692
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
Aniline	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
Azobenzene	*	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Benzoic acid	NELAP	0.10	J	0.015	mg/L	1	06/27/2019 10:48	154692
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-002
Client Sample ID: PD-1-GWP-34-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/27/2019 10:48	154692
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Isophorone	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
o-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 10:48	154692
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 10:48	154692
Phenol	NELAP	0.010		ND	mg/L	1	06/27/2019 10:48	154692
Pyridine	NELAP	0.020		ND	mg/L	1	06/28/2019 10:34	154764
Quinoline	*	0.005		ND	mg/L	1	06/28/2019 10:34	154764
Surr: 2,4,6-Tribromophenol	*	14.8-138		89.8	%REC	1	06/27/2019 10:48	154692
Surr: 2-Fluorobiphenyl	*	12.2-118		74.2	%REC	1	06/27/2019 10:48	154692
Surr: 2-Fluorophenol	*	11.1-70.8		54.4	%REC	1	06/27/2019 10:48	154692
Surr: Nitrobenzene-d5	*	14-118		70.0	%REC	1	06/27/2019 10:48	154692
Surr: Phenol-d5	*	10-49.2		40.0	%REC	1	06/27/2019 10:48	154692
Surr: p-Terphenyl-d14	*	11.3-110		66.4	%REC	1	06/27/2019 10:48	154692
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/26/2019 9:18	154693
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693

Client: AECOM
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Collection Date: 06/25/2019 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
2-Butanone	NELAP	10.0		ND	µg/L	1	06/26/2019 9:18	154693
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/26/2019 9:18	154693
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/26/2019 9:18	154693
Acetone	NELAP	10	J	6.7	µg/L	1	06/26/2019 9:18	154693
Acrolein	NELAP	20.0		ND	µg/L	1	06/26/2019 9:18	154693
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
Benzene	NELAP	0.5		2.2	µg/L	1	06/26/2019 9:18	154693
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Bromoform	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Bromomethane	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Chloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Chloroform	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Chloromethane	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
Ethylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/26/2019 9:18	154693
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Methyl tert-butyl ether	NELAP	2.0		7.8	µg/L	1	06/26/2019 9:18	154693
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Naphthalene	NELAP	5.0		ND	µg/L	1	06/26/2019 9:18	154693
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
o-Xylene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Styrene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:18	154693
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/26/2019 9:18	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-002
Client Sample ID: PD-1-GWP-34-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 11:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	2.0	J	**0.2**	µg/L	1	06/26/2019 9:18	154693
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/26/2019 9:18	154693
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/26/2019 9:18	154693
Trichloroethene	NELAP	2.0	S	**ND**	µg/L	1	06/26/2019 9:18	154693
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/26/2019 9:18	154693
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/26/2019 9:18	154693
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/26/2019 9:18	154693
Xylenes, Total	NELAP	4.0		**ND**	µg/L	1	06/26/2019 9:18	154693
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**101.9**	%REC	1	06/26/2019 9:18	154693
Surr: 4-Bromofluorobenzene	*	83.9-115		**102.9**	%REC	1	06/26/2019 9:18	154693
Surr: Dibromofluoromethane	*	84.9-113		**99.9**	%REC	1	06/26/2019 9:18	154693
Surr: Toluene-d8	*	86.7-112		**101.6**	%REC	1	06/26/2019 9:18	154693

MS recovered outside upper control limits for Trichloroethene. Sample results are below the reporting limit. Data is reportable per the TNI Standard.

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-003
Client Sample ID: PD-1-GWP-44-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/26/2019 14:33	154669
1-Methylnaphthalene	*	0.00020		0.00058	mg/L	1	06/26/2019 14:33	154669
2-Methylnaphthalene	NELAP	0.00020		0.00026	mg/L	1	06/26/2019 14:33	154669
Acenaphthene	NELAP	0.00020	J	0.00004	mg/L	1	06/26/2019 14:33	154669
Acenaphthylene	NELAP	0.00020	J	0.00006	mg/L	1	06/26/2019 14:33	154669
Anthracene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Chrysene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Fluorene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Phenanthrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 14:33	154669
Surr: 2-Fluorobiphenyl	*	13.8-99.2		51.6	%REC	1	06/26/2019 14:33	154669
Surr: Nitrobenzene-d5	*	15.3-96.2		47.6	%REC	1	06/26/2019 14:33	154669
Surr: p-Terphenyl-d14	*	10-109		56.2	%REC	1	06/26/2019 14:33	154669
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/27/2019 11:16	154692
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/27/2019 11:16	154692
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
Aniline	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
Azobenzene	*	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Benzoic acid	NELAP	0.10	J	0.015	mg/L	1	06/27/2019 11:16	154692
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-003
Client Sample ID: PD-1-GWP-44-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/27/2019 11:16	154692
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Isophorone	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
o-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 11:16	154692
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 11:16	154692
Phenol	NELAP	0.010	J	0.003	mg/L	1	06/27/2019 11:16	154692
Pyridine	NELAP	0.020		ND	mg/L	1	06/28/2019 11:03	154764
Quinoline	*	0.005		ND	mg/L	1	06/28/2019 11:03	154764
Surr: 2,4,6-Tribromophenol	*	14.8-138		83.4	%REC	1	06/27/2019 11:16	154692
Surr: 2-Fluorobiphenyl	*	12.2-118		72.2	%REC	1	06/27/2019 11:16	154692
Surr: 2-Fluorophenol	*	11.1-70.8		45.1	%REC	1	06/27/2019 11:16	154692
Surr: Nitrobenzene-d5	*	14-118		67.9	%REC	1	06/27/2019 11:16	154692
Surr: Phenol-d5	*	10-49.2		33.3	%REC	1	06/27/2019 11:16	154692
Surr: p-Terphenyl-d14	*	11.3-110		69.0	%REC	1	06/27/2019 11:16	154692
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/26/2019 9:45	154693
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2,4-Trimethylbenzene	NELAP	2.0		3.4	µg/L	1	06/26/2019 9:45	154693
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-003
Client Sample ID: PD-1-GWP-44-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,3,5-Trimethylbenzene	NELAP	2.0	J	0.6	µg/L	1	06/26/2019 9:45	154693
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
2-Butanone	NELAP	10	J	3.8	µg/L	1	06/26/2019 9:45	154693
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/26/2019 9:45	154693
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/26/2019 9:45	154693
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/26/2019 9:45	154693
Acetone	NELAP	10.0		ND	µg/L	1	06/26/2019 9:45	154693
Acrolein	NELAP	20.0		ND	µg/L	1	06/26/2019 9:45	154693
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/26/2019 9:45	154693
Benzene	NELAP	5.0		1080	µg/L	10	06/26/2019 11:56	154716
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Bromoform	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Bromomethane	NELAP	5.0		ND	µg/L	1	06/26/2019 9:45	154693
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Chloroethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Chloroform	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Chloromethane	NELAP	5.0		ND	µg/L	1	06/26/2019 9:45	154693
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/26/2019 9:45	154693
Ethylbenzene	NELAP	2.0		5.9	µg/L	1	06/26/2019 9:45	154693
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/26/2019 9:45	154693
Isopropylbenzene	NELAP	2.0		4.7	µg/L	1	06/26/2019 9:45	154693
m,p-Xylenes	NELAP	2.0		13.7	µg/L	1	06/26/2019 9:45	154693
Methyl tert-butyl ether	NELAP	2.0		8.4	µg/L	1	06/26/2019 9:45	154693
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
Naphthalene	NELAP	5.0	J	2.1	µg/L	1	06/26/2019 9:45	154693
n-Butylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/26/2019 9:45	154693
n-Propylbenzene	NELAP	2.0		3.4	µg/L	1	06/26/2019 9:45	154693
o-Xylene	NELAP	2.0		5.2	µg/L	1	06/26/2019 9:45	154693
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
sec-Butylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/26/2019 9:45	154693
Styrene	NELAP	2.0		ND	µg/L	1	06/26/2019 9:45	154693
tert-Butylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/26/2019 9:45	154693
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/26/2019 9:45	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-003
Client Sample ID: PD-1-GWP-44-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 13:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	2.0	J	**1.6**	µg/L	1	06/26/2019 9:45	154693
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/26/2019 9:45	154693
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/26/2019 9:45	154693
Trichloroethene	NELAP	2.0	J	**0.7**	µg/L	1	06/26/2019 9:45	154693
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/26/2019 9:45	154693
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/26/2019 9:45	154693
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/26/2019 9:45	154693
Xylenes, Total	NELAP	4.0		**18.8**	µg/L	1	06/26/2019 9:45	154693
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**88.7**	%REC	1	06/26/2019 9:45	154693
Surr: 4-Bromofluorobenzene	*	83.9-115		**98.7**	%REC	1	06/26/2019 9:45	154693
Surr: Dibromofluoromethane	*	84.9-113		**100.8**	%REC	1	06/26/2019 9:45	154693
Surr: Toluene-d8	*	86.7-112		**97.4**	%REC	1	06/26/2019 9:45	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-004
Client Sample ID: PD-1-GWP-53-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 14:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/26/2019 15:05	154669
1-Methylnaphthalene	*	0.00020		0.0242	mg/L	1	06/26/2019 15:05	154669
2-Methylnaphthalene	NELAP	0.00020		0.0445	mg/L	1	06/26/2019 15:05	154669
Acenaphthene	NELAP	0.00020		0.00048	mg/L	1	06/26/2019 15:05	154669
Acenaphthylene	NELAP	0.00020	J	0.00014	mg/L	1	06/26/2019 15:05	154669
Anthracene	NELAP	0.00020	J	0.00008	mg/L	1	06/26/2019 15:05	154669
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Chrysene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Fluorene	NELAP	0.00020		0.00056	mg/L	1	06/26/2019 15:05	154669
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/26/2019 15:05	154669
Phenanthrene	NELAP	0.00020		0.00064	mg/L	1	06/26/2019 15:05	154669
Pyrene	NELAP	0.00020	J	0.00004	mg/L	1	06/26/2019 15:05	154669
Surr: 2-Fluorobiphenyl	*	13.8-99.2		50.4	%REC	1	06/26/2019 15:05	154669
Surr: Nitrobenzene-d5	*	15.3-96.2		49.5	%REC	1	06/26/2019 15:05	154669
Surr: p-Terphenyl-d14	*	10-109		40.4	%REC	1	06/26/2019 15:05	154669
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/27/2019 12:12	154692
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/27/2019 12:12	154692
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
Aniline	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
Azobenzene	*	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Benzoic acid	NELAP	0.100		ND	mg/L	1	06/27/2019 12:12	154692
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-004
Client Sample ID: PD-1-GWP-53-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 14:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/27/2019 12:12	154692
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Isophorone	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
o-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 12:12	154692
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 12:12	154692
Phenol	NELAP	0.010		0.044	mg/L	1	06/27/2019 12:12	154692
Pyridine	NELAP	0.020		ND UJ	mg/L	1	06/28/2019 11:31	154764
Quinoline	*	0.005		ND UJ	mg/L	1	06/28/2019 11:31	154764
Surr: 2,4,6-Tribromophenol	*	14.8-138		76.4	%REC	1	06/27/2019 12:12	154692
Surr: 2-Fluorobiphenyl	*	12.2-118		61.3	%REC	1	06/27/2019 12:12	154692
Surr: 2-Fluorophenol	*	11.1-70.8		55.8	%REC	1	06/27/2019 12:12	154692
Surr: Nitrobenzene-d5	*	14-118		65.9	%REC	1	06/27/2019 12:12	154692
Surr: Phenol-d5	*	10-49.2		35.0	%REC	1	06/27/2019 12:12	154692
Surr: p-Terphenyl-d14	*	11.3-110		48.4	%REC	1	06/27/2019 12:12	154692
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,1,1-Trichloroethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,1,2,2-Tetrachloroethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,1,2-Trichloroethane	NELAP	25.0		ND	µg/L	50	06/26/2019 10:13	154693
1,1-Dichloroethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,1-Dichloroethene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,1-Dichloropropene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2,3-Trichlorobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2,3-Trichloropropane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2,4-Trichlorobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2,4-Trimethylbenzene	NELAP	100		568	µg/L	50	06/26/2019 10:13	154693
1,2-Dibromo-3-chloropropane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2-Dibromoethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2-Dichlorobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,2-Dichloroethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-004
Client Sample ID: PD-1-GWP-53-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 14:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,3,5-Trimethylbenzene	NELAP	100		180	µg/L	50	06/26/2019 10:13	154693
1,3-Dichlorobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,3-Dichloropropane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
1,4-Dichlorobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
2,2-Dichloropropane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
2-Butanone	NELAP	500		ND	µg/L	50	06/26/2019 10:13	154693
2-Chloroethyl vinyl ether	NELAP	250		ND	µg/L	50	06/26/2019 10:13	154693
2-Chlorotoluene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
2-Hexanone	NELAP	500		ND	µg/L	50	06/26/2019 10:13	154693
4-Chlorotoluene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
4-Methyl-2-pentanone	NELAP	500		ND	µg/L	50	06/26/2019 10:13	154693
Acetone	NELAP	500	J	150	µg/L	50	06/26/2019 10:13	154693
Acrolein	NELAP	1000		ND	µg/L	50	06/26/2019 10:13	154693
Acrylonitrile	NELAP	250		ND	µg/L	50	06/26/2019 10:13	154693
Benzene	NELAP	500		114000	µg/L	1000	06/26/2019 14:08	154716
Bromobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Bromochloromethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Bromodichloromethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Bromoform	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Bromomethane	NELAP	250		ND	µg/L	50	06/26/2019 10:13	154693
Carbon disulfide	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Carbon tetrachloride	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Chlorobenzene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Chloroethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Chloroform	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Chloromethane	NELAP	250		ND	µg/L	50	06/26/2019 10:13	154693
cis-1,2-Dichloroethene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
cis-1,3-Dichloropropene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Dibromochloromethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Dichlorodifluoromethane	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Ethyl methacrylate	NELAP	250		ND	µg/L	50	06/26/2019 10:13	154693
Ethylbenzene	NELAP	100		2090	µg/L	50	06/26/2019 10:13	154693
Hexachlorobutadiene	NELAP	250		ND	µg/L	50	06/26/2019 10:13	154693
Isopropylbenzene	NELAP	100	J	46	µg/L	50	06/26/2019 10:13	154693
m,p-Xylenes	NELAP	100		3650	µg/L	50	06/26/2019 10:13	154693
Methyl tert-butyl ether	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Methylene chloride	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
Naphthalene	NELAP	250	J	190	µg/L	50	06/26/2019 10:13	154693
n-Butylbenzene	NELAP	100	J	23	µg/L	50	06/26/2019 10:13	154693
n-Propylbenzene	NELAP	100		128	µg/L	50	06/26/2019 10:13	154693
o-Xylene	NELAP	100		444	µg/L	50	06/26/2019 10:13	154693
p-Isopropyltoluene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
sec-Butylbenzene	NELAP	100	J	6.5	µg/L	50	06/26/2019 10:13	154693
Styrene	NELAP	100		ND	µg/L	50	06/26/2019 10:13	154693
tert-Butylbenzene	NELAP	100	J	6.5	µg/L	50	06/26/2019 10:13	154693
Tetrachloroethene	NELAP	25.0		ND	µg/L	50	06/26/2019 10:13	154693

Client: AECOM
Work Order: 19061617
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061617-004
Client Sample ID: PD-1-GWP-53-062519
Matrix: AQUEOUS
Collection Date: 06/25/2019 14:50

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	100		**508**	µg/L	50	06/26/2019 10:13	154693
trans-1,2-Dichloroethene	NELAP	100		**ND**	µg/L	50	06/26/2019 10:13	154693
trans-1,3-Dichloropropene	NELAP	100		**ND**	µg/L	50	06/26/2019 10:13	154693
Trichloroethene	NELAP	100		**ND**	µg/L	50	06/26/2019 10:13	154693
Trichlorofluoromethane	NELAP	250		**ND**	µg/L	50	06/26/2019 10:13	154693
Vinyl acetate	NELAP	250		**ND**	µg/L	50	06/26/2019 10:13	154693
Vinyl chloride	NELAP	100		**ND**	µg/L	50	06/26/2019 10:13	154693
Xylenes, Total	NELAP	200		**4100**	µg/L	50	06/26/2019 10:13	154693
Surr: 1,2-Dichloroethane-d4	*	79.6-118	S	**68.0**	%REC	50	06/26/2019 10:13	154693
Surr: 4-Bromofluorobenzene	*	83.9-115		**101.0**	%REC	50	06/26/2019 10:13	154693
Surr: Dibromofluoromethane	*	84.9-113		**98.9**	%REC	50	06/26/2019 10:13	154693
Surr: Toluene-d8	*	86.7-112		**100.7**	%REC	50	06/26/2019 10:13	154693

Surrogate recovery is outside control limits due to matrix interference.
Elevated reporting limit due to matrix interference.

Sample Summary

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061617
Report Date: 01-Jul-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19061617-001	TB-PW-062519-B	Trip Blank	1	06/25/2019 17:00
19061617-002	PD-1-GWP-34-062519	Aqueous	2	06/25/2019 11:05
19061617-003	PD-1-GWP-44-062519	Aqueous	2	06/25/2019 13:05
19061617-004	PD-1-GWP-53-062519	Aqueous	2	06/25/2019 14:50

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061617
Report Date: 01-Jul-2019

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
19061617-001A	TB-PW-062519-B	06/25/2019 17:00	06/25/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/26/2019 8:50
19061617-002A	PD-1-GWP-34-062519	06/25/2019 11:05	06/25/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/26/2019 9:35	06/26/2019 14:01
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/26/2019 9:38	06/27/2019 10:48
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 14:47	06/28/2019 10:34
19061617-002B	PD-1-GWP-34-062519	06/25/2019 11:05	06/25/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/26/2019 9:18
19061617-003A	PD-1-GWP-44-062519	06/25/2019 13:05	06/25/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/26/2019 9:35	06/26/2019 14:33
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/26/2019 9:38	06/27/2019 11:16
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 14:47	06/28/2019 11:03
19061617-003B	PD-1-GWP-44-062519	06/25/2019 13:05	06/25/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/26/2019 9:45
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/26/2019 11:56
19061617-004A	PD-1-GWP-53-062519	06/25/2019 14:50	06/25/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/26/2019 9:35	06/26/2019 15:05
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/26/2019 9:38	06/27/2019 12:12
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 14:47	06/28/2019 11:31
19061617-004B	PD-1-GWP-53-062519	06/25/2019 14:50	06/25/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/26/2019 10:13
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/26/2019 14:08

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154669 **SampType:** MBLK Units mg/L

SampID: MBLK-154669

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		ND						06/26/2019
1-Methylnaphthalene	0.00010		ND						06/26/2019
2-Methylnaphthalene	0.00010		ND						06/26/2019
Acenaphthene	0.00010		ND						06/26/2019
Acenaphthene	0.100		ND						06/26/2019
Acenaphthylene	0.00010		ND						06/26/2019
Anthracene	0.100		ND						06/26/2019
Anthracene	0.00010		ND						06/26/2019
Benzo(a)anthracene	0.00010		ND						06/26/2019
Benzo(a)pyrene	0.00010		ND						06/26/2019
Benzo(b)fluoranthene	0.00010		ND						06/26/2019
Benzo(g,h,i)perylene	0.00010		ND						06/26/2019
Benzo(k)fluoranthene	0.00010		ND						06/26/2019
Chrysene	0.00010		ND						06/26/2019
Dibenzo(a,h)anthracene	0.00010		ND						06/26/2019
Fluoranthene	0.100		ND						06/26/2019
Fluoranthene	0.00010		ND						06/26/2019
Fluorene	0.100		ND						06/26/2019
Fluorene	0.00010		ND						06/26/2019
Indeno(1,2,3-cd)pyrene	0.00010		ND						06/26/2019
Phenanthrene	0.00010		ND						06/26/2019
Phenanthrene	0.100		ND						06/26/2019
Pyrene	0.100		ND						06/26/2019
Pyrene	0.00010		ND						06/26/2019
Surr: 2-Fluorobiphenyl			**0.00272**	0.00500		54.4	36.1	101	06/26/2019
Surr: 2-Fluorobiphenyl			**3.96**	5.000		79.2	40.9	100	06/26/2019
Surr: Nitrobenzene-d5			**0.00258**	0.00500		51.6	40.1	94.4	06/26/2019
Surr: Nitrobenzene-d5			**3.76**	5.000		75.2	47.1	108	06/26/2019
Surr: p-Terphenyl-d14			**0.00353**	0.00500		70.6	48.4	119	06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154669 **SampType:** LCS Units mg/L

SampID: LCS-154669

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		**0.00505**	0.01000	0	50.5	22.6	63.4	06/26/2019
1-Methylnaphthalene	0.00010		**0.00323**	0.00500	0	64.6	37.8	87.8	06/26/2019
2-Methylnaphthalene	0.00010		**0.00317**	0.00500	0	63.4	37.1	85.3	06/26/2019
Acenaphthene	0.00010		**0.00316**	0.00500	0	63.2	38.4	93.5	06/26/2019
Acenaphthylene	0.00010		**0.00320**	0.00500	0	64.0	37.9	91.4	06/26/2019
Anthracene	0.00010		**0.00350**	0.00500	0	70.0	39.3	94	06/26/2019
Benzo(a)anthracene	0.00010		**0.00384**	0.00500	0	76.8	43.3	94.3	06/26/2019
Benzo(a)pyrene	0.00010		**0.00356**	0.00500	0	71.2	42.8	98.3	06/26/2019
Benzo(b)fluoranthene	0.00010		**0.00359**	0.00500	0	71.8	43	97.5	06/26/2019
Benzo(g,h,i)perylene	0.00010		**0.00344**	0.00500	0	68.8	32.3	102	06/26/2019
Benzo(k)fluoranthene	0.00010		**0.00362**	0.00500	0	72.4	40.3	99.1	06/26/2019
Chrysene	0.00010		**0.00359**	0.00500	0	71.8	42.1	96	06/26/2019
Dibenzo(a,h)anthracene	0.00010		**0.00347**	0.00500	0	69.4	39.3	97.6	06/26/2019
Fluoranthene	0.00010		**0.00365**	0.00500	0	73.0	42.4	96	06/26/2019
Fluorene	0.00010		**0.00333**	0.00500	0	66.6	40.6	93.2	06/26/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00345**	0.00500	0	69.0	35.9	103	06/26/2019
Phenanthrene	0.00010		**0.00349**	0.00500	0	69.8	42.3	96.5	06/26/2019
Pyrene	0.00010		**0.00361**	0.00500	0	72.2	40.1	95.4	06/26/2019
Surr: 2-Fluorobiphenyl			**0.00260**	0.00500		52.0	36.1	101	06/26/2019
Surr: Nitrobenzene-d5			**0.00283**	0.00500		56.6	40.1	94.4	06/26/2019
Surr: p-Terphenyl-d14			**0.00334**	0.00500		66.8	48.4	119	06/26/2019

Batch 154669 **SampType:** LCSD Units mg/L RPD Limit 40

SampID: LCSD-154669

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	0.00100		**0.00466**	0.01000	0	46.6	0.005050	8.03	06/26/2019
1-Methylnaphthalene	0.00010		**0.00317**	0.00500	0	63.4	0.003230	1.88	06/26/2019
2-Methylnaphthalene	0.00010		**0.00312**	0.00500	0	62.4	0.003170	1.59	06/26/2019
Acenaphthene	0.00010		**0.00313**	0.00500	0	62.6	0.003160	0.95	06/26/2019
Acenaphthylene	0.00010		**0.00319**	0.00500	0	63.8	0.003200	0.31	06/26/2019
Anthracene	0.00010		**0.00325**	0.00500	0	65.0	0.003500	7.41	06/26/2019
Benzo(a)anthracene	0.00010		**0.00365**	0.00500	0	73.0	0.003840	5.07	06/26/2019
Benzo(a)pyrene	0.00010		**0.00337**	0.00500	0	67.4	0.003560	5.48	06/26/2019
Benzo(b)fluoranthene	0.00010		**0.00346**	0.00500	0	69.2	0.003590	3.69	06/26/2019
Benzo(g,h,i)perylene	0.00010		**0.00326**	0.00500	0	65.2	0.003440	5.37	06/26/2019
Benzo(k)fluoranthene	0.00010		**0.00340**	0.00500	0	68.0	0.003620	6.27	06/26/2019
Chrysene	0.00010		**0.00342**	0.00500	0	68.4	0.003590	4.85	06/26/2019
Dibenzo(a,h)anthracene	0.00010		**0.00329**	0.00500	0	65.8	0.003470	5.33	06/26/2019
Fluoranthene	0.00010		**0.00347**	0.00500	0	69.4	0.003650	5.06	06/26/2019
Fluorene	0.00010		**0.00329**	0.00500	0	65.8	0.003330	1.21	06/26/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00327**	0.00500	0	65.4	0.003450	5.36	06/26/2019
Phenanthrene	0.00010		**0.00331**	0.00500	0	66.2	0.003490	5.29	06/26/2019
Pyrene	0.00010		**0.00335**	0.00500	0	67.0	0.003610	7.47	06/26/2019
Surr: 2-Fluorobiphenyl			**0.00255**	0.00500		51.0			06/26/2019
Surr: Nitrobenzene-d5			**0.00277**	0.00500		55.4			06/26/2019
Surr: p-Terphenyl-d14			**0.00317**	0.00500		63.4			06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154669 **SampType:** MBLK Units %REC

SampID: MBLK-154669

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: p-Terphenyl-d14			**5.01**	5.000		100.2	40.5	124	06/26/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154692 **SampType:** MBLK Units mg/L

SampID: MBLK-154692

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		ND						06/27/2019
2,4,6-Trichlorophenol	0.010		ND						06/27/2019
2,4-Dichlorophenol	0.010		ND						06/27/2019
2,4-Dimethylphenol	0.010		ND						06/27/2019
2,4-Dinitrophenol	0.020		ND						06/27/2019
2,4-Dinitrotoluene	0.010		ND						06/27/2019
2,6-Dinitrotoluene	0.010		ND						06/27/2019
2-Chloronaphthalene	0.010		ND						06/27/2019
2-Chlorophenol	0.010		ND						06/27/2019
2-Nitroaniline	0.040		ND						06/27/2019
2-Nitrophenol	0.020		ND						06/27/2019
3,3´-Dichlorobenzidine	0.010		ND						06/27/2019
3-Nitroaniline	0.040		ND						06/27/2019
4,6-Dinitro-2-methylphenol	0.020		ND						06/27/2019
4-Bromophenyl phenyl ether	0.010		ND						06/27/2019
4-Chloro-3-methylphenol	0.020		ND						06/27/2019
4-Chloroaniline	0.020		ND						06/27/2019
4-Chlorophenyl phenyl ether	0.010		ND						06/27/2019
4-Nitroaniline	0.020		ND						06/27/2019
4-Nitrophenol	0.020		ND						06/27/2019
Aniline	0.020		ND						06/27/2019
Azobenzene	0.010		ND						06/27/2019
Benzoic acid	0.050		ND						06/27/2019
Benzyl alcohol	0.020		ND						06/27/2019
Bis(2-chloroethoxy)methane	0.010		ND						06/27/2019
Bis(2-chloroethyl)ether	0.010		ND						06/27/2019
Bis(2-chloroisopropyl)ether	0.010		ND						06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		ND						06/27/2019
Butyl benzyl phthalate	0.010		ND						06/27/2019
Dibenzofuran	0.010		ND						06/27/2019
Diethyl phthalate	0.010		ND						06/27/2019
Dimethyl phthalate	0.010		ND						06/27/2019
Di-n-butyl phthalate	0.010		ND						06/27/2019
Di-n-octyl phthalate	0.010		ND						06/27/2019
Hexachlorobenzene	0.010		ND						06/27/2019
Hexachlorocyclopentadiene	0.020		ND						06/27/2019
Hexachloroethane	0.010		ND						06/27/2019
Isophorone	0.010		ND						06/27/2019
m,p-Cresol	0.010		ND						06/27/2019
Nitrobenzene	0.010		ND						06/27/2019
N-Nitrosodimethylamine	0.020		ND						06/27/2019
N-Nitroso-di-n-propylamine	0.010		ND						06/27/2019
N-Nitrosodiphenylamine	0.010		ND						06/27/2019
o-Cresol	0.010		ND						06/27/2019
Pentachlorophenol	0.020		ND						06/27/2019
Phenol	0.005		ND						06/27/2019
Pyridine	0.020		ND						06/27/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154692 **SampType:** MBLK Units mg/L

SampID: MBLK-154692

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.005		ND						06/27/2019
Surr: 2,4,6-Tribromophenol			0.043	0.05000		86.6	52	118	06/27/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		78.0	42.2	104	06/27/2019
Surr: 2-Fluorophenol			0.030	0.05000		59.3	28.8	76.3	06/27/2019
Surr: Nitrobenzene-d5			0.019	0.02500		76.1	41.9	107	06/27/2019
Surr: Phenol-d5			0.022	0.05000		44.2	19.6	53.3	06/27/2019
Surr: p-Terphenyl-d14			0.023	0.02500		91.1	45.4	119	06/27/2019

Batch 154692 **SampType:** LCS Units mg/L

SampID: LCS-154692

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		0.042	0.05000	0	83.0	42.4	135	06/27/2019
2,4,6-Trichlorophenol	0.010		0.041	0.05000	0	82.9	40.9	131	06/27/2019
2,4-Dimethylphenol	0.010		0.034	0.05000	0	68.5	29.7	135	06/27/2019
2,4-Dinitrophenol	0.020		0.037	0.05000	0	73.4	30.5	115	06/27/2019
2,4-Dinitrotoluene	0.010		0.046	0.05000	0	92.6	45.8	165	06/27/2019
2-Chlorophenol	0.010		0.038	0.05000	0	75.2	33.8	122	06/27/2019
4-Chloro-3-methylphenol	0.020		0.041	0.05000	0	81.1	40.6	128	06/27/2019
4-Nitrophenol	0.020		0.023	0.05000	0	46.8	17.6	66.5	06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		0.042	0.05000	0	84.6	32.6	166	06/27/2019
Diethyl phthalate	0.010		0.041	0.05000	0	82.4	47.2	157	06/27/2019
Dimethyl phthalate	0.010		0.039	0.05000	0	78.2	47.7	147	06/27/2019
Di-n-butyl phthalate	0.010		0.042	0.05000	0	83.7	38	169	06/27/2019
Hexachlorobenzene	0.010		0.038	0.05000	0	77.0	46	154	06/27/2019
Hexachloroethane	0.010		0.029	0.05000	0	58.9	22.8	127	06/27/2019
m,p-Cresol	0.010		0.035	0.05000	0	69.8	32.4	115	06/27/2019
Nitrobenzene	0.010		0.039	0.05000	0	78.4	33.5	136	06/27/2019
N-Nitroso-di-n-propylamine	0.010		0.040	0.05000	0	80.5	42.7	138	06/27/2019
o-Cresol	0.010		0.036	0.05000	0	71.0	33.7	119	06/27/2019
Pentachlorophenol	0.020		0.041	0.05000	0	82.9	32.8	126	06/27/2019
Phenol	0.005		0.021	0.05000	0	41.4	19.5	66.9	06/27/2019
Pyridine	0.020	S	ND	0.05000	0	0	19	84.3	06/27/2019
Quinoline	0.005	S	0.008	0.05000	0	15.8	45.3	133	06/27/2019
Surr: 2,4,6-Tribromophenol			0.040	0.05000		79.1	52	118	06/27/2019
Surr: 2-Fluorobiphenyl			0.017	0.02500		67.9	42.2	104	06/27/2019
Surr: 2-Fluorophenol			0.026	0.05000		51.4	28.8	76.3	06/27/2019
Surr: Nitrobenzene-d5			0.020	0.02500		78.6	41.9	107	06/27/2019
Surr: Phenol-d5			0.018	0.05000		35.6	19.6	53.3	06/27/2019
Surr: p-Terphenyl-d14			0.019	0.02500		75.6	45.4	119	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154692 **SampType:** LCSD Units **mg/L** RPD Limit **40**

SampID: LCSD-154692

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.010		**0.046**	0.05000	0	92.2	0.04152	10.48	06/27/2019
2,4,6-Trichlorophenol	0.010		**0.046**	0.05000	0	91.3	0.04143	9.67	06/27/2019
2,4-Dimethylphenol	0.010		**0.039**	0.05000	0	78.3	0.03423	13.44	06/27/2019
2,4-Dinitrophenol	0.020		**0.040**	0.05000	0	80.8	0.03668	9.60	06/27/2019
2,4-Dinitrotoluene	0.010		**0.052**	0.05000	0	104.3	0.04632	11.86	06/27/2019
2-Chlorophenol	0.010		**0.042**	0.05000	0	83.6	0.03758	10.61	06/27/2019
4-Chloro-3-methylphenol	0.020		**0.045**	0.05000	0	90.4	0.04056	10.87	06/27/2019
4-Nitrophenol	0.020		**0.026**	0.05000	0	52.7	0.02339	11.86	06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		**0.048**	0.05000	0	96.3	0.04231	12.89	06/27/2019
Diethyl phthalate	0.010		**0.045**	0.05000	0	89.8	0.04121	8.55	06/27/2019
Dimethyl phthalate	0.010		**0.044**	0.05000	0	88.1	0.03911	11.93	06/27/2019
Di-n-butyl phthalate	0.010		**0.046**	0.05000	0	91.8	0.04187	9.14	06/27/2019
Hexachlorobenzene	0.010		**0.042**	0.05000	0	84.3	0.03849	9.08	06/27/2019
Hexachloroethane	0.010		**0.033**	0.05000	0	66.3	0.02945	11.88	06/27/2019
m,p-Cresol	0.010		**0.041**	0.05000	0	82.7	0.03488	16.95	06/27/2019
Nitrobenzene	0.010		**0.042**	0.05000	0	84.4	0.03922	7.37	06/27/2019
N-Nitroso-di-n-propylamine	0.010		**0.043**	0.05000	0	86.6	0.04023	7.30	06/27/2019
o-Cresol	0.010		**0.042**	0.05000	0	84.5	0.03551	17.34	06/27/2019
Pentachlorophenol	0.020		**0.048**	0.05000	0	95.0	0.04144	13.63	06/27/2019
Phenol	0.005		**0.024**	0.05000	0	49.0	0.02070	16.77	06/27/2019
Pyridine	0.020	R	**0.025**	0.05000	0	49.2	0	200.00	06/27/2019
Quinoline	0.005	R	**0.044**	0.05000	0	87.5	0.007900	138.84	06/27/2019
Surr: 2,4,6-Tribromophenol			**0.043**	0.05000		86.8			06/27/2019
Surr: 2-Fluorobiphenyl			**0.020**	0.02500		78.6			06/27/2019
Surr: 2-Fluorophenol			**0.031**	0.05000		61.6			06/27/2019
Surr: Nitrobenzene-d5			**0.022**	0.02500		87.6			06/27/2019
Surr: Phenol-d5			**0.023**	0.05000		45.4			06/27/2019
Surr: p-Terphenyl-d14			**0.022**	0.02500		86.0			06/27/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154764 **SampType:** MBLK Units mg/L

SampID: MBLK-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		ND						06/27/2019
2,4,6-Trichlorophenol	0.010		ND						06/27/2019
2,4-Dichlorophenol	0.010		ND						06/27/2019
2,4-Dimethylphenol	0.010		ND						06/27/2019
2,4-Dinitrophenol	0.020		ND						06/27/2019
2,4-Dinitrotoluene	0.010		ND						06/27/2019
2,6-Dinitrotoluene	0.010		ND						06/27/2019
2-Chloronaphthalene	0.010		ND						06/27/2019
2-Chlorophenol	0.010		ND						06/27/2019
2-Nitroaniline	0.040		ND						06/27/2019
2-Nitrophenol	0.020		ND						06/27/2019
3,3´-Dichlorobenzidine	0.010		ND						06/27/2019
3-Nitroaniline	0.040		ND						06/27/2019
4,6-Dinitro-2-methylphenol	0.020		ND						06/27/2019
4-Bromophenyl phenyl ether	0.010		ND						06/27/2019
4-Chloro-3-methylphenol	0.020		ND						06/27/2019
4-Chloroaniline	0.020		ND						06/27/2019
4-Chlorophenyl phenyl ether	0.010		ND						06/27/2019
4-Nitroaniline	0.020		ND						06/27/2019
4-Nitrophenol	0.020		ND						06/27/2019
Aniline	0.020		ND						06/27/2019
Azobenzene	0.010		ND						06/27/2019
Benzoic acid	0.050		ND						06/27/2019
Benzyl alcohol	0.020		ND						06/27/2019
Bis(2-chloroethoxy)methane	0.010		ND						06/27/2019
Bis(2-chloroethyl)ether	0.010		ND						06/27/2019
Bis(2-chloroisopropyl)ether	0.010		ND						06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		ND						06/27/2019
Butyl benzyl phthalate	0.010		ND						06/27/2019
Dibenzofuran	0.010		ND						06/27/2019
Diethyl phthalate	0.010		ND						06/27/2019
Dimethyl phthalate	0.010		ND						06/27/2019
Di-n-butyl phthalate	0.010		ND						06/27/2019
Di-n-octyl phthalate	0.010		ND						06/27/2019
Hexachlorobenzene	0.010		ND						06/27/2019
Hexachlorocyclopentadiene	0.020		ND						06/27/2019
Hexachloroethane	0.010		ND						06/27/2019
Isophorone	0.010		ND						06/27/2019
m,p-Cresol	0.010		ND						06/27/2019
Nitrobenzene	0.010		ND						06/27/2019
N-Nitrosodimethylamine	0.020		ND						06/27/2019
N-Nitroso-di-n-propylamine	0.010		ND						06/27/2019
N-Nitrosodiphenylamine	0.010		ND						06/27/2019
o-Cresol	0.010		ND						06/27/2019
Pentachlorophenol	0.020		ND						06/27/2019
Phenol	0.005		ND						06/27/2019
Pyridine	0.020		ND						06/27/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154764 **SampType:** MBLK Units mg/L

SampID: MBLK-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.005		ND						06/27/2019
Surr: 2,4,6-Tribromophenol			0.041	0.05000		83.0	52	118	06/27/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		80.0	42.2	104	06/27/2019
Surr: 2-Fluorophenol			0.031	0.05000		62.1	28.8	76.3	06/27/2019
Surr: Nitrobenzene-d5			0.020	0.02500		79.0	41.9	107	06/27/2019
Surr: Phenol-d5			0.022	0.05000		43.6	19.6	53.3	06/27/2019
Surr: p-Terphenyl-d14			0.022	0.02500		86.9	45.4	119	06/27/2019

Batch 154764 **SampType:** LCS Units mg/L

SampID: LCS-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		0.046	0.05000	0	92.8	42.4	135	06/27/2019
2,4,6-Trichlorophenol	0.010		0.048	0.05000	0	95.3	40.9	131	06/27/2019
2,4-Dimethylphenol	0.010		0.042	0.05000	0	83.5	29.7	135	06/27/2019
2,4-Dinitrophenol	0.020		0.043	0.05000	0	86.6	30.5	115	06/27/2019
2,4-Dinitrotoluene	0.010		0.050	0.05000	0	99.6	45.8	165	06/27/2019
2-Chlorophenol	0.010		0.044	0.05000	0	87.2	33.8	122	06/27/2019
4-Chloro-3-methylphenol	0.020		0.047	0.05000	0	93.9	40.6	128	06/27/2019
4-Nitrophenol	0.020		0.025	0.05000	0	50.6	17.6	66.5	06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		0.047	0.05000	0	94.6	32.6	166	06/27/2019
Diethyl phthalate	0.010		0.045	0.05000	0	89.9	47.2	157	06/27/2019
Dimethyl phthalate	0.010		0.043	0.05000	0	86.4	47.7	147	06/27/2019
Di-n-butyl phthalate	0.010		0.047	0.05000	0	94.2	38	169	06/27/2019
Hexachlorobenzene	0.010		0.042	0.05000	0	84.3	46	154	06/27/2019
Hexachloroethane	0.010		0.036	0.05000	0	71.2	22.8	127	06/27/2019
m,p-Cresol	0.010		0.040	0.05000	0	79.7	32.4	115	06/27/2019
Nitrobenzene	0.010		0.045	0.05000	0	89.3	33.5	136	06/27/2019
N-Nitroso-di-n-propylamine	0.010		0.043	0.05000	0	86.3	42.7	138	06/27/2019
o-Cresol	0.010		0.042	0.05000	0	84.3	33.7	119	06/27/2019
Pentachlorophenol	0.020		0.047	0.05000	0	94.1	32.8	126	06/27/2019
Phenol	0.005		0.023	0.05000	0	45.7	19.5	66.9	06/27/2019
Pyridine	0.020		0.026	0.05000	0	52.3	19	84.3	06/27/2019
Quinoline	0.005		0.044	0.05000	0	88.4	45.3	133	06/27/2019
Surr: 2,4,6-Tribromophenol			0.044	0.05000		87.1	52	118	06/27/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		78.2	42.2	104	06/27/2019
Surr: 2-Fluorophenol			0.029	0.05000		57.1	28.8	76.3	06/27/2019
Surr: Nitrobenzene-d5			0.023	0.02500		92.3	41.9	107	06/27/2019
Surr: Phenol-d5			0.021	0.05000		41.3	19.6	53.3	06/27/2019
Surr: p-Terphenyl-d14			0.022	0.02500		88.0	45.4	119	06/27/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154764 **SampType:** LCSD Units **mg/L** RPD Limit **40**

SampID: LCSD-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.010		**0.048**	0.05000	0	95.9	0.04640	3.24	06/27/2019
2,4,6-Trichlorophenol	0.010		**0.047**	0.05000	0	93.3	0.04766	2.12	06/27/2019
2,4-Dimethylphenol	0.010		**0.042**	0.05000	0	83.9	0.04175	0.50	06/27/2019
2,4-Dinitrophenol	0.020		**0.043**	0.05000	0	86.6	0.04332	0.02	06/27/2019
2,4-Dinitrotoluene	0.010		**0.050**	0.05000	0	100.0	0.04979	0.38	06/27/2019
2-Chlorophenol	0.010		**0.044**	0.05000	0	88.1	0.04359	1.03	06/27/2019
4-Chloro-3-methylphenol	0.020		**0.047**	0.05000	0	93.7	0.04695	0.21	06/27/2019
4-Nitrophenol	0.020		**0.025**	0.05000	0	49.6	0.02532	2.16	06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		**0.045**	0.05000	0	90.4	0.04732	4.63	06/27/2019
Diethyl phthalate	0.010		**0.044**	0.05000	0	88.3	0.04494	1.73	06/27/2019
Dimethyl phthalate	0.010		**0.041**	0.05000	0	82.6	0.04318	4.45	06/27/2019
Di-n-butyl phthalate	0.010		**0.047**	0.05000	0	93.2	0.04711	1.07	06/27/2019
Hexachlorobenzene	0.010		**0.041**	0.05000	0	82.3	0.04213	2.40	06/27/2019
Hexachloroethane	0.010		**0.035**	0.05000	0	70.0	0.03558	1.61	06/27/2019
m,p-Cresol	0.010		**0.041**	0.05000	0	81.3	0.03987	1.91	06/27/2019
Nitrobenzene	0.010		**0.043**	0.05000	0	86.6	0.04464	3.02	06/27/2019
N-Nitroso-di-n-propylamine	0.010		**0.042**	0.05000	0	84.1	0.04316	2.63	06/27/2019
o-Cresol	0.010		**0.044**	0.05000	0	87.1	0.04213	3.36	06/27/2019
Pentachlorophenol	0.020		**0.046**	0.05000	0	92.3	0.04706	1.91	06/27/2019
Phenol	0.005		**0.024**	0.05000	0	48.2	0.02283	5.45	06/27/2019
Pyridine	0.020	J	**0.018**	0.05000	0	36.9	0.02617	0.00	06/27/2019
Quinoline	0.005		**0.044**	0.05000	0	88.4	0.04422	0.05	06/27/2019
Surr: 2,4,6-Tribromophenol			**0.042**	0.05000		84.5			06/27/2019
Surr: 2-Fluorobiphenyl			**0.019**	0.02500		74.8			06/27/2019
Surr: 2-Fluorophenol			**0.030**	0.05000		60.0			06/27/2019
Surr: Nitrobenzene-d5			**0.023**	0.02500		90.5			06/27/2019
Surr: Phenol-d5			**0.021**	0.05000		42.7			06/27/2019
Surr: p-Terphenyl-d14			**0.023**	0.02500		90.6			06/27/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154693 **SampType:** MBLK Units µg/L

SampID: MBLK-N190625A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/26/2019
1,1,1-Trichloroethane	2.0		ND						06/26/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/26/2019
1,1,2-Trichloroethane	0.5		ND						06/26/2019
1,1-Dichloroethane	2.0		ND						06/26/2019
1,1-Dichloroethene	2.0		ND						06/26/2019
1,1-Dichloropropene	2.0		ND						06/26/2019
1,2,3-Trichlorobenzene	2.0		ND						06/26/2019
1,2,3-Trichloropropane	2.0		ND						06/26/2019
1,2,4-Trichlorobenzene	2.0		ND						06/26/2019
1,2,4-Trimethylbenzene	2.0		ND						06/26/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/26/2019
1,2-Dibromoethane	2.0		ND						06/26/2019
1,2-Dichlorobenzene	2.0		ND						06/26/2019
1,2-Dichloroethane	2.0		ND						06/26/2019
1,2-Dichloropropane	2.0		ND						06/26/2019
1,3,5-Trimethylbenzene	2.0		ND						06/26/2019
1,3-Dichlorobenzene	2.0		ND						06/26/2019
1,3-Dichloropropane	2.0		ND						06/26/2019
1,4-Dichlorobenzene	2.0		ND						06/26/2019
2,2-Dichloropropane	2.0		ND						06/26/2019
2-Butanone	10.0		ND						06/26/2019
2-Chloroethyl vinyl ether	5.0		ND						06/26/2019
2-Chlorotoluene	2.0		ND						06/26/2019
2-Hexanone	10.0		ND						06/26/2019
4-Chlorotoluene	2.0		ND						06/26/2019
4-Methyl-2-pentanone	10.0		ND						06/26/2019
Acetone	10.0		ND						06/26/2019
Acrolein	20.0		ND						06/26/2019
Acrylonitrile	5.0		ND						06/26/2019
Benzene	0.5		ND						06/26/2019
Bromobenzene	2.0		ND						06/26/2019
Bromochloromethane	2.0		ND						06/26/2019
Bromodichloromethane	2.0		ND						06/26/2019
Bromoform	2.0		ND						06/26/2019
Bromomethane	5.0		ND						06/26/2019
Carbon disulfide	2.0		ND						06/26/2019
Carbon tetrachloride	2.0		ND						06/26/2019
Chlorobenzene	2.0		ND						06/26/2019
Chloroethane	2.0		ND						06/26/2019
Chloroform	2.0		ND						06/26/2019
Chloromethane	5.0		ND						06/26/2019
cis-1,2-Dichloroethene	2.0		ND						06/26/2019
cis-1,3-Dichloropropene	2.0		ND						06/26/2019
Dibromochloromethane	2.0		ND						06/26/2019
Dichlorodifluoromethane	2.0		ND						06/26/2019
Ethyl methacrylate	5.0		ND						06/26/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154693 **SampType:** MBLK Units µg/L

SampID: MBLK-N190625A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/26/2019
Hexachlorobutadiene	5.0		ND						06/26/2019
Isopropylbenzene	2.0		ND						06/26/2019
m,p-Xylenes	2.0		ND						06/26/2019
Methyl tert-butyl ether	2.0		ND						06/26/2019
Methylene chloride	10.0		ND						06/26/2019
Naphthalene	5.0		ND						06/26/2019
n-Butylbenzene	2.0		ND						06/26/2019
n-Propylbenzene	2.0		ND						06/26/2019
o-Xylene	2.0		ND						06/26/2019
p-Isopropyltoluene	2.0		ND						06/26/2019
sec-Butylbenzene	2.0		ND						06/26/2019
Styrene	2.0		ND						06/26/2019
tert-Butylbenzene	2.0		ND						06/26/2019
Tetrachloroethene	0.5		ND						06/26/2019
Toluene	2.0		ND						06/26/2019
trans-1,2-Dichloroethene	2.0		ND						06/26/2019
trans-1,3-Dichloropropene	2.0		ND						06/26/2019
Trichloroethene	2.0		ND						06/26/2019
Trichlorofluoromethane	5.0		ND						06/26/2019
Vinyl acetate	5.0		ND						06/26/2019
Vinyl chloride	2.0		ND						06/26/2019
Xylenes, Total	4.0		ND						06/26/2019
Surr: 1,2-Dichloroethane-d4			**51.0**	50.00		101.9	79.6	118	06/26/2019
Surr: 4-Bromofluorobenzene			**49.7**	50.00		99.4	83.9	115	06/26/2019
Surr: Dibromofluoromethane			**51.9**	50.00		103.8	84.9	113	06/26/2019
Surr: Toluene-d8			**48.8**	50.00		97.7	86.7	112	06/26/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154693 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190625A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**49.4**	50.00	0	98.8	48.92	0.94	06/26/2019
1,1,1-Trichloroethane	2.0		**53.5**	50.00	0	107.0	53.78	0.52	06/26/2019
1,1,2,2-Tetrachloroethane	2.0		**47.5**	50.00	0	95.0	47.87	0.78	06/26/2019
1,1,2-Trichloroethane	0.5		**49.6**	50.00	0	99.3	50.56	1.86	06/26/2019
1,1-Dichloroethane	2.0		**52.0**	50.00	0	104.1	52.17	0.23	06/26/2019
1,1-Dichloroethene	2.0		**49.0**	50.00	0	98.0	49.48	1.00	06/26/2019
1,1-Dichloropropene	2.0		**51.0**	50.00	0	102.1	50.79	0.47	06/26/2019
1,2,3-Trichlorobenzene	2.0		**48.9**	50.00	0	97.7	48.87	0.00	06/26/2019
1,2,3-Trichloropropane	2.0		**45.9**	50.00	0	91.9	46.54	1.30	06/26/2019
1,2,4-Trichlorobenzene	2.0		**49.7**	50.00	0	99.4	48.36	2.75	06/26/2019
1,2,4-Trimethylbenzene	2.0		**46.9**	50.00	0	93.8	46.94	0.09	06/26/2019
1,2-Dibromo-3-chloropropane	5.0		**53.0**	50.00	0	106.0	53.65	1.24	06/26/2019
1,2-Dibromoethane	2.0		**49.8**	50.00	0	99.7	50.24	0.82	06/26/2019
1,2-Dichlorobenzene	2.0		**44.3**	50.00	0	88.7	46.72	5.23	06/26/2019
1,2-Dichloroethane	2.0		**50.6**	50.00	0	101.1	50.31	0.48	06/26/2019
1,2-Dichloropropane	2.0		**51.1**	50.00	0	102.1	51.32	0.51	06/26/2019
1,3,5-Trimethylbenzene	2.0		**46.2**	50.00	0	92.4	46.63	0.90	06/26/2019
1,3-Dichlorobenzene	2.0		**45.6**	50.00	0	91.2	44.52	2.35	06/26/2019
1,3-Dichloropropane	2.0		**46.8**	50.00	0	93.5	48.32	3.26	06/26/2019
1,4-Dichlorobenzene	2.0		**44.5**	50.00	0	88.9	45.16	1.56	06/26/2019
2,2-Dichloropropane	2.0		**46.4**	50.00	0	92.8	46.45	0.15	06/26/2019
2-Butanone	10.0		**131**	125.0	0	104.7	127.2	2.84	06/26/2019
2-Chloroethyl vinyl ether	5.0		**51.7**	50.00	0	103.5	52.02	0.54	06/26/2019
2-Chlorotoluene	2.0		**45.9**	50.00	0	91.8	43.77	4.75	06/26/2019
2-Hexanone	10.0		**121**	125.0	0	96.9	120.8	0.26	06/26/2019
4-Chlorotoluene	2.0		**43.7**	50.00	0	87.4	44.26	1.27	06/26/2019
4-Methyl-2-pentanone	10.0		**118**	125.0	0	94.6	120.0	1.49	06/26/2019
Acetone	10.0		**123**	125.0	0	98.5	121.4	1.43	06/26/2019
Acrolein	20.0		**358**	500.0	0	71.6	353.2	1.31	06/26/2019
Acrylonitrile	5.0		**51.2**	50.00	0	102.5	51.71	0.93	06/26/2019
Benzene	0.5		**51.0**	50.00	0	102.0	51.03	0.08	06/26/2019
Bromobenzene	2.0		**46.9**	50.00	0	93.9	47.66	1.54	06/26/2019
Bromochloromethane	2.0		**49.6**	50.00	0	99.2	50.30	1.42	06/26/2019
Bromodichloromethane	2.0		**51.0**	50.00	0	102.0	50.86	0.31	06/26/2019
Bromoform	2.0		**52.9**	50.00	0	105.8	53.34	0.81	06/26/2019
Bromomethane	5.0		**45.0**	50.00	0	90.0	44.14	1.95	06/26/2019
Carbon disulfide	2.0		**49.2**	50.00	0	98.3	49.66	0.99	06/26/2019
Carbon tetrachloride	2.0		**50.6**	50.00	0	101.3	51.19	1.10	06/26/2019
Chlorobenzene	2.0		**46.3**	50.00	0	92.5	46.59	0.69	06/26/2019
Chloroethane	2.0		**43.8**	50.00	0	87.6	44.28	1.09	06/26/2019
Chloroform	2.0		**49.2**	50.00	0	98.4	49.47	0.51	06/26/2019
Chloromethane	5.0		**52.6**	50.00	0	105.2	53.43	1.58	06/26/2019
cis-1,2-Dichloroethene	2.0		**50.9**	50.00	0	101.8	51.17	0.57	06/26/2019
cis-1,3-Dichloropropene	2.0		**52.1**	50.00	0	104.2	50.88	2.39	06/26/2019
Dibromochloromethane	2.0		**52.6**	50.00	0	105.1	53.27	1.32	06/26/2019
Dichlorodifluoromethane	2.0		**35.2**	50.00	0	70.4	35.30	0.23	06/26/2019
Ethyl methacrylate	5.0		**48.5**	50.00	0	97.1	49.15	1.27	06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154693 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190625A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**46.8**	50.00	0	93.5	46.28	1.01	06/26/2019
Hexachlorobutadiene	5.0		**49.5**	50.00	0	99.1	50.79	2.51	06/26/2019
Isopropylbenzene	2.0		**47.8**	50.00	0	95.6	49.24	3.01	06/26/2019
m,p-Xylenes	2.0		**92.9**	100.0	0	92.9	95.47	2.71	06/26/2019
Methyl tert-butyl ether	2.0		**49.7**	50.00	0	99.4	49.61	0.18	06/26/2019
Methylene chloride	10.0		**49.5**	50.00	0	98.9	48.76	1.43	06/26/2019
Naphthalene	5.0		**49.0**	50.00	0	98.0	49.56	1.18	06/26/2019
n-Butylbenzene	2.0		**44.2**	50.00	0	88.4	47.12	6.40	06/26/2019
n-Propylbenzene	2.0		**46.1**	50.00	0	92.3	45.31	1.79	06/26/2019
o-Xylene	2.0		**46.2**	50.00	0	92.5	46.41	0.39	06/26/2019
p-Isopropyltoluene	2.0		**46.6**	50.00	0	93.2	46.45	0.30	06/26/2019
sec-Butylbenzene	2.0		**46.1**	50.00	0	92.3	46.40	0.56	06/26/2019
Styrene	2.0		**49.0**	50.00	0	98.0	49.96	1.94	06/26/2019
tert-Butylbenzene	2.0		**45.0**	50.00	0	90.0	44.43	1.32	06/26/2019
Tetrachloroethene	0.5		**48.2**	50.00	0	96.4	46.78	2.99	06/26/2019
Toluene	2.0		**46.7**	50.00	0	93.4	47.11	0.87	06/26/2019
trans-1,2-Dichloroethene	2.0		**52.2**	50.00	0	104.4	52.00	0.42	06/26/2019
trans-1,3-Dichloropropene	2.0		**50.0**	50.00	0	100.0	50.32	0.66	06/26/2019
Trichloroethene	2.0		**50.3**	50.00	0	100.7	50.86	1.03	06/26/2019
Trichlorofluoromethane	5.0		**46.7**	50.00	0	93.5	48.15	2.99	06/26/2019
Vinyl acetate	5.0		**54.5**	50.00	0	109.0	54.05	0.83	06/26/2019
Vinyl chloride	2.0		**49.4**	50.00	0	98.9	51.84	4.72	06/26/2019
Xylenes, Total	4.0		**139**	150.0	0	92.8	141.9	1.94	06/26/2019
Surr: 1,2-Dichloroethane-d4			**49.1**	50.00		98.1			06/26/2019
Surr: 4-Bromofluorobenzene			**48.4**	50.00		96.8			06/26/2019
Surr: Dibromofluoromethane			**50.8**	50.00		101.7			06/26/2019
Surr: Toluene-d8			**49.0**	50.00		97.9			06/26/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154693 **SampType:** LCS Units µg/L

SampID: LCS-N190625A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**48.9**	50.00	0	97.8	83.4	118	06/25/2019
1,1,1-Trichloroethane	2.0		**53.8**	50.00	0	107.6	79.1	123	06/25/2019
1,1,2,2-Tetrachloroethane	2.0		**47.9**	50.00	0	95.7	70.7	121	06/25/2019
1,1,2-Trichloroethane	0.5		**50.6**	50.00	0	101.1	79.8	117	06/25/2019
1,1-Dichloroethane	2.0		**52.2**	50.00	0	104.3	75.1	122	06/25/2019
1,1-Dichloroethene	2.0		**49.5**	50.00	0	99.0	68.3	121	06/25/2019
1,1-Dichloropropene	2.0		**50.8**	50.00	0	101.6	76.7	122	06/25/2019
1,2,3-Trichlorobenzene	2.0		**48.9**	50.00	0	97.7	77.1	130	06/25/2019
1,2,3-Trichloropropane	2.0		**46.5**	50.00	0	93.1	70.6	114	06/25/2019
1,2,4-Trichlorobenzene	2.0		**48.4**	50.00	0	96.7	79.6	128	06/25/2019
1,2,4-Trimethylbenzene	2.0		**46.9**	50.00	0	93.9	78.9	117	06/25/2019
1,2-Dibromo-3-chloropropane	5.0		**53.6**	50.00	0	107.3	68.1	123	06/25/2019
1,2-Dibromoethane	2.0		**50.2**	50.00	0	100.5	82.9	114	06/25/2019
1,2-Dichlorobenzene	2.0		**46.7**	50.00	0	93.4	75.2	120	06/25/2019
1,2-Dichloroethane	2.0		**50.3**	50.00	0	100.6	76.9	117	06/25/2019
1,2-Dichloropropane	2.0		**51.3**	50.00	0	102.6	76.4	121	06/25/2019
1,3,5-Trimethylbenzene	2.0		**46.6**	50.00	0	93.3	79.8	118	06/25/2019
1,3-Dichlorobenzene	2.0		**44.5**	50.00	0	89.0	80.5	119	06/25/2019
1,3-Dichloropropane	2.0		**48.3**	50.00	0	96.6	77.5	113	06/25/2019
1,4-Dichlorobenzene	2.0		**45.2**	50.00	0	90.3	80.2	115	06/25/2019
2,2-Dichloropropane	2.0		**46.4**	50.00	0	92.9	62.4	151	06/25/2019
2-Butanone	10.0		**127**	125.0	0	101.7	65.7	120	06/25/2019
2-Chloroethyl vinyl ether	5.0		**52.0**	50.00	0	104.0	31.5	159	06/25/2019
2-Chlorotoluene	2.0		**43.8**	50.00	0	87.5	76	117	06/25/2019
2-Hexanone	10.0		**121**	125.0	0	96.6	65.1	121	06/25/2019
4-Chlorotoluene	2.0		**44.3**	50.00	0	88.5	77	117	06/25/2019
4-Methyl-2-pentanone	10.0		**120**	125.0	0	96.0	69.6	117	06/25/2019
Acetone	10.0		**121**	125.0	0	97.1	47.5	123	06/25/2019
Acrolein	20.0		**353**	500.0	0	70.6	27	164	06/25/2019
Acrylonitrile	5.0		**51.7**	50.00	0	103.4	74.8	127	06/25/2019
Benzene	0.5		**51.0**	50.00	0	102.1	75.8	121	06/25/2019
Bromobenzene	2.0		**47.7**	50.00	0	95.3	72.7	119	06/25/2019
Bromochloromethane	2.0		**50.3**	50.00	0	100.6	69	123	06/25/2019
Bromodichloromethane	2.0		**50.9**	50.00	0	101.7	80.8	128	06/25/2019
Bromoform	2.0		**53.3**	50.00	0	106.7	85.5	128	06/25/2019
Bromomethane	5.0		**44.1**	50.00	0	88.3	-36.7	277	06/25/2019
Carbon disulfide	2.0		**49.7**	50.00	0	99.3	64.9	133	06/25/2019
Carbon tetrachloride	2.0		**51.2**	50.00	0	102.4	79.5	129	06/25/2019
Chlorobenzene	2.0		**46.6**	50.00	0	93.2	82.1	113	06/25/2019
Chloroethane	2.0		**44.3**	50.00	0	88.6	43.9	138	06/25/2019
Chloroform	2.0		**49.5**	50.00	0	98.9	80.1	122	06/25/2019
Chloromethane	5.0		**53.4**	50.00	0	106.9	50.8	131	06/25/2019
cis-1,2-Dichloroethene	2.0		**51.2**	50.00	0	102.3	78.6	119	06/25/2019
cis-1,3-Dichloropropene	2.0		**50.9**	50.00	0	101.8	79	129	06/25/2019
Dibromochloromethane	2.0		**53.3**	50.00	0	106.5	88.1	123	06/25/2019
Dichlorodifluoromethane	2.0		**35.3**	50.00	0	70.6	35.7	155	06/25/2019
Ethyl methacrylate	5.0		**49.2**	50.00	0	98.3	80.6	123	06/25/2019

Client: AECOM **Work Order:** 19061617

Client Project: PreDesign Invest. PW **Report Date:** 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154693 **SampType:** LCS Units µg/L

SampID: LCS-N190625A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**46.3**	50.00	0	92.6	80.7	114	06/25/2019
Hexachlorobutadiene	5.0		**50.8**	50.00	0	101.6	68.2	141	06/25/2019
Isopropylbenzene	2.0		**49.2**	50.00	0	98.5	81.3	116	06/25/2019
m,p-Xylenes	2.0		**95.5**	100.0	0	95.5	80.5	113	06/25/2019
Methyl tert-butyl ether	2.0		**49.6**	50.00	0	99.2	79.5	121	06/25/2019
Methylene chloride	10.0		**48.8**	50.00	0	97.5	76.2	119	06/25/2019
Naphthalene	5.0		**49.6**	50.00	0	99.1	76.1	129	06/25/2019
n-Butylbenzene	2.0		**47.1**	50.00	0	94.2	71.6	122	06/25/2019
n-Propylbenzene	2.0		**45.3**	50.00	0	90.6	76	120	06/25/2019
o-Xylene	2.0		**46.4**	50.00	0	92.8	79.7	112	06/25/2019
p-Isopropyltoluene	2.0		**46.4**	50.00	0	92.9	76.2	122	06/25/2019
sec-Butylbenzene	2.0		**46.4**	50.00	0	92.8	76.6	119	06/25/2019
Styrene	2.0		**50.0**	50.00	0	99.9	82.8	116	06/25/2019
tert-Butylbenzene	2.0		**44.4**	50.00	0	88.9	74.7	117	06/25/2019
Tetrachloroethene	0.5		**46.8**	50.00	0	93.6	80.6	122	06/25/2019
Toluene	2.0		**47.1**	50.00	0	94.2	78.3	112	06/25/2019
trans-1,2-Dichloroethene	2.0		**52.0**	50.00	0	104.0	73.5	124	06/25/2019
trans-1,3-Dichloropropene	2.0		**50.3**	50.00	0	100.6	83.4	124	06/25/2019
Trichloroethene	2.0		**50.9**	50.00	0	101.7	74.3	125	06/25/2019
Trichlorofluoromethane	5.0		**48.2**	50.00	0	96.3	71.5	136	06/25/2019
Vinyl acetate	5.0		**54.0**	50.00	0	108.1	65.9	136	06/25/2019
Vinyl chloride	2.0		**51.8**	50.00	0	103.7	55.8	135	06/25/2019
Xylenes, Total	4.0		**142**	150.0	0	94.6	80.2	113	06/25/2019
Surr: 1,2-Dichloroethane-d4			**48.6**	50.00		97.2	79.6	118	06/25/2019
Surr: 4-Bromofluorobenzene			**49.8**	50.00		99.7	83.9	115	06/25/2019
Surr: Dibromofluoromethane			**50.3**	50.00		100.5	84.9	113	06/25/2019
Surr: Toluene-d8			**49.0**	50.00		98.0	86.7	112	06/25/2019

Batch 154693 **SampType:** MS Units µg/L

SampID: 19061617-002BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	2.0		**58.7**	50.00	0	117.4	35.7	136	06/26/2019
Benzene	0.5		**61.4**	50.00	2.240	118.2	62.5	121	06/26/2019
Chlorobenzene	2.0		**52.0**	50.00	0	104.1	78.6	114	06/26/2019
Ethylbenzene	2.0		**56.7**	50.00	0.1800	113.0	74.4	130	06/26/2019
m,p-Xylenes	2.0		**55.6**	50.00	0	111.2	70.5	126	06/26/2019
o-Xylene	2.0		**53.1**	50.00	0	106.1	71.2	124	06/26/2019
Toluene	2.0		**53.4**	50.00	0.2000	106.4	69.5	118	06/26/2019
Trichloroethene	2.0	S	**61.2**	50.00	0	122.4	69.4	117	06/26/2019
Xylenes, Total	4.0		**109**	100.0	0	108.7	71.1	125	06/26/2019
Surr: 1,2-Dichloroethane-d4			**50.3**	50.00		100.5	79.6	118	06/26/2019
Surr: 4-Bromofluorobenzene			**50.8**	50.00		101.7	83.9	115	06/26/2019
Surr: Dibromofluoromethane			**50.8**	50.00		101.5	84.9	113	06/26/2019
Surr: Toluene-d8			**49.2**	50.00		98.5	86.7	112	06/26/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** MBLK Units µg/L

SampID: MBLK-T190626A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/26/2019
1,1,1-Trichloroethane	2.0		ND						06/26/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/26/2019
1,1,2-Trichloroethane	0.5		ND						06/26/2019
1,1-Dichloroethane	2.0		ND						06/26/2019
1,1-Dichloroethene	2.0		ND						06/26/2019
1,1-Dichloropropene	2.0		ND						06/26/2019
1,2,3-Trichlorobenzene	2.0		ND						06/26/2019
1,2,3-Trichloropropane	2.0		ND						06/26/2019
1,2,4-Trichlorobenzene	2.0		ND						06/26/2019
1,2,4-Trimethylbenzene	2.0		ND						06/26/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/26/2019
1,2-Dibromoethane	2.0		ND						06/26/2019
1,2-Dichlorobenzene	2.0		ND						06/26/2019
1,2-Dichloroethane	2.0		ND						06/26/2019
1,2-Dichloropropane	2.0		ND						06/26/2019
1,3,5-Trimethylbenzene	2.0		ND						06/26/2019
1,3-Dichlorobenzene	2.0		ND						06/26/2019
1,3-Dichloropropane	2.0		ND						06/26/2019
1,4-Dichlorobenzene	2.0		ND						06/26/2019
2,2-Dichloropropane	2.0		ND						06/26/2019
2-Butanone	10.0		ND						06/26/2019
2-Chloroethyl vinyl ether	5.0		ND						06/26/2019
2-Chlorotoluene	2.0		ND						06/26/2019
2-Hexanone	10.0		ND						06/26/2019
4-Chlorotoluene	2.0		ND						06/26/2019
4-Methyl-2-pentanone	10.0		ND						06/26/2019
Acetone	10.0		ND						06/26/2019
Acrolein	20.0		ND						06/26/2019
Acrylonitrile	5.0		ND						06/26/2019
Benzene	0.5		ND						06/26/2019
Bromobenzene	2.0		ND						06/26/2019
Bromochloromethane	2.0		ND						06/26/2019
Bromodichloromethane	2.0		ND						06/26/2019
Bromoform	2.0		ND						06/26/2019
Bromomethane	5.0		ND						06/26/2019
Carbon disulfide	2.0		ND						06/26/2019
Carbon tetrachloride	2.0		ND						06/26/2019
Chlorobenzene	2.0		ND						06/26/2019
Chloroethane	2.0		ND						06/26/2019
Chloroform	2.0		ND						06/26/2019
Chloromethane	5.0		ND						06/26/2019
cis-1,2-Dichloroethene	2.0		ND						06/26/2019
cis-1,3-Dichloropropene	2.0		ND						06/26/2019
Dibromochloromethane	2.0		ND						06/26/2019
Dichlorodifluoromethane	2.0		ND						06/26/2019
Ethyl methacrylate	5.0		ND						06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** MBLK Units µg/L

SampID: MBLK-T190626A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/26/2019
Hexachlorobutadiene	5.0		ND						06/26/2019
Isopropylbenzene	2.0		ND						06/26/2019
m,p-Xylenes	2.0		ND						06/26/2019
Methyl tert-butyl ether	2.0		ND						06/26/2019
Methylene chloride	10.0		ND						06/26/2019
Naphthalene	5.0		ND						06/26/2019
n-Butylbenzene	2.0		ND						06/26/2019
n-Propylbenzene	2.0		ND						06/26/2019
o-Xylene	2.0		ND						06/26/2019
p-Isopropyltoluene	2.0		ND						06/26/2019
sec-Butylbenzene	2.0		ND						06/26/2019
Styrene	2.0		ND						06/26/2019
tert-Butylbenzene	2.0		ND						06/26/2019
Tetrachloroethene	0.5		ND						06/26/2019
Toluene	2.0		ND						06/26/2019
trans-1,2-Dichloroethene	2.0		ND						06/26/2019
trans-1,3-Dichloropropene	2.0		ND						06/26/2019
Trichloroethene	2.0		ND						06/26/2019
Trichlorofluoromethane	5.0		ND						06/26/2019
Vinyl acetate	5.0		ND						06/26/2019
Vinyl chloride	2.0		ND						06/26/2019
Xylenes, Total	4.0		ND						06/26/2019
Surr: 1,2-Dichloroethane-d4			**47.1**	50.00		94.2	79.6	118	06/26/2019
Surr: 4-Bromofluorobenzene			**49.7**	50.00		99.5	83.9	115	06/26/2019
Surr: Dibromofluoromethane			**49.4**	50.00		98.8	84.9	113	06/26/2019
Surr: Toluene-d8			**48.7**	50.00		97.3	86.7	112	06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190626A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**55.0**	50.00	0	110.1	48.20	13.25	06/26/2019
1,1,1-Trichloroethane	2.0		**56.2**	50.00	0	112.4	48.86	13.99	06/26/2019
1,1,2,2-Tetrachloroethane	2.0		**49.5**	50.00	0	98.9	44.66	10.22	06/26/2019
1,1,2-Trichloroethane	0.5		**54.0**	50.00	0	107.9	47.76	12.21	06/26/2019
1,1-Dichloroethane	2.0		**56.5**	50.00	0	113.0	49.13	13.97	06/26/2019
1,1-Dichloroethene	2.0		**54.5**	50.00	0	109.0	45.58	17.79	06/26/2019
1,1-Dichloropropene	2.0		**54.1**	50.00	0	108.2	46.02	16.18	06/26/2019
1,2,3-Trichlorobenzene	2.0		**55.1**	50.00	0	110.2	49.75	10.21	06/26/2019
1,2,3-Trichloropropane	2.0		**49.1**	50.00	0	98.3	44.48	9.93	06/26/2019
1,2,4-Trichlorobenzene	2.0		**55.4**	50.00	0	110.9	49.36	11.59	06/26/2019
1,2,4-Trimethylbenzene	2.0		**52.8**	50.00	0	105.5	45.97	13.74	06/26/2019
1,2-Dibromo-3-chloropropane	5.0		**51.8**	50.00	0	103.7	45.71	12.59	06/26/2019
1,2-Dibromoethane	2.0		**53.1**	50.00	0	106.3	46.03	14.32	06/26/2019
1,2-Dichlorobenzene	2.0		**51.7**	50.00	0	103.4	45.38	12.98	06/26/2019
1,2-Dichloroethane	2.0		**51.9**	50.00	0	103.9	45.77	12.61	06/26/2019
1,2-Dichloropropane	2.0		**53.6**	50.00	0	107.2	46.70	13.74	06/26/2019
1,3,5-Trimethylbenzene	2.0		**51.4**	50.00	0	102.8	44.43	14.59	06/26/2019
1,3-Dichlorobenzene	2.0		**54.6**	50.00	0	109.3	47.33	14.32	06/26/2019
1,3-Dichloropropane	2.0		**53.0**	50.00	0	105.9	46.79	12.35	06/26/2019
1,4-Dichlorobenzene	2.0		**51.9**	50.00	0	103.8	45.67	12.75	06/26/2019
2,2-Dichloropropane	2.0		**58.4**	50.00	0	116.8	50.72	14.06	06/26/2019
2-Butanone	10.0		**135**	125.0	0	108.4	120.1	12.06	06/26/2019
2-Chloroethyl vinyl ether	5.0		**53.2**	50.00	0	106.4	47.55	11.25	06/26/2019
2-Chlorotoluene	2.0		**51.1**	50.00	0	102.1	45.10	12.40	06/26/2019
2-Hexanone	10.0		**127**	125.0	0	101.3	111.7	12.52	06/26/2019
4-Chlorotoluene	2.0		**52.1**	50.00	0	104.3	45.20	14.24	06/26/2019
4-Methyl-2-pentanone	10.0		**131**	125.0	0	104.7	114.0	13.70	06/26/2019
Acetone	10.0		**120**	125.0	0	96.1	105.0	13.41	06/26/2019
Acrolein	20.0		**481**	500.0	0	96.2	457.0	5.07	06/26/2019
Acrylonitrile	5.0		**53.2**	50.00	0	106.5	47.33	11.73	06/26/2019
Benzene	0.5		**54.2**	50.00	0	108.4	46.76	14.76	06/26/2019
Bromobenzene	2.0		**53.3**	50.00	0	106.6	46.66	13.30	06/26/2019
Bromochloromethane	2.0		**49.2**	50.00	0	98.3	43.73	11.67	06/26/2019
Bromodichloromethane	2.0		**52.5**	50.00	0	105.0	46.57	11.97	06/26/2019
Bromoform	2.0		**56.9**	50.00	0	113.7	48.80	15.26	06/26/2019
Bromomethane	5.0		**68.1**	50.00	0	136.2	53.99	23.11	06/26/2019
Carbon disulfide	2.0		**50.8**	50.00	0	101.7	43.77	14.93	06/26/2019
Carbon tetrachloride	2.0		**53.8**	50.00	0	107.7	46.01	15.68	06/26/2019
Chlorobenzene	2.0		**53.1**	50.00	0	106.2	46.89	12.40	06/26/2019
Chloroethane	2.0		**53.3**	50.00	0	106.6	44.55	17.88	06/26/2019
Chloroform	2.0		**52.4**	50.00	0	104.9	45.49	14.19	06/26/2019
Chloromethane	5.0		**64.9**	50.00	0	129.9	52.53	21.11	06/26/2019
cis-1,2-Dichloroethene	2.0		**54.1**	50.00	0	108.2	47.32	13.33	06/26/2019
cis-1,3-Dichloropropene	2.0		**55.2**	50.00	0	110.4	48.89	12.12	06/26/2019
Dibromochloromethane	2.0		**55.9**	50.00	0	111.7	48.72	13.65	06/26/2019
Dichlorodifluoromethane	2.0		**49.8**	50.00	0	99.6	39.77	22.36	06/26/2019
Ethyl methacrylate	5.0		**54.2**	50.00	0	108.5	47.51	13.21	06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190626A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**53.3**	50.00	0	106.6	45.96	14.81	06/26/2019
Hexachlorobutadiene	5.0		**59.9**	50.00	0	119.9	51.83	14.51	06/26/2019
Isopropylbenzene	2.0		**54.5**	50.00	0	109.0	45.64	17.73	06/26/2019
m,p-Xylenes	2.0		**106**	100.0	0	105.9	92.59	13.41	06/26/2019
Methyl tert-butyl ether	2.0		**59.2**	50.00	0	118.4	48.84	19.19	06/26/2019
Methylene chloride	10.0		**49.0**	50.00	0	97.9	43.23	12.45	06/26/2019
Naphthalene	5.0		**54.1**	50.00	0	108.2	47.23	13.52	06/26/2019
n-Butylbenzene	2.0		**52.4**	50.00	0	104.8	46.33	12.33	06/26/2019
n-Propylbenzene	2.0		**51.5**	50.00	0	103.0	44.48	14.67	06/26/2019
o-Xylene	2.0		**52.1**	50.00	0	104.3	45.01	14.68	06/26/2019
p-Isopropyltoluene	2.0		**54.6**	50.00	0	109.2	47.04	14.88	06/26/2019
sec-Butylbenzene	2.0		**53.8**	50.00	0	107.7	46.88	13.84	06/26/2019
Styrene	2.0		**55.0**	50.00	0	110.0	47.12	15.45	06/26/2019
tert-Butylbenzene	2.0		**51.2**	50.00	0	102.5	45.02	12.92	06/26/2019
Tetrachloroethene	0.5		**55.0**	50.00	0	110.0	46.56	16.64	06/26/2019
Toluene	2.0		**52.3**	50.00	0	104.5	45.10	14.73	06/26/2019
trans-1,2-Dichloroethene	2.0		**57.1**	50.00	0	114.2	48.86	15.55	06/26/2019
trans-1,3-Dichloropropene	2.0		**54.3**	50.00	0	108.5	47.60	13.08	06/26/2019
Trichloroethene	2.0		**55.4**	50.00	0	110.8	47.04	16.34	06/26/2019
Trichlorofluoromethane	5.0		**55.4**	50.00	0	110.8	44.40	22.04	06/26/2019
Vinyl acetate	5.0		**60.3**	50.00	0	120.6	48.94	20.80	06/26/2019
Vinyl chloride	2.0		**55.1**	50.00	0	110.2	43.73	22.99	06/26/2019
Xylenes, Total	4.0		**158**	150.0	0	105.4	137.6	13.83	06/26/2019
Surr: 1,2-Dichloroethane-d4			**47.0**	50.00		94.0			06/26/2019
Surr: 4-Bromofluorobenzene			**48.2**	50.00		96.4			06/26/2019
Surr: Dibromofluoromethane			**49.7**	50.00		99.4			06/26/2019
Surr: Toluene-d8			**48.8**	50.00		97.7			06/26/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061617

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** LCS Units µg/L

SampID: LCS-T190626A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**48.2**	50.00	0	96.4	83.4	118	06/26/2019
1,1,1-Trichloroethane	2.0		**48.9**	50.00	0	97.7	79.1	123	06/26/2019
1,1,2,2-Tetrachloroethane	2.0		**44.7**	50.00	0	89.3	70.7	121	06/26/2019
1,1,2-Trichloroethane	0.5		**47.8**	50.00	0	95.5	79.8	117	06/26/2019
1,1-Dichloroethane	2.0		**49.1**	50.00	0	98.3	75.1	122	06/26/2019
1,1-Dichloroethene	2.0		**45.6**	50.00	0	91.2	68.3	121	06/26/2019
1,1-Dichloropropene	2.0		**46.0**	50.00	0	92.0	76.7	122	06/26/2019
1,2,3-Trichlorobenzene	2.0		**49.8**	50.00	0	99.5	77.1	130	06/26/2019
1,2,3-Trichloropropane	2.0		**44.5**	50.00	0	89.0	70.6	114	06/26/2019
1,2,4-Trichlorobenzene	2.0		**49.4**	50.00	0	98.7	79.6	128	06/26/2019
1,2,4-Trimethylbenzene	2.0		**46.0**	50.00	0	91.9	78.9	117	06/26/2019
1,2-Dibromo-3-chloropropane	5.0		**45.7**	50.00	0	91.4	68.1	123	06/26/2019
1,2-Dibromoethane	2.0		**46.0**	50.00	0	92.1	82.9	114	06/26/2019
1,2-Dichlorobenzene	2.0		**45.4**	50.00	0	90.8	75.2	120	06/26/2019
1,2-Dichloroethane	2.0		**45.8**	50.00	0	91.5	76.9	117	06/26/2019
1,2-Dichloropropane	2.0		**46.7**	50.00	0	93.4	76.4	121	06/26/2019
1,3,5-Trimethylbenzene	2.0		**44.4**	50.00	0	88.9	79.8	118	06/26/2019
1,3-Dichlorobenzene	2.0		**47.3**	50.00	0	94.7	80.5	119	06/26/2019
1,3-Dichloropropane	2.0		**46.8**	50.00	0	93.6	77.5	113	06/26/2019
1,4-Dichlorobenzene	2.0		**45.7**	50.00	0	91.3	80.2	115	06/26/2019
2,2-Dichloropropane	2.0		**50.7**	50.00	0	101.4	62.4	151	06/26/2019
2-Butanone	10.0		**120**	125.0	0	96.1	65.7	120	06/26/2019
2-Chloroethyl vinyl ether	5.0		**47.6**	50.00	0	95.1	31.5	159	06/26/2019
2-Chlorotoluene	2.0		**45.1**	50.00	0	90.2	76	117	06/26/2019
2-Hexanone	10.0		**112**	125.0	0	89.4	65.1	121	06/26/2019
4-Chlorotoluene	2.0		**45.2**	50.00	0	90.4	77	117	06/26/2019
4-Methyl-2-pentanone	10.0		**114**	125.0	0	91.2	69.6	117	06/26/2019
Acetone	10.0		**105**	125.0	0	84.0	47.5	123	06/26/2019
Acrolein	20.0		**457**	500.0	0	91.4	27	164	06/26/2019
Acrylonitrile	5.0		**47.3**	50.00	0	94.7	74.8	127	06/26/2019
Benzene	0.5		**46.8**	50.00	0	93.5	75.8	121	06/26/2019
Bromobenzene	2.0		**46.7**	50.00	0	93.3	72.7	119	06/26/2019
Bromochloromethane	2.0		**43.7**	50.00	0	87.5	69	123	06/26/2019
Bromodichloromethane	2.0		**46.6**	50.00	0	93.1	80.8	128	06/26/2019
Bromoform	2.0		**48.8**	50.00	0	97.6	85.5	128	06/26/2019
Bromomethane	5.0		**54.0**	50.00	0	108.0	-36.7	277	06/26/2019
Carbon disulfide	2.0		**43.8**	50.00	0	87.5	64.9	133	06/26/2019
Carbon tetrachloride	2.0		**46.0**	50.00	0	92.0	79.5	129	06/26/2019
Chlorobenzene	2.0		**46.9**	50.00	0	93.8	82.1	113	06/26/2019
Chloroethane	2.0		**44.6**	50.00	0	89.1	43.9	138	06/26/2019
Chloroform	2.0		**45.5**	50.00	0	91.0	80.1	122	06/26/2019
Chloromethane	5.0		**52.5**	50.00	0	105.1	50.8	131	06/26/2019
cis-1,2-Dichloroethene	2.0		**47.3**	50.00	0	94.6	78.6	119	06/26/2019
cis-1,3-Dichloropropene	2.0		**48.9**	50.00	0	97.8	79	129	06/26/2019
Dibromochloromethane	2.0		**48.7**	50.00	0	97.4	88.1	123	06/26/2019
Dichlorodifluoromethane	2.0		**39.8**	50.00	0	79.5	35.7	155	06/26/2019
Ethyl methacrylate	5.0		**47.5**	50.00	0	95.0	80.6	123	06/26/2019

Client: AECOM

Work Order: 19061617

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** LCS Units µg/L

SampID: LCS-T190626A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**46.0**	50.00	0	91.9	80.7	114	06/26/2019
Hexachlorobutadiene	5.0		**51.8**	50.00	0	103.7	68.2	141	06/26/2019
Isopropylbenzene	2.0		**45.6**	50.00	0	91.3	81.3	116	06/26/2019
m,p-Xylenes	2.0		**92.6**	100.0	0	92.6	80.5	113	06/26/2019
Methyl tert-butyl ether	2.0		**48.8**	50.00	0	97.7	79.5	121	06/26/2019
Methylene chloride	10.0		**43.2**	50.00	0	86.5	76.2	119	06/26/2019
Naphthalene	5.0		**47.2**	50.00	0	94.5	76.1	129	06/26/2019
n-Butylbenzene	2.0		**46.3**	50.00	0	92.7	71.6	122	06/26/2019
n-Propylbenzene	2.0		**44.5**	50.00	0	89.0	76	120	06/26/2019
o-Xylene	2.0		**45.0**	50.00	0	90.0	79.7	112	06/26/2019
p-Isopropyltoluene	2.0		**47.0**	50.00	0	94.1	76.2	122	06/26/2019
sec-Butylbenzene	2.0		**46.9**	50.00	0	93.8	76.6	119	06/26/2019
Styrene	2.0		**47.1**	50.00	0	94.2	82.8	116	06/26/2019
tert-Butylbenzene	2.0		**45.0**	50.00	0	90.0	74.7	117	06/26/2019
Tetrachloroethene	0.5		**46.6**	50.00	0	93.1	80.6	122	06/26/2019
Toluene	2.0		**45.1**	50.00	0	90.2	78.3	112	06/26/2019
trans-1,2-Dichloroethene	2.0		**48.9**	50.00	0	97.7	73.5	124	06/26/2019
trans-1,3-Dichloropropene	2.0		**47.6**	50.00	0	95.2	83.4	124	06/26/2019
Trichloroethene	2.0		**47.0**	50.00	0	94.1	74.3	125	06/26/2019
Trichlorofluoromethane	5.0		**44.4**	50.00	0	88.8	71.5	136	06/26/2019
Vinyl acetate	5.0		**48.9**	50.00	0	97.9	65.9	136	06/26/2019
Vinyl chloride	2.0		**43.7**	50.00	0	87.5	55.8	135	06/26/2019
Xylenes, Total	4.0		**138**	150.0	0	91.7	80.2	113	06/26/2019
Surr: 1,2-Dichloroethane-d4			**47.1**	50.00		94.2	79.6	118	06/26/2019
Surr: 4-Bromofluorobenzene			**48.6**	50.00		97.3	83.9	115	06/26/2019
Surr: Dibromofluoromethane			**50.0**	50.00		99.9	84.9	113	06/26/2019
Surr: Toluene-d8			**48.9**	50.00		97.7	86.7	112	06/26/2019

Batch 154716 **SampType:** MS Units µg/L

SampID: 19061617-003BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	20.0		**475**	500.0	0	94.9	35.7	136	06/26/2019
Benzene	5.0		**1550**	500.0	1081	94.3	62.5	121	06/26/2019
Chlorobenzene	20.0		**460**	500.0	0	92.0	78.6	114	06/26/2019
Ethylbenzene	20.0		**483**	500.0	7.400	95.1	74.4	130	06/26/2019
m,p-Xylenes	20.0		**485**	500.0	17.90	93.4	70.5	126	06/26/2019
o-Xylene	20.0		**472**	500.0	6.500	93.0	71.2	124	06/26/2019
Toluene	20.0		**443**	500.0	2.300	88.1	69.5	118	06/26/2019
Trichloroethene	20.0		**492**	500.0	0	98.3	69.4	117	06/26/2019
Xylenes, Total	40.0		**956**	1000	24.40	93.2	71.1	125	06/26/2019
Surr: 1,2-Dichloroethane-d4			**486**	500.0		97.2	79.6	118	06/26/2019
Surr: 4-Bromofluorobenzene			**503**	500.0		100.7	83.9	115	06/26/2019
Surr: Dibromofluoromethane			**490**	500.0		97.9	84.9	113	06/26/2019
Surr: Toluene-d8			**482**	500.0		96.3	86.7	112	06/26/2019

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061617
Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154716 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 19061617-003BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1-Dichloroethene	20.0		**474**	500.0	0	94.8	474.7	0.13	06/26/2019
Benzene	5.0		**1570**	500.0	1081	97.5	1552	1.03	06/26/2019
Chlorobenzene	20.0		**459**	500.0	0	91.7	460.0	0.30	06/26/2019
Ethylbenzene	20.0		**481**	500.0	7.400	94.8	483.0	0.35	06/26/2019
m,p-Xylenes	20.0		**486**	500.0	17.90	93.7	484.7	0.31	06/26/2019
o-Xylene	20.0		**472**	500.0	6.500	93.0	471.5	0.04	06/26/2019
Toluene	20.0		**441**	500.0	2.300	87.8	442.6	0.27	06/26/2019
Trichloroethene	20.0		**490**	500.0	0	98.0	491.6	0.29	06/26/2019
Xylenes, Total	40.0		**958**	1000	24.40	93.4	956.2	0.18	06/26/2019
Surr: 1,2-Dichloroethane-d4			**494**	500.0		98.8			06/26/2019
Surr: 4-Bromofluorobenzene			**509**	500.0		101.8			06/26/2019
Surr: Dibromofluoromethane			**497**	500.0		99.5			06/26/2019
Surr: Toluene-d8			**486**	500.0		97.3			06/26/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061617
Report Date: 01-Jul-2019

Carrier: Paul LaFleur

Received By: AMD

Completed by: Amber M. Dilallo
On: 25-Jun-2019

Reviewed by: Elizabeth A. Hurley
On: 25-Jun-2019

Pages to follow: Chain of custody [1] Extra pages included [56]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 5.8
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Trip Blank collection date and time will be reported as the received date and time (end of trip). - ehurley - 6/25/2019 6:02:06 PM

1906 1617

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☐ TESTAMERICA (___Pensacola_____
- ☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: James Carrino

PO # 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

☐ CHECK IF NO INCIDENT # APPLIES

DATE 6/25/2019

PAGE: ___1___ of ___1___

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL

AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): James Ragatz

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.061 | NON-UNIT COST 60592794 - 1.24.060

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 Low Level (LL) PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062519-B *	6/25/2019	0:00	Water	X					2		X		1906167-001
	PD-1-GWP-34-062519	6/25/2019	11:05	Water	2			2		4	X	X	X	002
	PD-1-GWP-44-062519	6/25/2019	13:05	Water	2			2		4	X	X	X	003
	PD-1-GWP-53-062519	6/25/2019	14:50	Water	2			2		4	x	x	x	004

FIELD NOTES:

TEMPERATURE ON RECEIPT C° 5.8° ice LTQ3

OK * HS LG 6/25/19

ONE DAY TAT

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Paul Lafleur / AECOM	[signature]	6/25/2019	1700

Version: 10May17

LG 6/25/19

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA008.D
Acq On : 27 Jun 2019 10:48 am
Operator : DH
Sample : 19061617-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

Signal : TIC: AA008.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.793	31	36	41	rVB	177494	209044	4.07%	0.634%
2	2.945	57	62	69	rVB	83963	100233	1.95%	0.304%
3	3.233	107	111	115	rBV	128294	138423	2.69%	0.420%
4	3.609	172	175	181	rVB	95406	108989	2.12%	0.331%
5	3.786	202	205	212	rVB	1022090	1043452	20.31%	3.164%
6	4.062	248	252	256	rVB3	89618	122797	2.39%	0.372%
7	4.403	306	310	314	rBV3	55752	76595	1.49%	0.232%
8	4.520	325	330	334	rBV	781102	774143	15.06%	2.348%
9	4.943	398	402	411	rVB	2286893	2248622	43.76%	6.819%
10	5.419	478	483	485	rBV	133348	157659	3.07%	0.478%
11	5.448	485	488	492	rVB	784585	739214	14.39%	2.242%
12	5.537	501	503	508	rVB4	62238	62366	1.21%	0.189%
13	5.707	525	532	537	rBV5	37315	76045	1.48%	0.231%
14	6.171	606	611	617	rBV	2946650	2923969	56.90%	8.867%
15	6.518	666	670	676	rVB6	45587	58413	1.14%	0.177%
16	6.835	719	724	728	rBV5	32197	52023	1.01%	0.158%
17	7.082	763	766	769	rBV	54592	58758	1.14%	0.178%
18	7.188	780	784	786	rBV	70015	69191	1.35%	0.210%
19	7.217	786	789	794	rVV	1738803	1689305	32.87%	5.123%
20	7.940	908	912	917	rBV	3659455	3763352	73.23%	11.412%
21	8.292	969	972	976	rVB	173344	164333	3.20%	0.498%
22	8.739	1043	1048	1053	rBV	1740227	1798096	34.99%	5.453%
23	9.462	1167	1171	1176	rBV	4254795	4248156	82.67%	12.882%
24	9.896	1242	1245	1254	rBV	246315	321592	6.26%	0.975%
25	10.789	1394	1397	1404	rVB2	117583	165418	3.22%	0.502%
26	11.236	1468	1473	1480	rVB	1541440	1863913	36.27%	5.652%
27	13.016	1768	1776	1785	rBV	3171375	5138769	100.00%	15.583%
28	14.708	2060	2064	2070	rVB8	25556	54747	1.07%	0.166%
29	16.119	2295	2304	2321	rBV	2143917	4748769	92.41%	14.401%

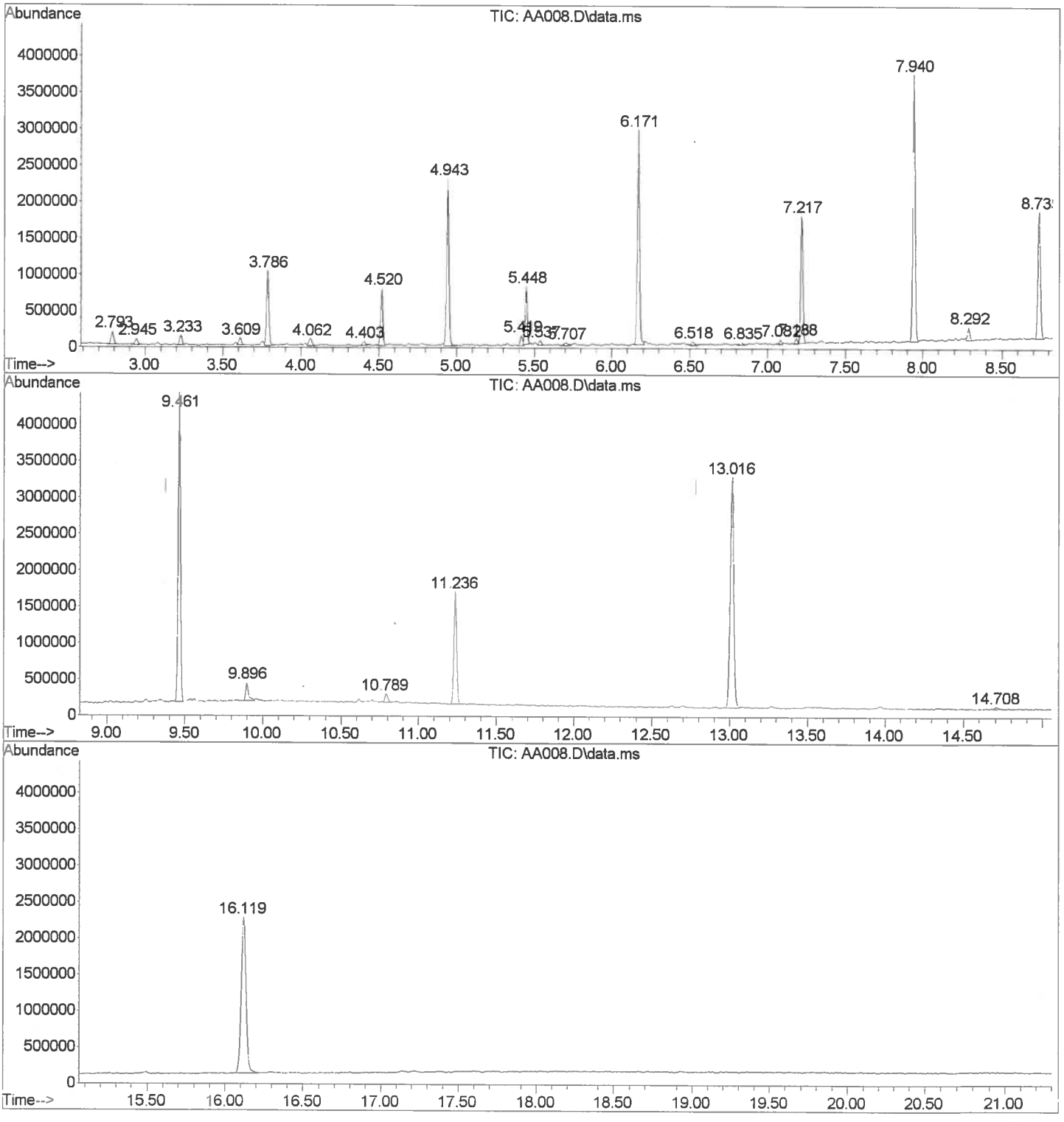
Sum of corrected areas: 32976386

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA008.D
Acq On : 27 Jun 2019 10:48 am
Operator : DH
Sample : 19061617-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\\
Data File : AA008.D
Acq On : 27 Jun 2019 10:48 amm
Operator : DHH
Sample : 19061617-002AA
Misc : ,SV_8270S_W,SAMP,1,,
ALS Vial : 8 Sample Multiplier: 11

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.MM
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19))

TIC Library : C:\DATABASE\NIST98.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

Signal : TIC: AA009.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.787	30	35	42	rBV	295514	409513	8.22%	0.981%
2	2.946	56	62	67	rVB	161549	180871	3.63%	0.433%
3	3.075	78	84	87	rBV2	56454	76406	1.53%	0.183%
4	3.186	99	103	107	rBV4	29396	51223	1.03%	0.123%
5	3.233	107	111	114	rBV	199705	228303	4.58%	0.547%
6	3.345	126	130	134	rBV2	56979	69061	1.39%	0.165%
7	3.580	167	170	172	rBV	81748	81396	1.63%	0.195%
8	3.610	172	175	182	rVB2	181957	244500	4.91%	0.586%
9	3.756	197	200	201	rBV	57628	54918	1.10%	0.132%
10	3.786	201	205	210	rVB2	949476	1047834	21.04%	2.511%
11	3.850	210	216	221	rBV	334377	416271	8.36%	0.997%
12	4.027	242	246	249	rVV	210799	239988	4.82%	0.575%
13	4.056	249	251	258	rVB3	177233	227570	4.57%	0.545%
14	4.132	258	264	266	rBV6	32755	53378	1.07%	0.128%
15	4.250	281	284	289	rBV	161297	163327	3.28%	0.391%
16	4.309	289	294	299	rVB6	46196	73117	1.47%	0.175%
17	4.397	305	309	313	rBV5	73983	100439	2.02%	0.241%
18	4.438	313	316	319	rVB3	49771	54440	1.09%	0.130%
19	4.473	319	322	325	rBV	126323	123624	2.48%	0.296%
20	4.520	325	330	334	rBV	692658	731827	14.69%	1.753%
21	4.661	348	354	357	rBV	173411	196334	3.94%	0.470%
22	4.773	365	373	379	rBV	176925	238633	4.79%	0.572%
23	4.943	398	402	408	rVB	2427470	2424479	48.67%	5.809%
24	5.049	417	420	423	rBV3	40323	52344	1.05%	0.125%
25	5.114	425	431	438	rVV	2464873	2529116	50.77%	6.060%
26	5.202	443	446	450	rVB	211998	209221	4.20%	0.501%
27	5.325	465	467	472	rVB4	99911	111394	2.24%	0.267%
28	5.425	478	484	486	rBV2	354972	598343	12.01%	1.434%
29	5.449	486	488	496	rVB2	785430	880675	17.68%	2.110%
30	5.543	501	504	507	rVB	73169	74252	1.49%	0.178%
31	5.637	517	520	522	rBV	65632	65060	1.31%	0.156%
32	5.660	522	524	527	rVV3	133693	116695	2.34%	0.280%
33	5.713	529	533	536	rVV3	91763	103282	2.07%	0.247%
34	5.895	557	564	571	rVB4	128408	240460	4.83%	0.576%
35	5.966	571	576	579	rBV5	62413	117960	2.37%	0.283%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

36	6.007	579	583	584	rBV3	48848	58387	1.17%	0.140%
37	6.030	584	587	590	rVB	114414	103154	2.07%	0.247%
38	6.142	601	606	607	rBV3	90189	124915	2.51%	0.299%
39	6.171	607	611	617	rVB	2790405	2974820	59.72%	7.128%
40	6.271	626	628	632	rVB3	79984	79387	1.59%	0.190%
41	6.395	644	649	652	rBV5	116237	171211	3.44%	0.410%
42	6.524	668	671	676	rVB7	45172	69573	1.40%	0.167%
43	6.571	676	679	680	rBV2	53526	54745	1.10%	0.131%
44	6.641	688	691	695	rVB	92681	107917	2.17%	0.259%
45	6.835	721	724	729	rVB3	61808	57012	1.14%	0.137%
46	6.929	737	740	743	rBV2	87045	96992	1.95%	0.232%
47	7.017	752	755	756	rBV3	55293	51750	1.04%	0.124%
48	7.088	764	767	770	rBV4	67707	80472	1.62%	0.193%
49	7.217	785	789	793	rBV	1741166	1661196	33.35%	3.980%
50	7.346	808	811	814	rVB4	67904	87613	1.76%	0.210%
51	7.393	816	819	825	rVB5	109605	120463	2.42%	0.289%
52	7.576	847	850	856	rVB6	70934	97414	1.96%	0.233%
53	7.940	908	912	917	rBV	3934859	3987526	80.05%	9.554%
54	8.210	956	958	962	rVB4	74254	65152	1.31%	0.156%
55	8.292	969	972	973	rBV2	57846	59037	1.19%	0.141%
56	8.621	1024	1028	1033	rBV	243937	337592	6.78%	0.809%
57	8.739	1044	1048	1053	rVB	1651766	1783644	35.81%	4.274%
58	9.462	1167	1171	1179	rBV	4380602	4503029	90.40%	10.789%
59	9.896	1242	1245	1251	rBV	377734	435477	8.74%	1.043%
60	10.789	1394	1397	1405	rBV2	208875	319047	6.40%	0.764%
61	11.236	1468	1473	1480	rVB	1619910	2016064	40.47%	4.831%
62	13.016	1768	1776	1787	rBV	3006510	4981268	100.00%	11.935%
63	16.119	2295	2304	2317	rBV2	2057687	4664541	93.64%	11.176%

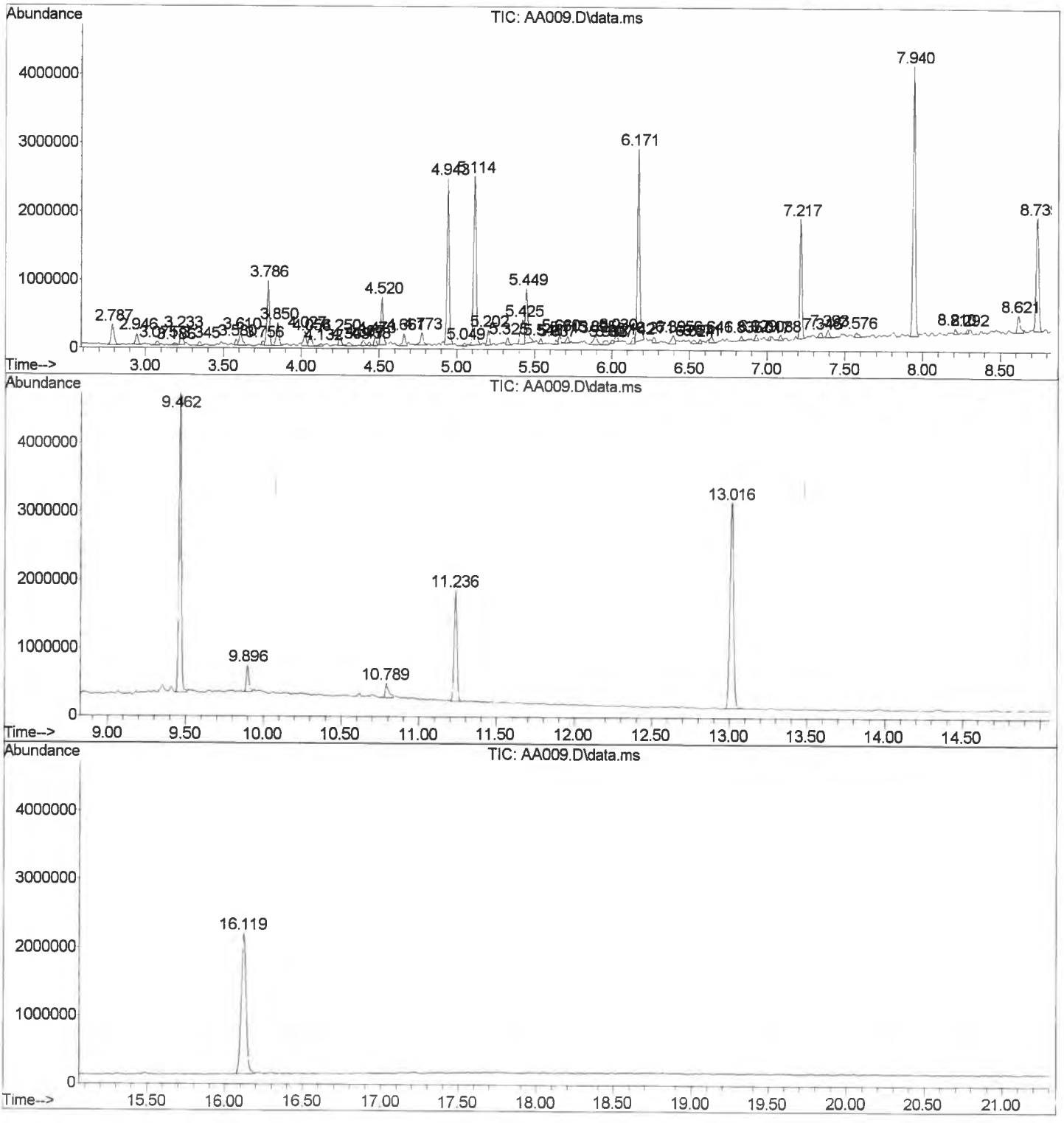
Sum of corrected areas: 41735652

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

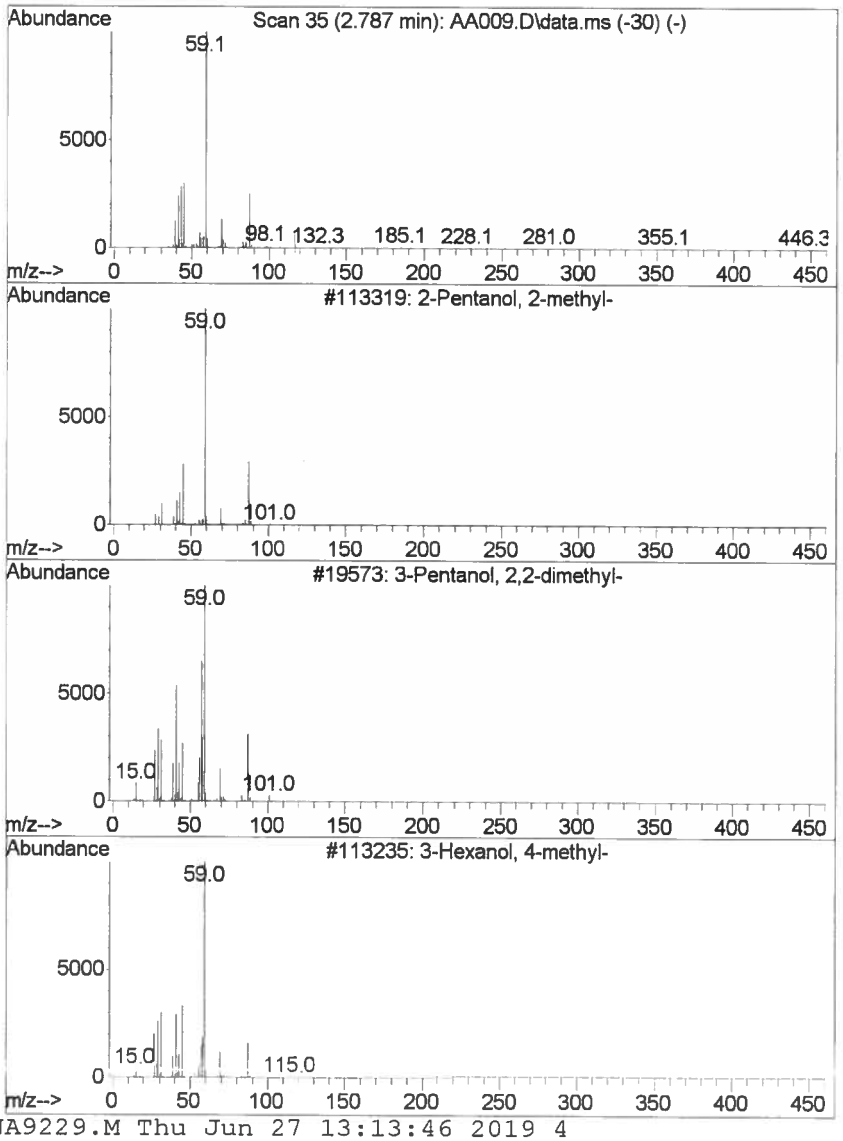
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

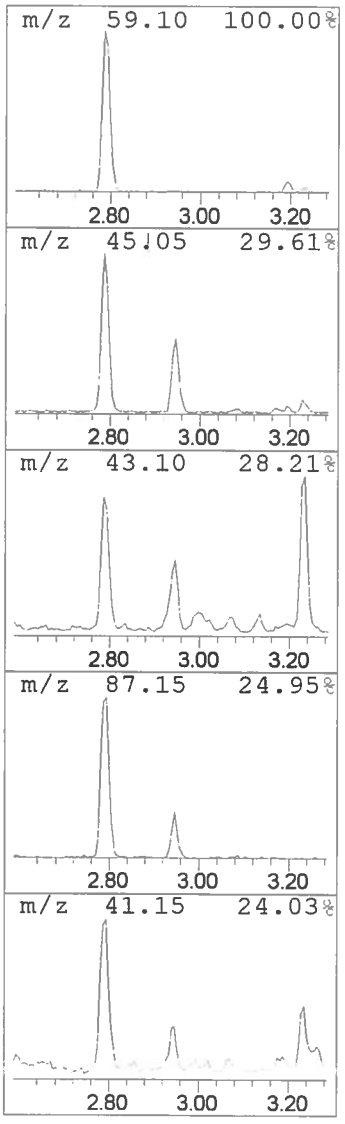
****

Peak Number 1 2-Pentanol, 2-methyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.787	6.76 ug/ml	409513	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentanol, 2-methyl-	102	C6H14O	000590-36-3	83
2	3-Pentanol, 2,2-dimethyl-	116	C7H16O	003970-62-5	78
3	3-Hexanol, 4-methyl-	116	C7H16O	000615-29-2	72
4	2-Butanol, 2,3-dimethyl-	102	C6H14O	000594-60-5	64
5	2-Butanol, 3-methoxy-	104	C5H12O2	053778-72-6	53





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

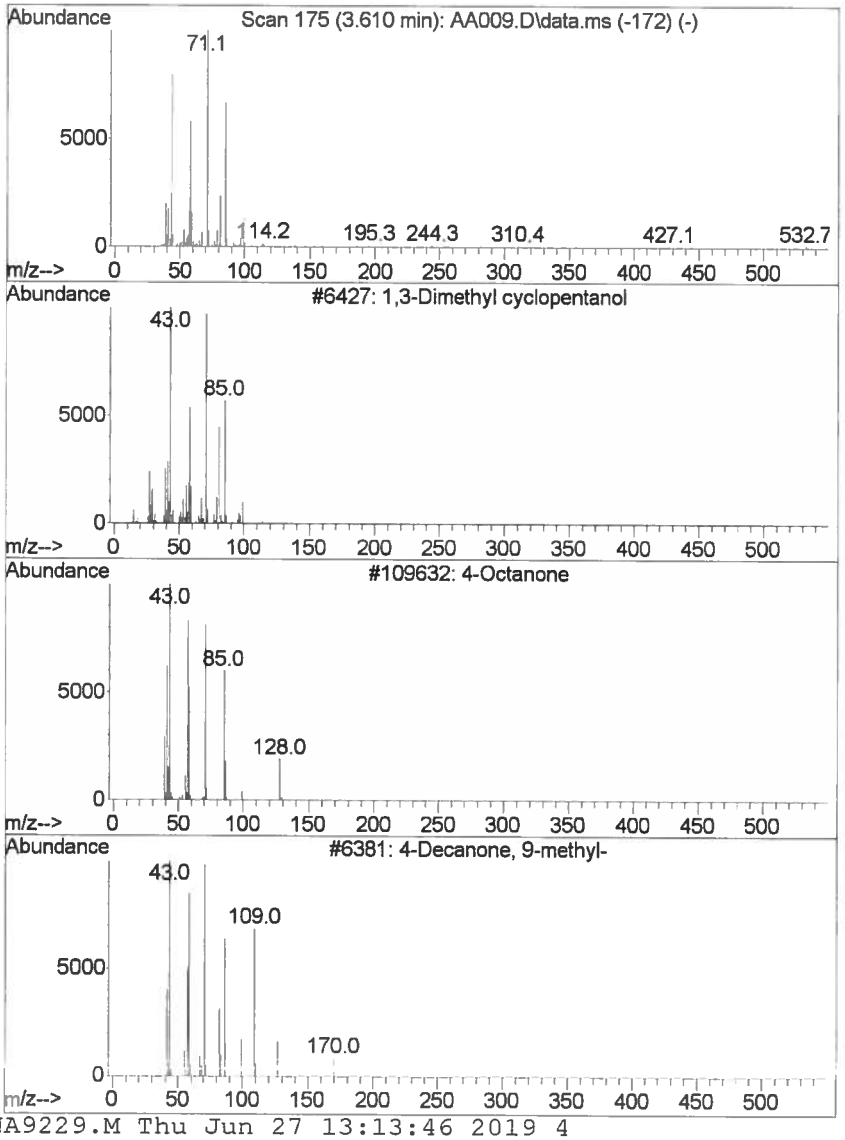
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

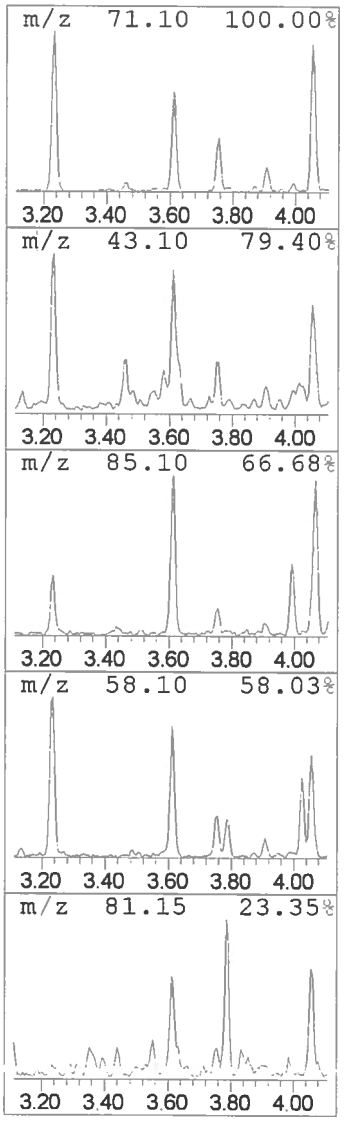
****

Peak Number 2 1,3-Dimethyl cyclopentanol Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.610	4.03 ug/ml	244500	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,3-Dimethyl cyclopentanol	114	C7H14O	019550-46-0	87
2	4-Octanone	128	C8H16O	000589-63-9	56
3	4-Decanone, 9-methyl-	170	C11H22O	029379-11-1	53
4	Oxirane, butyl-	100	C6H12O	001436-34-6	50
5	Cyclopentanol, 1-methyl-	100	C6H12O	001462-03-9	40





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

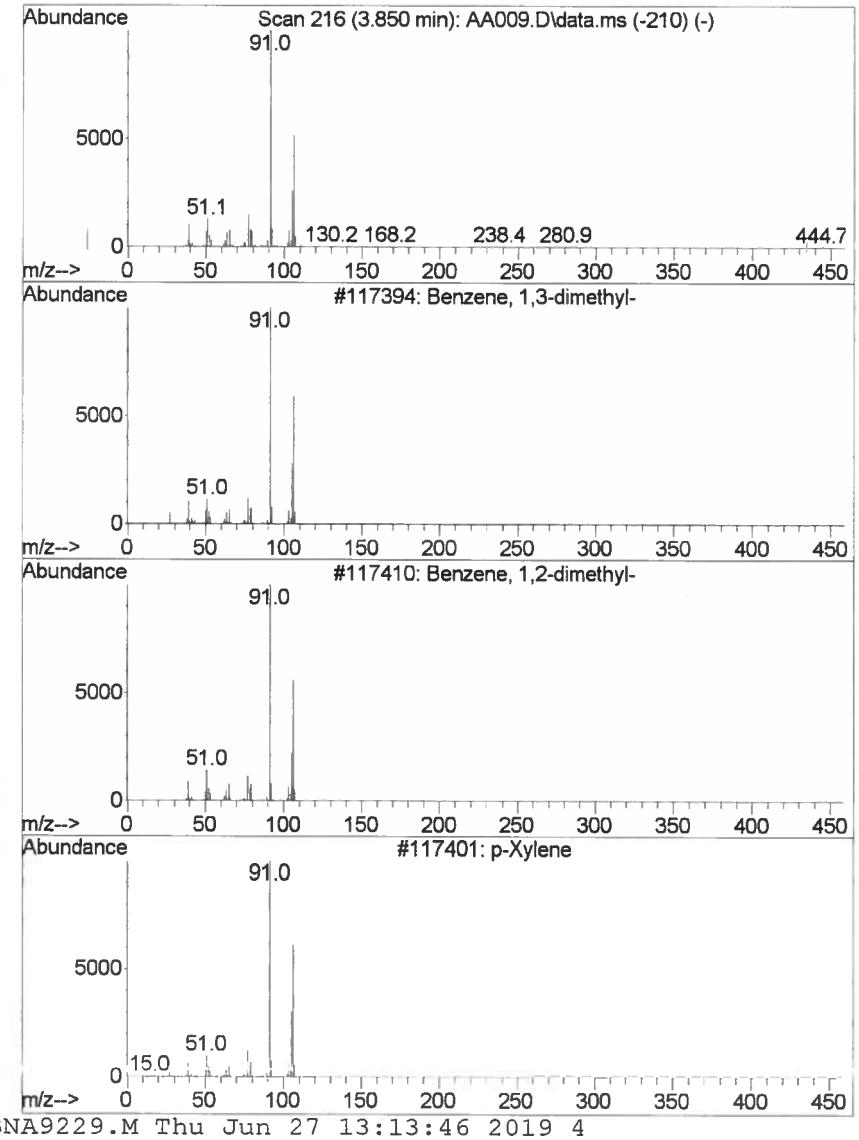
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

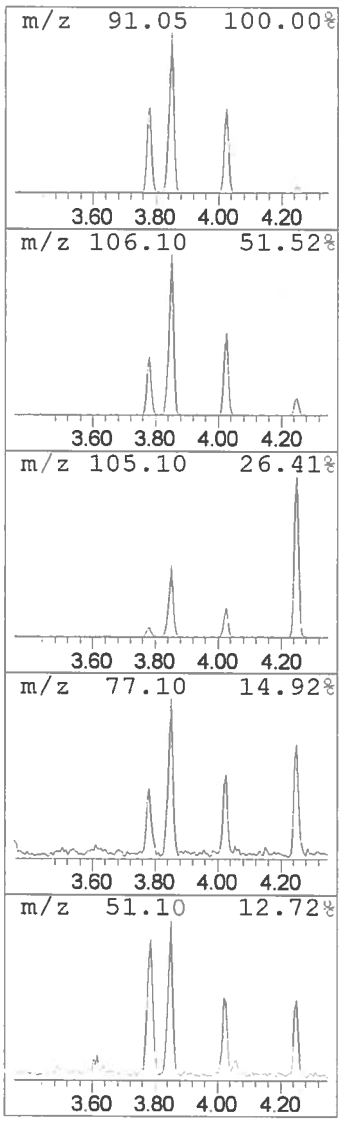
****

Peak Number 3 Benzene, 1,3-dimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.850	6.87 ug/ml	416271	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,3-dimethyl-	106	C8H10	000108-38-3	97
2	Benzene, 1,2-dimethyl-	106	C8H10	000095-47-6	97
3	p-Xylene	106	C8H10	000106-42-3	97
4	1,3-Cyclopentadiene, 5-(1-methyl...	106	C8H10	002175-91-9	90
5	Ethylbenzene	106	C8H10	000100-41-4	87





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

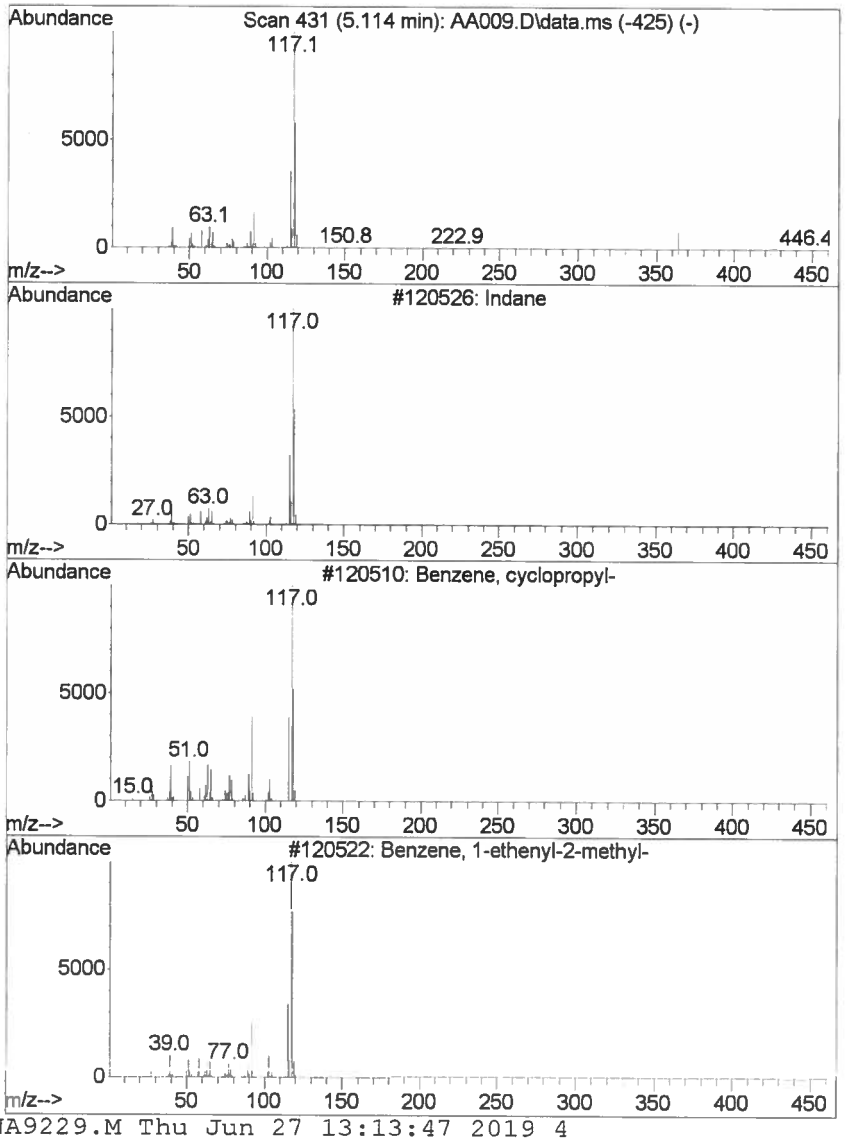
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

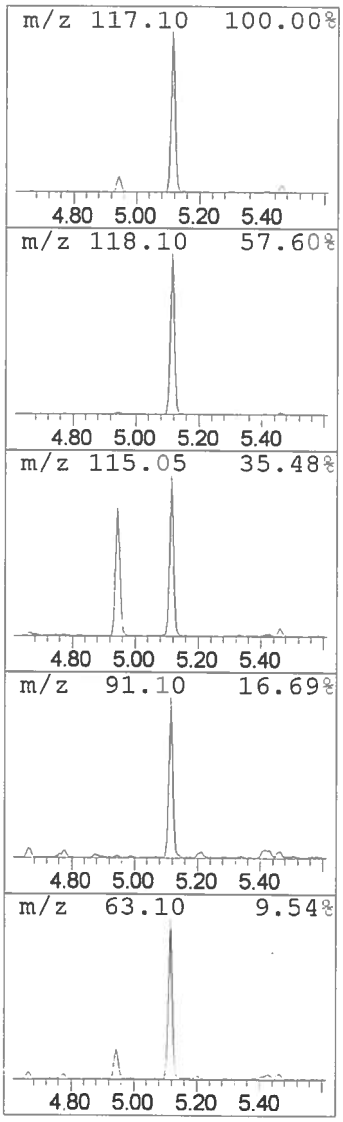
****

Peak Number 4 Indane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.114	41.73 ug/ml	2529120	1,4-Dichlorobenzene-d4*	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Indane	118	C9H10	000496-11-7	95
2	Benzene, cyclopropyl-	118	C9H10	000873-49-4	90
3	Benzene, 1-ethenyl-2-methyl-	118	C9H10	000611-15-4	76
4	Tetracyclo[3.3.1.0(2,8).0(4,6)]-...	118	C9H10	1000191-13-7	72
5	Benzene, 2-propenyl-	118	C9H10	000300-57-2	72





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA009.D
Acq On : 27 Jun 2019 11:16 am
Operator : DH
Sample : 19061617-003A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
2-Pentanol, 2-m...	2.787	6.8	ug/ml	409513	1	4.943	2424480	40.0
1,3-Dimethyl cy...	3.610	4.0	ug/ml	244500	1	4.943	2424480	40.0
Benzene, 1,3-di...	3.850	6.9	ug/ml	416271	1	4.943	2424480	40.0
Indane	5.114	41.7	ug/ml	2529120	2	4.943	2424480	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

Signal : TIC: AA011.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.793	26	36	43	rBV3	849087	1513603	2.65%	0.603%
2	3.010	70	73	79	rVB3	443094	723480	1.27%	0.288%
3	3.081	79	85	92	rBV	6155631	7638437	13.36%	3.044%
4	3.257	112	115	119	rVB2	892969	1031330	1.80%	0.411%
5	3.615	168	176	182	rBV6	280252	748333	1.31%	0.298%
6	3.739	190	197	200	rBV3	445534	750194	1.31%	0.299%
7	3.780	200	204	211	rVV	28933371	33033057	57.79%	13.164%
8	3.844	211	215	221	rVV	37318391	57161549	100.00%	22.780%
9	3.903	221	225	228	rVB2	587679	625283	1.09%	0.249%
10	4.003	236	242	243	rBV	974318	1102501	1.93%	0.439%
11	4.027	243	246	250	rVB	9659379	9030143	15.80%	3.599%
12	4.250	281	284	290	rVV	1156421	1263029	2.21%	0.503%
13	4.479	319	323	326	rVV	3204056	3558495	6.23%	1.418%
14	4.520	326	330	333	rVV	7019687	8001689	14.00%	3.189%
15	4.550	333	335	338	rVV	4648602	4425574	7.74%	1.764%
16	4.579	338	340	345	rVB	4976192	4619472	8.08%	1.841%
17	4.667	351	355	360	rBV	3986397	4360941	7.63%	1.738%
18	4.738	363	367	369	rVV	970815	986148	1.73%	0.393%
19	4.779	369	374	381	rVB	16588512	15375747	26.90%	6.127%
20	4.890	386	393	398	rBV3	489873	883240	1.55%	0.352%
21	4.943	398	402	406	rVB	2825041	2745909	4.80%	1.094%
22	4.990	406	410	414	rBV	6080729	5888975	10.30%	2.347%
23	5.114	427	431	435	rBV	5569136	6127901	10.72%	2.442%
24	5.166	438	440	442	rVV	1191576	1132083	1.98%	0.451%
25	5.202	442	446	450	rVV4	2415485	3551462	6.21%	1.415%
26	5.284	456	460	464	rBV	585786	649217	1.14%	0.259%
27	5.343	464	470	472	rBV	1113116	1251646	2.19%	0.499%
28	5.366	472	474	478	rVB	975240	835129	1.46%	0.333%
29	5.413	478	482	483	rBV	2213986	2342673	4.10%	0.934%
30	5.431	483	485	487	rVV	1756505	1707948	2.99%	0.681%
31	5.460	487	490	496	rVB3	1930690	2417555	4.23%	0.963%
32	5.560	505	507	513	rVB3	625554	818483	1.43%	0.326%
33	5.636	517	520	522	rVV	1431555	1342774	2.35%	0.535%
34	5.666	522	525	529	rVB	1643663	1621430	2.84%	0.646%
35	5.748	534	539	542	rVV4	456419	739765	1.29%	0.295%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

36	5.783	542	545	549	rVV3	549002	713546	1.25%	0.284%
37	5.830	549	553	560	rVV2	1681032	2519617	4.41%	1.004%
38	5.895	560	564	570	rVB	3665397	4202138	7.35%	1.675%
39	5.948	570	573	579	rBV4	665519	890466	1.56%	0.355%
40	6.007	579	583	589	rBV3	919793	1015325	1.78%	0.405%
41	6.077	589	595	598	rBV	1521786	1458571	2.55%	0.581%
42	6.142	598	606	607	rVV2	837631	1421081	2.49%	0.566%
43	6.171	607	611	612	rVV	3535502	3912233	6.84%	1.559%
44	6.195	612	615	620	rVV	7868951	8239416	14.41%	3.284%
45	6.242	620	623	627	rVB	1524578	1600691	2.80%	0.638%
46	6.518	667	670	676	rVB2	669462	995433	1.74%	0.397%
47	6.688	696	699	702	rBV	1322220	1241919	2.17%	0.495%
48	6.876	727	731	737	rBV	2698646	2784660	4.87%	1.110%
49	6.976	743	748	753	rBV2	1387544	1727090	3.02%	0.688%
50	7.217	786	789	793	rBV	1638990	1711854	2.99%	0.682%
51	7.258	793	796	801	rVB	1049447	1115392	1.95%	0.444%
52	7.505	832	838	842	rBV3	399689	802617	1.40%	0.320%
53	7.581	847	851	853	rVV	931965	1068017	1.87%	0.426%
54	7.793	883	887	890	rBV	1012263	941262	1.65%	0.375%
55	7.940	908	912	916	rBV	4253448	4450100	7.79%	1.773%
56	8.739	1044	1048	1052	rVB	1669180	1716318	3.00%	0.684%
57	9.461	1167	1171	1179	rBV	4382717	4769232	8.34%	1.901%
58	11.236	1469	1473	1479	rVB	1168061	1502440	2.63%	0.599%
59	13.010	1768	1775	1787	rBV2	2996475	5286370	9.25%	2.107%
60	16.119	2295	2304	2317	rBV2	2134143	4841919	8.47%	1.930%

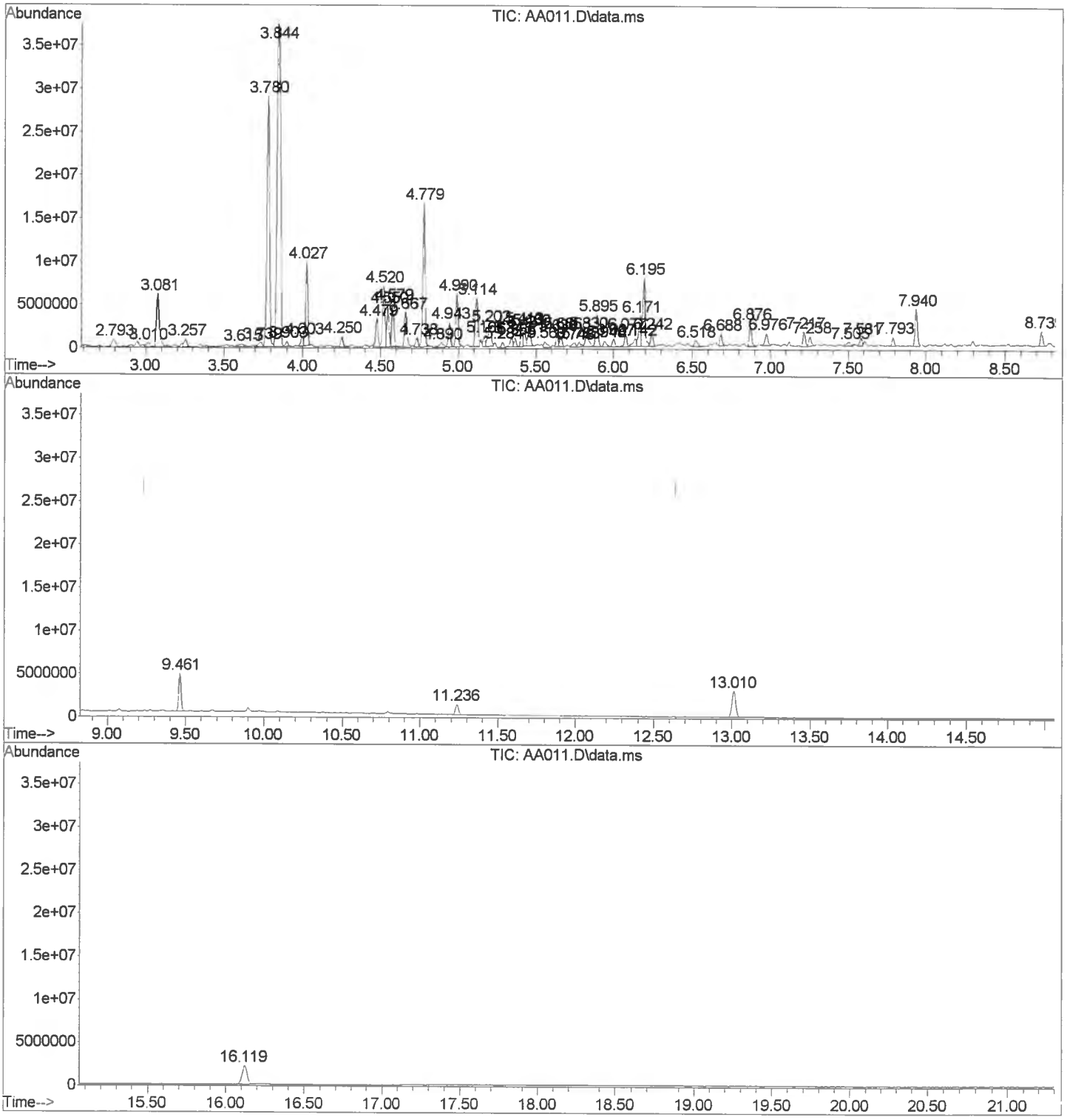
Sum of corrected areas: 250932902

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

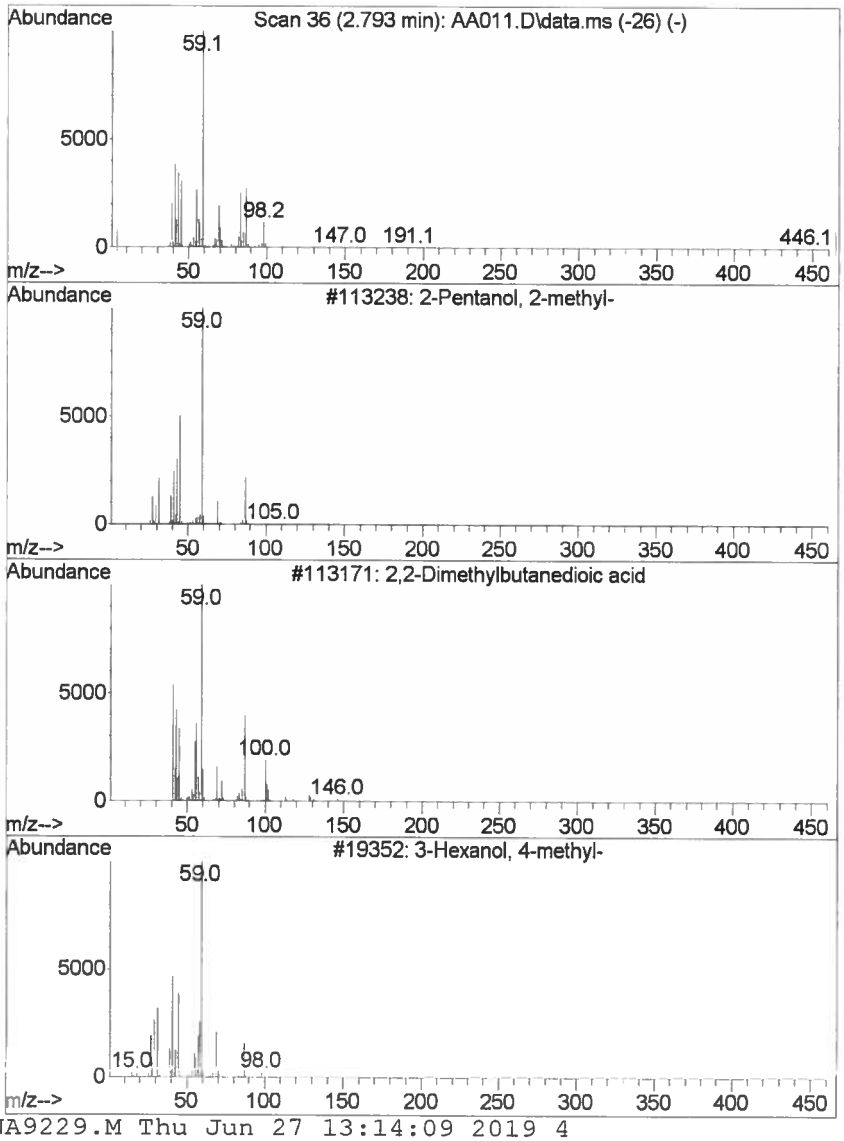
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

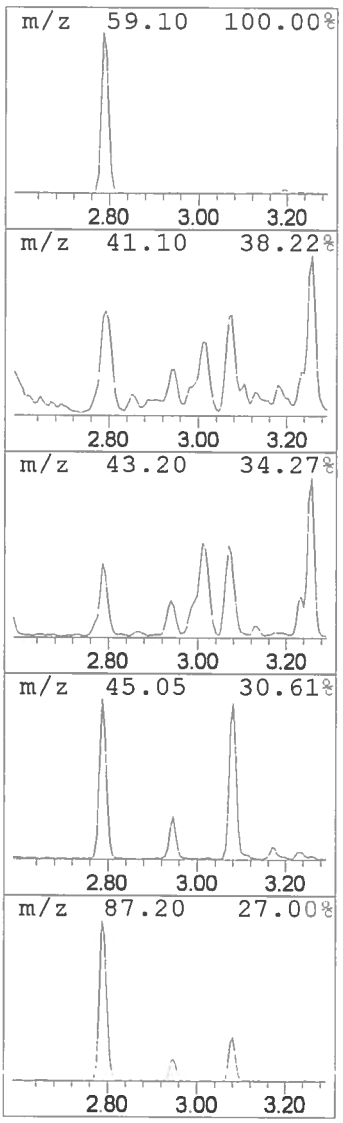
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 2-Pentanol, 2-methyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.793	22.05 ug/ml	1513600	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentanol, 2-methyl-	102	C6H14O	000590-36-3	53
2	2,2-Dimethylbutanedioic acid	146	C6H10O4	000597-43-3	53
3	3-Hexanol, 4-methyl-	116	C7H16O	000615-29-2	53
4	Cyclohexane, (ethoxymethoxy)-	158	C9H18O2	054699-29-5	47
5	2-Butanol, 2,3-dimethyl-	102	C6H14O	000594-60-5	47





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

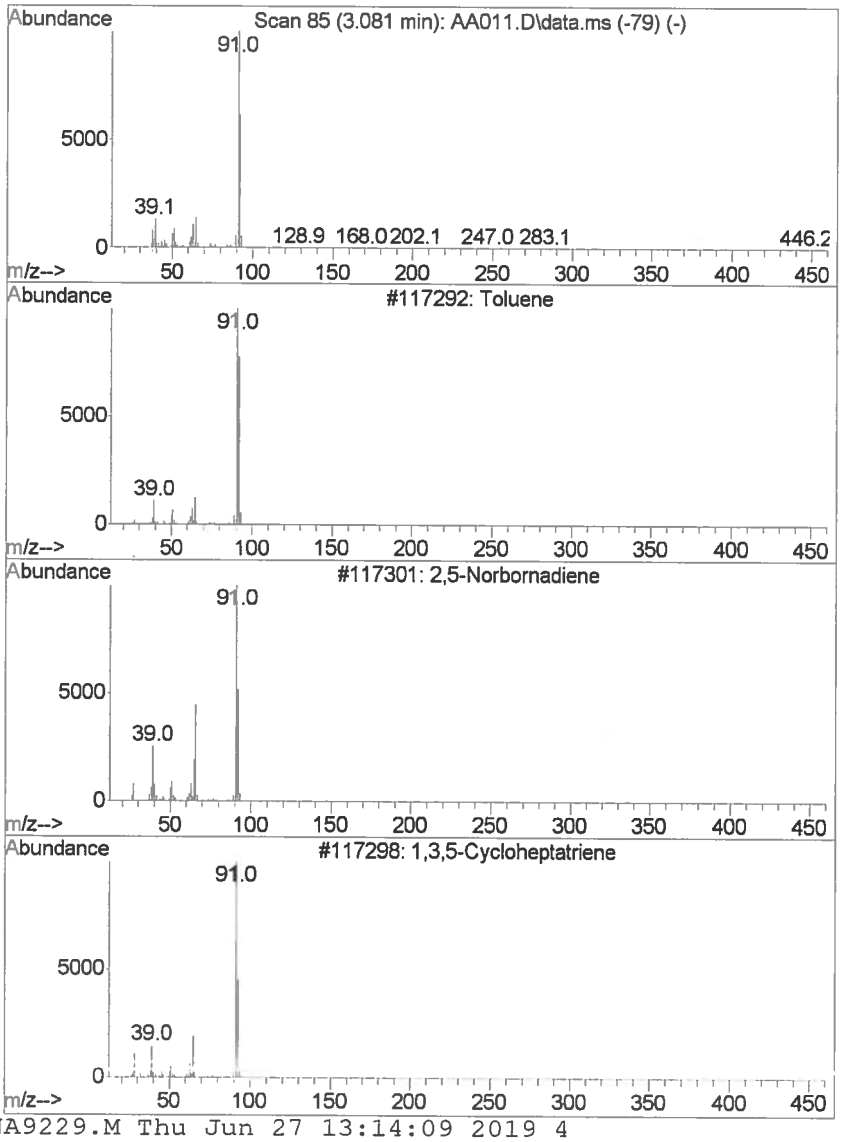
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

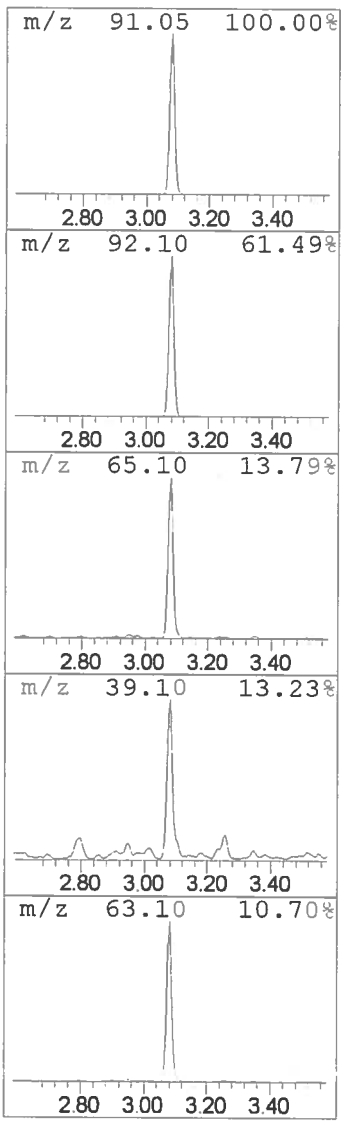
****

Peak Number 2 Toluene Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.081	111.27 ug/ml	7638440	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Toluene	92	C7H8	000108-88-3	93
2	2,5-Norbornadiene	92	C7H8	000121-46-0	83
3	1,3,5-Cycloheptatriene	92	C7H8	000544-25-2	74
4	Molybdenum, di-.mu.-chlorobis[(1...	532	C20H26Cl2Mo2	035625-66-2	72
5	Spiro[2.4]hepta-4,6-diene	92	C7H8	000765-46-8	58





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

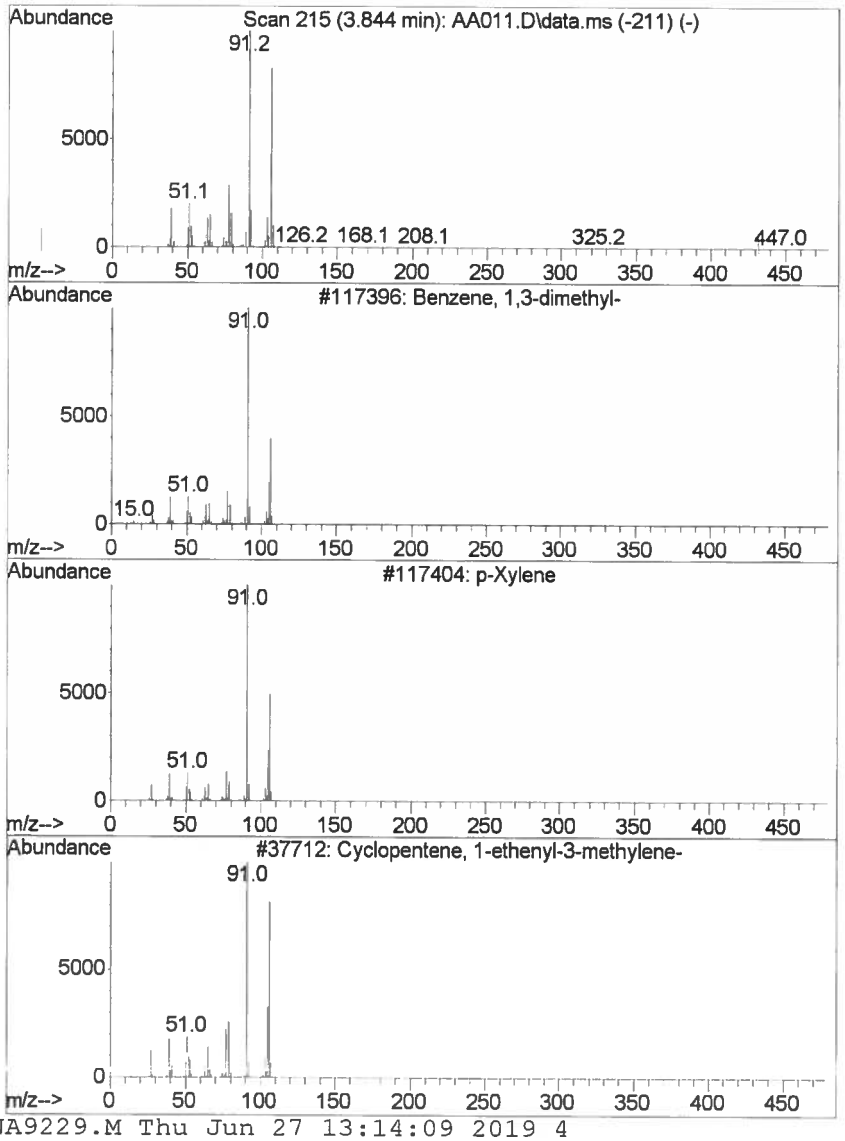
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

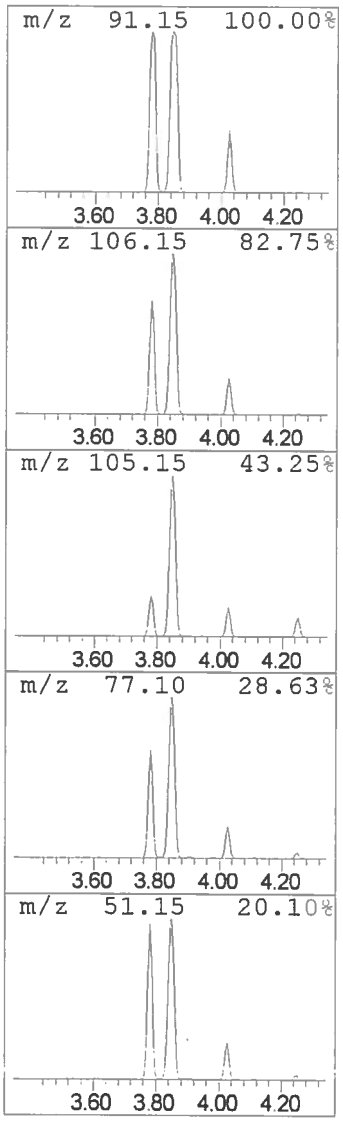
****

Peak Number 3 Benzene, 1,3-dimethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.844	832.68 ug/ml	57161500	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,3-dimethyl-	106	C8H10	000108-38-3	94
2	p-Xylene	106	C8H10	000106-42-3	93
3	Cyclopentene, 1-ethenyl-3-methyl...	106	C8H10	061142-07-2	91
4	Benzene, 1,2-dimethyl-	106	C8H10	000095-47-6	89
5	1,3-Cyclopentadiene, 5-(1-methyl...	106	C8H10	002175-91-9	87





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

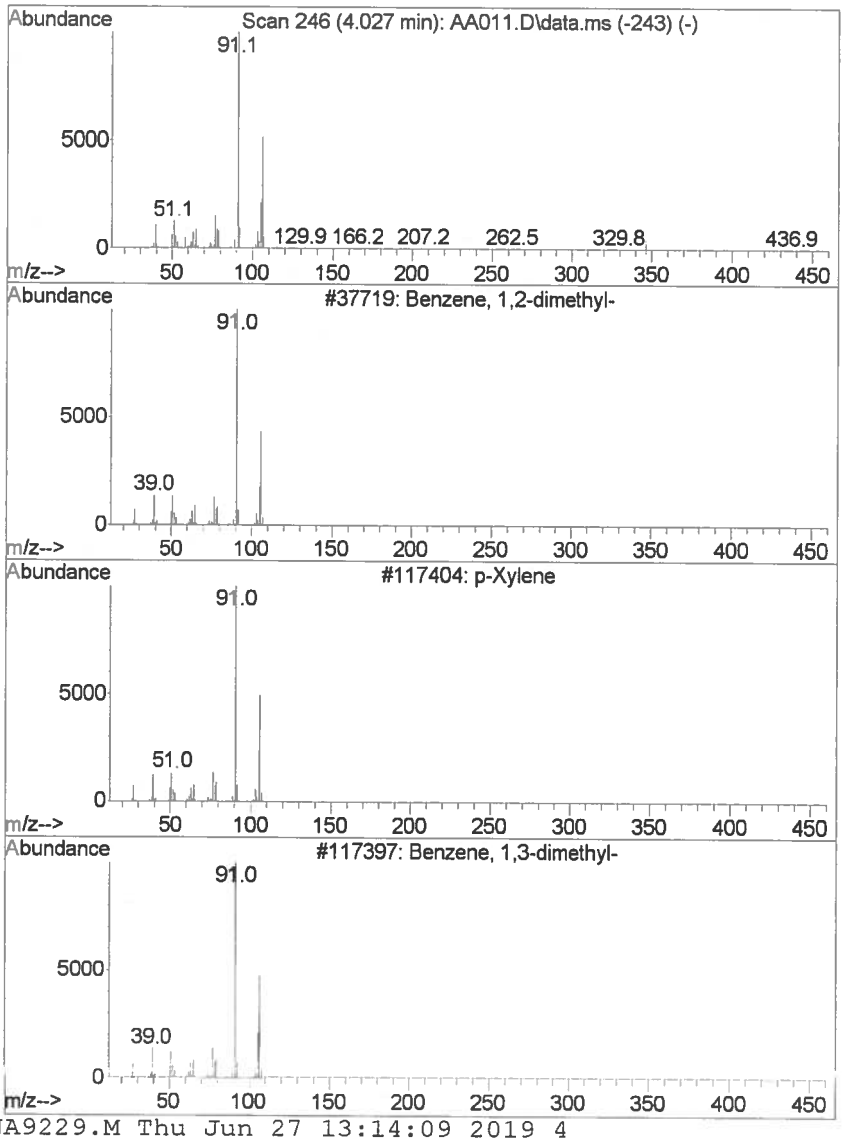
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

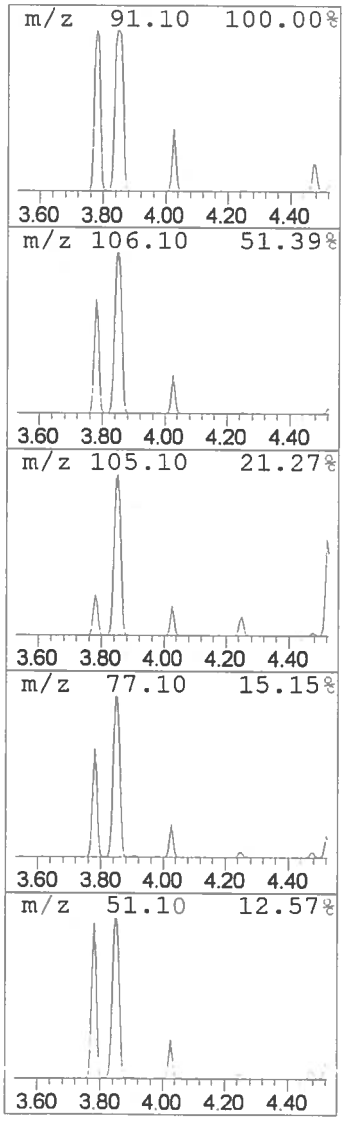
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 4 Benzene, 1,2-dimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.027	131.54 ug/ml	9030140	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,2-dimethyl-	106	C8H10	000095-47-6	97
2	p-Xylene	106	C8H10	000106-42-3	97
3	Benzene, 1,3-dimethyl-	106	C8H10	000108-38-3	97
4	Cyclopentene, 1-ethenyl-3-methyl...	106	C8H10	061142-07-2	91
5	1,3-Cyclopentadiene, 5-(1-methyl...	106	C8H10	002175-91-9	90





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

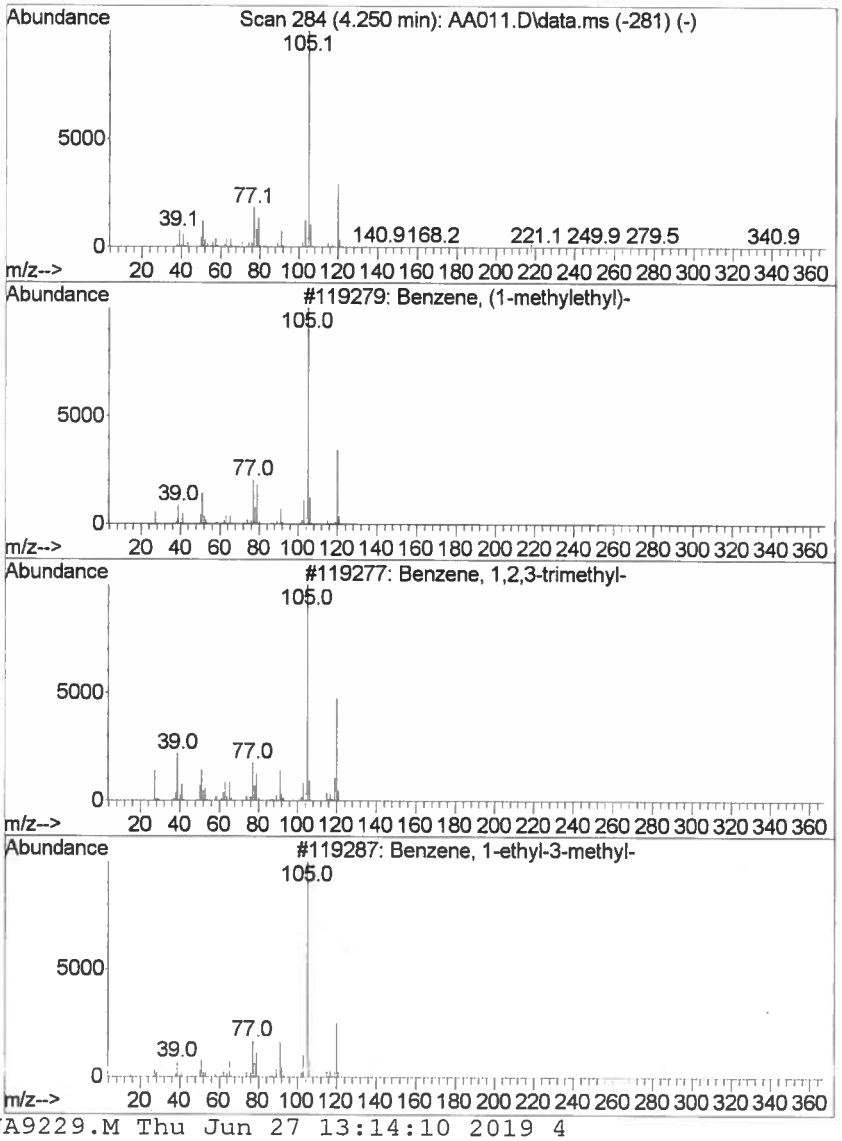
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

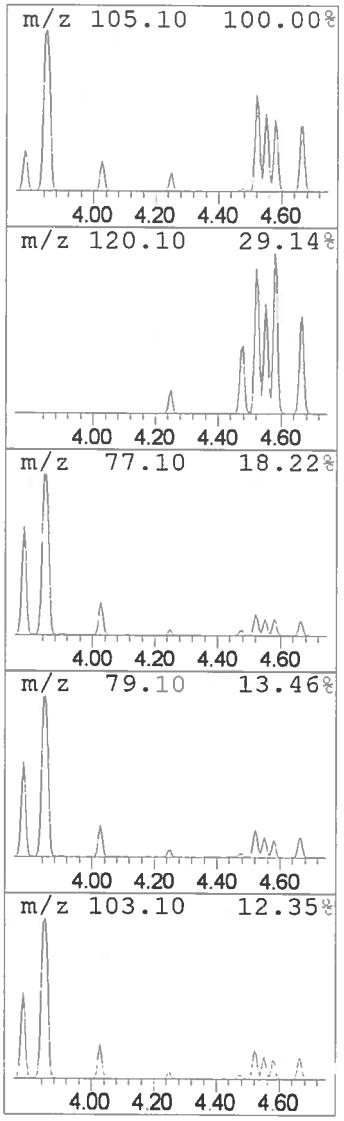
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 5 Benzene, (1-methylethyl)- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.250	18.40 ug/ml	1263030	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, (1-methylethyl)-	120	C9H12	000098-82-8	95
2	Benzene, 1,2,3-trimethyl-	120	C9H12	000526-73-8	91
3	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	83
4	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	83
5	Benzene, 1,2,4-trimethyl-	120	C9H12	000095-63-6	80





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

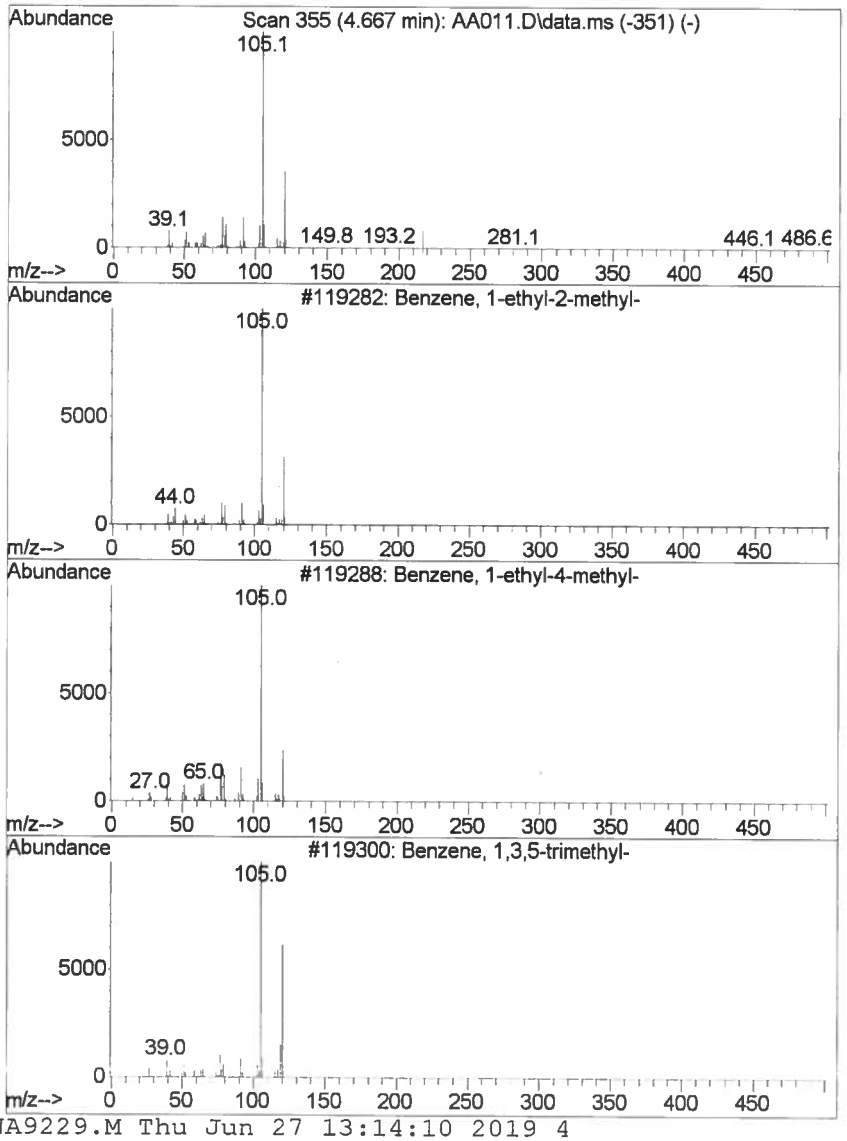
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

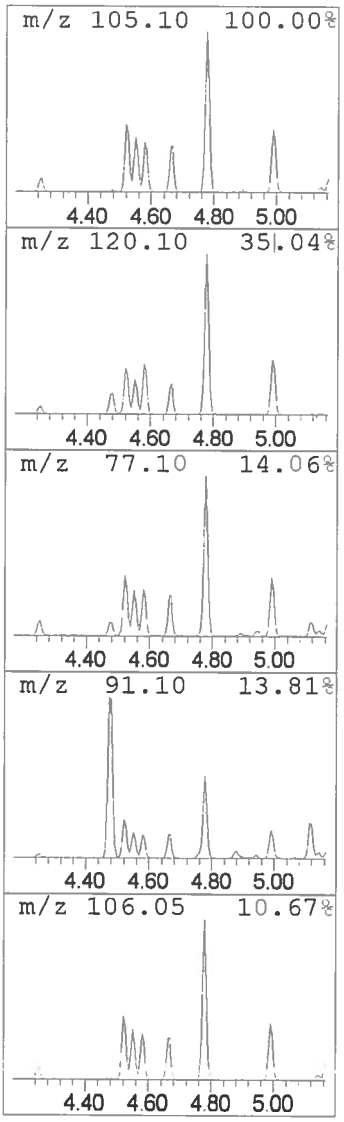
****

Peak Number 6 Benzene, 1-ethyl-2-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.667	63.53 ug/ml	4360940	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	95
2	Benzene, 1-ethyl-4-methyl-	120	C9H12	000622-96-8	93
3	Benzene, 1,3,5-trimethyl-	120	C9H12	000108-67-8	91
4	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	91
5	Benzene, 1,2,3-trimethyl-	120	C9H12	000526-73-8	91





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

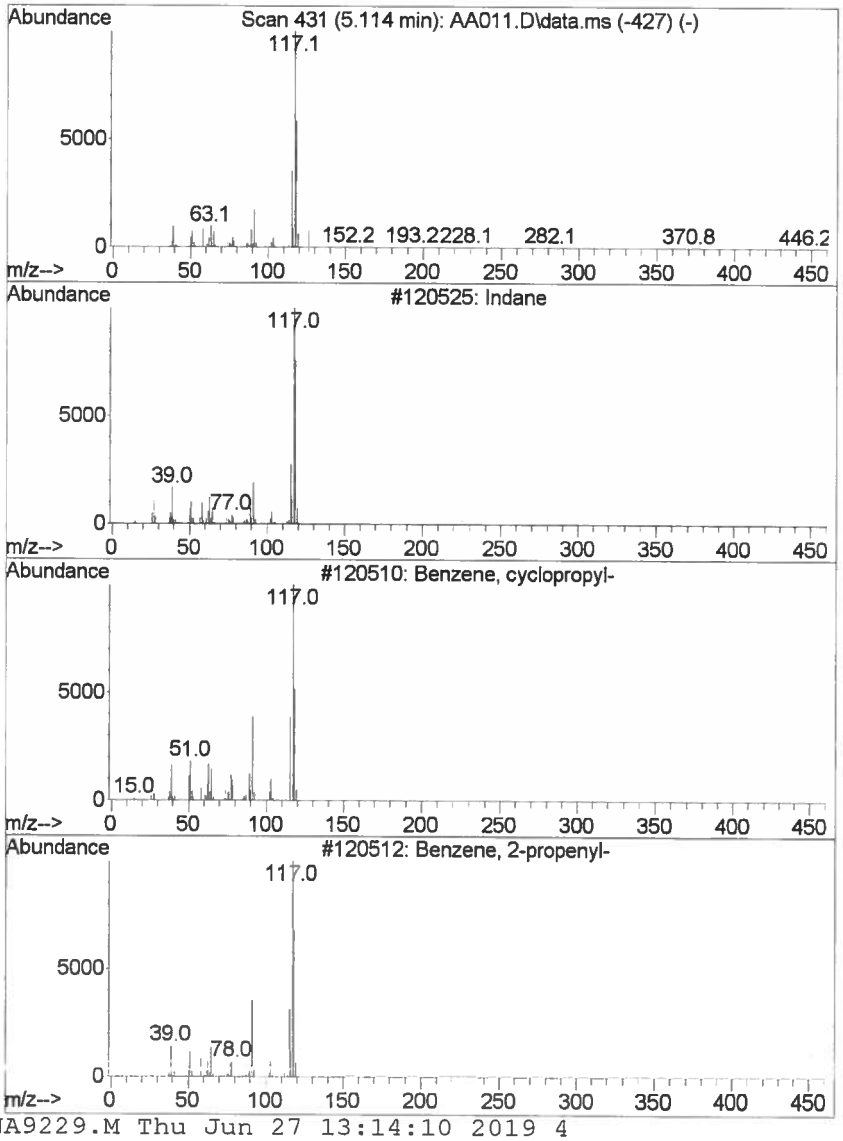
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

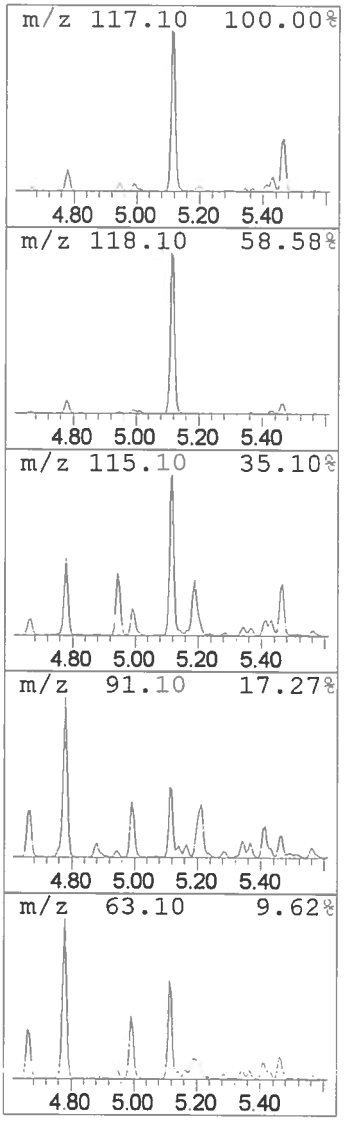
****

Peak Number 7 Indane Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.114	89.27 ug/ml	6127900	1,4-Dichlorobenzene-d4*	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Indane	118	C9H10	000496-11-7	94
2	Benzene, cyclopropyl-	118	C9H10	000873-49-4	81
3	Benzene, 2-propenyl-	118	C9H10	000300-57-2	72
4	Tetracyclo[3.3.1.0(2,8).0(4,6)]-...	118	C9H10	1000191-13-7	72
5	Benzene, 1-ethenyl-2-methyl-	118	C9H10	000611-15-4	68





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

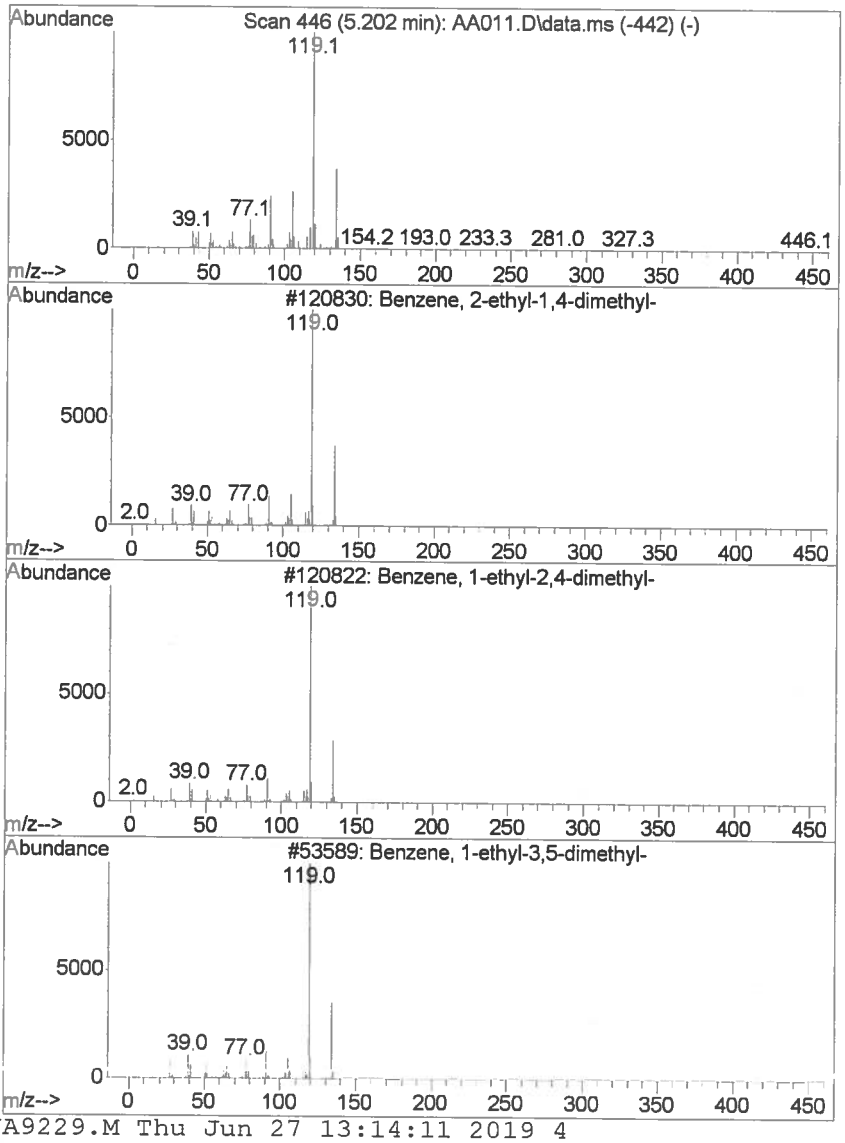
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

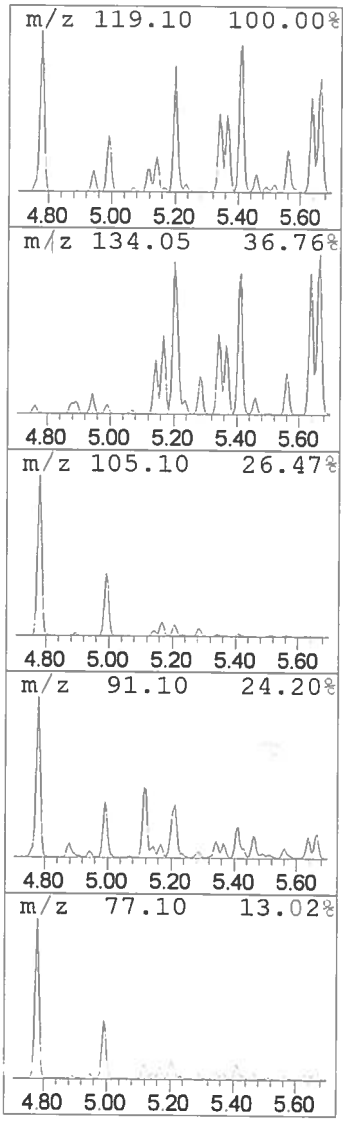
****

Peak Number 8 Benzene, 2-ethyl-1,4-dimethyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.202	51.73 ug/ml	3551460	1,4-Dichlorobenzene-d4*	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 2-ethyl-1,4-dimethyl-	134	C10H14	001758-88-9	90
2	Benzene, 1-ethyl-2,4-dimethyl-	134	C10H14	000874-41-9	90
3	Benzene, 1-ethyl-3,5-dimethyl-	134	C10H14	000934-74-7	90
4	Benzene, 1-ethyl-2,3-dimethyl-	134	C10H14	000933-98-2	90
5	Benzene, 4-ethyl-1,2-dimethyl-	134	C10H14	000934-80-5	90





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

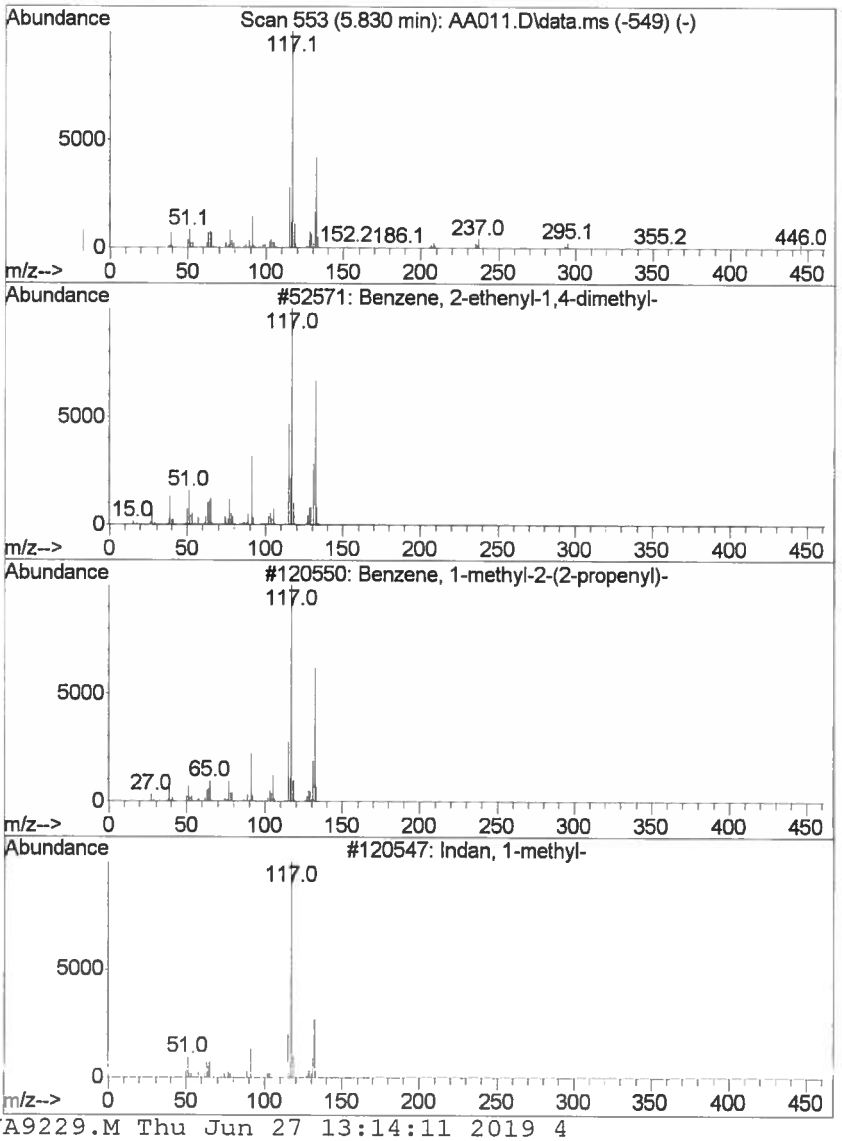
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

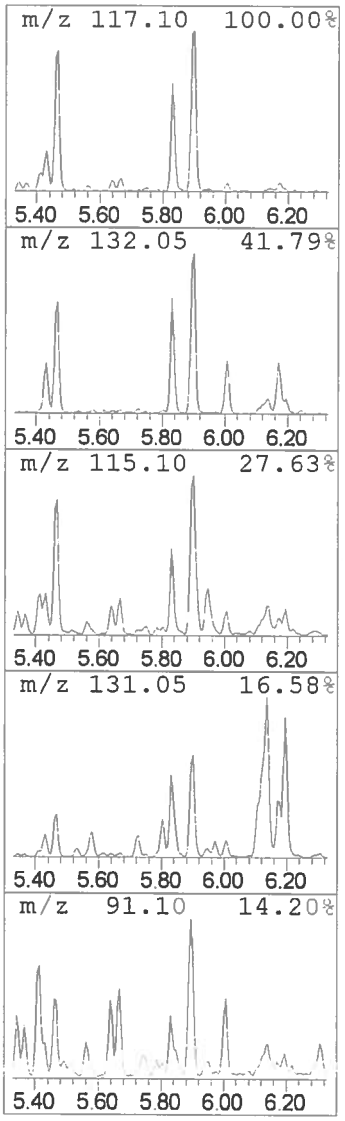
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 9 Benzene, 2-ethenyl-1,4-dime... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.830	25.76 ug/ml	2519620	Naphthalene-d8	6.171

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 2-ethenyl-1,4-dimethyl-	132	C10H12	002039-89-6	96
2	Benzene, 1-methyl-2-(2-propenyl)-	132	C10H12	001587-04-8	93
3	Indan, 1-methyl-	132	C10H12	000767-58-8	93
4	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000768-00-3	90
5	Benzene, (2-methyl-1-propenyl)-	132	C10H12	000768-49-0	90





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

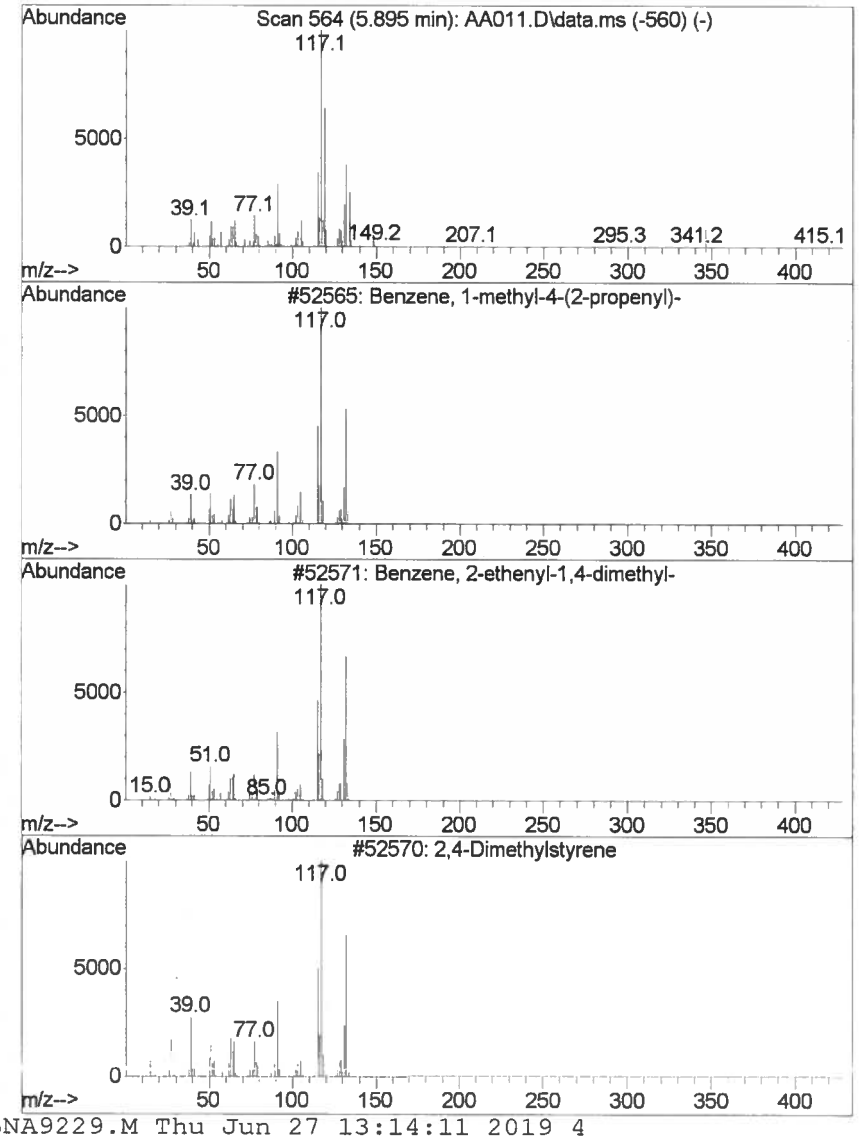
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

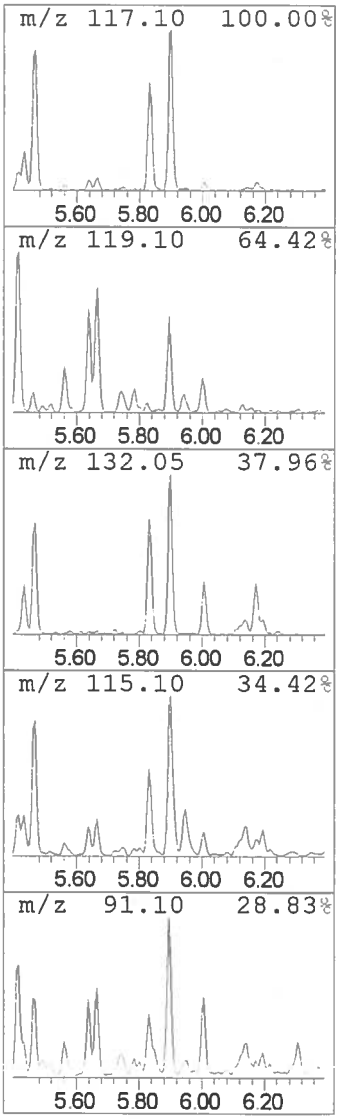
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 10 Benzene, 1-methyl-4-(2-prop... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.895	42.96 ug/ml	4202140	Naphthalene-d8	6.171

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-methyl-4-(2-propenyl)-	132	C10H12	003333-13-9	92
2	Benzene, 2-ethenyl-1,4-dimethyl-	132	C10H12	002039-89-6	90
3	2,4-Dimethylstyrene	132	C10H12	002234-20-0	87
4	1-Phenyl-1-butene	132	C10H12	000824-90-8	64
5	Benzene, 2-butenyl-	132	C10H12	001560-06-1	64





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627\
Data File : AA011.D
Acq On : 27 Jun 2019 12:12 pm
Operator : DH
Sample : 19061617-004A
Misc : ,SV_8270S_S,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard		
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
2-Pentanol, 2-m...	2.793	22.0	ug/ml	1513600	1	4.943	2745910	40.0
Toluene	3.081	111.3	ug/ml	7638440	1	4.943	2745910	40.0
Benzene, 1,3-di...	3.844	832.7	ug/ml	57161500	1	4.943	2745910	40.0
Benzene, 1,2-di...	4.027	131.5	ug/ml	9030140	1	4.943	2745910	40.0
Benzene, (1-met...	4.250	18.4	ug/ml	1263030	1	4.943	2745910	40.0
Benzene, 1-ethy...	4.667	63.5	ug/ml	4360940	1	4.943	2745910	40.0
Indane	5.114	89.3	ug/ml	6127900	2	4.943	2745910	40.0
Benzene, 2-ethy...	5.202	51.7	ug/ml	3551460	2	4.943	2745910	40.0
Benzene, 2-ethe...	5.830	25.8	ug/ml	2519620	3	6.171	3912230	40.0
Benzene, 1-meth...	5.895	43.0	ug/ml	4202140	3	6.171	3912230	40.0

Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 26 Jun 2019 8:50
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190625A\N45.D
Name: 19061617-001A
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

N45.D VOCN1908.M Wed Jun 26 12:21:10 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N45.D Vial: 45
Acq On : 26 Jun 2019 8:50 Operator: Kelly Senci
Sample : 19061617-001A Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

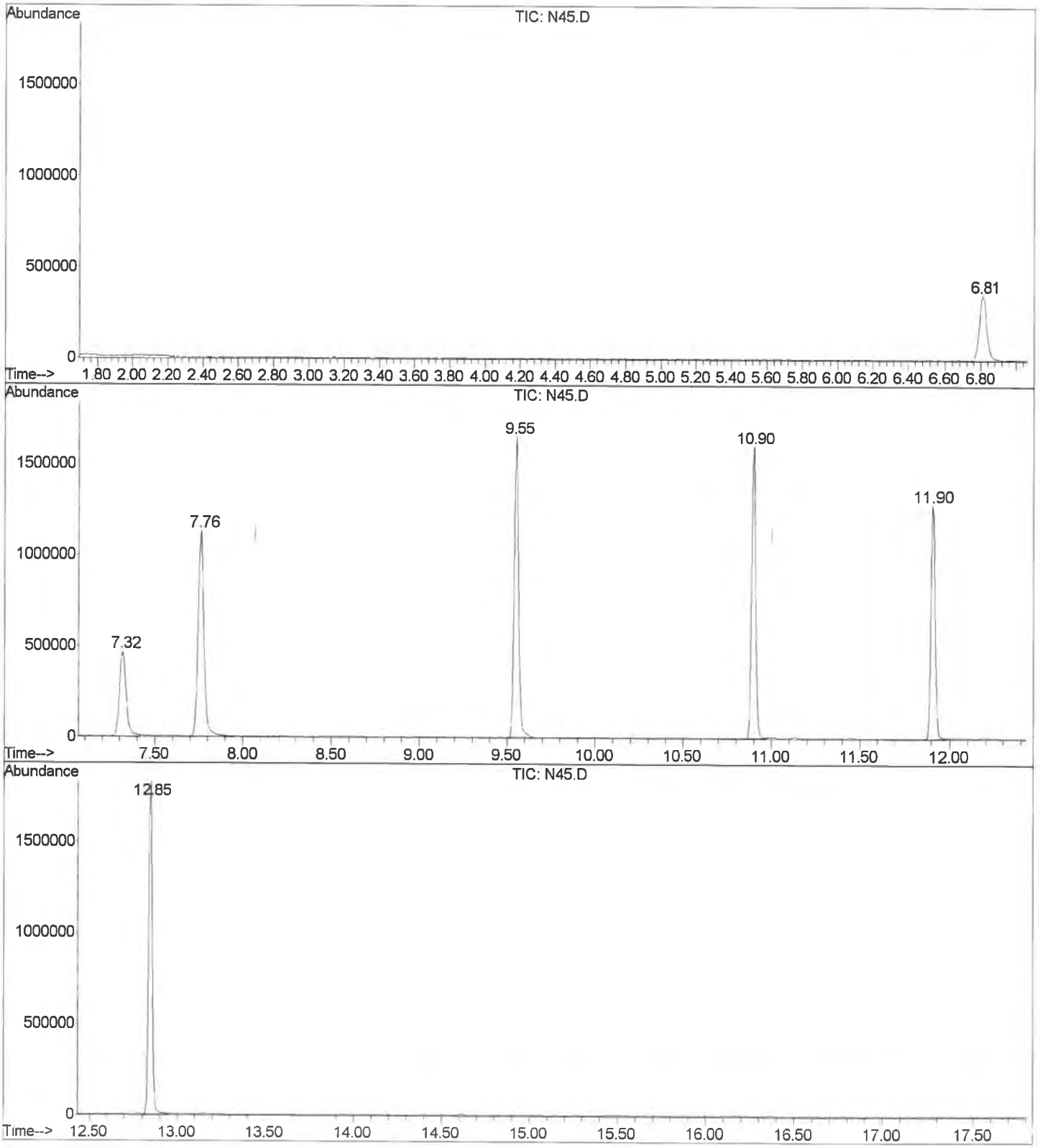
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.810	736	744	763	rBV	354413	1065062	36.69%	7.084%
2	7.316	796	804	816	rBV	463229	1230215	42.38%	8.182%
3	7.763	849	857	878	rBV	1125168	2579834	88.87%	17.159%
4	9.551	1064	1069	1083	rBV	1647264	2902872	100.00%	19.307%
5	10.901	1224	1229	1238	rBV	1599011	2572736	88.63%	17.112%
6	11.904	1344	1348	1358	rBV	1276561	1985037	68.38%	13.203%
7	12.849	1455	1460	1471	rBV	1827286	2699282	92.99%	17.953%

Sum of corrected areas: 15035038

N45.D VOCN1908.M Wed Jun 26 12:21:10 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N45.D
Operator : Kelly Senci
Acquired : 26 Jun 2019 8:50 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061617-001A
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 45
Quant File :VOCN1908.RES (RTE Integrator)



N45.D VOCN1908.M Wed Jun 26 12:21:10 2019

Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 26 Jun 2019 9:18
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190625A\N46.D
Name: 19061617-002B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

N46.D VOCN1908.M Wed Jun 26 12:21:16 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N46.D Vial: 46
Acq On : 26 Jun 2019 9:18 Operator: Kelly Senci
Sample : 19061617-002B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

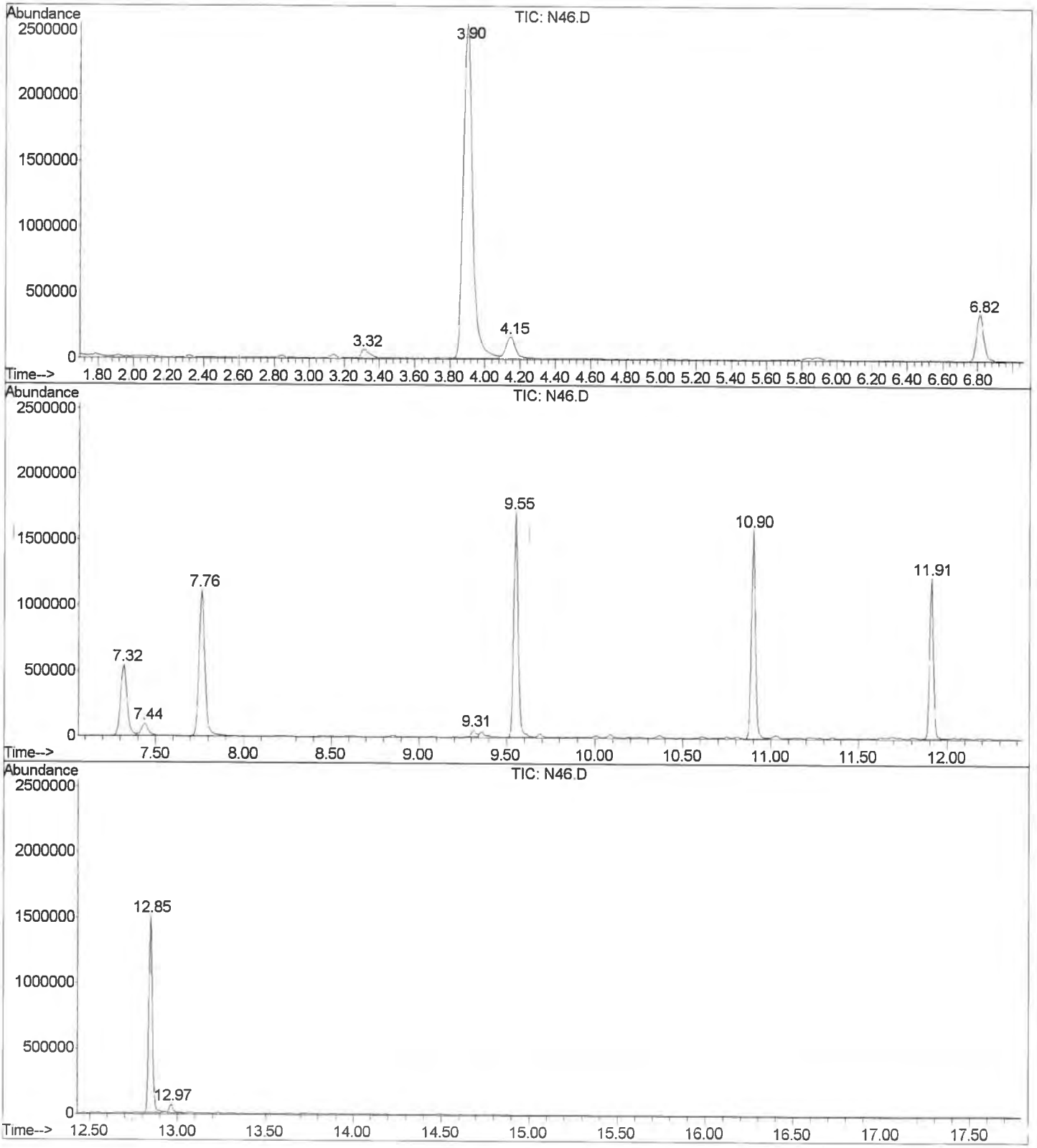
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.315	323	330	347	rBV	65586	238083	2.59%	0.958%
2	3.897	389	399	421	rBV	2534974	9203535	100.00%	37.029%
3	4.151	421	429	446	rVB	161275	596199	6.48%	2.399%
4	6.816	733	745	760	rBV	352484	1041425	11.32%	4.190%
5	7.322	797	805	813	rBV2	537491	1373264	14.92%	5.525%
6	7.440	813	819	831	rVB	91875	257078	2.79%	1.034%
7	7.761	850	857	876	rBV	1111623	2583497	28.07%	10.394%
8	9.313	1036	1041	1044	rBV	51220	95705	1.04%	0.385%
9	9.549	1064	1069	1081	rBV	1710178	2924938	31.78%	11.768%
10	10.899	1224	1229	1239	rBV	1582934	2500834	27.17%	10.062%
11	11.911	1342	1349	1358	rBV	1222900	1812825	19.70%	7.294%
12	12.847	1456	1460	1468	rBV	1496359	2133439	23.18%	8.584%
13	12.965	1471	1474	1483	rVB	62138	94177	1.02%	0.379%

Sum of corrected areas: 24854999

N46.D VOCN1908.M Wed Jun 26 12:21:16 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N46.D
Operator : Kelly Senci
Acquired : 26 Jun 2019 9:18 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061617-002B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 46
Quant File :VOCN1908.RES (RTE Integrator)



N46.D VOCN1908.M Wed Jun 26 12:21:16 2019

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

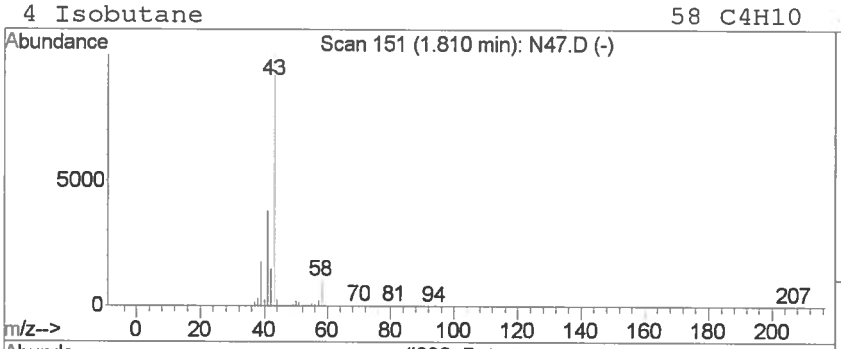
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

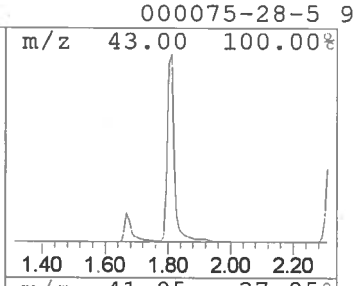
****

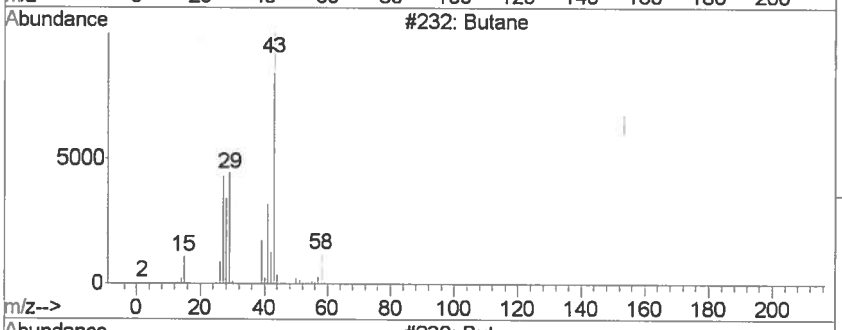
Peak Number 1 Butane Concentration Rank 4

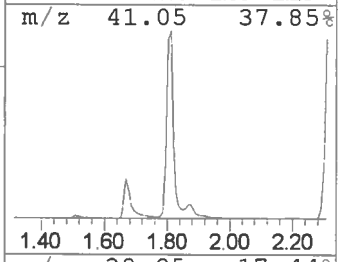
R.T.	EstConc	Area	Relative to ISTD	R.T.
1.81	50.99 ug/L	2702980	Fluorobenzene	7.77

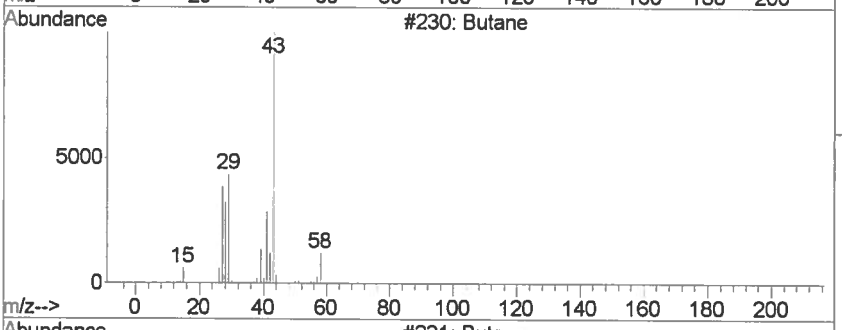
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane	58	C4H10	000106-97-8	64
2	Butane	58	C4H10	000106-97-8	59
3	Butane	58	C4H10	000106-97-8	45
4	Isobutane	58	C4H10	000075-28-5	9

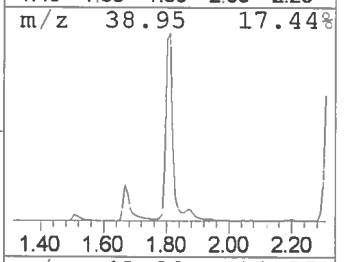


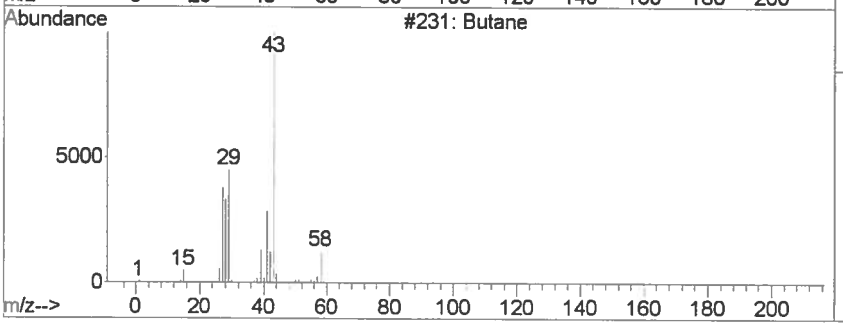


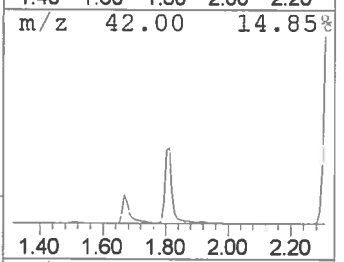


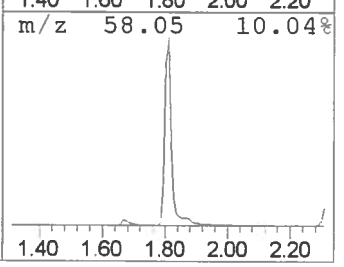












Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

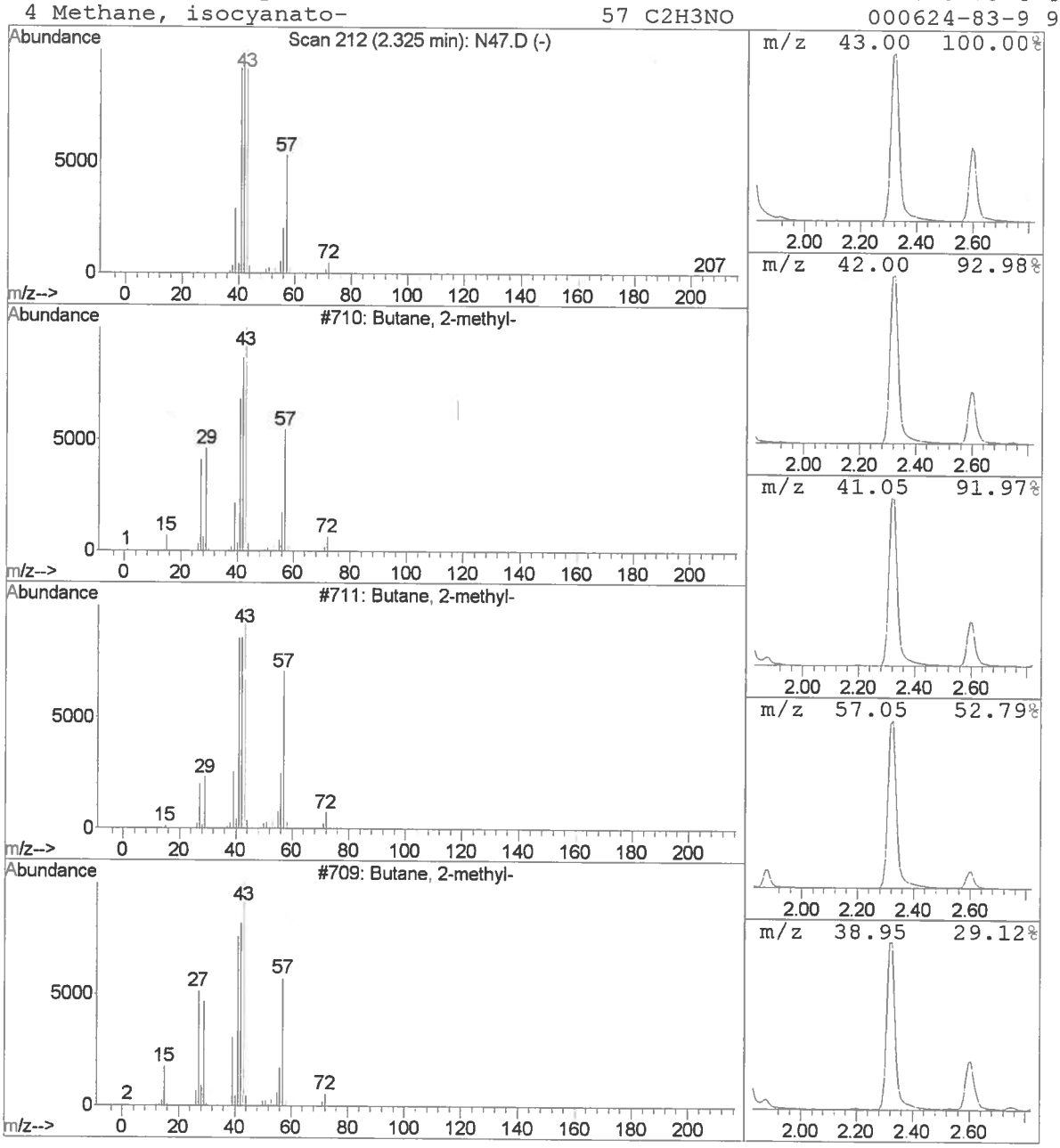
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 2 Butane, 2-methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.32	104.15 ug/L	5520970	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	72
2	Butane, 2-methyl-	72	C5H12	000078-78-4	49
3	Butane, 2-methyl-	72	C5H12	000078-78-4	47
4	Methane, isocyanato-	57	C2H3NO	000624-83-9	9



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

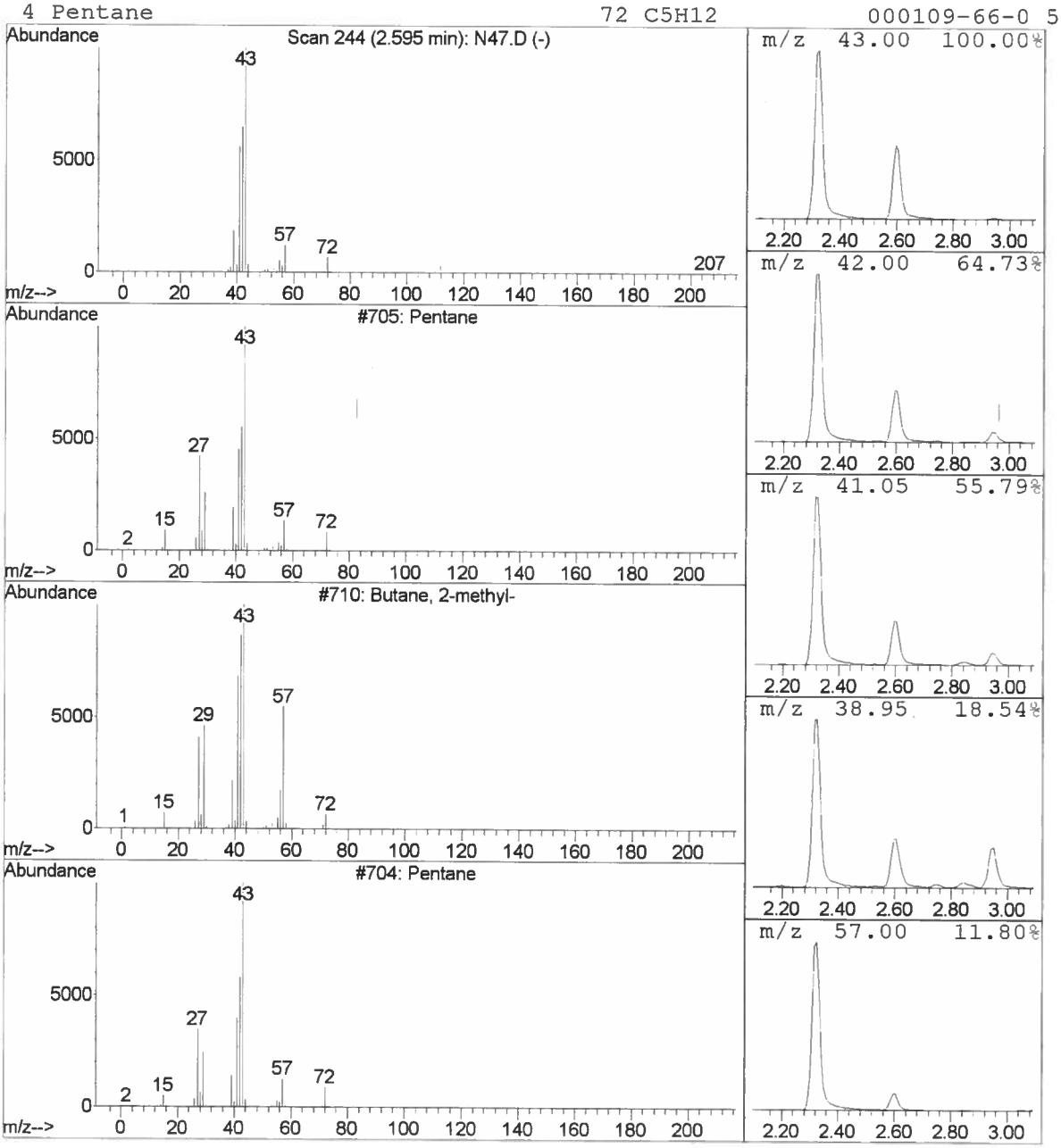
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 3 Pentane Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.59	31.31 ug/L	1659490	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane	72	C5H12	000109-66-0	86
2	Butane, 2-methyl-	72	C5H12	000078-78-4	80
3	Pentane	72	C5H12	000109-66-0	78
4	Pentane	72	C5H12	000109-66-0	50



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

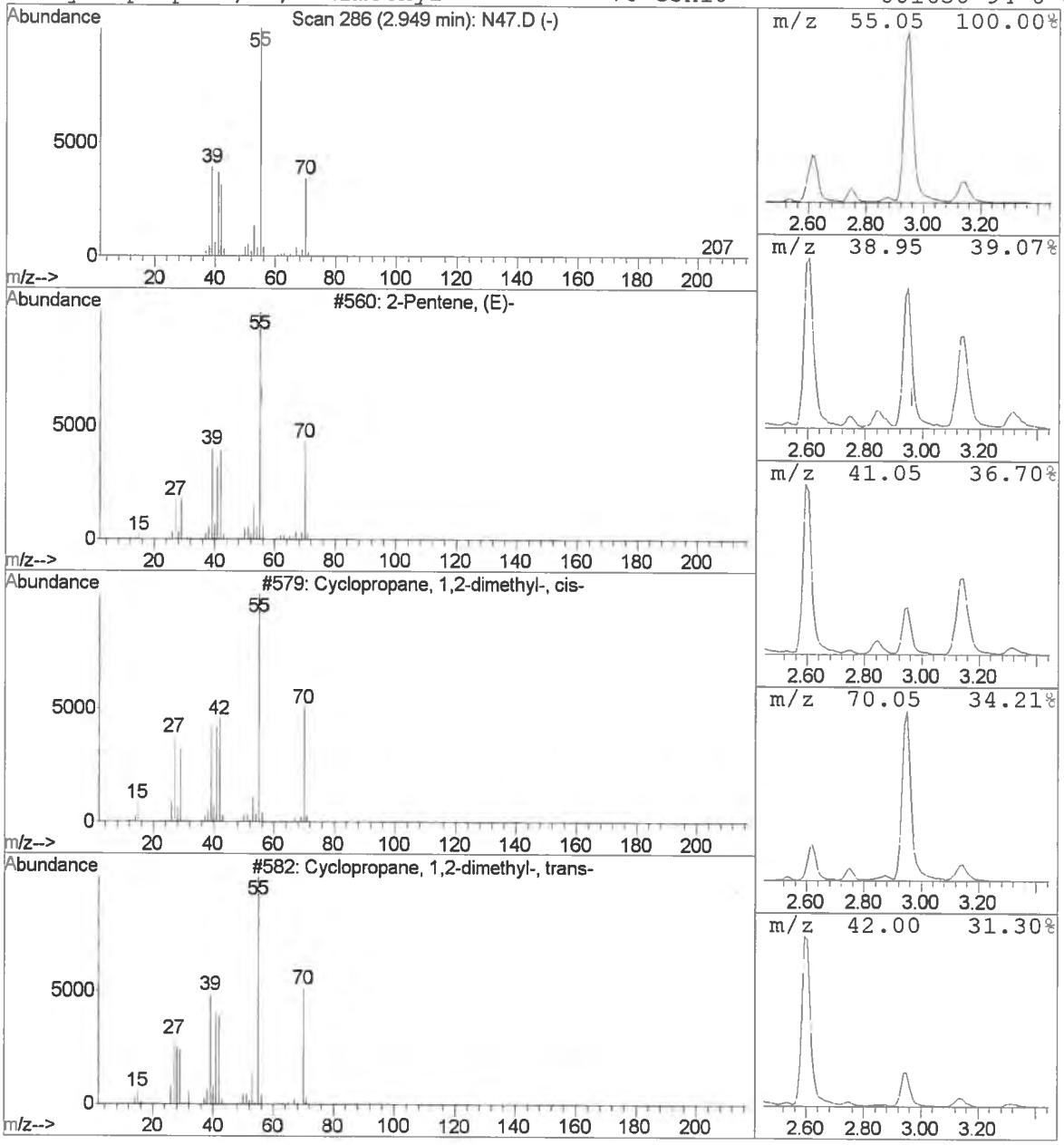
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 4 2-Pentene, (E)- Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.95	13.69 ug/L	725480	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Pentene, (E)-	70	C5H10	000646-04-8	94
2	Cyclopropane, 1,2-dimethyl-, cis-	70	C5H10	000930-18-7	90
3	Cyclopropane, 1,2-dimethyl-, trans-	70	C5H10	002402-06-4	90
4	Cyclopropane, 1,1-dimethyl-	70	C5H10	001630-94-0	87



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

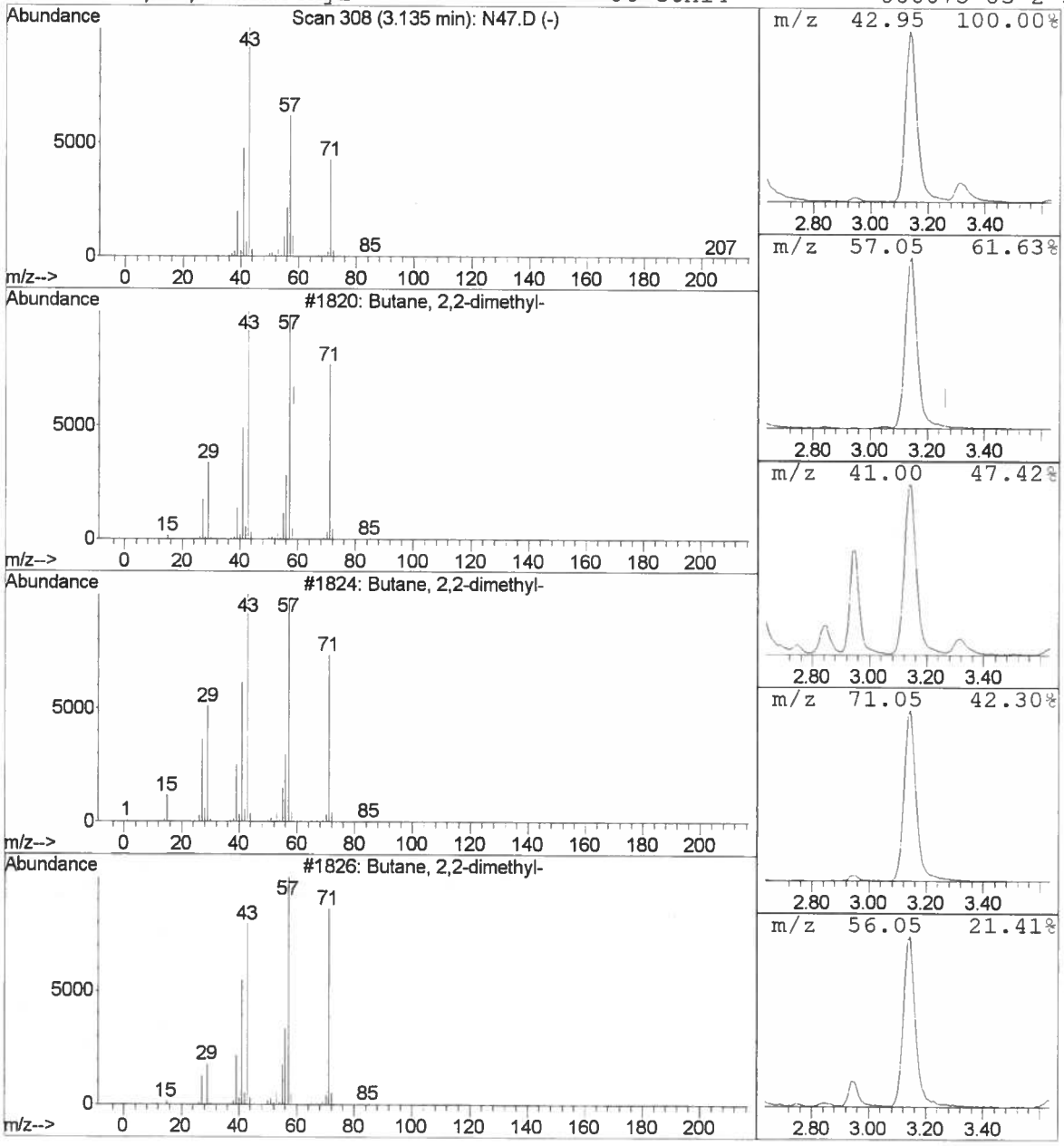
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 5 Butane, 2,2-dimethyl- Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.13	25.76 ug/L	1365440	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,2-dimethyl-	86	C6H14	000075-83-2	64
2	Butane, 2,2-dimethyl-	86	C6H14	000075-83-2	64
3	Butane, 2,2-dimethyl-	86	C6H14	000075-83-2	53
4	Butane, 2,2-dimethyl-	86	C6H14	000075-83-2	50



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

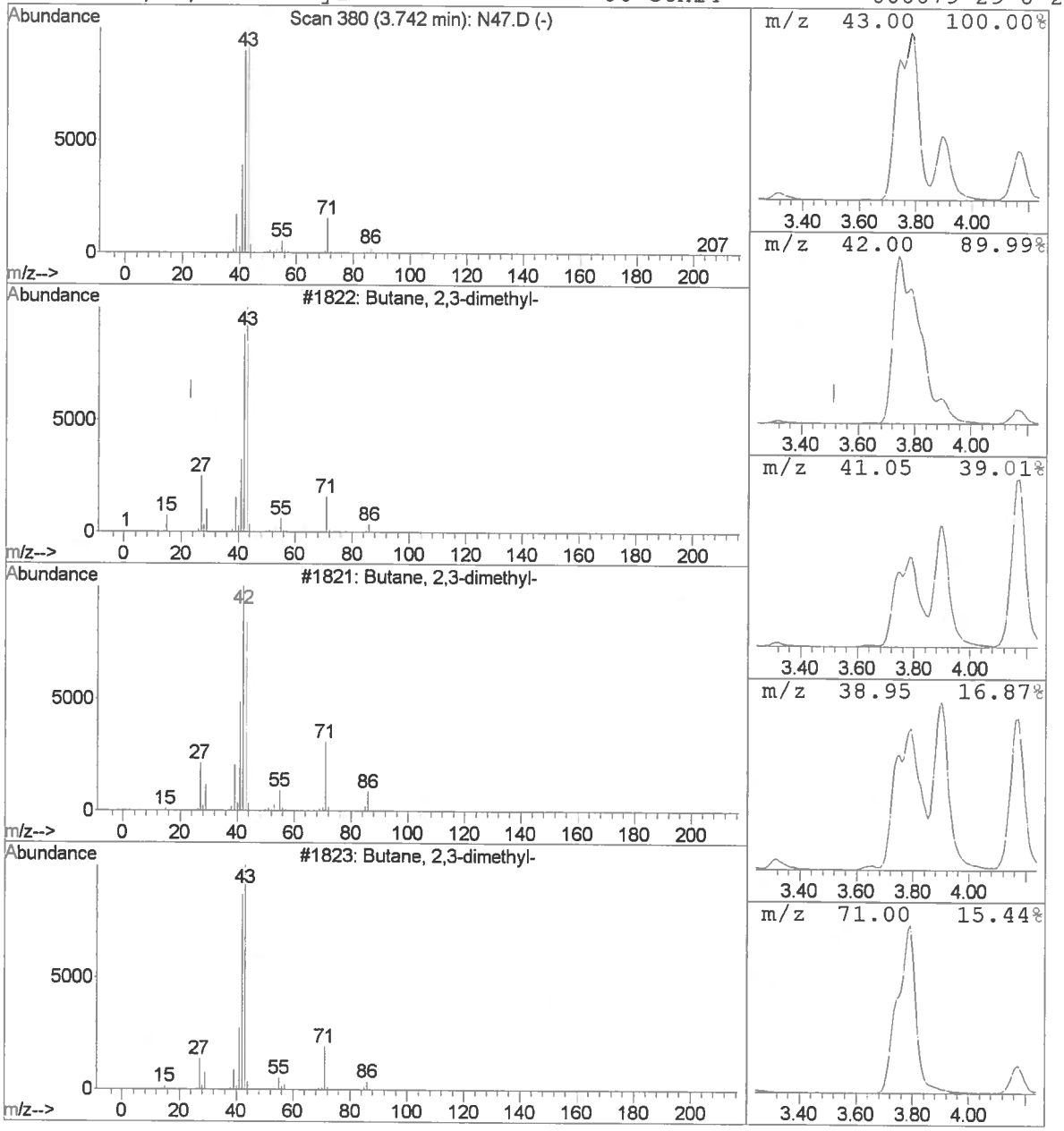
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 6 Butane, 2,3-dimethyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.74	47.85 ug/L	2536530	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	86
2	Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	50
3	Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	37
4	Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	22



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

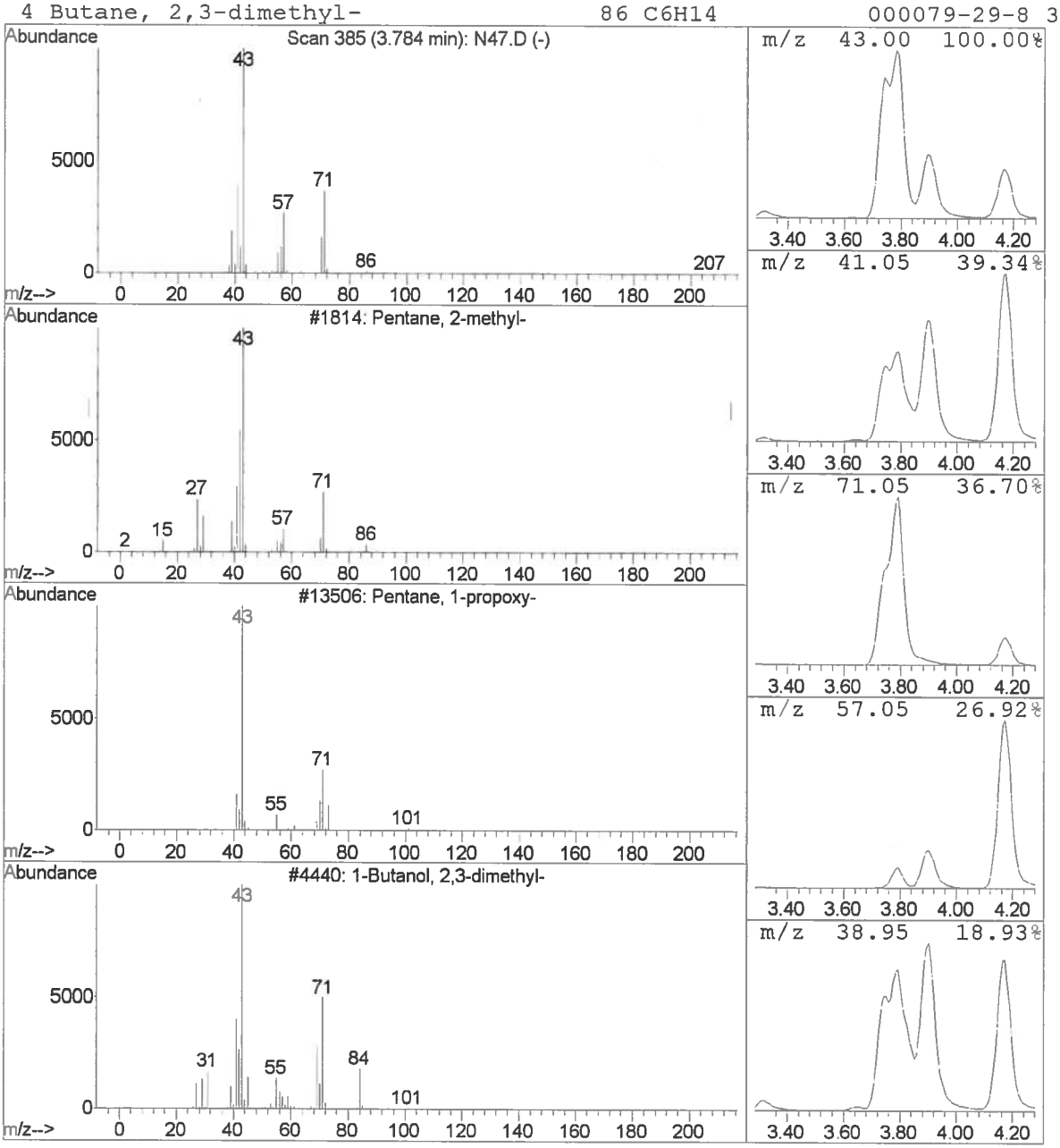
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 7 Pentane, 2-methyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.78	67.00 ug/L	3551480	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 2-methyl-	86	C6H14	000107-83-5	50
2	Pentane, 1-propoxy-	130	C8H18O	018641-82-2	42
3	1-Butanol, 2,3-dimethyl-	102	C6H14O	019550-30-2	38
4	Butane, 2,3-dimethyl-	86	C6H14	000079-29-8	33



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

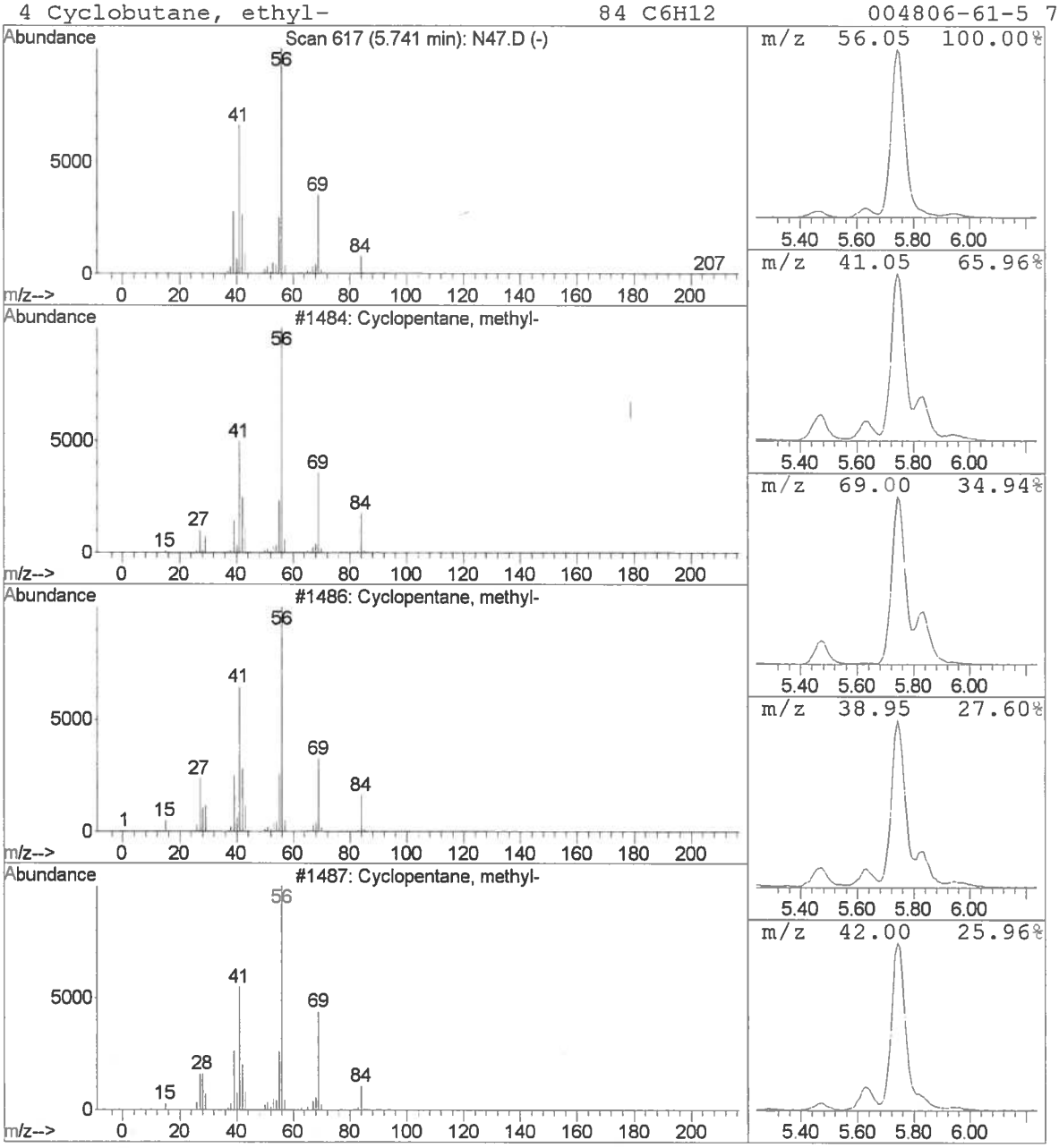
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 8 Cyclopentane, methyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.74	34.17 ug/L	1811550	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, methyl-	84	C6H12	000096-37-7	91
2	Cyclopentane, methyl-	84	C6H12	000096-37-7	86
3	Cyclopentane, methyl-	84	C6H12	000096-37-7	78
4	Cyclobutane, ethyl-	84	C6H12	004806-61-5	72



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

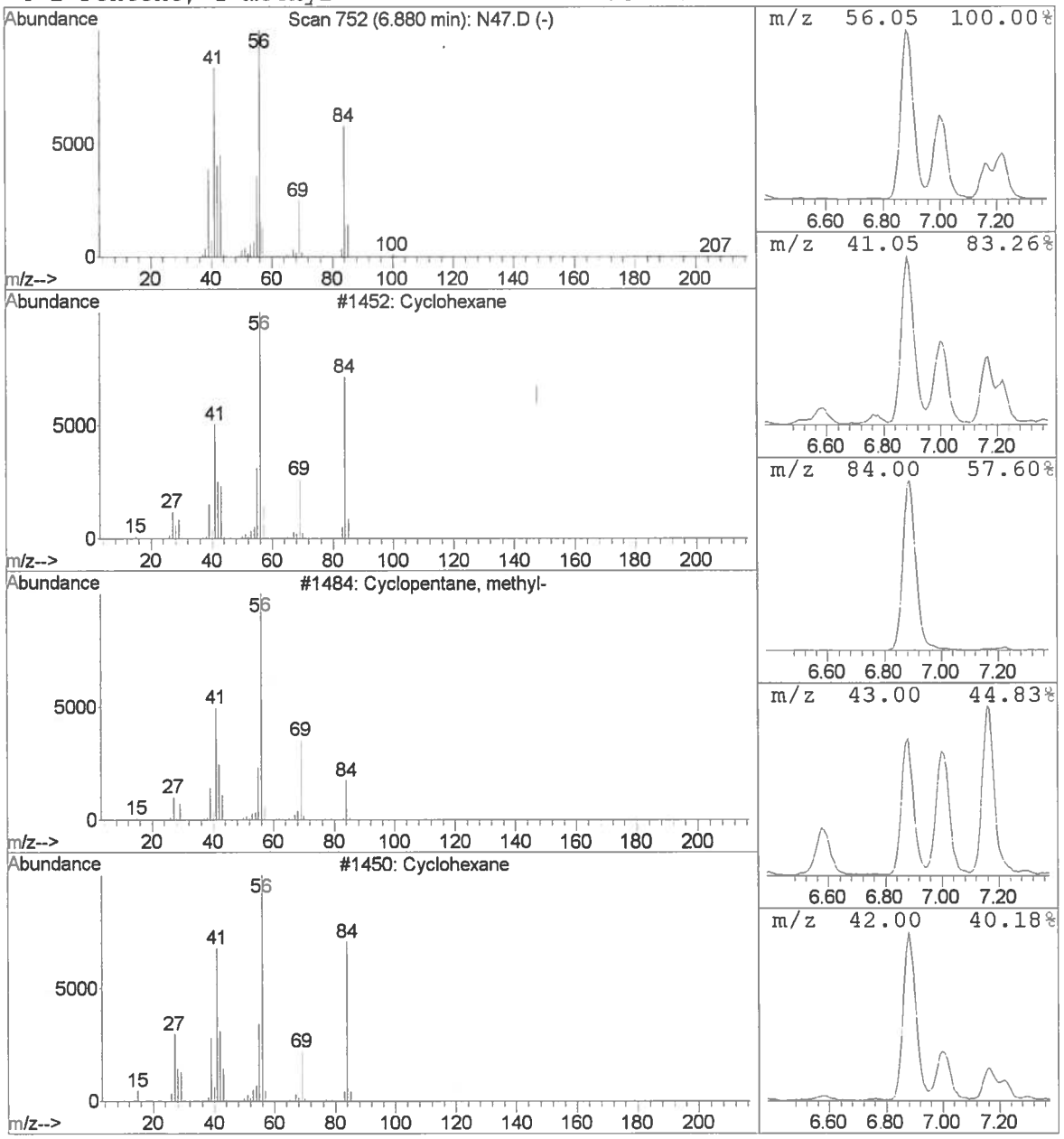
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 9 Cyclohexane Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.88	23.05 ug/L	1221690	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane	84	C6H12	000110-82-7	81
2	Cyclopentane, methyl-	84	C6H12	000096-37-7	72
3	Cyclohexane	84	C6H12	000110-82-7	72
4	1-Pentene, 2-methyl-	84	C6H12	000763-29-1	64



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

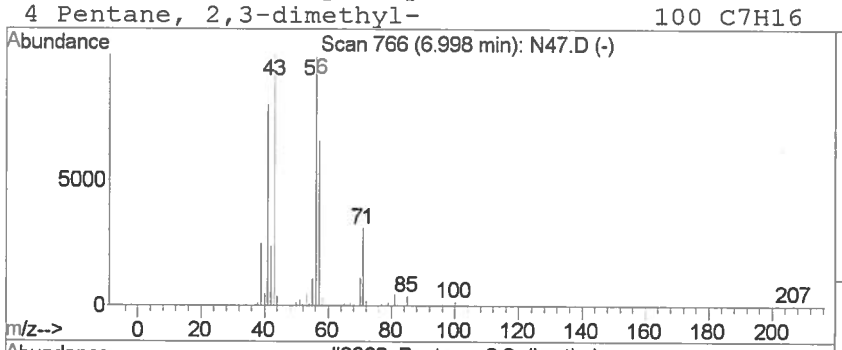
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

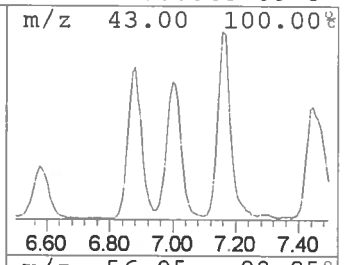
****

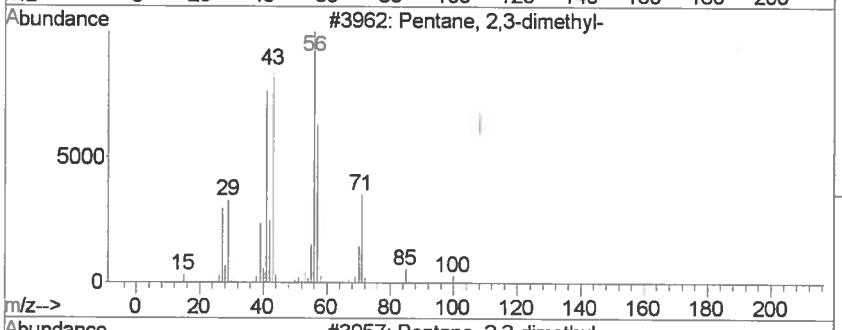
Peak Number 10 Pentane, 2,3-dimethyl- Concentration Rank 13

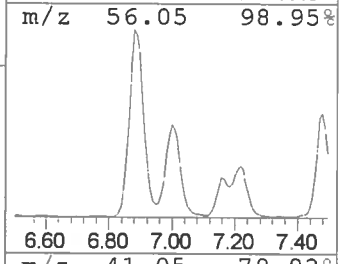
R.T.	EstConc	Area	Relative to ISTD	R.T.
7.00	13.13 ug/L	695829	Fluorobenzene	7.77

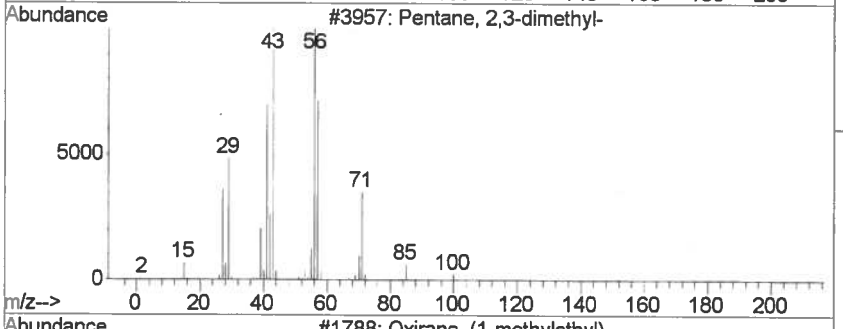
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	86
2	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	52
3	Oxirane, (1-methylethyl)-	86	C5H10O	001438-14-8	47
4	Pentane, 2,3-dimethyl-	100	C7H16	000565-59-3	46

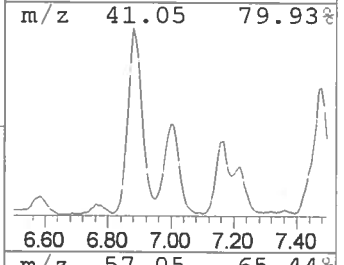


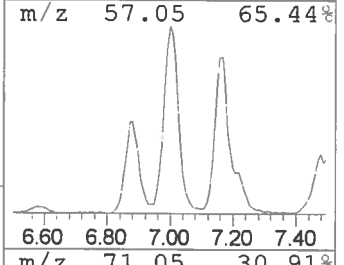


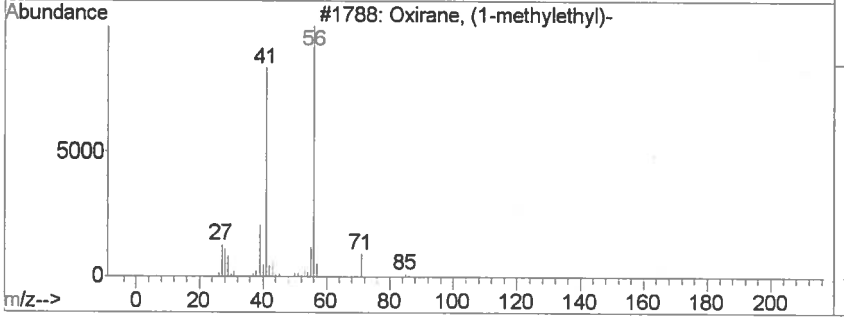


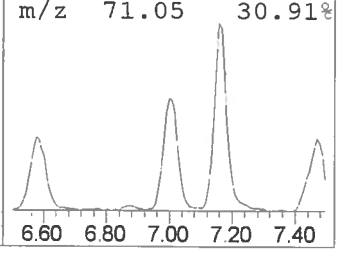












Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

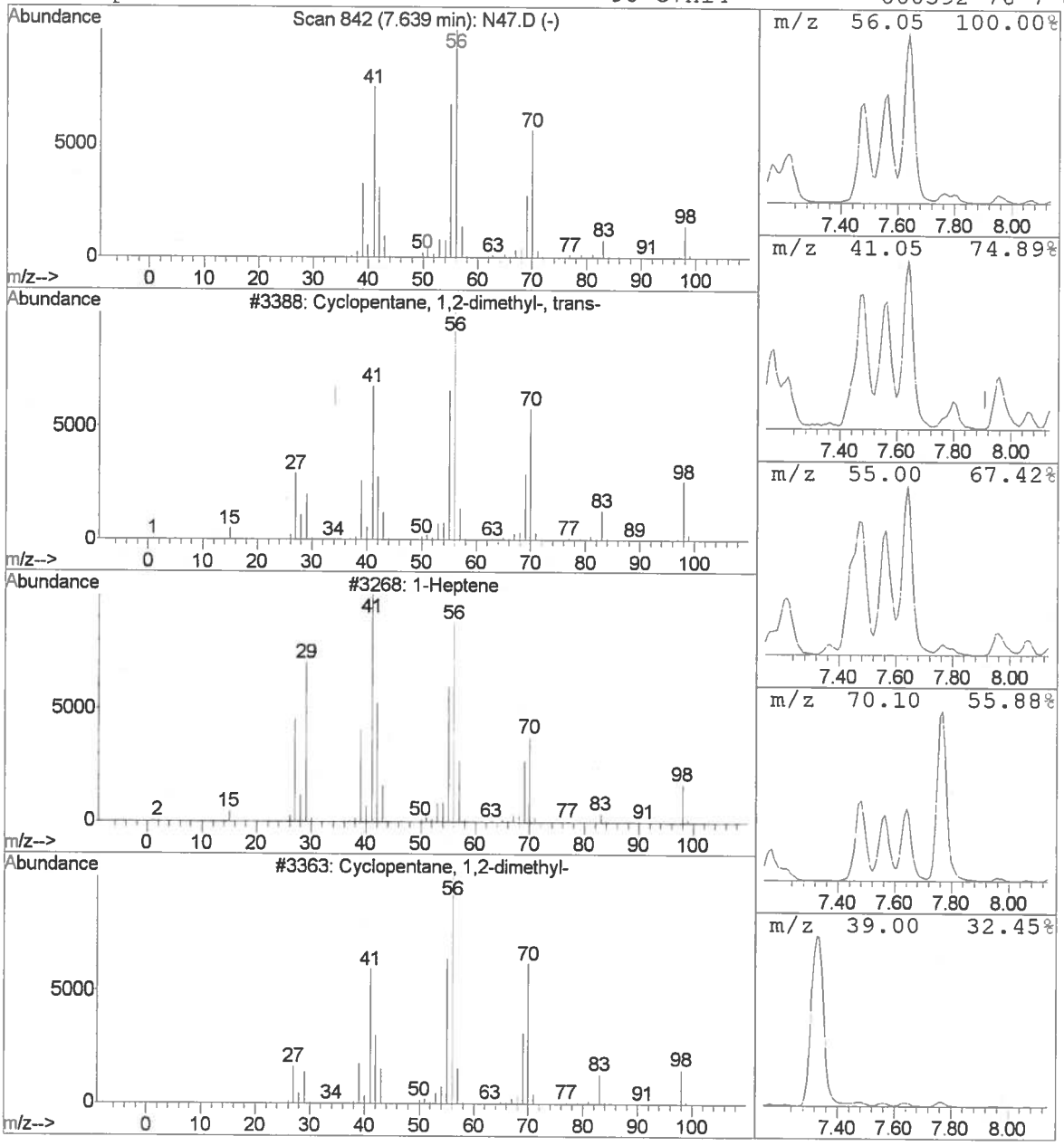
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 11 Cyclopentane, 1,2-dimethyl-, t Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.64	18.99 ug/L	1006540	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, 1,2-dimethyl-, trans-	98	C7H14	000822-50-4	91
2	1-Heptene	98	C7H14	000592-76-7	91
3	Cyclopentane, 1,2-dimethyl-	98	C7H14	002452-99-5	90
4	1-Heptene	98	C7H14	000592-76-7	87



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

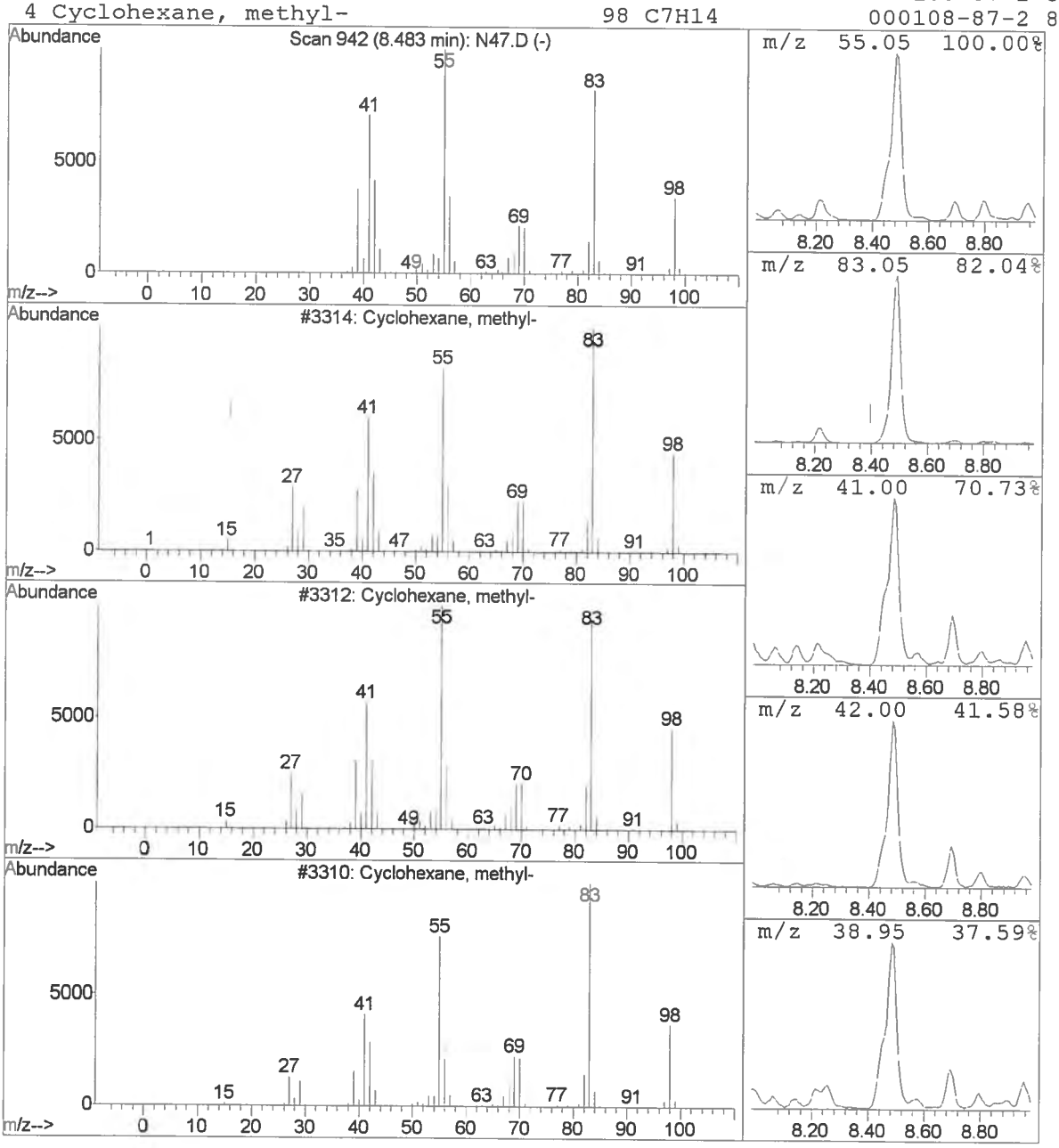
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 12 Cyclohexane, methyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.48	29.42 ug/L	1559760	Fluorobenzene	7.77

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclohexane, methyl-	98	C7H14	000108-87-2	93
2	Cyclohexane, methyl-	98	C7H14	000108-87-2	93
3	Cyclohexane, methyl-	98	C7H14	000108-87-2	87
4	Cyclohexane, methyl-	98	C7H14	000108-87-2	83



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

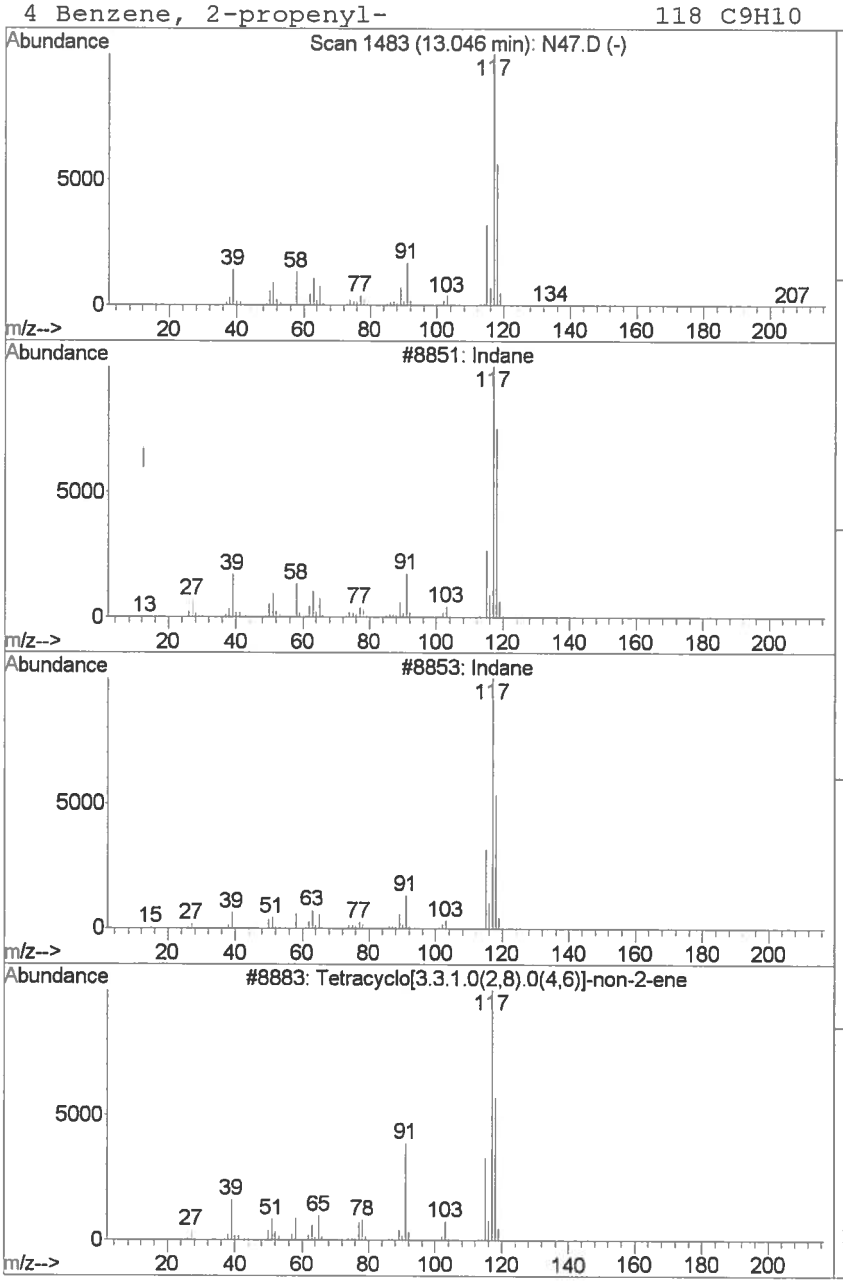
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

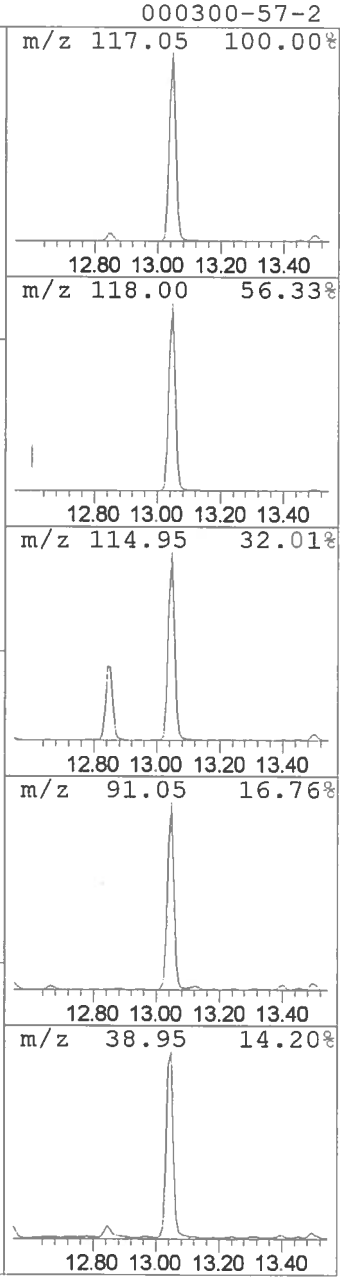
****

Peak Number 13 Indane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
13.05	113.88 ug/L	5292110	1,4-Dichlorobenzene-d4	12.85

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Indane	118	C9H10	000496-11-7	96
2	Indane	118	C9H10	000496-11-7	87
3	Tetracyclo[3.3.1.0(2,8).0(4,6)]-non	118	C9H10	1000191-13-7	80
4	Benzene, 2-propenyl-	118	C9H10	000300-57-2	68





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 26 Jun 2019 9:45
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D
Name: 19061617-003B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Butane	1.81	51.0	ug/L	2702980	ISTD01	7.77	2650470	50.0
Butane, 2-methyl-	2.32	104.2	ug/L	5520970	ISTD01	7.77	2650470	50.0
Pentane	2.59	31.3	ug/L	1659490	ISTD01	7.77	2650470	50.0
2-Pentene, (E)-	2.95	13.7	ug/L	725480	ISTD01	7.77	2650470	50.0
Butane, 2,2-dimethyl	3.13	25.8	ug/L	1365440	ISTD01	7.77	2650470	50.0
Butane, 2,3-dimethyl	3.74	47.9	ug/L	2536530	ISTD01	7.77	2650470	50.0
Pentane, 2-methyl-	3.78	67.0	ug/L	3551480	ISTD01	7.77	2650470	50.0
Cyclopentane, methyl	5.74	34.2	ug/L	1811550	ISTD01	7.77	2650470	50.0
Cyclohexane	6.88	23.0	ug/L	1221690	ISTD01	7.77	2650470	50.0
Pentane, 2,3-dimethy	7.00	13.1	ug/L	695829	ISTD01	7.77	2650470	50.0
Cyclopentane, 1,2-di	7.64	19.0	ug/L	1006540	ISTD01	7.77	2650470	50.0
Cyclohexane, methyl-	8.48	29.4	ug/L	1559760	ISTD01	7.77	2650470	50.0
Indane	13.05	113.9	ug/L	5292110	ISTD04	12.85	2323500	50.0

N47.D VOCN1908.M Wed Jun 26 12:21:40 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D Vial: 47
Acq On : 26 Jun 2019 9:45 Operator: Kelly Senci
Sample : 19061617-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

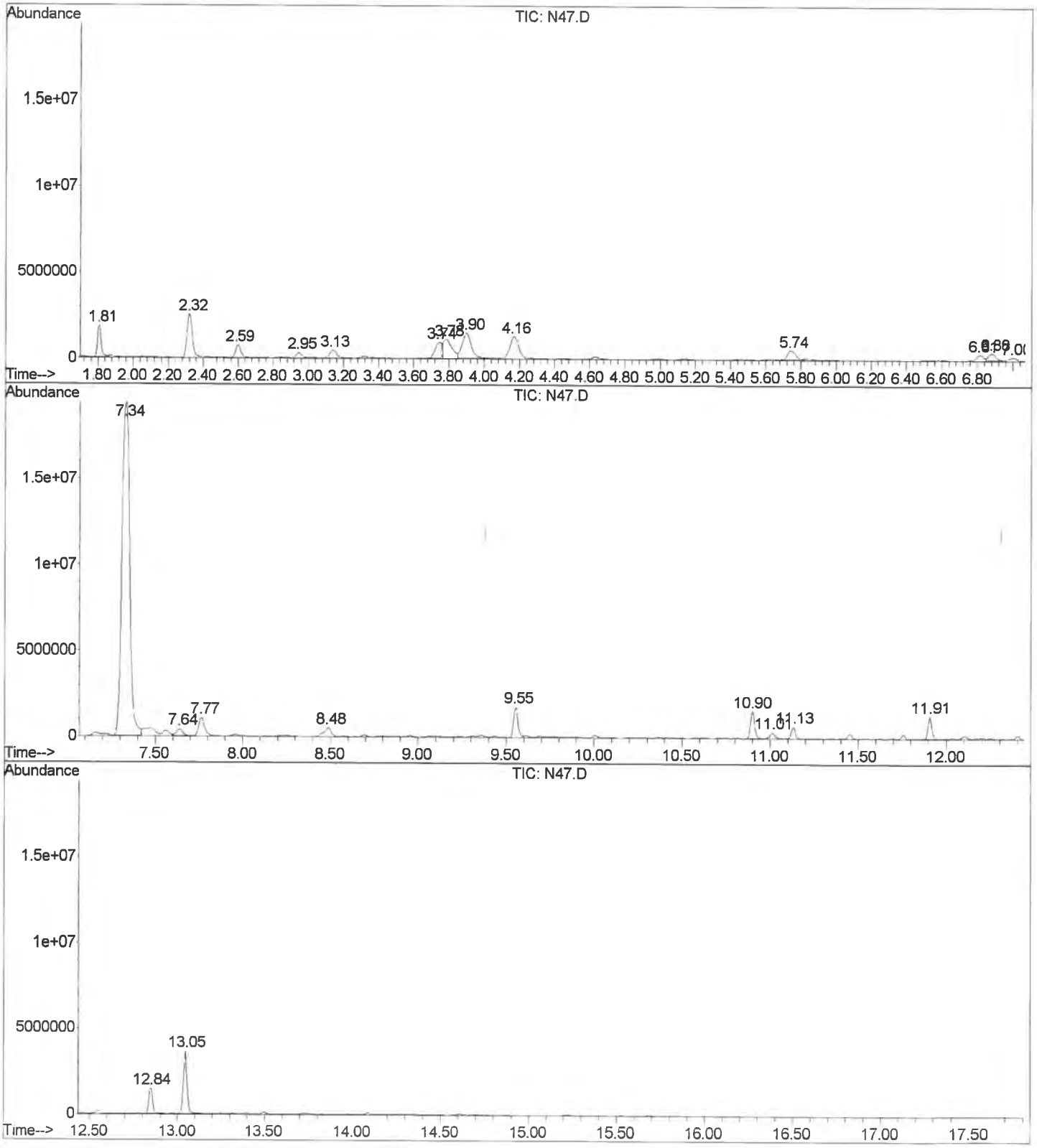
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.810	147	151	156	rBV	1836465	2702977	4.48%	2.340%
2	2.325	206	212	233	rBV	2538042	5520968	9.16%	4.779%
3	2.595	239	244	258	rBV	741889	1659493	2.75%	1.436%
4	2.949	280	286	296	rBV	325129	725480	1.20%	0.628%
5	3.135	301	308	323	rBV	469326	1365443	2.26%	1.182%
6	3.742	372	380	382	rBV	940656	2536525	4.21%	2.196%
7	3.784	383	385	393	rVV	1107824	3551483	5.89%	3.074%
8	3.902	393	399	420	rVV	1487106	5405985	8.97%	4.680%
9	4.164	420	430	457	rVB2	1290090	4704971	7.80%	4.073%
10	5.741	610	617	625	rBV	538965	1811548	3.00%	1.568%
11	6.813	733	744	748	rBV	349964	1029802	1.71%	0.891%
12	6.880	748	752	760	rVB2	421138	1221690	2.03%	1.058%
13	6.998	760	766	778	rVB	205117	695829	1.15%	0.602%
14	7.335	797	806	816	rBV	19404236	60297884	100.00%	52.195%
15	7.639	837	842	850	rVB	399746	1006543	1.67%	0.871%
16	7.766	850	857	874	rVB	1067201	2650473	4.40%	2.294%
17	8.483	931	942	949	rBV2	508615	1559764	2.59%	1.350%
18	9.554	1064	1069	1074	rBV	1739217	3080995	5.11%	2.667%
19	10.895	1224	1228	1235	rBV	1566449	2656844	4.41%	2.300%
20	11.013	1235	1242	1249	rVB	351913	674754	1.12%	0.584%
21	11.131	1249	1256	1263	rBV	693051	1181674	1.96%	1.023%
22	11.907	1342	1348	1355	rBV	1283683	1867201	3.10%	1.616%
23	12.844	1455	1459	1470	rVB	1461378	2323501	3.85%	2.011%
24	13.046	1478	1483	1497	rVB	3615118	5292113	8.78%	4.581%

Sum of corrected areas: 115523940

N47.D VOCN1908.M Wed Jun 26 12:21:36 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N47.D
Operator : Kelly Senci
Acquired : 26 Jun 2019 9:45 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061617-003B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 47
Quant File :VOCN1908.RES (RTE Integrator)



N47.D VOCN1908.M Wed Jun 26 12:21:37 2019

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

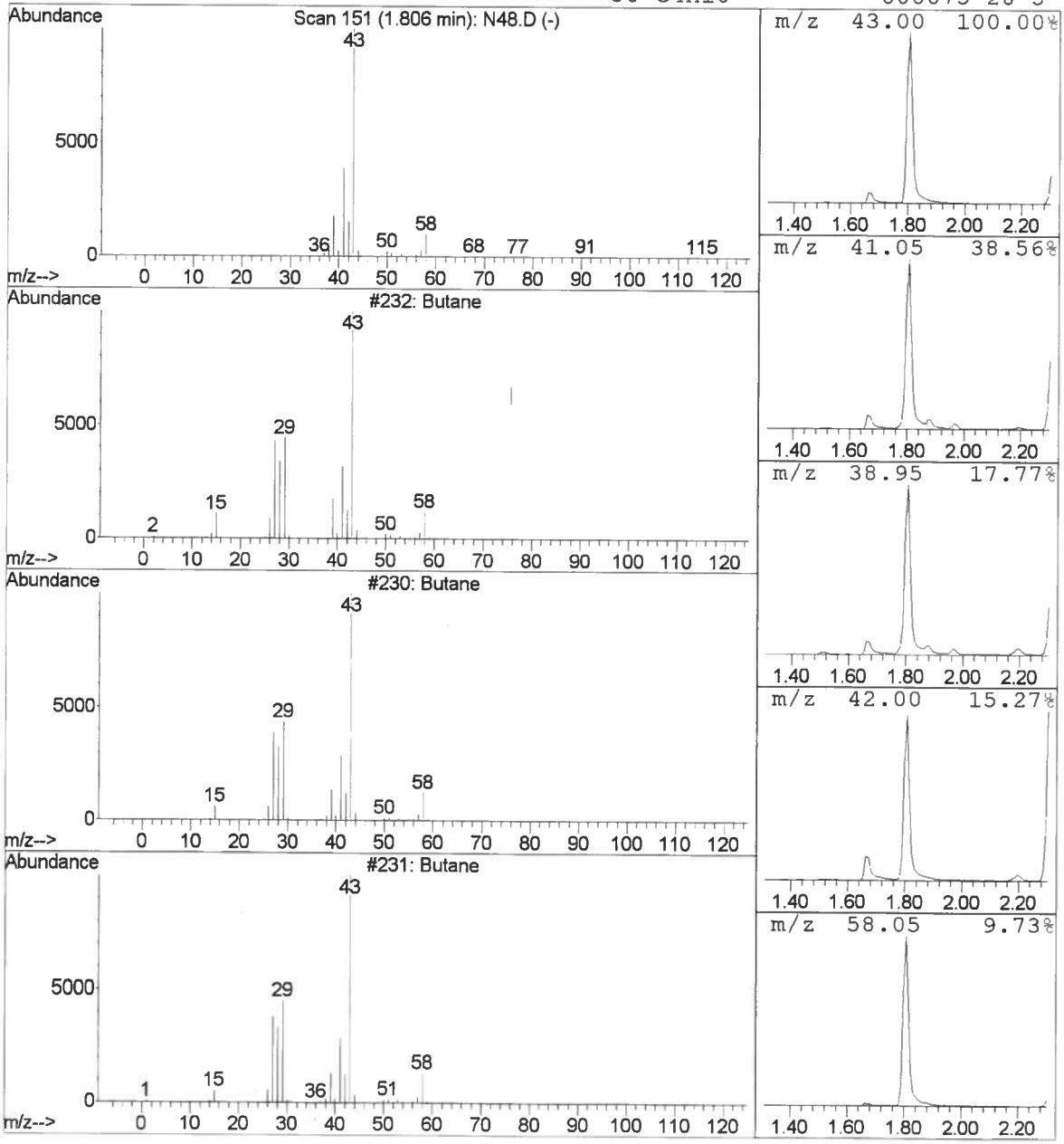
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 1 Butane Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.81	31.82 ug/L	1706390	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane	58	C4H10	000106-97-8	50
2	Butane	58	C4H10	000106-97-8	9
3	Butane	58	C4H10	000106-97-8	9
4	Isobutane	58	C4H10	000075-28-5	9



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

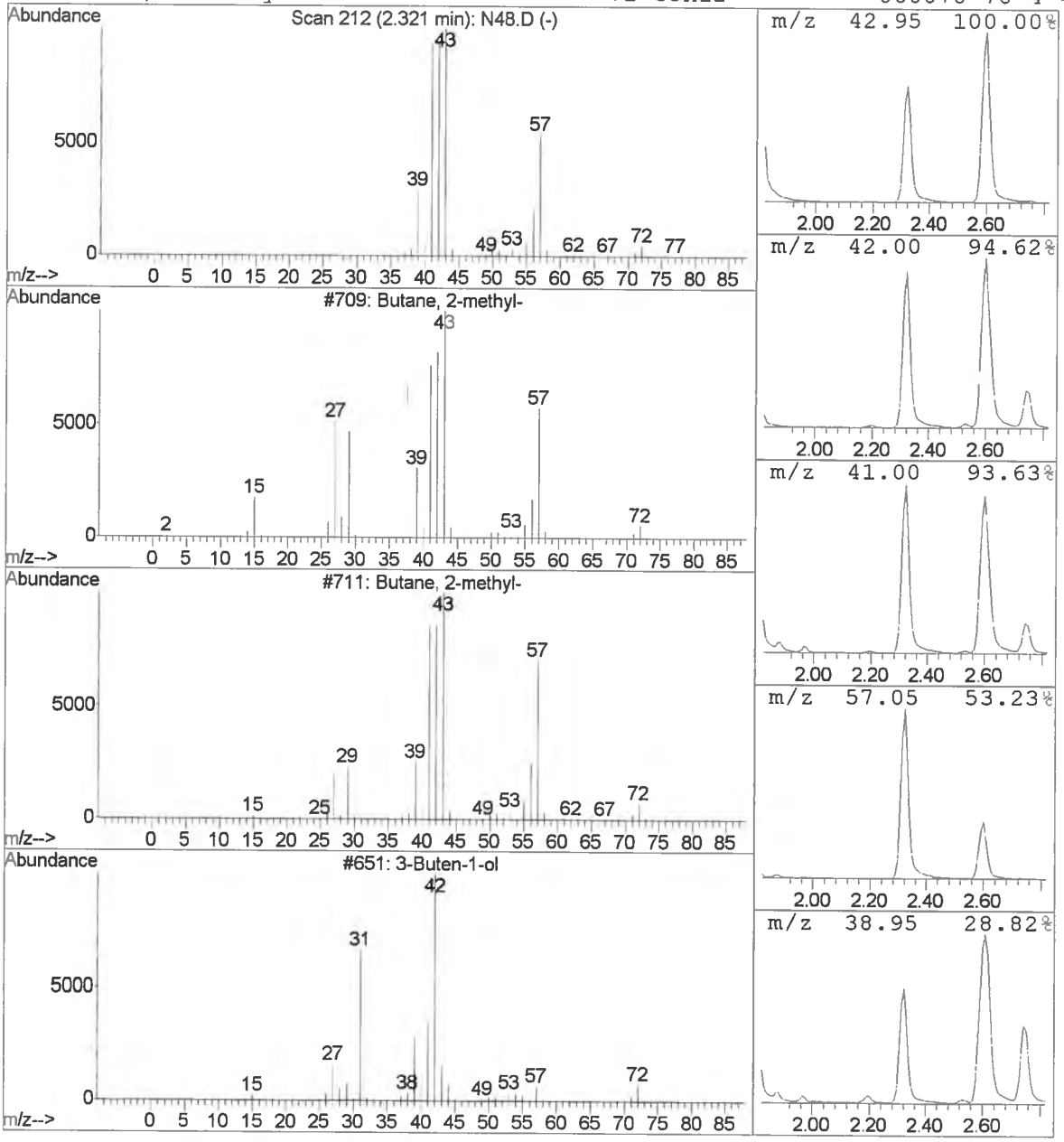
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 2 Butane, 2-methyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.32	35.89 ug/L	1924490	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	90
2	Butane, 2-methyl-	72	C5H12	000078-78-4	49
3	3-Buten-1-ol	72	C4H8O	000627-27-0	47
4	Butane, 2-methyl-	72	C5H12	000078-78-4	47



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

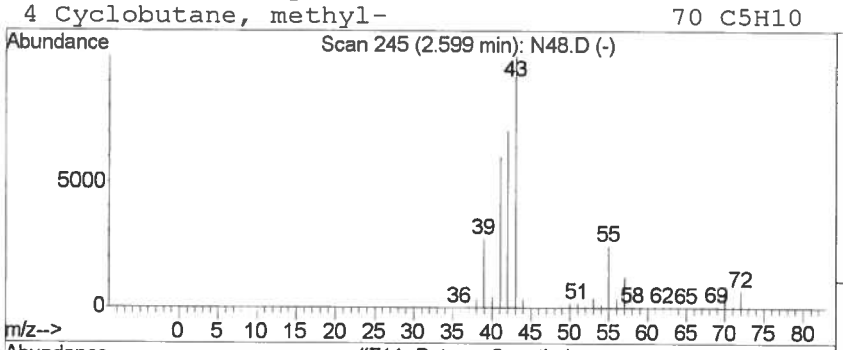
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

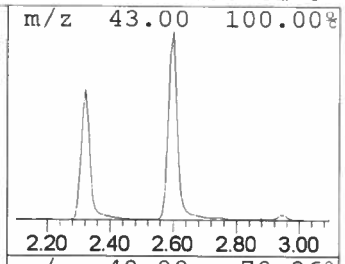
****

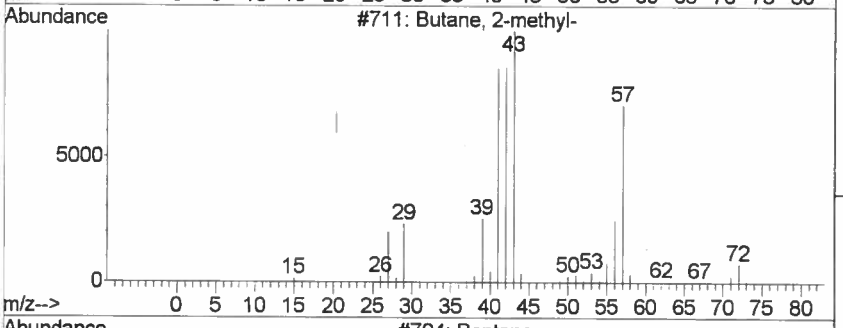
Peak Number 3 Butane, 2-methyl- Concentration Rank 1

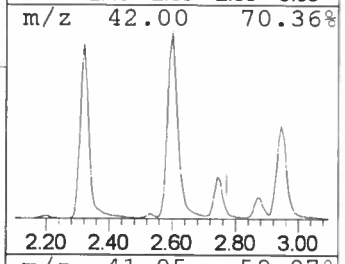
R.T.	EstConc	Area	Relative to ISTD	R.T.
2.60	49.23 ug/L	2639530	Fluorobenzene	7.76

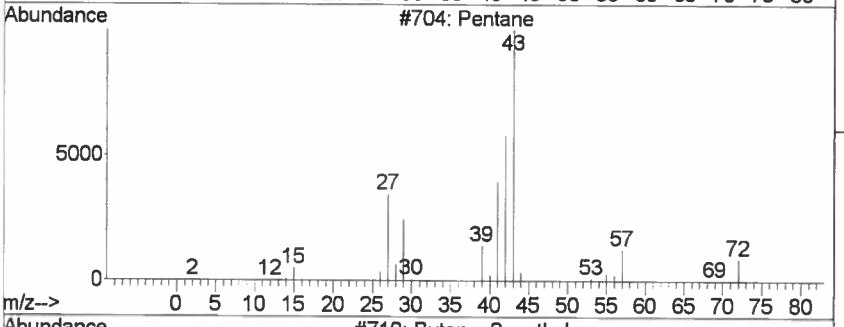
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	72
2	Pentane	72	C5H12	000109-66-0	64
3	Butane, 2-methyl-	72	C5H12	000078-78-4	64
4	Cyclobutane, methyl-	70	C5H10	000598-61-8	47

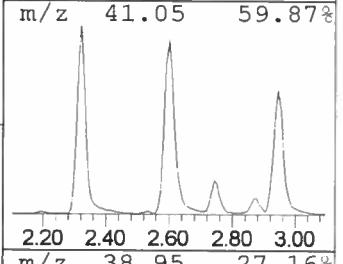


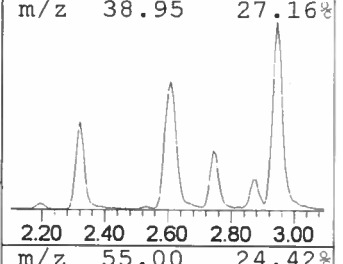


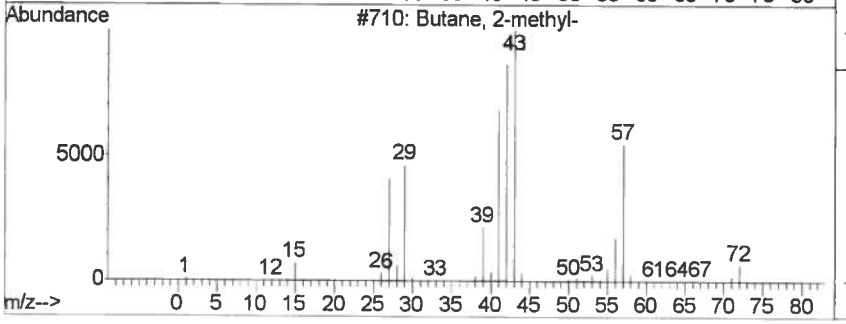


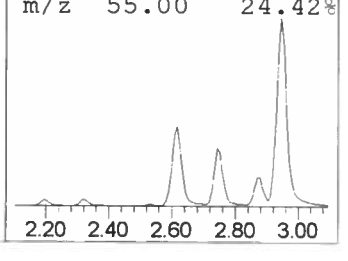












Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

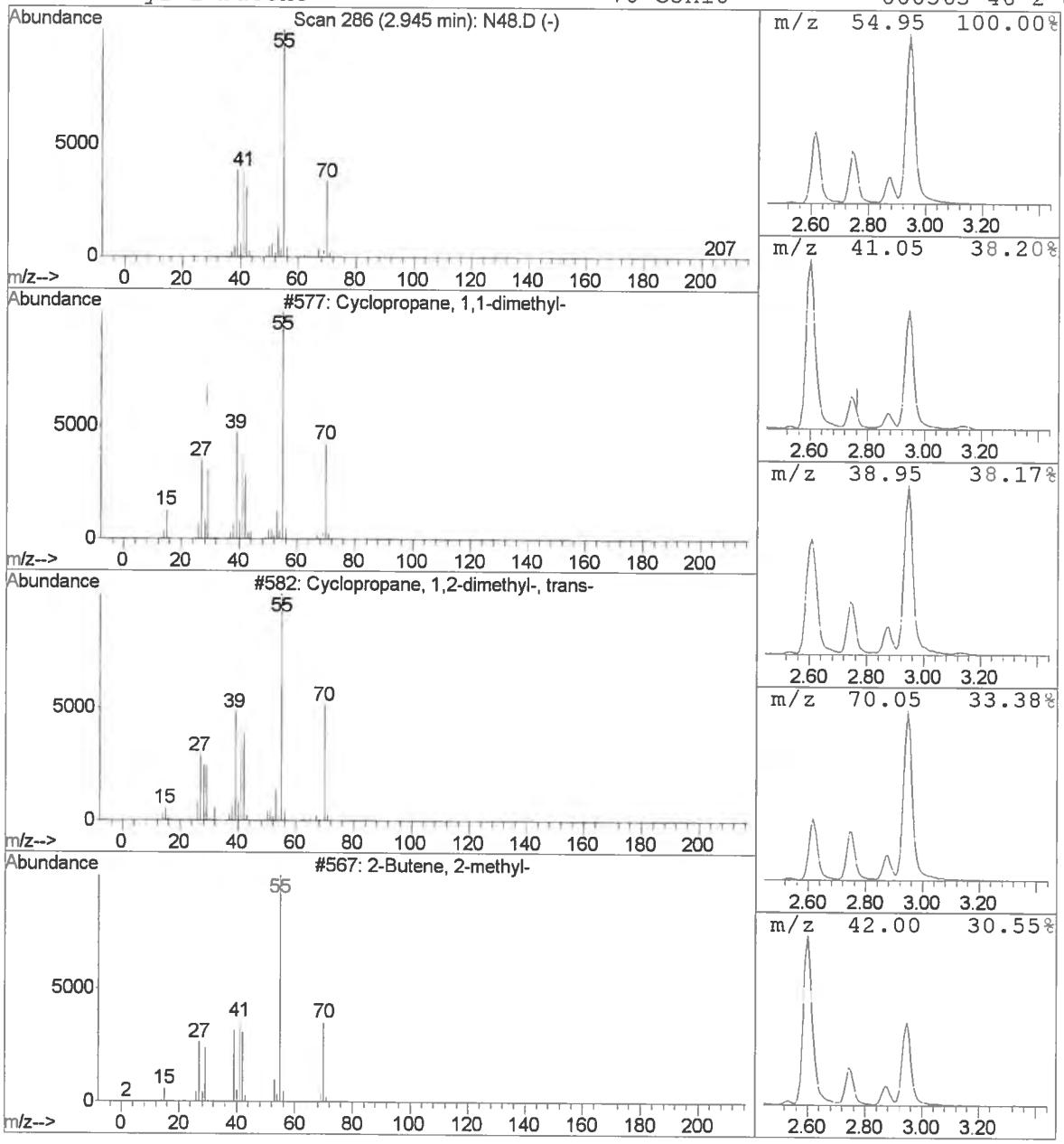
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 4 Cyclopropane, 1,1-dimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.95	45.65 ug/L	2448060	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopropane, 1,1-dimethyl-	70	C5H10	001630-94-0	90
2	Cyclopropane, 1,2-dimethyl-, trans-	70	C5H10	002402-06-4	87
3	2-Butene, 2-methyl-	70	C5H10	000513-35-9	86
4	2-Methyl-1-butene	70	C5H10	000563-46-2	86



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

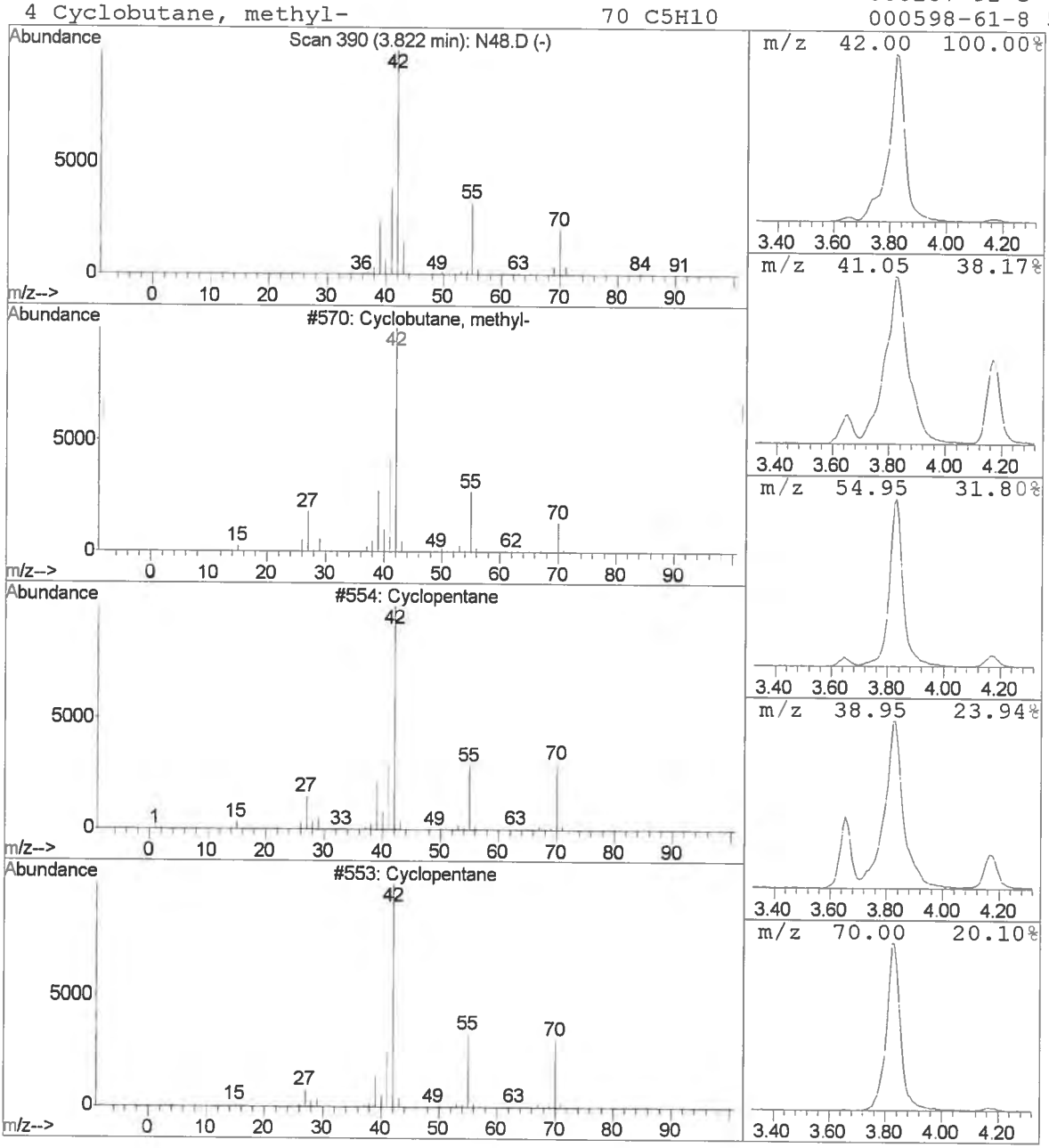
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 5 Cyclobutane, methyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.82	44.66 ug/L	2394640	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclobutane, methyl-	70	C5H10	000598-61-8	80
2	Cyclopentane	70	C5H10	000287-92-3	72
3	Cyclopentane	70	C5H10	000287-92-3	64
4	Cyclobutane, methyl-	70	C5H10	000598-61-8	56



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

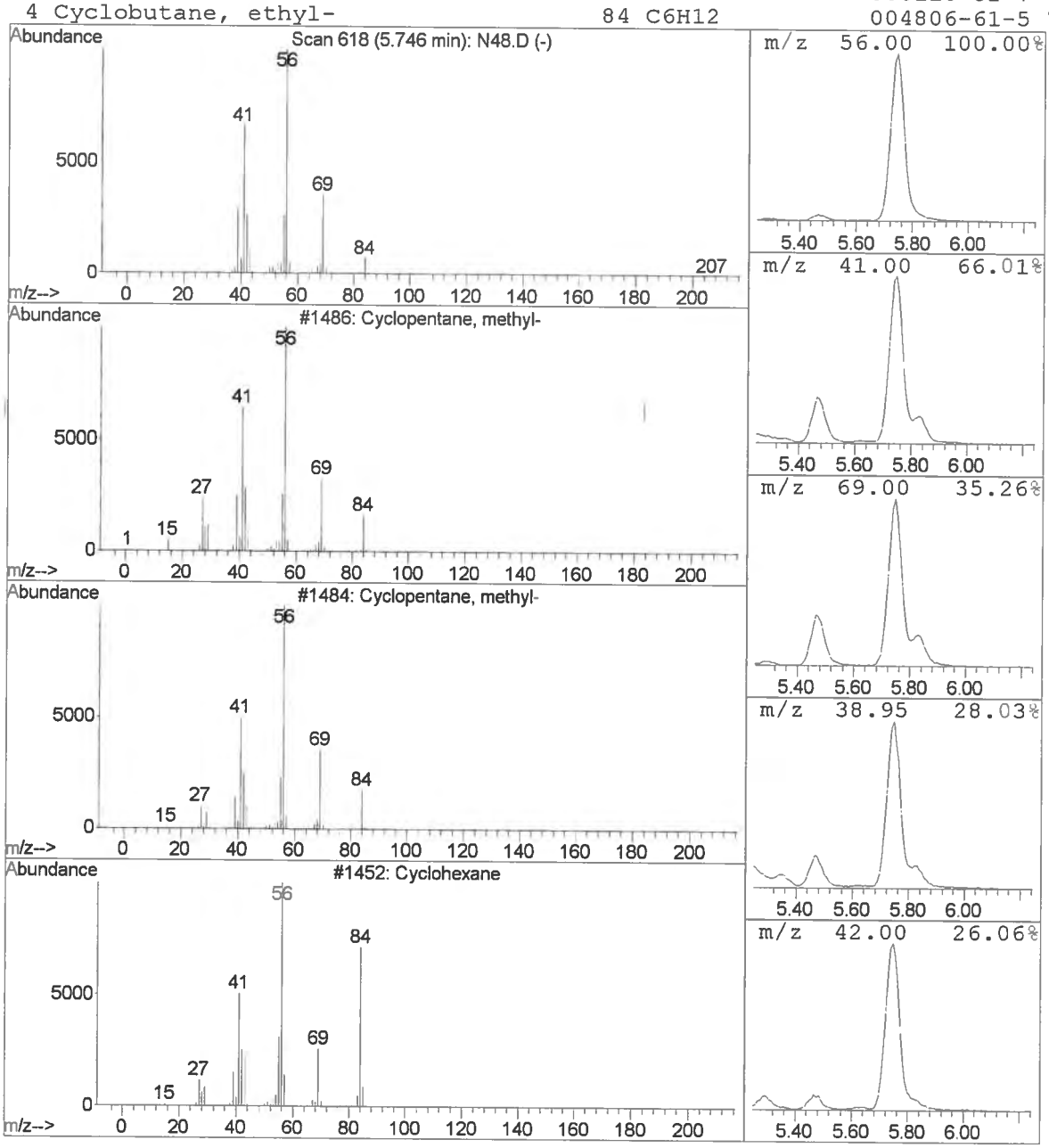
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 6 Cyclopentane, methyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.75	31.43 ug/L	1685300	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentane, methyl-	84	C6H12	000096-37-7	91
2	Cyclopentane, methyl-	84	C6H12	000096-37-7	91
3	Cyclohexane	84	C6H12	000110-82-7	83
4	Cyclobutane, ethyl-	84	C6H12	004806-61-5	78



Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 26 Jun 2019 10:13
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D
Name: 19061617-004B
Misc: ,V_8260S_W,SAMP,50,1-50ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Butane	1.81	31.8	ug/L	1706390	ISTD01	7.76	2681060	50.0
Butane, 2-methyl-	2.32	35.9	ug/L	1924490	ISTD01	7.76	2681060	50.0
Butane, 2-methyl-	2.60	49.2	ug/L	2639530	ISTD01	7.76	2681060	50.0
Cyclopropane, 1,1-di	2.95	45.7	ug/L	2448060	ISTD01	7.76	2681060	50.0
Cyclobutane, methyl-	3.82	44.7	ug/L	2394640	ISTD01	7.76	2681060	50.0
Cyclopentane, methyl	5.75	31.4	ug/L	1685300	ISTD01	7.76	2681060	50.0

N48.D VOCN1908.M Wed Jun 26 12:23:02 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D Vial: 48
Acq On : 26 Jun 2019 10:13 Operator: Kelly Senci
Sample : 19061617-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

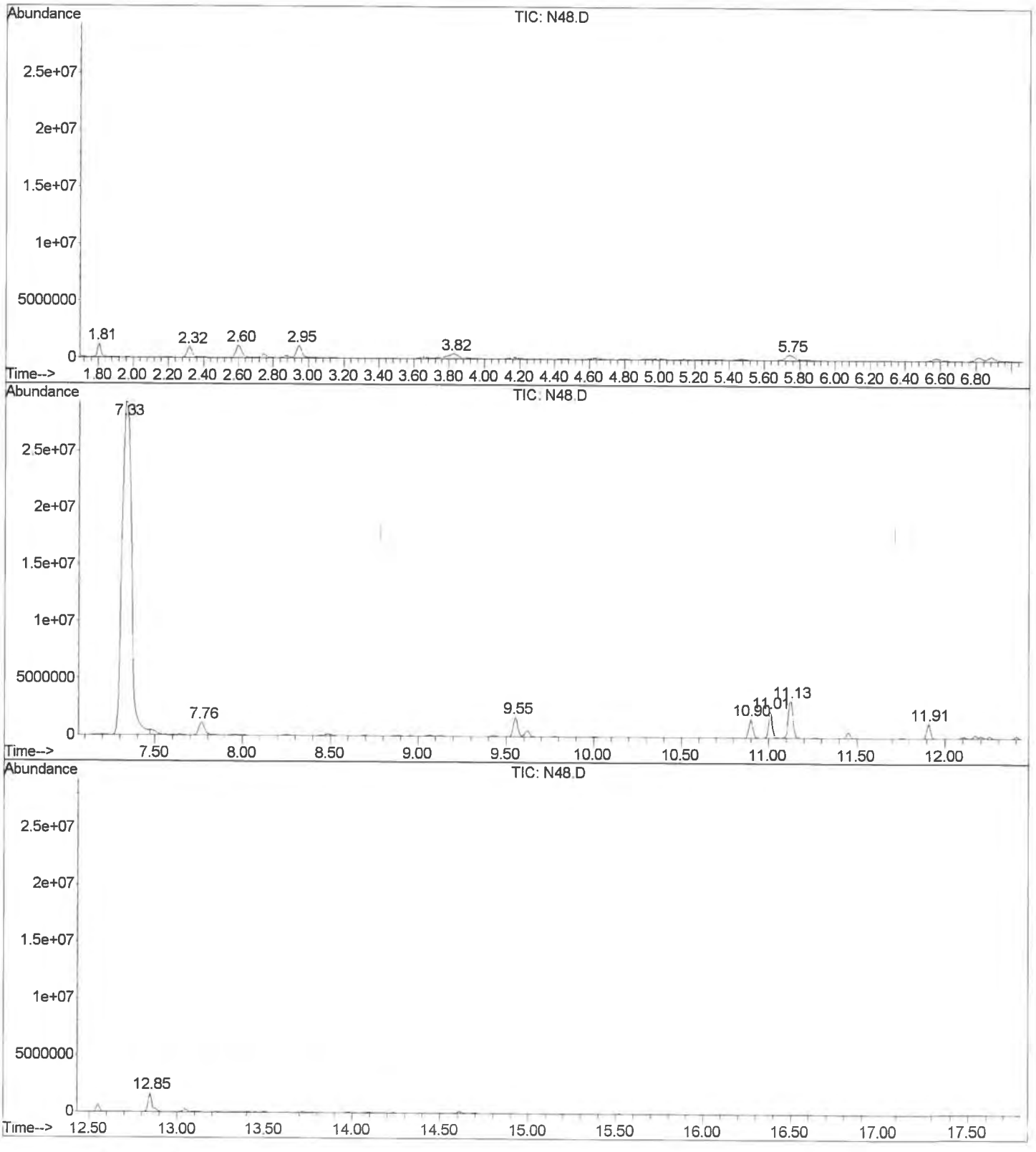
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.806	145	151	158	rBV	1198922	1706391	1.55%	1.177%
2	2.321	206	212	232	rVB	953818	1924493	1.75%	1.327%
3	2.599	240	245	258	rBV3	1078071	2639534	2.40%	1.820%
4	2.945	281	286	304	rVB	1088729	2448061	2.23%	1.688%
5	3.822	375	390	414	rVB3	442814	2394635	2.18%	1.651%
6	5.746	609	618	626	rBV	483098	1685304	1.53%	1.162%
7	7.332	797	806	823	rBV2	29278992	109909386	100.00%	75.795%
8	7.762	851	857	874	rVB	1123500	2681064	2.44%	1.849%
9	9.550	1064	1069	1074	rBV	1714238	3021346	2.75%	2.084%
10	10.900	1224	1229	1236	rBV	1638698	2565501	2.33%	1.769%
11	11.009	1238	1242	1249	rVV	2310129	3577598	3.26%	2.467%
12	11.127	1251	1256	1266	rVB	3211225	6014049	5.47%	4.147%
13	11.912	1344	1349	1360	rBV	1298538	1871897	1.70%	1.291%
14	12.848	1456	1460	1468	rBV2	1627361	2570073	2.34%	1.772%

Sum of corrected areas: 145009332

N48.D VOCN1908.M Wed Jun 26 12:23:00 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190625A\N48.D
Operator : Kelly Senci
Acquired : 26 Jun 2019 10:13 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061617-004B
Misc Info : ,V_8260S_W,SAMP,50,1-50ml,V1/2
Vial Number: 48
Quant File :VOCN1908.RES (RTE Integrator)



N48.D VOCN1908.M Wed Jun 26 12:23:00 2019

Roxana Predesign Groundwater Data Review

Laboratory SDG: 19061748

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 6/28/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062619-B	PD-1-GWP-60-062619
PD-1-GWP-69-062619	PD-1-GWP-75-062619

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative, PAHs were detected in the method blank. This issue is addressed further in section of 4.0 of this data review.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MBLK-154749	PAHs	Fluoranthene	0.00003 mg/L
MBLK-154749	PAHs	Pyrene	0.00003 mg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-1-GWP-60-062619 was spiked and duplicated for VOCs

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

No

June 28, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

RE: PreDesign Invest. PW

WorkOrder: 19061748

Dear Elizabeth Kunkel:

TEKLAB, INC received 4 samples on 6/26/2019 4:42:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling II

Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com

Reviewed on 6/28/2019

Report Contents

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Accreditations	5
Laboratory Results	6
Sample Summary	20
Dates Report	21
Quality Control Results	22
Receiving Check List	40
Chain of Custody	Appended

Client: AECOM **Work Order:** 19061748

Client Project: PreDesign Invest. PW **Report Date:** 28-Jun-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

- # - Unknown hydrocarbon
- B - Analyte detected in associated Method Blank
- C - RL shown is a Client Requested Quantitation Limit
- E - Value above quantitation range
- H - Holding times exceeded
- I - Associated internal standard was outside method criteria
- J - Analyte detected below quantitation limits
- M - Manual Integration used to determine area response
- ND - Not Detected at the Reporting Limit
- R - RPD outside accepted recovery limits
- S - Spike Recovery outside recovery limits
- T - TIC(Tentatively identified compound)
- X - Value exceeds Maximum Contaminant Level

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

Cooler Receipt Temp: 9.4 °C

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
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Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-001
Client Sample ID: TB-PW-062619-B
Matrix: TRIP BLANK
Collection Date: 06/26/2019 16:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/27/2019 11:18	154774
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
2-Butanone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:18	154774
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:18	154774
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:18	154774
Acetone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:18	154774
Acrolein	NELAP	20.0		ND	µg/L	1	06/27/2019 11:18	154774
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
Benzene	NELAP	0.5		ND	µg/L	1	06/27/2019 11:18	154774
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Bromoform	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Bromomethane	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Chloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Chloroform	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Chloromethane	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-001
Client Sample ID: TB-PW-062619-B
Matrix: TRIP BLANK
Collection Date: 06/26/2019 16:42

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Naphthalene	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
o-Xylene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Styrene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/27/2019 11:18	154774
Toluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/27/2019 11:18	154774
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/27/2019 11:18	154774
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/27/2019 11:18	154774
Surr: 1,2-Dichloroethane-d4	*	79.6-118		94.1	%REC	1	06/27/2019 11:18	154774
Surr: 4-Bromofluorobenzene	*	83.9-115		101.9	%REC	1	06/27/2019 11:18	154774
Surr: Dibromofluoromethane	*	84.9-113		98.5	%REC	1	06/27/2019 11:18	154774
Surr: Toluene-d8	*	86.7-112		98.6	%REC	1	06/27/2019 11:18	154774

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-002
Client Sample ID: PD-1-GWP-60-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 9:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.0020	J	**0.00038**	mg/L	1	06/27/2019 13:35	154749
1-Methylnaphthalene	*	0.00020		**0.00022**	mg/L	1	06/27/2019 13:35	154749
2-Methylnaphthalene	NELAP	0.00020		**0.00034**	mg/L	1	06/27/2019 13:35	154749
Acenaphthene	NELAP	0.00020	J	**0.00010**	mg/L	1	06/27/2019 13:35	154749
Acenaphthylene	NELAP	0.00020	J	**0.00016**	mg/L	1	06/27/2019 13:35	154749
Anthracene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Benzo(a)anthracene	*	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Benzo(a)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Benzo(b)fluoranthene	NELAP	0.00020	J	**0.00004**	mg/L	1	06/27/2019 13:35	154749
Benzo(g,h,i)perylene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Benzo(k)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Chrysene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Fluorene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Phenanthrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 13:35	154749
Pyrene	NELAP	0.00020	B	**ND**	mg/L	1	06/27/2019 13:35	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		**65.6**	%REC	1	06/27/2019 13:35	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		**57.3**	%REC	1	06/27/2019 13:35	154749
Surr: p-Terphenyl-d14	*	10-109		**72.8**	%REC	1	06/27/2019 13:35	154749

Elevated reporting limit due to sample composition.

Contamination present in the MBLK for Pyrene. Sample results below the reporting limit are reportable per the TNI Standard.

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2,4,6-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2,4-Dichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2,4-Dimethylphenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2,4-Dinitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
2,4-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2,6-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2-Chloronaphthalene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2-Chlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
2-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/27/2019 17:38	154764
2-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
3,3'-Dichlorobenzidine	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
3-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/27/2019 17:38	154764
4,6-Dinitro-2-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
4-Bromophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
4-Chloro-3-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
4-Chloroaniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
4-Chlorophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
4-Nitroaniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
4-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
Aniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 17:38	154764
Azobenzene	*	0.020		**ND**	mg/L	1	06/27/2019 17:38	154764
Benzoic acid	NELAP	0.10	J	**0.015**	mg/L	1	06/27/2019 17:38	154764

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-002
Client Sample ID: PD-1-GWP-60-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 9:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/27/2019 17:38	154764
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/27/2019 17:38	154764
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/27/2019 17:38	154764
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Isophorone	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/27/2019 17:38	154764
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
o-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 17:38	154764
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 17:38	154764
Phenol	NELAP	0.010		0.010	mg/L	1	06/27/2019 17:38	154764
Pyridine	NELAP	0.040		ND	mg/L	1	06/27/2019 17:38	154764
Quinoline	*	0.010		ND	mg/L	1	06/27/2019 17:38	154764
Surr: 2,4,6-Tribromophenol	*	14.8-138		96.2	%REC	1	06/27/2019 17:38	154764
Surr: 2-Fluorobiphenyl	*	12.2-118		82.9	%REC	1	06/27/2019 17:38	154764
Surr: 2-Fluorophenol	*	11.1-70.8		63.5	%REC	1	06/27/2019 17:38	154764
Surr: Nitrobenzene-d5	*	14-118		78.2	%REC	1	06/27/2019 17:38	154764
Surr: Phenol-d5	*	10-49.2		45.1	%REC	1	06/27/2019 17:38	154764
Surr: p-Terphenyl-d14	*	11.3-110		86.3	%REC	1	06/27/2019 17:38	154764

Elevated reporting limit due to sample composition.

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/27/2019 12:10	154774
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2,4-Trimethylbenzene	NELAP	2.0		5.3	µg/L	1	06/27/2019 12:10	154774
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774

Client: AECOM
Work Order: 19061748
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Report Date: 28-Jun-2019
Lab ID: 19061748-002
Client Sample ID: PD-1-GWP-60-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 9:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,3,5-Trimethylbenzene	NELAP	2.0	J	1.6	µg/L	1	06/27/2019 12:10	154774
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
2-Butanone	NELAP	10	J	1.3	µg/L	1	06/27/2019 12:10	154774
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/27/2019 12:10	154774
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/27/2019 12:10	154774
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/27/2019 12:10	154774
Acetone	NELAP	10	J	9.0	µg/L	1	06/27/2019 12:10	154774
Acrolein	NELAP	20.0		ND	µg/L	1	06/27/2019 12:10	154774
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/27/2019 12:10	154774
Benzene	NELAP	10.0		856	µg/L	20	06/27/2019 13:03	154774
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Bromoform	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Bromomethane	NELAP	5.0		ND	µg/L	1	06/27/2019 12:10	154774
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Chloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Chloroform	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Chloromethane	NELAP	5.0	J	0.5	µg/L	1	06/27/2019 12:10	154774
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/27/2019 12:10	154774
Ethylbenzene	NELAP	2.0		10.6	µg/L	1	06/27/2019 12:10	154774
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/27/2019 12:10	154774
Isopropylbenzene	NELAP	2.0	J	0.4	µg/L	1	06/27/2019 12:10	154774
m,p-Xylenes	NELAP	2.0		22.2	µg/L	1	06/27/2019 12:10	154774
Methyl tert-butyl ether	NELAP	2.0		9.1	µg/L	1	06/27/2019 12:10	154774
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
Naphthalene	NELAP	5.0	J	1.2	µg/L	1	06/27/2019 12:10	154774
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
n-Propylbenzene	NELAP	2.0	J	1.1	µg/L	1	06/27/2019 12:10	154774
o-Xylene	NELAP	2.0		5.1	µg/L	1	06/27/2019 12:10	154774
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
sec-Butylbenzene	NELAP	2.0	J	0.1	µg/L	1	06/27/2019 12:10	154774
Styrene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 12:10	154774

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-002
Client Sample ID: PD-1-GWP-60-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 9:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Tetrachloroethene	NELAP	0.5		**ND**	µg/L	1	06/27/2019 12:10	154774
Toluene	NELAP	2.0		**3.8**	µg/L	1	06/27/2019 12:10	154774
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/27/2019 12:10	154774
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/27/2019 12:10	154774
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/27/2019 12:10	154774
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/27/2019 12:10	154774
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/27/2019 12:10	154774
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/27/2019 12:10	154774
Xylenes, Total	NELAP	4.0		**27.3**	µg/L	1	06/27/2019 12:10	154774
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**103.4**	%REC	1	06/27/2019 12:10	154774
Surr: 4-Bromofluorobenzene	*	83.9-115		**101.0**	%REC	1	06/27/2019 12:10	154774
Surr: Dibromofluoromethane	*	84.9-113		**97.2**	%REC	1	06/27/2019 12:10	154774
Surr: Toluene-d8	*	86.7-112		**97.0**	%REC	1	06/27/2019 12:10	154774

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-003
Client Sample ID: PD-1-GWP-69-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 10:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.0020	J	**0.00038**	mg/L	1	06/27/2019 14:07	154749
1-Methylnaphthalene	*	0.00020	J	**0.00006**	mg/L	1	06/27/2019 14:07	154749
2-Methylnaphthalene	NELAP	0.00020	J	**0.00010**	mg/L	1	06/27/2019 14:07	154749
Acenaphthene	NELAP	0.00020	J	**0.00012**	mg/L	1	06/27/2019 14:07	154749
Acenaphthylene	NELAP	0.00020	J	**0.00008**	mg/L	1	06/27/2019 14:07	154749
Anthracene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Benzo(a)anthracene	*	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Benzo(a)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Benzo(b)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Benzo(g,h,i)perylene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Benzo(k)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Chrysene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Fluorene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Phenanthrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:07	154749
Pyrene	NELAP	0.00020	B	**ND**	mg/L	1	06/27/2019 14:07	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		**67.5**	%REC	1	06/27/2019 14:07	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		**56.2**	%REC	1	06/27/2019 14:07	154749
Surr: p-Terphenyl-d14	*	10-109		**63.6**	%REC	1	06/27/2019 14:07	154749

Elevated reporting limit due to sample composition.

Contamination present in the MBLK for Pyrene. Sample results below the reporting limit are reportable per the TNI Standard.

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2,4,6-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2,4-Dichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2,4-Dimethylphenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2,4-Dinitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
2,4-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2,6-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2-Chloronaphthalene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2-Chlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
2-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/27/2019 18:07	154764
2-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
3,3'-Dichlorobenzidine	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
3-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/27/2019 18:07	154764
4,6-Dinitro-2-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
4-Bromophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
4-Chloro-3-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
4-Chloroaniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
4-Chlorophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
4-Nitroaniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
4-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
Aniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:07	154764
Azobenzene	*	0.020		**ND**	mg/L	1	06/27/2019 18:07	154764
Benzoic acid	NELAP	0.10	J	**0.015**	mg/L	1	06/27/2019 18:07	154764

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-003
Client Sample ID: PD-1-GWP-69-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 10:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/27/2019 18:07	154764
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/27/2019 18:07	154764
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/27/2019 18:07	154764
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Isophorone	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/27/2019 18:07	154764
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
o-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 18:07	154764
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 18:07	154764
Phenol	NELAP	0.010		ND	mg/L	1	06/27/2019 18:07	154764
Pyridine	NELAP	0.040		ND	mg/L	1	06/27/2019 18:07	154764
Quinoline	*	0.010		ND	mg/L	1	06/27/2019 18:07	154764
Surr: 2,4,6-Tribromophenol	*	14.8-138		88.3	%REC	1	06/27/2019 18:07	154764
Surr: 2-Fluorobiphenyl	*	12.2-118		77.0	%REC	1	06/27/2019 18:07	154764
Surr: 2-Fluorophenol	*	11.1-70.8		63.4	%REC	1	06/27/2019 18:07	154764
Surr: Nitrobenzene-d5	*	14-118		75.9	%REC	1	06/27/2019 18:07	154764
Surr: Phenol-d5	*	10-49.2		43.8	%REC	1	06/27/2019 18:07	154764
Surr: p-Terphenyl-d14	*	11.3-110		75.2	%REC	1	06/27/2019 18:07	154764
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/27/2019 10:54	154763
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2,4-Trimethylbenzene	NELAP	2.0	J	0.5	µg/L	1	06/27/2019 10:54	154763
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-003
Client Sample ID: PD-1-GWP-69-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 10:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,3,5-Trimethylbenzene	NELAP	2.0	J	0.1	µg/L	1	06/27/2019 10:54	154763
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
2-Butanone	NELAP	10.0		ND	µg/L	1	06/27/2019 10:54	154763
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/27/2019 10:54	154763
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/27/2019 10:54	154763
Acetone	NELAP	10.0		11.6	µg/L	1	06/27/2019 10:54	154763
Acrolein	NELAP	20.0		ND	µg/L	1	06/27/2019 10:54	154763
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
Benzene	NELAP	0.5		1.3	µg/L	1	06/27/2019 10:54	154763
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Bromoform	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Bromomethane	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Chloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Chloroform	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Chloromethane	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
Ethylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/27/2019 10:54	154763
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
m,p-Xylenes	NELAP	2.0	J	0.6	µg/L	1	06/27/2019 10:54	154763
Methyl tert-butyl ether	NELAP	2.0		4.2	µg/L	1	06/27/2019 10:54	154763
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Naphthalene	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
o-Xylene	NELAP	2.0	J	0.1	µg/L	1	06/27/2019 10:54	154763
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Styrene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-003
Client Sample ID: PD-1-GWP-69-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 10:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/27/2019 10:54	154763
Toluene	NELAP	2.0	J	0.2	µg/L	1	06/27/2019 10:54	154763
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/27/2019 10:54	154763
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/27/2019 10:54	154763
Xylenes, Total	NELAP	4.0	J	0.7	µg/L	1	06/27/2019 10:54	154763
Surr: 1,2-Dichloroethane-d4	*	79.6-118		96.3	%REC	1	06/27/2019 10:54	154763
Surr: 4-Bromofluorobenzene	*	83.9-115		98.8	%REC	1	06/27/2019 10:54	154763
Surr: Dibromofluoromethane	*	84.9-113		99.1	%REC	1	06/27/2019 10:54	154763
Surr: Toluene-d8	*	86.7-112		95.5	%REC	1	06/27/2019 10:54	154763

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-004
Client Sample ID: PD-1-GWP-75-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.0020	J	**0.00038**	mg/L	1	06/27/2019 14:38	154749
1-Methylnaphthalene	*	0.00020	J	**0.00018**	mg/L	1	06/27/2019 14:38	154749
2-Methylnaphthalene	NELAP	0.00020		**0.00030**	mg/L	1	06/27/2019 14:38	154749
Acenaphthene	NELAP	0.00020	J	**0.00008**	mg/L	1	06/27/2019 14:38	154749
Acenaphthylene	NELAP	0.00020	J	**0.00008**	mg/L	1	06/27/2019 14:38	154749
Anthracene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Benzo(a)anthracene	*	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Benzo(a)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Benzo(b)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Benzo(g,h,i)perylene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Benzo(k)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Chrysene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Fluorene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Phenanthrene	NELAP	0.00020		**ND**	mg/L	1	06/27/2019 14:38	154749
Pyrene	NELAP	0.00020	B	**ND**	mg/L	1	06/27/2019 14:38	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		**68.2**	%REC	1	06/27/2019 14:38	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		**59.5**	%REC	1	06/27/2019 14:38	154749
Surr: p-Terphenyl-d14	*	10-109		**59.9**	%REC	1	06/27/2019 14:38	154749

Elevated reporting limit due to sample composition.

Contamination present in the MBLK for Pyrene. Sample results below the reporting limit are reportable per the TNI Standard.

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2,4,6-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2,4-Dichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2,4-Dimethylphenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2,4-Dinitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
2,4-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2,6-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2-Chloronaphthalene	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2-Chlorophenol	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
2-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/27/2019 18:35	154764
2-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
3,3'-Dichlorobenzidine	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
3-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/27/2019 18:35	154764
4,6-Dinitro-2-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
4-Bromophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
4-Chloro-3-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
4-Chloroaniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
4-Chlorophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
4-Nitroaniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
4-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
Aniline	NELAP	0.040		**ND**	mg/L	1	06/27/2019 18:35	154764
Azobenzene	*	0.020		**ND**	mg/L	1	06/27/2019 18:35	154764
Benzoic acid	NELAP	0.10	J	**0.014**	mg/L	1	06/27/2019 18:35	154764

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-004
Client Sample ID: PD-1-GWP-75-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/27/2019 18:35	154764
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/27/2019 18:35	154764
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/27/2019 18:35	154764
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Isophorone	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/27/2019 18:35	154764
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
o-Cresol	NELAP	0.020		ND	mg/L	1	06/27/2019 18:35	154764
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/27/2019 18:35	154764
Phenol	NELAP	0.010		ND	mg/L	1	06/27/2019 18:35	154764
Pyridine	NELAP	0.040		ND	mg/L	1	06/27/2019 18:35	154764
Quinoline	*	0.010		ND	mg/L	1	06/27/2019 18:35	154764
Surr: 2,4,6-Tribromophenol	*	14.8-138		89.1	%REC	1	06/27/2019 18:35	154764
Surr: 2-Fluorobiphenyl	*	12.2-118		76.5	%REC	1	06/27/2019 18:35	154764
Surr: 2-Fluorophenol	*	11.1-70.8		56.7	%REC	1	06/27/2019 18:35	154764
Surr: Nitrobenzene-d5	*	14-118		74.7	%REC	1	06/27/2019 18:35	154764
Surr: Phenol-d5	*	10-49.2		38.8	%REC	1	06/27/2019 18:35	154764
Surr: p-Terphenyl-d14	*	11.3-110		60.1	%REC	1	06/27/2019 18:35	154764

Elevated reporting limit due to sample composition.

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/27/2019 11:22	154763
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2,4-Trimethylbenzene	NELAP	2.0	J	1.1	µg/L	1	06/27/2019 11:22	154763
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-004
Client Sample ID: PD-1-GWP-75-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,3,5-Trimethylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/27/2019 11:22	154763
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
2-Butanone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:22	154763
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/27/2019 11:22	154763
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:22	154763
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/27/2019 11:22	154763
Acetone	NELAP	10	J	6.3	µg/L	1	06/27/2019 11:22	154763
Acrolein	NELAP	20.0		ND	µg/L	1	06/27/2019 11:22	154763
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/27/2019 11:22	154763
Benzene	NELAP	0.5		2.5	µg/L	1	06/27/2019 11:22	154763
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Bromoform	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Bromomethane	NELAP	5.0		ND	µg/L	1	06/27/2019 11:22	154763
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Chloroethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Chloroform	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Chloromethane	NELAP	5.0	J	0.6	µg/L	1	06/27/2019 11:22	154763
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/27/2019 11:22	154763
Ethylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/27/2019 11:22	154763
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/27/2019 11:22	154763
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
m,p-Xylenes	NELAP	2.0	J	0.7	µg/L	1	06/27/2019 11:22	154763
Methyl tert-butyl ether	NELAP	2.0	J	1.2	µg/L	1	06/27/2019 11:22	154763
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Naphthalene	NELAP	5.0	J	0.6	µg/L	1	06/27/2019 11:22	154763
n-Butylbenzene	NELAP	2.0	J	0.1	µg/L	1	06/27/2019 11:22	154763
n-Propylbenzene	NELAP	2.0	J	0.1	µg/L	1	06/27/2019 11:22	154763
o-Xylene	NELAP	2.0	J	0.2	µg/L	1	06/27/2019 11:22	154763
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
Styrene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/27/2019 11:22	154763

Client: AECOM
Work Order: 19061748
Client Project: PreDesign Invest. PW
Report Date: 28-Jun-2019
Lab ID: 19061748-004
Client Sample ID: PD-1-GWP-75-062619
Matrix: AQUEOUS
Collection Date: 06/26/2019 13:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Tetrachloroethene	NELAP	0.5		**ND**	µg/L	1	06/27/2019 11:22	154763
Toluene	NELAP	2.0	J	**0.1**	µg/L	1	06/27/2019 11:22	154763
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/27/2019 11:22	154763
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/27/2019 11:22	154763
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/27/2019 11:22	154763
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/27/2019 11:22	154763
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/27/2019 11:22	154763
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/27/2019 11:22	154763
Xylenes, Total	NELAP	4.0	J	**0.9**	µg/L	1	06/27/2019 11:22	154763
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**97.9**	%REC	1	06/27/2019 11:22	154763
Surr: 4-Bromofluorobenzene	*	83.9-115		**97.7**	%REC	1	06/27/2019 11:22	154763
Surr: Dibromofluoromethane	*	84.9-113		**100.7**	%REC	1	06/27/2019 11:22	154763
Surr: Toluene-d8	*	86.7-112		**97.4**	%REC	1	06/27/2019 11:22	154763

Sample Summary

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19061748-001	TB-PW-062619-B	Trip Blank	1	06/26/2019 16:42
19061748-002	PD-1-GWP-60-062619	Aqueous	2	06/26/2019 9:00
19061748-003	PD-1-GWP-69-062619	Aqueous	2	06/26/2019 10:20
19061748-004	PD-1-GWP-75-062619	Aqueous	2	06/26/2019 13:00

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
19061748-001A	TB-PW-062619-B	06/26/2019 16:42	06/26/2019 16:42		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/27/2019 11:18
19061748-002A	PD-1-GWP-60-062619	06/26/2019 9:00	06/26/2019 16:42		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 9:07	06/27/2019 13:35
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 9:08	06/27/2019 17:38
19061748-002B	PD-1-GWP-60-062619	06/26/2019 9:00	06/26/2019 16:42		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/27/2019 12:10
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/27/2019 13:03
19061748-003A	PD-1-GWP-69-062619	06/26/2019 10:20	06/26/2019 16:42		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 9:07	06/27/2019 14:07
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 9:08	06/27/2019 18:07
19061748-003B	PD-1-GWP-69-062619	06/26/2019 10:20	06/26/2019 16:42		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/27/2019 10:54
19061748-004A	PD-1-GWP-75-062619	06/26/2019 13:00	06/26/2019 16:42		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 9:07	06/27/2019 14:38
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/27/2019 9:08	06/27/2019 18:35
19061748-004B	PD-1-GWP-75-062619	06/26/2019 13:00	06/26/2019 16:42		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/27/2019 11:22

Client: AECOM

Work Order: 19061748

Client Project: PreDesign Invest. PW

Report Date: 28-Jun-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154749 **SampType:** MBLK Units mg/L

SampID: MBLK-154749

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		ND						06/27/2019
1-Methylnaphthalene	0.00010		ND						06/27/2019
2-Methylnaphthalene	0.00010		ND						06/27/2019
Acenaphthene	0.00010		ND						06/27/2019
Acenaphthylene	0.00010		ND						06/27/2019
Anthracene	0.00010		ND						06/27/2019
Benzo(a)anthracene	0.00010		ND						06/27/2019
Benzo(a)pyrene	0.00010		ND						06/27/2019
Benzo(b)fluoranthene	0.00010		ND						06/27/2019
Benzo(g,h,i)perylene	0.00010		ND						06/27/2019
Benzo(k)fluoranthene	0.00010		ND						06/27/2019
Chrysene	0.00010		ND						06/27/2019
Dibenzo(a,h)anthracene	0.00010		ND						06/27/2019
Fluoranthene	0.00010	J	0.00003						06/27/2019
Fluorene	0.00010		ND						06/27/2019
Indeno(1,2,3-cd)pyrene	0.00010		ND						06/27/2019
Phenanthrene	0.00010		ND						06/27/2019
Pyrene	0.00010	J	0.00003						06/27/2019
Surr: 2-Fluorobiphenyl			0.00353	0.00500		70.6	36.1	101	06/27/2019
Surr: Nitrobenzene-d5			0.00307	0.00500		61.4	40.1	94.4	06/27/2019
Surr: p-Terphenyl-d14			0.00428	0.00500		85.6	48.4	119	06/27/2019

Batch 154749 **SampType:** LCS Units mg/L

SampID: LCS-154749

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		0.00551	0.01000	0	55.1	22.6	63.4	06/27/2019
1-Methylnaphthalene	0.00010		0.00372	0.00500	0	74.4	37.8	87.8	06/27/2019
2-Methylnaphthalene	0.00010		0.00379	0.00500	0	75.8	37.1	85.3	06/27/2019
Acenaphthene	0.00010		0.00385	0.00500	0	77.0	38.4	93.5	06/27/2019
Acenaphthylene	0.00010		0.00395	0.00500	0	79.0	37.9	91.4	06/27/2019
Anthracene	0.00010		0.00411	0.00500	0	82.2	39.3	94	06/27/2019
Benzo(a)anthracene	0.00010		0.00452	0.00500	0	90.4	43.3	94.3	06/27/2019
Benzo(a)pyrene	0.00010		0.00423	0.00500	0	84.6	42.8	98.3	06/27/2019
Benzo(b)fluoranthene	0.00010		0.00416	0.00500	0	83.2	43	97.5	06/27/2019
Benzo(g,h,i)perylene	0.00010		0.00413	0.00500	0	82.6	32.3	102	06/27/2019
Benzo(k)fluoranthene	0.00010		0.00441	0.00500	0	88.2	40.3	99.1	06/27/2019
Chrysene	0.00010		0.00434	0.00500	0	86.8	42.1	96	06/27/2019
Dibenzo(a,h)anthracene	0.00010		0.00415	0.00500	0	83.0	39.3	97.6	06/27/2019
Fluoranthene	0.00010		0.00445	0.00500	0	89.0	42.4	96	06/27/2019
Fluorene	0.00010		0.00413	0.00500	0	82.6	40.6	93.2	06/27/2019
Indeno(1,2,3-cd)pyrene	0.00010		0.00413	0.00500	0	82.6	35.9	103	06/27/2019
Phenanthrene	0.00010		0.00410	0.00500	0	82.0	42.3	96.5	06/27/2019
Pyrene	0.00010	B	0.00435	0.00500	0	87.0	40.1	95.4	06/27/2019
Surr: 2-Fluorobiphenyl			0.00312	0.00500		62.4	36.1	101	06/27/2019
Surr: Nitrobenzene-d5			0.00315	0.00500		63.0	40.1	94.4	06/27/2019
Surr: p-Terphenyl-d14			0.00401	0.00500		80.2	48.4	119	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154749 **SampType:** LCSD Units **mg/L** RPD Limit **40**

SampID: LCSD-154749

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	0.00100		**0.00550**	0.01000	0	55.0	0.005510	0.18	06/27/2019
1-Methylnaphthalene	0.00010		**0.00374**	0.00500	0	74.8	0.003720	0.54	06/27/2019
2-Methylnaphthalene	0.00010		**0.00385**	0.00500	0	77.0	0.003790	1.57	06/27/2019
Acenaphthene	0.00010		**0.00390**	0.00500	0	78.0	0.003850	1.29	06/27/2019
Acenaphthylene	0.00010		**0.00404**	0.00500	0	80.8	0.003950	2.25	06/27/2019
Anthracene	0.00010		**0.00423**	0.00500	0	84.6	0.004110	2.88	06/27/2019
Benzo(a)anthracene	0.00010		**0.00464**	0.00500	0	92.8	0.004520	2.62	06/27/2019
Benzo(a)pyrene	0.00010		**0.00439**	0.00500	0	87.8	0.004230	3.71	06/27/2019
Benzo(b)fluoranthene	0.00010		**0.00435**	0.00500	0	87.0	0.004160	4.47	06/27/2019
Benzo(g,h,i)perylene	0.00010		**0.00419**	0.00500	0	83.8	0.004130	1.44	06/27/2019
Benzo(k)fluoranthene	0.00010		**0.00460**	0.00500	0	92.0	0.004410	4.22	06/27/2019
Chrysene	0.00010		**0.00445**	0.00500	0	89.0	0.004340	2.50	06/27/2019
Dibenzo(a,h)anthracene	0.00010		**0.00426**	0.00500	0	85.2	0.004150	2.62	06/27/2019
Fluoranthene	0.00010		**0.00456**	0.00500	0	91.2	0.004450	2.44	06/27/2019
Fluorene	0.00010		**0.00418**	0.00500	0	83.6	0.004130	1.20	06/27/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00426**	0.00500	0	85.2	0.004130	3.10	06/27/2019
Phenanthrene	0.00010		**0.00426**	0.00500	0	85.2	0.004100	3.83	06/27/2019
Pyrene	0.00010	B	**0.00438**	0.00500	0	87.6	0.004350	0.69	06/27/2019
Surr: 2-Fluorobiphenyl			**0.00306**	0.00500		61.2			06/27/2019
Surr: Nitrobenzene-d5			**0.00316**	0.00500		63.2			06/27/2019
Surr: p-Terphenyl-d14			**0.00402**	0.00500		80.4			06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154764 **SampType:** MBLK Units mg/L

SampID: MBLK-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		ND						06/27/2019
2,4,6-Trichlorophenol	0.010		ND						06/27/2019
2,4-Dichlorophenol	0.010		ND						06/27/2019
2,4-Dimethylphenol	0.010		ND						06/27/2019
2,4-Dinitrophenol	0.020		ND						06/27/2019
2,4-Dinitrotoluene	0.010		ND						06/27/2019
2,6-Dinitrotoluene	0.010		ND						06/27/2019
2-Chloronaphthalene	0.010		ND						06/27/2019
2-Chlorophenol	0.010		ND						06/27/2019
2-Nitroaniline	0.040		ND						06/27/2019
2-Nitrophenol	0.020		ND						06/27/2019
3,3´-Dichlorobenzidine	0.010		ND						06/27/2019
3-Nitroaniline	0.040		ND						06/27/2019
4,6-Dinitro-2-methylphenol	0.020		ND						06/27/2019
4-Bromophenyl phenyl ether	0.010		ND						06/27/2019
4-Chloro-3-methylphenol	0.020		ND						06/27/2019
4-Chloroaniline	0.020		ND						06/27/2019
4-Chlorophenyl phenyl ether	0.010		ND						06/27/2019
4-Nitroaniline	0.020		ND						06/27/2019
4-Nitrophenol	0.020		ND						06/27/2019
Aniline	0.020		ND						06/27/2019
Azobenzene	0.010		ND						06/27/2019
Benzoic acid	0.050		ND						06/27/2019
Benzyl alcohol	0.020		ND						06/27/2019
Bis(2-chloroethoxy)methane	0.010		ND						06/27/2019
Bis(2-chloroethyl)ether	0.010		ND						06/27/2019
Bis(2-chloroisopropyl)ether	0.010		ND						06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		ND						06/27/2019
Butyl benzyl phthalate	0.010		ND						06/27/2019
Dibenzofuran	0.010		ND						06/27/2019
Diethyl phthalate	0.010		ND						06/27/2019
Dimethyl phthalate	0.010		ND						06/27/2019
Di-n-butyl phthalate	0.010		ND						06/27/2019
Di-n-octyl phthalate	0.010		ND						06/27/2019
Hexachlorobenzene	0.010		ND						06/27/2019
Hexachlorocyclopentadiene	0.020		ND						06/27/2019
Hexachloroethane	0.010		ND						06/27/2019
Isophorone	0.010		ND						06/27/2019
m,p-Cresol	0.010		ND						06/27/2019
Nitrobenzene	0.010		ND						06/27/2019
N-Nitrosodimethylamine	0.020		ND						06/27/2019
N-Nitroso-di-n-propylamine	0.010		ND						06/27/2019
N-Nitrosodiphenylamine	0.010		ND						06/27/2019
o-Cresol	0.010		ND						06/27/2019
Pentachlorophenol	0.020		ND						06/27/2019
Phenol	0.005		ND						06/27/2019
Pyridine	0.020		ND						06/27/2019

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154764 **SampType:** MBLK Units mg/L
SampID: MBLK-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.005		ND						06/27/2019
Surr: 2,4,6-Tribromophenol			0.041	0.05000		83.0	52	118	06/27/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		80.0	42.2	104	06/27/2019
Surr: 2-Fluorophenol			0.031	0.05000		62.1	28.8	76.3	06/27/2019
Surr: Nitrobenzene-d5			0.020	0.02500		79.0	41.9	107	06/27/2019
Surr: Phenol-d5			0.022	0.05000		43.6	19.6	53.3	06/27/2019
Surr: p-Terphenyl-d14			0.022	0.02500		86.9	45.4	119	06/27/2019

Batch 154764 **SampType:** LCS Units mg/L
SampID: LCS-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		0.046	0.05000	0	92.8	42.4	135	06/27/2019
2,4,6-Trichlorophenol	0.010		0.048	0.05000	0	95.3	40.9	131	06/27/2019
2,4-Dimethylphenol	0.010		0.042	0.05000	0	83.5	29.7	135	06/27/2019
2,4-Dinitrophenol	0.020		0.043	0.05000	0	86.6	30.5	115	06/27/2019
2,4-Dinitrotoluene	0.010		0.050	0.05000	0	99.6	45.8	165	06/27/2019
2-Chlorophenol	0.010		0.044	0.05000	0	87.2	33.8	122	06/27/2019
4-Chloro-3-methylphenol	0.020		0.047	0.05000	0	93.9	40.6	128	06/27/2019
4-Nitrophenol	0.020		0.025	0.05000	0	50.6	17.6	66.5	06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		0.047	0.05000	0	94.6	32.6	166	06/27/2019
Diethyl phthalate	0.010		0.045	0.05000	0	89.9	47.2	157	06/27/2019
Dimethyl phthalate	0.010		0.043	0.05000	0	86.4	47.7	147	06/27/2019
Di-n-butyl phthalate	0.010		0.047	0.05000	0	94.2	38	169	06/27/2019
Hexachlorobenzene	0.010		0.042	0.05000	0	84.3	46	154	06/27/2019
Hexachloroethane	0.010		0.036	0.05000	0	71.2	22.8	127	06/27/2019
m,p-Cresol	0.010		0.040	0.05000	0	79.7	32.4	115	06/27/2019
Nitrobenzene	0.010		0.045	0.05000	0	89.3	33.5	136	06/27/2019
N-Nitroso-di-n-propylamine	0.010		0.043	0.05000	0	86.3	42.7	138	06/27/2019
o-Cresol	0.010		0.042	0.05000	0	84.3	33.7	119	06/27/2019
Pentachlorophenol	0.020		0.047	0.05000	0	94.1	32.8	126	06/27/2019
Phenol	0.005		0.023	0.05000	0	45.7	19.5	66.9	06/27/2019
Pyridine	0.020		0.026	0.05000	0	52.3	19	84.3	06/27/2019
Quinoline	0.005		0.044	0.05000	0	88.4	45.3	133	06/27/2019
Surr: 2,4,6-Tribromophenol			0.044	0.05000		87.1	52	118	06/27/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		78.2	42.2	104	06/27/2019
Surr: 2-Fluorophenol			0.029	0.05000		57.1	28.8	76.3	06/27/2019
Surr: Nitrobenzene-d5			0.023	0.02500		92.3	41.9	107	06/27/2019
Surr: Phenol-d5			0.021	0.05000		41.3	19.6	53.3	06/27/2019
Surr: p-Terphenyl-d14			0.022	0.02500		88.0	45.4	119	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154764 **SampType:** LCSD Units mg/L RPD Limit 40

SampID: LCSD-154764

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.010		**0.048**	0.05000	0	95.9	0.04640	3.24	06/27/2019
2,4,6-Trichlorophenol	0.010		**0.047**	0.05000	0	93.3	0.04766	2.12	06/27/2019
2,4-Dimethylphenol	0.010		**0.042**	0.05000	0	83.9	0.04175	0.50	06/27/2019
2,4-Dinitrophenol	0.020		**0.043**	0.05000	0	86.6	0.04332	0.02	06/27/2019
2,4-Dinitrotoluene	0.010		**0.050**	0.05000	0	100.0	0.04979	0.38	06/27/2019
2-Chlorophenol	0.010		**0.044**	0.05000	0	88.1	0.04359	1.03	06/27/2019
4-Chloro-3-methylphenol	0.020		**0.047**	0.05000	0	93.7	0.04695	0.21	06/27/2019
4-Nitrophenol	0.020		**0.025**	0.05000	0	49.6	0.02532	2.16	06/27/2019
Bis(2-ethylhexyl)phthalate	0.006		**0.045**	0.05000	0	90.4	0.04732	4.63	06/27/2019
Diethyl phthalate	0.010		**0.044**	0.05000	0	88.3	0.04494	1.73	06/27/2019
Dimethyl phthalate	0.010		**0.041**	0.05000	0	82.6	0.04318	4.45	06/27/2019
Di-n-butyl phthalate	0.010		**0.047**	0.05000	0	93.2	0.04711	1.07	06/27/2019
Hexachlorobenzene	0.010		**0.041**	0.05000	0	82.3	0.04213	2.40	06/27/2019
Hexachloroethane	0.010		**0.035**	0.05000	0	70.0	0.03558	1.61	06/27/2019
m,p-Cresol	0.010		**0.041**	0.05000	0	81.3	0.03987	1.91	06/27/2019
Nitrobenzene	0.010		**0.043**	0.05000	0	86.6	0.04464	3.02	06/27/2019
N-Nitroso-di-n-propylamine	0.010		**0.042**	0.05000	0	84.1	0.04316	2.63	06/27/2019
o-Cresol	0.010		**0.044**	0.05000	0	87.1	0.04213	3.36	06/27/2019
Pentachlorophenol	0.020		**0.046**	0.05000	0	92.3	0.04706	1.91	06/27/2019
Phenol	0.005		**0.024**	0.05000	0	48.2	0.02283	5.45	06/27/2019
Pyridine	0.020	J	**0.018**	0.05000	0	36.9	0.02617	0.00	06/27/2019
Quinoline	0.005		**0.044**	0.05000	0	88.4	0.04422	0.05	06/27/2019
Surr: 2,4,6-Tribromophenol			**0.042**	0.05000		84.5			06/27/2019
Surr: 2-Fluorobiphenyl			**0.019**	0.02500		74.8			06/27/2019
Surr: 2-Fluorophenol			**0.030**	0.05000		60.0			06/27/2019
Surr: Nitrobenzene-d5			**0.023**	0.02500		90.5			06/27/2019
Surr: Phenol-d5			**0.021**	0.05000		42.7			06/27/2019
Surr: p-Terphenyl-d14			**0.023**	0.02500		90.6			06/27/2019

Client: AECOM

Work Order: 19061748

Client Project: PreDesign Invest. PW

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154763 **SampType:** MBLK Units µg/L

SampID: MBLK-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/27/2019
1,1,1-Trichloroethane	2.0		ND						06/27/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/27/2019
1,1,2-Trichloroethane	0.5		ND						06/27/2019
1,1-Dichloroethane	2.0		ND						06/27/2019
1,1-Dichloroethene	2.0		ND						06/27/2019
1,1-Dichloropropene	2.0		ND						06/27/2019
1,2,3-Trichlorobenzene	2.0		ND						06/27/2019
1,2,3-Trichloropropane	2.0		ND						06/27/2019
1,2,4-Trichlorobenzene	2.0		ND						06/27/2019
1,2,4-Trimethylbenzene	2.0		ND						06/27/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/27/2019
1,2-Dibromoethane	2.0		ND						06/27/2019
1,2-Dichlorobenzene	2.0		ND						06/27/2019
1,2-Dichloroethane	2.0		ND						06/27/2019
1,2-Dichloropropane	2.0		ND						06/27/2019
1,3,5-Trimethylbenzene	2.0		ND						06/27/2019
1,3-Dichlorobenzene	2.0		ND						06/27/2019
1,3-Dichloropropane	2.0		ND						06/27/2019
1,4-Dichlorobenzene	2.0		ND						06/27/2019
2,2-Dichloropropane	2.0		ND						06/27/2019
2-Butanone	10.0		ND						06/27/2019
2-Chloroethyl vinyl ether	5.0		ND						06/27/2019
2-Chlorotoluene	2.0		ND						06/27/2019
2-Hexanone	10.0		ND						06/27/2019
4-Chlorotoluene	2.0		ND						06/27/2019
4-Methyl-2-pentanone	10.0		ND						06/27/2019
Acetone	10.0		ND						06/27/2019
Acrolein	20.0		ND						06/27/2019
Acrylonitrile	5.0		ND						06/27/2019
Benzene	0.5		ND						06/27/2019
Bromobenzene	2.0		ND						06/27/2019
Bromochloromethane	2.0		ND						06/27/2019
Bromodichloromethane	2.0		ND						06/27/2019
Bromoform	2.0		ND						06/27/2019
Bromomethane	5.0		ND						06/27/2019
Carbon disulfide	2.0		ND						06/27/2019
Carbon tetrachloride	2.0		ND						06/27/2019
Chlorobenzene	2.0		ND						06/27/2019
Chloroethane	2.0		ND						06/27/2019
Chloroform	2.0		ND						06/27/2019
Chloromethane	5.0		ND						06/27/2019
cis-1,2-Dichloroethene	2.0		ND						06/27/2019
cis-1,3-Dichloropropene	2.0		ND						06/27/2019
Dibromochloromethane	2.0		ND						06/27/2019
Dichlorodifluoromethane	2.0		ND						06/27/2019
Ethyl methacrylate	5.0		ND						06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154763 **SampType:** MBLK Units µg/L

SampID: MBLK-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/27/2019
Hexachlorobutadiene	5.0		ND						06/27/2019
Isopropylbenzene	2.0		ND						06/27/2019
m,p-Xylenes	2.0		ND						06/27/2019
Methyl tert-butyl ether	2.0		ND						06/27/2019
Methylene chloride	10.0		ND						06/27/2019
Naphthalene	5.0		ND						06/27/2019
n-Butylbenzene	2.0		ND						06/27/2019
n-Propylbenzene	2.0		ND						06/27/2019
o-Xylene	2.0		ND						06/27/2019
p-Isopropyltoluene	2.0		ND						06/27/2019
sec-Butylbenzene	2.0		ND						06/27/2019
Styrene	2.0		ND						06/27/2019
tert-Butylbenzene	2.0		ND						06/27/2019
Tetrachloroethene	0.5		ND						06/27/2019
Toluene	2.0		ND						06/27/2019
trans-1,2-Dichloroethene	2.0		ND						06/27/2019
trans-1,3-Dichloropropene	2.0		ND						06/27/2019
Trichloroethene	2.0		ND						06/27/2019
Trichlorofluoromethane	5.0		ND						06/27/2019
Vinyl acetate	5.0		ND						06/27/2019
Vinyl chloride	2.0		ND						06/27/2019
Xylenes, Total	4.0		ND						06/27/2019
Surr: 1,2-Dichloroethane-d4			**48.6**	50.00		97.3	79.6	118	06/27/2019
Surr: 4-Bromofluorobenzene			**49.5**	50.00		99.1	83.9	115	06/27/2019
Surr: Dibromofluoromethane			**50.7**	50.00		101.4	84.9	113	06/27/2019
Surr: Toluene-d8			**47.5**	50.00		95.1	86.7	112	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154763 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**46.3**	50.00	0	92.6	48.64	4.97	06/27/2019
1,1,1-Trichloroethane	2.0		**51.8**	50.00	0	103.5	53.66	3.59	06/27/2019
1,1,2,2-Tetrachloroethane	2.0		**47.2**	50.00	0	94.3	47.57	0.89	06/27/2019
1,1,2-Trichloroethane	0.5		**48.5**	50.00	0	96.9	48.82	0.72	06/27/2019
1,1-Dichloroethane	2.0		**52.4**	50.00	0	104.7	52.64	0.51	06/27/2019
1,1-Dichloroethene	2.0		**47.4**	50.00	0	94.8	50.26	5.88	06/27/2019
1,1-Dichloropropene	2.0		**49.6**	50.00	0	99.1	50.23	1.34	06/27/2019
1,2,3-Trichlorobenzene	2.0		**47.5**	50.00	0	95.0	48.11	1.25	06/27/2019
1,2,3-Trichloropropane	2.0		**45.7**	50.00	0	91.3	46.23	1.22	06/27/2019
1,2,4-Trichlorobenzene	2.0		**49.0**	50.00	0	98.0	49.47	0.98	06/27/2019
1,2,4-Trimethylbenzene	2.0		**44.3**	50.00	0	88.5	46.31	4.50	06/27/2019
1,2-Dibromo-3-chloropropane	5.0		**52.7**	50.00	0	105.4	49.97	5.30	06/27/2019
1,2-Dibromoethane	2.0		**48.7**	50.00	0	97.3	49.38	1.47	06/27/2019
1,2-Dichlorobenzene	2.0		**44.6**	50.00	0	89.3	45.62	2.19	06/27/2019
1,2-Dichloroethane	2.0		**50.1**	50.00	0	100.2	51.33	2.41	06/27/2019
1,2-Dichloropropane	2.0		**50.3**	50.00	0	100.5	52.23	3.82	06/27/2019
1,3,5-Trimethylbenzene	2.0		**45.1**	50.00	0	90.2	46.07	2.15	06/27/2019
1,3-Dichlorobenzene	2.0		**43.4**	50.00	0	86.7	45.41	4.60	06/27/2019
1,3-Dichloropropane	2.0		**46.7**	50.00	0	93.4	49.34	5.45	06/27/2019
1,4-Dichlorobenzene	2.0		**43.6**	50.00	0	87.2	44.78	2.67	06/27/2019
2,2-Dichloropropane	2.0		**40.4**	50.00	0	80.8	41.47	2.56	06/27/2019
2-Butanone	10.0		**133**	125.0	0	106.5	126.7	4.95	06/27/2019
2-Chloroethyl vinyl ether	5.0		**52.1**	50.00	0	104.1	51.21	1.65	06/27/2019
2-Chlorotoluene	2.0		**43.7**	50.00	0	87.4	46.40	6.04	06/27/2019
2-Hexanone	10.0		**122**	125.0	0	97.5	115.5	5.42	06/27/2019
4-Chlorotoluene	2.0		**42.4**	50.00	0	84.7	44.33	4.57	06/27/2019
4-Methyl-2-pentanone	10.0		**121**	125.0	0	96.5	117.5	2.57	06/27/2019
Acetone	10.0		**129**	125.0	0	102.9	122.7	4.65	06/27/2019
Acrolein	20.0		**435**	500.0	0	86.9	428.3	1.49	06/27/2019
Acrylonitrile	5.0		**53.2**	50.00	0	106.5	50.94	4.43	06/27/2019
Benzene	0.5		**48.9**	50.00	0	97.7	50.95	4.19	06/27/2019
Bromobenzene	2.0		**45.0**	50.00	0	90.1	46.72	3.68	06/27/2019
Bromochloromethane	2.0		**50.2**	50.00	0	100.4	53.20	5.80	06/27/2019
Bromodichloromethane	2.0		**50.8**	50.00	0	101.5	51.13	0.71	06/27/2019
Bromoform	2.0		**51.2**	50.00	0	102.4	53.66	4.67	06/27/2019
Bromomethane	5.0		**44.8**	50.00	0	89.5	49.38	9.79	06/27/2019
Carbon disulfide	2.0		**48.7**	50.00	0	97.4	48.84	0.27	06/27/2019
Carbon tetrachloride	2.0		**49.9**	50.00	0	99.9	50.79	1.69	06/27/2019
Chlorobenzene	2.0		**45.0**	50.00	0	90.0	45.34	0.71	06/27/2019
Chloroethane	2.0		**43.7**	50.00	0	87.3	45.48	4.08	06/27/2019
Chloroform	2.0		**49.8**	50.00	0	99.6	50.64	1.69	06/27/2019
Chloromethane	5.0		**50.1**	50.00	0	100.2	49.54	1.16	06/27/2019
cis-1,2-Dichloroethene	2.0		**50.8**	50.00	0	101.6	51.59	1.54	06/27/2019
cis-1,3-Dichloropropene	2.0		**50.1**	50.00	0	100.2	52.19	4.13	06/27/2019
Dibromochloromethane	2.0		**50.7**	50.00	0	101.4	53.41	5.23	06/27/2019
Dichlorodifluoromethane	2.0		**33.3**	50.00	0	66.6	34.82	4.49	06/27/2019
Ethyl methacrylate	5.0		**47.9**	50.00	0	95.8	48.35	0.89	06/27/2019

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154763 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**43.1**	50.00	0	86.2	45.81	6.05	06/27/2019
Hexachlorobutadiene	5.0		**45.9**	50.00	0	91.8	48.04	4.51	06/27/2019
Isopropylbenzene	2.0		**44.2**	50.00	0	88.4	46.61	5.29	06/27/2019
m,p-Xylenes	2.0		**90.2**	100.0	0	90.2	93.61	3.70	06/27/2019
Methyl tert-butyl ether	2.0		**50.7**	50.00	0	101.4	51.34	1.27	06/27/2019
Methylene chloride	10.0		**48.6**	50.00	0	97.3	50.53	3.79	06/27/2019
Naphthalene	5.0		**46.8**	50.00	0	93.6	46.58	0.45	06/27/2019
n-Butylbenzene	2.0		**44.8**	50.00	0	89.5	45.01	0.58	06/27/2019
n-Propylbenzene	2.0		**42.7**	50.00	0	85.4	45.79	7.03	06/27/2019
o-Xylene	2.0		**44.7**	50.00	0	89.5	45.77	2.30	06/27/2019
p-Isopropyltoluene	2.0		**44.4**	50.00	0	88.7	44.94	1.30	06/27/2019
sec-Butylbenzene	2.0		**43.2**	50.00	0	86.5	45.54	5.18	06/27/2019
Styrene	2.0		**47.0**	50.00	0	94.1	49.18	4.45	06/27/2019
tert-Butylbenzene	2.0		**43.2**	50.00	0	86.3	46.40	7.24	06/27/2019
Tetrachloroethene	0.5		**46.5**	50.00	0	92.9	46.41	0.11	06/27/2019
Toluene	2.0		**45.3**	50.00	0	90.6	47.29	4.25	06/27/2019
trans-1,2-Dichloroethene	2.0		**51.5**	50.00	0	103.0	52.89	2.66	06/27/2019
trans-1,3-Dichloropropene	2.0		**46.5**	50.00	0	93.0	49.61	6.45	06/27/2019
Trichloroethene	2.0		**48.6**	50.00	0	97.1	50.74	4.41	06/27/2019
Trichlorofluoromethane	5.0		**47.0**	50.00	0	94.0	48.58	3.35	06/27/2019
Vinyl acetate	5.0		**56.3**	50.00	0	112.6	55.32	1.76	06/27/2019
Vinyl chloride	2.0		**51.2**	50.00	0	102.5	52.78	2.96	06/27/2019
Xylenes, Total	4.0		**135**	150.0	0	90.0	139.4	3.24	06/27/2019
Surr: 1,2-Dichloroethane-d4			**48.9**	50.00		97.8			06/27/2019
Surr: 4-Bromofluorobenzene			**47.9**	50.00		95.8			06/27/2019
Surr: Dibromofluoromethane			**51.9**	50.00		103.9			06/27/2019
Surr: Toluene-d8			**49.1**	50.00		98.2			06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154763 **SampType:** LCS Units µg/L

SampID: LCS-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**48.6**	50.00	0	97.3	83.4	118	06/27/2019
1,1,1-Trichloroethane	2.0		**53.7**	50.00	0	107.3	79.1	123	06/27/2019
1,1,2,2-Tetrachloroethane	2.0		**47.6**	50.00	0	95.1	70.7	121	06/27/2019
1,1,2-Trichloroethane	0.5		**48.8**	50.00	0	97.6	79.8	117	06/27/2019
1,1-Dichloroethane	2.0		**52.6**	50.00	0	105.3	75.1	122	06/27/2019
1,1-Dichloroethene	2.0		**50.3**	50.00	0	100.5	68.3	121	06/27/2019
1,1-Dichloropropene	2.0		**50.2**	50.00	0	100.5	76.7	122	06/27/2019
1,2,3-Trichlorobenzene	2.0		**48.1**	50.00	0	96.2	77.1	130	06/27/2019
1,2,3-Trichloropropane	2.0		**46.2**	50.00	0	92.5	70.6	114	06/27/2019
1,2,4-Trichlorobenzene	2.0		**49.5**	50.00	0	98.9	79.6	128	06/27/2019
1,2,4-Trimethylbenzene	2.0		**46.3**	50.00	0	92.6	78.9	117	06/27/2019
1,2-Dibromo-3-chloropropane	5.0		**50.0**	50.00	0	99.9	68.1	123	06/27/2019
1,2-Dibromoethane	2.0		**49.4**	50.00	0	98.8	82.9	114	06/27/2019
1,2-Dichlorobenzene	2.0		**45.6**	50.00	0	91.2	75.2	120	06/27/2019
1,2-Dichloroethane	2.0		**51.3**	50.00	0	102.7	76.9	117	06/27/2019
1,2-Dichloropropane	2.0		**52.2**	50.00	0	104.5	76.4	121	06/27/2019
1,3,5-Trimethylbenzene	2.0		**46.1**	50.00	0	92.1	79.8	118	06/27/2019
1,3-Dichlorobenzene	2.0		**45.4**	50.00	0	90.8	80.5	119	06/27/2019
1,3-Dichloropropane	2.0		**49.3**	50.00	0	98.7	77.5	113	06/27/2019
1,4-Dichlorobenzene	2.0		**44.8**	50.00	0	89.6	80.2	115	06/27/2019
2,2-Dichloropropane	2.0		**41.5**	50.00	0	82.9	62.4	151	06/27/2019
2-Butanone	10.0		**127**	125.0	0	101.3	65.7	120	06/27/2019
2-Chloroethyl vinyl ether	5.0		**51.2**	50.00	0	102.4	31.5	159	06/27/2019
2-Chlorotoluene	2.0		**46.4**	50.00	0	92.8	76	117	06/27/2019
2-Hexanone	10.0		**115**	125.0	0	92.4	65.1	121	06/27/2019
4-Chlorotoluene	2.0		**44.3**	50.00	0	88.7	77	117	06/27/2019
4-Methyl-2-pentanone	10.0		**118**	125.0	0	94.0	69.6	117	06/27/2019
Acetone	10.0		**123**	125.0	0	98.2	47.5	123	06/27/2019
Acrolein	20.0		**428**	500.0	0	85.7	27	164	06/27/2019
Acrylonitrile	5.0		**50.9**	50.00	0	101.9	74.8	127	06/27/2019
Benzene	0.5		**51.0**	50.00	0	101.9	75.8	121	06/27/2019
Bromobenzene	2.0		**46.7**	50.00	0	93.4	72.7	119	06/27/2019
Bromochloromethane	2.0		**53.2**	50.00	0	106.4	69	123	06/27/2019
Bromodichloromethane	2.0		**51.1**	50.00	0	102.3	80.8	128	06/27/2019
Bromoform	2.0		**53.7**	50.00	0	107.3	85.5	128	06/27/2019
Bromomethane	5.0		**49.4**	50.00	0	98.8	-36.7	277	06/27/2019
Carbon disulfide	2.0		**48.8**	50.00	0	97.7	64.9	133	06/27/2019
Carbon tetrachloride	2.0		**50.8**	50.00	0	101.6	79.5	129	06/27/2019
Chlorobenzene	2.0		**45.3**	50.00	0	90.7	82.1	113	06/27/2019
Chloroethane	2.0		**45.5**	50.00	0	91.0	43.9	138	06/27/2019
Chloroform	2.0		**50.6**	50.00	0	101.3	80.1	122	06/27/2019
Chloromethane	5.0		**49.5**	50.00	0	99.1	50.8	131	06/27/2019
cis-1,2-Dichloroethene	2.0		**51.6**	50.00	0	103.2	78.6	119	06/27/2019
cis-1,3-Dichloropropene	2.0		**52.2**	50.00	0	104.4	79	129	06/27/2019
Dibromochloromethane	2.0		**53.4**	50.00	0	106.8	88.1	123	06/27/2019
Dichlorodifluoromethane	2.0		**34.8**	50.00	0	69.6	35.7	155	06/27/2019
Ethyl methacrylate	5.0		**48.4**	50.00	0	96.7	80.6	123	06/27/2019

Client: AECOM

Work Order: 19061748

Client Project: PreDesign Invest. PW

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154763 **SampType:** LCS Units µg/L

SampID: LCS-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**45.8**	50.00	0	91.6	80.7	114	06/27/2019
Hexachlorobutadiene	5.0		**48.0**	50.00	0	96.1	68.2	141	06/27/2019
Isopropylbenzene	2.0		**46.6**	50.00	0	93.2	81.3	116	06/27/2019
m,p-Xylenes	2.0		**93.6**	100.0	0	93.6	80.5	113	06/27/2019
Methyl tert-butyl ether	2.0		**51.3**	50.00	0	102.7	79.5	121	06/27/2019
Methylene chloride	10.0		**50.5**	50.00	0	101.1	76.2	119	06/27/2019
Naphthalene	5.0		**46.6**	50.00	0	93.2	76.1	129	06/27/2019
n-Butylbenzene	2.0		**45.0**	50.00	0	90.0	71.6	122	06/27/2019
n-Propylbenzene	2.0		**45.8**	50.00	0	91.6	76	120	06/27/2019
o-Xylene	2.0		**45.8**	50.00	0	91.5	79.7	112	06/27/2019
p-Isopropyltoluene	2.0		**44.9**	50.00	0	89.9	76.2	122	06/27/2019
sec-Butylbenzene	2.0		**45.5**	50.00	0	91.1	76.6	119	06/27/2019
Styrene	2.0		**49.2**	50.00	0	98.4	82.8	116	06/27/2019
tert-Butylbenzene	2.0		**46.4**	50.00	0	92.8	74.7	117	06/27/2019
Tetrachloroethene	0.5		**46.4**	50.00	0	92.8	80.6	122	06/27/2019
Toluene	2.0		**47.3**	50.00	0	94.6	78.3	112	06/27/2019
trans-1,2-Dichloroethene	2.0		**52.9**	50.00	0	105.8	73.5	124	06/27/2019
trans-1,3-Dichloropropene	2.0		**49.6**	50.00	0	99.2	83.4	124	06/27/2019
Trichloroethene	2.0		**50.7**	50.00	0	101.5	74.3	125	06/27/2019
Trichlorofluoromethane	5.0		**48.6**	50.00	0	97.2	71.5	136	06/27/2019
Vinyl acetate	5.0		**55.3**	50.00	0	110.6	65.9	136	06/27/2019
Vinyl chloride	2.0		**52.8**	50.00	0	105.6	55.8	135	06/27/2019
Xylenes, Total	4.0		**139**	150.0	0	92.9	80.2	113	06/27/2019
Surr: 1,2-Dichloroethane-d4			**50.0**	50.00		100.0	79.6	118	06/27/2019
Surr: 4-Bromofluorobenzene			**50.1**	50.00		100.2	83.9	115	06/27/2019
Surr: Dibromofluoromethane			**51.8**	50.00		103.6	84.9	113	06/27/2019
Surr: Toluene-d8			**49.1**	50.00		98.2	86.7	112	06/27/2019

Batch 154763 **SampType:** LCSGD Units %REC RPD Limit 0

SampID: LCSGD-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**48.6**	50.00		97.2			06/27/2019
Surr: 4-Bromofluorobenzene			**51.2**	50.00		102.3			06/27/2019
Surr: Dibromofluoromethane			**51.4**	50.00		102.8			06/27/2019
Surr: Toluene-d8			**51.0**	50.00		101.9			06/27/2019

Batch 154763 **SampType:** LCSG Units %REC

SampID: LCSG-N190626A-2

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Surr: 1,2-Dichloroethane-d4			**50.2**	50.00		100.3	79.6	118	06/27/2019
Surr: 4-Bromofluorobenzene			**46.8**	50.00		93.7	83.9	115	06/27/2019
Surr: Dibromofluoromethane			**51.4**	50.00		102.8	84.9	113	06/27/2019
Surr: Toluene-d8			**48.2**	50.00		96.4	86.7	112	06/27/2019

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** MBLK Units µg/L
SampID: MBLK-T190627A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/27/2019
1,1,1-Trichloroethane	2.0		ND						06/27/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/27/2019
1,1,2-Trichloroethane	0.5		ND						06/27/2019
1,1-Dichloroethane	2.0		ND						06/27/2019
1,1-Dichloroethene	2.0		ND						06/27/2019
1,1-Dichloropropene	2.0		ND						06/27/2019
1,2,3-Trichlorobenzene	2.0		ND						06/27/2019
1,2,3-Trichloropropane	2.0		ND						06/27/2019
1,2,4-Trichlorobenzene	2.0		ND						06/27/2019
1,2,4-Trimethylbenzene	2.0		ND						06/27/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/27/2019
1,2-Dibromoethane	2.0		ND						06/27/2019
1,2-Dichlorobenzene	2.0		ND						06/27/2019
1,2-Dichloroethane	2.0		ND						06/27/2019
1,2-Dichloropropane	2.0		ND						06/27/2019
1,3,5-Trimethylbenzene	2.0		ND						06/27/2019
1,3-Dichlorobenzene	2.0		ND						06/27/2019
1,3-Dichloropropane	2.0		ND						06/27/2019
1,4-Dichlorobenzene	2.0		ND						06/27/2019
2,2-Dichloropropane	2.0		ND						06/27/2019
2-Butanone	10.0		ND						06/27/2019
2-Chloroethyl vinyl ether	5.0		ND						06/27/2019
2-Chlorotoluene	2.0		ND						06/27/2019
2-Hexanone	10.0		ND						06/27/2019
4-Chlorotoluene	2.0		ND						06/27/2019
4-Methyl-2-pentanone	10.0		ND						06/27/2019
Acetone	10.0		ND						06/27/2019
Acrolein	20.0		ND						06/27/2019
Acrylonitrile	5.0		ND						06/27/2019
Benzene	0.5		ND						06/27/2019
Bromobenzene	2.0		ND						06/27/2019
Bromochloromethane	2.0		ND						06/27/2019
Bromodichloromethane	2.0		ND						06/27/2019
Bromoform	2.0		ND						06/27/2019
Bromomethane	5.0		ND						06/27/2019
Carbon disulfide	2.0		ND						06/27/2019
Carbon tetrachloride	2.0		ND						06/27/2019
Chlorobenzene	2.0		ND						06/27/2019
Chloroethane	2.0		ND						06/27/2019
Chloroform	2.0		ND						06/27/2019
Chloromethane	5.0		ND						06/27/2019
cis-1,2-Dichloroethene	2.0		ND						06/27/2019
cis-1,3-Dichloropropene	2.0		ND						06/27/2019
Dibromochloromethane	2.0		ND						06/27/2019
Dichlorodifluoromethane	2.0		ND						06/27/2019
Ethyl methacrylate	5.0		ND						06/27/2019

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** MBLK Units µg/L
SampID: MBLK-T190627A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/27/2019
Hexachlorobutadiene	5.0		ND						06/27/2019
Isopropylbenzene	2.0		ND						06/27/2019
m,p-Xylenes	2.0		ND						06/27/2019
Methyl tert-butyl ether	2.0		ND						06/27/2019
Methylene chloride	10.0		ND						06/27/2019
Naphthalene	5.0		ND						06/27/2019
n-Butylbenzene	2.0		ND						06/27/2019
n-Propylbenzene	2.0		ND						06/27/2019
o-Xylene	2.0		ND						06/27/2019
p-Isopropyltoluene	2.0		ND						06/27/2019
sec-Butylbenzene	2.0		ND						06/27/2019
Styrene	2.0		ND						06/27/2019
tert-Butylbenzene	2.0		ND						06/27/2019
Tetrachloroethene	0.5		ND						06/27/2019
Toluene	2.0		ND						06/27/2019
trans-1,2-Dichloroethene	2.0		ND						06/27/2019
trans-1,3-Dichloropropene	2.0		ND						06/27/2019
Trichloroethene	2.0		ND						06/27/2019
Trichlorofluoromethane	5.0		ND						06/27/2019
Vinyl acetate	5.0		ND						06/27/2019
Vinyl chloride	2.0		ND						06/27/2019
Xylenes, Total	4.0		ND						06/27/2019
Surr: 1,2-Dichloroethane-d4			**47.3**	50.00		94.5	79.6	118	06/27/2019
Surr: 4-Bromofluorobenzene			**50.1**	50.00		100.3	83.9	115	06/27/2019
Surr: Dibromofluoromethane			**49.1**	50.00		98.2	84.9	113	06/27/2019
Surr: Toluene-d8			**48.2**	50.00		96.3	86.7	112	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190627A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**45.4**	50.00	0	90.8	55.10	19.26	06/27/2019
1,1,1-Trichloroethane	2.0		**44.7**	50.00	0	89.4	57.68	25.33	06/27/2019
1,1,2,2-Tetrachloroethane	2.0		**43.6**	50.00	0	87.3	51.29	16.14	06/27/2019
1,1,2-Trichloroethane	0.5		**46.2**	50.00	0	92.3	54.14	15.91	06/27/2019
1,1-Dichloroethane	2.0		**46.4**	50.00	0	92.8	57.74	21.82	06/27/2019
1,1-Dichloroethene	2.0		**42.3**	50.00	0	84.6	54.37	25.02	06/27/2019
1,1-Dichloropropene	2.0		**43.2**	50.00	0	86.5	53.88	21.91	06/27/2019
1,2,3-Trichlorobenzene	2.0		**47.4**	50.00	0	94.9	56.00	16.57	06/27/2019
1,2,3-Trichloropropane	2.0		**43.5**	50.00	0	87.0	50.11	14.08	06/27/2019
1,2,4-Trichlorobenzene	2.0		**46.7**	50.00	0	93.5	56.30	18.58	06/27/2019
1,2,4-Trimethylbenzene	2.0		**44.1**	50.00	0	88.2	53.59	19.38	06/27/2019
1,2-Dibromo-3-chloropropane	5.0		**45.0**	50.00	0	90.0	52.65	15.65	06/27/2019
1,2-Dibromoethane	2.0		**45.5**	50.00	0	91.0	54.40	17.80	06/27/2019
1,2-Dichlorobenzene	2.0		**44.3**	50.00	0	88.5	52.18	16.40	06/27/2019
1,2-Dichloroethane	2.0		**43.5**	50.00	0	87.0	52.77	19.26	06/27/2019
1,2-Dichloropropane	2.0		**44.4**	50.00	0	88.7	53.91	19.44	06/27/2019
1,3,5-Trimethylbenzene	2.0		**43.3**	50.00	0	86.6	53.07	20.28	06/27/2019
1,3-Dichlorobenzene	2.0		**45.2**	50.00	0	90.4	54.41	18.49	06/27/2019
1,3-Dichloropropane	2.0		**44.5**	50.00	0	88.9	53.92	19.21	06/27/2019
1,4-Dichlorobenzene	2.0		**44.2**	50.00	0	88.4	52.93	17.98	06/27/2019
2,2-Dichloropropane	2.0		**42.2**	50.00	0	84.5	52.98	22.56	06/27/2019
2-Butanone	10.0		**117**	125.0	0	93.5	137.7	16.36	06/27/2019
2-Chloroethyl vinyl ether	5.0		**45.3**	50.00	0	90.6	54.16	17.86	06/27/2019
2-Chlorotoluene	2.0		**43.2**	50.00	0	86.4	52.32	19.07	06/27/2019
2-Hexanone	10.0		**109**	125.0	0	87.3	130.1	17.50	06/27/2019
4-Chlorotoluene	2.0		**44.1**	50.00	0	88.2	51.57	15.66	06/27/2019
4-Methyl-2-pentanone	10.0		**113**	125.0	0	90.5	131.9	15.39	06/27/2019
Acetone	10.0		**107**	125.0	0	85.6	124.8	15.41	06/27/2019
Acrolein	20.0		**589**	500.0	0	117.7	647.2	9.46	06/27/2019
Acrylonitrile	5.0		**46.4**	50.00	0	92.9	55.28	17.40	06/27/2019
Benzene	0.5		**44.0**	50.00	0	88.0	54.84	21.93	06/27/2019
Bromobenzene	2.0		**45.9**	50.00	0	91.8	53.95	16.10	06/27/2019
Bromochloromethane	2.0		**43.2**	50.00	0	86.4	51.59	17.70	06/27/2019
Bromodichloromethane	2.0		**44.0**	50.00	0	87.9	53.86	20.22	06/27/2019
Bromoform	2.0		**48.4**	50.00	0	96.8	57.64	17.41	06/27/2019
Bromomethane	5.0		**52.1**	50.00	0	104.2	60.48	14.85	06/27/2019
Carbon disulfide	2.0		**40.7**	50.00	0	81.4	52.20	24.71	06/27/2019
Carbon tetrachloride	2.0		**41.8**	50.00	0	83.7	54.01	25.39	06/27/2019
Chlorobenzene	2.0		**44.0**	50.00	0	87.9	54.68	21.76	06/27/2019
Chloroethane	2.0		**41.8**	50.00	0	83.6	51.10	19.97	06/27/2019
Chloroform	2.0		**43.5**	50.00	0	87.0	53.41	20.41	06/27/2019
Chloromethane	5.0		**51.8**	50.00	0	103.7	61.03	16.27	06/27/2019
cis-1,2-Dichloroethene	2.0		**45.7**	50.00	0	91.4	55.20	18.87	06/27/2019
cis-1,3-Dichloropropene	2.0		**45.3**	50.00	0	90.5	55.53	20.36	06/27/2019
Dibromochloromethane	2.0		**46.8**	50.00	0	93.6	57.21	19.98	06/27/2019
Dichlorodifluoromethane	2.0		**35.5**	50.00	0	70.9	45.54	24.86	06/27/2019
Ethyl methacrylate	5.0		**46.2**	50.00	0	92.3	54.97	17.42	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190627A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**43.5**	50.00	0	87.1	53.27	20.12	06/27/2019
Hexachlorobutadiene	5.0		**49.2**	50.00	0	98.4	61.09	21.56	06/27/2019
Isopropylbenzene	2.0		**44.0**	50.00	0	88.1	54.98	22.10	06/27/2019
m,p-Xylenes	2.0		**86.8**	100.0	0	86.8	108.5	22.23	06/27/2019
Methyl tert-butyl ether	2.0		**48.5**	50.00	0	96.9	56.42	15.16	06/27/2019
Methylene chloride	10.0		**41.3**	50.00	0	82.6	50.21	19.52	06/27/2019
Naphthalene	5.0		**46.9**	50.00	0	93.8	55.03	15.97	06/27/2019
n-Butylbenzene	2.0		**42.2**	50.00	0	84.3	52.59	22.04	06/27/2019
n-Propylbenzene	2.0		**42.8**	50.00	0	85.7	52.02	19.33	06/27/2019
o-Xylene	2.0		**43.1**	50.00	0	86.1	53.17	20.99	06/27/2019
p-Isopropyltoluene	2.0		**44.3**	50.00	0	88.6	54.24	20.22	06/27/2019
sec-Butylbenzene	2.0		**43.8**	50.00	0	87.5	53.82	20.60	06/27/2019
Styrene	2.0		**45.3**	50.00	0	90.7	56.20	21.41	06/27/2019
tert-Butylbenzene	2.0		**41.8**	50.00	0	83.6	51.84	21.42	06/27/2019
Tetrachloroethene	0.5		**45.4**	50.00	0	90.8	55.46	19.97	06/27/2019
Toluene	2.0		**42.6**	50.00	0	85.2	52.64	21.06	06/27/2019
trans-1,2-Dichloroethene	2.0		**45.9**	50.00	0	91.9	57.66	22.63	06/27/2019
trans-1,3-Dichloropropene	2.0		**45.8**	50.00	0	91.7	55.06	18.25	06/27/2019
Trichloroethene	2.0		**43.8**	50.00	0	87.5	55.71	24.00	06/27/2019
Trichlorofluoromethane	5.0		**41.3**	50.00	0	82.7	53.02	24.76	06/27/2019
Vinyl acetate	5.0		**48.7**	50.00	0	97.5	59.85	20.46	06/27/2019
Vinyl chloride	2.0		**41.5**	50.00	0	83.1	52.08	22.52	06/27/2019
Xylenes, Total	4.0		**130**	150.0	0	86.6	161.6	21.82	06/27/2019
Surr: 1,2-Dichloroethane-d4			**45.9**	50.00		91.8			06/27/2019
Surr: 4-Bromofluorobenzene			**49.4**	50.00		98.7			06/27/2019
Surr: Dibromofluoromethane			**49.5**	50.00		99.1			06/27/2019
Surr: Toluene-d8			**49.3**	50.00		98.5			06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** LCS Units µg/L

SampID: LCS-T190627A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**55.1**	50.00	0	110.2	83.4	118	06/27/2019
1,1,1-Trichloroethane	2.0		**57.7**	50.00	0	115.4	79.1	123	06/27/2019
1,1,2,2-Tetrachloroethane	2.0		**51.3**	50.00	0	102.6	70.7	121	06/27/2019
1,1,2-Trichloroethane	0.5		**54.1**	50.00	0	108.3	79.8	117	06/27/2019
1,1-Dichloroethane	2.0		**57.7**	50.00	0	115.5	75.1	122	06/27/2019
1,1-Dichloroethene	2.0		**54.4**	50.00	0	108.7	68.3	121	06/27/2019
1,1-Dichloropropene	2.0		**53.9**	50.00	0	107.8	76.7	122	06/27/2019
1,2,3-Trichlorobenzene	2.0		**56.0**	50.00	0	112.0	77.1	130	06/27/2019
1,2,3-Trichloropropane	2.0		**50.1**	50.00	0	100.2	70.6	114	06/27/2019
1,2,4-Trichlorobenzene	2.0		**56.3**	50.00	0	112.6	79.6	128	06/27/2019
1,2,4-Trimethylbenzene	2.0		**53.6**	50.00	0	107.2	78.9	117	06/27/2019
1,2-Dibromo-3-chloropropane	5.0		**52.6**	50.00	0	105.3	68.1	123	06/27/2019
1,2-Dibromoethane	2.0		**54.4**	50.00	0	108.8	82.9	114	06/27/2019
1,2-Dichlorobenzene	2.0		**52.2**	50.00	0	104.4	75.2	120	06/27/2019
1,2-Dichloroethane	2.0		**52.8**	50.00	0	105.5	76.9	117	06/27/2019
1,2-Dichloropropane	2.0		**53.9**	50.00	0	107.8	76.4	121	06/27/2019
1,3,5-Trimethylbenzene	2.0		**53.1**	50.00	0	106.1	79.8	118	06/27/2019
1,3-Dichlorobenzene	2.0		**54.4**	50.00	0	108.8	80.5	119	06/27/2019
1,3-Dichloropropane	2.0		**53.9**	50.00	0	107.8	77.5	113	06/27/2019
1,4-Dichlorobenzene	2.0		**52.9**	50.00	0	105.9	80.2	115	06/27/2019
2,2-Dichloropropane	2.0		**53.0**	50.00	0	106.0	62.4	151	06/27/2019
2-Butanone	10.0		**138**	125.0	0	110.2	65.7	120	06/27/2019
2-Chloroethyl vinyl ether	5.0		**54.2**	50.00	0	108.3	31.5	159	06/27/2019
2-Chlorotoluene	2.0		**52.3**	50.00	0	104.6	76	117	06/27/2019
2-Hexanone	10.0		**130**	125.0	0	104.1	65.1	121	06/27/2019
4-Chlorotoluene	2.0		**51.6**	50.00	0	103.1	77	117	06/27/2019
4-Methyl-2-pentanone	10.0		**132**	125.0	0	105.6	69.6	117	06/27/2019
Acetone	10.0		**125**	125.0	0	99.9	47.5	123	06/27/2019
Acrolein	20.0		**647**	500.0	0	129.4	27	164	06/27/2019
Acrylonitrile	5.0		**55.3**	50.00	0	110.6	74.8	127	06/27/2019
Benzene	0.5		**54.8**	50.00	0	109.7	75.8	121	06/27/2019
Bromobenzene	2.0		**54.0**	50.00	0	107.9	72.7	119	06/27/2019
Bromochloromethane	2.0		**51.6**	50.00	0	103.2	69	123	06/27/2019
Bromodichloromethane	2.0		**53.9**	50.00	0	107.7	80.8	128	06/27/2019
Bromoform	2.0		**57.6**	50.00	0	115.3	85.5	128	06/27/2019
Bromomethane	5.0		**60.5**	50.00	0	121.0	-36.7	277	06/27/2019
Carbon disulfide	2.0		**52.2**	50.00	0	104.4	64.9	133	06/27/2019
Carbon tetrachloride	2.0		**54.0**	50.00	0	108.0	79.5	129	06/27/2019
Chlorobenzene	2.0		**54.7**	50.00	0	109.4	82.1	113	06/27/2019
Chloroethane	2.0		**51.1**	50.00	0	102.2	43.9	138	06/27/2019
Chloroform	2.0		**53.4**	50.00	0	106.8	80.1	122	06/27/2019
Chloromethane	5.0		**61.0**	50.00	0	122.1	50.8	131	06/27/2019
cis-1,2-Dichloroethene	2.0		**55.2**	50.00	0	110.4	78.6	119	06/27/2019
cis-1,3-Dichloropropene	2.0		**55.5**	50.00	0	111.1	79	129	06/27/2019
Dibromochloromethane	2.0		**57.2**	50.00	0	114.4	88.1	123	06/27/2019
Dichlorodifluoromethane	2.0		**45.5**	50.00	0	91.1	35.7	155	06/27/2019
Ethyl methacrylate	5.0		**55.0**	50.00	0	109.9	80.6	123	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** LCS Units µg/L

SampID: LCS-T190627A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**53.3**	50.00	0	106.5	80.7	114	06/27/2019
Hexachlorobutadiene	5.0		**61.1**	50.00	0	122.2	68.2	141	06/27/2019
Isopropylbenzene	2.0		**55.0**	50.00	0	110.0	81.3	116	06/27/2019
m,p-Xylenes	2.0		**108**	100.0	0	108.5	80.5	113	06/27/2019
Methyl tert-butyl ether	2.0		**56.4**	50.00	0	112.8	79.5	121	06/27/2019
Methylene chloride	10.0		**50.2**	50.00	0	100.4	76.2	119	06/27/2019
Naphthalene	5.0		**55.0**	50.00	0	110.1	76.1	129	06/27/2019
n-Butylbenzene	2.0		**52.6**	50.00	0	105.2	71.6	122	06/27/2019
n-Propylbenzene	2.0		**52.0**	50.00	0	104.0	76	120	06/27/2019
o-Xylene	2.0		**53.2**	50.00	0	106.3	79.7	112	06/27/2019
p-Isopropyltoluene	2.0		**54.2**	50.00	0	108.5	76.2	122	06/27/2019
sec-Butylbenzene	2.0		**53.8**	50.00	0	107.6	76.6	119	06/27/2019
Styrene	2.0		**56.2**	50.00	0	112.4	82.8	116	06/27/2019
tert-Butylbenzene	2.0		**51.8**	50.00	0	103.7	74.7	117	06/27/2019
Tetrachloroethene	0.5		**55.5**	50.00	0	110.9	80.6	122	06/27/2019
Toluene	2.0		**52.6**	50.00	0	105.3	78.3	112	06/27/2019
trans-1,2-Dichloroethene	2.0		**57.7**	50.00	0	115.3	73.5	124	06/27/2019
trans-1,3-Dichloropropene	2.0		**55.1**	50.00	0	110.1	83.4	124	06/27/2019
Trichloroethene	2.0		**55.7**	50.00	0	111.4	74.3	125	06/27/2019
Trichlorofluoromethane	5.0		**53.0**	50.00	0	106.0	71.5	136	06/27/2019
Vinyl acetate	5.0		**59.8**	50.00	0	119.7	65.9	136	06/27/2019
Vinyl chloride	2.0		**52.1**	50.00	0	104.2	55.8	135	06/27/2019
Xylenes, Total	4.0		**162**	150.0	0	107.8	80.2	113	06/27/2019
Surr: 1,2-Dichloroethane-d4			**46.6**	50.00		93.2	79.6	118	06/27/2019
Surr: 4-Bromofluorobenzene			**48.2**	50.00		96.4	83.9	115	06/27/2019
Surr: Dibromofluoromethane			**50.0**	50.00		99.9	84.9	113	06/27/2019
Surr: Toluene-d8			**49.1**	50.00		98.2	86.7	112	06/27/2019

Batch 154774 **SampType:** MS Units µg/L

SampID: 19061748-002BMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	40.0		**975**	1000	0	97.5	35.7	136	06/27/2019
Benzene	10.0		**1880**	1000	856.2	102.0	62.5	121	06/27/2019
Chlorobenzene	40.0		**927**	1000	0	92.7	78.6	114	06/27/2019
Ethylbenzene	40.0		**963**	1000	10.00	95.3	74.4	130	06/27/2019
m,p-Xylenes	40.0		**964**	1000	21.80	94.2	70.5	126	06/27/2019
o-Xylene	40.0		**935**	1000	5.800	92.9	71.2	124	06/27/2019
Toluene	40.0		**904**	1000	5.200	89.8	69.5	118	06/27/2019
Trichloroethene	40.0		**997**	1000	0	99.7	69.4	117	06/27/2019
Xylenes, Total	80.0		**1900**	2000	27.60	93.5	71.1	125	06/27/2019
Surr: 1,2-Dichloroethane-d4			**959**	1000		95.9	79.6	118	06/27/2019
Surr: 4-Bromofluorobenzene			**989**	1000		98.9	83.9	115	06/27/2019
Surr: Dibromofluoromethane			**991**	1000		99.1	84.9	113	06/27/2019
Surr: Toluene-d8			**981**	1000		98.1	86.7	112	06/27/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061748

Report Date: 28-Jun-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154774 **SampType:** MSD Units µg/L RPD Limit 20

SampID: 19061748-002BMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1-Dichloroethene	40.0		**986**	1000	0	98.6	975.0	1.08	06/27/2019
Benzene	10.0		**1830**	1000	856.2	97.1	1876	2.66	06/27/2019
Chlorobenzene	40.0		**910**	1000	0	91.0	927.0	1.81	06/27/2019
Ethylbenzene	40.0		**946**	1000	10.00	93.6	962.6	1.74	06/27/2019
m,p-Xylenes	40.0		**953**	1000	21.80	93.2	963.8	1.08	06/27/2019
o-Xylene	40.0		**915**	1000	5.800	90.9	934.6	2.14	06/27/2019
Toluene	40.0		**888**	1000	5.200	88.3	903.6	1.70	06/27/2019
Trichloroethene	40.0		**977**	1000	0	97.7	997.4	2.11	06/27/2019
Xylenes, Total	80.0		**1870**	2000	27.60	92.0	1898	1.60	06/27/2019
Surr: 1,2-Dichloroethane-d4			**962**	1000		96.2			06/27/2019
Surr: 4-Bromofluorobenzene			**1010**	1000		101.4			06/27/2019
Surr: Dibromofluoromethane			**989**	1000		98.9			06/27/2019
Surr: Toluene-d8			**990**	1000		99.0			06/27/2019

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061748
Report Date: 28-Jun-2019

Carrier: James Ragatz

Received By: LG

Completed by: Amber M. Dilallo
On: 26-Jun-2019

Reviewed by: Elizabeth A. Hurley
On: 26-Jun-2019

Pages to follow: Chain of custody [1] Extra pages included [0]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 9.4
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		
When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.				
Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐	
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐	
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑	

Any No responses must be detailed below or on the COC.

Trip Blank collection date and time will be reported as the received date and time (end of trip). - ehurley - 6/26/2019 5:57:49 PM

19061748

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☐ TESTAMERICA (___Pensacola___)
- ☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER _____

Print Bill To Contact Name: James Carrino

PO # 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 6/26/2019

PAGE: 1 of 1

SAMPLING COMPANY: AECOM

LOG CODE:

170 East Rand Avenue, Hartford | State: IL

AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel

PHONE NO.: 3144290100

E-MAIL: elizabeth.kunkel@aecom.com

AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

SAMPLER NAME(S) (Print): James Ragatz – James Ragatz

LAB USE ONLY

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD___

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.061 | NON-UNIT COST 60592794 - 1.24.060

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 Low Level (SIM) PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062619-B	6/26/2019	0:00	Water	X					2		X		19061748001
	PD-1-GWP-60-062619	6/26/2019	9:00	Water	2			2		4	X	X	X	002
	PD-1-GWP-69-062619	6/26/2019	10:20	Water	2			2		4	X	X	X	003
	PD-1-GWP-75-062619	6/26/2019	13:00	Water	2			2		4	X	X	X	004

FIELD NOTES:

TEMPERATURE ON RECEIPT C°: 9.40C good HS LG 6/26/19

OVERSHIP TAT

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
James Ragatz	Roger [signature]	6/26/19	4:42

Version: 10May17

LG 6/26/19

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

Signal : TIC: AA017.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.616	3	6	12	rVB3	58038	83516	1.91%	0.264%
2	2.793	31	36	41	rVB	62175	91686	2.10%	0.290%
3	3.081	80	85	90	rBV	104625	127854	2.93%	0.405%
4	3.380	132	136	147	rVB7	22385	45744	1.05%	0.145%
5	3.786	199	205	211	rBV2	1030687	1190637	27.25%	3.769%
6	3.844	211	215	219	rVV	241599	333035	7.62%	1.054%
7	3.886	219	222	226	rVB4	41577	43710	1.00%	0.138%
8	4.027	243	246	250	rVB	133143	130088	2.98%	0.412%
9	4.285	287	290	295	rVB	84429	84585	1.94%	0.268%
10	4.520	326	330	338	rBV2	853159	1010573	23.13%	3.199%
11	4.779	369	374	377	rBV	140394	144433	3.31%	0.457%
12	4.943	398	402	408	rVB	1926001	1903414	43.56%	6.025%
13	5.114	425	431	435	rBV3	36920	50827	1.16%	0.161%
14	5.448	484	488	500	rVV	740024	802059	18.36%	2.539%
15	5.537	500	503	512	rVB	188858	218463	5.00%	0.691%
16	5.877	556	561	562	rBV3	39982	46125	1.06%	0.146%
17	6.136	598	605	607	rBV6	28895	45202	1.03%	0.143%
18	6.171	607	611	616	rVV	2439448	2486775	56.92%	7.871%
19	6.218	616	619	623	rVB	128837	142145	3.25%	0.450%
20	6.929	737	740	744	rVB	84579	86523	1.98%	0.274%
21	6.982	745	749	753	rBV5	39225	58493	1.34%	0.185%
22	7.217	786	789	793	rBV	1667336	1684868	38.56%	5.333%
23	7.282	798	800	807	rVB5	40752	69744	1.60%	0.221%
24	7.393	816	819	822	rBV5	34394	46826	1.07%	0.148%
25	7.499	834	837	840	rBV4	33792	54265	1.24%	0.172%
26	7.575	847	850	854	rBV5	37276	52273	1.20%	0.165%
27	7.940	908	912	917	rBV	3088493	3127236	71.58%	9.898%
28	8.239	960	963	965	rBV2	70821	75575	1.73%	0.239%
29	8.269	965	968	970	rVV2	82163	74394	1.70%	0.235%
30	8.739	1044	1048	1053	rBV	1571313	1636124	37.45%	5.179%
31	9.209	1126	1128	1131	rVB	82217	64613	1.48%	0.205%
32	9.461	1167	1171	1176	rBV	3631329	3648047	83.50%	11.547%
33	9.573	1188	1190	1194	rVB4	60407	51387	1.18%	0.163%
34	9.896	1242	1245	1256	rBV	324430	419003	9.59%	1.326%
35	10.789	1394	1397	1406	rBV	195184	301586	6.90%	0.955%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

36	11.236	1468	1473	1479	rVB	1666175	2085581	47.73%	6.601%
37	12.623	1706	1709	1714	rVB3	51146	79755	1.83%	0.252%
38	13.016	1769	1776	1784	rBV	2676382	4335961	99.24%	13.724%
39	13.275	1816	1820	1826	rVB3	64680	98490	2.25%	0.312%
40	13.962	1934	1937	1944	rVB5	56328	109839	2.51%	0.348%
41	14.703	2060	2063	2071	rVB4	45926	83565	1.91%	0.264%
42	16.119	2295	2304	2319	rBV2	1827423	4369147	100.00%	13.829%

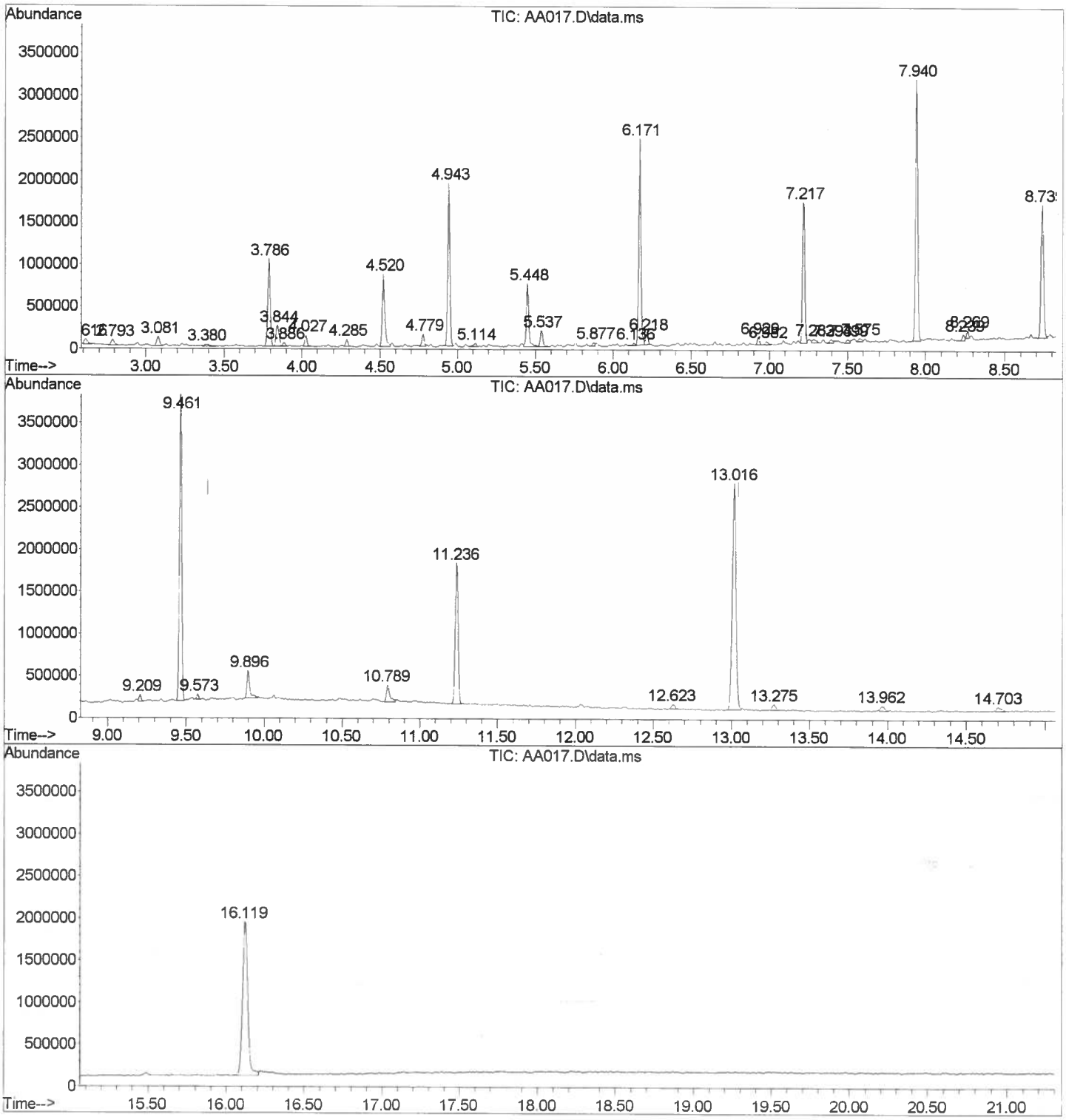
Sum of corrected areas: 31594166

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

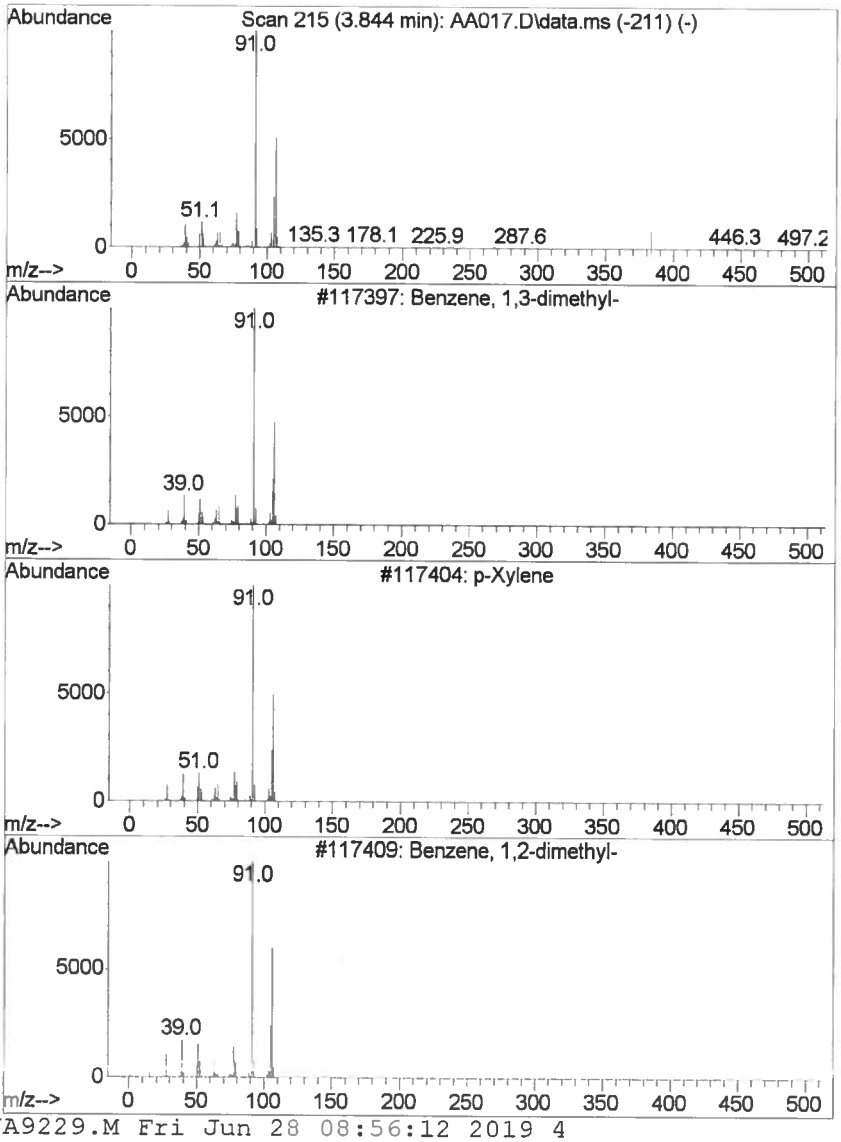
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

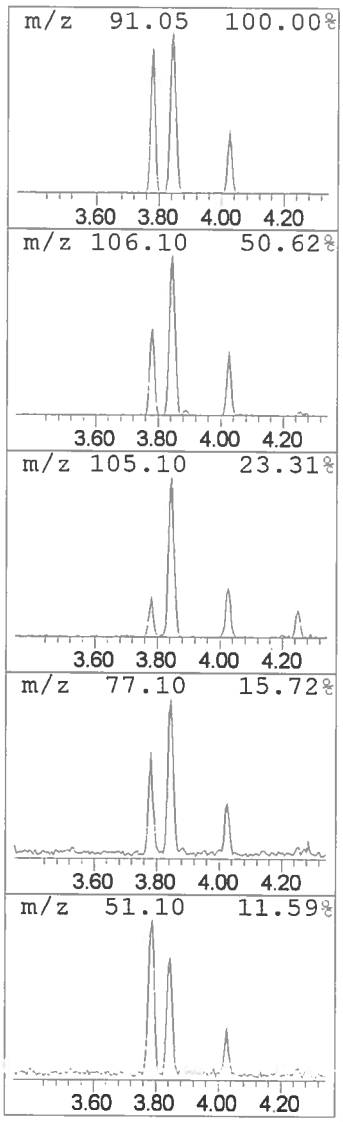
****

Peak Number 1 Benzene, 1,3-dimethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.844	7.00 ug/ml	333035	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,3-dimethyl-	106	C8H10	000108-38-3	97
2	p-Xylene	106	C8H10	000106-42-3	97
3	Benzene, 1,2-dimethyl-	106	C8H10	000095-47-6	95
4	1,3-Cyclopentadiene, 5-(1-methyl...	106	C8H10	002175-91-9	90
5	Ethylbenzene	106	C8H10	000100-41-4	74





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

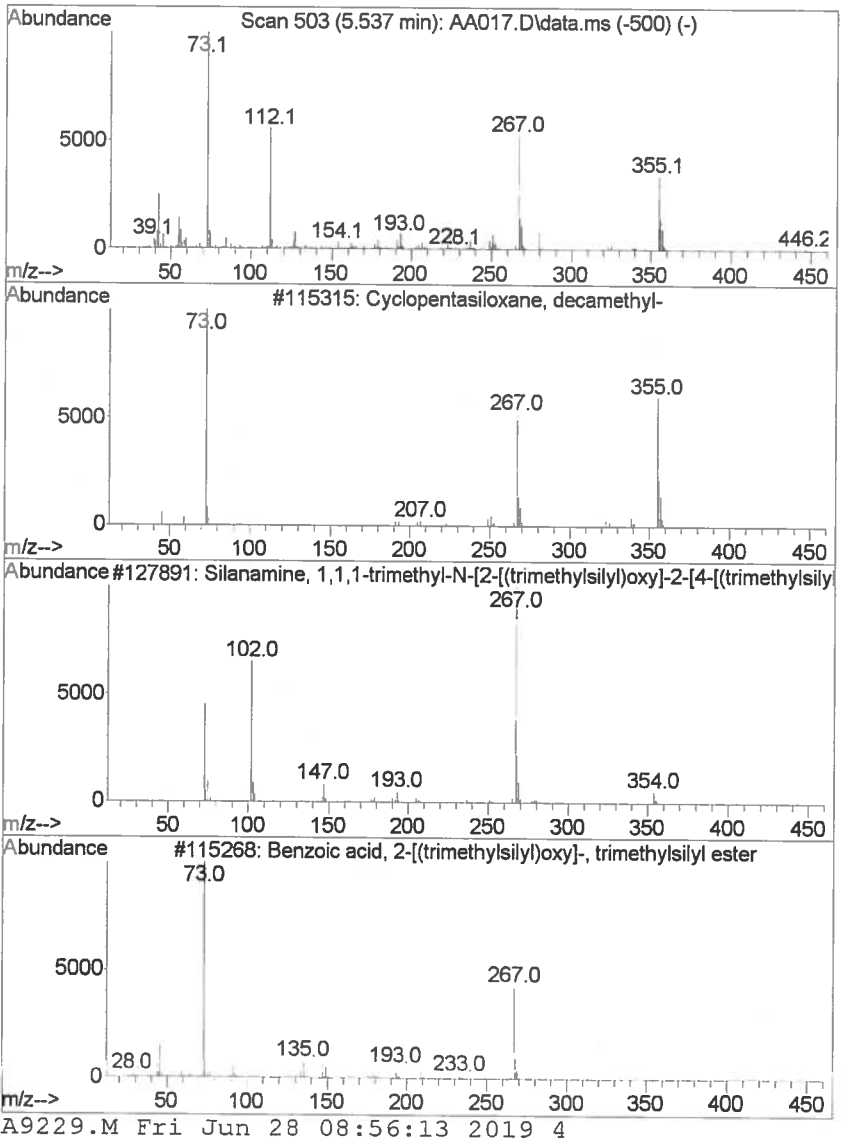
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

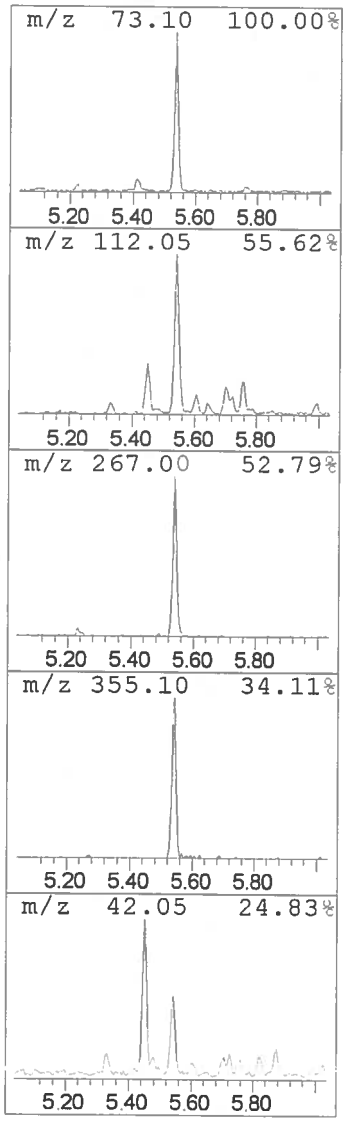
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Cyclopentasiloxane, decamet... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.537	4.59 ug/ml	218463	1,4-Dichlorobenzene-d4*	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopentasiloxane, decamethyl-	370	C10H30O5Si5	000541-02-6	68
2	Silanamine, 1,1,1-trimethyl-N-[2...	369	C17H35NO2Si3	068595-60-8	35
3	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	25
4	3-(3,4-Dihydroxyphenyl)lactic ac...	442	C20H38O5Si3	1000071-97-2	25
5	2-Hydroxymandelic acid, ethyl es...	340	C16H28O4Si2	1000071-88-8	25





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

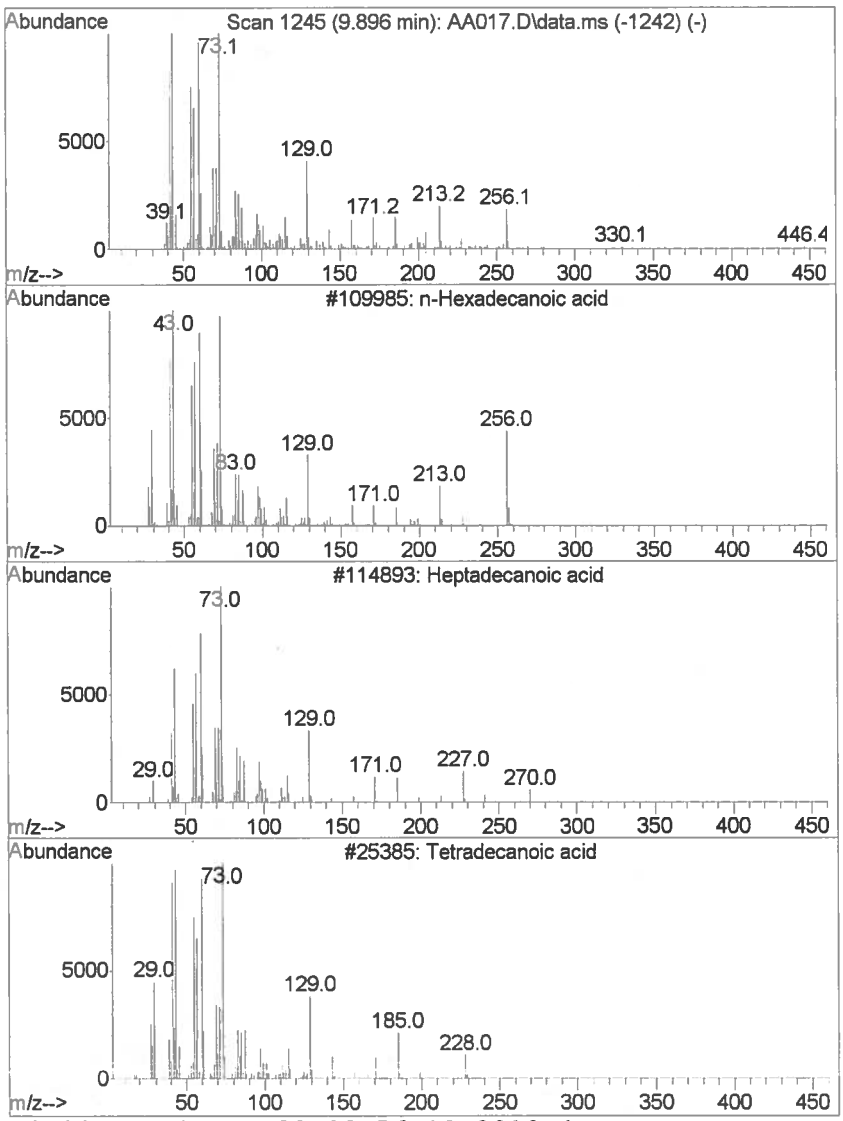
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

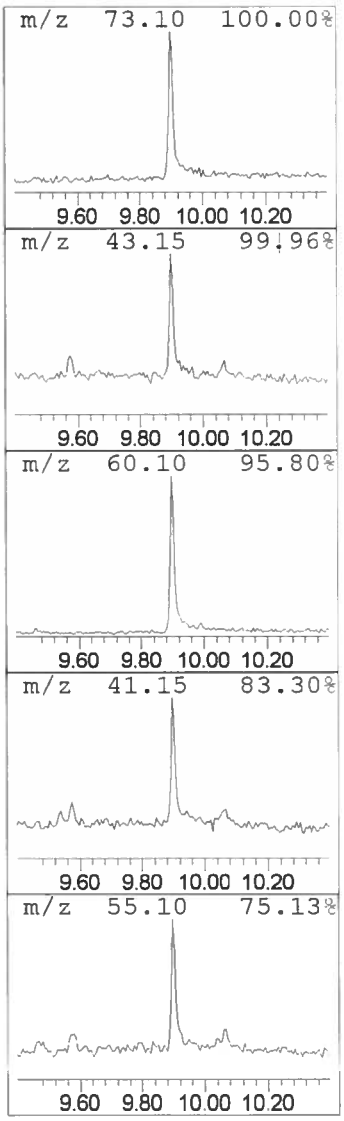
****

Peak Number 3 n-Hexadecanoic acid Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
9.896	4.59 ug/ml	419003	Phenanthrene-d10*	9.461

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	99
2	Heptadecanoic acid	270	C17H34O2	000506-12-7	87
3	Tetradecanoic acid	228	C14H28O2	000544-63-8	81
4	Undecanoic acid	186	C11H22O2	000112-37-8	68
5	Pentadecanoic acid	242	C15H30O2	001002-84-2	64





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA017.D
Acq On : 27 Jun 2019 5:38 pm
Operator : DH
Sample : 19061748-002A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Benzene, 1,3-di...	3.844	7.0	ug/ml	333035	1	4.943	1903410	40.0
Cyclopentasilox...	5.537	4.6	ug/ml	218463	2	4.943	1903410	40.0
n-Hexadecanoic ...	9.896	4.6	ug/ml	419003	7	9.461	3648050	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA018.D
Acq On : 27 Jun 2019 6:07 pm
Operator : DH
Sample : 19061748-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

Signal : TIC: AA018.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.611	3	5	14	rVB	58603	92220	2.04%	0.310%
2	2.787	32	35	41	rVB2	47803	69430	1.53%	0.233%
3	3.081	81	85	89	rVB	69558	81920	1.81%	0.275%
4	3.786	201	205	212	rVB	978067	1053917	23.29%	3.541%
5	4.285	286	290	297	rVB	130932	150587	3.33%	0.506%
6	4.520	326	330	334	rBV	773469	745306	16.47%	2.504%
7	4.943	398	402	408	rBV	1965737	1940971	42.89%	6.521%
8	5.449	484	488	498	rVB	726279	744677	16.46%	2.502%
9	5.537	500	503	511	rVB2	152934	164378	3.63%	0.552%
10	6.171	606	611	616	rBV	2495800	2548939	56.33%	8.563%
11	6.218	616	619	623	rVB3	78443	88607	1.96%	0.298%
12	6.929	734	740	743	rBV2	44011	66088	1.46%	0.222%
13	7.088	760	767	769	rBV5	33184	50293	1.11%	0.169%
14	7.217	785	789	793	rBV	1600204	1646779	36.39%	5.532%
15	7.940	908	912	917	rBV	3175236	3250623	71.83%	10.920%
16	8.269	965	968	971	rVB	84608	78332	1.73%	0.263%
17	8.739	1043	1048	1053	rBV	1487562	1572684	34.75%	5.283%
18	9.209	1126	1128	1130	rVB2	70346	55694	1.23%	0.187%
19	9.462	1167	1171	1176	rBV	3710042	3735874	82.56%	12.551%
20	9.896	1242	1245	1251	rBV	312708	359109	7.94%	1.206%
21	10.789	1394	1397	1403	rBV3	146242	187347	4.14%	0.629%
22	11.236	1468	1473	1484	rVB	1507635	1889060	41.75%	6.346%
23	13.016	1768	1776	1783	rBV2	2612396	4525206	100.00%	15.202%
24	13.275	1816	1820	1825	rVB2	63713	88939	1.97%	0.299%
25	13.962	1935	1937	1943	rVB5	48631	62978	1.39%	0.212%
26	14.703	2059	2063	2069	rVB6	45786	77826	1.72%	0.261%
27	16.119	2295	2304	2320	rBV2	1918151	4438676	98.09%	14.912%

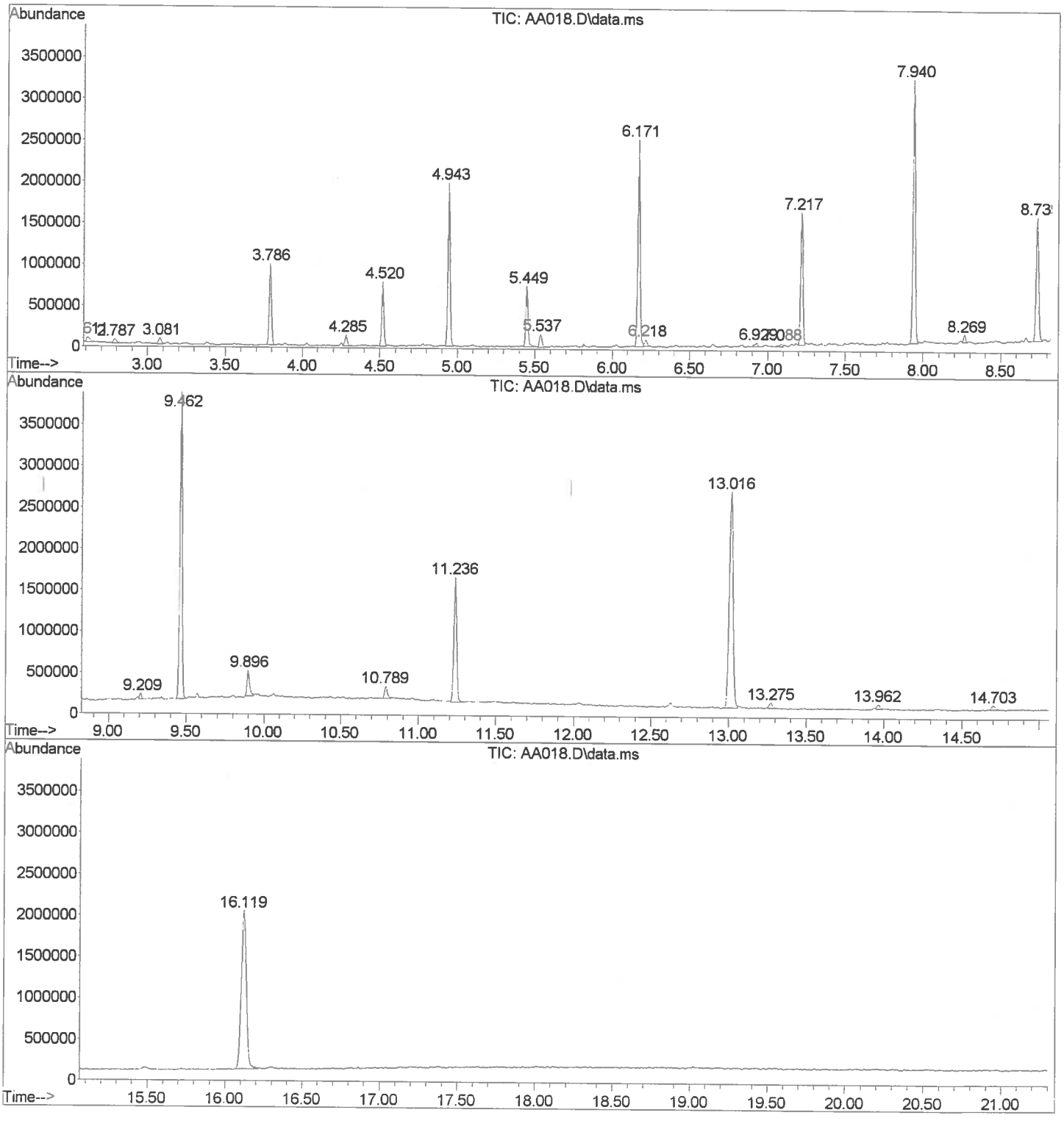
Sum of corrected areas: 29766460

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA018.D
Acq On : 27 Jun 2019 6:07 pm
Operator : DH
Sample : 19061748-003A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\\
Data File : AA018.D
Acq On : 27 Jun 2019 6:07 pmm
Operator : DHH
Sample : 19061748-003AA
Misc : ,SV_8270S_W,SAMP,1,,
ALS Vial : 9 Sample Multiplier: 11

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.MM
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19))

TIC Library : C:\DATABASE\NIST98.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA019.D
Acq On : 27 Jun 2019 6:35 pm
Operator : DH
Sample : 19061748-004A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

Signal : TIC: AA019.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.611	3	5	11	rVB	65790	91393	1.91%	0.295%
2	3.081	81	85	89	rVB	69482	84408	1.76%	0.272%
3	3.786	200	205	211	rBV	987843	1051591	21.93%	3.393%
4	4.285	287	290	299	rVB	125806	133404	2.78%	0.430%
5	4.520	326	330	334	rBV	728139	714514	14.90%	2.305%
6	4.943	398	402	408	rVB	2140307	2107215	43.95%	6.799%
7	5.449	484	488	500	rVB	758333	775851	16.18%	2.503%
8	5.537	500	503	509	rVB2	107158	108404	2.26%	0.350%
9	6.171	606	611	617	rBV	2717217	2700739	56.32%	8.714%
10	6.218	617	619	626	rVB3	57080	71310	1.49%	0.230%
11	7.217	785	789	793	rBV	1673311	1680010	35.04%	5.421%
12	7.940	908	912	917	rBV	3234191	3344337	69.75%	10.791%
13	8.269	965	968	971	rVV2	88640	78072	1.63%	0.252%
14	8.739	1043	1048	1052	rBV	1588965	1630596	34.01%	5.261%
15	9.185	1121	1124	1126	rBV2	61581	65010	1.36%	0.210%
16	9.209	1126	1128	1132	rVB2	71348	60484	1.26%	0.195%
17	9.462	1167	1171	1176	rBV	4115581	4122789	85.98%	13.302%
18	9.573	1188	1190	1193	rVB2	61621	52482	1.09%	0.169%
19	9.896	1242	1245	1253	rBV2	282079	379992	7.92%	1.226%
20	10.790	1393	1397	1401	rBV4	131014	177274	3.70%	0.572%
21	11.236	1468	1473	1480	rVB	1309143	1632206	34.04%	5.266%
22	12.629	1707	1710	1717	rVB3	45007	63761	1.33%	0.206%
23	13.010	1768	1775	1786	rBV2	2878790	4795048	100.00%	15.472%
24	13.275	1815	1820	1824	rVB	54432	80763	1.68%	0.261%
25	13.968	1934	1938	1943	rVB3	45011	81549	1.70%	0.263%
26	14.703	2061	2063	2069	rVB6	43030	60733	1.27%	0.196%
27	15.484	2192	2196	2205	rBV6	26251	56378	1.18%	0.182%
28	16.125	2294	2305	2316	rBV	2164303	4792385	99.94%	15.463%

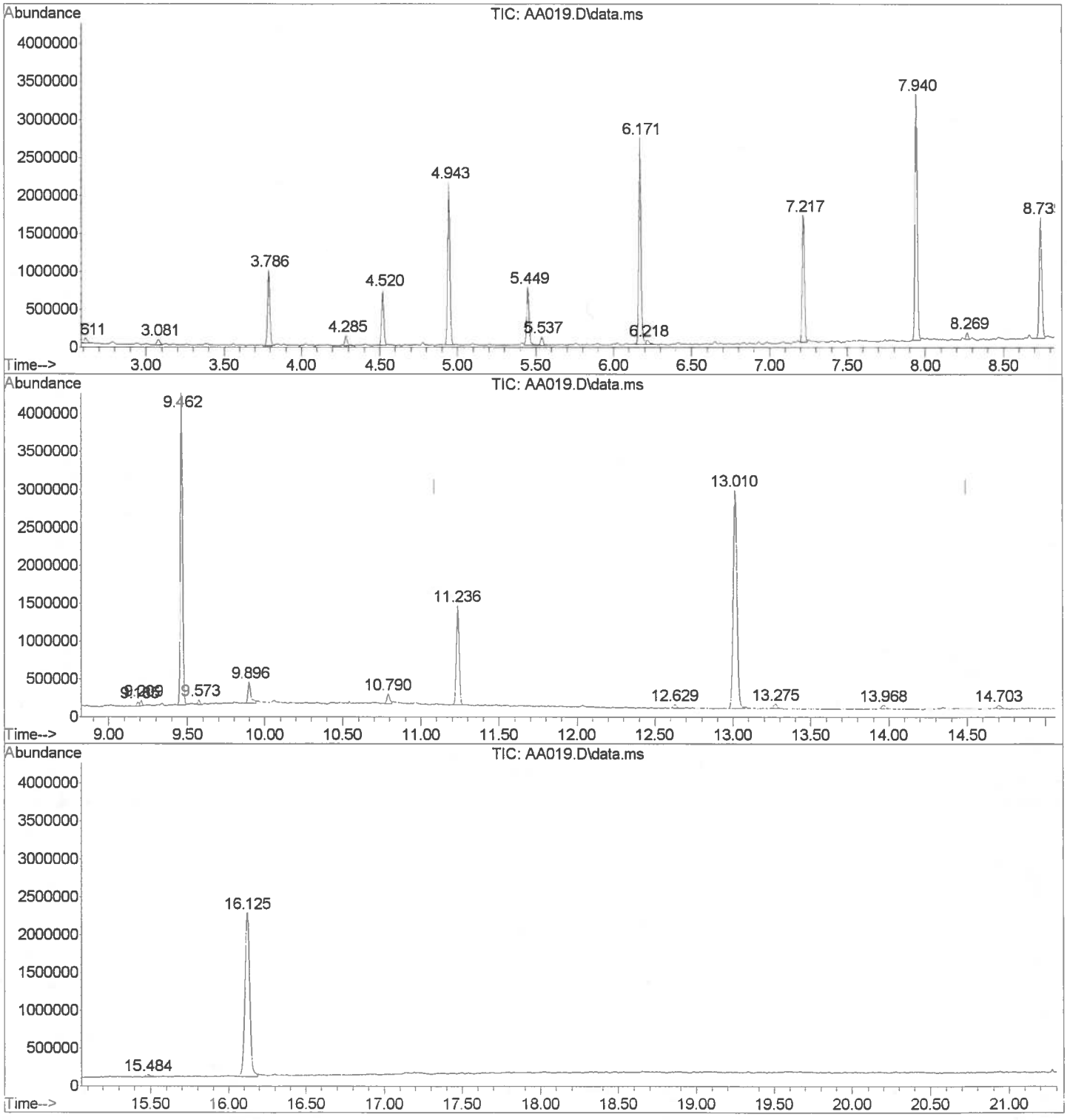
Sum of corrected areas: 30992698

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\
Data File : AA019.D
Acq On : 27 Jun 2019 6:35 pm
Operator : DH
Sample : 19061748-004A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.M
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190627B\\
Data File : AA019.D
Acq On : 27 Jun 2019 6:35 pmm
Operator : DHH
Sample : 19061748-004AA
Misc : ,SV_8270S_W,SAMP,1,,
ALS Vial : 10 Sample Multiplier: 11

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9229.MM
Quant Title : 8270/625 (6/26/19) CURVE2 (6/26/19))

TIC Library : C:\DATABASE\NIST98.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190627A\T09.D Vial: 9
Acq On : 27 Jun 2019 12:10 Operator: Kelly Senci
Sample : 19061748-002B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

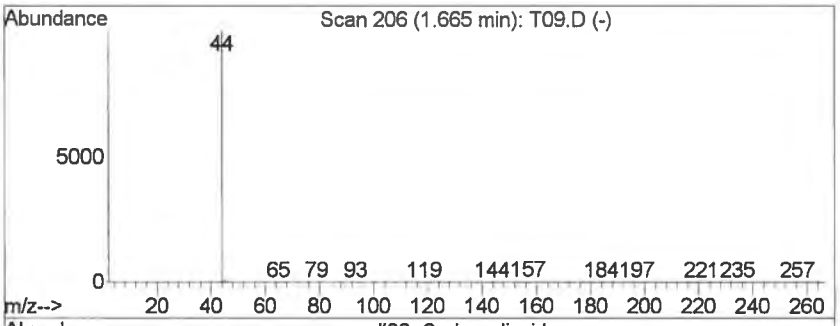
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

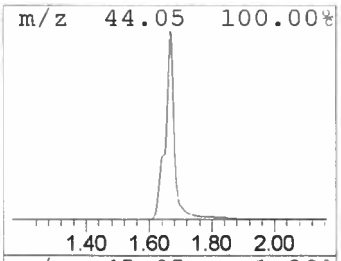
****

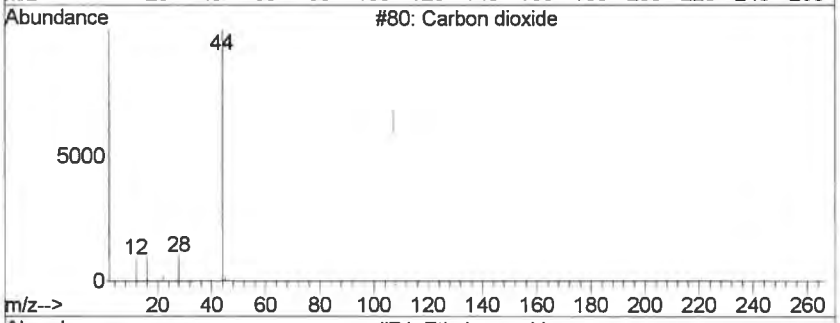
Peak Number 1 Carbon dioxide Concentration Rank 1

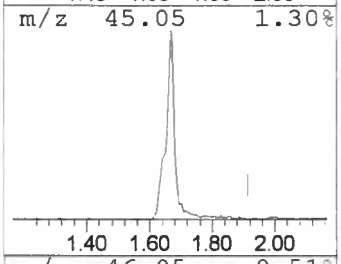
R.T.	EstConc	Area	Relative to ISTD	R.T.
1.67	76.99 ug/L	3092150	Fluorobenzene	8.53

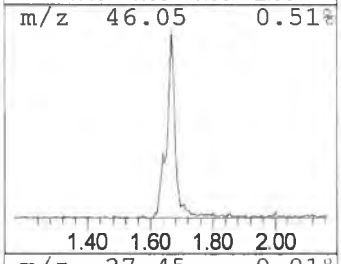
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3

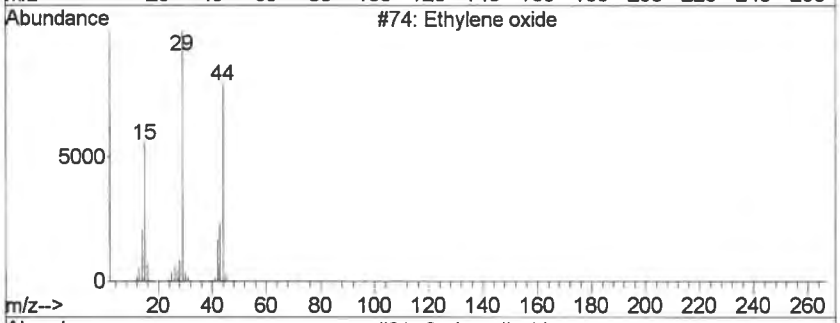


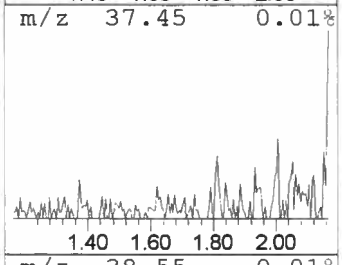


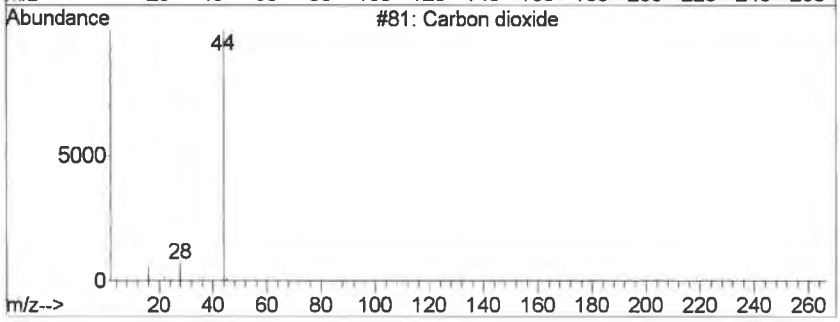


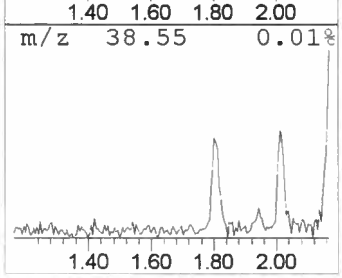












Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190627A\T09.D Vial: 9
Acq On : 27 Jun 2019 12:10 Operator: Kelly Senci
Sample : 19061748-002B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

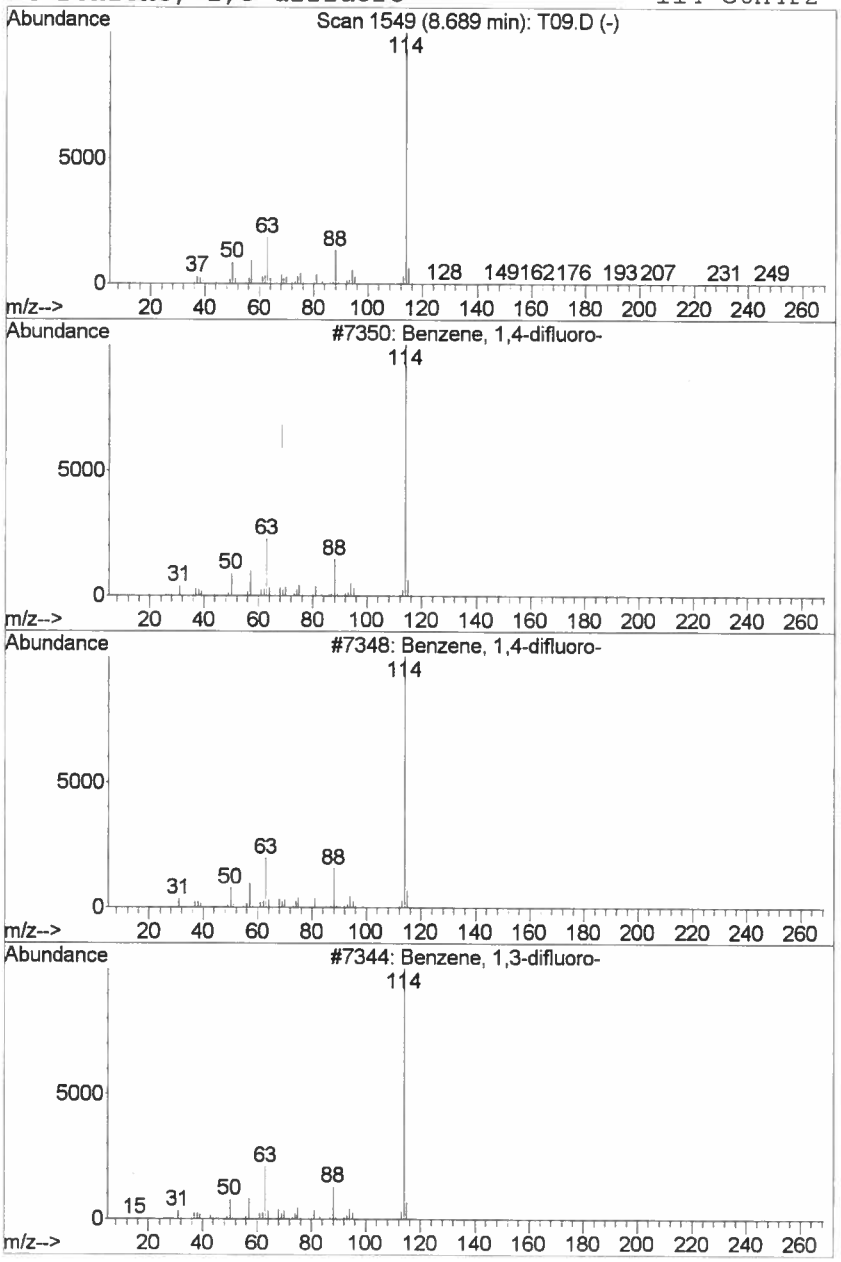
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

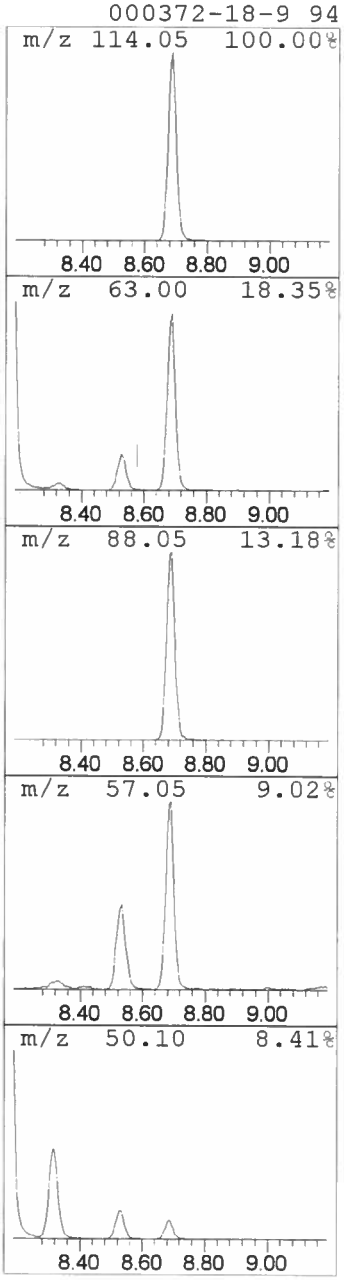
****

Peak Number 2 Benzene, 1,4-difluoro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.69	50.31 ug/L	2020490	Fluorobenzene*	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	97
2	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	95
3	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
4	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	94





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 27 Jun 2019 12:10
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190627A\T09.D
Name: 19061748-002B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title: 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.67	77.0	ug/L	3092150	1	8.53	2008050	50.0
Benzene, 1,4-difl...	8.69	50.3	ug/L	2020490	2	8.53	2008050	50.0

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190627A\T09.D Vial: 9
Acq On : 27 Jun 2019 12:10 Operator: Kelly Senci
Sample : 19061748-002B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

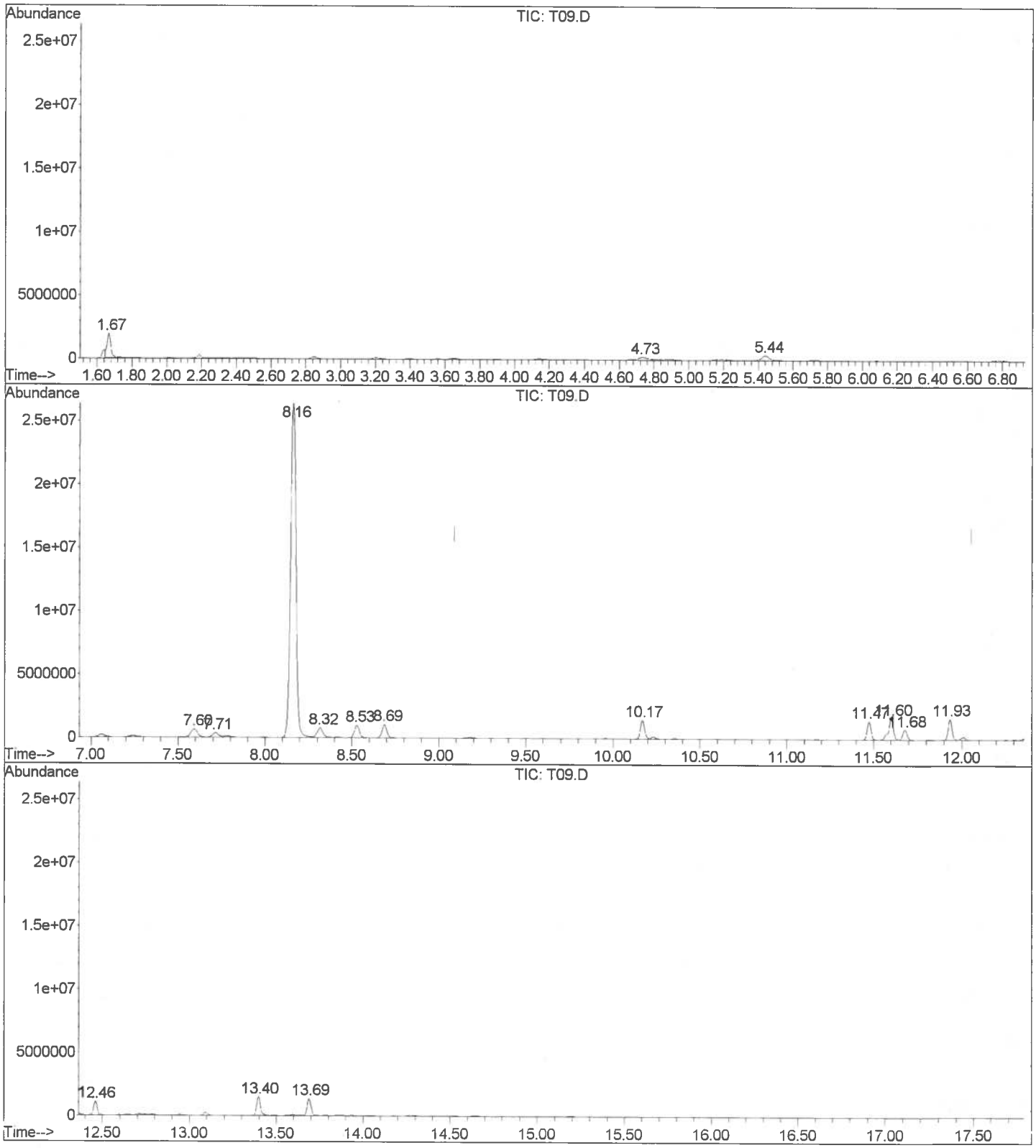
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.665	202	206	225	rVB	1912633	3092148	5.19%	3.397%
2	4.730	769	792	810	rBV2	228117	1019876	1.71%	1.121%
3	5.441	914	928	952	rBV	380066	1275535	2.14%	1.401%
4	7.596	1329	1340	1353	rVB	617430	1646526	2.76%	1.809%
5	7.711	1353	1362	1370	rBV2	336584	785141	1.32%	0.863%
6	8.161	1434	1448	1468	rBV	26392132	59598500	100.00%	65.481%
7	8.318	1470	1478	1491	rVB	765882	1700223	2.85%	1.868%
8	8.527	1508	1518	1538	rBV	984551	2008047	3.37%	2.206%
9	8.689	1538	1549	1565	rBV	1053591	2020493	3.39%	2.220%
10	10.169	1823	1832	1839	rBV	1486115	2454677	4.12%	2.697%
11	11.472	2073	2081	2090	rBV	1439518	2235984	3.75%	2.457%
12	11.603	2094	2106	2114	rVV2	1695202	3277173	5.50%	3.601%
13	11.681	2114	2121	2134	rVB	778579	1406102	2.36%	1.545%
14	11.932	2161	2169	2177	rBV	1638931	2534081	4.25%	2.784%
15	12.460	2260	2270	2280	rBV	1085744	1628809	2.73%	1.790%
16	13.396	2442	2449	2462	rBV	1490646	2299548	3.86%	2.527%
17	13.689	2498	2505	2517	rVB	1354569	2034156	3.41%	2.235%

Sum of corrected areas: 91017019

LSC Report - Integrated Chromatogram

File : C:\MSDCHEM\1\DATA\TEKLAB\T190627A\T09.D
Operator : Kelly Senci
Acquired : 27 Jun 2019 12:10 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19061748-002B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 9
Quant File :VOCT1908.RES (RTE Integrator)



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N52.D Vial: 52
Acq On : 27 Jun 2019 10:54 Operator: Kelly Senci
Sample : 19061748-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

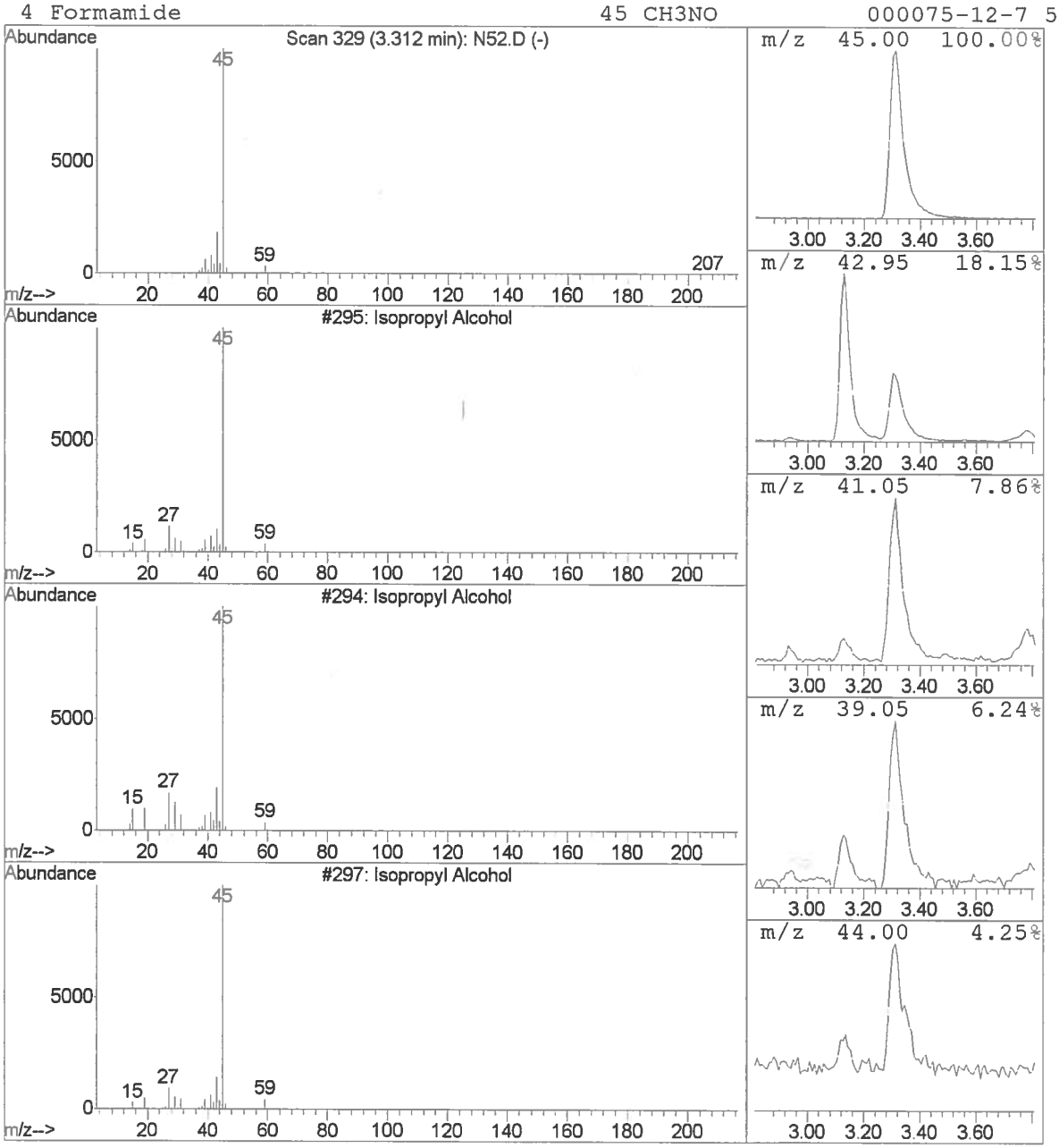
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 1 Isopropyl Alcohol Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.31	7.26 ug/L	379979	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isopropyl Alcohol	60	C3H8O	000067-63-0	78
2	Isopropyl Alcohol	60	C3H8O	000067-63-0	56
3	Isopropyl Alcohol	60	C3H8O	000067-63-0	43
4	Formamide	45	CH3NO	000075-12-7	5



Data File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N52.D Vial: 52
Acq On : 27 Jun 2019 10:54 Operator: Kelly Senci
Sample : 19061748-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

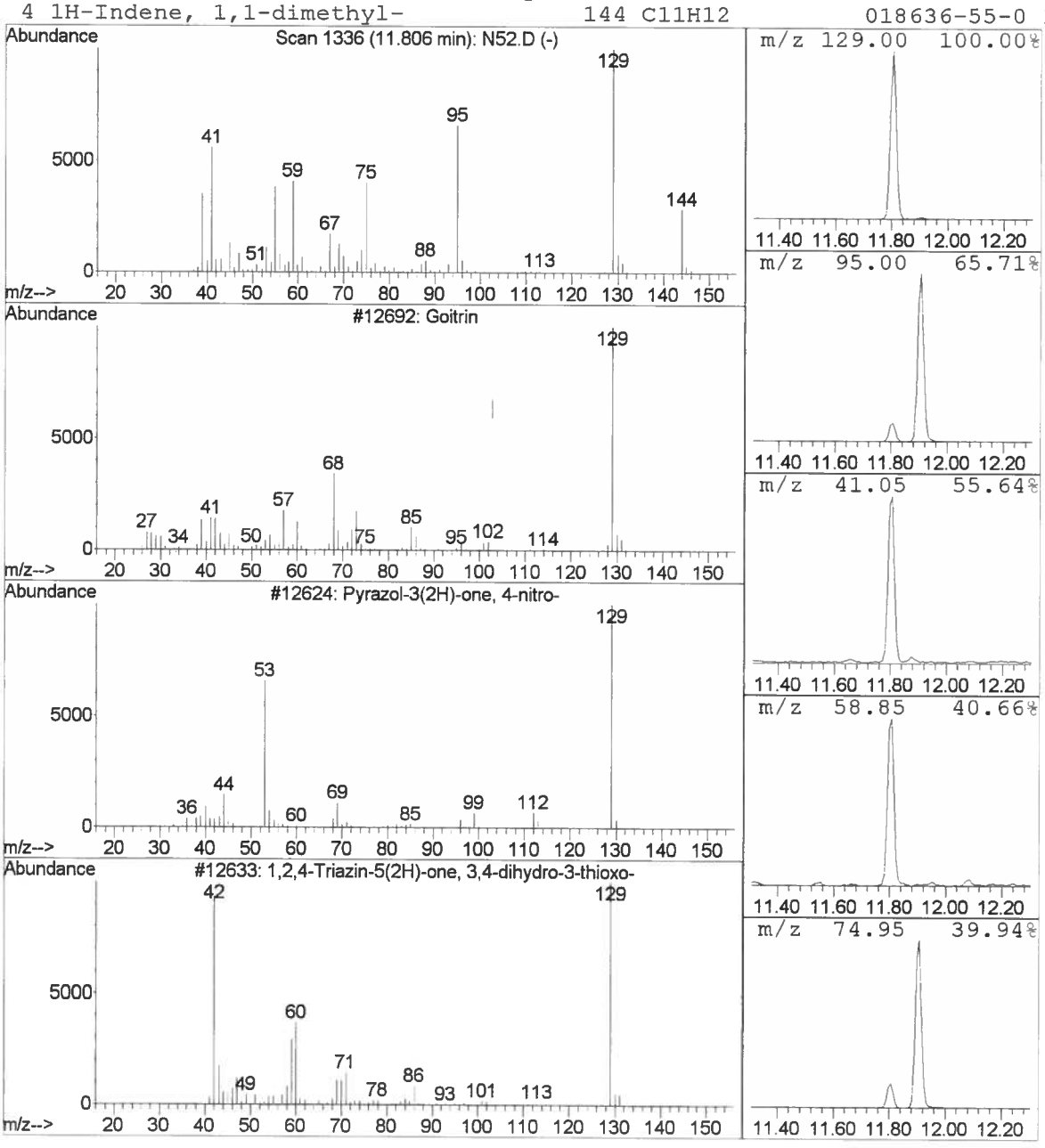
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 2 Goitrin Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.81	8.49 ug/L	440721	Chlorobenzene-d5 TPH	10.90

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Goitrin	129	C5H7NOS	000500-12-9	25
2	Pyrazol-3(2H)-one, 4-nitro-	129	C3H3N3O3	099893-02-4	22
3	1,2,4-Triazin-5(2H)-one, 3,4-dihydr	129	C3H3N3OS	000626-08-4	16
4	1H-Indene, 1,1-dimethyl-	144	C11H12	018636-55-0	16



Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 27 Jun 2019 10:54
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190626A\N52.D
Name: 19061748-003B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Isopropyl Alcohol	3.31	7.3	ug/L	379979	ISTD01	7.76	2616530	50.0
Goitrin	11.81	8.5	ug/L	440721	ISTD03	10.90	2596020	50.0

N52.D VOCN1908.M Thu Jun 27 12:33:05 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N52.D Vial: 52
Acq On : 27 Jun 2019 10:54 Operator: Kelly Senci
Sample : 19061748-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

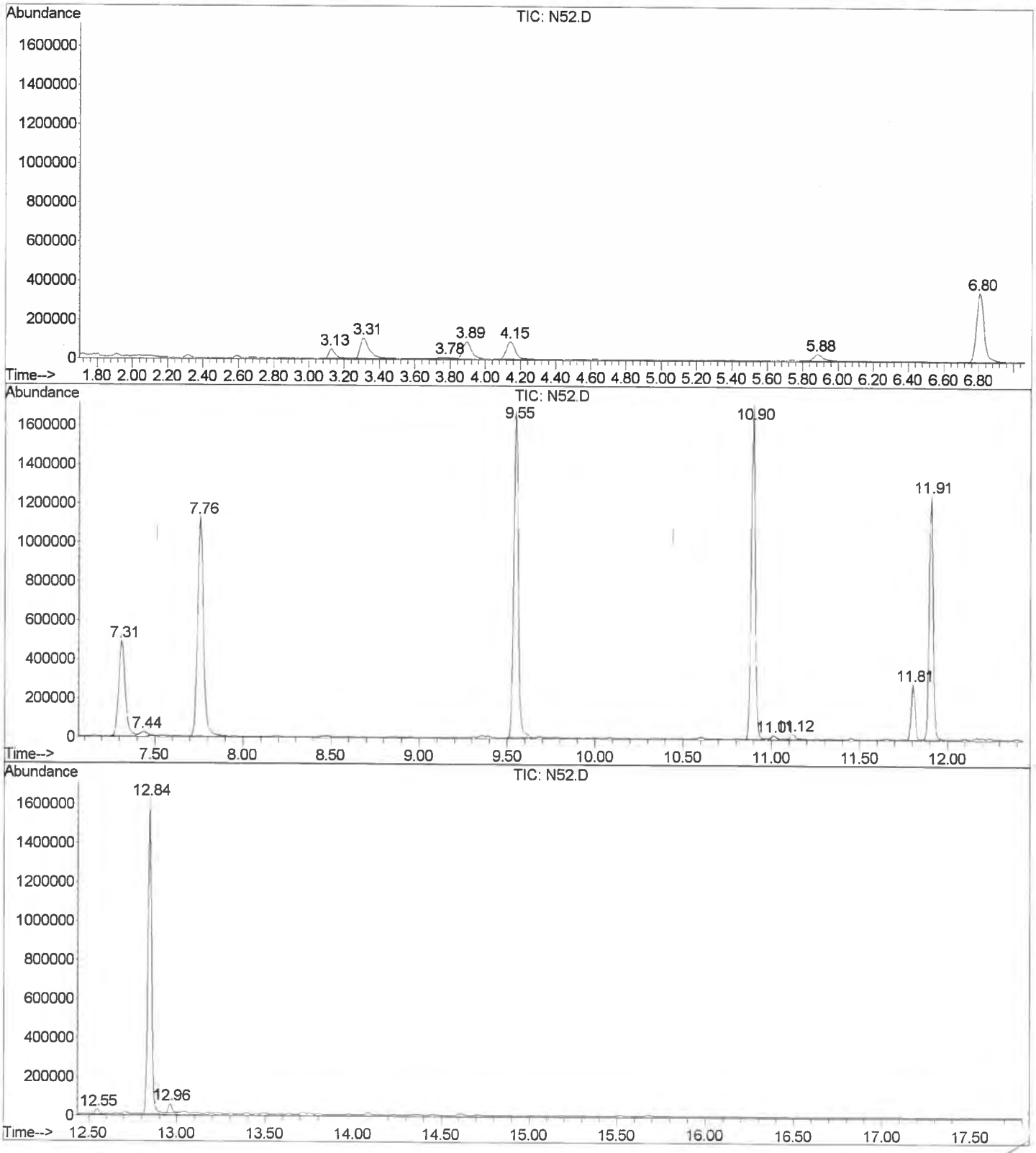
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.126	302	307	322	rBV	49811	130515	4.41%	0.782%
2	3.312	322	329	350	rBV	104488	379979	12.84%	2.277%
3	3.776	372	384	391	rBV5	8081	46633	1.58%	0.279%
4	3.894	391	398	413	rVB	88595	305298	10.32%	1.829%
5	4.147	419	428	447	rBV	89324	319444	10.79%	1.914%
6	5.885	626	634	649	rBV	33882	132381	4.47%	0.793%
7	6.804	735	743	761	rBV	352666	1065120	35.99%	6.382%
8	7.310	796	803	813	rBV	487947	1269543	42.89%	7.607%
9	7.437	813	818	827	rVB	20936	66028	2.23%	0.396%
10	7.757	849	856	875	rBV	1124743	2616526	88.41%	15.679%
11	9.546	1063	1068	1079	rBV	1671830	2959702	100.00%	17.735%
12	10.895	1223	1228	1236	rBV	1711415	2596022	87.71%	15.556%
13	11.013	1238	1242	1247	rVV2	18351	38540	1.30%	0.231%
14	11.123	1250	1255	1265	rVB	26401	60392	2.04%	0.362%
15	11.806	1331	1336	1341	rVB	282056	440721	14.89%	2.641%
16	11.907	1342	1348	1357	rBV	1249556	1861425	62.89%	11.154%
17	12.549	1420	1424	1428	rVB	26137	39114	1.32%	0.234%
18	12.844	1455	1459	1469	rBV	1632716	2288886	77.34%	13.716%
19	12.962	1469	1473	1478	rBV	50267	71992	2.43%	0.431%

Sum of corrected areas: 16688261

N52.D VOCN1908.M Thu Jun 27 12:33:04 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N52.D
Operator : Kelly Senci
Acquired : 27 Jun 2019 10:54 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061748-003B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 52
Quant File :VOCN1908.RES (RTE Integrator)



N52.D VOCN1908.M Thu Jun 27 12:33:04 2019

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N53.D Vial: 53
Acq On : 27 Jun 2019 11:22 Operator: Kelly Senci
Sample : 19061748-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

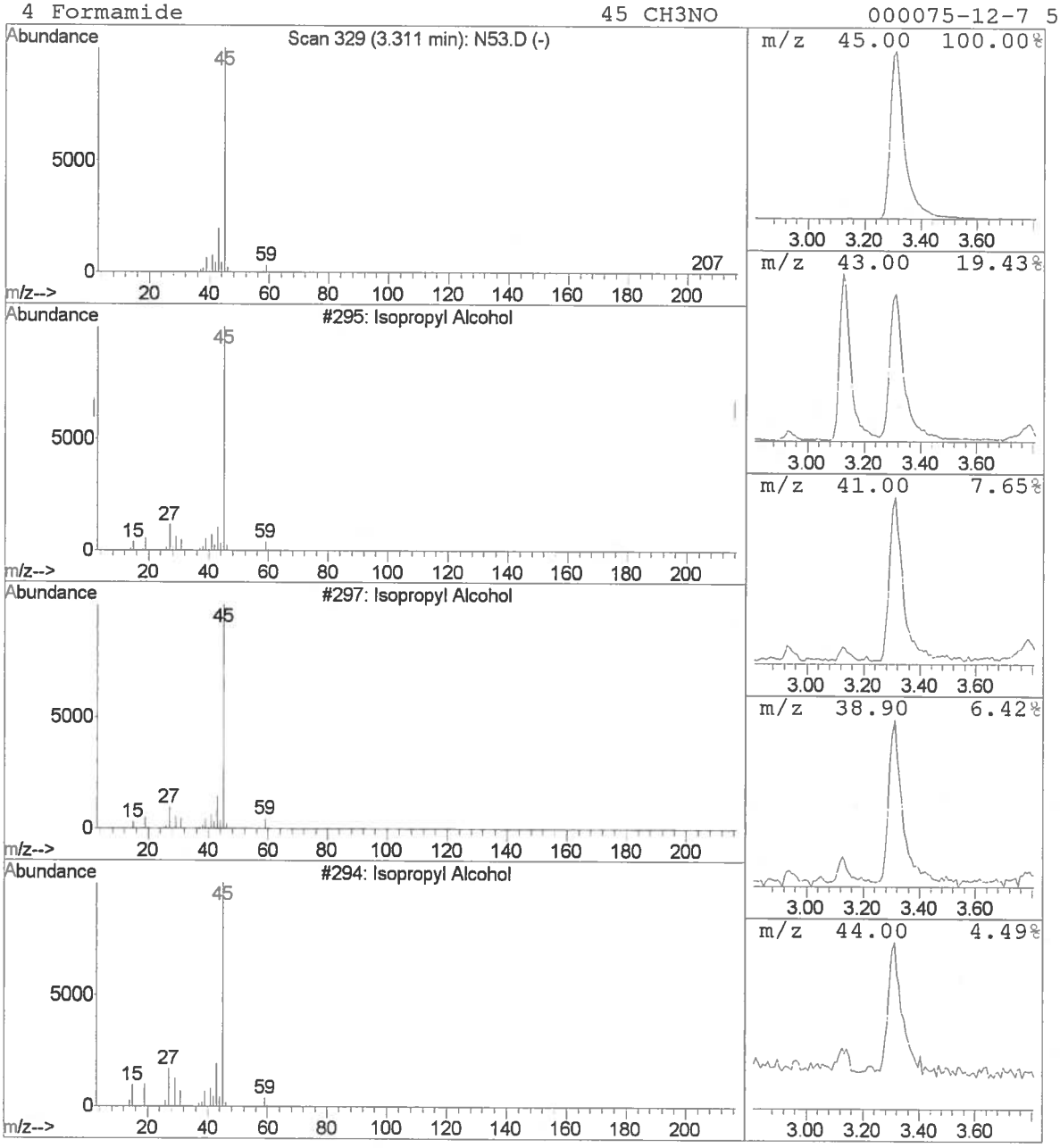
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 1 Isopropyl Alcohol Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.31	7.87 ug/L	410909	Fluorobenzene	7.76

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isopropyl Alcohol	60	C3H8O	000067-63-0	78
2	Isopropyl Alcohol	60	C3H8O	000067-63-0	43
3	Isopropyl Alcohol	60	C3H8O	000067-63-0	9
4	Formamide	45	CH3NO	000075-12-7	5



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N53.D Vial: 53
Acq On : 27 Jun 2019 11:22 Operator: Kelly Senci
Sample : 19061748-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

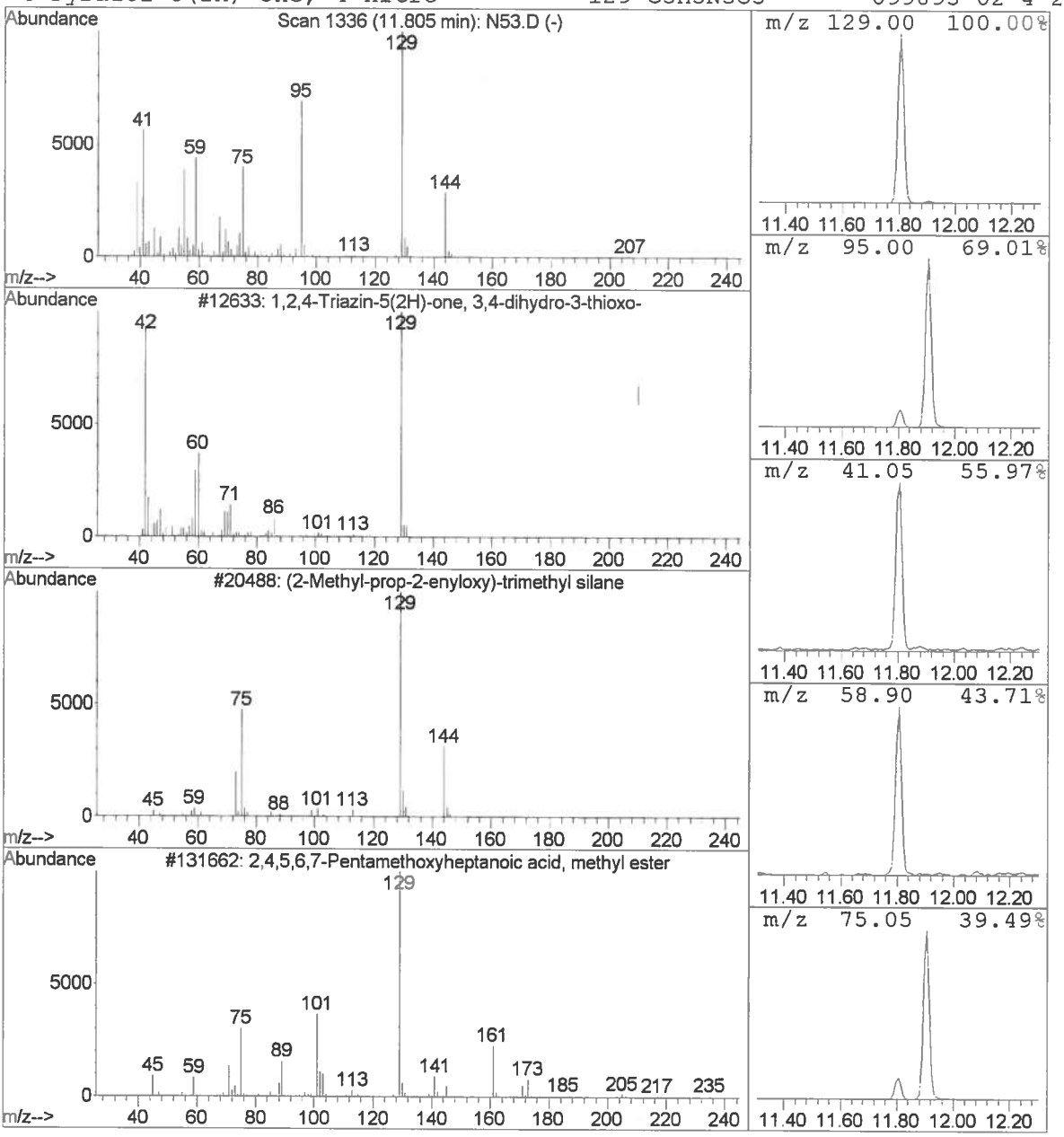
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 2 1,2,4-Triazin-5(2H)-one, 3,4-d Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.81	7.86 ug/L	407599	Chlorobenzene-d5 TPH	10.89

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,2,4-Triazin-5(2H)-one, 3,4-dihydr	129	C3H3N3OS	000626-08-4	27
2	(2-Methyl-prop-2-enyloxy)-trimethyl	144	C7H16OSi	025195-85-1	25
3	2,4,5,6,7-Pentamethoxyheptanoic aci	294	C13H26O7	1000293-22-4	25
4	Pyrazol-3(2H)-one, 4-nitro-	129	C3H3N3O3	099893-02-4	22



Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 27 Jun 2019 11:22
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190626A\N53.D
Name: 19061748-004B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Isopropyl Alcohol	3.31	7.9	ug/L	410909	ISTD01	7.76	2609500	50.0
1,2,4-Triazin-5(2H)-	11.81	7.9	ug/L	407599	ISTD03	10.89	2591890	50.0

N53.D VOCN1908.M Thu Jun 27 12:33:15 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N53.D Vial: 53
Acq On : 27 Jun 2019 11:22 Operator: Kelly Senci
Sample : 19061748-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

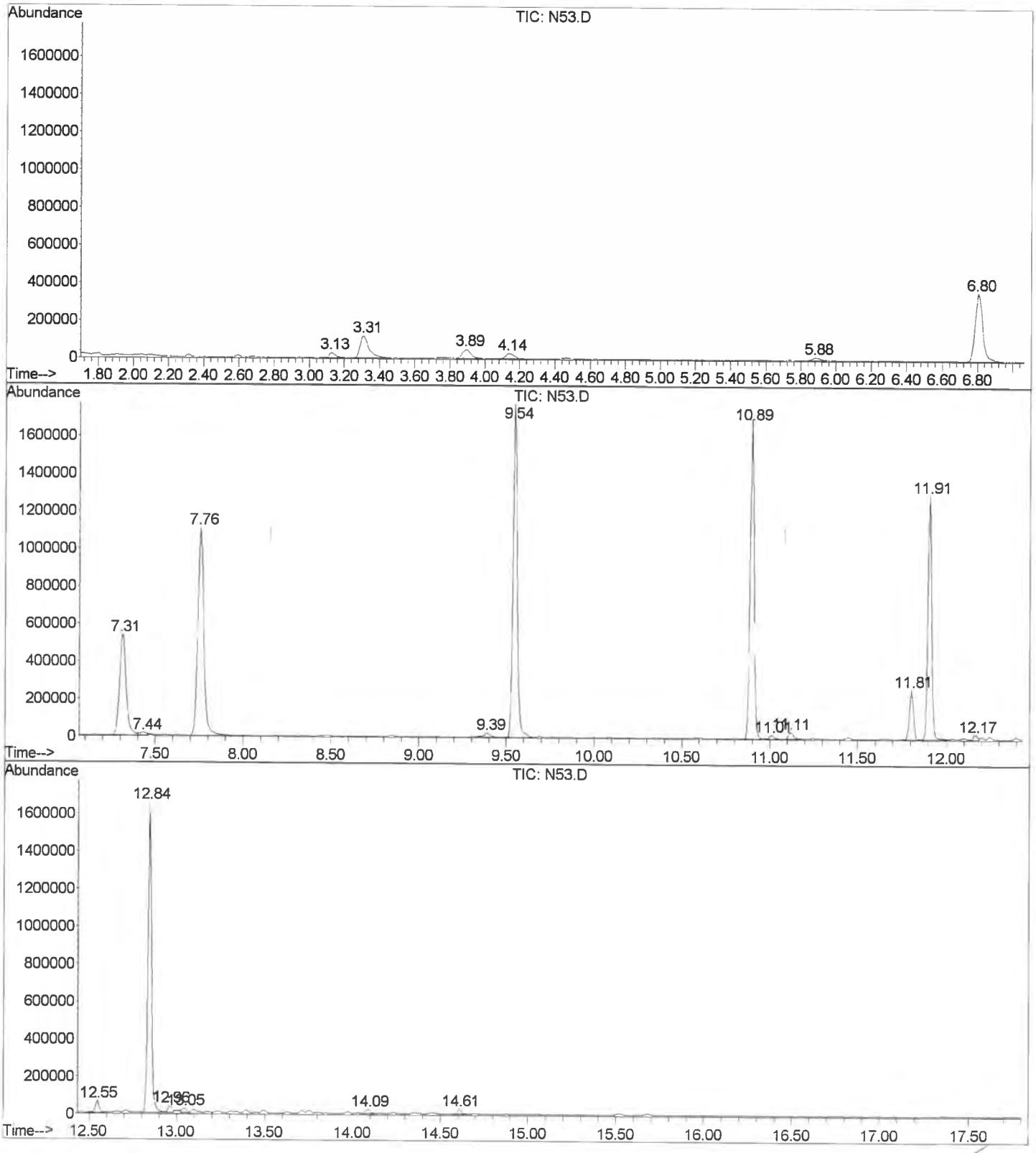
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.125	302	307	316	rBV	26515	69117	2.29%	0.415%
2	3.311	321	329	347	rBV	116214	410909	13.61%	2.470%
3	3.893	391	398	409	rVB	47137	160144	5.30%	0.963%
4	4.138	418	427	439	rBV	27947	100163	3.32%	0.602%
5	5.884	625	634	640	rBV	15114	55467	1.84%	0.333%
6	6.803	735	743	759	rBV	359949	1069458	35.42%	6.429%
7	7.309	794	803	814	rBV2	534131	1393356	46.14%	8.376%
8	7.436	814	818	826	rVB2	12953	40849	1.35%	0.246%
9	7.756	849	856	877	rBV	1104929	2609498	86.41%	15.687%
10	9.393	1042	1050	1058	rVB2	22147	57892	1.92%	0.348%
11	9.545	1063	1068	1082	rBV	1771833	3019744	100.00%	18.153%
12	10.894	1223	1228	1235	rBV	1702236	2591886	85.83%	15.581%
13	11.012	1238	1242	1250	rVV2	17741	36400	1.21%	0.219%
14	11.114	1250	1254	1266	rVB	34613	74516	2.47%	0.448%
15	11.805	1331	1336	1342	rVB	262662	407599	13.50%	2.450%
16	11.907	1342	1348	1359	rBV	1294778	1888055	62.52%	11.350%
17	12.168	1374	1379	1381	rBV	23861	40222	1.33%	0.242%
18	12.548	1417	1424	1428	rBV	62089	91461	3.03%	0.550%
19	12.843	1455	1459	1469	rBV	1653547	2335913	77.35%	14.042%
20	12.961	1469	1473	1476	rVV	35698	54701	1.81%	0.329%
21	13.045	1480	1483	1487	rVV2	22711	43880	1.45%	0.264%
22	14.091	1603	1607	1612	rVB2	22880	43190	1.43%	0.260%
23	14.606	1663	1668	1674	rBV	26539	40500	1.34%	0.243%

Sum of corrected areas: 16634920

N53.D VOCN1908.M Thu Jun 27 12:33:14 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190626A\N53.D
Operator : Kelly Senci
Acquired : 27 Jun 2019 11:22 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061748-004B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 53
Quant File :VOCN1908.RES (RTE Integrator)



N53.D VOCN1908.M Thu Jun 27 12:33:14 2019

Roxana Predesign Groundwater Data Review

Laboratory SDG: 19061853

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/1/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062719-B	PD-1-GWP-80--062719
PD-5-GWP-42-062719	PD-5-GWP-42-062719-DUP
PD-5-GWP-48-062719	PD-5-GWP-54-062719
PD-5-GWP-62-062719	PD-5-GWP-70-062719

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative the VOC surrogate, 1,2-dichloroethane-d_4 was outside evaluation criteria in samples PD-5-GWP-42-062719, PD-5-GWP-42-062719-Dup and PD-5-GWP-48-062719. This issue is addressed further in section 6.0 of this data review.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-5-GWP-42-062719	VOCs	1,2-Dichloroethane-d_4	**45.6**	79.6-118
PD-5-GWP-42-062719-Dup	VOCs	1,2-Dichloroethane-d_4	**16.7**	79.6-118
PD-5-GWP-48-062719	VOCs	1,2-Dichloroethane-d_4	**71.6**	79.6-118

Analytical data that required qualification based on surrogate data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
PD-5-GWP-42-062719	VOCs	Detects	**J**
PD-5-GWP-42-062719	VOCs	Nondetects	**UJ**
PD-5-GWP-42-062719-Dup	VOCs	Detects	**J**
PD-5-GWP-42-062719-Dup	VOCs	Nondetects	**UJ**
PD-5-GWP-48-062719	VOCs	Detects	**J**
PD-5-GWP-48-062719	VOCs	Nondetects	**UJ**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-5-GWP-42-062719-Dup was spiked and duplicated for VOCs

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-5-GWP-42-062719	PD-5-GWP-42-062719-DUP

Were field duplicate sample RPDs within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

No

July 01, 2019

Elizabeth Kunkel
AECOM
100 N. Broadway, 20th Floor
St. Louis, MO 63102
TEL: (314) 743-4179
FAX: (314) 429-0462

NELAP ACCREDITED TNI LABORATORY

RE: PreDesign Invest. PW

WorkOrder: 19061853

Dear Elizabeth Kunkel:

TEKLAB, INC received 8 samples on 6/27/2019 5:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Reviewed on 7/1/2019

Report Contents

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061853
Report Date: 01-Jul-2019

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Accreditations	5
Laboratory Results	6
Sample Summary	36
Dates Report	37
Quality Control Results	39
Receiving Check List	59
Chain of Custody	Appended

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# - Unknown hydrocarbon	B - Analyte detected in associated Method Blank
C - RL shown is a Client Requested Quantitation Limit	E - Value above quantitation range
H - Holding times exceeded	I - Associated internal standard was outside method criteria
J - Analyte detected below quantitation limits	M - Manual Integration used to determine area response
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits
S - Spike Recovery outside recovery limits	T - TIC(Tentatively identified compound)
X - Value exceeds Maximum Contaminant Level	

Case Narrative

http://www.teklabinc.com/

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061853
Report Date: 01-Jul-2019

Cooler Receipt Temp: 16.4 °C

See attached for 8260 and 8270 TICs.

Locations

Collinsville

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
Phone	(618) 344-1004
Fax	(618) 344-1005
Email	jhriley@teklabinc.com

Collinsville Air

Address	5445 Horseshoe Lake Road Collinsville, IL 62234-7425
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Springfield

Address	3920 Pintail Dr Springfield, IL 62711-9415
Phone	(217) 698-1004
Fax	(217) 698-1005
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Chicago

Address	1319 Butterfield Rd. Downers Grove, IL 60515
Phone	(630) 324-6855
Fax	
Email	arenner@teklabinc.com

Kansas City

Address	8421 Nieman Road Lenexa, KS 66214
Phone	(913) 541-1998
Fax	(913) 541-1998
Email	jhriley@teklabinc.com

Accreditations

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061853
Report Date: 01-Jul-2019

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2019	Collinsville
Arkansas	ADEQ	88-0966		3/14/2020	Collinsville
Illinois	IDPH	17584		5/31/2019	Collinsville
Indiana	ISDH	C-IL-06		1/31/2020	Collinsville
Kentucky	KDEP	98006		12/31/2019	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Louisiana	LDPH	LA016		12/31/2019	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Missouri	MDNR	00930		5/31/2019	Collinsville
Tennessee	TDEC	04905		1/31/2020	Collinsville

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-001
Client Sample ID: TB-PW-062719-B
Matrix: TRIP BLANK
Collection Date: 06/27/2019 17:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/28/2019 11:18	154820
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2,4-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,3,5-Trimethylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
2-Butanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:18	154820
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:18	154820
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:18	154820
Acetone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:18	154820
Acrolein	NELAP	20.0		ND	µg/L	1	06/28/2019 11:18	154820
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
Benzene	NELAP	0.5		ND	µg/L	1	06/28/2019 11:18	154820
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Bromoform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Bromomethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Chloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Chloroform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Chloromethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-001
Client Sample ID: TB-PW-062719-B
Matrix: TRIP BLANK
Collection Date: 06/27/2019 17:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Ethylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
m,p-Xylenes	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Methyl tert-butyl ether	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Naphthalene	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
o-Xylene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Styrene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/28/2019 11:18	154820
Toluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
trans-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
trans-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Trichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Trichlorofluoromethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
Vinyl acetate	NELAP	5.0		ND	µg/L	1	06/28/2019 11:18	154820
Vinyl chloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:18	154820
Xylenes, Total	NELAP	4.0		ND	µg/L	1	06/28/2019 11:18	154820
Surr: 1,2-Dichloroethane-d4	*	79.6-118		93.6	%REC	1	06/28/2019 11:18	154820
Surr: 4-Bromofluorobenzene	*	83.9-115		100.8	%REC	1	06/28/2019 11:18	154820
Surr: Dibromofluoromethane	*	84.9-113		99.2	%REC	1	06/28/2019 11:18	154820
Surr: Toluene-d8	*	86.7-112		97.6	%REC	1	06/28/2019 11:18	154820

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-002
Client Sample ID: PD-1-GWP-80-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 8:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/28/2019 13:26	154749
1-Methylnaphthalene	*	0.00020	J	0.00008	mg/L	1	06/28/2019 13:26	154749
2-Methylnaphthalene	NELAP	0.00020	J	0.00012	mg/L	1	06/28/2019 13:26	154749
Acenaphthene	NELAP	0.00020	J	0.00006	mg/L	1	06/28/2019 13:26	154749
Acenaphthylene	NELAP	0.00020	J	0.00008	mg/L	1	06/28/2019 13:26	154749
Anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Chrysene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Fluorene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Phenanthrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:26	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		60.2	%REC	1	06/28/2019 13:26	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		52.7	%REC	1	06/28/2019 13:26	154749
Surr: p-Terphenyl-d14	*	10-109		47.7	%REC	1	06/28/2019 13:26	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 11:00	154800
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 11:00	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
Aniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
Azobenzene	*	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Benzoic acid	NELAP	0.100		ND	mg/L	1	06/29/2019 11:00	154800
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-002
Client Sample ID: PD-1-GWP-80-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 8:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 11:00	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:00	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
Phenol	NELAP	0.010		ND	mg/L	1	06/29/2019 11:00	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 11:00	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 11:00	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		82.4	%REC	1	06/29/2019 11:00	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		73.7	%REC	1	06/29/2019 11:00	154800
Surr: 2-Fluorophenol	*	11.1-70.8		48.9	%REC	1	06/29/2019 11:00	154800
Surr: Nitrobenzene-d5	*	14-118		69.3	%REC	1	06/29/2019 11:00	154800
Surr: Phenol-d5	*	10-49.2		37.4	%REC	1	06/29/2019 11:00	154800
Surr: p-Terphenyl-d14	*	11.3-110		54.7	%REC	1	06/29/2019 11:00	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/28/2019 11:45	154820
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2,4-Trimethylbenzene	NELAP	2.0	J	0.9	µg/L	1	06/28/2019 11:45	154820
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820

Client: AECOM
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Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,3,5-Trimethylbenzene	NELAP	2.0	J	0.3	µg/L	1	06/28/2019 11:45	154820
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
2-Butanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:45	154820
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/28/2019 11:45	154820
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:45	154820
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:45	154820
Acetone	NELAP	10	J	4.2	µg/L	1	06/28/2019 11:45	154820
Acrolein	NELAP	20.0		ND	µg/L	1	06/28/2019 11:45	154820
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/28/2019 11:45	154820
Benzene	NELAP	0.5		9.1	µg/L	1	06/28/2019 11:45	154820
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Bromoform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Bromomethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:45	154820
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Chloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Chloroform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Chloromethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:45	154820
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/28/2019 11:45	154820
Ethylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/28/2019 11:45	154820
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/28/2019 11:45	154820
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
m,p-Xylenes	NELAP	2.0	J	0.6	µg/L	1	06/28/2019 11:45	154820
Methyl tert-butyl ether	NELAP	2.0	J	1.2	µg/L	1	06/28/2019 11:45	154820
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Naphthalene	NELAP	5.0	J	0.4	µg/L	1	06/28/2019 11:45	154820
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
n-Propylbenzene	NELAP	2.0	J	0.1	µg/L	1	06/28/2019 11:45	154820
o-Xylene	NELAP	2.0	J	0.2	µg/L	1	06/28/2019 11:45	154820
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Styrene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:45	154820
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/28/2019 11:45	154820

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-002
Client Sample ID: PD-1-GWP-80-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 8:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	2.0	J	**0.2**	µg/L	1	06/28/2019 11:45	154820
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:45	154820
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:45	154820
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:45	154820
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/28/2019 11:45	154820
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/28/2019 11:45	154820
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:45	154820
Xylenes, Total	NELAP	4.0	J	**0.8**	µg/L	1	06/28/2019 11:45	154820
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**94.0**	%REC	1	06/28/2019 11:45	154820
Surr: 4-Bromofluorobenzene	*	83.9-115		**102.2**	%REC	1	06/28/2019 11:45	154820
Surr: Dibromofluoromethane	*	84.9-113		**98.9**	%REC	1	06/28/2019 11:45	154820
Surr: Toluene-d8	*	86.7-112		**97.3**	%REC	1	06/28/2019 11:45	154820

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-003
Client Sample ID: PD-5-GWP-42-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/28/2019 13:58	154749
1-Methylnaphthalene	*	0.00020		0.00216	mg/L	1	06/28/2019 13:58	154749
2-Methylnaphthalene	NELAP	0.00020		0.00340	mg/L	1	06/28/2019 13:58	154749
Acenaphthene	NELAP	0.00020		0.00026	mg/L	1	06/28/2019 13:58	154749
Acenaphthylene	NELAP	0.00020	J	0.00014	mg/L	1	06/28/2019 13:58	154749
Anthracene	NELAP	0.00020	J	0.00012	mg/L	1	06/28/2019 13:58	154749
Benzo(a)anthracene	*	0.00020	J	0.00012	mg/L	1	06/28/2019 13:58	154749
Benzo(a)pyrene	NELAP	0.00020	J	0.00004	mg/L	1	06/28/2019 13:58	154749
Benzo(b)fluoranthene	NELAP	0.00020	J	0.00006	mg/L	1	06/28/2019 13:58	154749
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:58	154749
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:58	154749
Chrysene	NELAP	0.00020	J	0.00006	mg/L	1	06/28/2019 13:58	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:58	154749
Fluoranthene	NELAP	0.00020		0.00024	mg/L	1	06/28/2019 13:58	154749
Fluorene	NELAP	0.00020		0.00032	mg/L	1	06/28/2019 13:58	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 13:58	154749
Phenanthrene	NELAP	0.00020		0.00086	mg/L	1	06/28/2019 13:58	154749
Pyrene	NELAP	0.00020		0.00020	mg/L	1	06/28/2019 13:58	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		59.4	%REC	1	06/28/2019 13:58	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		50.0	%REC	1	06/28/2019 13:58	154749
Surr: p-Terphenyl-d14	*	10-109		66.7	%REC	1	06/28/2019 13:58	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 11:28	154800
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 11:28	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
Aniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
Azobenzene	*	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Benzoic acid	NELAP	0.10	J	0.004	mg/L	1	06/29/2019 11:28	154800
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-003
Client Sample ID: PD-5-GWP-42-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 11:28	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
m,p-Cresol	NELAP	0.020	J	0.003	mg/L	1	06/29/2019 11:28	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:28	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
Phenol	NELAP	0.010		0.055	mg/L	1	06/29/2019 11:28	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 11:28	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 11:28	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		101.8	%REC	1	06/29/2019 11:28	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		81.0	%REC	1	06/29/2019 11:28	154800
Surr: 2-Fluorophenol	*	11.1-70.8		56.1	%REC	1	06/29/2019 11:28	154800
Surr: Nitrobenzene-d5	*	14-118		73.7	%REC	1	06/29/2019 11:28	154800
Surr: Phenol-d5	*	10-49.2		42.5	%REC	1	06/29/2019 11:28	154800
Surr: p-Terphenyl-d14	*	11.3-110		83.0	%REC	1	06/29/2019 11:28	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,1,1-Trichloroethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,1,2,2-Tetrachloroethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,1,2-Trichloroethane	NELAP	5.0		ND	µg/L	10	06/28/2019 12:24	154823
1,1-Dichloroethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,1-Dichloroethene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,1-Dichloropropene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2,3-Trichlorobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2,3-Trichloropropane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2,4-Trichlorobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2,4-Trimethylbenzene	NELAP	20.0		35.8	µg/L	10	06/28/2019 12:24	154823
1,2-Dibromo-3-chloropropane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2-Dibromoethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2-Dichlorobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,2-Dichloroethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-003
Client Sample ID: PD-5-GWP-42-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,3,5-Trimethylbenzene	NELAP	20	J	11	µg/L	10	06/28/2019 12:24	154823
1,3-Dichlorobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,3-Dichloropropane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
1,4-Dichlorobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
2,2-Dichloropropane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
2-Butanone	NELAP	100		ND	µg/L	10	06/28/2019 12:24	154823
2-Chloroethyl vinyl ether	NELAP	50.0		ND	µg/L	10	06/28/2019 12:24	154823
2-Chlorotoluene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
2-Hexanone	NELAP	100		ND	µg/L	10	06/28/2019 12:24	154823
4-Chlorotoluene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
4-Methyl-2-pentanone	NELAP	100		ND	µg/L	10	06/28/2019 12:24	154823
Acetone	NELAP	100		ND	µg/L	10	06/28/2019 12:24	154823
Acrolein	NELAP	200		ND	µg/L	10	06/28/2019 12:24	154823
Acrylonitrile	NELAP	50.0		ND	µg/L	10	06/28/2019 12:24	154823
Benzene	NELAP	5000		1990000	µg/L	10000	06/28/2019 13:21	154823
Bromobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Bromochloromethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Bromodichloromethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Bromoform	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Bromomethane	NELAP	50.0		ND	µg/L	10	06/28/2019 12:24	154823
Carbon disulfide	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Carbon tetrachloride	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Chlorobenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Chloroethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Chloroform	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Chloromethane	NELAP	50.0		ND	µg/L	10	06/28/2019 12:24	154823
cis-1,2-Dichloroethene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
cis-1,3-Dichloropropene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Dibromochloromethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Dichlorodifluoromethane	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Ethyl methacrylate	NELAP	50.0		ND	µg/L	10	06/28/2019 12:24	154823
Ethylbenzene	NELAP	20.0		74.0	µg/L	10	06/28/2019 12:24	154823
Hexachlorobutadiene	NELAP	50.0		ND	µg/L	10	06/28/2019 12:24	154823
Isopropylbenzene	NELAP	20	J	2.4	µg/L	10	06/28/2019 12:24	154823
m,p-Xylenes	NELAP	20.0		189	µg/L	10	06/28/2019 12:24	154823
Methyl tert-butyl ether	NELAP	20.0		314	µg/L	10	06/28/2019 12:24	154823
Methylene chloride	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Naphthalene	NELAP	50	J	8.1	µg/L	10	06/28/2019 12:24	154823
n-Butylbenzene	NELAP	20	J	1.7	µg/L	10	06/28/2019 12:24	154823
n-Propylbenzene	NELAP	20	J	6.0	µg/L	10	06/28/2019 12:24	154823
o-Xylene	NELAP	20.0		73.6	µg/L	10	06/28/2019 12:24	154823
p-Isopropyltoluene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
sec-Butylbenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Styrene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
tert-Butylbenzene	NELAP	20.0		ND	µg/L	10	06/28/2019 12:24	154823
Tetrachloroethene	NELAP	5.0		ND	µg/L	10	06/28/2019 12:24	154823

Client: AECOM
Client Project: PreDesign Invest. PW
Lab ID: 19061853-003
Matrix: AQUEOUS

Work Order: 19061853
Report Date: 01-Jul-2019
Client Sample ID: PD-5-GWP-42-062719
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	20.0		**292**	µg/L	10	06/28/2019 12:24	154823
trans-1,2-Dichloroethene	NELAP	20.0		**ND**	µg/L	10	06/28/2019 12:24	154823
trans-1,3-Dichloropropene	NELAP	20.0		**ND**	µg/L	10	06/28/2019 12:24	154823
Trichloroethene	NELAP	20	J	**3.5**	µg/L	10	06/28/2019 12:24	154823
Trichlorofluoromethane	NELAP	50.0		**ND**	µg/L	10	06/28/2019 12:24	154823
Vinyl acetate	NELAP	50.0		**ND**	µg/L	10	06/28/2019 12:24	154823
Vinyl chloride	NELAP	20.0		**ND**	µg/L	10	06/28/2019 12:24	154823
Xylenes, Total	NELAP	40.0		**262**	µg/L	10	06/28/2019 12:24	154823
Surr: 1,2-Dichloroethane-d4	*	79.6-118	S	**45.6**	%REC	10	06/28/2019 12:24	154823
Surr: 4-Bromofluorobenzene	*	83.9-115		**100.3**	%REC	10	06/28/2019 12:24	154823
Surr: Dibromofluoromethane	*	84.9-113		**96.5**	%REC	10	06/28/2019 12:24	154823
Surr: Toluene-d8	*	86.7-112		**98.5**	%REC	10	06/28/2019 12:24	154823

Surrogate recovery is outside control limits due to matrix interference.
Elevated reporting limit due to high levels of target and/or non-target analytes.

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-004
Client Sample ID: PD-5-GWP-42-062719-DUP
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/28/2019 14:29	154749
1-Methylnaphthalene	*	0.00020		0.00288	mg/L	1	06/28/2019 14:29	154749
2-Methylnaphthalene	NELAP	0.00020		0.00418	mg/L	1	06/28/2019 14:29	154749
Acenaphthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Acenaphthylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Anthracene	NELAP	0.00020		0.00022	mg/L	1	06/28/2019 14:29	154749
Benzo(a)anthracene	*	0.00020	J	0.00014	mg/L	1	06/28/2019 14:29	154749
Benzo(a)pyrene	NELAP	0.00020	J	0.00004	mg/L	1	06/28/2019 14:29	154749
Benzo(b)fluoranthene	NELAP	0.00020	J	0.00006	mg/L	1	06/28/2019 14:29	154749
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Chrysene	NELAP	0.00020	J	0.00008	mg/L	1	06/28/2019 14:29	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Fluoranthene	NELAP	0.00020		0.00030	mg/L	1	06/28/2019 14:29	154749
Fluorene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 14:29	154749
Phenanthrene	NELAP	0.00020		0.00104	mg/L	1	06/28/2019 14:29	154749
Pyrene	NELAP	0.00020		0.00022	mg/L	1	06/28/2019 14:29	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		58.9	%REC	1	06/28/2019 14:29	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		49.6	%REC	1	06/28/2019 14:29	154749
Surr: p-Terphenyl-d14	*	10-109		57.5	%REC	1	06/28/2019 14:29	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 11:56	154800
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 11:56	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
Aniline	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
Azobenzene	*	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Benzoic acid	NELAP	0.10	J	0.004	mg/L	1	06/29/2019 11:56	154800
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-004
Client Sample ID: PD-5-GWP-42-062719-DUP
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 11:56	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
m,p-Cresol	NELAP	0.020	J	0.003	mg/L	1	06/29/2019 11:56	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 11:56	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
Phenol	NELAP	0.010		0.053	mg/L	1	06/29/2019 11:56	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 11:56	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 11:56	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		88.2	%REC	1	06/29/2019 11:56	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		69.6	%REC	1	06/29/2019 11:56	154800
Surr: 2-Fluorophenol	*	11.1-70.8		47.9	%REC	1	06/29/2019 11:56	154800
Surr: Nitrobenzene-d5	*	14-118		67.4	%REC	1	06/29/2019 11:56	154800
Surr: Phenol-d5	*	10-49.2		35.1	%REC	1	06/29/2019 11:56	154800
Surr: p-Terphenyl-d14	*	11.3-110		64.6	%REC	1	06/29/2019 11:56	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,1,1-Trichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,1,2,2-Tetrachloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,1,2-Trichloroethane	NELAP	10.0		ND	µg/L	20	06/28/2019 12:52	154823
1,1-Dichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,1-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,1-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2,3-Trichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2,3-Trichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2,4-Trichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2,4-Trimethylbenzene	NELAP	40	J	34	µg/L	20	06/28/2019 12:52	154823
1,2-Dibromo-3-chloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2-Dibromoethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,2-Dichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-004
Client Sample ID: PD-5-GWP-42-062719-DUP
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,3,5-Trimethylbenzene	NELAP	40	J	10	µg/L	20	06/28/2019 12:52	154823
1,3-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,3-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
1,4-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
2,2-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
2-Butanone	NELAP	200		ND	µg/L	20	06/28/2019 12:52	154823
2-Chloroethyl vinyl ether	NELAP	100		ND	µg/L	20	06/28/2019 12:52	154823
2-Chlorotoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
2-Hexanone	NELAP	200		ND	µg/L	20	06/28/2019 12:52	154823
4-Chlorotoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
4-Methyl-2-pentanone	NELAP	200		ND	µg/L	20	06/28/2019 12:52	154823
Acetone	NELAP	200		ND	µg/L	20	06/28/2019 12:52	154823
Acrolein	NELAP	400		ND	µg/L	20	06/28/2019 12:52	154823
Acrylonitrile	NELAP	100		ND	µg/L	20	06/28/2019 12:52	154823
Benzene	NELAP	5000	S	1910000	µg/L	10000	06/28/2019 13:49	154823
Bromobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Bromochloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Bromodichloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Bromoform	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Bromomethane	NELAP	100		ND	µg/L	20	06/28/2019 12:52	154823
Carbon disulfide	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Carbon tetrachloride	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Chlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Chloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Chloroform	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Chloromethane	NELAP	100		ND	µg/L	20	06/28/2019 12:52	154823
cis-1,2-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
cis-1,3-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Dibromochloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Dichlorodifluoromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Ethyl methacrylate	NELAP	100		ND	µg/L	20	06/28/2019 12:52	154823
Ethylbenzene	NELAP	40.0		67.8	µg/L	20	06/28/2019 12:52	154823
Hexachlorobutadiene	NELAP	100		ND	µg/L	20	06/28/2019 12:52	154823
Isopropylbenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
m,p-Xylenes	NELAP	40.0		172	µg/L	20	06/28/2019 12:52	154823
Methyl tert-butyl ether	NELAP	40.0		326	µg/L	20	06/28/2019 12:52	154823
Methylene chloride	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Naphthalene	NELAP	100	J	8.2	µg/L	20	06/28/2019 12:52	154823
n-Butylbenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
n-Propylbenzene	NELAP	40	J	6.0	µg/L	20	06/28/2019 12:52	154823
o-Xylene	NELAP	40.0		64.8	µg/L	20	06/28/2019 12:52	154823
p-Isopropyltoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
sec-Butylbenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Styrene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
tert-Butylbenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:52	154823
Tetrachloroethene	NELAP	10.0		ND	µg/L	20	06/28/2019 12:52	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-004
Client Sample ID: PD-5-GWP-42-062719-DUP
Matrix: AQUEOUS
Collection Date: 06/27/2019 10:45

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	40.0		**275**	µg/L	20	06/28/2019 12:52	154823
trans-1,2-Dichloroethene	NELAP	40.0		**ND**	µg/L	20	06/28/2019 12:52	154823
trans-1,3-Dichloropropene	NELAP	40.0		**ND**	µg/L	20	06/28/2019 12:52	154823
Trichloroethene	NELAP	40.0		**ND**	µg/L	20	06/28/2019 12:52	154823
Trichlorofluoromethane	NELAP	100		**ND**	µg/L	20	06/28/2019 12:52	154823
Vinyl acetate	NELAP	100		**ND**	µg/L	20	06/28/2019 12:52	154823
Vinyl chloride	NELAP	40.0		**ND**	µg/L	20	06/28/2019 12:52	154823
Xylenes, Total	NELAP	80.0		**237**	µg/L	20	06/28/2019 12:52	154823
Surr: 1,2-Dichloroethane-d4	*	79.6-118	S	**16.7**	%REC	20	06/28/2019 12:52	154823
Surr: 4-Bromofluorobenzene	*	83.9-115		**100.7**	%REC	20	06/28/2019 12:52	154823
Surr: Dibromofluoromethane	*	84.9-113		**91.6**	%REC	20	06/28/2019 12:52	154823
Surr: Toluene-d8	*	86.7-112		**96.1**	%REC	20	06/28/2019 12:52	154823

Matrix spike did not recover within control limits for Benzene due to sample composition.
Insufficient sample for re-analysis.
Surrogate recovery is outside control limits due to matrix interference.
Elevated reporting limit due to high levels of target and/or non-target analytes.

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-005
Client Sample ID: PD-5-GWP-48-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 12:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.0020	J	**0.00044**	mg/L	1	06/28/2019 15:01	154749
1-Methylnaphthalene	*	0.00020		**0.0147**	mg/L	1	06/28/2019 15:01	154749
2-Methylnaphthalene	NELAP	0.00020		**0.0275**	mg/L	1	06/28/2019 15:01	154749
Acenaphthene	NELAP	0.00020		**0.00028**	mg/L	1	06/28/2019 15:01	154749
Acenaphthylene	NELAP	0.00020		**0.00020**	mg/L	1	06/28/2019 15:01	154749
Anthracene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Benzo(a)anthracene	*	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Benzo(a)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Benzo(b)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Benzo(g,h,i)perylene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Benzo(k)fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Chrysene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Fluoranthene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Fluorene	NELAP	0.00020	J	**0.00016**	mg/L	1	06/28/2019 15:01	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Phenanthrene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Pyrene	NELAP	0.00020		**ND**	mg/L	1	06/28/2019 15:01	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		**55.4**	%REC	1	06/28/2019 15:01	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		**51.6**	%REC	1	06/28/2019 15:01	154749
Surr: p-Terphenyl-d14	*	10-109		**50.8**	%REC	1	06/28/2019 15:01	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2,4,6-Trichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2,4-Dichlorophenol	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2,4-Dimethylphenol	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2,4-Dinitrophenol	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
2,4-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2,6-Dinitrotoluene	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2-Chloronaphthalene	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2-Chlorophenol	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
2-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/29/2019 12:53	154800
2-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
3,3´-Dichlorobenzidine	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
3-Nitroaniline	NELAP	0.080		**ND**	mg/L	1	06/29/2019 12:53	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
4-Bromophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
4-Chloro-3-methylphenol	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
4-Chloroaniline	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
4-Nitroaniline	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
4-Nitrophenol	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
Aniline	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800
Azobenzene	*	0.020		**ND**	mg/L	1	06/29/2019 12:53	154800
Benzoic acid	NELAP	0.10	J	**0.005**	mg/L	1	06/29/2019 12:53	154800
Benzyl alcohol	NELAP	0.040		**ND**	mg/L	1	06/29/2019 12:53	154800

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-005
Client Sample ID: PD-5-GWP-48-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 12:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 12:53	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 12:53	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
m,p-Cresol	NELAP	0.020	J	0.004	mg/L	1	06/29/2019 12:53	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 12:53	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 12:53	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 12:53	154800
Phenol	NELAP	0.010		0.030	mg/L	1	06/29/2019 12:53	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 12:53	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 12:53	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		76.2	%REC	1	06/29/2019 12:53	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		65.6	%REC	1	06/29/2019 12:53	154800
Surr: 2-Fluorophenol	*	11.1-70.8		50.2	%REC	1	06/29/2019 12:53	154800
Surr: Nitrobenzene-d5	*	14-118		66.9	%REC	1	06/29/2019 12:53	154800
Surr: Phenol-d5	*	10-49.2		31.1	%REC	1	06/29/2019 12:53	154800
Surr: p-Terphenyl-d14	*	11.3-110		56.8	%REC	1	06/29/2019 12:53	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,1,1-Trichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,1,2,2-Tetrachloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,1,2-Trichloroethane	NELAP	10.0		ND	µg/L	20	06/28/2019 12:12	154820
1,1-Dichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,1-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,1-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2,3-Trichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2,3-Trichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2,4-Trichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2,4-Trimethylbenzene	NELAP	40.0		456	µg/L	20	06/28/2019 12:12	154820
1,2-Dibromo-3-chloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2-Dibromoethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,2-Dichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-005
Client Sample ID: PD-5-GWP-48-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 12:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,3,5-Trimethylbenzene	NELAP	40.0		120	µg/L	20	06/28/2019 12:12	154820
1,3-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,3-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
1,4-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
2,2-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
2-Butanone	NELAP	200		ND	µg/L	20	06/28/2019 12:12	154820
2-Chloroethyl vinyl ether	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
2-Chlorotoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
2-Hexanone	NELAP	200		ND	µg/L	20	06/28/2019 12:12	154820
4-Chlorotoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
4-Methyl-2-pentanone	NELAP	200		ND	µg/L	20	06/28/2019 12:12	154820
Acetone	NELAP	200		ND	µg/L	20	06/28/2019 12:12	154820
Acrolein	NELAP	400		ND	µg/L	20	06/28/2019 12:12	154820
Acrylonitrile	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
Benzene	NELAP	2500		226000	µg/L	5000	06/28/2019 13:06	154820
Bromobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Bromochloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Bromodichloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Bromoform	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Bromomethane	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
Carbon disulfide	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Carbon tetrachloride	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Chlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Chloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Chloroform	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Chloromethane	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
cis-1,2-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
cis-1,3-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Dibromochloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Dichlorodifluoromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Ethyl methacrylate	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
Ethylbenzene	NELAP	40.0		1670	µg/L	20	06/28/2019 12:12	154820
Hexachlorobutadiene	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
Isopropylbenzene	NELAP	40	J	30	µg/L	20	06/28/2019 12:12	154820
m,p-Xylenes	NELAP	40.0		3120	µg/L	20	06/28/2019 12:12	154820
Methyl tert-butyl ether	NELAP	40	J	6.6	µg/L	20	06/28/2019 12:12	154820
Methylene chloride	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Naphthalene	NELAP	100		141	µg/L	20	06/28/2019 12:12	154820
n-Butylbenzene	NELAP	40	J	5.8	µg/L	20	06/28/2019 12:12	154820
n-Propylbenzene	NELAP	40.0		77.0	µg/L	20	06/28/2019 12:12	154820
o-Xylene	NELAP	40.0		810	µg/L	20	06/28/2019 12:12	154820
p-Isopropyltoluene	NELAP	40	J	2.2	µg/L	20	06/28/2019 12:12	154820
sec-Butylbenzene	NELAP	40	J	3.4	µg/L	20	06/28/2019 12:12	154820
Styrene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
tert-Butylbenzene	NELAP	40	J	3.4	µg/L	20	06/28/2019 12:12	154820
Tetrachloroethene	NELAP	10.0		ND	µg/L	20	06/28/2019 12:12	154820

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-005
Client Sample ID: PD-5-GWP-48-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 12:05

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	40.0		813	µg/L	20	06/28/2019 12:12	154820
trans-1,2-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
trans-1,3-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Trichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Trichlorofluoromethane	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
Vinyl acetate	NELAP	100		ND	µg/L	20	06/28/2019 12:12	154820
Vinyl chloride	NELAP	40.0		ND	µg/L	20	06/28/2019 12:12	154820
Xylenes, Total	NELAP	80.0		3930	µg/L	20	06/28/2019 12:12	154820
Surr: 1,2-Dichloroethane-d4	*	79.6-118	S	71.6	%REC	20	06/28/2019 12:12	154820
Surr: 4-Bromofluorobenzene	*	83.9-115		101.8	%REC	20	06/28/2019 12:12	154820
Surr: Dibromofluoromethane	*	84.9-113		88.4	%REC	20	06/28/2019 12:12	154820
Surr: Toluene-d8	*	86.7-112		98.1	%REC	20	06/28/2019 12:12	154820

Surrogate recovery is outside control limits due to matrix interference.
Elevated reporting limit due to high levels of target and/or non-target analytes.

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-006
Client Sample ID: PD-5-GWP-54-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 13:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/28/2019 15:32	154749
1-Methylnaphthalene	*	0.00020		0.00206	mg/L	1	06/28/2019 15:32	154749
2-Methylnaphthalene	NELAP	0.00020		0.00332	mg/L	1	06/28/2019 15:32	154749
Acenaphthene	NELAP	0.00020	J	0.00014	mg/L	1	06/28/2019 15:32	154749
Acenaphthylene	NELAP	0.00020		0.00020	mg/L	1	06/28/2019 15:32	154749
Anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Chrysene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Fluorene	NELAP	0.00020	J	0.00008	mg/L	1	06/28/2019 15:32	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Phenanthrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 15:32	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		55.8	%REC	1	06/28/2019 15:32	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		48.9	%REC	1	06/28/2019 15:32	154749
Surr: p-Terphenyl-d14	*	10-109		52.6	%REC	1	06/28/2019 15:32	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 13:21	154800
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 13:21	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
Aniline	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
Azobenzene	*	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Benzoic acid	NELAP	0.100		ND	mg/L	1	06/29/2019 13:21	154800
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-006
Client Sample ID: PD-5-GWP-54-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 13:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 13:21	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:21	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
Phenol	NELAP	0.010		ND	mg/L	1	06/29/2019 13:21	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 13:21	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 13:21	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		77.9	%REC	1	06/29/2019 13:21	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		68.0	%REC	1	06/29/2019 13:21	154800
Surr: 2-Fluorophenol	*	11.1-70.8		46.8	%REC	1	06/29/2019 13:21	154800
Surr: Nitrobenzene-d5	*	14-118		65.4	%REC	1	06/29/2019 13:21	154800
Surr: Phenol-d5	*	10-49.2		33.2	%REC	1	06/29/2019 13:21	154800
Surr: p-Terphenyl-d14	*	11.3-110		59.8	%REC	1	06/29/2019 13:21	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,1,1-Trichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,1,2,2-Tetrachloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,1,2-Trichloroethane	NELAP	10.0		ND	µg/L	20	06/28/2019 13:33	154820
1,1-Dichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,1-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,1-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2,3-Trichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2,3-Trichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2,4-Trichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2,4-Trimethylbenzene	NELAP	40.0		70.8	µg/L	20	06/28/2019 13:33	154820
1,2-Dibromo-3-chloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2-Dibromoethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,2-Dichloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820

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Collection Date: 06/27/2019 13:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,3,5-Trimethylbenzene	NELAP	40	J	21	µg/L	20	06/28/2019 13:33	154820
1,3-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,3-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
1,4-Dichlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
2,2-Dichloropropane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
2-Butanone	NELAP	200		ND	µg/L	20	06/28/2019 13:33	154820
2-Chloroethyl vinyl ether	NELAP	100		ND	µg/L	20	06/28/2019 13:33	154820
2-Chlorotoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
2-Hexanone	NELAP	200		ND	µg/L	20	06/28/2019 13:33	154820
4-Chlorotoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
4-Methyl-2-pentanone	NELAP	200		ND	µg/L	20	06/28/2019 13:33	154820
Acetone	NELAP	200		ND	µg/L	20	06/28/2019 13:33	154820
Acrolein	NELAP	400		ND	µg/L	20	06/28/2019 13:33	154820
Acrylonitrile	NELAP	100		ND	µg/L	20	06/28/2019 13:33	154820
Benzene	NELAP	10.0		455	µg/L	20	06/28/2019 13:33	154820
Bromobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Bromochloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Bromodichloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Bromoform	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Bromomethane	NELAP	100		ND	µg/L	20	06/28/2019 13:33	154820
Carbon disulfide	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Carbon tetrachloride	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Chlorobenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Chloroethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Chloroform	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Chloromethane	NELAP	100		ND	µg/L	20	06/28/2019 13:33	154820
cis-1,2-Dichloroethene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
cis-1,3-Dichloropropene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Dibromochloromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Dichlorodifluoromethane	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Ethyl methacrylate	NELAP	100		ND	µg/L	20	06/28/2019 13:33	154820
Ethylbenzene	NELAP	40.0		44.2	µg/L	20	06/28/2019 13:33	154820
Hexachlorobutadiene	NELAP	100		ND	µg/L	20	06/28/2019 13:33	154820
Isopropylbenzene	NELAP	40	J	5.4	µg/L	20	06/28/2019 13:33	154820
m,p-Xylenes	NELAP	40.0		75.0	µg/L	20	06/28/2019 13:33	154820
Methyl tert-butyl ether	NELAP	40	J	6.0	µg/L	20	06/28/2019 13:33	154820
Methylene chloride	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
Naphthalene	NELAP	100	J	8.2	µg/L	20	06/28/2019 13:33	154820
n-Butylbenzene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
n-Propylbenzene	NELAP	40	J	19	µg/L	20	06/28/2019 13:33	154820
o-Xylene	NELAP	40	J	7.4	µg/L	20	06/28/2019 13:33	154820
p-Isopropyltoluene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
sec-Butylbenzene	NELAP	40	J	2.8	µg/L	20	06/28/2019 13:33	154820
Styrene	NELAP	40.0		ND	µg/L	20	06/28/2019 13:33	154820
tert-Butylbenzene	NELAP	40	J	2.4	µg/L	20	06/28/2019 13:33	154820
Tetrachloroethene	NELAP	10.0		ND	µg/L	20	06/28/2019 13:33	154820

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Collection Date: 06/27/2019 13:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	40	J	**3.0**	µg/L	20	06/28/2019 13:33	154820
trans-1,2-Dichloroethene	NELAP	40.0		**ND**	µg/L	20	06/28/2019 13:33	154820
trans-1,3-Dichloropropene	NELAP	40.0		**ND**	µg/L	20	06/28/2019 13:33	154820
Trichloroethene	NELAP	40.0		**ND**	µg/L	20	06/28/2019 13:33	154820
Trichlorofluoromethane	NELAP	100		**ND**	µg/L	20	06/28/2019 13:33	154820
Vinyl acetate	NELAP	100		**ND**	µg/L	20	06/28/2019 13:33	154820
Vinyl chloride	NELAP	40.0		**ND**	µg/L	20	06/28/2019 13:33	154820
Xylenes, Total	NELAP	80.0		**82.4**	µg/L	20	06/28/2019 13:33	154820
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**94.1**	%REC	20	06/28/2019 13:33	154820
Surr: 4-Bromofluorobenzene	*	83.9-115		**98.3**	%REC	20	06/28/2019 13:33	154820
Surr: Dibromofluoromethane	*	84.9-113		**97.4**	%REC	20	06/28/2019 13:33	154820
Surr: Toluene-d8	*	86.7-112		**96.0**	%REC	20	06/28/2019 13:33	154820

Elevated reporting limit due to high levels of target and/or non-target analytes.

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Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-007
Client Sample ID: PD-5-GWP-62-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 14:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/28/2019 16:36	154749
1-Methylnaphthalene	*	0.00020	J	0.00010	mg/L	1	06/28/2019 16:36	154749
2-Methylnaphthalene	NELAP	0.00020	J	0.00016	mg/L	1	06/28/2019 16:36	154749
Acenaphthene	NELAP	0.00020	J	0.00008	mg/L	1	06/28/2019 16:36	154749
Acenaphthylene	NELAP	0.00020	J	0.00010	mg/L	1	06/28/2019 16:36	154749
Anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Chrysene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Fluorene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Phenanthrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 16:36	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		52.8	%REC	1	06/28/2019 16:36	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		47.4	%REC	1	06/28/2019 16:36	154749
Surr: p-Terphenyl-d14	*	10-109		58.1	%REC	1	06/28/2019 16:36	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 13:49	154800
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 13:49	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
Aniline	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
Azobenzene	*	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Benzoic acid	NELAP	0.100		ND	mg/L	1	06/29/2019 13:49	154800
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800

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Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 13:49	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 13:49	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
Phenol	NELAP	0.010		ND	mg/L	1	06/29/2019 13:49	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 13:49	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 13:49	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		68.1	%REC	1	06/29/2019 13:49	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		67.6	%REC	1	06/29/2019 13:49	154800
Surr: 2-Fluorophenol	*	11.1-70.8		39.1	%REC	1	06/29/2019 13:49	154800
Surr: Nitrobenzene-d5	*	14-118		65.5	%REC	1	06/29/2019 13:49	154800
Surr: Phenol-d5	*	10-49.2		29.9	%REC	1	06/29/2019 13:49	154800
Surr: p-Terphenyl-d14	*	11.3-110		65.2	%REC	1	06/29/2019 13:49	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/28/2019 11:29	154823
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2,4-Trimethylbenzene	NELAP	2.0	J	0.5	µg/L	1	06/28/2019 11:29	154823
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-007
Client Sample ID: PD-5-GWP-62-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 14:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,3,5-Trimethylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/28/2019 11:29	154823
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
2-Butanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:29	154823
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:29	154823
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:29	154823
Acetone	NELAP	10	J	6.1	µg/L	1	06/28/2019 11:29	154823
Acrolein	NELAP	20.0		ND	µg/L	1	06/28/2019 11:29	154823
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
Benzene	NELAP	0.5		195	µg/L	1	06/28/2019 11:29	154823
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Bromoform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Bromomethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Chloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Chloroform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Chloromethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
Ethylbenzene	NELAP	2.0	J	0.5	µg/L	1	06/28/2019 11:29	154823
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
Isopropylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
m,p-Xylenes	NELAP	2.0	J	1.0	µg/L	1	06/28/2019 11:29	154823
Methyl tert-butyl ether	NELAP	2.0	J	2.0	µg/L	1	06/28/2019 11:29	154823
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Naphthalene	NELAP	5.0		ND	µg/L	1	06/28/2019 11:29	154823
n-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
n-Propylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
o-Xylene	NELAP	2.0	J	0.2	µg/L	1	06/28/2019 11:29	154823
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Styrene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:29	154823
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/28/2019 11:29	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-007
Client Sample ID: PD-5-GWP-62-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 14:35

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	2.0	J	**0.4**	µg/L	1	06/28/2019 11:29	154823
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:29	154823
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:29	154823
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:29	154823
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/28/2019 11:29	154823
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/28/2019 11:29	154823
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:29	154823
Xylenes, Total	NELAP	4.0	J	**1.2**	µg/L	1	06/28/2019 11:29	154823
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**98.6**	%REC	1	06/28/2019 11:29	154823
Surr: 4-Bromofluorobenzene	*	83.9-115		**95.4**	%REC	1	06/28/2019 11:29	154823
Surr: Dibromofluoromethane	*	84.9-113		**101.9**	%REC	1	06/28/2019 11:29	154823
Surr: Toluene-d8	*	86.7-112		**94.0**	%REC	1	06/28/2019 11:29	154823

Client: AECOM | **Work Order:** 19061853

Client Project: PreDesign Invest. PW | **Report Date:** 01-Jul-2019

Lab ID: 19061853-008 | **Client Sample ID:** PD-5-GWP-70-062719

Matrix: AQUEOUS | **Collection Date:** 06/27/2019 15:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,4-Dioxane	NELAP	0.00200		ND	mg/L	1	06/28/2019 17:07	154749
1-Methylnaphthalene	*	0.00020	J	0.00008	mg/L	1	06/28/2019 17:07	154749
2-Methylnaphthalene	NELAP	0.00020	J	0.00014	mg/L	1	06/28/2019 17:07	154749
Acenaphthene	NELAP	0.00020	J	0.00012	mg/L	1	06/28/2019 17:07	154749
Acenaphthylene	NELAP	0.00020	J	0.00012	mg/L	1	06/28/2019 17:07	154749
Anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Benzo(a)anthracene	*	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Benzo(a)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Benzo(b)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Benzo(g,h,i)perylene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Benzo(k)fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Chrysene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Dibenzo(a,h)anthracene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Fluoranthene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Fluorene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Indeno(1,2,3-cd)pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Phenanthrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Pyrene	NELAP	0.00020		ND	mg/L	1	06/28/2019 17:07	154749
Surr: 2-Fluorobiphenyl	*	13.8-99.2		58.1	%REC	1	06/28/2019 17:07	154749
Surr: Nitrobenzene-d5	*	15.3-96.2		48.6	%REC	1	06/28/2019 17:07	154749
Surr: p-Terphenyl-d14	*	10-109		54.6	%REC	1	06/28/2019 17:07	154749
Elevated reporting limit due to sample composition.								
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
2,4,5-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2,4,6-Trichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2,4-Dichlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2,4-Dimethylphenol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2,4-Dinitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
2,4-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2,6-Dinitrotoluene	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2-Chloronaphthalene	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2-Chlorophenol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
2-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 14:17	154800
2-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
3,3'-Dichlorobenzidine	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
3-Nitroaniline	NELAP	0.080		ND	mg/L	1	06/29/2019 14:17	154800
4,6-Dinitro-2-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
4-Bromophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
4-Chloro-3-methylphenol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
4-Chloroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
4-Chlorophenyl phenyl ether	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
4-Nitroaniline	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
4-Nitrophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
Aniline	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
Azobenzene	*	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Benzoic acid	NELAP	0.100		ND	mg/L	1	06/29/2019 14:17	154800
Benzyl alcohol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-008
Client Sample ID: PD-5-GWP-70-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 15:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bis(2-chloroethoxy)methane	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Bis(2-chloroethyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Bis(2-chloroisopropyl)ether	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Bis(2-ethylhexyl)phthalate	NELAP	0.012		ND	mg/L	1	06/29/2019 14:17	154800
Butyl benzyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Dibenzofuran	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Diethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Dimethyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Di-n-butyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Di-n-octyl phthalate	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Hexachlorobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Hexachlorocyclopentadiene	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
Hexachloroethane	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Isophorone	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
m,p-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Nitrobenzene	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
N-Nitrosodimethylamine	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
N-Nitroso-di-n-propylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
N-Nitrosodiphenylamine	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
o-Cresol	NELAP	0.020		ND	mg/L	1	06/29/2019 14:17	154800
Pentachlorophenol	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
Phenol	NELAP	0.010		ND	mg/L	1	06/29/2019 14:17	154800
Pyridine	NELAP	0.040		ND	mg/L	1	06/29/2019 14:17	154800
Quinoline	*	0.010		ND	mg/L	1	06/29/2019 14:17	154800
Surr: 2,4,6-Tribromophenol	*	14.8-138		79.6	%REC	1	06/29/2019 14:17	154800
Surr: 2-Fluorobiphenyl	*	12.2-118		65.4	%REC	1	06/29/2019 14:17	154800
Surr: 2-Fluorophenol	*	11.1-70.8		50.6	%REC	1	06/29/2019 14:17	154800
Surr: Nitrobenzene-d5	*	14-118		61.9	%REC	1	06/29/2019 14:17	154800
Surr: Phenol-d5	*	10-49.2		36.8	%REC	1	06/29/2019 14:17	154800
Surr: p-Terphenyl-d14	*	11.3-110		57.1	%REC	1	06/29/2019 14:17	154800
Elevated reporting limit due to sample composition.								
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,1,1-Trichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,1,2,2-Tetrachloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,1,2-Trichloroethane	NELAP	0.5		ND	µg/L	1	06/28/2019 11:57	154823
1,1-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,1-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,1-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2,3-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2,3-Trichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2,4-Trichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2,4-Trimethylbenzene	NELAP	2.0		2.6	µg/L	1	06/28/2019 11:57	154823
1,2-Dibromo-3-chloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2-Dibromoethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,2-Dichloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-008
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Matrix: AQUEOUS
Collection Date: 06/27/2019 15:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,3,5-Trimethylbenzene	NELAP	2.0	J	0.7	µg/L	1	06/28/2019 11:57	154823
1,3-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,3-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
1,4-Dichlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
2,2-Dichloropropane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
2-Butanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:57	154823
2-Chloroethyl vinyl ether	NELAP	5.0		ND	µg/L	1	06/28/2019 11:57	154823
2-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
2-Hexanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:57	154823
4-Chlorotoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
4-Methyl-2-pentanone	NELAP	10.0		ND	µg/L	1	06/28/2019 11:57	154823
Acetone	NELAP	10	J	6.5	µg/L	1	06/28/2019 11:57	154823
Acrolein	NELAP	20.0		ND	µg/L	1	06/28/2019 11:57	154823
Acrylonitrile	NELAP	5.0		ND	µg/L	1	06/28/2019 11:57	154823
Benzene	NELAP	0.5		184	µg/L	1	06/28/2019 11:57	154823
Bromobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Bromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Bromodichloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Bromoform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Bromomethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:57	154823
Carbon disulfide	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Carbon tetrachloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Chlorobenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Chloroethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Chloroform	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Chloromethane	NELAP	5.0		ND	µg/L	1	06/28/2019 11:57	154823
cis-1,2-Dichloroethene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
cis-1,3-Dichloropropene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Dibromochloromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Dichlorodifluoromethane	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Ethyl methacrylate	NELAP	5.0		ND	µg/L	1	06/28/2019 11:57	154823
Ethylbenzene	NELAP	2.0		2.2	µg/L	1	06/28/2019 11:57	154823
Hexachlorobutadiene	NELAP	5.0		ND	µg/L	1	06/28/2019 11:57	154823
Isopropylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/28/2019 11:57	154823
m,p-Xylenes	NELAP	2.0		4.5	µg/L	1	06/28/2019 11:57	154823
Methyl tert-butyl ether	NELAP	2.0		3.1	µg/L	1	06/28/2019 11:57	154823
Methylene chloride	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Naphthalene	NELAP	5.0	J	0.5	µg/L	1	06/28/2019 11:57	154823
n-Butylbenzene	NELAP	2.0	J	0.2	µg/L	1	06/28/2019 11:57	154823
n-Propylbenzene	NELAP	2.0	J	0.4	µg/L	1	06/28/2019 11:57	154823
o-Xylene	NELAP	2.0	J	1.0	µg/L	1	06/28/2019 11:57	154823
p-Isopropyltoluene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
sec-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Styrene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
tert-Butylbenzene	NELAP	2.0		ND	µg/L	1	06/28/2019 11:57	154823
Tetrachloroethene	NELAP	0.5		ND	µg/L	1	06/28/2019 11:57	154823

Client: AECOM
Work Order: 19061853
Client Project: PreDesign Invest. PW
Report Date: 01-Jul-2019
Lab ID: 19061853-008
Client Sample ID: PD-5-GWP-70-062719
Matrix: AQUEOUS
Collection Date: 06/27/2019 15:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Toluene	NELAP	2.0	J	**0.9**	µg/L	1	06/28/2019 11:57	154823
trans-1,2-Dichloroethene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:57	154823
trans-1,3-Dichloropropene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:57	154823
Trichloroethene	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:57	154823
Trichlorofluoromethane	NELAP	5.0		**ND**	µg/L	1	06/28/2019 11:57	154823
Vinyl acetate	NELAP	5.0		**ND**	µg/L	1	06/28/2019 11:57	154823
Vinyl chloride	NELAP	2.0		**ND**	µg/L	1	06/28/2019 11:57	154823
Xylenes, Total	NELAP	4.0		**5.5**	µg/L	1	06/28/2019 11:57	154823
Surr: 1,2-Dichloroethane-d4	*	79.6-118		**94.9**	%REC	1	06/28/2019 11:57	154823
Surr: 4-Bromofluorobenzene	*	83.9-115		**98.9**	%REC	1	06/28/2019 11:57	154823
Surr: Dibromofluoromethane	*	84.9-113		**98.4**	%REC	1	06/28/2019 11:57	154823
Surr: Toluene-d8	*	86.7-112		**96.4**	%REC	1	06/28/2019 11:57	154823

Sample Summary

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061853
Report Date: 01-Jul-2019

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
19061853-001	TB-PW-062719-B	Trip Blank	1	06/27/2019 17:00
19061853-002	PD-1-GWP-80-062719	Aqueous	2	06/27/2019 8:35
19061853-003	PD-5-GWP-42-062719	Aqueous	2	06/27/2019 10:45
19061853-004	PD-5-GWP-42-062719-DUP	Aqueous	2	06/27/2019 10:45
19061853-005	PD-5-GWP-48-062719	Aqueous	2	06/27/2019 12:05
19061853-006	PD-5-GWP-54-062719	Aqueous	2	06/27/2019 13:40
19061853-007	PD-5-GWP-62-062719	Aqueous	2	06/27/2019 14:35
19061853-008	PD-5-GWP-70-062719	Aqueous	2	06/27/2019 15:40

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061853
Report Date: 01-Jul-2019

Sample ID	Client Sample ID / Test Name	Collection Date	Received Date	Prep Date/Time	Analysis Date/Time
19061853-001A	TB-PW-062719-B	06/27/2019 17:00	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 11:18
19061853-002A	PD-1-GWP-80-062719	06/27/2019 8:35	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 13:26
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 11:00
19061853-002B	PD-1-GWP-80-062719	06/27/2019 8:35	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 11:45
19061853-003A	PD-5-GWP-42-062719	06/27/2019 10:45	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 13:58
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 11:28
19061853-003B	PD-5-GWP-42-062719	06/27/2019 10:45	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 12:24
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 13:21
19061853-004A	PD-5-GWP-42-062719-DUP	06/27/2019 10:45	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 14:29
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 11:56
19061853-004B	PD-5-GWP-42-062719-DUP	06/27/2019 10:45	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 12:52
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 13:49
19061853-005A	PD-5-GWP-48-062719	06/27/2019 12:05	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 15:01
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 12:53
19061853-005B	PD-5-GWP-48-062719	06/27/2019 12:05	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 12:12
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 13:06
19061853-006A	PD-5-GWP-54-062719	06/27/2019 13:40	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 15:32
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 13:21
19061853-006B	PD-5-GWP-54-062719	06/27/2019 13:40	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 13:33
19061853-007A	PD-5-GWP-62-062719	06/27/2019 14:35	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 16:36
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 13:49
19061853-007B	PD-5-GWP-62-062719	06/27/2019 14:35	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 11:29

Client: AECOM
Client Project: PreDesign Invest. PW

Work Order: 19061853
Report Date: 01-Jul-2019

Sample ID	Client Sample ID	Collection Date	Received Date		
	Test Name			Prep Date/Time	Analysis Date/Time
19061853-008A	PD-5-GWP-70-062719	06/27/2019 15:40	06/27/2019 17:00		
	SW-846 3510C, 8270C SIMS, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:26	06/28/2019 17:07
	SW-846 3510C, 8270C, Semi-Volatile Organic Compounds by GC/MS			06/28/2019 8:25	06/29/2019 14:17
19061853-008B	PD-5-GWP-70-062719	06/27/2019 15:40	06/27/2019 17:00		
	SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS				06/28/2019 11:57

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061853

Report Date: 01-Jul-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154749 **SampType:** MBLK Units mg/L

SampID: MBLK-154749

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		ND						06/28/2019
1,4-Dioxane	0.00100		ND						06/27/2019
1-Methylnaphthalene	0.00010		ND						06/27/2019
1-Methylnaphthalene	0.00010		ND						06/28/2019
2-Methylnaphthalene	0.00010		ND						06/28/2019
2-Methylnaphthalene	0.00010		ND						06/27/2019
Acenaphthene	0.00010		ND						06/28/2019
Acenaphthene	0.00010		ND						06/27/2019
Acenaphthylene	0.00010		ND						06/28/2019
Acenaphthylene	0.00010		ND						06/27/2019
Anthracene	0.00010		ND						06/28/2019
Anthracene	0.00010		ND						06/27/2019
Benzo(a)anthracene	0.00010		ND						06/28/2019
Benzo(a)anthracene	0.00010		ND						06/27/2019
Benzo(a)pyrene	0.00010		ND						06/27/2019
Benzo(a)pyrene	0.00010		ND						06/28/2019
Benzo(b)fluoranthene	0.00010		ND						06/28/2019
Benzo(b)fluoranthene	0.00010		ND						06/27/2019
Benzo(g,h,i)perylene	0.00010		ND						06/28/2019
Benzo(g,h,i)perylene	0.00010		ND						06/27/2019
Benzo(k)fluoranthene	0.00010		ND						06/27/2019
Benzo(k)fluoranthene	0.00010		ND						06/28/2019
Chrysene	0.00010		ND						06/28/2019
Chrysene	0.00010		ND						06/27/2019
Dibenzo(a,h)anthracene	0.00010		ND						06/28/2019
Dibenzo(a,h)anthracene	0.00010		ND						06/27/2019
Fluoranthene	0.00010	J	0.00003						06/28/2019
Fluoranthene	0.00010	J	0.00003						06/27/2019
Fluorene	0.00010		ND						06/28/2019
Fluorene	0.00010		ND						06/27/2019
Indeno(1,2,3-cd)pyrene	0.00010		ND						06/28/2019
Indeno(1,2,3-cd)pyrene	0.00010		ND						06/27/2019
Phenanthrene	0.00010		ND						06/27/2019
Phenanthrene	0.00010		ND						06/28/2019
Pyrene	0.00010	J	0.00002						06/28/2019
Pyrene	0.00010	J	0.00003						06/27/2019
Surr: 2-Fluorobiphenyl			0.00353	0.00500		70.6	36.1	101	06/27/2019
Surr: 2-Fluorobiphenyl			0.00315	0.00500		63.0	36.1	101	06/28/2019
Surr: Nitrobenzene-d5			0.00307	0.00500		61.4	40.1	94.4	06/27/2019
Surr: Nitrobenzene-d5			0.00272	0.00500		54.4	40.1	94.4	06/28/2019
Surr: p-Terphenyl-d14			0.00428	0.00500		85.6	48.4	119	06/27/2019
Surr: p-Terphenyl-d14			0.00392	0.00500		78.4	48.4	119	06/28/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154749 **SampType:** LCS Units mg/L

SampID: LCS-154749

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0.00100		**0.00551**	0.01000	0	55.1	22.6	63.4	06/27/2019
1-Methylnaphthalene	0.00010		**0.00372**	0.00500	0	74.4	37.8	87.8	06/27/2019
2-Methylnaphthalene	0.00010		**0.00379**	0.00500	0	75.8	37.1	85.3	06/27/2019
Acenaphthene	0.00010		**0.00385**	0.00500	0	77.0	38.4	93.5	06/27/2019
Acenaphthylene	0.00010		**0.00395**	0.00500	0	79.0	37.9	91.4	06/27/2019
Anthracene	0.00010		**0.00411**	0.00500	0	82.2	39.3	94	06/27/2019
Benzo(a)anthracene	0.00010		**0.00452**	0.00500	0	90.4	43.3	94.3	06/27/2019
Benzo(a)pyrene	0.00010		**0.00423**	0.00500	0	84.6	42.8	98.3	06/27/2019
Benzo(b)fluoranthene	0.00010		**0.00416**	0.00500	0	83.2	43	97.5	06/27/2019
Benzo(g,h,i)perylene	0.00010		**0.00413**	0.00500	0	82.6	32.3	102	06/27/2019
Benzo(k)fluoranthene	0.00010		**0.00441**	0.00500	0	88.2	40.3	99.1	06/27/2019
Chrysene	0.00010		**0.00434**	0.00500	0	86.8	42.1	96	06/27/2019
Dibenzo(a,h)anthracene	0.00010		**0.00415**	0.00500	0	83.0	39.3	97.6	06/27/2019
Fluoranthene	0.00010		**0.00445**	0.00500	0	89.0	42.4	96	06/27/2019
Fluorene	0.00010		**0.00413**	0.00500	0	82.6	40.6	93.2	06/27/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00413**	0.00500	0	82.6	35.9	103	06/27/2019
Phenanthrene	0.00010		**0.00410**	0.00500	0	82.0	42.3	96.5	06/27/2019
Pyrene	0.00010	B	**0.00435**	0.00500	0	87.0	40.1	95.4	06/27/2019
Surr: 2-Fluorobiphenyl			**0.00312**	0.00500		62.4	36.1	101	06/27/2019
Surr: Nitrobenzene-d5			**0.00315**	0.00500		63.0	40.1	94.4	06/27/2019
Surr: p-Terphenyl-d14			**0.00401**	0.00500		80.2	48.4	119	06/27/2019

Batch 154749 **SampType:** LCSD Units mg/L RPD Limit 40

SampID: LCSD-154749

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,4-Dioxane	0.00100		**0.00550**	0.01000	0	55.0	0.005510	0.18	06/27/2019
1-Methylnaphthalene	0.00010		**0.00374**	0.00500	0	74.8	0.003720	0.54	06/27/2019
2-Methylnaphthalene	0.00010		**0.00385**	0.00500	0	77.0	0.003790	1.57	06/27/2019
Acenaphthene	0.00010		**0.00390**	0.00500	0	78.0	0.003850	1.29	06/27/2019
Acenaphthylene	0.00010		**0.00404**	0.00500	0	80.8	0.003950	2.25	06/27/2019
Anthracene	0.00010		**0.00423**	0.00500	0	84.6	0.004110	2.88	06/27/2019
Benzo(a)anthracene	0.00010		**0.00464**	0.00500	0	92.8	0.004520	2.62	06/27/2019
Benzo(a)pyrene	0.00010		**0.00439**	0.00500	0	87.8	0.004230	3.71	06/27/2019
Benzo(b)fluoranthene	0.00010		**0.00435**	0.00500	0	87.0	0.004160	4.47	06/27/2019
Benzo(g,h,i)perylene	0.00010		**0.00419**	0.00500	0	83.8	0.004130	1.44	06/27/2019
Benzo(k)fluoranthene	0.00010		**0.00460**	0.00500	0	92.0	0.004410	4.22	06/27/2019
Chrysene	0.00010		**0.00445**	0.00500	0	89.0	0.004340	2.50	06/27/2019
Dibenzo(a,h)anthracene	0.00010		**0.00426**	0.00500	0	85.2	0.004150	2.62	06/27/2019
Fluoranthene	0.00010		**0.00456**	0.00500	0	91.2	0.004450	2.44	06/27/2019
Fluorene	0.00010		**0.00418**	0.00500	0	83.6	0.004130	1.20	06/27/2019
Indeno(1,2,3-cd)pyrene	0.00010		**0.00426**	0.00500	0	85.2	0.004130	3.10	06/27/2019
Phenanthrene	0.00010		**0.00426**	0.00500	0	85.2	0.004100	3.83	06/27/2019
Pyrene	0.00010	B	**0.00438**	0.00500	0	87.6	0.004350	0.69	06/27/2019
Surr: 2-Fluorobiphenyl			**0.00306**	0.00500		61.2			06/27/2019
Surr: Nitrobenzene-d5			**0.00316**	0.00500		63.2			06/27/2019
Surr: p-Terphenyl-d14			**0.00402**	0.00500		80.4			06/27/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154800 **SampType:** MBLK Units mg/L

SampID: MBLK-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,4-Dioxane	0		ND						06/29/2019
2-Methylnaphthalene	0.010		ND						06/29/2019
Acenaphthene	0.010		ND						06/29/2019
Acenaphthylene	0.010		ND						06/29/2019
Anthracene	0.010		ND						06/29/2019
Benzo(a)anthracene	0.010		ND						06/29/2019
Benzo(a)pyrene	0.010		ND						06/29/2019
Benzo(b)fluoranthene	0.010		ND						06/29/2019
Benzo(g,h,i)perylene	0.010		ND						06/29/2019
Benzo(k)fluoranthene	0.010		ND						06/29/2019
Chrysene	0.010		ND						06/29/2019
Dibenzo(a,h)anthracene	0.010		ND						06/29/2019
Fluoranthene	0.010		ND						06/29/2019
Fluorene	0.010		ND						06/29/2019
Indeno(1,2,3-cd)pyrene	0.010		ND						06/29/2019
Phenanthrene	0.010		ND						06/29/2019
Pyrene	0.010		ND						06/29/2019

Batch 154800 **SampType:** LCS Units mg/L

SampID: LCS-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Acenaphthene	0.010		**0.041**	0.05000	0	81.7	45.6	145	06/29/2019
Acenaphthylene	0.010		**0.045**	0.05000	0	90.9	51.2	171	06/29/2019
Anthracene	0.010		**0.043**	0.05000	0	85.7	43.7	152	06/29/2019
Benzo(a)anthracene	0.010		**0.042**	0.05000	0	83.1	49.3	152	06/29/2019
Benzo(a)pyrene	0.010		**0.043**	0.05000	0	86.0	48.4	162	06/29/2019
Benzo(b)fluoranthene	0.010		**0.040**	0.05000	0	79.4	45.7	165	06/29/2019
Benzo(g,h,i)perylene	0.010		**0.042**	0.05000	0	84.1	47.3	161	06/29/2019
Benzo(k)fluoranthene	0.010		**0.042**	0.05000	0	84.6	46.5	157	06/29/2019
Chrysene	0.010		**0.045**	0.05000	0	90.3	49.2	151	06/29/2019
Dibenzo(a,h)anthracene	0.010		**0.042**	0.05000	0	83.2	52	158	06/29/2019
Fluoranthene	0.010		**0.042**	0.05000	0	83.9	46.6	154	06/29/2019
Fluorene	0.010		**0.043**	0.05000	0	85.1	48.5	152	06/29/2019
Indeno(1,2,3-cd)pyrene	0.010		**0.043**	0.05000	0	85.8	48.5	154	06/29/2019
Phenanthrene	0.010		**0.042**	0.05000	0	84.4	40.4	160	06/29/2019
Pyrene	0.010		**0.042**	0.05000	0	84.1	47.7	157	06/29/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061853

Report Date: 01-Jul-2019

SW-846 3510C, 8270C SIMS, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154800 **SampType:** LCSD Units **mg/L** RPD Limit **40**

SampID: LCSD-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Acenaphthene	0.010		**0.040**	0.05000	0	80.9	0.04085	0.98	06/29/2019
Acenaphthylene	0.010		**0.046**	0.05000	0	92.7	0.04543	2.05	06/29/2019
Anthracene	0.010		**0.043**	0.05000	0	85.3	0.04286	0.44	06/29/2019
Benzo(a)anthracene	0.010		**0.041**	0.05000	0	82.1	0.04155	1.16	06/29/2019
Benzo(a)pyrene	0.010		**0.044**	0.05000	0	88.1	0.04300	2.44	06/29/2019
Benzo(b)fluoranthene	0.010		**0.041**	0.05000	0	81.4	0.03969	2.51	06/29/2019
Benzo(g,h,i)perylene	0.010		**0.043**	0.05000	0	85.5	0.04204	1.65	06/29/2019
Benzo(k)fluoranthene	0.010		**0.043**	0.05000	0	85.1	0.04232	0.59	06/29/2019
Chrysene	0.010		**0.046**	0.05000	0	93.0	0.04513	2.99	06/29/2019
Dibenzo(a,h)anthracene	0.010		**0.042**	0.05000	0	84.6	0.04161	1.60	06/29/2019
Fluoranthene	0.010		**0.042**	0.05000	0	84.6	0.04194	0.88	06/29/2019
Fluorene	0.010		**0.046**	0.05000	0	91.9	0.04254	7.69	06/29/2019
Indeno(1,2,3-cd)pyrene	0.010		**0.042**	0.05000	0	84.3	0.04289	1.79	06/29/2019
Phenanthrene	0.010		**0.043**	0.05000	0	86.0	0.04219	1.92	06/29/2019
Pyrene	0.010		**0.042**	0.05000	0	84.8	0.04207	0.78	06/29/2019

Client: AECOM **Work Order:** 19061853

Client Project: PreDesign Invest. PW **Report Date:** 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154800 **SampType:** MBLK Units mg/L

SampID: MBLK-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		ND						06/29/2019
2,4,6-Trichlorophenol	0.010		ND						06/29/2019
2,4-Dichlorophenol	0.010		ND						06/29/2019
2,4-Dimethylphenol	0.010		ND						06/29/2019
2,4-Dinitrophenol	0.020		ND						06/29/2019
2,4-Dinitrotoluene	0.010		ND						06/29/2019
2,6-Dinitrotoluene	0.010		ND						06/29/2019
2-Chloronaphthalene	0.010		ND						06/29/2019
2-Chlorophenol	0.010		ND						06/29/2019
2-Nitroaniline	0.040		ND						06/29/2019
2-Nitrophenol	0.020		ND						06/29/2019
3,3´-Dichlorobenzidine	0.010		ND						06/29/2019
3-Nitroaniline	0.040		ND						06/29/2019
4,6-Dinitro-2-methylphenol	0.020		ND						06/29/2019
4-Bromophenyl phenyl ether	0.010		ND						06/29/2019
4-Chloro-3-methylphenol	0.020		ND						06/29/2019
4-Chloroaniline	0.020		ND						06/29/2019
4-Chlorophenyl phenyl ether	0.010		ND						06/29/2019
4-Nitroaniline	0.020		ND						06/29/2019
4-Nitrophenol	0.020		ND						06/29/2019
Aniline	0.020		ND						06/29/2019
Azobenzene	0.010		ND						06/29/2019
Benzoic acid	0.050		ND						06/29/2019
Benzyl alcohol	0.020		ND						06/29/2019
Bis(2-chloroethoxy)methane	0.010		ND						06/29/2019
Bis(2-chloroethyl)ether	0.010		ND						06/29/2019
Bis(2-chloroisopropyl)ether	0.010		ND						06/29/2019
Bis(2-ethylhexyl)phthalate	0.006		ND						06/29/2019
Butyl benzyl phthalate	0.010		ND						06/29/2019
Dibenzofuran	0.010		ND						06/29/2019
Diethyl phthalate	0.010		ND						06/29/2019
Dimethyl phthalate	0.010		ND						06/29/2019
Di-n-butyl phthalate	0.010		ND						06/29/2019
Di-n-octyl phthalate	0.010		ND						06/29/2019
Hexachlorobenzene	0.010		ND						06/29/2019
Hexachlorocyclopentadiene	0.020		ND						06/29/2019
Hexachloroethane	0.010		ND						06/29/2019
Isophorone	0.010		ND						06/29/2019
m,p-Cresol	0.010		ND						06/29/2019
Nitrobenzene	0.010		ND						06/29/2019
N-Nitrosodimethylamine	0.020		ND						06/29/2019
N-Nitroso-di-n-propylamine	0.010		ND						06/29/2019
N-Nitrosodiphenylamine	0.010		ND						06/29/2019
o-Cresol	0.010		ND						06/29/2019
Pentachlorophenol	0.020		ND						06/29/2019
Phenol	0.005		ND						06/29/2019
Pyridine	0.020		ND						06/29/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154800 **SampType:** MBLK Units mg/L

SampID: MBLK-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Quinoline	0.005		ND						06/29/2019
Surr: 2,4,6-Tribromophenol			0.038	0.05000		76.3	52	118	06/29/2019
Surr: 2-Fluorobiphenyl			0.020	0.02500		78.6	42.2	104	06/29/2019
Surr: 2-Fluorophenol			0.030	0.05000		60.5	28.8	76.3	06/29/2019
Surr: Nitrobenzene-d5			0.018	0.02500		71.4	41.9	107	06/29/2019
Surr: Phenol-d5			0.020	0.05000		39.8	19.6	53.3	06/29/2019
Surr: p-Terphenyl-d14			0.022	0.02500		89.2	45.4	119	06/29/2019

Batch 154800 **SampType:** LCS Units mg/L

SampID: LCS-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
2,4,5-Trichlorophenol	0.010		0.042	0.05000	0	83.5	42.4	135	06/29/2019
2,4,6-Trichlorophenol	0.010		0.041	0.05000	0	81.2	40.9	131	06/29/2019
2,4-Dimethylphenol	0.010		0.038	0.05000	0	75.0	29.7	135	06/29/2019
2,4-Dinitrophenol	0.020		0.034	0.05000	0	67.2	30.5	115	06/29/2019
2,4-Dinitrotoluene	0.010		0.045	0.05000	0	89.7	45.8	165	06/29/2019
2-Chlorophenol	0.010		0.041	0.05000	0	81.7	33.8	122	06/29/2019
4-Chloro-3-methylphenol	0.020		0.041	0.05000	0	82.5	40.6	128	06/29/2019
4-Nitrophenol	0.020		0.021	0.05000	0	42.1	17.6	66.5	06/29/2019
Bis(2-ethylhexyl)phthalate	0.006		0.041	0.05000	0	81.5	32.6	166	06/29/2019
Diethyl phthalate	0.010		0.044	0.05000	0	87.2	47.2	157	06/29/2019
Dimethyl phthalate	0.010		0.044	0.05000	0	87.0	47.7	147	06/29/2019
Di-n-butyl phthalate	0.010		0.042	0.05000	0	83.4	38	169	06/29/2019
Hexachlorobenzene	0.010		0.040	0.05000	0	80.4	46	154	06/29/2019
Hexachloroethane	0.010		0.038	0.05000	0	75.9	22.8	127	06/29/2019
m,p-Cresol	0.010		0.037	0.05000	0	74.5	32.4	115	06/29/2019
Nitrobenzene	0.010		0.040	0.05000	0	80.0	33.5	136	06/29/2019
N-Nitroso-di-n-propylamine	0.010		0.041	0.05000	0	81.3	42.7	138	06/29/2019
o-Cresol	0.010		0.040	0.05000	0	79.4	33.7	119	06/29/2019
Pentachlorophenol	0.020		0.040	0.05000	0	80.6	32.8	126	06/29/2019
Phenol	0.005		0.021	0.05000	0	41.0	19.5	66.9	06/29/2019
Pyridine	0.020		0.028	0.05000	0	56.1	19	84.3	06/29/2019
Quinoline	0.005		0.045	0.05000	0	89.8	45.3	133	06/29/2019
Surr: 2,4,6-Tribromophenol			0.041	0.05000		81.8	52	118	06/29/2019
Surr: 2-Fluorobiphenyl			0.017	0.02500		69.9	42.2	104	06/29/2019
Surr: 2-Fluorophenol			0.029	0.05000		57.5	28.8	76.3	06/29/2019
Surr: Nitrobenzene-d5			0.021	0.02500		82.1	41.9	107	06/29/2019
Surr: Phenol-d5			0.020	0.05000		40.0	19.6	53.3	06/29/2019
Surr: p-Terphenyl-d14			0.022	0.02500		87.1	45.4	119	06/29/2019

Client: AECOM

Client Project: PreDesign Invest. PW

Work Order: 19061853

Report Date: 01-Jul-2019

SW-846 3510C, 8270C, SEMI-VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154800 **SampType:** LCSD Units mg/L RPD Limit 40

SampID: LCSD-154800

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
2,4,5-Trichlorophenol	0.010		**0.044**	0.05000	0	88.4	0.04173	5.70	06/29/2019
2,4,6-Trichlorophenol	0.010		**0.043**	0.05000	0	85.9	0.04061	5.60	06/29/2019
2,4-Dimethylphenol	0.010		**0.041**	0.05000	0	81.8	0.03750	8.67	06/29/2019
2,4-Dinitrophenol	0.020		**0.037**	0.05000	0	74.4	0.03360	10.17	06/29/2019
2,4-Dinitrotoluene	0.010		**0.046**	0.05000	0	92.8	0.04483	3.42	06/29/2019
2-Chlorophenol	0.010		**0.042**	0.05000	0	84.6	0.04086	3.51	06/29/2019
4-Chloro-3-methylphenol	0.020		**0.043**	0.05000	0	86.0	0.04127	4.06	06/29/2019
4-Nitrophenol	0.020		**0.021**	0.05000	0	42.6	0.02106	1.18	06/29/2019
Bis(2-ethylhexyl)phthalate	0.006		**0.042**	0.05000	0	84.1	0.04077	3.11	06/29/2019
Diethyl phthalate	0.010		**0.045**	0.05000	0	89.9	0.04360	3.09	06/29/2019
Dimethyl phthalate	0.010		**0.044**	0.05000	0	87.6	0.04350	0.71	06/29/2019
Di-n-butyl phthalate	0.010		**0.041**	0.05000	0	81.5	0.04170	2.33	06/29/2019
Hexachlorobenzene	0.010		**0.040**	0.05000	0	80.8	0.04022	0.45	06/29/2019
Hexachloroethane	0.010		**0.038**	0.05000	0	75.1	0.03796	1.11	06/29/2019
m,p-Cresol	0.010		**0.039**	0.05000	0	78.6	0.03724	5.33	06/29/2019
Nitrobenzene	0.010		**0.041**	0.05000	0	81.7	0.04002	2.00	06/29/2019
N-Nitroso-di-n-propylamine	0.010		**0.041**	0.05000	0	82.1	0.04063	1.05	06/29/2019
o-Cresol	0.010		**0.040**	0.05000	0	79.8	0.03968	0.53	06/29/2019
Pentachlorophenol	0.020		**0.042**	0.05000	0	83.6	0.04032	3.60	06/29/2019
Phenol	0.005		**0.021**	0.05000	0	42.7	0.02052	4.06	06/29/2019
Pyridine	0.020		**0.022**	0.05000	0	43.9	0.02806	24.44	06/29/2019
Quinoline	0.005		**0.048**	0.05000	0	95.0	0.04489	5.69	06/29/2019
Surr: 2,4,6-Tribromophenol			**0.041**	0.05000		82.2			06/29/2019
Surr: 2-Fluorobiphenyl			**0.017**	0.02500		69.6			06/29/2019
Surr: 2-Fluorophenol			**0.027**	0.05000		54.4			06/29/2019
Surr: Nitrobenzene-d5			**0.020**	0.02500		80.4			06/29/2019
Surr: Phenol-d5			**0.020**	0.05000		40.0			06/29/2019
Surr: p-Terphenyl-d14			**0.021**	0.02500		83.3			06/29/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154820 **SampType:** MBLK Units µg/L

SampID: MBLK-T190628A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		ND						06/28/2019
1,1,1-Trichloroethane	2.0		ND						06/28/2019
1,1,2,2-Tetrachloroethane	2.0		ND						06/28/2019
1,1,2-Trichloroethane	0.5		ND						06/28/2019
1,1-Dichloroethane	2.0		ND						06/28/2019
1,1-Dichloroethene	2.0		ND						06/28/2019
1,1-Dichloropropene	2.0		ND						06/28/2019
1,2,3-Trichlorobenzene	2.0		ND						06/28/2019
1,2,3-Trichloropropane	2.0		ND						06/28/2019
1,2,4-Trichlorobenzene	2.0		ND						06/28/2019
1,2,4-Trimethylbenzene	2.0		ND						06/28/2019
1,2-Dibromo-3-chloropropane	5.0		ND						06/28/2019
1,2-Dibromoethane	2.0		ND						06/28/2019
1,2-Dichlorobenzene	2.0		ND						06/28/2019
1,2-Dichloroethane	2.0		ND						06/28/2019
1,2-Dichloropropane	2.0		ND						06/28/2019
1,3,5-Trimethylbenzene	2.0		ND						06/28/2019
1,3-Dichlorobenzene	2.0		ND						06/28/2019
1,3-Dichloropropane	2.0		ND						06/28/2019
1,4-Dichlorobenzene	2.0		ND						06/28/2019
2,2-Dichloropropane	2.0		ND						06/28/2019
2-Butanone	10.0		ND						06/28/2019
2-Chloroethyl vinyl ether	5.0		ND						06/28/2019
2-Chlorotoluene	2.0		ND						06/28/2019
2-Hexanone	10.0		ND						06/28/2019
4-Chlorotoluene	2.0		ND						06/28/2019
4-Methyl-2-pentanone	10.0		ND						06/28/2019
Acetone	10.0		ND						06/28/2019
Acrolein	20.0		ND						06/28/2019
Acrylonitrile	5.0		ND						06/28/2019
Benzene	0.5		ND						06/28/2019
Bromobenzene	2.0		ND						06/28/2019
Bromochloromethane	2.0		ND						06/28/2019
Bromodichloromethane	2.0		ND						06/28/2019
Bromoform	2.0		ND						06/28/2019
Bromomethane	5.0		ND						06/28/2019
Carbon disulfide	2.0		ND						06/28/2019
Carbon tetrachloride	2.0		ND						06/28/2019
Chlorobenzene	2.0		ND						06/28/2019
Chloroethane	2.0		ND						06/28/2019
Chloroform	2.0		ND						06/28/2019
Chloromethane	5.0		ND						06/28/2019
cis-1,2-Dichloroethene	2.0		ND						06/28/2019
cis-1,3-Dichloropropene	2.0		ND						06/28/2019
Dibromochloromethane	2.0		ND						06/28/2019
Dichlorodifluoromethane	2.0		ND						06/28/2019
Ethyl methacrylate	5.0		ND						06/28/2019

Client: AECOM **Work Order:** 19061853

Client Project: PreDesign Invest. PW **Report Date:** 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154820 **SampType:** MBLK Units µg/L

SampID: MBLK-T190628A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		ND						06/28/2019
Hexachlorobutadiene	5.0		ND						06/28/2019
Isopropylbenzene	2.0		ND						06/28/2019
m,p-Xylenes	2.0		ND						06/28/2019
Methyl tert-butyl ether	2.0		ND						06/28/2019
Methylene chloride	10.0		ND						06/28/2019
Naphthalene	5.0		ND						06/28/2019
n-Butylbenzene	2.0		ND						06/28/2019
n-Propylbenzene	2.0		ND						06/28/2019
o-Xylene	2.0		ND						06/28/2019
p-Isopropyltoluene	2.0		ND						06/28/2019
sec-Butylbenzene	2.0		ND						06/28/2019
Styrene	2.0		ND						06/28/2019
tert-Butylbenzene	2.0		ND						06/28/2019
Tetrachloroethene	0.5		ND						06/28/2019
Toluene	2.0		ND						06/28/2019
trans-1,2-Dichloroethene	2.0		ND						06/28/2019
trans-1,3-Dichloropropene	2.0		ND						06/28/2019
Trichloroethene	2.0		ND						06/28/2019
Trichlorofluoromethane	5.0		ND						06/28/2019
Vinyl acetate	5.0		ND						06/28/2019
Vinyl chloride	2.0		ND						06/28/2019
Xylenes, Total	4.0		ND						06/28/2019
Surr: 1,2-Dichloroethane-d4			**46.7**	50.00		93.4	79.6	118	06/28/2019
Surr: 4-Bromofluorobenzene			**50.5**	50.00		100.9	83.9	115	06/28/2019
Surr: Dibromofluoromethane			**48.9**	50.00		97.9	84.9	113	06/28/2019
Surr: Toluene-d8			**49.4**	50.00		98.8	86.7	112	06/28/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154820 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190628A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**49.3**	50.00	0	98.7	47.68	3.40	06/28/2019
1,1,1-Trichloroethane	2.0		**49.3**	50.00	0	98.5	48.25	2.09	06/28/2019
1,1,2,2-Tetrachloroethane	2.0		**45.2**	50.00	0	90.4	45.82	1.36	06/28/2019
1,1,2-Trichloroethane	0.5		**47.2**	50.00	0	94.5	47.50	0.53	06/28/2019
1,1-Dichloroethane	2.0		**51.2**	50.00	0	102.4	49.65	3.07	06/28/2019
1,1-Dichloroethene	2.0		**46.9**	50.00	0	93.7	45.57	2.79	06/28/2019
1,1-Dichloropropene	2.0		**47.2**	50.00	0	94.3	45.60	3.34	06/28/2019
1,2,3-Trichlorobenzene	2.0		**48.6**	50.00	0	97.3	49.17	1.06	06/28/2019
1,2,3-Trichloropropane	2.0		**45.3**	50.00	0	90.7	46.68	2.93	06/28/2019
1,2,4-Trichlorobenzene	2.0		**48.9**	50.00	0	97.9	48.91	0.06	06/28/2019
1,2,4-Trimethylbenzene	2.0		**46.1**	50.00	0	92.3	46.17	0.09	06/28/2019
1,2-Dibromo-3-chloropropane	5.0		**46.1**	50.00	0	92.3	46.18	0.09	06/28/2019
1,2-Dibromoethane	2.0		**47.3**	50.00	0	94.5	47.34	0.15	06/28/2019
1,2-Dichlorobenzene	2.0		**45.2**	50.00	0	90.4	45.31	0.24	06/28/2019
1,2-Dichloroethane	2.0		**46.2**	50.00	0	92.5	46.44	0.43	06/28/2019
1,2-Dichloropropane	2.0		**48.0**	50.00	0	96.0	46.96	2.19	06/28/2019
1,3,5-Trimethylbenzene	2.0		**46.3**	50.00	0	92.5	45.32	2.05	06/28/2019
1,3-Dichlorobenzene	2.0		**47.8**	50.00	0	95.7	47.46	0.80	06/28/2019
1,3-Dichloropropane	2.0		**46.8**	50.00	0	93.6	46.06	1.64	06/28/2019
1,4-Dichlorobenzene	2.0		**46.0**	50.00	0	92.0	45.57	0.90	06/28/2019
2,2-Dichloropropane	2.0		**50.7**	50.00	0	101.4	49.34	2.74	06/28/2019
2-Butanone	10.0		**120**	125.0	0	96.4	122.2	1.44	06/28/2019
2-Chloroethyl vinyl ether	5.0		**49.1**	50.00	0	98.2	49.03	0.18	06/28/2019
2-Chlorotoluene	2.0		**44.9**	50.00	0	89.8	44.73	0.38	06/28/2019
2-Hexanone	10.0		**112**	125.0	0	89.2	113.3	1.59	06/28/2019
4-Chlorotoluene	2.0		**45.3**	50.00	0	90.5	45.19	0.18	06/28/2019
4-Methyl-2-pentanone	10.0		**117**	125.0	0	93.5	117.4	0.40	06/28/2019
Acetone	10.0		**108**	125.0	0	86.0	111.8	3.88	06/28/2019
Acrolein	20.0		**602**	500.0	0	120.4	607.0	0.82	06/28/2019
Acrylonitrile	5.0		**48.8**	50.00	0	97.7	49.29	0.90	06/28/2019
Benzene	0.5		**48.4**	50.00	0	96.8	46.94	3.08	06/28/2019
Bromobenzene	2.0		**48.0**	50.00	0	96.0	48.51	1.02	06/28/2019
Bromochloromethane	2.0		**44.5**	50.00	0	88.9	45.20	1.63	06/28/2019
Bromodichloromethane	2.0		**47.5**	50.00	0	95.1	47.13	0.87	06/28/2019
Bromoform	2.0		**50.4**	50.00	0	100.8	50.94	1.07	06/28/2019
Bromomethane	5.0		**57.9**	50.00	0	115.8	54.91	5.27	06/28/2019
Carbon disulfide	2.0		**43.9**	50.00	0	87.7	43.15	1.65	06/28/2019
Carbon tetrachloride	2.0		**46.4**	50.00	0	92.7	45.08	2.82	06/28/2019
Chlorobenzene	2.0		**47.0**	50.00	0	94.1	46.47	1.24	06/28/2019
Chloroethane	2.0		**46.7**	50.00	0	93.3	43.20	7.72	06/28/2019
Chloroform	2.0		**47.2**	50.00	0	94.5	46.26	2.12	06/28/2019
Chloromethane	5.0		**55.8**	50.00	0	111.6	53.76	3.71	06/28/2019
cis-1,2-Dichloroethene	2.0		**48.5**	50.00	0	97.0	48.08	0.87	06/28/2019
cis-1,3-Dichloropropene	2.0		**49.5**	50.00	0	99.1	49.68	0.28	06/28/2019
Dibromochloromethane	2.0		**49.3**	50.00	0	98.5	49.91	1.29	06/28/2019
Dichlorodifluoromethane	2.0		**38.3**	50.00	0	76.6	36.71	4.27	06/28/2019
Ethyl methacrylate	5.0		**48.0**	50.00	0	96.1	48.25	0.46	06/28/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154820 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-T190628A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	2.0		**46.9**	50.00	0	93.8	44.39	5.50	06/28/2019
Hexachlorobutadiene	5.0		**51.1**	50.00	0	102.2	49.12	3.99	06/28/2019
Isopropylbenzene	2.0		**46.6**	50.00	0	93.2	45.57	2.19	06/28/2019
m,p-Xylenes	2.0		**91.7**	100.0	0	91.7	90.32	1.51	06/28/2019
Methyl tert-butyl ether	2.0		**52.0**	50.00	0	104.1	50.92	2.19	06/28/2019
Methylene chloride	10.0		**43.7**	50.00	0	87.5	43.92	0.41	06/28/2019
Naphthalene	5.0		**47.0**	50.00	0	94.1	47.11	0.15	06/28/2019
n-Butylbenzene	2.0		**45.0**	50.00	0	90.0	45.06	0.13	06/28/2019
n-Propylbenzene	2.0		**45.2**	50.00	0	90.4	45.24	0.04	06/28/2019
o-Xylene	2.0		**45.0**	50.00	0	90.0	45.23	0.51	06/28/2019
p-Isopropyltoluene	2.0		**47.6**	50.00	0	95.2	46.67	1.95	06/28/2019
sec-Butylbenzene	2.0		**46.1**	50.00	0	92.2	46.31	0.50	06/28/2019
Styrene	2.0		**48.0**	50.00	0	96.1	47.70	0.71	06/28/2019
tert-Butylbenzene	2.0		**44.3**	50.00	0	88.7	44.34	0.02	06/28/2019
Tetrachloroethene	0.5		**48.3**	50.00	0	96.5	46.40	3.93	06/28/2019
Toluene	2.0		**45.2**	50.00	0	90.4	43.77	3.19	06/28/2019
trans-1,2-Dichloroethene	2.0		**51.0**	50.00	0	102.0	48.65	4.72	06/28/2019
trans-1,3-Dichloropropene	2.0		**48.5**	50.00	0	97.0	47.95	1.14	06/28/2019
Trichloroethene	2.0		**49.6**	50.00	0	99.3	47.27	4.91	06/28/2019
Trichlorofluoromethane	5.0		**46.2**	50.00	0	92.3	44.47	3.71	06/28/2019
Vinyl acetate	5.0		**53.7**	50.00	0	107.3	53.02	1.22	06/28/2019
Vinyl chloride	2.0		**45.3**	50.00	0	90.6	43.55	3.98	06/28/2019
Xylenes, Total	4.0		**137**	150.0	0	91.1	135.6	0.84	06/28/2019
Surr: 1,2-Dichloroethane-d4			**46.2**	50.00		92.5			06/28/2019
Surr: 4-Bromofluorobenzene			**47.4**	50.00		94.8			06/28/2019
Surr: Dibromofluoromethane			**49.9**	50.00		99.8			06/28/2019
Surr: Toluene-d8			**48.8**	50.00		97.6			06/28/2019

Client: AECOM

Work Order: 19061853

Client Project: PreDesign Invest. PW

Report Date: 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154820 **SampType:** LCS Units µg/L

SampID: LCS-T190628A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	2.0		**47.7**	50.00	0	95.4	83.4	118	06/28/2019
1,1,1-Trichloroethane	2.0		**48.2**	50.00	0	96.5	79.1	123	06/28/2019
1,1,2,2-Tetrachloroethane	2.0		**45.8**	50.00	0	91.6	70.7	121	06/28/2019
1,1,2-Trichloroethane	0.5		**47.5**	50.00	0	95.0	79.8	117	06/28/2019
1,1-Dichloroethane	2.0		**49.6**	50.00	0	99.3	75.1	122	06/28/2019
1,1-Dichloroethene	2.0		**45.6**	50.00	0	91.1	68.3	121	06/28/2019
1,1-Dichloropropene	2.0		**45.6**	50.00	0	91.2	76.7	122	06/28/2019
1,2,3-Trichlorobenzene	2.0		**49.2**	50.00	0	98.3	77.1	130	06/28/2019
1,2,3-Trichloropropane	2.0		**46.7**	50.00	0	93.4	70.6	114	06/28/2019
1,2,4-Trichlorobenzene	2.0		**48.9**	50.00	0	97.8	79.6	128	06/28/2019
1,2,4-Trimethylbenzene	2.0		**46.2**	50.00	0	92.3	78.9	117	06/28/2019
1,2-Dibromo-3-chloropropane	5.0		**46.2**	50.00	0	92.4	68.1	123	06/28/2019
1,2-Dibromoethane	2.0		**47.3**	50.00	0	94.7	82.9	114	06/28/2019
1,2-Dichlorobenzene	2.0		**45.3**	50.00	0	90.6	75.2	120	06/28/2019
1,2-Dichloroethane	2.0		**46.4**	50.00	0	92.9	76.9	117	06/28/2019
1,2-Dichloropropane	2.0		**47.0**	50.00	0	93.9	76.4	121	06/28/2019
1,3,5-Trimethylbenzene	2.0		**45.3**	50.00	0	90.6	79.8	118	06/28/2019
1,3-Dichlorobenzene	2.0		**47.5**	50.00	0	94.9	80.5	119	06/28/2019
1,3-Dichloropropane	2.0		**46.1**	50.00	0	92.1	77.5	113	06/28/2019
1,4-Dichlorobenzene	2.0		**45.6**	50.00	0	91.1	80.2	115	06/28/2019
2,2-Dichloropropane	2.0		**49.3**	50.00	0	98.7	62.4	151	06/28/2019
2-Butanone	10.0		**122**	125.0	0	97.8	65.7	120	06/28/2019
2-Chloroethyl vinyl ether	5.0		**49.0**	50.00	0	98.1	31.5	159	06/28/2019
2-Chlorotoluene	2.0		**44.7**	50.00	0	89.5	76	117	06/28/2019
2-Hexanone	10.0		**113**	125.0	0	90.7	65.1	121	06/28/2019
4-Chlorotoluene	2.0		**45.2**	50.00	0	90.4	77	117	06/28/2019
4-Methyl-2-pentanone	10.0		**117**	125.0	0	93.9	69.6	117	06/28/2019
Acetone	10.0		**112**	125.0	0	89.5	47.5	123	06/28/2019
Acrolein	20.0		**607**	500.0	0	121.4	27	164	06/28/2019
Acrylonitrile	5.0		**49.3**	50.00	0	98.6	74.8	127	06/28/2019
Benzene	0.5		**46.9**	50.00	0	93.9	75.8	121	06/28/2019
Bromobenzene	2.0		**48.5**	50.00	0	97.0	72.7	119	06/28/2019
Bromochloromethane	2.0		**45.2**	50.00	0	90.4	69	123	06/28/2019
Bromodichloromethane	2.0		**47.1**	50.00	0	94.3	80.8	128	06/28/2019
Bromoform	2.0		**50.9**	50.00	0	101.9	85.5	128	06/28/2019
Bromomethane	5.0		**54.9**	50.00	0	109.8	-36.7	277	06/28/2019
Carbon disulfide	2.0		**43.2**	50.00	0	86.3	64.9	133	06/28/2019
Carbon tetrachloride	2.0		**45.1**	50.00	0	90.2	79.5	129	06/28/2019
Chlorobenzene	2.0		**46.5**	50.00	0	92.9	82.1	113	06/28/2019
Chloroethane	2.0		**43.2**	50.00	0	86.4	43.9	138	06/28/2019
Chloroform	2.0		**46.3**	50.00	0	92.5	80.1	122	06/28/2019
Chloromethane	5.0		**53.8**	50.00	0	107.5	50.8	131	06/28/2019
cis-1,2-Dichloroethene	2.0		**48.1**	50.00	0	96.2	78.6	119	06/28/2019
cis-1,3-Dichloropropene	2.0		**49.7**	50.00	0	99.4	79	129	06/28/2019
Dibromochloromethane	2.0		**49.9**	50.00	0	99.8	88.1	123	06/28/2019
Dichlorodifluoromethane	2.0		**36.7**	50.00	0	73.4	35.7	155	06/28/2019
Ethyl methacrylate	5.0		**48.2**	50.00	0	96.5	80.6	123	06/28/2019

Client: AECOM **Work Order:** 19061853

Client Project: PreDesign Invest. PW **Report Date:** 01-Jul-2019

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 154820 **SampType:** LCS Units µg/L

SampID: LCS-T190628A-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	2.0		**44.4**	50.00	0	88.8	80.7	114	06/28/2019
Hexachlorobutadiene	5.0		**49.1**	50.00	0	98.2	68.2	141	06/28/2019
Isopropylbenzene	2.0		**45.6**	50.00	0	91.1	81.3	116	06/28/2019
m,p-Xylenes	2.0		**90.3**	100.0	0	90.3	80.5	113	06/28/2019
Methyl tert-butyl ether	2.0		**50.9**	50.00	0	101.8	79.5	121	06/28/2019
Methylene chloride	10.0		**43.9**	50.00	0	87.8	76.2	119	06/28/2019
Naphthalene	5.0		**47.1**	50.00	0	94.2	76.1	129	06/28/2019
n-Butylbenzene	2.0		**45.1**	50.00	0	90.1	71.6	122	06/28/2019
n-Propylbenzene	2.0		**45.2**	50.00	0	90.5	76	120	06/28/2019
o-Xylene	2.0		**45.2**	50.00	0	90.5	79.7	112	06/28/2019
p-Isopropyltoluene	2.0		**46.7**	50.00	0	93.3	76.2	122	06/28/2019
sec-Butylbenzene	2.0		**46.3**	50.00	0	92.6	76.6	119	06/28/2019
Styrene	2.0		**47.7**	50.00	0	95.4	82.8	116	06/28/2019
tert-Butylbenzene	2.0		**44.3**	50.00	0	88.7	74.7	117	06/28/2019
Tetrachloroethene	0.5		**46.4**	50.00	0	92.8	80.6	122	06/28/2019
Toluene	2.0		**43.8**	50.00	0	87.5	78.3	112	06/28/2019
trans-1,2-Dichloroethene	2.0		**48.6**	50.00	0	97.3	73.5	124	06/28/2019
trans-1,3-Dichloropropene	2.0		**48.0**	50.00	0	95.9	83.4	124	06/28/2019
Trichloroethene	2.0		**47.3**	50.00	0	94.5	74.3	125	06/28/2019
Trichlorofluoromethane	5.0		**44.5**	50.00	0	88.9	71.5	136	06/28/2019
Vinyl acetate	5.0		**53.0**	50.00	0	106.0	65.9	136	06/28/2019
Vinyl chloride	2.0		**43.6**	50.00	0	87.1	55.8	135	06/28/2019
Xylenes, Total	4.0		**136**	150.0	0	90.4	80.2	113	06/28/2019
Surr: 1,2-Dichloroethane-d4			**46.2**	50.00		92.5	79.6	118	06/28/2019
Surr: 4-Bromofluorobenzene			**48.7**	50.00		97.4	83.9	115	06/28/2019
Surr: Dibromofluoromethane			**50.1**	50.00		100.2	84.9	113	06/28/2019
Surr: Toluene-d8			**48.1**	50.00		96.2	86.7	112	06/28/2019

Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA035.D
Acq On : 29 Jun 2019 12:53 pm
Operator : DH
Sample : 19061853-005A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

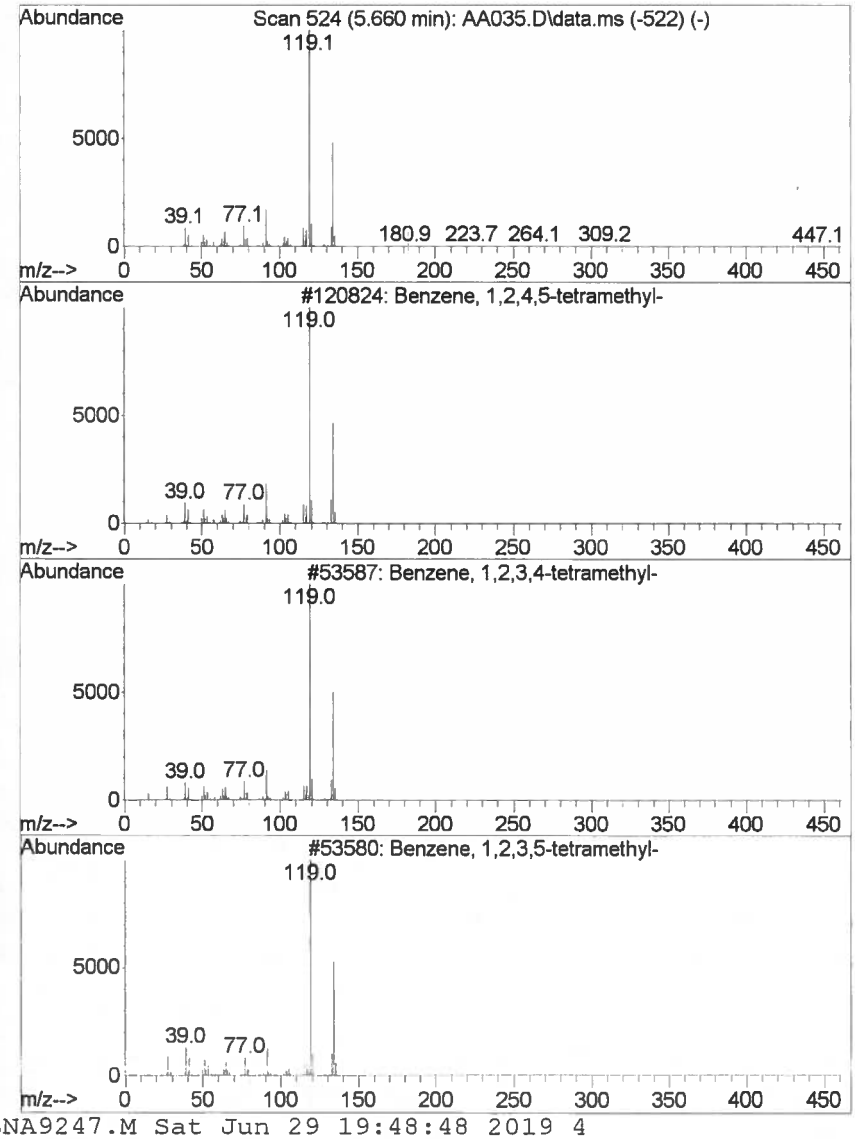
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

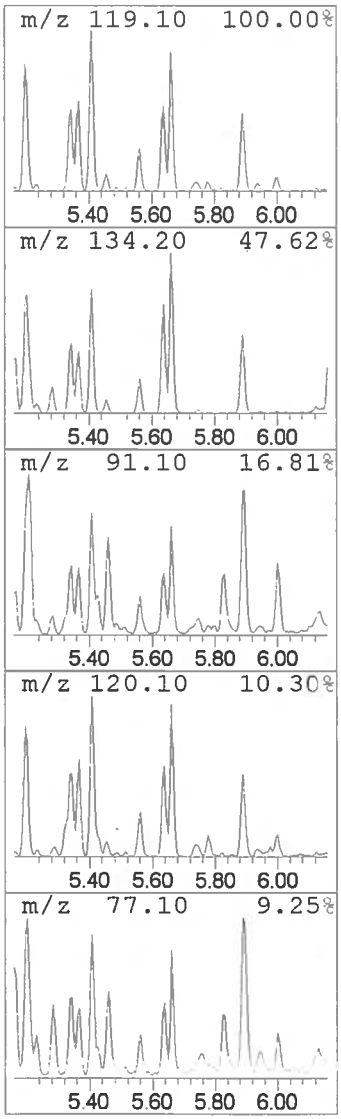
****

Peak Number 7 Benzene, 1,2,4,5-tetramethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.660	11.75 ug/ml	1209610	Naphthalene-d8	6.166

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,2,4,5-tetramethyl-	134	C10H14	000095-93-2	97
2	Benzene, 1,2,3,4-tetramethyl-	134	C10H14	000488-23-3	95
3	Benzene, 1,2,3,5-tetramethyl-	134	C10H14	000527-53-7	95
4	Benzene, 1-ethyl-2,4-dimethyl-	134	C10H14	000874-41-9	94
5	Benzene, 1-methyl-2-(1-methyleth...	134	C10H14	000527-84-4	94





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA035.D
Acq On : 29 Jun 2019 12:53 pm
Operator : DH
Sample : 19061853-005A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

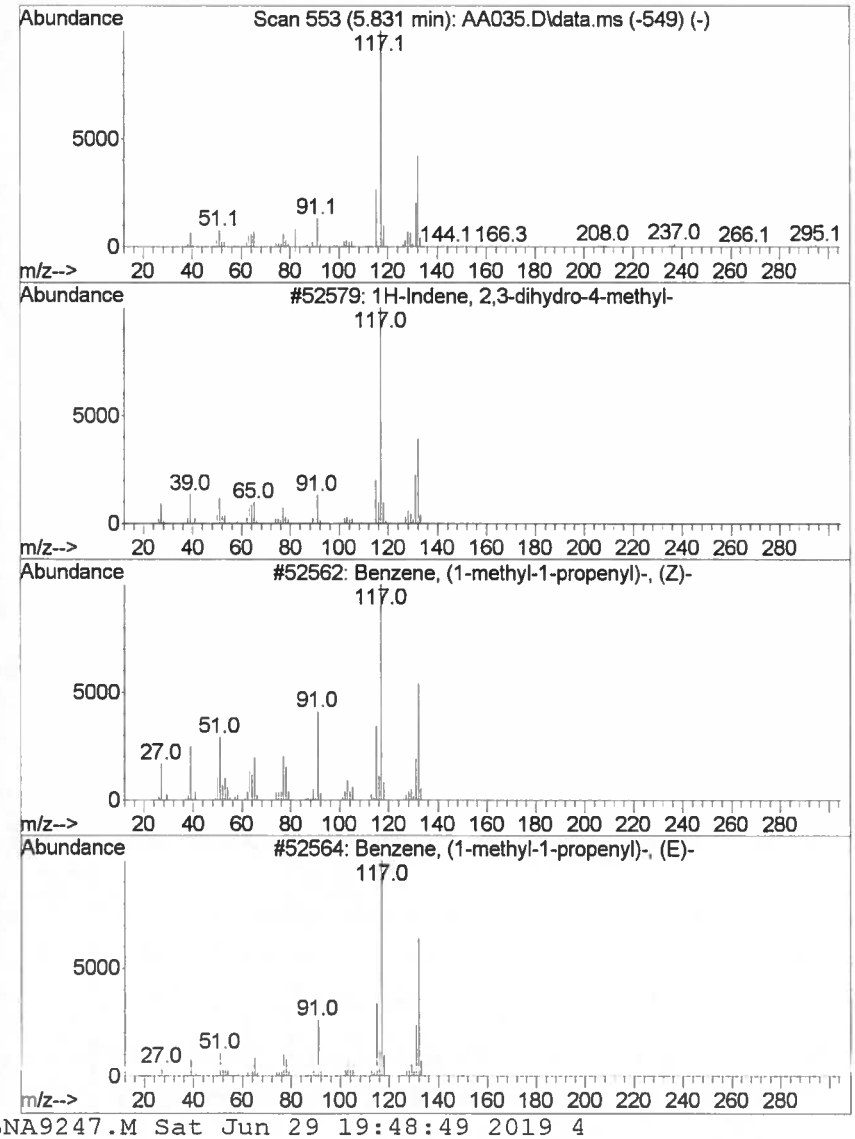
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

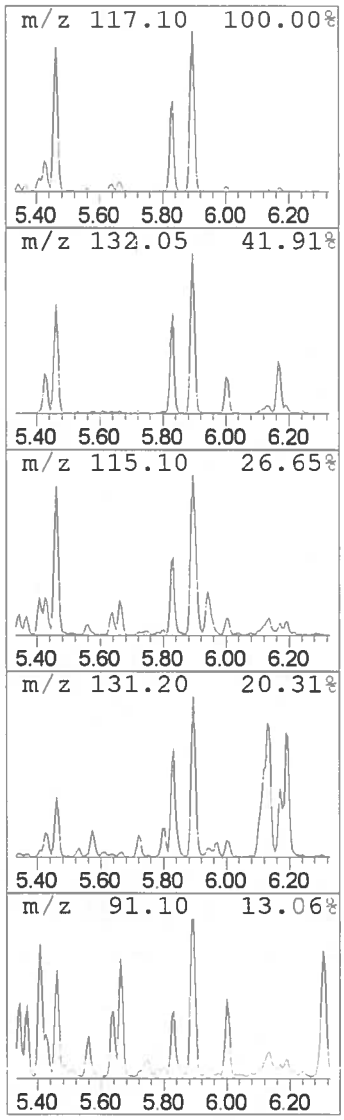
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 8 1H-Indene, 2,3-dihydro-4-me... Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.831	12.45 ug/ml	1281670	Naphthalene-d8	6.166

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1H-Indene, 2,3-dihydro-4-methyl-	132	C10H12	000824-22-6	91
2	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000767-99-7	91
3	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000768-00-3	90
4	1H-Indene, 2,3-dihydro-5-methyl-	132	C10H12	000874-35-1	90
5	Benzene, 2-butenyl-	132	C10H12	001560-06-1	87





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA035.D
Acq On : 29 Jun 2019 12:53 pm
Operator : DH
Sample : 19061853-005A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

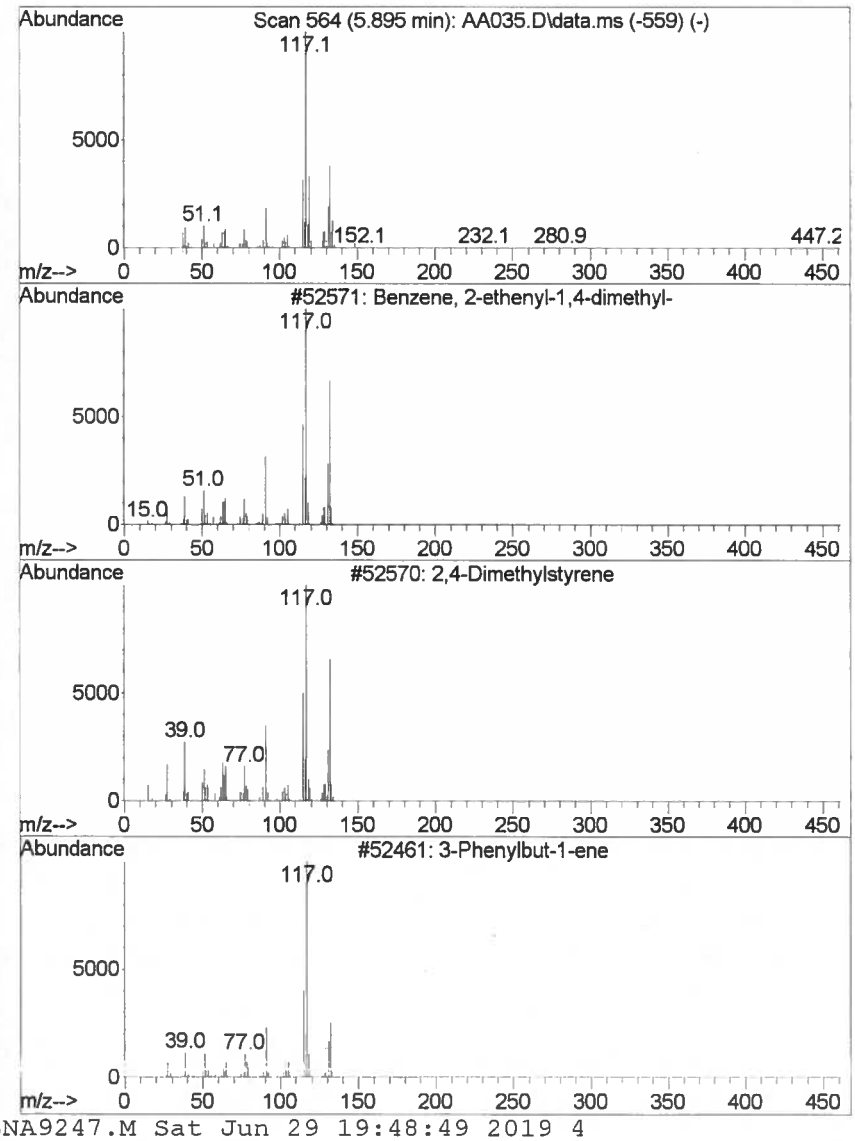
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

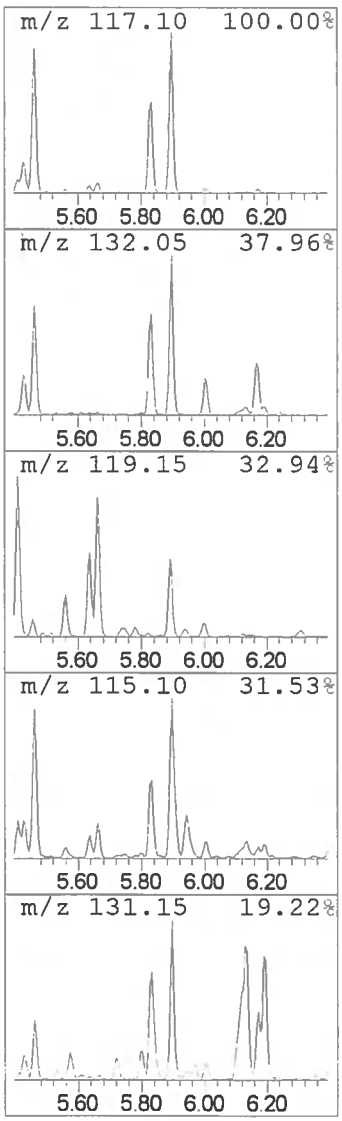
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 9 Benzene, 2-ethenyl-1,4-dime... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.895	30.84 ug/ml	3174890	Naphthalene-d8	6.166

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 2-ethenyl-1,4-dimethyl-	132	C10H12	002039-89-6	95
2	2,4-Dimethylstyrene	132	C10H12	002234-20-0	90
3	3-Phenylbut-1-ene	132	C10H12	000934-10-1	81
4	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000768-00-3	81
5	1H-Indene, 2,3-dihydro-4-methyl-	132	C10H12	000824-22-6	76





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA035.D
Acq On : 29 Jun 2019 12:53 pm
Operator : DH
Sample : 19061853-005A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

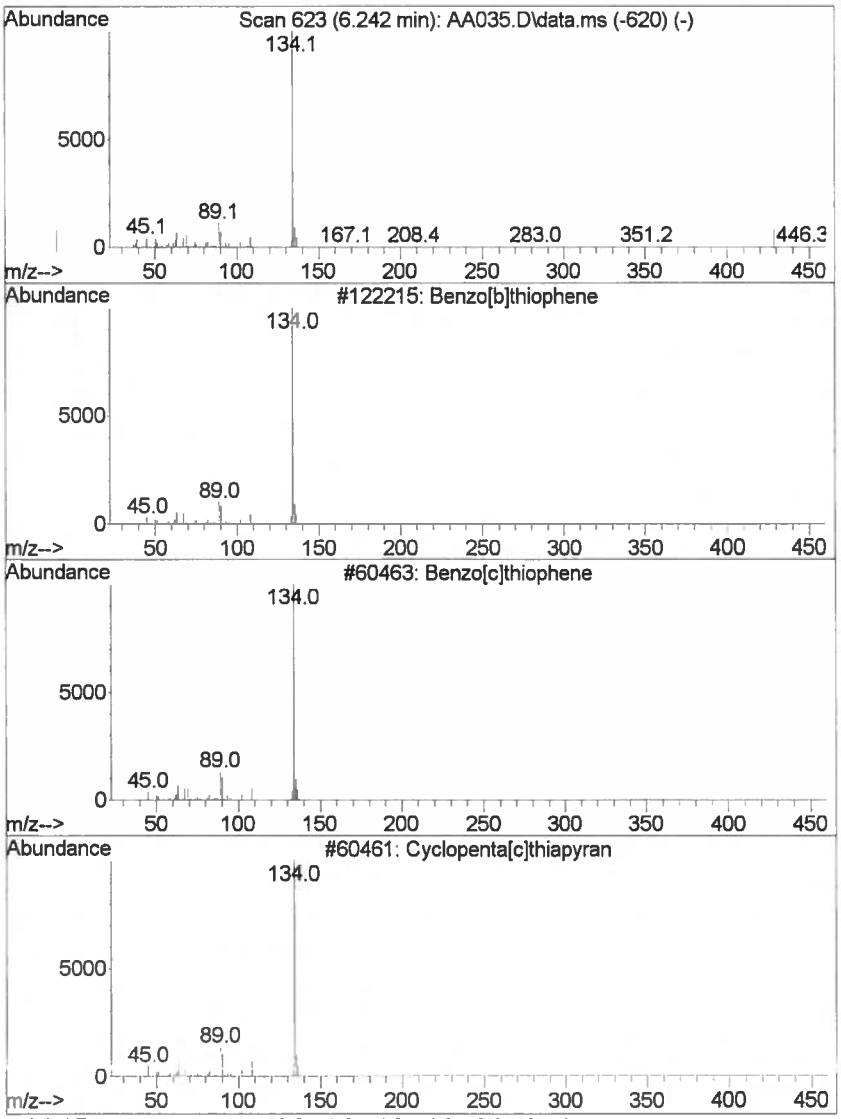
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

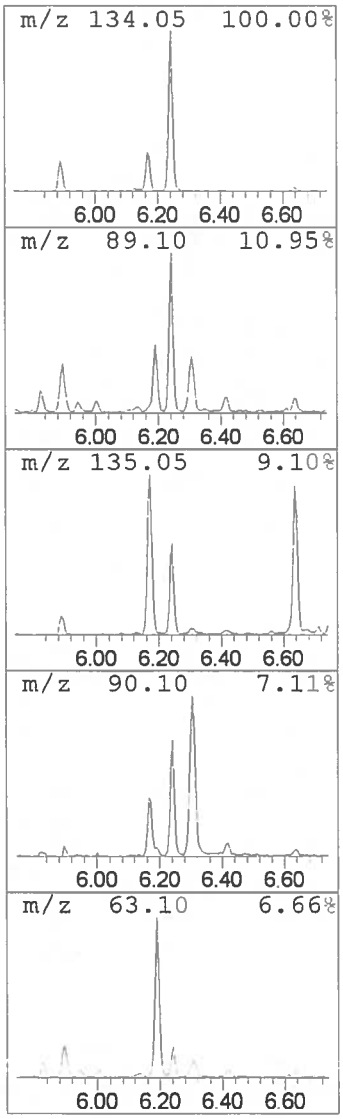
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 10 Benzo[b]thiophene Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.242	12.92 ug/ml	1329690	Naphthalene-d8*	6.166

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzo[b]thiophene	134	C8H6S	000095-15-8	95
2	Benzo[c]thiophene	134	C8H6S	000270-82-6	94
3	Cyclopenta[c]thiapyran	134	C8H6S	000270-63-3	91
4	Cyclopenta[b]thiapyran	134	C8H6S	000271-17-0	47
5	1H-Purine, 6-methyl-	134	C6H6N4	002004-03-7	45





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA035.D
Acq On : 29 Jun 2019 12:53 pm
Operator : DH
Sample : 19061853-005A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Toluene	3.075	257.6	ug/ml	18604300	1	4.944	2889060	40.0
p-Xylene	3.845	1086.4	ug/ml	78469500	1	4.944	2889060	40.0
Benzene, 1,3-di...	4.027	342.1	ug/ml	24708500	1	4.944	2889060	40.0
Benzene, (1-met...	4.244	16.2	ug/ml	1169930	1	4.944	2889060	40.0
Benzene, 1-ethy...	4.662	65.5	ug/ml	4731490	1	4.944	2889060	40.0
Benzene, 2-ethy...	5.343	14.6	ug/ml	1054060	2	4.944	2889060	40.0
Benzene, 1,2,4,...	5.660	11.8	ug/ml	1209610	3	6.166	4117560	40.0
1H-Indene, 2,3-...	5.831	12.5	ug/ml	1281670	3	6.166	4117560	40.0
Benzene, 2-ethe...	5.895	30.8	ug/ml	3174890	3	6.166	4117560	40.0
Benzo[b]thiophene	6.242	12.9	ug/ml	1329690	4	6.166	4117560	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

Signal : TIC: AA036.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.793	26	36	42	rVB5	124737	249732	3.84%	0.453%
2	2.940	55	61	65	rVB3	70210	96347	1.48%	0.175%
3	3.010	65	73	79	rVB2	176128	302588	4.65%	0.549%
4	3.063	79	82	87	rBV2	202322	281552	4.32%	0.511%
5	3.181	98	102	107	rVB4	64996	98011	1.51%	0.178%
6	3.251	111	114	120	rVB	277615	328126	5.04%	0.595%
7	3.339	126	129	133	rBV3	90934	98152	1.51%	0.178%
8	3.469	146	151	153	rBV2	65281	83523	1.28%	0.151%
9	3.516	156	159	163	rVV	103887	133195	2.05%	0.242%
10	3.598	167	173	174	rVV3	60527	102763	1.58%	0.186%
11	3.615	174	176	182	rVB6	65929	114365	1.76%	0.207%
12	3.733	192	196	200	rVB4	204141	290399	4.46%	0.527%
13	3.786	200	205	210	rVB2	1451909	1854837	28.49%	3.364%
14	3.839	210	214	220	rBV	679451	961306	14.77%	1.744%
15	3.997	237	241	243	rBV	272753	261944	4.02%	0.475%
16	4.027	243	246	251	rVB2	109119	127454	1.96%	0.231%
17	4.121	258	262	266	rBV4	47164	79458	1.22%	0.144%
18	4.174	269	271	275	rVB3	64332	73266	1.13%	0.133%
19	4.250	281	284	287	rBV2	141983	175608	2.70%	0.319%
20	4.315	293	295	299	rVB4	99734	103096	1.58%	0.187%
21	4.403	305	310	314	rBV5	83863	125528	1.93%	0.228%
22	4.450	314	318	319	rVV2	132560	134682	2.07%	0.244%
23	4.473	319	322	325	rVV	459961	430473	6.61%	0.781%
24	4.514	325	329	333	rVV	975708	1144908	17.59%	2.077%
25	4.544	333	334	337	rVV	355784	326625	5.02%	0.592%
26	4.579	337	340	344	rVB	372924	359116	5.52%	0.651%
27	4.661	351	354	357	rBV	292193	287297	4.41%	0.521%
28	4.732	363	366	369	rBV	170556	133297	2.05%	0.242%
29	4.773	369	373	378	rVB	1292304	1195967	18.37%	2.169%
30	4.890	385	393	397	rBV2	143397	242900	3.73%	0.441%
31	4.943	397	402	406	rVV	2928153	2927880	44.97%	5.311%
32	4.984	406	409	413	rVV	327208	335181	5.15%	0.608%
33	5.055	417	421	425	rBV4	71278	85046	1.31%	0.154%
34	5.114	428	431	434	rBV	241761	274825	4.22%	0.498%
35	5.161	437	439	441	rVV2	144990	135612	2.08%	0.246%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

36	5.202	441	446	449	rVV3	395808	503207	7.73%	0.913%
37	5.231	449	451	456	rVB3	116381	114738	1.76%	0.208%
38	5.284	456	460	464	rBV	91148	103069	1.58%	0.187%
39	5.337	464	469	472	rBV	153350	201022	3.09%	0.365%
40	5.366	472	474	478	rVB	128649	111730	1.72%	0.203%
41	5.407	478	481	483	rBV	418633	436454	6.70%	0.792%
42	5.449	485	488	493	rVB2	893756	1024527	15.74%	1.858%
43	5.537	500	503	505	rVB	100635	82460	1.27%	0.150%
44	5.637	517	520	522	rBV	205458	199700	3.07%	0.362%
45	5.660	522	524	528	rVB	299429	246190	3.78%	0.447%
46	5.748	533	539	542	rVV8	103667	169454	2.60%	0.307%
47	5.778	542	544	546	rVV	86386	87727	1.35%	0.159%
48	5.831	549	553	555	rVV3	183144	274611	4.22%	0.498%
49	5.895	559	564	569	rVB2	447955	544181	8.36%	0.987%
50	5.948	569	573	579	rBV4	93589	139521	2.14%	0.253%
51	6.001	579	582	588	rVB	139824	151619	2.33%	0.275%
52	6.077	591	595	598	rVB	241691	224263	3.44%	0.407%
53	6.136	598	605	606	rBV3	191417	286574	4.40%	0.520%
54	6.165	606	610	614	rVV	4025739	4125796	63.37%	7.483%
55	6.212	616	618	622	rVB	245125	238690	3.67%	0.433%
56	6.301	627	633	636	rBV4	36164	74528	1.14%	0.135%
57	6.406	646	651	655	rBV6	89334	182250	2.80%	0.331%
58	6.465	659	661	666	rVV3	67043	76398	1.17%	0.139%
59	6.518	666	670	675	rVB4	152623	215491	3.31%	0.391%
60	6.682	695	698	701	rBV	214674	178922	2.75%	0.325%
61	6.835	718	724	727	rVB4	86600	121620	1.87%	0.221%
62	6.870	727	730	737	rBV	236549	265929	4.08%	0.482%
63	6.929	737	740	743	rBV	102170	102042	1.57%	0.185%
64	6.976	744	748	752	rVV4	154393	193339	2.97%	0.351%
65	7.088	764	767	770	rBV4	69541	82755	1.27%	0.150%
66	7.217	785	789	793	rBV	2149685	1927305	29.60%	3.496%
67	7.252	793	795	798	rBV	90059	101900	1.57%	0.185%
68	7.341	806	810	813	rVB5	62210	79896	1.23%	0.145%
69	7.393	813	819	822	rBV4	74777	123234	1.89%	0.224%
70	7.435	823	826	830	rVB4	72837	75732	1.16%	0.137%
71	7.499	833	837	841	rBV6	88165	165450	2.54%	0.300%
72	7.581	847	851	853	rBV4	107752	142146	2.18%	0.258%
73	7.605	853	855	858	rVB2	67557	68562	1.05%	0.124%
74	7.940	907	912	916	rBV	4773188	4830316	74.20%	8.761%
75	8.022	921	926	930	rBV8	45668	89648	1.38%	0.163%

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

76	8.239	960	963	966	rBV2	133390	139508	2.14%	0.253%
77	8.733	1043	1047	1052	rBV	2055481	2005919	30.81%	3.638%
78	8.786	1054	1056	1061	rVB5	66270	66444	1.02%	0.121%
79	9.462	1167	1171	1175	rBV	6124360	5640676	86.64%	10.231%
80	9.896	1242	1245	1250	rBV2	127914	152491	2.34%	0.277%
81	10.795	1395	1398	1405	rVB8	58677	78924	1.21%	0.143%
82	11.236	1468	1473	1479	rVB	1748224	2099028	32.24%	3.807%
83	13.016	1768	1776	1786	rBV	3971618	6510173	100.00%	11.808%
84	14.344	1999	2002	2010	rVB6	60275	115368	1.77%	0.209%
85	16.119	2294	2304	2315	rBV2	2696162	6006929	92.27%	10.895%

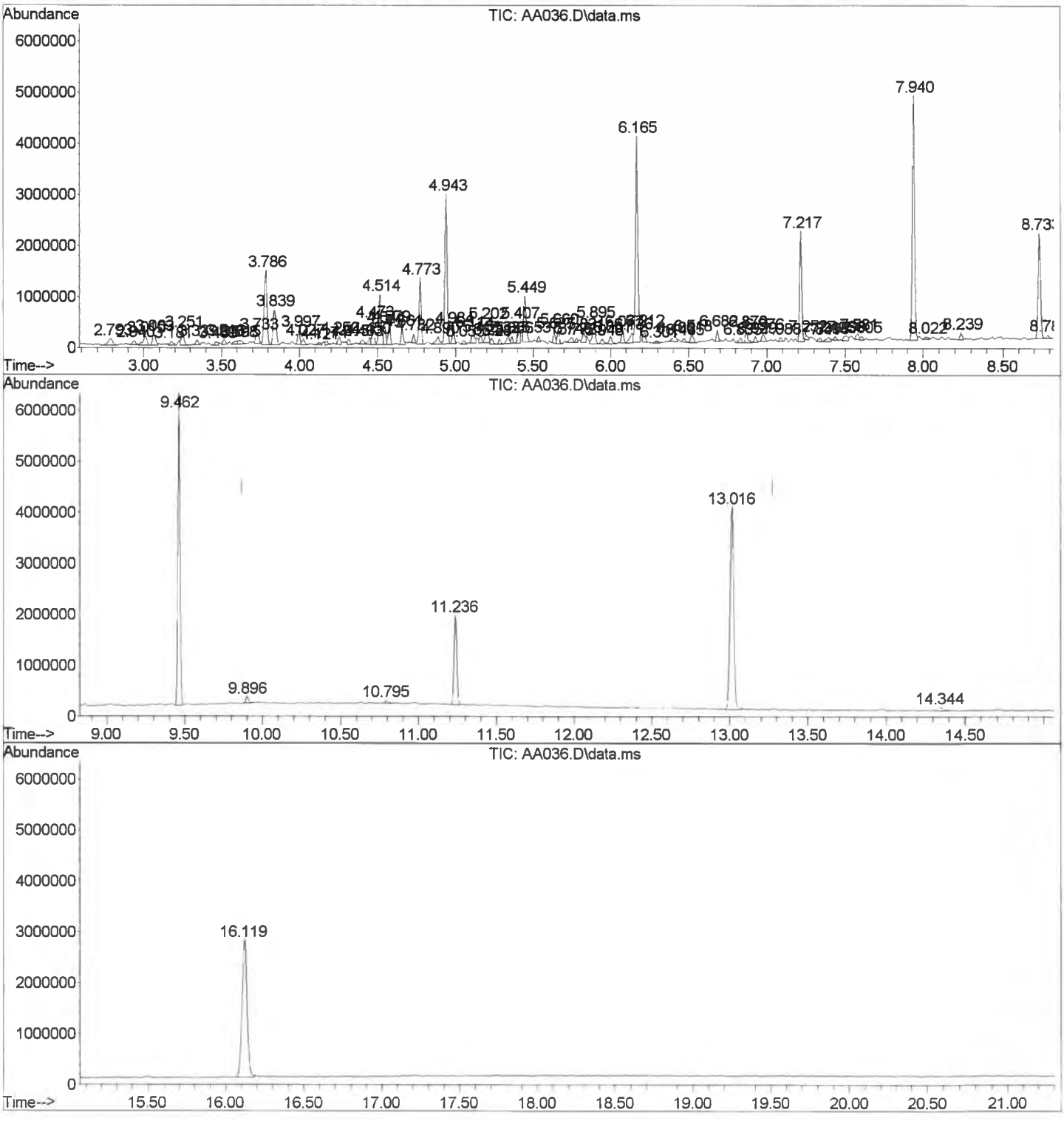
Sum of corrected areas: 55133515

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

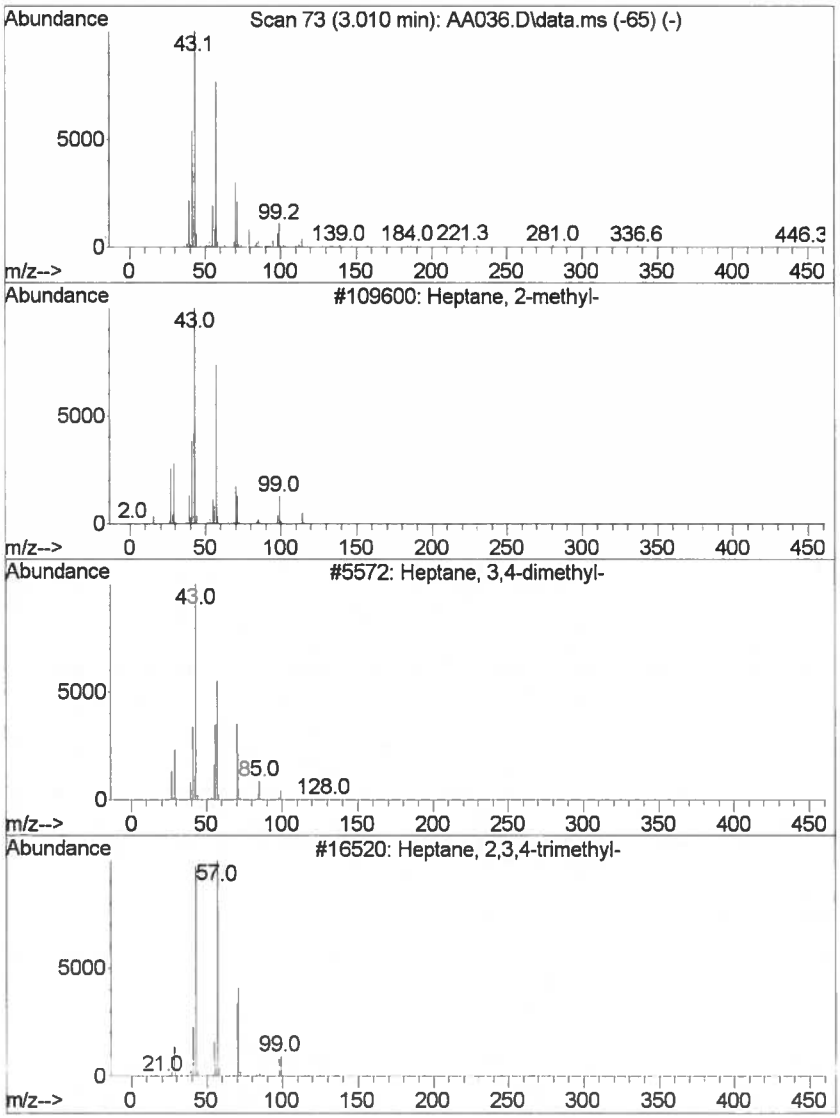
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

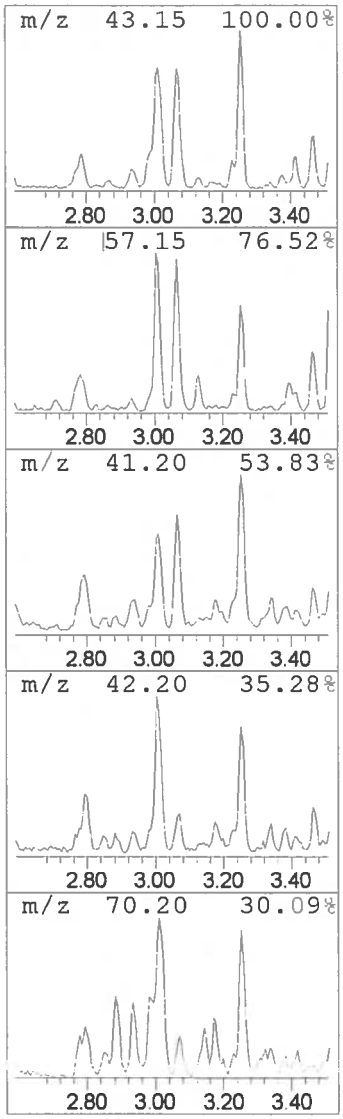
****

Peak Number 1 Heptane, 2-methyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.010	4.13 ug/ml	302588	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptane, 2-methyl-	114	C8H18	000592-27-8	64
2	Heptane, 3,4-dimethyl-	128	C9H20	000922-28-1	53
3	Heptane, 2,3,4-trimethyl-	142	C10H22	052896-95-4	53
4	Hexane, 2,5-dimethyl-	114	C8H18	000592-13-2	50
5	Pyrrolidine	71	C4H9N	000123-75-1	49





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

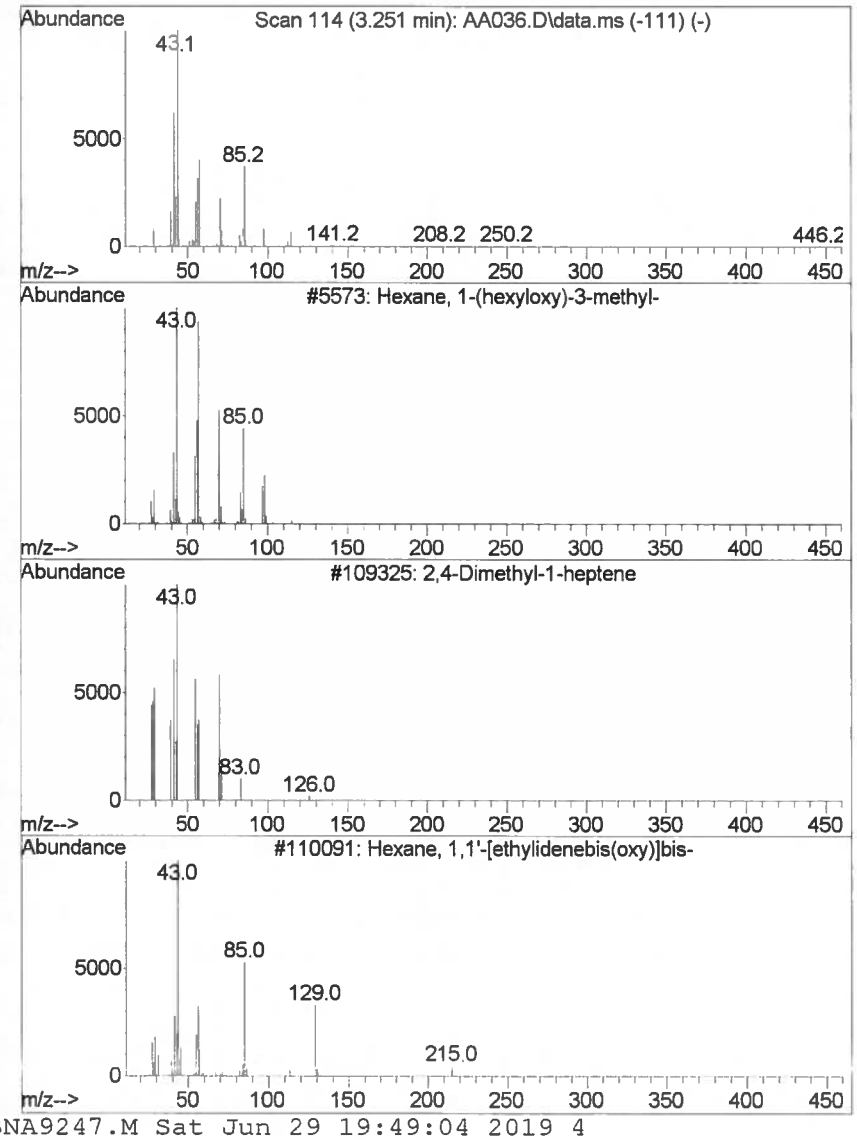
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

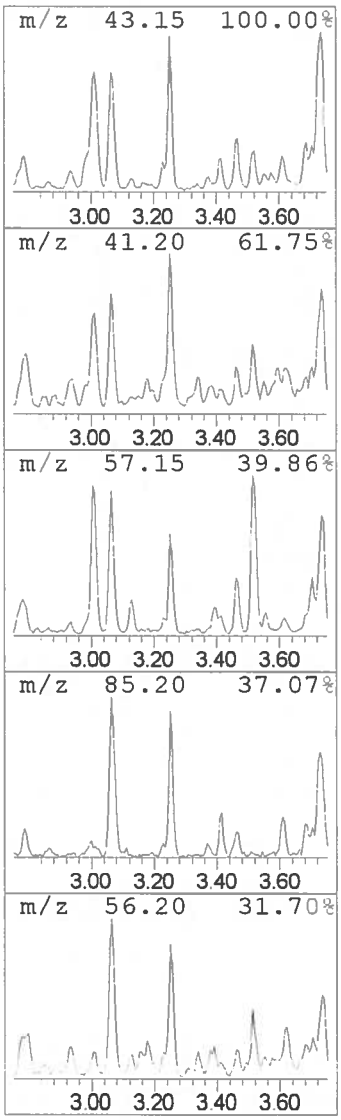
****

Peak Number 2 Hexane, 1-(hexyloxy)-3-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.251	4.48 ug/ml	328126	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 1-(hexyloxy)-3-methyl-	200	C13H28O	074421-18-4	59
2	2,4-Dimethyl-1-heptene	126	C9H18	019549-87-2	59
3	Hexane, 1,1'-[ethylidenebis(oxy)...	230	C14H30O2	005405-58-3	59
4	Decane, 5,6-dimethyl-	170	C12H26	001636-43-7	53
5	Octane	114	C8H18	000111-65-9	50





Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

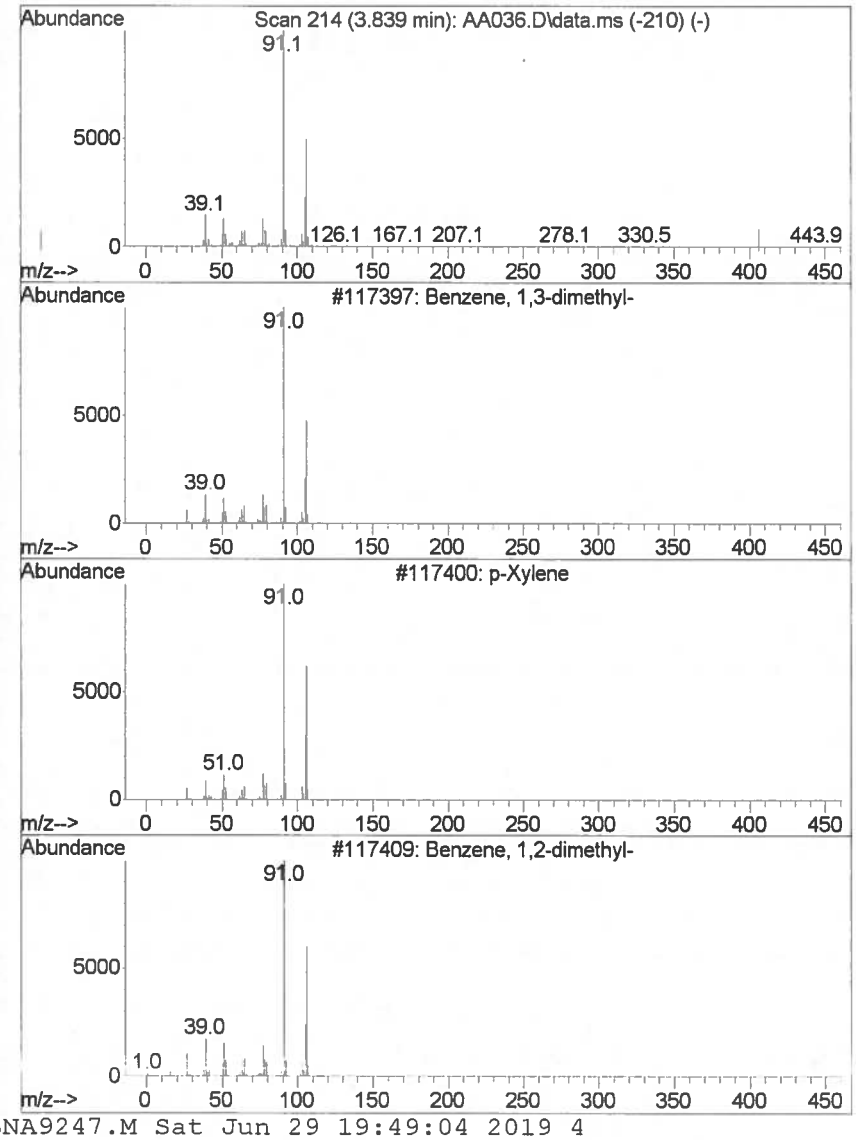
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

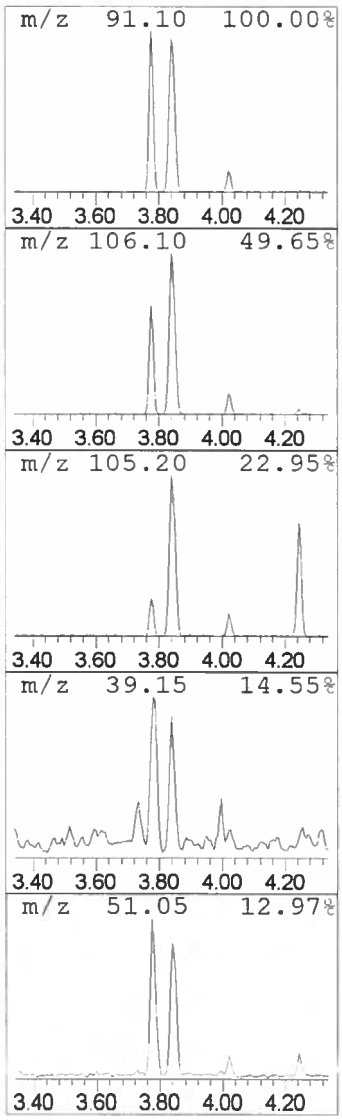
****

Peak Number 3 Benzene, 1,3-dimethyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.839	13.13 ug/ml	961306	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,3-dimethyl-	106	C8H10	000108-38-3	97
2	p-Xylene	106	C8H10	000106-42-3	97
3	Benzene, 1,2-dimethyl-	106	C8H10	000095-47-6	95
4	1,3-Cyclopentadiene, 5-(1-methyl...	106	C8H10	002175-91-9	90
5	Ethylbenzene	106	C8H10	000100-41-4	87





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

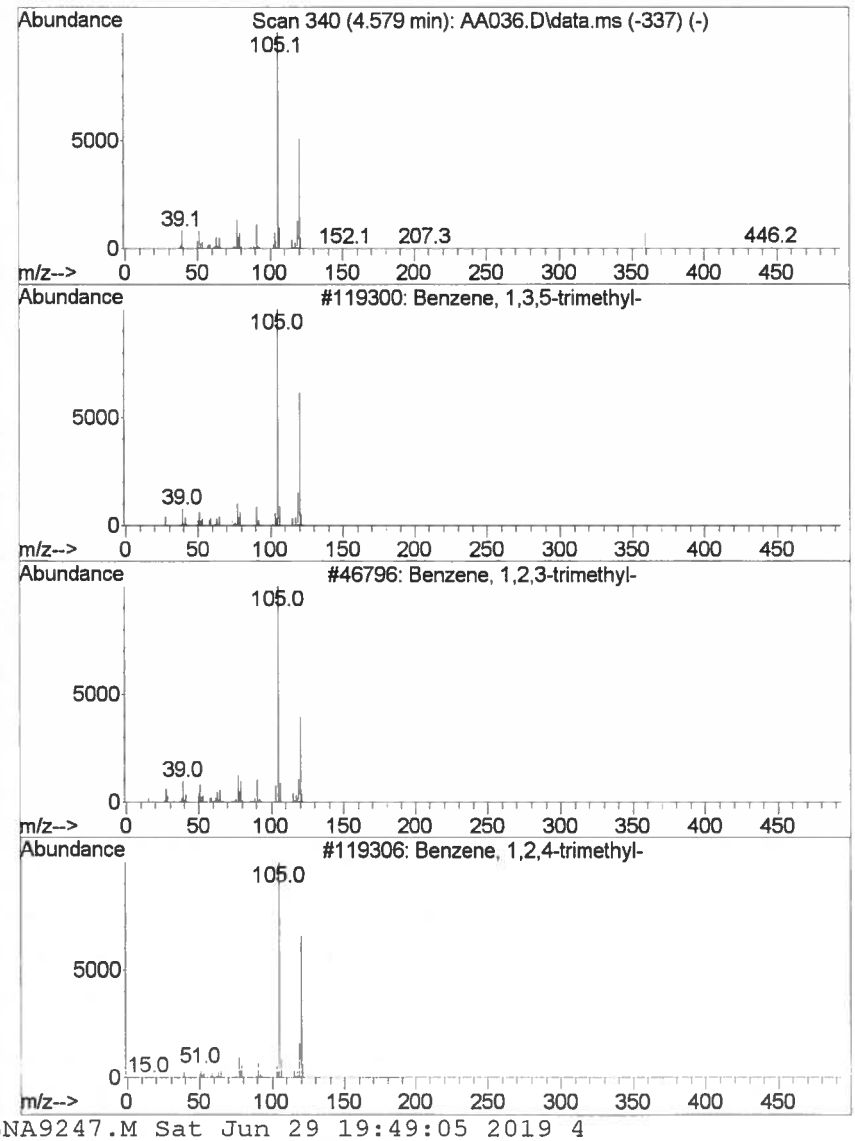
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

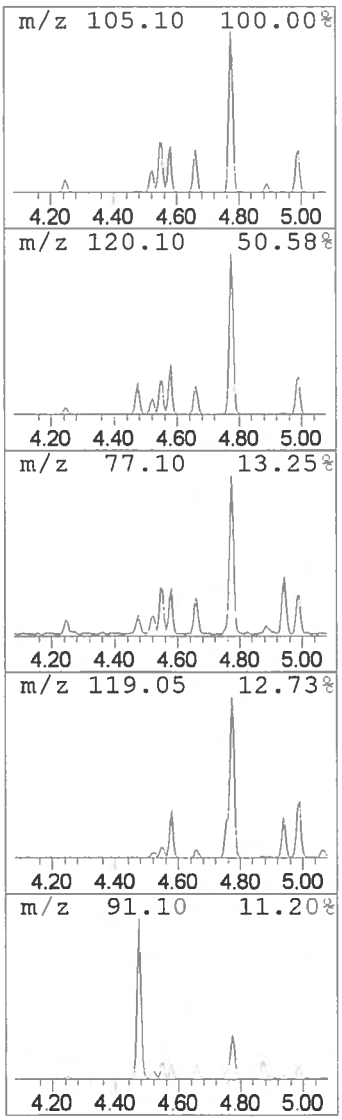
****

Peak Number 4 Benzene, 1,3,5-trimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.579	4.91 ug/ml	359116	1,4-Dichlorobenzene-d4	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,3,5-trimethyl-	120	C9H12	000108-67-8	95
2	Benzene, 1,2,3-trimethyl-	120	C9H12	000526-73-8	94
3	Benzene, 1,2,4-trimethyl-	120	C9H12	000095-63-6	91
4	Benzene, 1-ethyl-2-methyl-	120	C9H12	000611-14-3	90
5	Benzene, 1-ethyl-3-methyl-	120	C9H12	000620-14-4	90





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

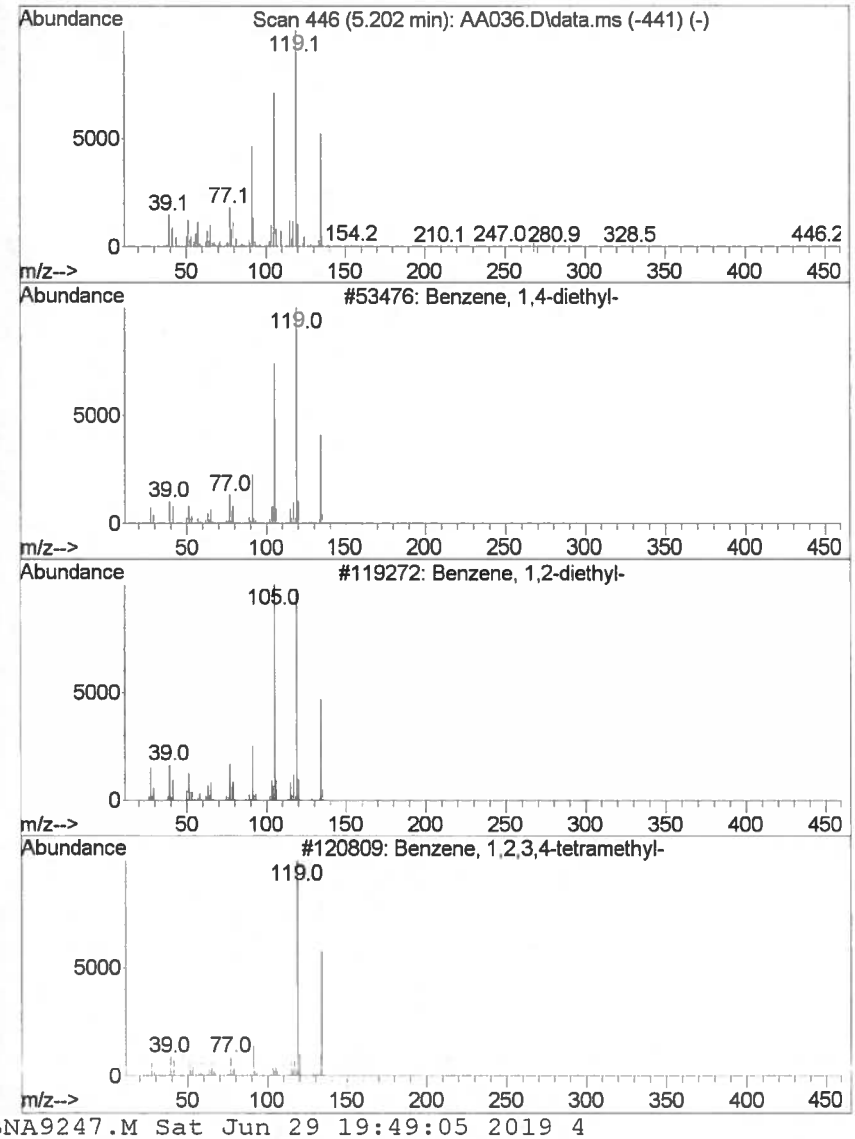
Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

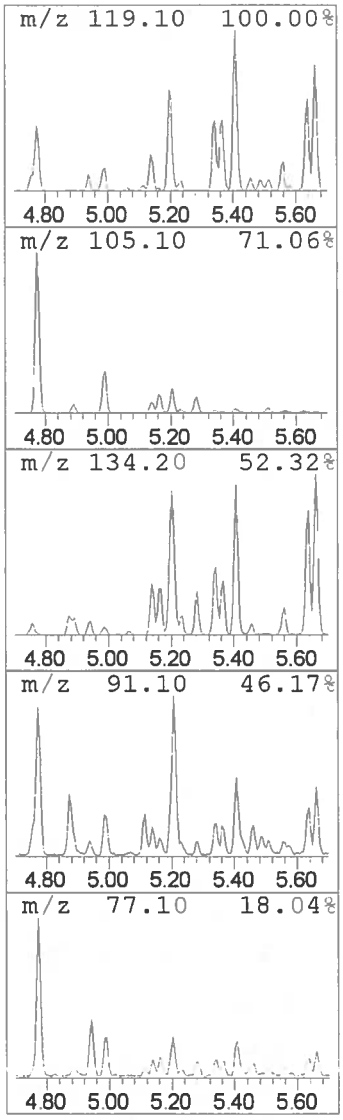
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 5 Benzene, 1,4-diethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.202	6.87 ug/ml	503207	1,4-Dichlorobenzene-d4*	4.943

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-diethyl-	134	C10H14	000105-05-5	93
2	Benzene, 1,2-diethyl-	134	C10H14	000135-01-3	93
3	Benzene, 1,2,3,4-tetramethyl-	134	C10H14	000488-23-3	91
4	Benzene, 1-ethyl-2,3-dimethyl-	134	C10H14	000933-98-2	90
5	Benzene, 4-ethyl-1,2-dimethyl-	134	C10H14	000934-80-5	90





Library Search Compound Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

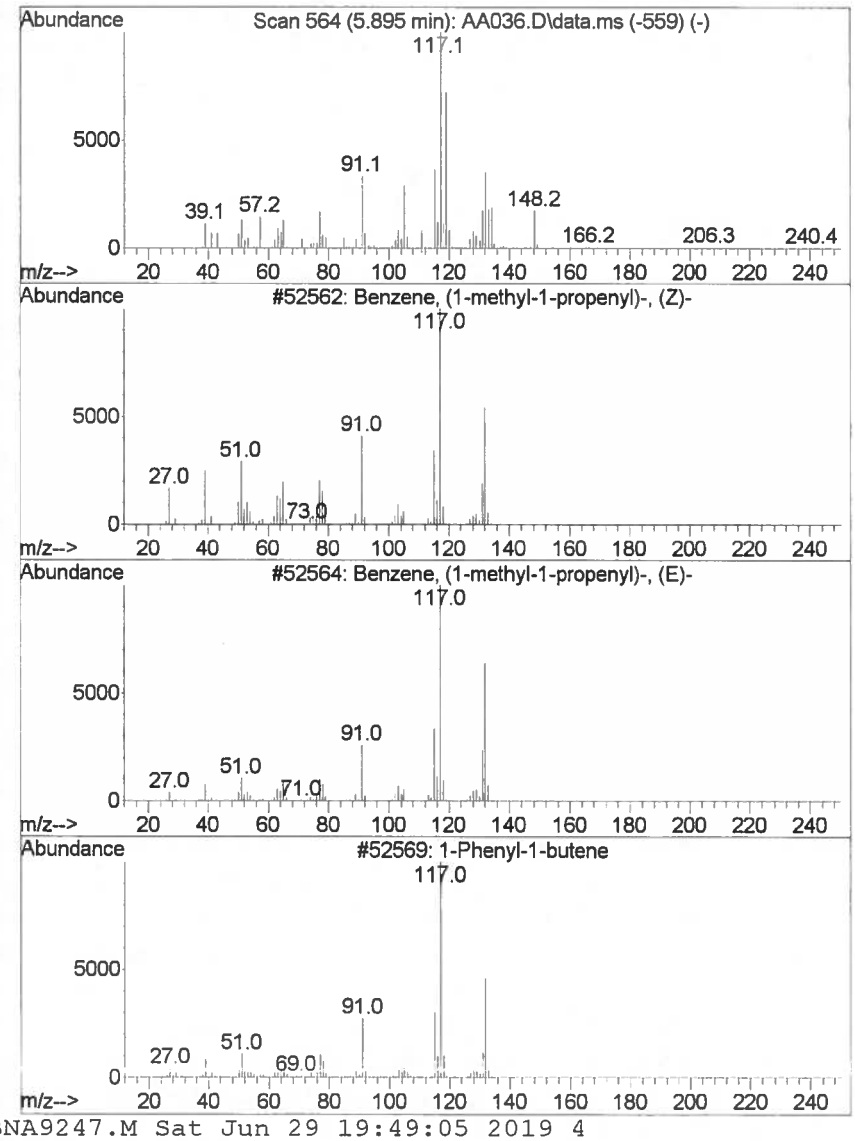
TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

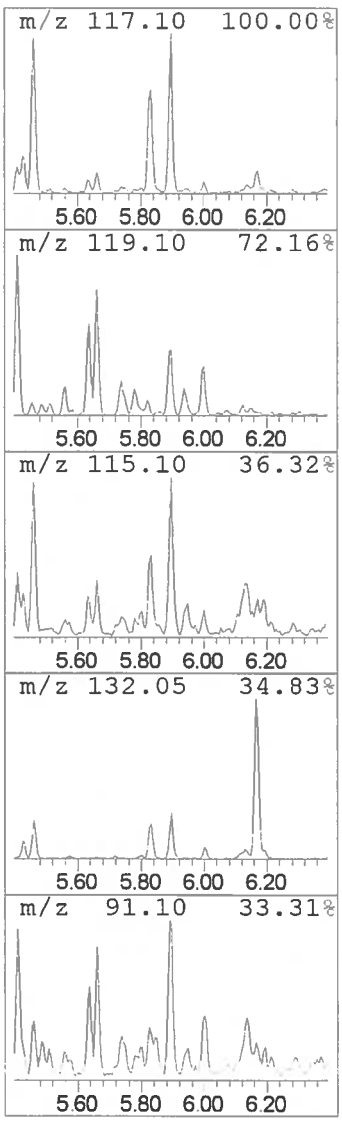
****

Peak Number 6 Benzene, (1-methyl-1-propen... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.895	5.28 ug/ml	544181	Naphthalene-d8	6.165

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000767-99-7	93
2	Benzene, (1-methyl-1-propenyl)-,...	132	C10H12	000768-00-3	70
3	1-Phenyl-1-butene	132	C10H12	000824-90-8	70
4	3-Phenylbut-1-ene	132	C10H12	000934-10-1	70
5	Benzene, 2-butenyl-	132	C10H12	001560-06-1	70





Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA036.D
Acq On : 29 Jun 2019 1:21 pm
Operator : DH
Sample : 19061853-006A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Heptane, 2-methyl-	3.010	4.1	ug/ml	302588	1	4.943	2927880	40.0
Hexane, 1-(hexy...	3.251	4.5	ug/ml	328126	1	4.943	2927880	40.0
Benzene, 1,3-di...	3.839	13.1	ug/ml	961306	1	4.943	2927880	40.0
Benzene, 1,3,5-...	4.579	4.9	ug/ml	359116	1	4.943	2927880	40.0
Benzene, 1,4-di...	5.202	6.9	ug/ml	503207	2	4.943	2927880	40.0
Benzene, (1-met...	5.895	5.3	ug/ml	544181	3	6.165	4125800	40.0

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA037.D
Acq On : 29 Jun 2019 1:49 pm
Operator : DH
Sample : 19061853-007A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

Signal : TIC: AA037.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.786	200	205	210	rBV	933983	913856	14.85%	2.467%
2	4.280	286	289	298	rVB	168372	180661	2.94%	0.488%
3	4.515	325	329	336	rBV	782144	759822	12.35%	2.051%
4	4.943	397	402	408	rBV	2782475	2747329	44.64%	7.417%
5	5.443	483	487	491	rBV	802766	845155	13.73%	2.282%
6	5.537	499	503	507	rBV	62705	67181	1.09%	0.181%
7	6.166	606	610	616	rBV	3704277	3569265	57.99%	9.636%
8	6.213	616	618	622	rVB2	72919	75306	1.22%	0.203%
9	7.217	785	789	793	rBV	1998680	1788640	29.06%	4.829%
10	7.940	907	912	916	rBV	4277270	4473754	72.69%	12.077%
11	8.240	960	963	967	rBV4	56520	65905	1.07%	0.178%
12	8.463	998	1001	1009	rVB7	42016	74476	1.21%	0.201%
13	8.733	1043	1047	1051	rBV	1619913	1534832	24.94%	4.143%
14	9.462	1166	1171	1175	rBV	5437674	5341311	86.79%	14.420%
15	9.897	1242	1245	1250	rBV4	81206	101376	1.65%	0.274%
16	10.237	1299	1303	1308	rBV	96438	113104	1.84%	0.305%
17	10.619	1365	1368	1373	rVB4	66364	84100	1.37%	0.227%
18	10.678	1375	1378	1382	rBV2	62698	76991	1.25%	0.208%
19	10.960	1424	1426	1433	rVB4	46416	66964	1.09%	0.181%
20	11.236	1468	1473	1479	rBV	1833368	2165614	35.19%	5.846%
21	13.011	1768	1775	1789	rBV2	3793192	6154593	100.00%	16.615%
22	16.119	2295	2304	2319	rBV2	2686918	5842024	94.92%	15.771%

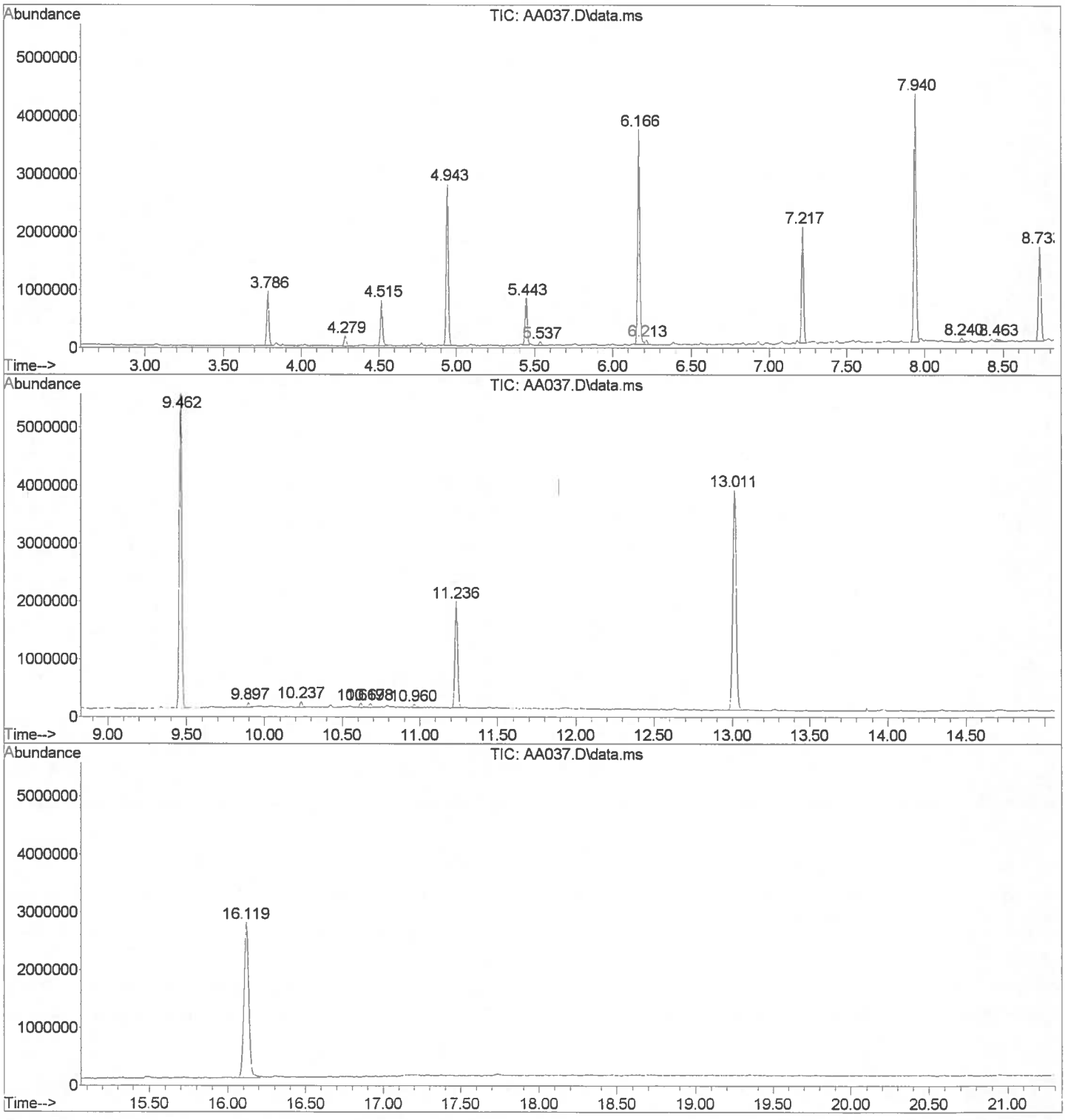
Sum of corrected areas: 37042259

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA037.D
Acq On : 29 Jun 2019 1:49 pm
Operator : DH
Sample : 19061853-007A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\\
Data File : AA037.D
Acq On : 29 Jun 2019 1:49 pmm
Operator : DHH
Sample : 19061853-007AA
Misc : ,SV_8270S_W,SAMP,1,,
ALS Vial : 13 Sample Multiplier: 11

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.MM
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19))

TIC Library : C:\DATABASE\NIST98.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA038.D
Acq On : 29 Jun 2019 2:17 pm
Operator : DH
Sample : 19061853-008A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: RTEINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

Signal : TIC: AA038.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.786	200	205	210	rVB	1208307	1189580	17.98%	3.030%
2	4.280	285	289	297	rVB	190306	200270	3.03%	0.510%
3	4.515	325	329	333	rBV	935208	901208	13.62%	2.296%
4	4.944	397	402	407	rVB	2796143	2774839	41.95%	7.068%
5	5.449	483	488	491	rBV	798430	854809	12.92%	2.177%
6	5.537	499	503	508	rBV2	84928	87802	1.33%	0.224%
7	6.166	606	610	616	rBV	3793536	3832589	57.94%	9.762%
8	6.213	616	618	622	rVB2	102010	105781	1.60%	0.269%
9	6.929	737	740	744	rBV	69804	75291	1.14%	0.192%
10	7.082	760	766	774	rVB8	58927	106779	1.61%	0.272%
11	7.217	785	789	793	rBV	2145473	1867375	28.23%	4.757%
12	7.282	798	800	806	rVB3	55492	87779	1.33%	0.224%
13	7.435	821	826	830	rVB7	57717	71054	1.07%	0.181%
14	7.499	833	837	840	rBV5	37760	76260	1.15%	0.194%
15	7.940	907	912	916	rBV	4600498	4601508	69.56%	11.721%
16	8.463	998	1001	1008	rVB8	43043	83036	1.26%	0.212%
17	8.733	1043	1047	1052	rBV	1956359	1928185	29.15%	4.911%
18	9.462	1167	1171	1175	rBV	5917575	5561331	84.07%	14.166%
19	9.897	1242	1245	1251	rBV4	86106	118271	1.79%	0.301%
20	11.236	1468	1473	1478	rBV	1684821	1976494	29.88%	5.034%
21	13.011	1768	1775	1789	rBV2	3905998	6614985	100.00%	16.849%
22	16.119	2295	2304	2316	rBV2	2761923	6144112	92.88%	15.650%

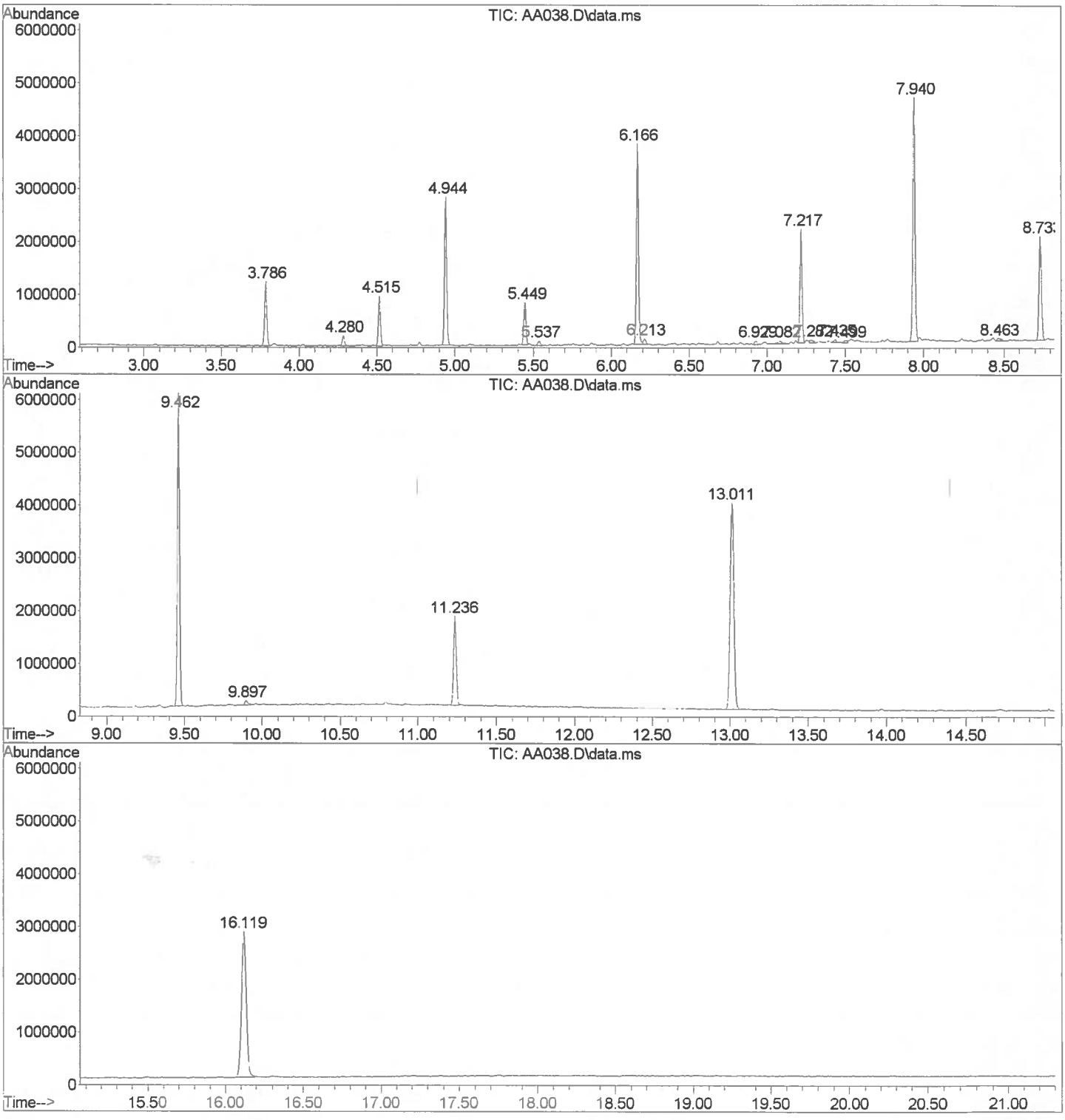
Sum of corrected areas: 39259338

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\
Data File : AA038.D
Acq On : 29 Jun 2019 2:17 pm
Operator : DH
Sample : 19061853-008A
Misc : ,SV_8270S_W,SAMP,1,
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.M
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19)

TIC Library : C:\DATABASE\NIST98.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : C:\msdchem\1\DATA\Inst AA\2019\06_JUN\AA190628B\\
Data File : AA038.D
Acq On : 29 Jun 2019 2:17 pmm
Operator : DHH
Sample : 19061853-008AA
Misc : ,SV_8270S_W,SAMP,1,,
ALS Vial : 14 Sample Multiplier: 11

Quant Method : C:\msdchem\1\METHODS\Inst AA\2019\BNA9247.MM
Quant Title : 8270/625 (6/28/19) CURVE2 (6/28/19))

TIC Library : C:\DATABASE\NIST98.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 11:45
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T08.D
Name: 19061853-002B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title: 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

						Internal Standard			
TIC	Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T08.D Vial: 8
Acq On : 28 Jun 2019 11:45 Operator: Kelly Senci
Sample : 19061853-002B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 250 Area counts
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

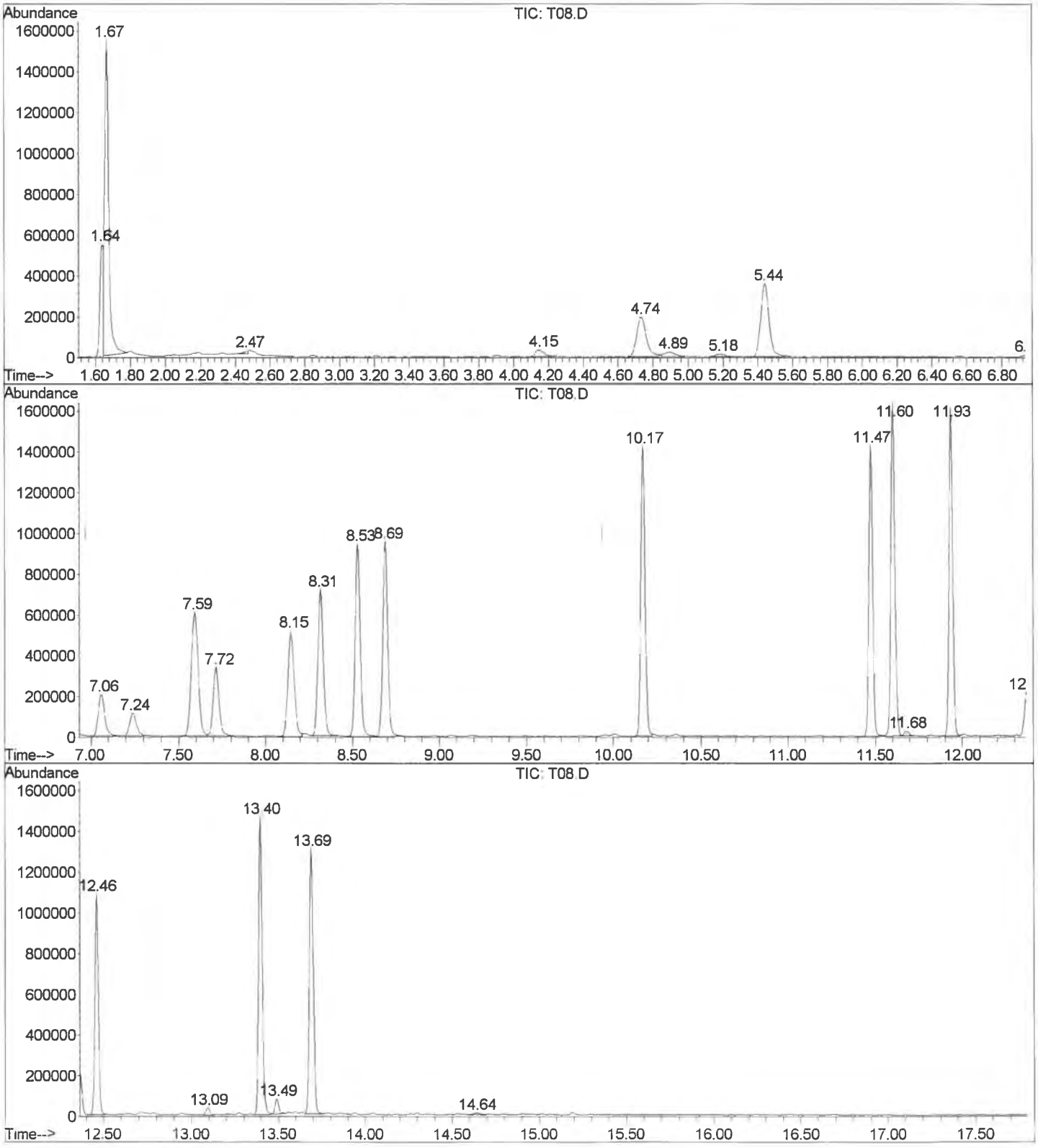
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.640	193	201	202	rBV	549722	697493	27.56%	2.238%
2	1.666	202	206	228	rVB	1540585	2416860	95.50%	7.753%
3	2.466	350	359	360	rBV	15964	26418	1.04%	0.085%
4	4.150	670	681	693	rBV2	31782	108240	4.28%	0.347%
5	4.736	777	793	812	rBV2	193712	759639	30.02%	2.437%
6	4.893	814	823	841	rVB3	22345	88991	3.52%	0.285%
7	5.181	867	878	893	rVB4	12677	48129	1.90%	0.154%
8	5.442	914	928	950	rBV2	358355	1203147	47.54%	3.860%
9	6.933	1203	1213	1226	rBV3	9329	32512	1.28%	0.104%
10	7.058	1227	1237	1257	rBV	204830	536540	21.20%	1.721%
11	7.236	1260	1271	1284	rBV	111263	304124	12.02%	0.976%
12	7.592	1325	1339	1353	rBV2	607906	1636886	64.68%	5.251%
13	7.717	1353	1363	1384	rVB	336229	823659	32.55%	2.642%
14	8.146	1433	1445	1457	rBV2	518193	1316361	52.01%	4.223%
15	8.314	1468	1477	1494	rVB	716336	1532166	60.54%	4.915%
16	8.528	1508	1518	1539	rBV	942742	1927653	76.17%	6.184%
17	8.690	1539	1549	1573	rVB	954342	1916148	75.71%	6.147%
18	10.170	1824	1832	1842	rBV	1423024	2376038	93.89%	7.622%
19	11.473	2071	2081	2096	rBV	1427309	2198885	86.89%	7.054%
20	11.603	2096	2106	2115	rVV	1636969	2530778	100.00%	8.119%
21	11.677	2115	2120	2127	rVB	22354	42451	1.68%	0.136%
22	11.933	2160	2169	2179	rBV	1609584	2450733	96.84%	7.862%
23	12.362	2245	2251	2259	rBV	213674	331780	13.11%	1.064%
24	12.461	2261	2270	2280	rBV	1083989	1582305	62.52%	5.076%
25	13.094	2385	2391	2397	rBV	35587	52237	2.06%	0.168%
26	13.397	2442	2449	2460	rBV	1461082	2128780	84.12%	6.829%
27	13.491	2461	2467	2475	rVV	73510	109906	4.34%	0.353%
28	13.690	2498	2505	2519	rVB	1302321	1967506	77.74%	6.312%
29	14.637	2679	2686	2696	rBV6	9797	26210	1.04%	0.084%

Sum of corrected areas: 31172575

File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T08.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 11:45 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19061853-002B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 8
Quant File :VOCT1908.RES (RTE Integrator)



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N09.D Vial: 9
Acq On : 28 Jun 2019 12:24 Operator: Kelly Senci
Sample : 19061853-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,10,5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

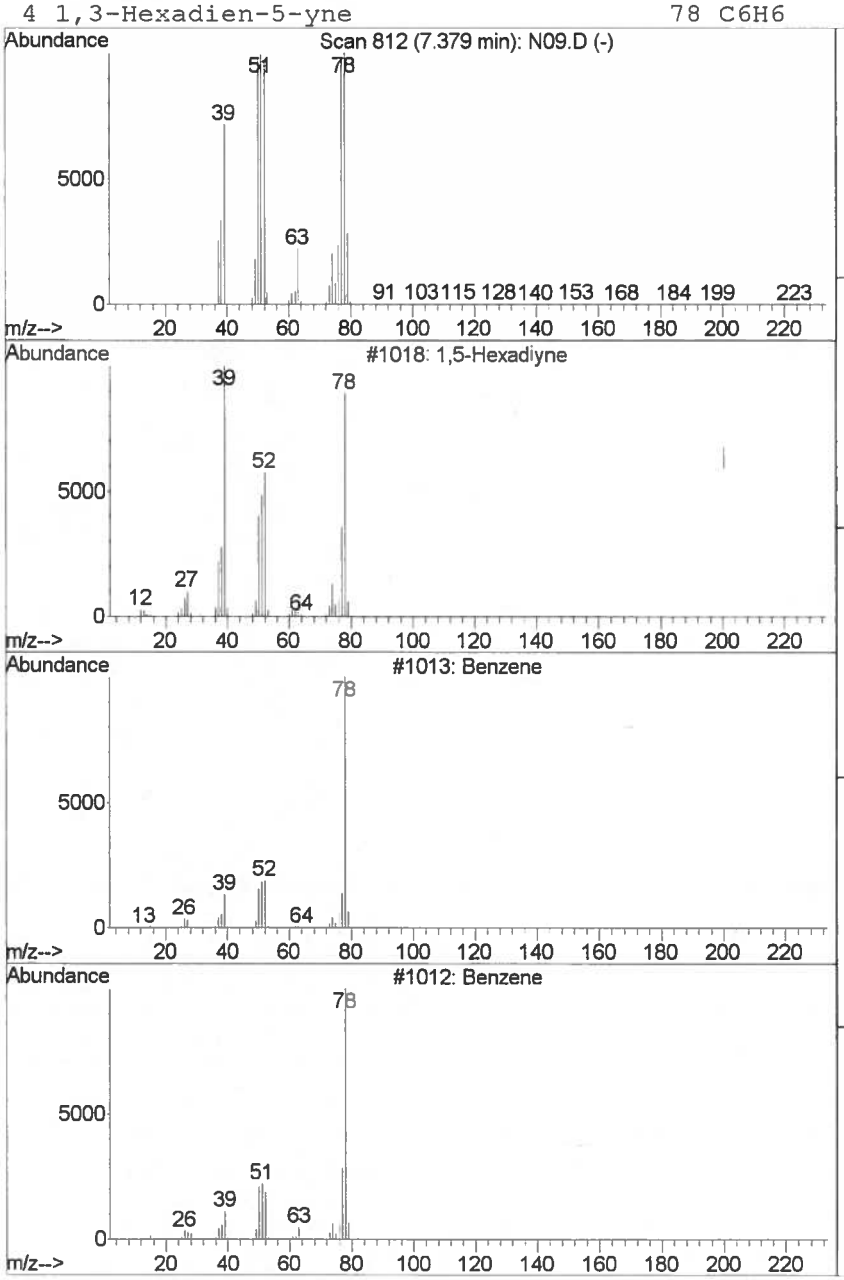
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

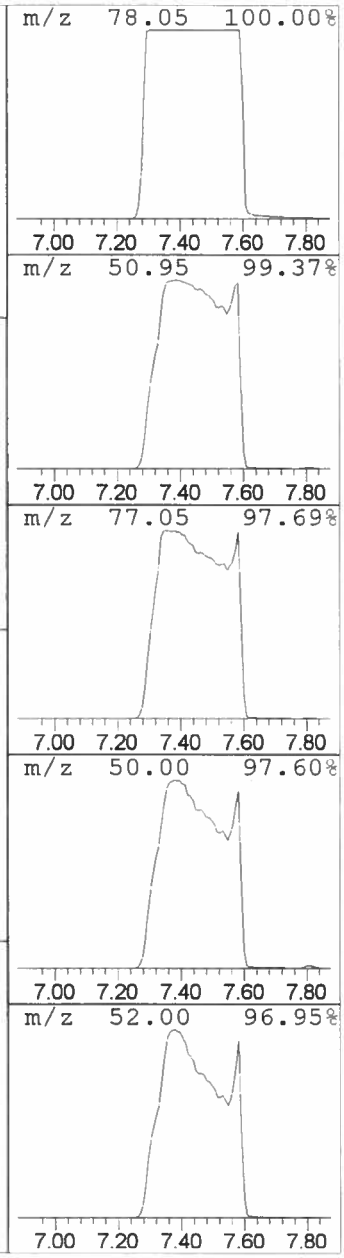
****

Peak Number 1 1,5-Hexadiyne Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
7.38	338.58 ug/L	439748000	Fluorobenzene	7.81

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,5-Hexadiyne	78	C6H6	000628-16-0	91
2	Benzene	78	C6H6	000071-43-2	90
3	Benzene	78	C6H6	000071-43-2	87
4	1,3-Hexadien-5-yne	78	C6H6	010420-90-3	86





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 12:24
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190628A\N09.D
Name: 19061853-003B
Misc: ,V_8260S_W,SAMP,10,5-50ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
1,5-Hexadiyne	7.38	338.6	ug/L	439748000	ISTD01	7.81	64940100	50.0

N09.D VOCN1908.M Fri Jun 28 12:52:27 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N09.D Vial: 9
Acq On : 28 Jun 2019 12:24 Operator: Kelly Senci
Sample : 19061853-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,10,5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

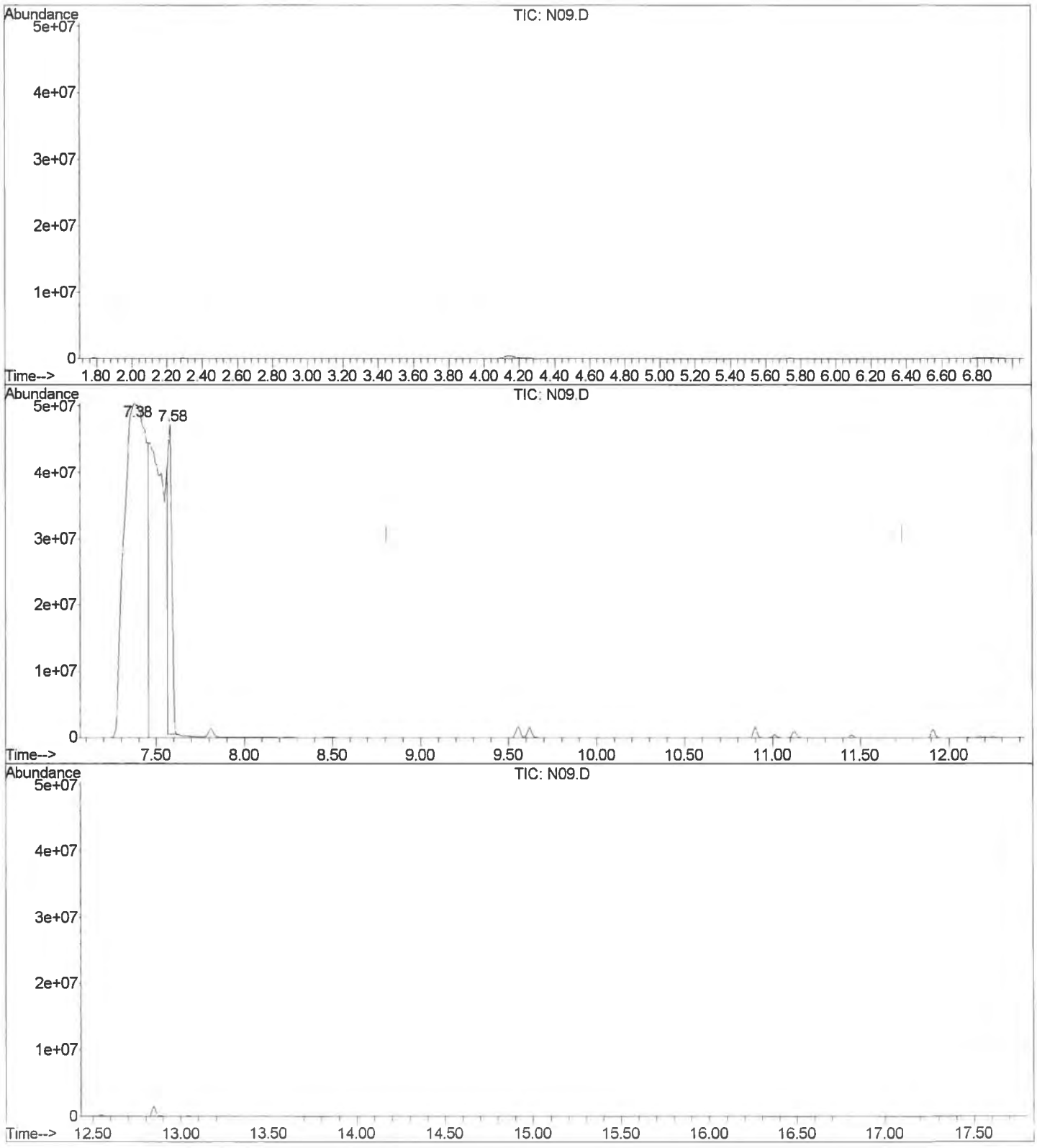
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	7.379	795	812	821	rBV6	50391672	439748047	100.00%	87.133%
2	7.582	834	836	840	rVB3	46600361	64940085	14.77%	12.867%

Sum of corrected areas: 504688132

N09.D VOCN1908.M Fri Jun 28 12:52:26 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N09.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 12:24 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061853-003B
Misc Info : ,V_8260S_W,SAMP,10,5-50ml,V1/2
Vial Number: 9
Quant File :VOCN1908.RES (RTE Integrator)



N09.D VOCN1908.M Fri Jun 28 12:52:26 2019

Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 13:21
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190628A\N11.D
Name: 19061853-003B
Misc: ,V_8260S_W,SAMP,10000,0.005-50ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

N11.D VOCN1908.M Fri Jun 28 13:40:55 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N11.D Vial: 11
Acq On : 28 Jun 2019 13:21 Operator: Kelly Senci
Sample : 19061853-003B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,10000,0.005-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

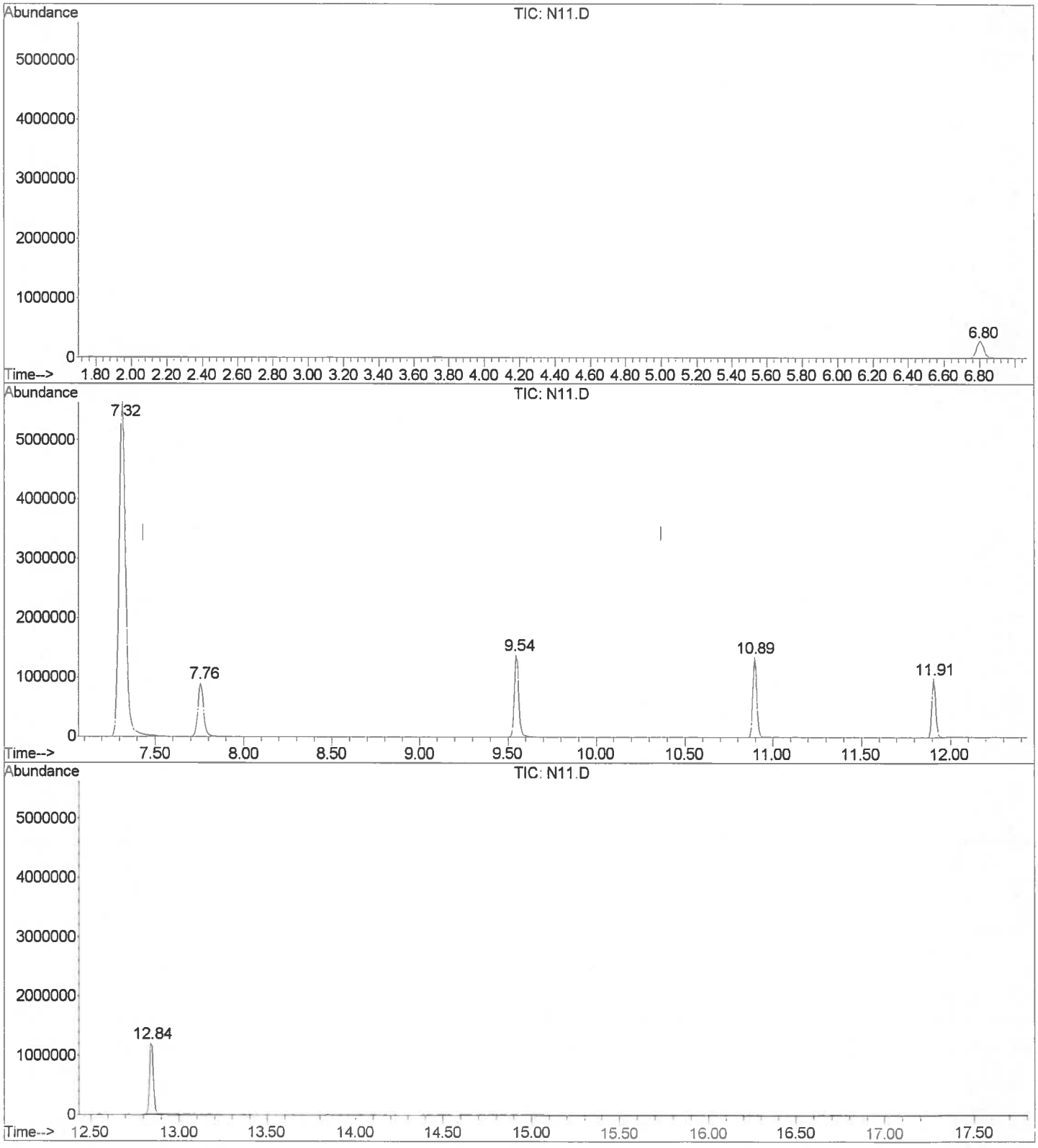
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.803	734	743	763	rBV	285566	833087	5.69%	3.286%
2	7.318	795	804	838	rBV	5634264	14647312	100.00%	57.778%
3	7.756	849	856	879	rVB	903490	2045570	13.97%	8.069%
4	9.545	1063	1068	1080	rBV	1379482	2429765	16.59%	9.584%
5	10.894	1224	1228	1238	rBV	1345975	2110262	14.41%	8.324%
6	11.906	1344	1348	1357	rBV	987756	1445313	9.87%	5.701%
7	12.843	1455	1459	1472	rBV	1217170	1839753	12.56%	7.257%

Sum of corrected areas: 25351062

N11.D VOCN1908.M Fri Jun 28 13:40:55 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N11.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 13:21 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061853-003B
Misc Info : ,V_8260S_W,SAMP,10000,0.005-50ml,V1/2
Vial Number: 11
Quant File :VOCN1908.RES (RTE Integrator)



N11.D VOCN1908.M Fri Jun 28 13:40:55 2019

Tentatively Identified Compound (LSC) summary

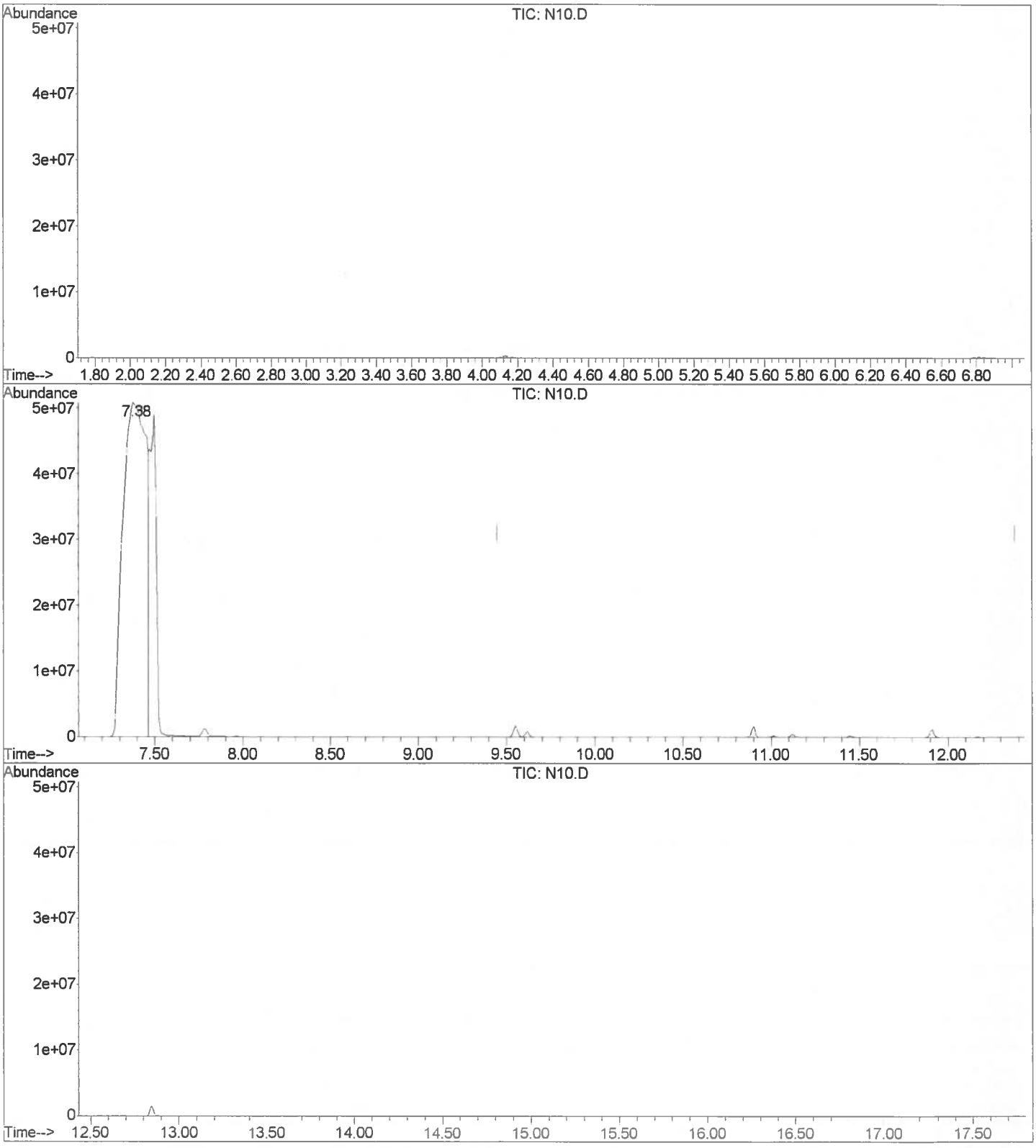
Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 12:52
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190628A\N10.D
Name: 19061853-004B
Misc: ,V_8260S_W,SAMP,20,2.5-50ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

N10.D VOCN1908.M Fri Jun 28 13:18:05 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N10.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 12:52 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061853-004B
Misc Info : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2
Vial Number: 10
Quant File :VOCN1908.RES (RTE Integrator)



N10.D VOCN1908.M Fri Jun 28 13:18:05 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N10.D Vial: 10
Acq On : 28 Jun 2019 12:52 Operator: Kelly Senci
Sample : 19061853-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	7.380	795	812	822	rBV5	50805438	461432203	100.00%	100.000%

Sum of corrected areas: 461432203

N10.D VOCN1908.M Fri Jun 28 13:18:04 2019

Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 13:49
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190628A\N12.D
Name: 19061853-004B
Misc: ,V_8260S_W,SAMP,10000,0.005-50ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

N12.D VOCN1908.M Fri Jun 28 14:14:43 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N12.D Vial: 12
Acq On : 28 Jun 2019 13:49 Operator: Kelly Senci
Sample : 19061853-004B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,10000,0.005-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

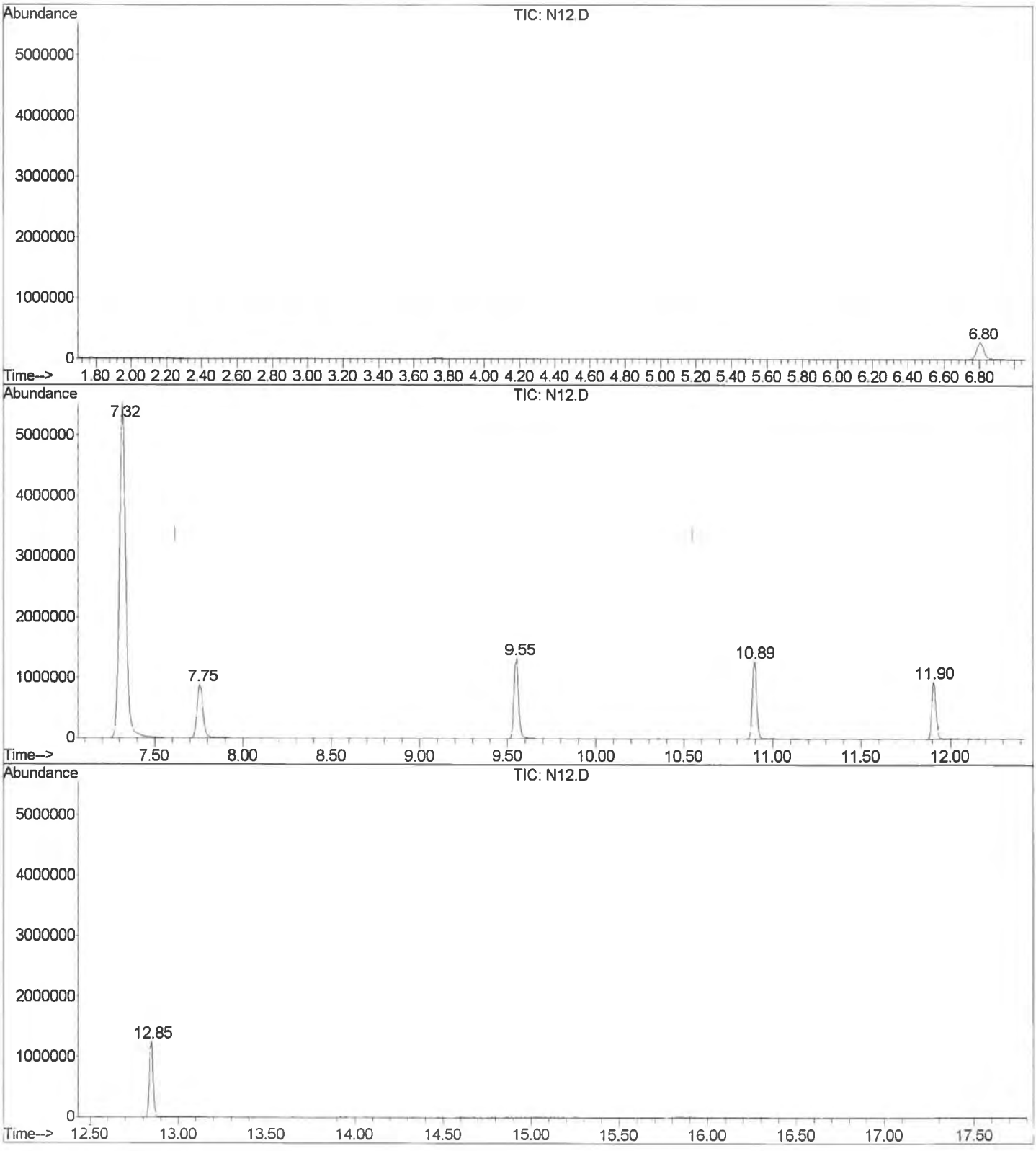
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.801	735	743	763	rBV2	279271	829789	5.84%	3.330%
2	7.316	794	804	836	rBV	5525606	14215075	100.00%	57.040%
3	7.754	847	856	881	rBV	882251	2080730	14.64%	8.349%
4	9.551	1064	1069	1084	rVB	1321688	2368541	16.66%	9.504%
5	10.892	1224	1228	1238	rBV	1275071	2096816	14.75%	8.414%
6	11.905	1344	1348	1359	rBV	938434	1463073	10.29%	5.871%
7	12.849	1455	1460	1471	rBV	1245879	1867364	13.14%	7.493%

Sum of corrected areas: 24921388

N12.D VOCN1908.M Fri Jun 28 14:14:43 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N12.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 13:49 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061853-004B
Misc Info : ,V_8260S_W,SAMP,10000,0.005-50ml,V1/2
Vial Number: 12
Quant File :VOCN1908.RES (RTE Integrator)



N12.D VOCN1908.M Fri Jun 28 14:14:43 2019

Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T09.D Vial: 9
Acq On : 28 Jun 2019 12:12 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

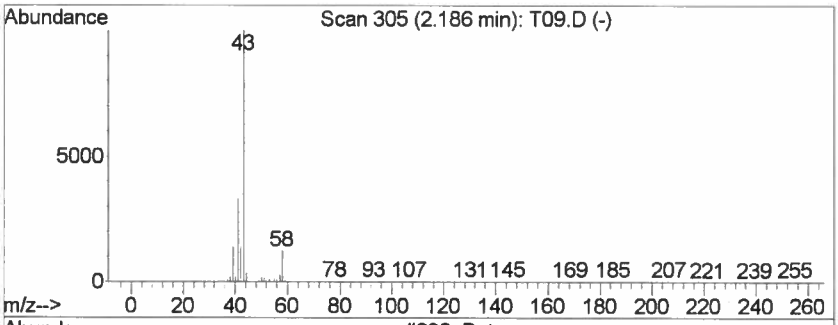
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

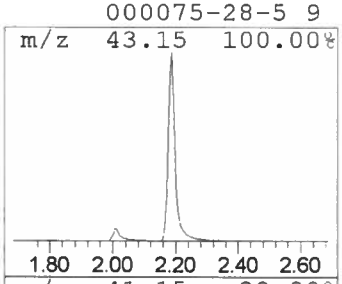
****

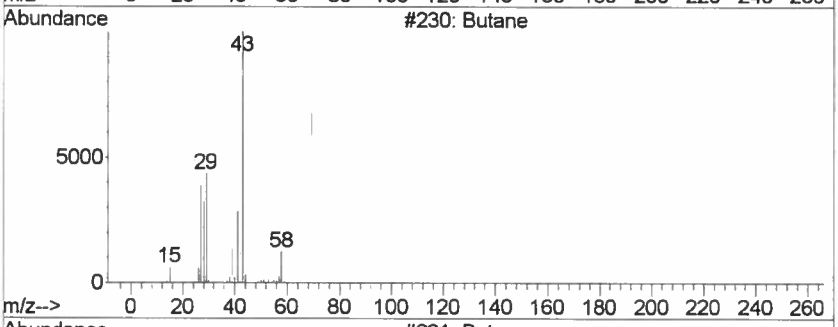
Peak Number 1 Butane Concentration Rank 1

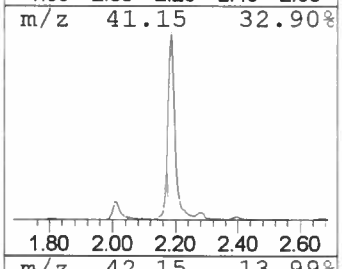
R.T.	EstConc	Area	Relative to ISTD	R.T.
2.19	61.06 ug/L	2768530	Fluorobenzene	8.53

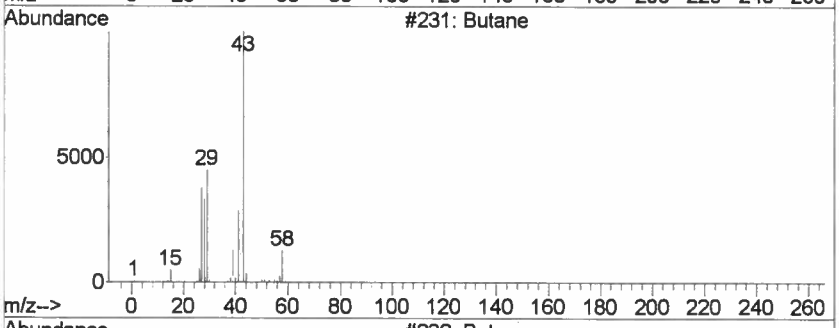
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane	58	C4H10	000106-97-8	72
2	Butane	58	C4H10	000106-97-8	72
3	Butane	58	C4H10	000106-97-8	58
4	Isobutane	58	C4H10	000075-28-5	9

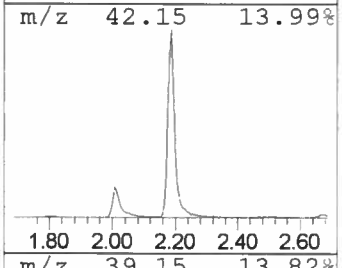


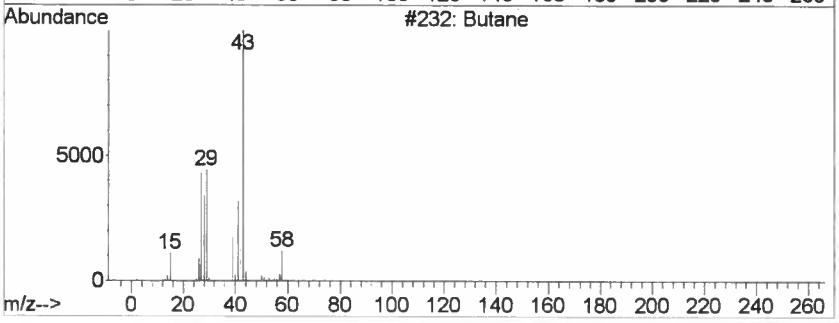


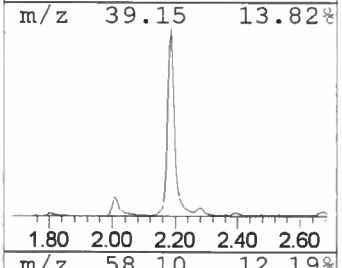


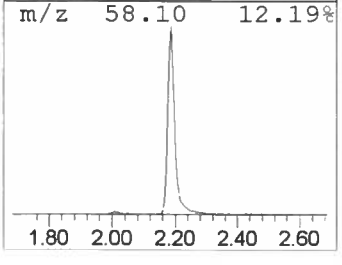












Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T09.D Vial: 9
Acq On : 28 Jun 2019 12:12 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

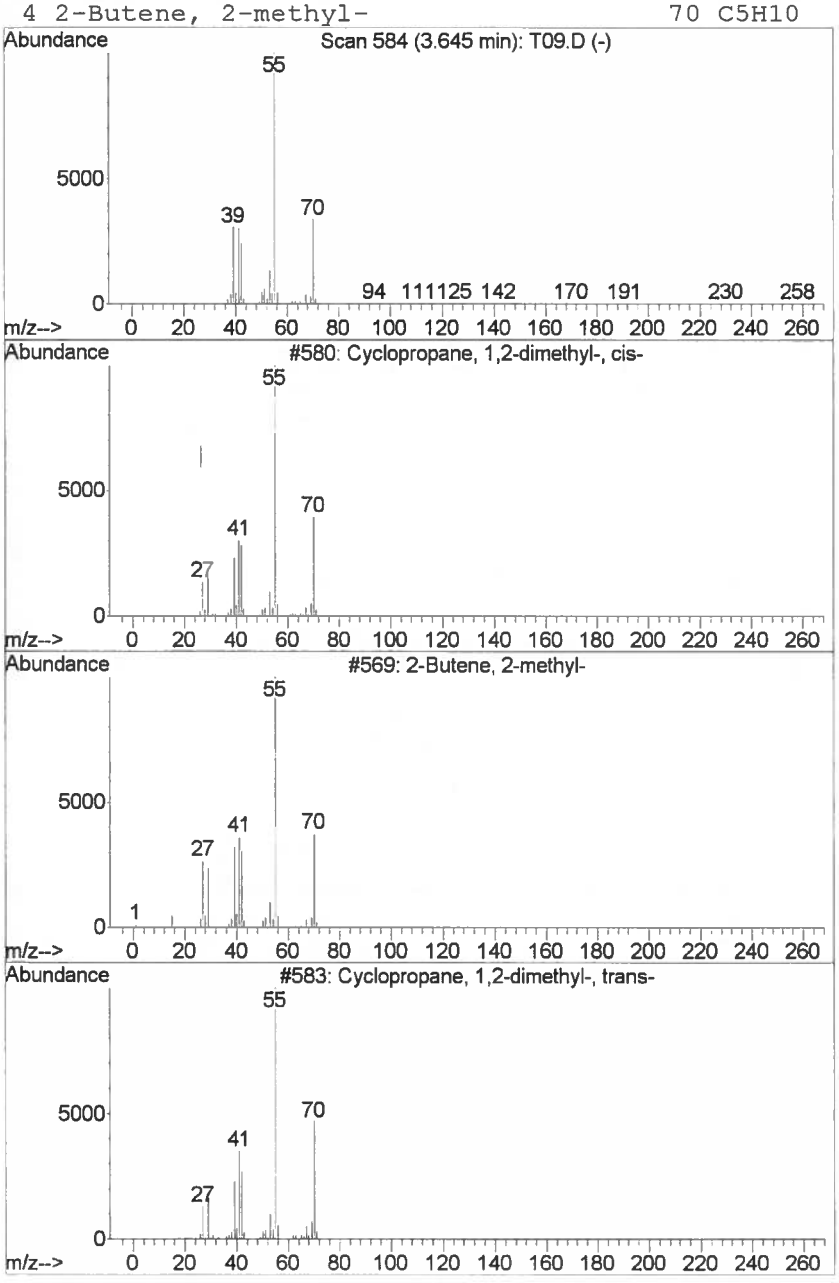
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

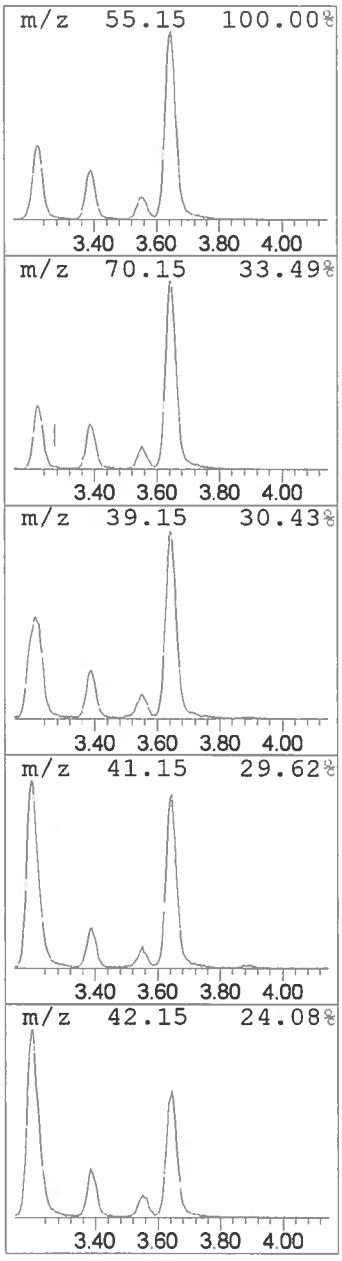
****

Peak Number 2 Cyclopropane, 1,2-dimethyl-... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.64	36.46 ug/L	1653240	Fluorobenzene	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopropane, 1,2-dimethyl-, cis-	70	C5H10	000930-18-7	91
2	2-Butene, 2-methyl-	70	C5H10	000513-35-9	90
3	Cyclopropane, 1,2-dimethyl-, trans-	70	C5H10	002402-06-4	87
4	2-Butene, 2-methyl-	70	C5H10	000513-35-9	86





Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T09.D Vial: 9
Acq On : 28 Jun 2019 12:12 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

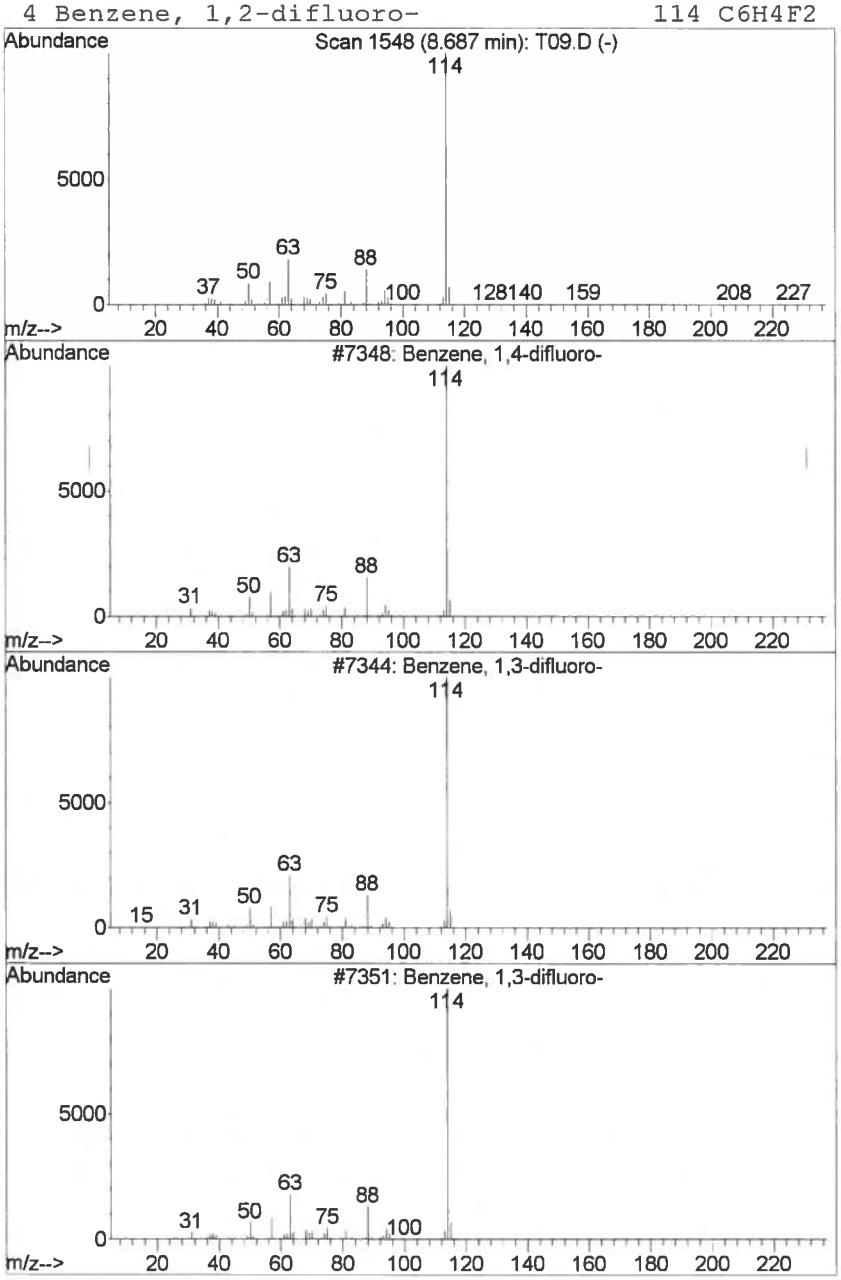
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

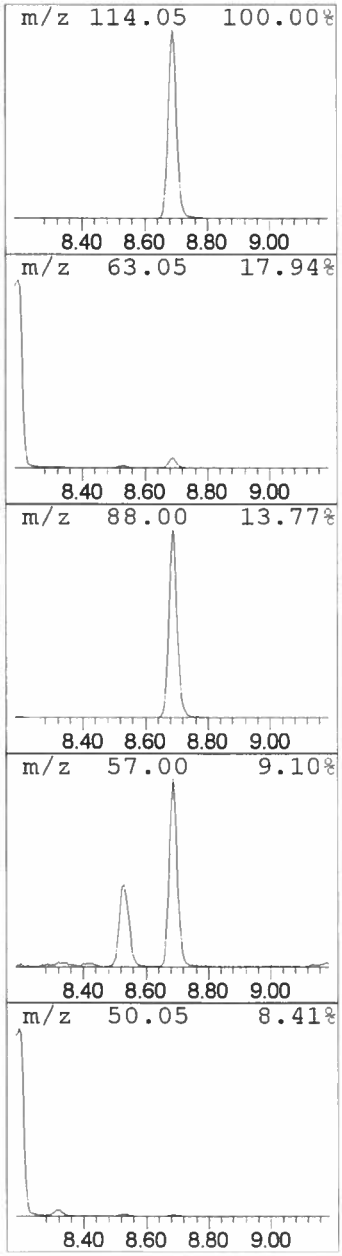
****

Peak Number 3 Benzene, 1,4-difluoro- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.69	51.34 ug/L	2327710	Fluorobenzene*	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	95
2	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
3	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
4	Benzene, 1,2-difluoro-	114	C6H4F2	000367-11-3	94





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 12:12
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T09.D
Name: 19061853-005B
Misc: ,V_8260S_W,SAMP,20,2.5-50ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title: 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Butane	2.19	61.1	ug/L	2768530	1	8.53	2267080	50.0
Cyclopropane, 1,2...	3.64	36.5	ug/L	1653240	1	8.53	2267080	50.0
Benzene, 1,4-difl...	8.69	51.3	ug/L	2327710	2	8.53	2267080	50.0

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T09.D Vial: 9
Acq On : 28 Jun 2019 12:12 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

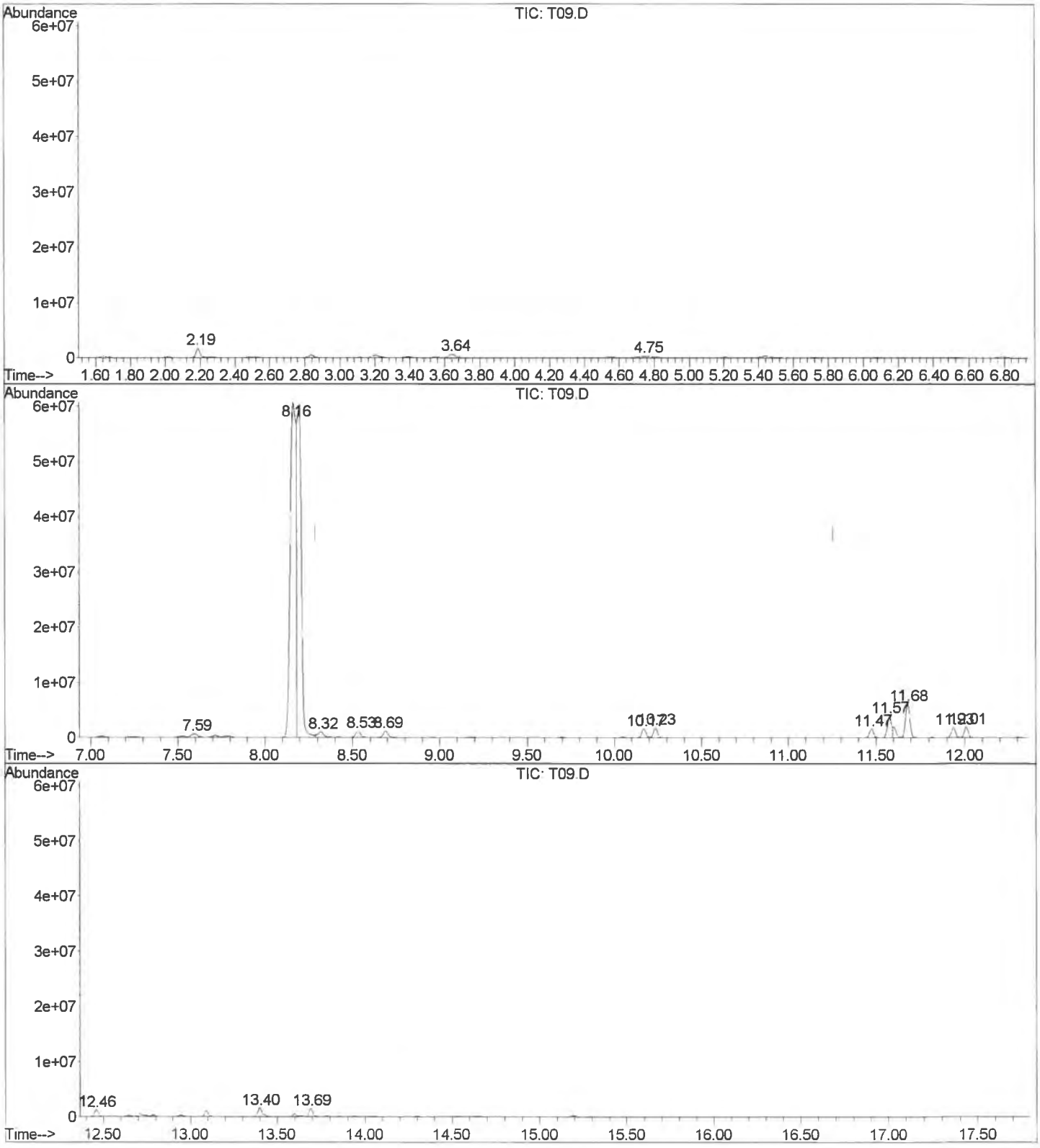
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.186	295	305	319	rBV	1733789	2768529	1.79%	1.341%
2	3.645	574	584	615	rVB	649347	1653239	1.07%	0.801%
3	4.749	777	795	827	rVB5	320692	1638162	1.06%	0.793%
4	7.594	1331	1339	1353	rVB	632499	1680597	1.09%	0.814%
5	8.164	1435	1448	1452	rBV4	60643183	154489207	100.00%	74.813%
6	8.315	1472	1477	1491	rVB	964075	2213149	1.43%	1.072%
7	8.530	1508	1518	1534	rVB	1113710	2267080	1.47%	1.098%
8	8.687	1538	1548	1564	rBV	1193261	2327712	1.51%	1.127%
9	10.172	1822	1832	1838	rBV	1578058	2669646	1.73%	1.293%
10	10.235	1838	1844	1857	rVB	1759200	2864974	1.85%	1.387%
11	11.474	2073	2081	2090	rBV	1567008	2405920	1.56%	1.165%
12	11.574	2093	2100	2104	rBV	3869963	6465112	4.18%	3.131%
13	11.678	2113	2120	2136	rVB	6033067	10611310	6.87%	5.139%
14	11.935	2161	2169	2177	rBV	1767300	2784372	1.80%	1.348%
15	12.008	2177	2183	2194	rVB	1915998	2813091	1.82%	1.362%
16	12.458	2260	2269	2282	rBV	1171492	1774866	1.15%	0.859%
17	13.399	2441	2449	2461	rBV2	1588633	2838735	1.84%	1.375%
18	13.692	2498	2505	2515	rVB	1482419	2234167	1.45%	1.082%

Sum of corrected areas: 206499868

LSC Report - Integrated Chromatogram

File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T09.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 12:12 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19061853-005B
Misc Info : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2
Vial Number: 9
Quant File :VOCT1908.RES (RTE Integrator)



Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T11.D Vial: 11
Acq On : 28 Jun 2019 13:06 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,5000,0.01-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

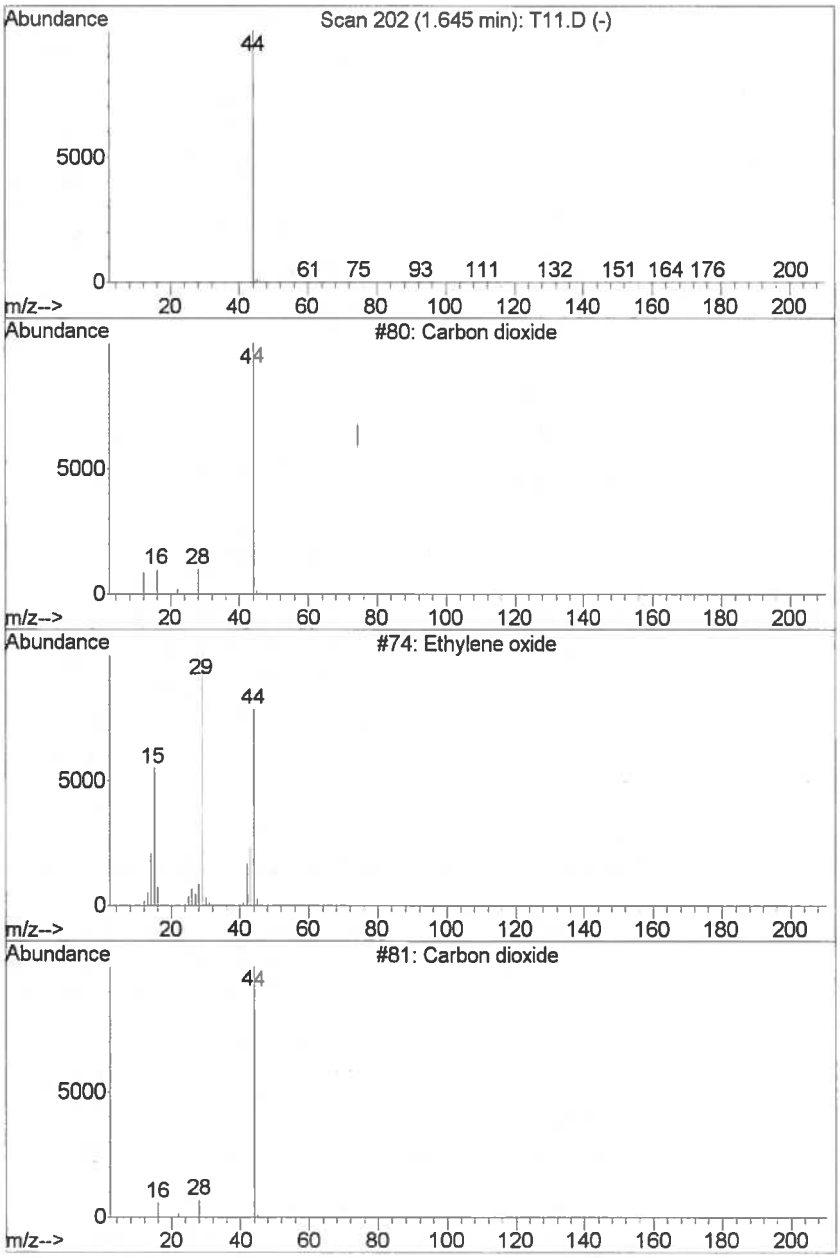
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

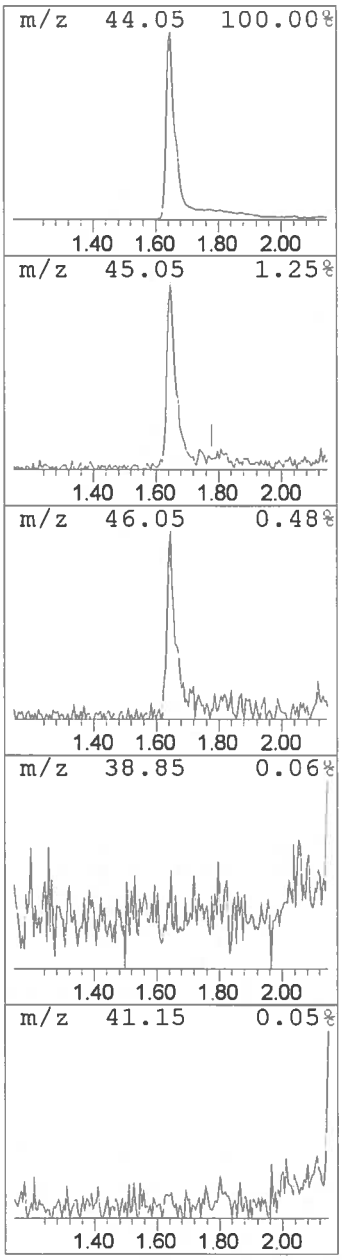
****

Peak Number 1 Carbon dioxide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.65	12.07 ug/L	472898	Fluorobenzene	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Ethylene oxide	44	C2H4O	000075-21-8	3
3	Carbon dioxide	44	CO2	000124-38-9	3
4	Nitrous Oxide	44	N2O	010024-97-2	3





Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T11.D Vial: 11
Acq On : 28 Jun 2019 13:06 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,5000,0.01-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

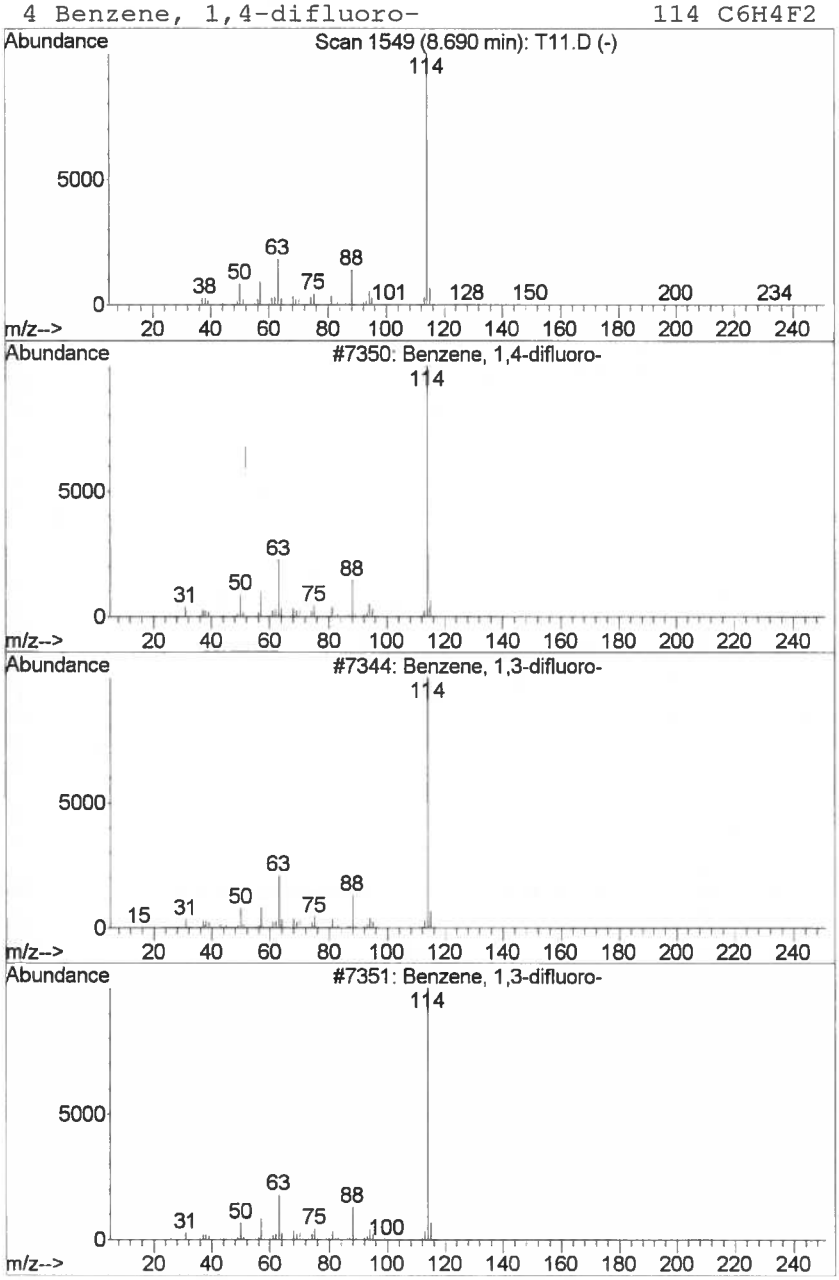
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

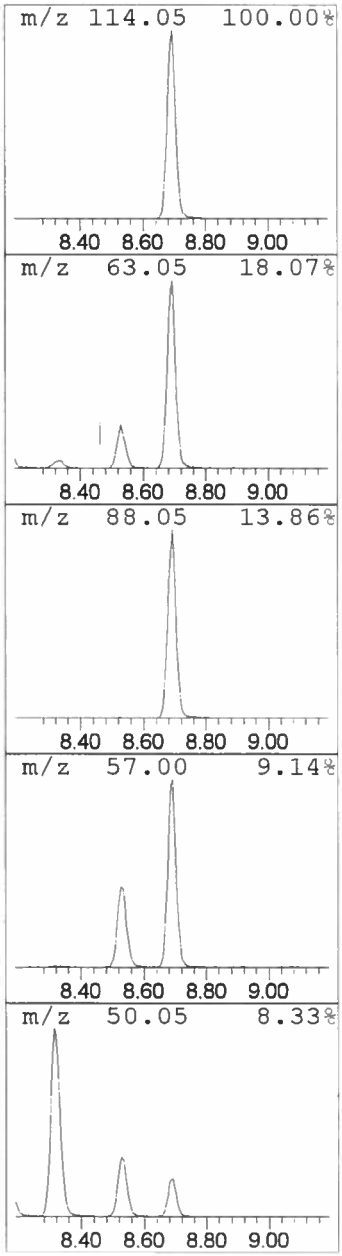
****

Peak Number 2 Benzene, 1,4-difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.69	48.87 ug/L	1915250	Fluorobenzene*	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	97
2	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
3	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
4	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	95





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 13:06
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T11.D
Name: 19061853-005B
Misc: ,V_8260S_W,SAMP,5000,0.01-50ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title: 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.65	12.1	ug/L	472898	1	8.53	1959400	50.0
Benzene, 1,4-difl...	8.69	48.9	ug/L	1915250	2	8.53	1959400	50.0

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T11.D Vial: 11
Acq On : 28 Jun 2019 13:06 Operator: Kelly Senci
Sample : 19061853-005B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,5000,0.01-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

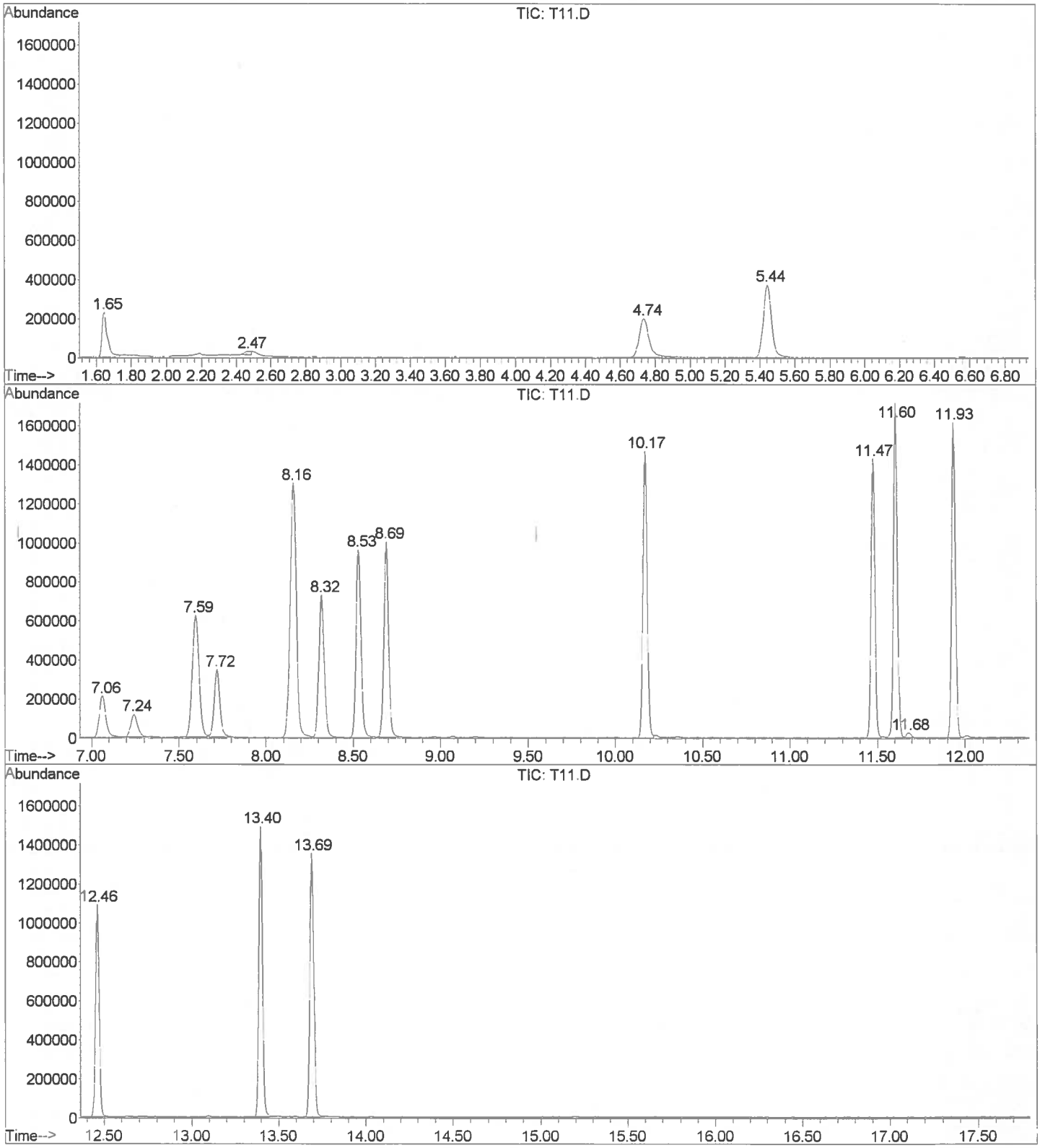
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.645	195	202	219	rBV	227749	472898	14.32%	1.560%
2	2.472	351	360	363	rBV6	16250	40483	1.23%	0.134%
3	4.736	776	793	813	rBV2	198137	769995	23.31%	2.541%
4	5.442	912	928	948	rBV2	371532	1244476	37.68%	4.106%
5	7.064	1227	1238	1259	rBV	211550	568827	17.22%	1.877%
6	7.242	1263	1272	1288	rVV2	116182	310914	9.41%	1.026%
7	7.592	1328	1339	1352	rBV	621933	1644951	49.80%	5.428%
8	7.718	1354	1363	1380	rVB2	345511	819005	24.80%	2.702%
9	8.157	1432	1447	1467	rBV3	1303531	3303019	100.00%	10.899%
10	8.319	1469	1478	1500	rVB	729418	1580830	47.86%	5.216%
11	8.528	1508	1518	1533	rBV	960173	1959399	59.32%	6.465%
12	8.690	1539	1549	1564	rBV	1000188	1915254	57.98%	6.320%
13	10.170	1824	1832	1841	rBV	1467024	2431174	73.60%	8.022%
14	11.473	2072	2081	2090	rBV	1428827	2233092	67.61%	7.369%
15	11.603	2095	2106	2116	rVV	1712074	2593514	78.52%	8.558%
16	11.682	2116	2121	2130	rVB3	23863	46027	1.39%	0.152%
17	11.933	2161	2169	2180	rBV	1612023	2502863	75.78%	8.259%
18	12.461	2261	2270	2286	rBV	1088476	1620741	49.07%	5.348%
19	13.397	2441	2449	2465	rBV	1489701	2200966	66.63%	7.263%
20	13.690	2497	2505	2519	rBV	1351001	2047246	61.98%	6.755%

Sum of corrected areas: 30305674

LSC Report - Integrated Chromatogram

File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T11.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 13:06 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19061853-005B
Misc Info : ,V_8260S_W,SAMP,5000,0.01-50ml,V1/2
Vial Number: 11
Quant File :VOCT1908.RES (RTE Integrator)



Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T10.D Vial: 10
Acq On : 28 Jun 2019 12:39 Operator: Kelly Senci
Sample : 19061853-006B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

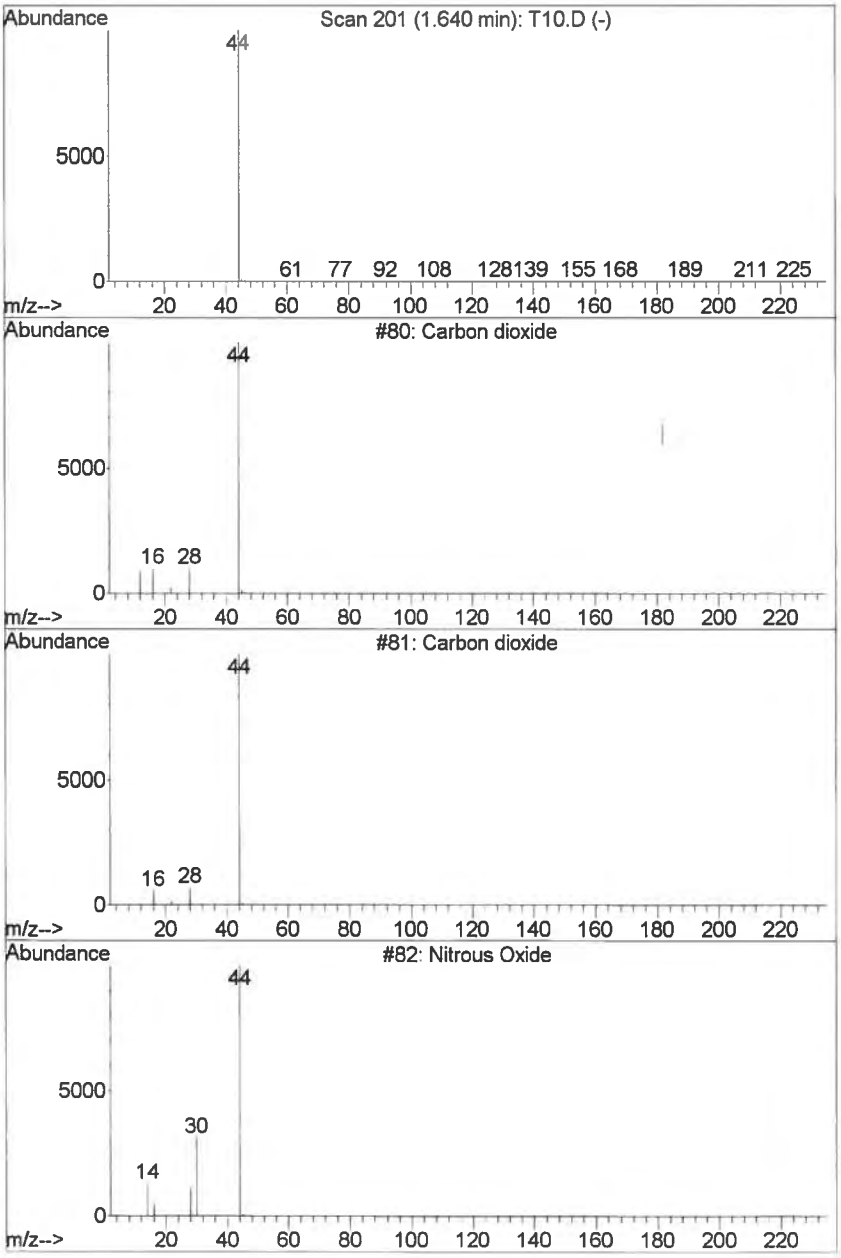
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

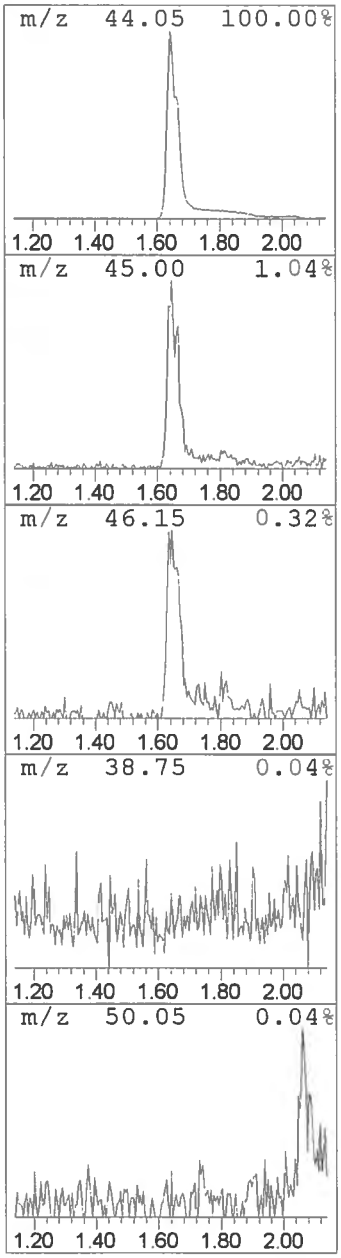
****

Peak Number 1 Carbon dioxide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.64	10.25 ug/L	418799	Fluorobenzene	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Carbon dioxide	44	CO2	000124-38-9	3
3	Nitrous Oxide	44	N2O	010024-97-2	3
4	Nitrous Oxide	44	N2O	010024-97-2	3





Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T10.D Vial: 10
Acq On : 28 Jun 2019 12:39 Operator: Kelly Senci
Sample : 19061853-006B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

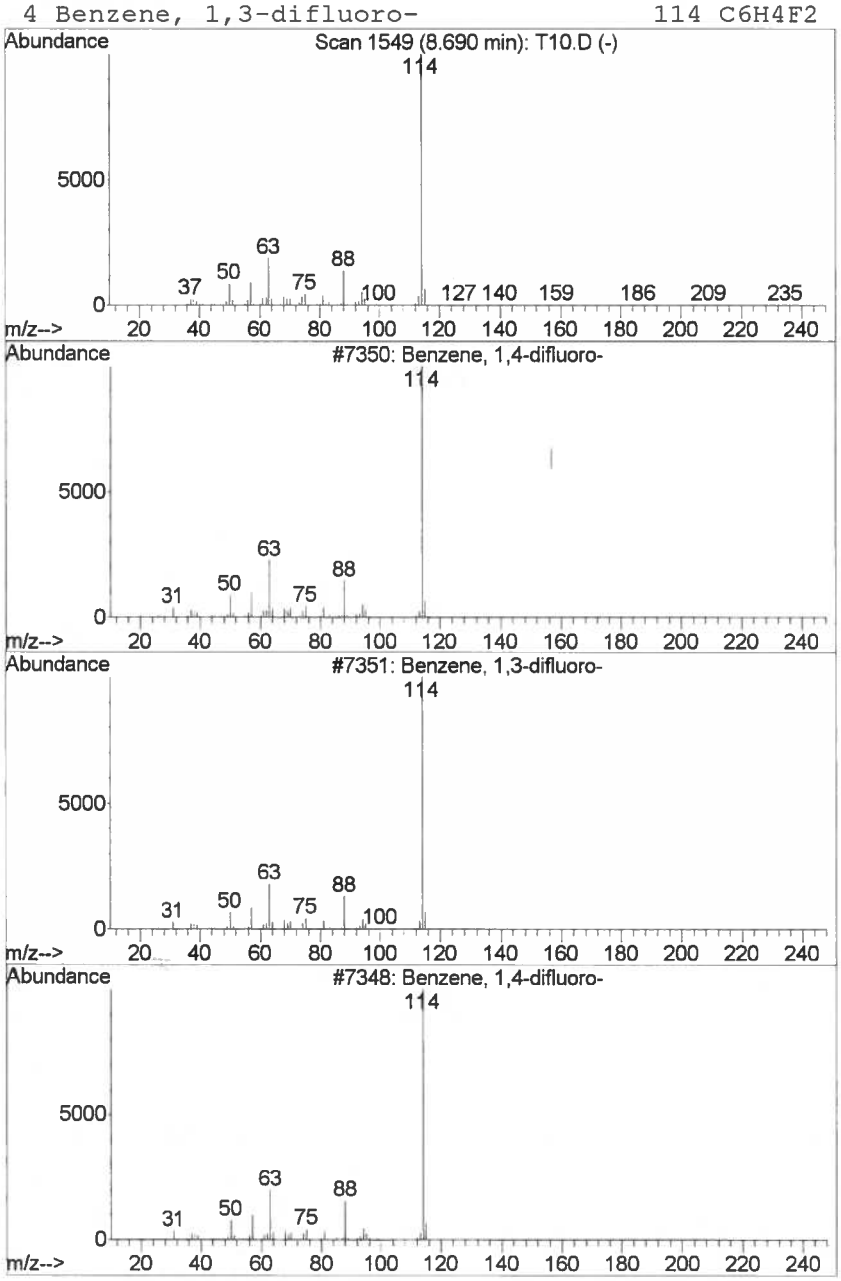
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

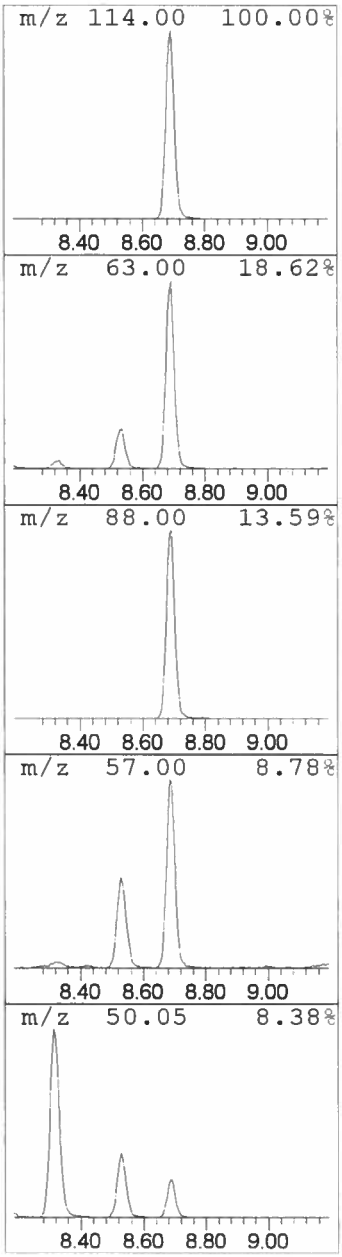
****

Peak Number 2 Benzene, 1,4-difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.69	48.47 ug/L	1979560	Fluorobenzene*	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	97
2	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	95
3	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	95
4	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	94





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 12:39
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T10.D
Name: 19061853-006B
Misc: ,V_8260S_W,SAMP,50,1-50ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title: 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.64	10.3	ug/L	418799	1	8.53	2041990	50.0
Benzene, 1,4-difl...	8.69	48.5	ug/L	1979560	2	8.53	2041990	50.0

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T10.D Vial: 10
Acq On : 28 Jun 2019 12:39 Operator: Kelly Senci
Sample : 19061853-006B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,50,1-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

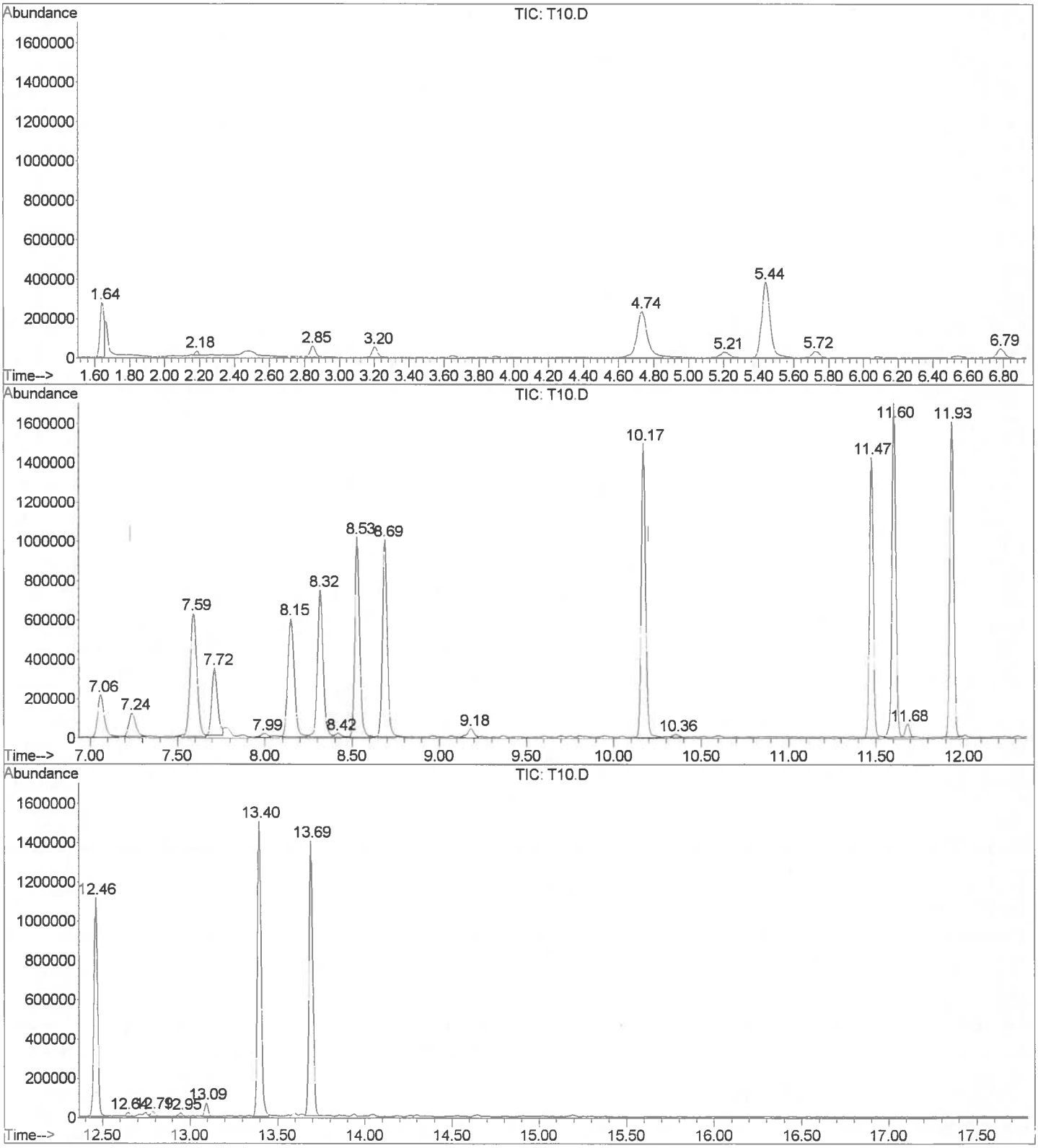
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.640	194	201	204	rBV	275350	418799	15.65%	1.377%
2	2.184	301	305	311	rVB	22444	29683	1.11%	0.098%
3	2.848	422	432	440	rBV2	54345	117212	4.38%	0.385%
4	3.204	490	500	513	rBV	51774	120033	4.49%	0.395%
5	4.736	767	793	815	rBV2	233379	984188	36.79%	3.235%
6	5.207	869	883	899	rBV3	27398	97887	3.66%	0.322%
7	5.442	913	928	956	rBV2	382016	1279755	47.84%	4.207%
8	5.719	969	981	993	rBV3	31729	93483	3.49%	0.307%
9	6.786	1174	1185	1199	rBV2	45312	140633	5.26%	0.462%
10	7.058	1228	1237	1257	rBV	213394	564916	21.12%	1.857%
11	7.241	1262	1272	1288	rBV2	120022	322690	12.06%	1.061%
12	7.592	1318	1339	1353	rBV	626372	1694699	63.35%	5.571%
13	7.717	1353	1363	1371	rBV	342026	810997	30.32%	2.666%
14	7.994	1408	1416	1423	rBV3	18484	44047	1.65%	0.145%
15	8.151	1434	1446	1463	rBV2	601881	1603508	59.94%	5.271%
16	8.319	1465	1478	1491	rVV	746609	1682055	62.88%	5.530%
17	8.418	1492	1497	1508	rVB6	18844	41976	1.57%	0.138%
18	8.528	1508	1518	1538	rBV	1017123	2041990	76.33%	6.713%
19	8.690	1540	1549	1573	rVB	1003834	1979558	74.00%	6.508%
20	9.182	1630	1643	1651	rBV2	43013	107529	4.02%	0.353%
21	10.170	1823	1832	1853	rBV	1494355	2500456	93.47%	8.220%
22	10.358	1861	1868	1875	rVB8	14002	29117	1.09%	0.096%
23	11.473	2073	2081	2090	rBV	1425041	2241584	83.79%	7.369%
24	11.603	2095	2106	2115	rVV	1697364	2675205	100.00%	8.794%
25	11.682	2115	2121	2128	rVB	63772	116831	4.37%	0.384%
26	11.933	2161	2169	2179	rBV	1604559	2539255	94.92%	8.348%
27	12.461	2259	2270	2284	rBV	1112838	1647529	61.59%	5.416%
28	12.644	2300	2305	2312	rVB	18854	29302	1.10%	0.096%
29	12.785	2328	2332	2338	rVB2	21969	32940	1.23%	0.108%
30	12.947	2357	2363	2370	rBV2	17162	27397	1.02%	0.090%
31	13.094	2385	2391	2398	rVB	68039	96490	3.61%	0.317%
32	13.397	2442	2449	2459	rBV	1503059	2240415	83.75%	7.365%
33	13.690	2498	2505	2518	rVB	1400445	2066977	77.26%	6.795%

Sum of corrected areas: 30419136

File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T10.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 12:39 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19061853-006B
Misc Info : ,V_8260S_W,SAMP,50,1-50ml,V1/2
Vial Number: 10
Quant File :VOCT1908.RES (RTE Integrator)



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N07.D Vial: 7
Acq On : 28 Jun 2019 11:29 Operator: Kelly Senci
Sample : 19061853-007B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

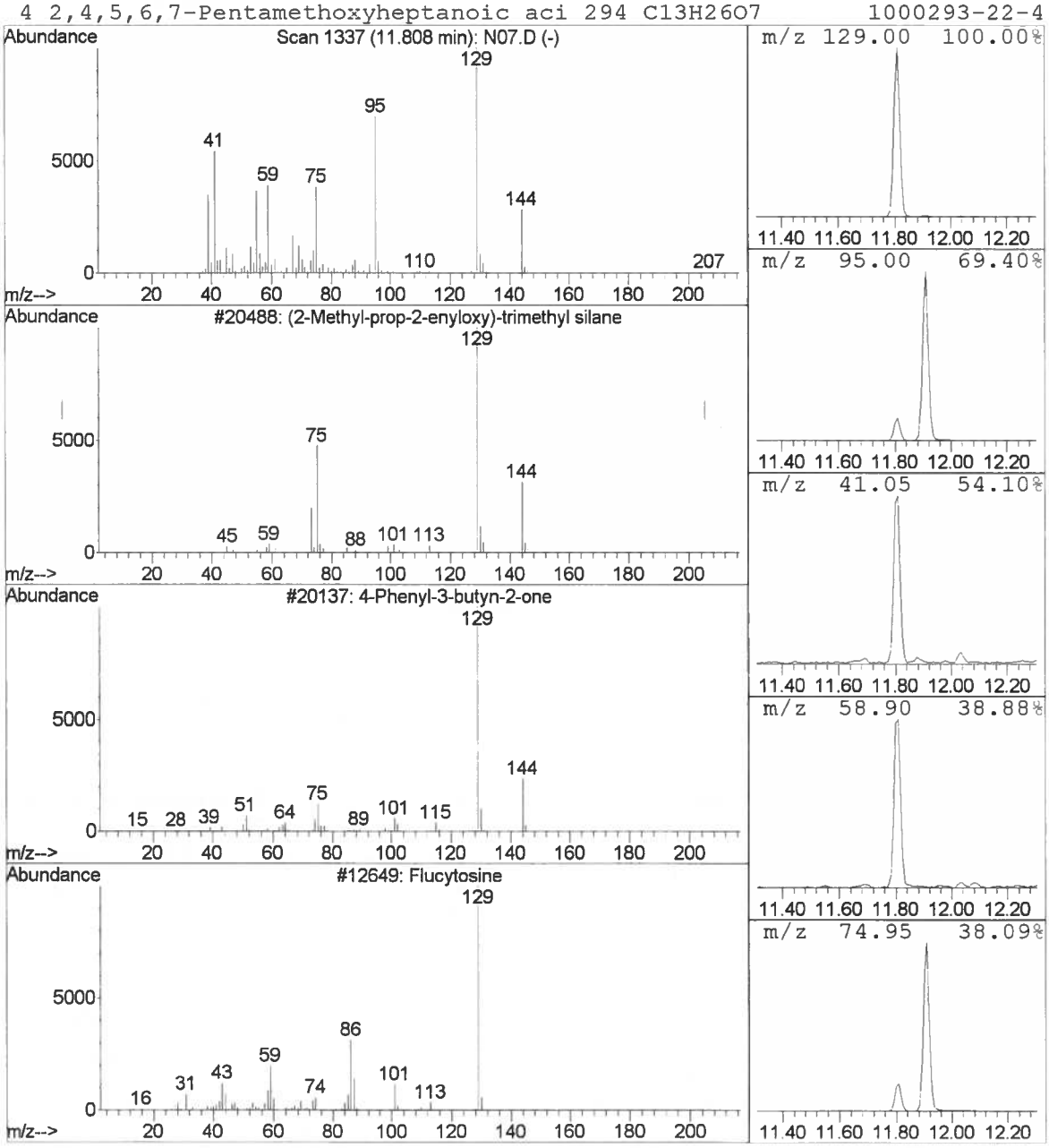
Quant Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

****

Peak Number 1 (2-Methyl-prop-2-enyloxy)-trim Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.81	9.48 ug/L	440048	Chlorobenzene-d5 TPH	10.90

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	(2-Methyl-prop-2-enyloxy)-trimethyl	144	C7H16OSi	025195-85-1	38
2	4-Phenyl-3-butyn-2-one	144	C10H8O	001817-57-8	35
3	Flucytosine	129	C4H4FN3O	002022-85-7	32
4	2,4,5,6,7-Pentamethoxyheptanoic aci	294	C13H26O7	1000293-22-4	25



Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 11:29
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190628A\N07.D
Name: 19061853-007B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
(2-Methyl-prop-2-eny	11.81	9.5	ug/L	440048	ISTD03	10.90	2321290	50.0

N07.D VOCN1908.M Fri Jun 28 12:52:17 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N07.D Vial: 7
Acq On : 28 Jun 2019 11:29 Operator: Kelly Senci
Sample : 19061853-007B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

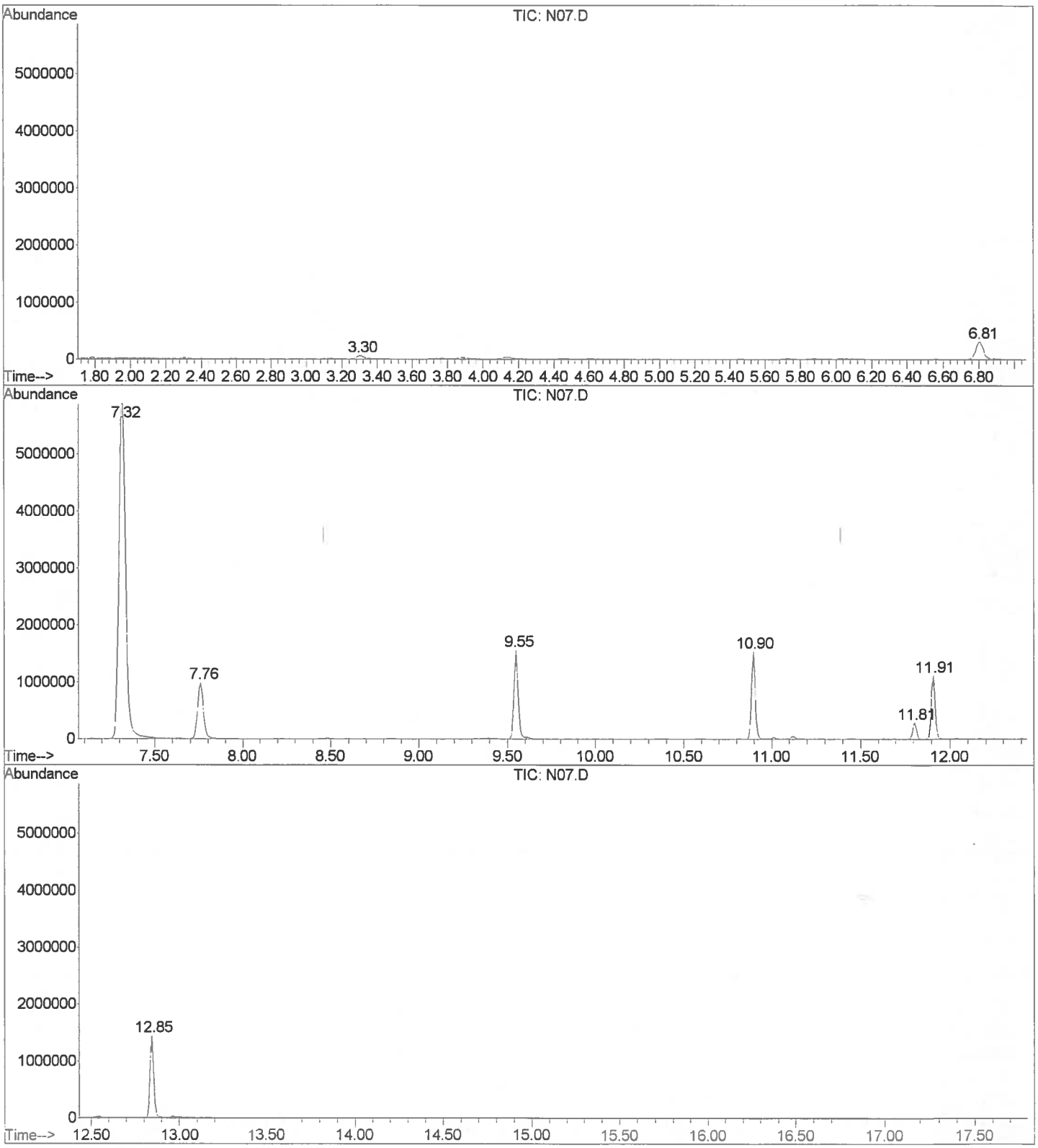
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	320	328	350	rBV	57241	202494	1.29%	0.721%
2	6.806	735	744	762	rBV	308931	958060	6.09%	3.413%
3	7.320	796	805	831	rBV	5880613	15720965	100.00%	56.012%
4	7.759	849	857	876	rBV	979671	2250094	14.31%	8.017%
5	9.547	1064	1069	1076	rBV	1546916	2587392	16.46%	9.219%
6	10.897	1224	1229	1237	rBV	1531494	2321289	14.77%	8.270%
7	11.808	1332	1337	1343	rVB	281003	440048	2.80%	1.568%
8	11.909	1343	1349	1356	rBV	1106192	1582874	10.07%	5.640%
9	12.845	1456	1460	1470	rBV	1434880	2003938	12.75%	7.140%

Sum of corrected areas: 28067154

N07.D VOCN1908.M Fri Jun 28 12:52:16 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N07.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 11:29 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061853-007B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 7
Quant File :VOCN1908.RES (RTE Integrator)



N07.D VOCN1908.M Fri Jun 28 12:52:16 2019

Library Search Compound Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T12.D Vial: 12
Acq On : 28 Jun 2019 13:33 Operator: Kelly Senci
Sample : 19061853-006B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

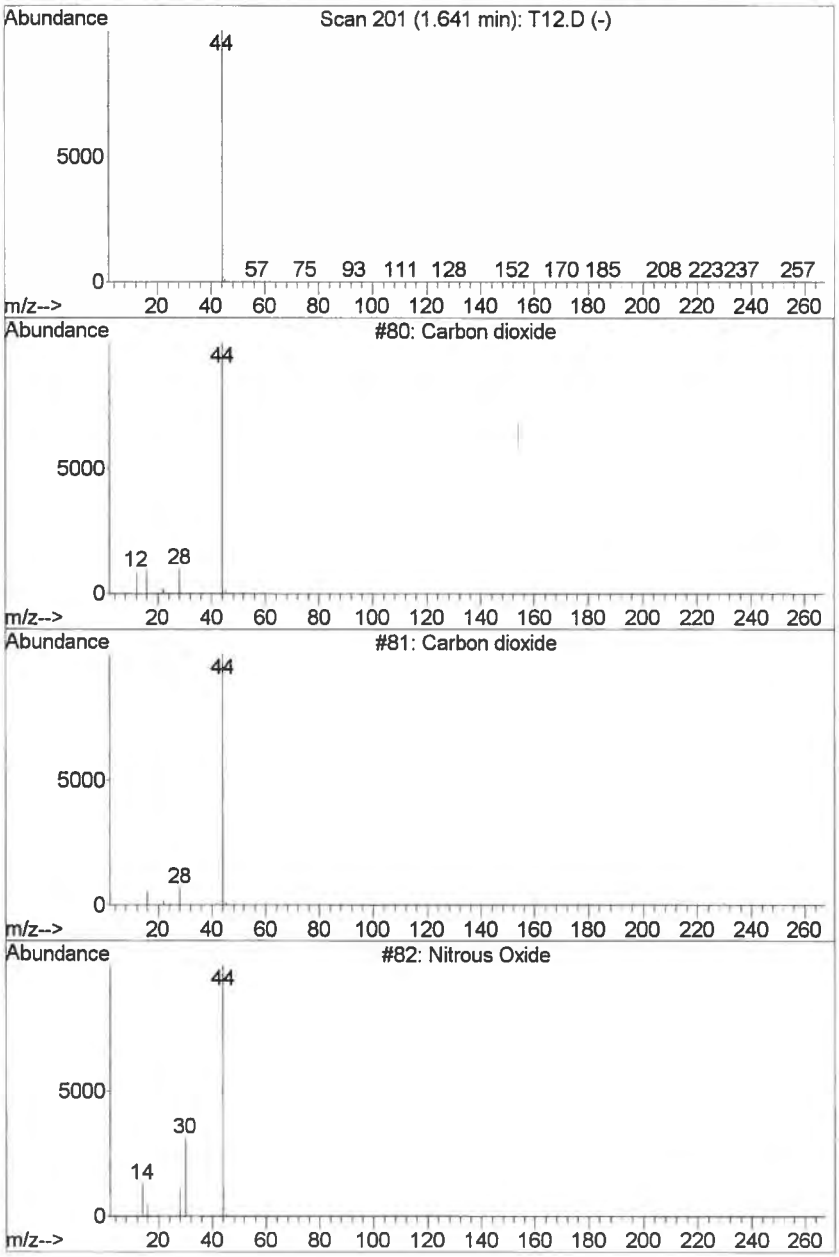
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

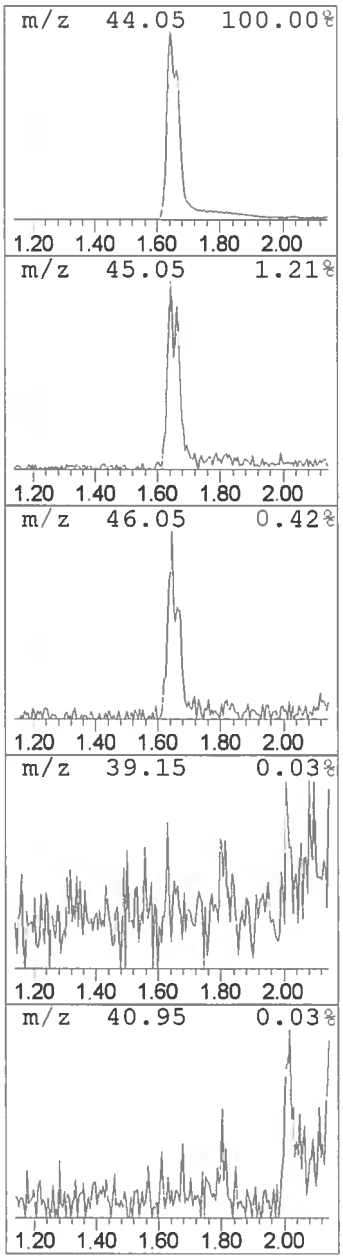
****

Peak Number 1 Carbon dioxide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.64	11.33 ug/L	448452	Fluorobenzene	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Carbon dioxide	44	CO2	000124-38-9	4
2	Carbon dioxide	44	CO2	000124-38-9	3
3	Nitrous Oxide	44	N2O	010024-97-2	3
4	Nitrous Oxide	44	N2O	010024-97-2	3





Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T12.D Vial: 12
Acq On : 28 Jun 2019 13:33 Operator: Kelly Senci
Sample : 19061853-006B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

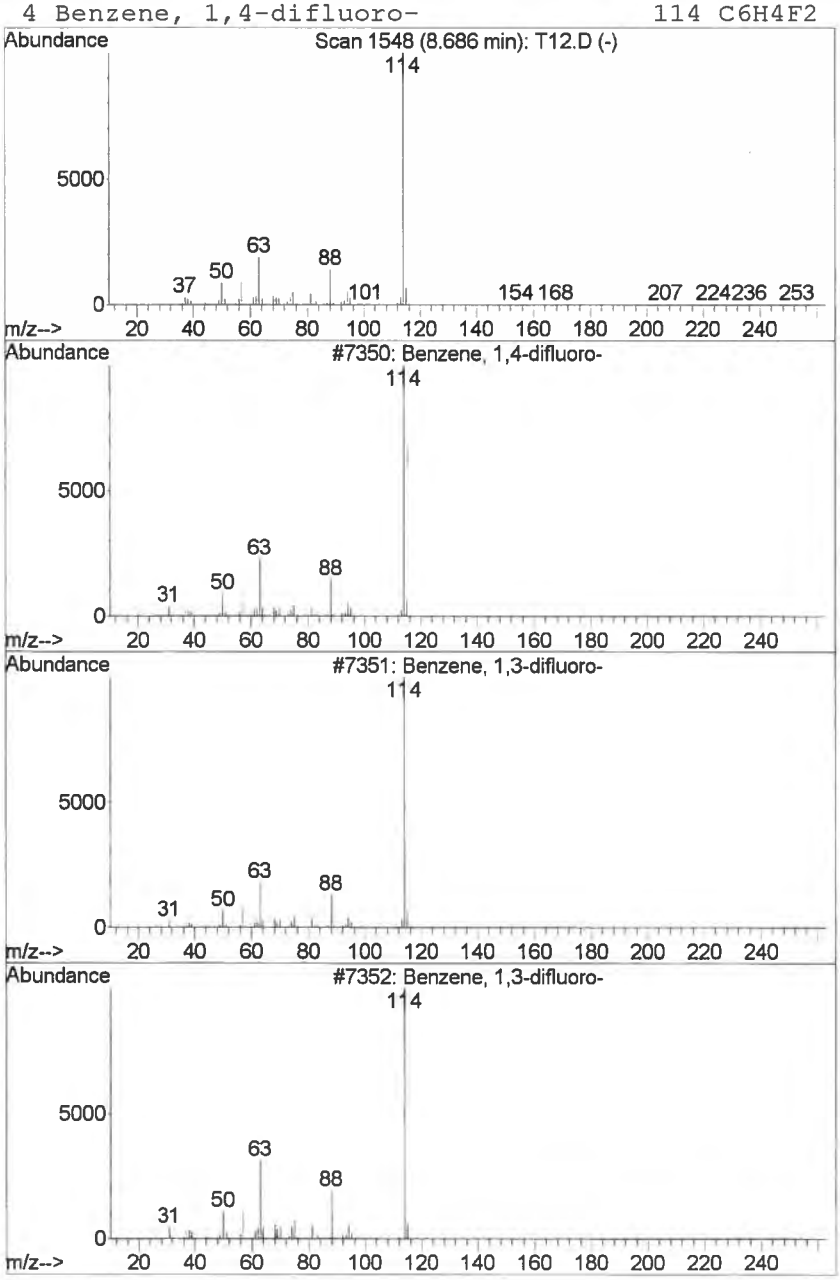
Quant Method : C:\MSDCHEM\1...\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library : C:\DATABASE\NIST08.L

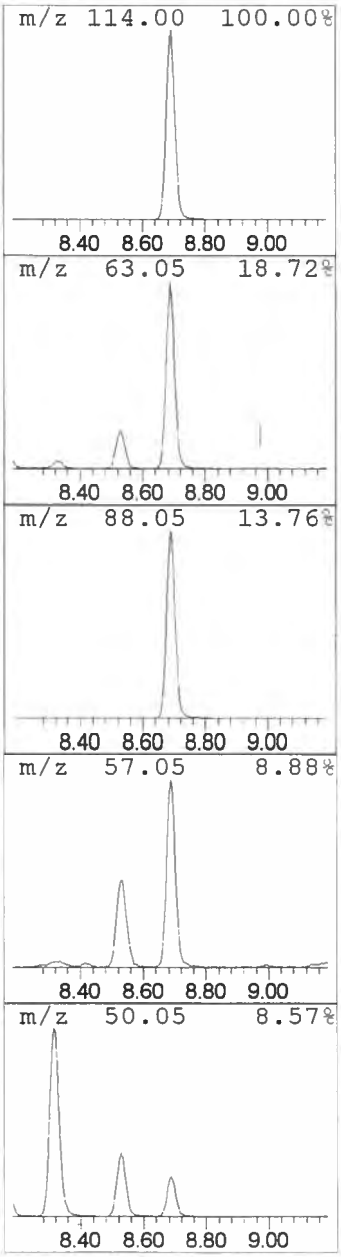
****

Peak Number 2 Benzene, 1,4-difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
8.69	48.99 ug/L	1938430	Fluorobenzene*	8.53

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	94
2	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	94
3	Benzene, 1,3-difluoro-	114	C6H4F2	000372-18-9	94
4	Benzene, 1,4-difluoro-	114	C6H4F2	000540-36-3	94





Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 13:33
Data File: C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T12.D
Name: 19061853-006B
Misc: ,V_8260S_W,SAMP,20,2.5-50ml,V1/2
Method: C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title: 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Carbon dioxide	1.64	11.3	ug/L	448452	1	8.53	1978340	50.0
Benzene, 1,4-difl...	8.69	49.0	ug/L	1938430	2	8.53	1978340	50.0

LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T12.D Vial: 12
Acq On : 28 Jun 2019 13:33 Operator: Kelly Senci
Sample : 19061853-006B Inst : Inst_T
Misc : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\MSDCHEM\1\METHODS\TEKLAB\VOCT1908.M (RTE Integrator)
Title : 06/19/19 8260 ICAL 9210 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

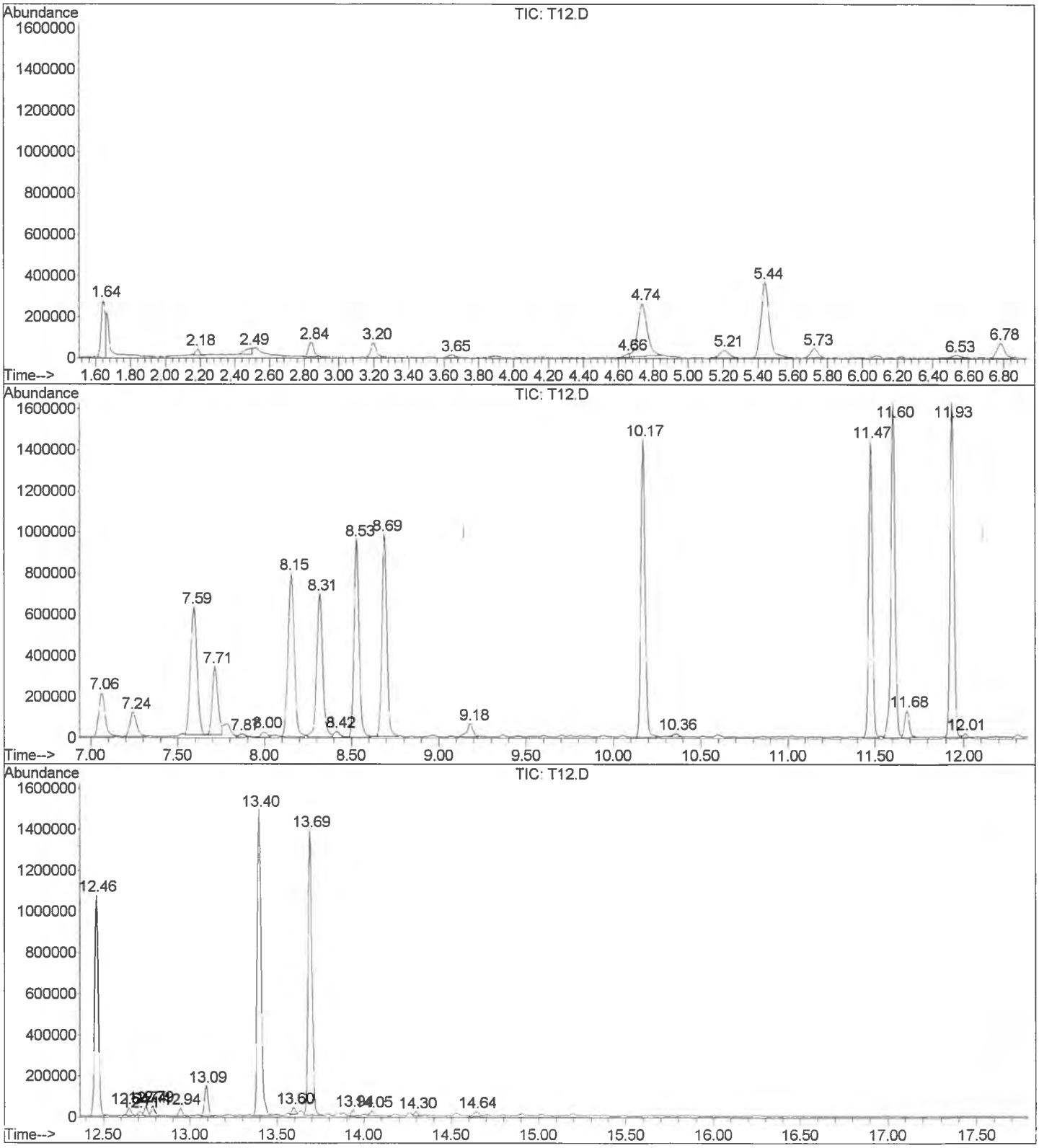
Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	1.641	193	201	204	rBV	273680	448452	16.72%	1.420%
2	2.185	301	305	313	rVB2	28614	40525	1.51%	0.128%
3	2.493	350	364	365	rBV6	29362	90271	3.37%	0.286%
4	2.838	422	430	441	rVB2	67854	149458	5.57%	0.473%
5	3.199	490	499	511	rBV	68250	156095	5.82%	0.494%
6	3.649	576	585	594	rBV3	10918	29209	1.09%	0.093%
7	4.659	766	778	779	rBV3	17967	36489	1.36%	0.116%
8	4.737	779	793	814	rVB2	253650	1001978	37.36%	3.173%
9	5.208	867	883	897	rBV2	36650	134938	5.03%	0.427%
10	5.438	911	927	958	rBV2	365866	1242823	46.34%	3.936%
11	5.725	969	982	993	rBV2	43138	127297	4.75%	0.403%
12	6.531	1121	1136	1151	rBV10	12286	48945	1.82%	0.155%
13	6.782	1172	1184	1198	rBV3	70336	217069	8.09%	0.688%
14	7.059	1228	1237	1256	rBV	212664	552660	20.61%	1.750%
15	7.242	1262	1272	1287	rBV	117838	316509	11.80%	1.002%
16	7.593	1329	1339	1353	rVB	620458	1594257	59.44%	5.049%
17	7.713	1353	1362	1370	rBV	332398	778839	29.04%	2.467%
18	7.870	1385	1392	1401	rVB2	15981	40323	1.50%	0.128%
19	7.995	1407	1416	1423	rBV3	25560	58989	2.20%	0.187%
20	8.152	1434	1446	1461	rBV3	791752	2033932	75.83%	6.442%
21	8.314	1464	1477	1492	rVV	692637	1626893	60.66%	5.153%
22	8.419	1492	1497	1507	rVB3	27786	61399	2.29%	0.194%
23	8.529	1507	1518	1534	rBV	958084	1978335	73.76%	6.266%
24	8.686	1539	1548	1563	rBV	981198	1938425	72.27%	6.139%
25	9.183	1627	1643	1651	rBV2	64124	157784	5.88%	0.500%
26	10.171	1823	1832	1850	rBV	1443997	2421153	90.27%	7.668%
27	10.359	1860	1868	1874	rVB9	16499	35380	1.32%	0.112%
28	11.473	2072	2081	2091	rBV	1436980	2210031	82.40%	7.000%
29	11.604	2094	2106	2115	rVV	1620312	2682069	100.00%	8.495%
30	11.683	2115	2121	2134	rVB	128525	244238	9.11%	0.774%
31	11.934	2160	2169	2179	rBV	1621232	2501393	93.26%	7.922%
32	12.007	2179	2183	2192	rVB	18108	27190	1.01%	0.086%
33	12.462	2261	2270	2281	rBV	1072526	1597821	59.57%	5.061%
34	12.645	2298	2305	2312	rBV	37183	57747	2.15%	0.183%
35	12.708	2312	2317	2320	rVV2	21108	30816	1.15%	0.098%
36	12.744	2320	2324	2328	rVV	44633	62963	2.35%	0.199%
37	12.786	2328	2332	2338	rVB	46828	63163	2.36%	0.200%
38	12.943	2356	2362	2371	rBV2	37079	57914	2.16%	0.183%
39	13.095	2384	2391	2399	rVB	145715	209206	7.80%	0.663%
40	13.398	2441	2449	2461	rBV	1485720	2255460	84.09%	7.144%

41	13.597	2482	2487	2491	rVV2	33137	46847	1.75%	0.148%
42	13.691	2498	2505	2520	rVB	1383729	2050588	76.46%	6.495%
43	13.937	2547	2552	2559	rVB	29165	43334	1.62%	0.137%
44	14.047	2567	2573	2579	rVB4	22856	39611	1.48%	0.125%
45	14.298	2617	2621	2626	rVB2	19333	27607	1.03%	0.087%
46	14.643	2678	2687	2694	rBV5	21932	47046	1.75%	0.149%

Sum of corrected areas: 31573471

File : C:\MSDCHEM\1\DATA\TEKLAB\T190628A\T12.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 13:33 using AcqMethod ACQT8260
Instrument : Inst_T
Sample Name: 19061853-006B
Misc Info : ,V_8260S_W,SAMP,20,2.5-50ml,V1/2
Vial Number: 12
Quant File :VOCT1908.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: Kelly Senci Date Acquired: 28 Jun 2019 11:57
Data File: C:\HPCHEM\1\DATA\TEKLAB\N190628A\N08.D
Name: 19061853-008B
Misc: ,V_8260S_W,SAMP,1,5ml,V1/2
Method: C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title: 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Library Searched: C:\DATABASE\NIST08.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

N08.D VOCN1908.M Fri Jun 28 12:52:22 2019

LSC Area Percent Report

Data File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N08.D Vial: 8
Acq On : 28 Jun 2019 11:57 Operator: Kelly Senci
Sample : 19061853-008B Inst : Inst. N
Misc : ,V_8260S_W,SAMP,1,5ml,V1/2 Multiplr: 1.00
MS Integration Params: LSCINT.P

Method : C:\HPCHEM\1\METHODS\VOCN1908.M (RTE Integrator)
Title : 05/03/19 8260 ICAL 9122/9123 SW-846 METHOD 8260B
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

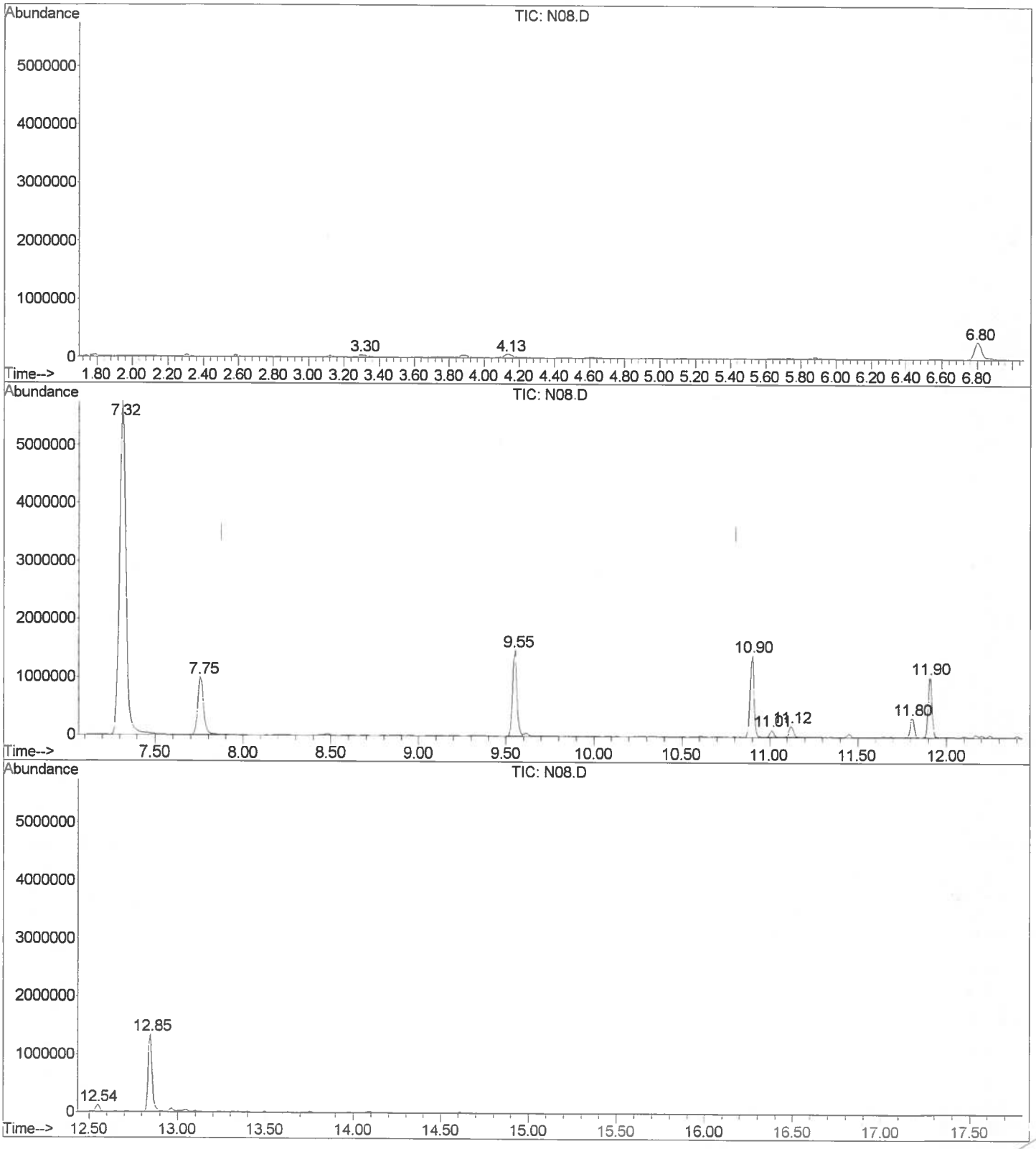
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.300	321	328	342	rBV	44308	151036	1.02%	0.538%
2	4.135	416	427	439	rBV3	63792	227780	1.54%	0.812%
3	6.801	733	743	761	rBV	299816	976313	6.58%	3.481%
4	7.315	796	804	829	rBV	5740999	14830825	100.00%	52.873%
5	7.754	849	856	874	rBV	992096	2245899	15.14%	8.007%
6	9.550	1064	1069	1074	rBV	1470943	2519019	16.99%	8.980%
7	10.900	1224	1229	1235	rBV	1398314	2226274	15.01%	7.937%
8	11.010	1238	1242	1248	rVV	118697	184714	1.25%	0.659%
9	11.119	1250	1255	1266	rVB	184552	344376	2.32%	1.228%
10	11.803	1332	1336	1342	rVB	323929	516480	3.48%	1.841%
11	11.904	1342	1348	1355	rBV	1022429	1603079	10.81%	5.715%
12	12.545	1416	1424	1429	rBV	116374	195662	1.32%	0.698%
13	12.849	1455	1460	1470	rBV	1331507	2028464	13.68%	7.232%

Sum of corrected areas: 28049921

N08.D VOCN1908.M Fri Jun 28 12:52:22 2019

LSC Report - Integrated Chromatogram

File : C:\HPCHEM\1\DATA\TEKLAB\N190628A\N08.D
Operator : Kelly Senci
Acquired : 28 Jun 2019 11:57 using AcqMethod ACQN8260
Instrument : Inst. N
Sample Name: 19061853-008B
Misc Info : ,V_8260S_W,SAMP,1,5ml,V1/2
Vial Number: 8
Quant File :VOCN1908.RES (RTE Integrator)



N08.D VOCN1908.M Fri Jun 28 12:52:22 2019

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-172422

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/22/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-062819-B	PD-5-GWP-80-062819
PD-8-GWP-35-062819	PD-8-GWP-41-062819
PD-8-GWP-46-062819	PD-8-GWP-52-062819

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated 2-methylnaphthalene was detected in the method blank. SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC surrogate recoveries for 2-fluorophenol and/or terphenyl d-14 was outside evaluation criteria in several samples. VOC and SVOC MS/MSD recoveries were outside evaluation criteria in sample PD-5-GWP-80-062819. VOC samples PD-8-GWP-52-062819 and PD-8-GWP-52-062819 were measured, post-analysis, at a pH > 2. Samples with pH >2, were collected in HCl preserved vials; however, since analysis was after 7 days, VOC results should be considered estimated. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-446728/1-A	PAHs	2-Methylnaphthalene	0.0487 µg/L

Qualifications due to blank contamination are included in the following table. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-5-GWP-80-062819	PAHs	2-Methylnaphthalene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-446728/18-A/19-A	SVOCs	Benzenethiol	**5**/**5**	0	10-120/30
400-446728/2-A	SVOCs	Dibenz[a,h]acridine	**45**/NA	NA	46-149
400-446728/2-A	PAHs	Pyrene	**138**/NA	NA	48-132

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

Sample ID	Parameter	Analyte	Qualification
PD-5-GWP-80-062819	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-35-062819	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-41-062819	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-46-062819	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-52-062819	SVOCs	Benzenethiol	**UJ**
PD-5-GWP-80-062819	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-35-062819	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-41-062819	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-46-062819	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-52-062819	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-41-062819	PAHs	Pyrene	**J**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-5-GWP-35-062819	SVOCs	2-Fluorophenol	**0**	10-120
PD-5-GWP-35-062819	SVOCs	Terphenyl-d_{14}	**51**	53-125
PD-8-GWP-46-062819	SVOCs	Terphenyl-d_{14}	**46**	53-125
PD-8-GWP-52-062819	SVOCs	Terphenyl-d_{14}	**44**	53-125

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-8-GWP-80-062819-MS	SVOCs	Terphenyl-d_{14}	**37**	33-138
PD-8-GWP-80-062819-MSD	SVOCs	Terphenyl-d_{14}	**52**	33-138
MB 400-446728/1-A	SVOCs	Terphenyl-d_{14}	**200**	33-138

Qualifications due to surrogate recoveries were not required if only one of three base/neutral or acid fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-5-GWP-80-062819 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-5-GWP-80-062819	VOCs	2-Chloroethyl vinyl ether	**0/0**	NA	10-150/50
PD-5-GWP-80-062819	SVOCs	Dibenz[a,h]acridine	**34/33**	3	42-147/40
PD-5-GWP-80-062819	SVOCs	Quinoline	50/79	**45**	10-180/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-5-GWP-80-062819	VOCs	2-Chloroethyl vinyl ether	**UJ**
PD-5-GWP-80-062819	SVOCs	Dibenz[a,h]acridine	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, VOC samples PD-8-GWP-41-062819 and PD-8-GWP-52-062819 were measured, post-analysis, at a pH > 2. Samples with pH > 2, were collected in HCl preserved vials; however, since analysis was after 7 days, VOC results should be considered estimated.

Sample ID	Parameter	Analyte	Qualification
PD-8-GWP-41-062819	VOCs	Detects/non-detects	**J/UJ**
PD-8-GWP-52-062819	SVOCs	Detects/non-detects	**J/UJ**

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ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172422-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/22/2019 12:09:03 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/23/2019

LINKS

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Job ID: 400-172422-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172422-1

Comments
No additional comments.

Receipt
The samples were received on 6/29/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-447677 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-447677 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following samples were analyzed after 7 days from sampling: PD-8-GWP-41-062819 (400-172422-4) and PD-8-GWP-52-062819 (400-172422-6).

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: PD-8-GWP-41-062819 (400-172422-4) and PD-8-GWP-52-062819 (400-172422-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-GWP-41-062819 (400-172422-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following sample was analyzed after 7 days from sampling: PD-8-GWP-46-062819 (400-172422-5).

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-062819-B (400-172422-1), PD-5-GWP-80-062819 (400-172422-2), PD-5-GWP-35-062819 (400-172422-3) and PD-8-GWP-46-062819 (400-172422-5). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-5-GWP-35-062819 (400-172422-3) and PD-8-GWP-46-062819 (400-172422-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D LL: The method blank for preparation batch 400-446728 and analytical batch 400-447502 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Job ID: 400-172422-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

compounds outside limits: (MB 400-446728/1-A). These results have been reported and qualified.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-447918 recovered above the upper control limit for 1-Methylnaphthalene, 2-Methylnaphthalene, Anthracene and Benzo[k]fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-447918/3).

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446728 and analytical batch 400-447936 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-5-GWP-80-062819 (400-172422-2[MS]), PD-5-GWP-80-062819 (400-172422-2[MSD]), PD-8-GWP-46-062819 (400-172422-5) and PD-8-GWP-52-062819 (400-172422-6). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-446728 and analytical batch 400-447936: Dibenz[a,h]acridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-446728 and analytical batch 400-447936 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-446728 and analytical batch 400-447936 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-5-GWP-35-062819 (400-172422-3). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-446728 and analytical batch 400-447502 recovered outside control limits for the following analytes: Pyrene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-8-GWP-41-062819 (400-172422-4) and PD-8-GWP-46-062819 (400-172422-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172422-1	TB-PW-062819-B	Water	06/28/19 00:00	06/29/19 09:19	
400-172422-2	PD-5-GWP-80-062819	Water	06/28/19 10:05	06/29/19 09:19	
400-172422-3	PD-5-GWP-35-062819	Water	06/28/19 11:45	06/29/19 09:19	
400-172422-4	PD-8-GWP-41-062819	Water	06/28/19 13:55	06/29/19 09:19	
400-172422-5	PD-8-GWP-46-062819	Water	06/28/19 14:50	06/29/19 09:19	
400-172422-6	PD-8-GWP-52-062819	Water	06/28/19 15:40	06/29/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B — Lab Sample ID: 400-172422-1

No Detections.

Client Sample ID: PD-5-GWP-80-062819 — Lab Sample ID: 400-172422-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	180		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	1.8		1.0	0.50	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	3.8	J	5.0	1.6	ug/L	1		8260B	Total/NA
o-Xylene	1.1	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.61	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.5		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.63	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	4.9	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.12	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.23	B U	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	4.3	J	9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-5-GWP-35-062819 — Lab Sample ID: 400-172422-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	1500		1000	410	ug/L	1000		8260B	Total/NA
Benzene - DL	810000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	2.7		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.8	B	0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	42		29	7.0	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol	22		9.6	3.4	ug/L	1		8270D	Total/NA
Indene	6.9	J	9.6	0.96	ug/L	1		8270D	Total/NA
2-Methylphenol	18		9.6	1.7	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	11	J	19	1.0	ug/L	1		8270D	Total/NA
Pentachlorophenol	2.3	J	19	1.7	ug/L	1		8270D	Total/NA
Phenol - DL	230		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-8-GWP-41-062819 — Lab Sample ID: 400-172422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4900		25	9.5	ug/L	25		8260B	Total/NA
Ethylbenzene	1400		25	13	ug/L	25		8260B	Total/NA
Isopropylbenzene	29		25	13	ug/L	25		8260B	Total/NA
m-Xylene & p-Xylene	2200		130	40	ug/L	25		8260B	Total/NA
Naphthalene	120		25	25	ug/L	25		8260B	Total/NA
N-Propylbenzene	61		25	17	ug/L	25		8260B	Total/NA
o-Xylene	280		130	15	ug/L	25		8260B	Total/NA
Toluene	150		25	10	ug/L	25		8260B	Total/NA
1,2,4-Trimethylbenzene	330		25	21	ug/L	25		8260B	Total/NA
1,3,5-Trimethylbenzene	110		25	14	ug/L	25		8260B	Total/NA
Xylenes, Total	2500		250	40	ug/L	25		8260B	Total/NA
Acenaphthene	0.60		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.040	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.061	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.074	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.14	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.9		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	47		1.9	0.19	ug/L	10		8270D LL	Total/NA
2-Methylnaphthalene	56	B	1.9	0.19	ug/L	10		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819 (Continued)

Lab Sample ID: 400-172422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	2.4		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.13	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Indene	13		9.7	0.97	ug/L	1		8270D	Total/NA

Client Sample ID: PD-8-GWP-46-062819

Lab Sample ID: 400-172422-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	42	J	50	20	ug/L	2		8260B	Total/NA
Benzene	86		2.0	0.76	ug/L	2		8260B	Total/NA
2-Butanone (MEK)	37	J	50	5.2	ug/L	2		8260B	Total/NA
Ethylbenzene	54		2.0	1.0	ug/L	2		8260B	Total/NA
Isopropylbenzene	32		2.0	1.1	ug/L	2		8260B	Total/NA
m-Xylene & p-Xylene	97		10	3.2	ug/L	2		8260B	Total/NA
Naphthalene	4.9		2.0	2.0	ug/L	2		8260B	Total/NA
n-Butylbenzene	3.4		2.0	1.5	ug/L	2		8260B	Total/NA
N-Propylbenzene	83		2.0	1.4	ug/L	2		8260B	Total/NA
o-Xylene	12		10	1.2	ug/L	2		8260B	Total/NA
sec-Butylbenzene	2.5		2.0	1.4	ug/L	2		8260B	Total/NA
tert-Butylbenzene	1.9	J	2.0	1.3	ug/L	2		8260B	Total/NA
Toluene	28		2.0	0.82	ug/L	2		8260B	Total/NA
1,2,4-Trimethylbenzene	8.2		2.0	1.6	ug/L	2		8260B	Total/NA
1,3,5-Trimethylbenzene	6.5		2.0	1.1	ug/L	2		8260B	Total/NA
Xylenes, Total	110		20	3.2	ug/L	2		8260B	Total/NA
Fluorene	0.26		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	46		2.0	0.20	ug/L	10		8270D LL	Total/NA
2-Methylnaphthalene	63	B	2.0	0.20	ug/L	10		8270D LL	Total/NA

Client Sample ID: PD-8-GWP-52-062819

Lab Sample ID: 400-172422-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	14		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 10:25	1
Acrolein	ND		20	10	ug/L			07/12/19 10:25	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 10:25	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 10:25	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 10:25	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 10:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 10:25	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 10:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 10:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 10:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 10:25	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 10:25	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 10:25	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 10:25	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 10:25	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 10:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 10:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 10:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 10:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 10:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 10:25	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 10:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 10:25	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 10:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 10:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 10:25	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 10:25	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 10:25	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 10:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 10:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 10:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 10:25	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 10:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 10:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 10:25	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 10:25	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 10:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 10:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 10:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 10:25	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 10:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 10:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 10:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 10:25	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 10:25	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 10:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 10:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 10:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 10:25	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 10:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 10:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 10:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*111*		*78 - 118*		*07/12/19 10:25*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/12/19 10:25*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*07/12/19 10:25*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 11:18	1
Acrolein	ND		20	10	ug/L			07/12/19 11:18	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 11:18	1
Benzene	**180**		1.0	0.38	ug/L			07/12/19 11:18	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 11:18	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 11:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 11:18	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 11:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 11:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 11:18	1
2-Chloroethyl vinyl ether	ND	F1	5.0	2.0	ug/L			07/12/19 11:18	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 11:18	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 11:18	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 11:18	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 11:18	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 11:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 11:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 11:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 11:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Ethylbenzene	**1.8**		1.0	0.50	ug/L			07/12/19 11:18	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 11:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 11:18	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 11:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 11:18	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 11:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 11:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 11:18	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 11:18	1
m-Xylene & p-Xylene	**3.8**	**J**	5.0	1.6	ug/L			07/12/19 11:18	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 11:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 11:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 11:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 11:18	1
o-Xylene	**1.1**	**J**	5.0	0.60	ug/L			07/12/19 11:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 11:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 11:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 11:18	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 11:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 11:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 11:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 11:18	1
Toluene	**0.61**	**J**	1.0	0.41	ug/L			07/12/19 11:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 11:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 11:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 11:18	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 11:18	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 11:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 11:18	1
1,2,4-Trimethylbenzene	**1.5**		1.0	0.82	ug/L			07/12/19 11:18	1
1,3,5-Trimethylbenzene	**0.63**	**J**	1.0	0.56	ug/L			07/12/19 11:18	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 11:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Xylenes, Total	**4.9**	**J**	10	1.6	ug/L			07/12/19 11:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*58*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/12/19 11:18*	*1*
Hexane	*2.3*		*ug/L*		*2.73*	*110-54-3*		*07/12/19 11:18*	*1*
Cyclohexane	*1.8*		*ug/L*		*3.46*	*110-82-7*		*07/12/19 11:18*	*1*
n-Heptane	*1.1*		*ug/L*		*3.75*	*142-82-5*		*07/12/19 11:18*	*1*
Methylcyclohexane	*1.7*		*ug/L*		*4.13*	*108-87-2*		*07/12/19 11:18*	*1*
3-Ethyltoluene	*1.5*		*ug/L*		*6.86*	*620-14-4*		*07/12/19 11:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*07/12/19 11:18*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 11:18*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/12/19 11:18*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 23:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
1-Methylnaphthalene	0.12	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
2-Methylnaphthalene	0.23	B UL	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Pyrene	ND	*	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*15 - 122*	*07/03/19 14:07*	*07/12/19 23:17*	*1*
Nitrobenzene-d5	*73*		*19 - 130*	*07/03/19 14:07*	*07/12/19 23:17*	*1*
Terphenyl-d14	*106*		*33 - 138*	*07/03/19 14:07*	*07/12/19 23:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		07/03/19 14:07	07/14/19 17:14	1
Benzoic acid	ND		30	7.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 17:14	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/03/19 14:07	07/14/19 17:14	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/03/19 14:07	07/14/19 17:14	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/03/19 14:07	07/14/19 17:14	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Dibenz[a,h]acridine	ND	F1 * UJ	9.9	3.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 17:14	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 17:14	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/03/19 14:07	07/14/19 17:14	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/03/19 14:07	07/14/19 17:14	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		07/03/19 14:07	07/14/19 17:14	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 17:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 17:14	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/03/19 14:07	07/14/19 17:14	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 17:14	1
Hexachloroethane	ND		9.9	4.1	ug/L		07/03/19 14:07	07/14/19 17:14	1
Indene	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 17:14	1
Isophorone	ND		9.9	0.56	ug/L		07/03/19 14:07	07/14/19 17:14	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819
Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Nitroaniline	ND		9.9	2.4	ug/L		07/03/19 14:07	07/14/19 17:14	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/03/19 14:07	07/14/19 17:14	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 17:14	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/03/19 14:07	07/14/19 17:14	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/03/19 14:07	07/14/19 17:14	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
Phenol	**4.3**	**J**	9.9	2.6	ug/L		07/03/19 14:07	07/14/19 17:14	1
Pyridine	ND		9.9	3.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
Quinoline	ND	F2	9.9	5.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 17:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfolane	*1.4*	*J*	*ug/L*		*6.46*	*126-33-0*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 17:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*47*		*34 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Phenol-d5	*48*		*10 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Terphenyl-d14	*58*		*53 - 125*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
2,4,6-Tribromophenol	*58*		*15 - 135*	*07/03/19 14:07*	*07/14/19 17:14*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819

Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/12/19 12:38	1000
Acrolein	ND		20000	10000	ug/L			07/12/19 12:38	1000
Acrylonitrile	ND		10000	2800	ug/L			07/12/19 12:38	1000
Bromobenzene	ND		1000	540	ug/L			07/12/19 12:38	1000
Bromochloromethane	ND		1000	520	ug/L			07/12/19 12:38	1000
Bromodichloromethane	ND		1000	500	ug/L			07/12/19 12:38	1000
Bromoform	ND		5000	710	ug/L			07/12/19 12:38	1000
Bromomethane	ND		1000	980	ug/L			07/12/19 12:38	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/12/19 12:38	1000
Carbon disulfide	ND		1000	500	ug/L			07/12/19 12:38	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/12/19 12:38	1000
Chlorobenzene	ND		1000	500	ug/L			07/12/19 12:38	1000
Chloroethane	ND		1000	760	ug/L			07/12/19 12:38	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/12/19 12:38	1000
Chloroform	ND		1000	600	ug/L			07/12/19 12:38	1000
1-Chlorohexane	ND		1000	700	ug/L			07/12/19 12:38	1000
Chloromethane	ND		1000	830	ug/L			07/12/19 12:38	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/12/19 12:38	1000
Dibromochloromethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/12/19 12:38	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/12/19 12:38	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/12/19 12:38	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/12/19 12:38	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/12/19 12:38	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/12/19 12:38	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/12/19 12:38	1000
Ethylbenzene	ND		1000	500	ug/L			07/12/19 12:38	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/12/19 12:38	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/12/19 12:38	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/12/19 12:38	1000
2-Hexanone	ND		25000	3100	ug/L			07/12/19 12:38	1000
Isopropylbenzene	ND		1000	530	ug/L			07/12/19 12:38	1000
Methylene bromide	ND		5000	590	ug/L			07/12/19 12:38	1000
Methylene Chloride	ND		5000	3000	ug/L			07/12/19 12:38	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/12/19 12:38	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/12/19 12:38	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			07/12/19 12:38	1000
Naphthalene	ND		1000	1000	ug/L			07/12/19 12:38	1000
n-Butylbenzene	ND		1000	760	ug/L			07/12/19 12:38	1000
N-Propylbenzene	ND		1000	690	ug/L			07/12/19 12:38	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/12/19 12:38	1000
o-Xylene	ND		5000	600	ug/L			07/12/19 12:38	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/12/19 12:38	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819

Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/12/19 12:38	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/12/19 12:38	1000
Styrene	ND		1000	1000	ug/L			07/12/19 12:38	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/12/19 12:38	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			07/12/19 12:38	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
Tetrachloroethene	ND		1000	580	ug/L			07/12/19 12:38	1000
Toluene	**1500**		1000	410	ug/L			07/12/19 12:38	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/12/19 12:38	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/12/19 12:38	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/12/19 12:38	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/12/19 12:38	1000
Trichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/12/19 12:38	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/12/19 12:38	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			07/12/19 12:38	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/12/19 12:38	1000
Vinyl acetate	ND		25000	2000	ug/L			07/12/19 12:38	1000
Vinyl chloride	ND		1000	500	ug/L			07/12/19 12:38	1000
Xylenes, Total	ND		10000	1600	ug/L			07/12/19 12:38	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 12:38*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/12/19 12:38*	*1000*
Dibromofluoromethane	*93*		*81 - 121*		*07/12/19 12:38*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/12/19 12:38*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**810000**		5000	1900	ug/L			07/12/19 15:18	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/12/19 15:18*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/12/19 15:18*	*5000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/12/19 15:18*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Chrysene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819

Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Fluoranthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Fluorene	ND		0.19	0.020	ug/L		07/03/19 14:07	07/13/19 23:17	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
1-Methylnaphthalene	**2.7**		0.19	0.019	ug/L		07/03/19 14:07	07/17/19 15:51	1
2-Methylnaphthalene	**1.8**	**B**	0.19	0.019	ug/L		07/03/19 14:07	07/17/19 15:51	1
Phenanthrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Pyrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*15 - 122*	*07/03/19 14:07*	*07/13/19 23:17*	*1*
Nitrobenzene-d5	*52*		*19 - 130*	*07/03/19 14:07*	*07/13/19 23:17*	*1*
Terphenyl-d14	*61*		*33 - 138*	*07/03/19 14:07*	*07/13/19 23:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
Benzenethiol	ND	* UJ	9.6	1.6	ug/L		07/03/19 14:07	07/14/19 17:35	1
Benzoic acid	**42**		29	7.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/03/19 14:07	07/14/19 17:35	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/03/19 14:07	07/14/19 17:35	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/03/19 14:07	07/14/19 17:35	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/03/19 14:07	07/14/19 17:35	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Dibenz[a,h]acridine	ND	* UJ	9.6	2.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/03/19 14:07	07/14/19 17:35	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dimethylphenol	**22**		9.6	3.4	ug/L		07/03/19 14:07	07/14/19 17:35	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/03/19 14:07	07/14/19 17:35	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/03/19 14:07	07/14/19 17:35	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/03/19 14:07	07/14/19 17:35	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/03/19 14:07	07/14/19 17:35	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/03/19 14:07	07/14/19 17:35	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/03/19 14:07	07/14/19 17:35	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 17:35	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/03/19 14:07	07/14/19 17:35	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819
Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	**6.9**	**J**	9.6	0.96	ug/L		07/03/19 14:07	07/14/19 17:35	1
Isophorone	ND		9.6	0.55	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Methylphenol	**18**		9.6	1.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
3 & 4 Methylphenol	**11**	**J**	19	1.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/03/19 14:07	07/14/19 17:35	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/03/19 14:07	07/14/19 17:35	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/03/19 14:07	07/14/19 17:35	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/03/19 14:07	07/14/19 17:35	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/03/19 14:07	07/14/19 17:35	1
Pentachlorophenol	**2.3**	**J**	19	1.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
Pyridine	ND		9.6	3.1	ug/L		07/03/19 14:07	07/14/19 17:35	1
Quinoline	ND		9.6	5.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/03/19 14:07	07/14/19 17:35	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*210*	*T J N*	*ug/L*		*3.95*	*108-88-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Cyclopentanol, 1-methyl-	*25*	*T J N*	*ug/L*		*4.14*	*1462-03-9*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Ethylbenzene	*140*	*T J N*	*ug/L*		*4.69*	*100-41-4*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
p-Xylene	*170*	*T J N*	*ug/L*		*4.76*	*106-42-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
o-Xylene	*100*	*T J N*	*ug/L*		*4.91*	*95-47-6*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, (1-methylethyl)-	*7.3*	*T J N*	*ug/L*		*5.09*	*98-82-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, propyl-	*5.5*	*T J N*	*ug/L*		*5.27*	*103-65-1*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1-ethyl-2-methyl-	*7.3*	*T J N*	*ug/L*		*5.32*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1-ethyl-2-methyl-	*11*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Tricyclo[3.1.0.0(2,4)]hex-3-ene-3-carbonitrile	*8.3*	*T J N*	*ug/L*		*5.44*	*103495-51-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1,2,3-trimethyl-	*43*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1,2,3-trimethyl-	*20*	*T J N*	*ug/L*		*5.65*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*9.0*	*T J N*	*ug/L*		*5.70*	*1121-05-7*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Phenol, 2,3-dimethyl-	*8.3*	*T J N*	*ug/L*		*6.03*	*526-75-0*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Naphthalene	*54*	*T J N*	*ug/L*		*6.46*	*91-20-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Benzothiophene #	*14*	*T J N*	*ug/L*		*6.49*	*270-82-6*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzoic acid, 2-methyl-	*72*	*T J N*	*ug/L*		*6.61*	*118-90-1*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Tridecane	*10*	*T J N*	*ug/L*		*6.76*	*629-50-5*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzeneacetic acid, .alpha.-methyl-	*14*	*T J N*	*ug/L*		*6.79*	*492-37-5*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Thiophenecarboxylic acid, 5-ethyl-	*15*	*T J N*	*ug/L*		*7.06*	*23229-72-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
n-Hexadecanoic acid	*15*	*T J N*	*ug/L*		*9.12*	*57-10-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*34 - 120*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Phenol-d5	*51*		*10 - 120*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Terphenyl-d14	*51*	*X*	*53 - 125*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2,4,6-Tribromophenol	*92*		*15 - 135*	*07/03/19 14:07*	*07/14/19 17:35*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819
Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	230		48	13	ug/L		07/03/19 14:07	07/16/19 15:26	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819
Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		630	250	ug/L			07/11/19 22:19	25
Acrolein	ND		500	250	ug/L			07/11/19 22:19	25
Acrylonitrile	ND		250	70	ug/L			07/11/19 22:19	25
Benzene	**4900**		25	9.5	ug/L			07/11/19 22:19	25
Bromobenzene	ND		25	14	ug/L			07/11/19 22:19	25
Bromochloromethane	ND		25	13	ug/L			07/11/19 22:19	25
Bromodichloromethane	ND		25	13	ug/L			07/11/19 22:19	25
Bromoform	ND		130	18	ug/L			07/11/19 22:19	25
Bromomethane	ND		25	25	ug/L			07/11/19 22:19	25
2-Butanone (MEK)	ND		630	65	ug/L			07/11/19 22:19	25
Carbon disulfide	ND		25	13	ug/L			07/11/19 22:19	25
Carbon tetrachloride	ND		25	13	ug/L			07/11/19 22:19	25
Chlorobenzene	ND		25	13	ug/L			07/11/19 22:19	25
Chloroethane	ND		25	19	ug/L			07/11/19 22:19	25
2-Chloroethyl vinyl ether	ND		130	50	ug/L			07/11/19 22:19	25
Chloroform	ND		25	15	ug/L			07/11/19 22:19	25
1-Chlorohexane	ND		25	18	ug/L			07/11/19 22:19	25
Chloromethane	ND		25	21	ug/L			07/11/19 22:19	25
cis-1,2-Dichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
cis-1,3-Dichloropropene	ND		130	13	ug/L			07/11/19 22:19	25
Dibromochloromethane	ND		25	13	ug/L			07/11/19 22:19	25
1,2-Dibromo-3-Chloropropane	ND		130	38	ug/L			07/11/19 22:19	25
1,2-Dichlorobenzene	ND		25	13	ug/L			07/11/19 22:19	25
1,3-Dichlorobenzene	ND		25	14	ug/L			07/11/19 22:19	25
1,4-Dichlorobenzene	ND		25	16	ug/L			07/11/19 22:19	25
Dichlorodifluoromethane	ND		25	21	ug/L			07/11/19 22:19	25
1,1-Dichloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,2-Dichloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,1-Dichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
1,2-Dichloropropane	ND		25	13	ug/L			07/11/19 22:19	25
1,3-Dichloropropane	ND		25	13	ug/L			07/11/19 22:19	25
2,2-Dichloropropane	ND		25	13	ug/L			07/11/19 22:19	25
1,1-Dichloropropene	ND		25	13	ug/L			07/11/19 22:19	25
Ethylbenzene	**1400**		25	13	ug/L			07/11/19 22:19	25
Ethylene Dibromide	ND		25	13	ug/L			07/11/19 22:19	25
Ethyl methacrylate	ND		25	15	ug/L			07/11/19 22:19	25
Hexachlorobutadiene	ND		130	23	ug/L			07/11/19 22:19	25
2-Hexanone	ND		630	78	ug/L			07/11/19 22:19	25
Isopropylbenzene	**29**		25	13	ug/L			07/11/19 22:19	25
Methylene bromide	ND		130	15	ug/L			07/11/19 22:19	25
Methylene Chloride	ND		130	75	ug/L			07/11/19 22:19	25
4-Methyl-2-pentanone (MIBK)	ND		630	45	ug/L			07/11/19 22:19	25
Methyl tert-butyl ether	ND		25	19	ug/L			07/11/19 22:19	25
m-Xylene & p-Xylene	**2200**		130	40	ug/L			07/11/19 22:19	25
Naphthalene	**120**		25	25	ug/L			07/11/19 22:19	25
n-Butylbenzene	ND		25	19	ug/L			07/11/19 22:19	25
N-Propylbenzene	**61**		25	17	ug/L			07/11/19 22:19	25
o-Chlorotoluene	ND		25	14	ug/L			07/11/19 22:19	25
o-Xylene	**280**		130	15	ug/L			07/11/19 22:19	25

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

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Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		25	14	ug/L			07/11/19 22:19	25
p-Isopropyltoluene	ND		25	18	ug/L			07/11/19 22:19	25
sec-Butylbenzene	ND		25	18	ug/L			07/11/19 22:19	25
Styrene	ND		25	25	ug/L			07/11/19 22:19	25
tert-Butylbenzene	ND		25	16	ug/L			07/11/19 22:19	25
1,1,1,2-Tetrachloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,1,2,2-Tetrachloroethane	ND		25	13	ug/L			07/11/19 22:19	25
Tetrachloroethene	ND		25	15	ug/L			07/11/19 22:19	25
Toluene	**150**		25	10	ug/L			07/11/19 22:19	25
trans-1,2-Dichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
trans-1,3-Dichloropropene	ND		130	13	ug/L			07/11/19 22:19	25
1,2,3-Trichlorobenzene	ND		25	18	ug/L			07/11/19 22:19	25
1,2,4-Trichlorobenzene	ND		25	21	ug/L			07/11/19 22:19	25
1,1,1-Trichloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,1,2-Trichloroethane	ND		130	13	ug/L			07/11/19 22:19	25
Trichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
Trichlorofluoromethane	ND		25	13	ug/L			07/11/19 22:19	25
1,2,3-Trichloropropane	ND		130	21	ug/L			07/11/19 22:19	25
1,2,4-Trimethylbenzene	**330**		25	21	ug/L			07/11/19 22:19	25
1,3,5-Trimethylbenzene	**110**		25	14	ug/L			07/11/19 22:19	25
Vinyl acetate	ND		630	50	ug/L			07/11/19 22:19	25
Vinyl chloride	ND		25	13	ug/L			07/11/19 22:19	25
Xylenes, Total	**2500**		250	40	ug/L			07/11/19 22:19	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*320*	*T J N*	*ug/L*		*1.79*	*78-78-4*		*07/11/19 22:19*	*25*
Pentane	*470*	*T J N*	*ug/L*		*1.94*	*109-66-0*		*07/11/19 22:19*	*25*
Cyclopropane, 1,2-dimethyl-, cis-	*930*	*T J N*	*ug/L*		*2.11*	*930-18-7*		*07/11/19 22:19*	*25*
Hexane	*250*		*ug/L*		*2.72*	*110-54-3*		*07/11/19 22:19*	*25*
2-Pentene, 3-methyl-, (Z)-	*160*	*T J N*	*ug/L*		*2.98*	*922-62-3*		*07/11/19 22:19*	*25*
Cyclopentene, 1-methyl-	*320*	*T J N*	*ug/L*		*3.34*	*693-89-0*		*07/11/19 22:19*	*25*
Cyclohexane	*400*		*ug/L*		*3.46*	*110-82-7*		*07/11/19 22:19*	*25*
n-Heptane	*38*		*ug/L*		*3.76*	*142-82-5*		*07/11/19 22:19*	*25*
Methylcyclohexane	*120*		*ug/L*		*4.13*	*108-87-2*		*07/11/19 22:19*	*25*
3-Ethyltoluene	*220*		*ug/L*		*6.86*	*620-14-4*		*07/11/19 22:19*	*25*
2-Ethyltoluene	*110*		*ug/L*		*7.08*	*611-14-3*		*07/11/19 22:19*	*25*
1,2,3-Trimethylbenzene	*120*	*J*	*ug/L*		*7.54*	*526-73-8*		*07/11/19 22:19*	*25*
1,3-Diethylbenzene	*26*	*J*	*ug/L*		*7.70*	*141-93-5*		*07/11/19 22:19*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/11/19 22:19*	*25*
Dibromofluoromethane	*97*		*81 - 121*		*07/11/19 22:19*	*25*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/11/19 22:19*	*25*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.60**		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[a]anthracene	**0.040**	**J**	0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819
Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[b]fluoranthene	**0.061**	**J**	0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Chrysene	**0.074**	**J**	0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Fluoranthene	**0.14**	**J**	0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Fluorene	**1.9**		0.19	0.020	ug/L		07/03/19 14:07	07/13/19 23:34	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
1-Methylnaphthalene	**47**		1.9	0.19	ug/L		07/03/19 14:07	07/17/19 16:08	10
2-Methylnaphthalene	**56**	**B**	1.9	0.19	ug/L		07/03/19 14:07	07/17/19 16:08	10
Phenanthrene	**2.4**		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Pyrene	**0.13**	**J**	0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*15 - 122*	*07/03/19 14:07*	*07/13/19 23:34*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/03/19 14:07*	*07/13/19 23:34*	*1*
Terphenyl-d14	*58*		*33 - 138*	*07/03/19 14:07*	*07/13/19 23:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/03/19 14:07	07/14/19 17:56	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 17:56	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/03/19 14:07	07/14/19 17:56	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/03/19 14:07	07/14/19 17:56	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/03/19 14:07	07/14/19 17:56	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Dibenz[a,h]acridine	ND	* UJ	9.7	2.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 17:56	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 17:56	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/03/19 14:07	07/14/19 17:56	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/03/19 14:07	07/14/19 17:56	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/03/19 14:07	07/14/19 17:56	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 17:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

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Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 17:56	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/03/19 14:07	07/14/19 17:56	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 17:56	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
Indene	13		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 17:56	1
Isophorone	ND		9.7	0.55	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/03/19 14:07	07/14/19 17:56	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/03/19 14:07	07/14/19 17:56	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 17:56	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/03/19 14:07	07/14/19 17:56	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/03/19 14:07	07/14/19 17:56	1
Pentachlorophenol	ND		19	1.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
Phenol	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 17:56	1
Pyridine	ND		9.7	3.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
Quinoline	ND		9.7	5.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 17:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*45*	*T J N*	*ug/L*		*3.91*	*108-88-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Cyclopentanol, 1-methyl-	*41*	*T J N*	*ug/L*		*4.14*	*1462-03-9*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
p-Xylene	*150*	*T J N*	*ug/L*		*4.75*	*106-42-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,3-dimethyl-	*130*	*T J N*	*ug/L*		*4.90*	*108-38-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, (1-methylethyl)-	*38*	*T J N*	*ug/L*		*5.08*	*98-82-8*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, propyl-	*77*	*T J N*	*ug/L*		*5.27*	*103-65-1*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2-methyl-	*120*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2-methyl-	*100*	*T J N*	*ug/L*		*5.32*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2-methyl-	*110*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,2,3-trimethyl-	*210*	*T J N*	*ug/L*		*5.50*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.65*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Indane	*150*	*T J N*	*ug/L*		*5.74*	*496-11-7*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,4-diethyl-	*57*	*T J N*	*ug/L*		*5.80*	*105-05-5*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*22*	*T J N*	*ug/L*		*5.89*	*1758-88-9*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*21*	*T J N*	*ug/L*		*5.91*	*2870-04-4*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*47*	*T J N*	*ug/L*		*5.94*	*933-98-2*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,2,3,4-tetramethyl-	*31*	*T J N*	*ug/L*		*6.11*	*488-23-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
1H-Indene, 2,3-dihydro-2-methyl-	*34*	*T J N*	*ug/L*		*6.22*	*824-63-5*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*72*	*T J N*	*ug/L*		*6.26*	*3333-13-9*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Dodecane	*24*	*T J N*	*ug/L*		*6.37*	*112-40-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Naphthalene	*110*	*T J N*	*ug/L*		*6.46*	*91-20-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Unknown	*24*	*T J*	*ug/L*		*6.83*		*07/03/19 14:07*	*07/14/19 17:56*	*1*
Naphthalene, 2-methyl-	*45*	*T J N*	*ug/L*		*6.90*	*91-57-6*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Naphthalene, 1-methyl-	*42*	*T J N*	*ug/L*		*6.97*	*90-12-0*	*07/03/19 14:07*	*07/14/19 17:56*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819
Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Naphthalene, 1,4-dimethyl-	27	T J N	ug/L		7.38	571-58-4	07/03/19 14:07	07/14/19 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	07/03/19 14:07	07/14/19 17:56	1
2-Fluorophenol	20		10 - 120	07/03/19 14:07	07/14/19 17:56	1
Nitrobenzene-d5	52		27 - 120	07/03/19 14:07	07/14/19 17:56	1
Phenol-d5	39		10 - 120	07/03/19 14:07	07/14/19 17:56	1
Terphenyl-d14	63		53 - 125	07/03/19 14:07	07/14/19 17:56	1
2,4,6-Tribromophenol	111		15 - 135	07/03/19 14:07	07/14/19 17:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**42**	**J**	50	20	ug/L			07/12/19 11:44	2
Acrolein	ND		40	20	ug/L			07/12/19 11:44	2
Acrylonitrile	ND		20	5.6	ug/L			07/12/19 11:44	2
Benzene	**86**		2.0	0.76	ug/L			07/12/19 11:44	2
Bromobenzene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
Bromochloromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Bromodichloromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Bromoform	ND		10	1.4	ug/L			07/12/19 11:44	2
Bromomethane	ND		2.0	2.0	ug/L			07/12/19 11:44	2
2-Butanone (MEK)	**37**	**J**	50	5.2	ug/L			07/12/19 11:44	2
Carbon disulfide	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Carbon tetrachloride	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Chlorobenzene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Chloroethane	ND		2.0	1.5	ug/L			07/12/19 11:44	2
2-Chloroethyl vinyl ether	ND		10	4.0	ug/L			07/12/19 11:44	2
Chloroform	ND		2.0	1.2	ug/L			07/12/19 11:44	2
1-Chlorohexane	ND		2.0	1.4	ug/L			07/12/19 11:44	2
Chloromethane	ND		2.0	1.7	ug/L			07/12/19 11:44	2
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
cis-1,3-Dichloropropene	ND		10	1.0	ug/L			07/12/19 11:44	2
Dibromochloromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2-Dibromo-3-Chloropropane	ND		10	3.0	ug/L			07/12/19 11:44	2
1,2-Dichlorobenzene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,3-Dichlorobenzene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
1,4-Dichlorobenzene	ND		2.0	1.3	ug/L			07/12/19 11:44	2
Dichlorodifluoromethane	ND		2.0	1.7	ug/L			07/12/19 11:44	2
1,1-Dichloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2-Dichloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1-Dichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2-Dichloropropane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,3-Dichloropropane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
2,2-Dichloropropane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1-Dichloropropene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Ethylbenzene	**54**		2.0	1.0	ug/L			07/12/19 11:44	2
Ethylene Dibromide	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Ethyl methacrylate	ND		2.0	1.2	ug/L			07/12/19 11:44	2
Hexachlorobutadiene	ND		10	1.8	ug/L			07/12/19 11:44	2
2-Hexanone	ND		50	6.2	ug/L			07/12/19 11:44	2
Isopropylbenzene	**32**		2.0	1.1	ug/L			07/12/19 11:44	2
Methylene bromide	ND		10	1.2	ug/L			07/12/19 11:44	2
Methylene Chloride	ND		10	6.0	ug/L			07/12/19 11:44	2
4-Methyl-2-pentanone (MIBK)	ND		50	3.6	ug/L			07/12/19 11:44	2
Methyl tert-butyl ether	ND		2.0	1.5	ug/L			07/12/19 11:44	2
m-Xylene & p-Xylene	**97**		10	3.2	ug/L			07/12/19 11:44	2
Naphthalene	**4.9**		2.0	2.0	ug/L			07/12/19 11:44	2
n-Butylbenzene	**3.4**		2.0	1.5	ug/L			07/12/19 11:44	2
N-Propylbenzene	**83**		2.0	1.4	ug/L			07/12/19 11:44	2
o-Chlorotoluene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
o-Xylene	**12**		10	1.2	ug/L			07/12/19 11:44	2

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
p-Isopropyltoluene	ND		2.0	1.4	ug/L			07/12/19 11:44	2
sec-Butylbenzene	**2.5**		2.0	1.4	ug/L			07/12/19 11:44	2
Styrene	ND		2.0	2.0	ug/L			07/12/19 11:44	2
tert-Butylbenzene	**1.9**	**J**	2.0	1.3	ug/L			07/12/19 11:44	2
1,1,1,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Tetrachloroethene	ND		2.0	1.2	ug/L			07/12/19 11:44	2
Toluene	**28**		2.0	0.82	ug/L			07/12/19 11:44	2
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
trans-1,3-Dichloropropene	ND		10	1.0	ug/L			07/12/19 11:44	2
1,2,3-Trichlorobenzene	ND		2.0	1.4	ug/L			07/12/19 11:44	2
1,2,4-Trichlorobenzene	ND		2.0	1.6	ug/L			07/12/19 11:44	2
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1,2-Trichloroethane	ND		10	1.0	ug/L			07/12/19 11:44	2
Trichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Trichlorofluoromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2,3-Trichloropropane	ND		10	1.7	ug/L			07/12/19 11:44	2
1,2,4-Trimethylbenzene	**8.2**		2.0	1.6	ug/L			07/12/19 11:44	2
1,3,5-Trimethylbenzene	**6.5**		2.0	1.1	ug/L			07/12/19 11:44	2
Vinyl acetate	ND		50	4.0	ug/L			07/12/19 11:44	2
Vinyl chloride	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Xylenes, Total	**110**		20	3.2	ug/L			07/12/19 11:44	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*480*	*T J N*	*ug/L*		*1.79*	*78-78-4*		*07/12/19 11:44*	*2*
Cyclopropane, 1,2-dimethyl-, cis-	*950*	*T J N*	*ug/L*		*2.11*	*930-18-7*		*07/12/19 11:44*	*2*
Isopropyl alcohol	*130*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/12/19 11:44*	*2*
1-Pentene	*470*	*T J N*	*ug/L*		*2.49*	*109-67-1*		*07/12/19 11:44*	*2*
Pentane, 3-methyl-	*100*	*T J N*	*ug/L*		*2.58*	*96-14-0*		*07/12/19 11:44*	*2*
1-Pentene, 2-methyl-	*31*	*T J N*	*ug/L*		*2.68*	*763-29-1*		*07/12/19 11:44*	*2*
2-Pentene, 2-methyl-	*160*	*T J N*	*ug/L*		*2.84*	*625-27-4*		*07/12/19 11:44*	*2*
2-Pentene, 3-methyl-, (E)-	*79*	*T J N*	*ug/L*		*2.89*	*616-12-6*		*07/12/19 11:44*	*2*
2-Pentene, 3-methyl-, (Z)-	*130*	*T J N*	*ug/L*		*2.98*	*922-62-3*		*07/12/19 11:44*	*2*
Cyclopentane, methyl-	*360*	*T J N*	*ug/L*		*3.08*	*96-37-7*		*07/12/19 11:44*	*2*
Cyclopentene, 1-methyl-	*260*	*T J N*	*ug/L*		*3.35*	*693-89-0*		*07/12/19 11:44*	*2*
Cyclohexane	*450*		*ug/L*		*3.46*	*110-82-7*		*07/12/19 11:44*	*2*
3,5-Dimethylcyclopentene	*79*	*T J N*	*ug/L*		*3.86*	*7459-71-4*		*07/12/19 11:44*	*2*
Cyclopentene, 4,4-dimethyl-	*47*	*T J N*	*ug/L*		*4.01*	*19037-72-0*		*07/12/19 11:44*	*2*
Methylcyclohexane	*72*		*ug/L*		*4.13*	*108-87-2*		*07/12/19 11:44*	*2*
Cyclohexene, 4-methyl-	*53*	*T J N*	*ug/L*		*4.36*	*591-47-9*		*07/12/19 11:44*	*2*
Cyclobutane, (1-methylethylidene)-	*87*	*T J N*	*ug/L*		*4.45*	*1528-22-9*		*07/12/19 11:44*	*2*
Cyclohexene, 1-methyl-	*61*	*T J N*	*ug/L*		*4.68*	*591-49-1*		*07/12/19 11:44*	*2*
Benzene, 1-ethyl-2-methyl-	*56*	*T J N*	*ug/L*		*7.08*	*611-14-3*		*07/12/19 11:44*	*2*
Benzene, 2-ethyl-1,3-dimethyl-	*33*	*T J N*	*ug/L*		*8.05*	*2870-04-4*		*07/12/19 11:44*	*2*
Benzene, 1-ethenyl-3-ethyl-	*70*	*T J N*	*ug/L*		*8.15*	*7525-62-4*		*07/12/19 11:44*	*2*
1H-Indene, 2,3-dihydro-5-methyl-	*33*	*T J N*	*ug/L*		*8.62*	*874-35-1*		*07/12/19 11:44*	*2*
Benzene, 2-ethenyl-1,4-dimethyl-	*85*	*T J N*	*ug/L*		*8.75*	*2039-89-6*		*07/12/19 11:44*	*2*
2-Methylnaphthalene	*28*		*ug/L*		*10.37*	*91-57-6*		*07/12/19 11:44*	*2*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*110*		*78 - 118*		*07/12/19 11:44*	*2*
Dibromofluoromethane	*103*		*81 - 121*		*07/12/19 11:44*	*2*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/12/19 11:44*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Fluorene	**0.26**		0.20	0.021	ug/L		07/03/19 14:07	07/13/19 00:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
1-Methylnaphthalene	**46**		2.0	0.20	ug/L		07/03/19 14:07	07/17/19 16:25	10
2-Methylnaphthalene	**63**	**B**	2.0	0.20	ug/L		07/03/19 14:07	07/17/19 16:25	10
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 23:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*53*		*15 - 122*	*07/03/19 14:07*	*07/13/19 23:51*	*1*
Nitrobenzene-d5	*50*		*19 - 130*	*07/03/19 14:07*	*07/13/19 23:51*	*1*
Terphenyl-d14	*55*		*33 - 138*	*07/03/19 14:07*	*07/13/19 23:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 18:18	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 18:18	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 18:18	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/03/19 14:07	07/14/19 18:18	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/03/19 14:07	07/14/19 18:18	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 18:18	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
Dibenz[a,h]acridine	ND	* UJ	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 18:18	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 18:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 18:18	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 18:18	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 18:18	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 18:18	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 18:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 18:18	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/03/19 14:07	07/14/19 18:18	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/03/19 14:07	07/14/19 18:18	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 18:18	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 18:18	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 18:18	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 18:18	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 18:18	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 18:18	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 18:18	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 18:18	1
Phenol	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 18:18	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 18:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*14*	*T J N*	*ug/L*		*3.91*	*108-88-3*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Cyclohexene, 1-methyl-	*14*	*T J N*	*ug/L*		*3.94*	*591-49-1*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
2-Butanone, 4-hydroxy-	*27*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Cyclopentanol, 1-methyl-	*38*	*T J N*	*ug/L*		*4.13*	*1462-03-9*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
1,3-Dimethylcyclopentanol	*10*	*T J N*	*ug/L*		*4.54*	*19550-46-0*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Ethylbenzene	*70*	*T J N*	*ug/L*		*4.67*	*100-41-4*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
o-Xylene	*19*	*T J N*	*ug/L*		*4.89*	*95-47-6*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, (1-methylethyl)-	*57*	*T J N*	*ug/L*		*5.08*	*98-82-8*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, propyl-	*110*	*T J N*	*ug/L*		*5.27*	*103-65-1*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,2,4-trimethyl-	*18*	*T J N*	*ug/L*		*5.32*	*95-63-6*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1-ethyl-2-methyl-	*58*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,3,5-trimethyl-	*14*	*T J N*	*ug/L*		*5.49*	*108-67-8*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,2,3-trimethyl-	*39*	*T J N*	*ug/L*		*5.64*	*526-73-8*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Indane	*130*	*T J N*	*ug/L*		*5.74*	*496-11-7*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,2-diethyl-	*20*	*T J N*	*ug/L*		*5.80*	*135-01-3*	*07/03/19 14:07*	*07/14/19 18:18*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819
Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-methyl-4-propyl-	12	T J N	ug/L		5.85	1074-55-1	07/03/19 14:07	07/14/19 18:18	1
Benzene, 2-ethyl-1,4-dimethyl-	68	T J N	ug/L		5.94	1758-88-9	07/03/19 14:07	07/14/19 18:18	1
Benzene, 1,2,3,4-tetramethyl-	21	T J N	ug/L		6.09	488-23-3	07/03/19 14:07	07/14/19 18:18	1
Benzene, 1,2,4,5-tetramethyl-	10	T J N	ug/L		6.10	95-93-2	07/03/19 14:07	07/14/19 18:18	1
1H-Indene, 2,3-dihydro-4-methyl-	32	T J N	ug/L		6.22	824-22-6	07/03/19 14:07	07/14/19 18:18	1
Benzene, 1-ethenyl-4-ethyl-	64	T J N	ug/L		6.26	3454-07-7	07/03/19 14:07	07/14/19 18:18	1
2-Methylindene	7.7	T J N	ug/L		6.29	2177-47-1	07/03/19 14:07	07/14/19 18:18	1
1H-Indene,2,3-dihydro-2,2-dimethyl-	10	T J N	ug/L		6.42	20836-11-7	07/03/19 14:07	07/14/19 18:18	1
Naphthalene, 1-methyl-	48	T J N	ug/L		6.90	90-12-0	07/03/19 14:07	07/14/19 18:18	1
Naphthalene, 1-methyl-	39	T J N	ug/L		6.97	90-12-0	07/03/19 14:07	07/14/19 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	44		34 - 120	07/03/19 14:07	07/14/19 18:18	1
2-Fluorophenol	27		10 - 120	07/03/19 14:07	07/14/19 18:18	1
Nitrobenzene-d5	50		27 - 120	07/03/19 14:07	07/14/19 18:18	1
Phenol-d5	45		10 - 120	07/03/19 14:07	07/14/19 18:18	1
Terphenyl-d14	46	X	53 - 125	07/03/19 14:07	07/14/19 18:18	1
2,4,6-Tribromophenol	64		15 - 135	07/03/19 14:07	07/14/19 18:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Date Collected: 06/28/19 15:40
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 21:26	1
Acrolein	ND		20	10	ug/L			07/11/19 21:26	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 21:26	1
Benzene	**14**		1.0	0.38	ug/L			07/11/19 21:26	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 21:26	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 21:26	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 21:26	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 21:26	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 21:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 21:26	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 21:26	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 21:26	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 21:26	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 21:26	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 21:26	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 21:26	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 21:26	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 21:26	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 21:26	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 21:26	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 21:26	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 21:26	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 21:26	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 21:26	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 21:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 21:26	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/11/19 21:26	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 21:26	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 21:26	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 21:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 21:26	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 21:26	1
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 21:26	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Date Collected: 06/28/19 15:40
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 21:26	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 21:26	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 21:26	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 21:26	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 21:26	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 21:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 21:26	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 21:26	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 21:26	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 21:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 21:26	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 21:26	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 21:26	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 21:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 21:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 21:26	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 21:26	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 21:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*190*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/11/19 21:26*	*1*
2-Methyl-2-propanol	*22*		*ug/L*		*2.49*	*75-65-0*		*07/11/19 21:26*	*1*
2-Methylnaphthalene	*7.0*	*J*	*ug/L*		*10.37*	*91-57-6*		*07/11/19 21:26*	*1*
1-Methylnaphthalene	*4.5*	*J*	*ug/L*		*10.54*	*90-12-0*		*07/11/19 21:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/11/19 21:26*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/11/19 21:26*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/11/19 21:26*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 00:08	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Chrysene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 00:08	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Fluoranthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Fluorene	ND		0.19	0.020	ug/L		07/03/19 14:07	07/13/19 00:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Date Collected: 06/28/19 15:40
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Pyrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*15 - 122*	*07/03/19 14:07*	*07/14/19 00:08*	*1*
Nitrobenzene-d5	*63*		*19 - 130*	*07/03/19 14:07*	*07/14/19 00:08*	*1*
Terphenyl-d14	*48*		*33 - 138*	*07/03/19 14:07*	*07/14/19 00:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/03/19 14:07	07/14/19 19:01	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 19:01	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/03/19 14:07	07/14/19 19:01	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/03/19 14:07	07/14/19 19:01	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/03/19 14:07	07/14/19 19:01	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Dibenz[a,h]acridine	ND	* UJ	9.7	2.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 19:01	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 19:01	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/03/19 14:07	07/14/19 19:01	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/03/19 14:07	07/14/19 19:01	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/03/19 14:07	07/14/19 19:01	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 19:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 19:01	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/03/19 14:07	07/14/19 19:01	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 19:01	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
Indene	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 19:01	1
Isophorone	ND		9.7	0.55	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/03/19 14:07	07/14/19 19:01	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Date Collected: 06/28/19 15:40
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/03/19 14:07	07/14/19 19:01	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/03/19 14:07	07/14/19 19:01	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 19:01	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/03/19 14:07	07/14/19 19:01	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/03/19 14:07	07/14/19 19:01	1
Pentachlorophenol	ND		19	1.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
Phenol	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 19:01	1
Pyridine	ND		9.7	3.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
Quinoline	ND		9.7	5.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 19:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*19*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
1-Heneicosyl formate	*5.7*	*T J N*	*ug/L*		*10.89*	*77899-03-7*	*07/03/19 14:07*	*07/14/19 19:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*49*		*34 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
Phenol-d5	*55*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
Terphenyl-d14	*44*	*X*	*53 - 125*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/03/19 14:07*	*07/14/19 19:01*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172422-1	TB-PW-062819-B	111	101	94
400-172422-2	PD-5-GWP-80-062819	106	100	97
400-172422-2 MS	PD-5-GWP-80-062819	102	100	90
400-172422-2 MSD	PD-5-GWP-80-062819	109	101	93
400-172422-3	PD-5-GWP-35-062819	109	93	102
400-172422-3 - DL	PD-5-GWP-35-062819	107	96	98
400-172422-4	PD-8-GWP-41-062819	108	97	97
400-172422-5	PD-8-GWP-46-062819	110	103	99
400-172422-6	PD-8-GWP-52-062819	110	97	96
LCS 400-447496/1002	Lab Control Sample	108	100	91
LCS 400-447677/1002	Lab Control Sample	104	101	93
MB 400-447496/5	Method Blank	108	101	101
MB 400-447677/5	Method Blank	107	100	94

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172422-2	PD-5-GWP-80-062819	47	34	54	48	58	58
400-172422-2 MS	PD-5-GWP-80-062819	44	38	62	51	37 X	69
400-172422-2 MSD	PD-5-GWP-80-062819	50	48	69	61	52 X	77
400-172422-3	PD-5-GWP-35-062819	50	0 X	60	51	51 X	92
400-172422-4	PD-8-GWP-41-062819	49	20	52	39	63	111
400-172422-5	PD-8-GWP-46-062819	44	27	50	45	46 X	64
400-172422-6	PD-8-GWP-52-062819	49	44	60	55	44 X	65
LCS 400-446728/18-A	Lab Control Sample	71	67	88	81	83	85
LCS 400-446728/2-A	Lab Control Sample	63	61	84	77	79	88
LCSD 400-446728/19-A	Lab Control Sample Dup	66	42	80	67	79	71
MB 400-446728/1-A	Method Blank	67	56	86	79	83	78

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (15-122)	NBZ (19-130)	TPHL (33-138)
400-172422-2	PD-5-GWP-80-062819	71	73	106
400-172422-2 MS	PD-5-GWP-80-062819	58	68	40
400-172422-2 MSD	PD-5-GWP-80-062819	66	87	55
400-172422-3	PD-5-GWP-35-062819	55	52	61
400-172422-4	PD-8-GWP-41-062819	62	65	58
400-172422-5	PD-8-GWP-46-062819	53	50	55
400-172422-6	PD-8-GWP-52-062819	62	63	48
LCS 400-446728/2-A	Lab Control Sample	83	74	136
MB 400-446728/1-A	Method Blank	117	120	200 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 10:25	RS	TAL PEN

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 11:18	RS	TAL PEN
Total/NA	Prep	3520C			1012.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 17:14	VC1	TAL PEN
Total/NA	Prep	3520C			1012.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 23:17	KJA	TAL PEN

Client Sample ID: PD-5-GWP-35-062819

Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447677	07/12/19 12:38	RS	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	447677	07/12/19 15:18	RS	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 17:35	VC1	TAL PEN
Total/NA	Prep	3520C	DL		1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			448221	07/16/19 15:26	VC1	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/13/19 23:17	S1S	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 15:51	KJA	TAL PEN

Client Sample ID: PD-8-GWP-41-062819

Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	5 mL	5 mL	447496	07/11/19 22:19	RS	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 17:56	VC1	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/13/19 23:34	S1S	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		10			448402	07/17/19 16:08	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	447677	07/12/19 11:44	RS	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 18:18	VC1	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/13/19 23:51	S1S	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		10			448402	07/17/19 16:25	KJA	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/13/19 00:41	KJA	TAL PEN

Client Sample ID: PD-8-GWP-52-062819

Date Collected: 06/28/19 15:40
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 21:26	RS	TAL PEN
Total/NA	Prep	3520C			1034.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 19:01	VC1	TAL PEN
Total/NA	Prep	3520C			1034.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 00:08	S1S	TAL PEN
Total/NA	Prep	3520C			1034.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/13/19 00:59	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446728/1-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 16:04	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447496/5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 13:27	RS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447677/5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 09:06	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 16:20	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447496/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 11:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447677/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 08:06	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 15:49	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2 MS

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 13:05	RS	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:31	VC1	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 23:33	KJA	TAL PEN

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2 MSD

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 13:31	RS	TAL PEN
Total/NA	Prep	3520C			1029.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:52	VC1	TAL PEN
Total/NA	Prep	3520C			1029.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 23:49	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

GC/MS VOA

Analysis Batch: 447496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8260B	
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8260B	
MB 400-447496/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447496/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-1	TB-PW-062819-B	Total/NA	Water	8260B	
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	8260B	
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8260B	
400-172422-3 - DL	PD-5-GWP-35-062819	Total/NA	Water	8260B	
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8260B	
MB 400-447677/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447677/1002	Lab Control Sample	Total/NA	Water	8260B	
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	8260B	
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 446728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	3520C	
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	3520C	
400-172422-3 - DL	PD-5-GWP-35-062819	Total/NA	Water	3520C	
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	3520C	
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	3520C	
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	3520C	
MB 400-446728/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	3520C	
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	3520C	

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	8270D LL	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D LL	446728
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8270D LL	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D LL	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D LL	446728
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	8270D LL	446728
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	8270D LL	446728

Analysis Batch: 447918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D LL	446728
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8270D LL	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D LL	446728
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8270D LL	446728

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

GC/MS Semi VOA

Analysis Batch: 447936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	8270D	446728
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D	446728
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8270D	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D	446728
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8270D	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D	446728
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	446728
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	8270D	446728
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	8270D	446728

Analysis Batch: 448221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-3 - DL	PD-5-GWP-35-062819	Total/NA	Water	8270D	446728

Analysis Batch: 448402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D LL	446728
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8270D LL	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D LL	446728

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 13:27	1
Acrolein	ND		20	10	ug/L			07/11/19 13:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 13:27	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 13:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 13:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 13:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 13:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 13:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 13:27	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 13:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 13:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 13:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 13:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 13:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 13:27	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 13:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 13:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 13:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 13:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 13:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 13:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 13:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 13:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 13:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 13:27	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 13:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 13:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 13:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 13:27	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 13:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 13:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 13:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 13:27	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/11/19 13:27*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/11/19 13:27*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/11/19 13:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/11/19 13:27*	*1*

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	233		ug/L		117	43 - 160
Acrolein	500	699		ug/L		140	38 - 160
Acrylonitrile	500	527		ug/L		105	64 - 142
Benzene	50.0	52.2		ug/L		104	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	48.7		ug/L		97	70 - 130
Bromodichloromethane	50.0	49.3		ug/L		99	67 - 133
Bromoform	50.0	47.1		ug/L		94	57 - 140
Bromomethane	50.0	31.6		ug/L		63	10 - 160
2-Butanone (MEK)	200	273		ug/L		136	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	49.0		ug/L		98	61 - 137
Chlorobenzene	50.0	50.1		ug/L		100	70 - 130
Chloroethane	50.0	48.8		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	36.2		ug/L		72	10 - 160
Chloroform	50.0	50.8		ug/L		102	69 - 130
1-Chlorohexane	50.0	47.7		ug/L		95	69 - 130
Chloromethane	50.0	54.3		ug/L		109	58 - 137
cis-1,2-Dichloroethene	50.0	50.9		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	69 - 132
Dibromochloromethane	50.0	44.4		ug/L		89	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	60.2		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	52.0		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	50.8		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	49.1		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	47.7		ug/L		95	52 - 135
1,1-Dichloropropene	50.0	50.9		ug/L		102	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethylene Dibromide	50.0	49.4		ug/L		99	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	58.9		ug/L		118	53 - 140
2-Hexanone	200	222		ug/L		111	65 - 137
Isopropylbenzene	50.0	47.2		ug/L		94	70 - 130
Methylene bromide	50.0	49.6		ug/L		99	70 - 130
Methylene Chloride	50.0	51.9		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	208		ug/L		104	69 - 138
Methyl tert-butyl ether	50.0	50.4		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	48.0		ug/L		96	70 - 130
Naphthalene	50.0	47.5		ug/L		95	47 - 149
n-Butylbenzene	50.0	50.5		ug/L		101	67 - 130
N-Propylbenzene	50.0	51.9		ug/L		104	70 - 130
o-Chlorotoluene	50.0	53.3		ug/L		107	70 - 130
o-Xylene	50.0	46.9		ug/L		94	70 - 130
p-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.9		ug/L		104	66 - 130
Styrene	50.0	45.4		ug/L		91	70 - 130
tert-Butylbenzene	50.0	50.4		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.6		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	57.8		ug/L		116	70 - 131
Tetrachloroethene	50.0	39.9		ug/L		80	65 - 130
Toluene	50.0	47.0		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	51.0		ug/L		102	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	46.2		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	53.6		ug/L		107	65 - 138
1,2,3-Trichloropropane	50.0	54.6		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	52.7		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	53.8		ug/L		108	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	57.4		ug/L		115	59 - 136
Xylenes, Total	100	94.8		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*108*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 09:06	1
Acrolein	ND		20	10	ug/L			07/12/19 09:06	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 09:06	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 09:06	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 09:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 09:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 09:06	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 09:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 09:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 09:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 09:06	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 09:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 09:06	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 09:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 09:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 09:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 09:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 09:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 09:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 09:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 09:06	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 09:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 09:06	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 09:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 09:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 09:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 09:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 09:06	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 09:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 09:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 09:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 09:06	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 09:06	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 09:06	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 09:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 09:06	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 09:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 09:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 09:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 09:06	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 09:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 09:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 09:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 09:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 09:06	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 09:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 09:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 09:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 09:06	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 09:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 09:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/12/19 09:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/12/19 09:06	1
Dibromofluoromethane	100		81 - 121		07/12/19 09:06	1
Toluene-d8 (Surr)	94		80 - 120		07/12/19 09:06	1

Lab Sample ID: LCS 400-447677/1002
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	257		ug/L		129	43 - 160
Acrolein	500	749		ug/L		150	38 - 160
Acrylonitrile	500	570		ug/L		114	64 - 142
Benzene	50.0	53.1		ug/L		106	70 - 130
Bromobenzene	50.0	47.3		ug/L		95	70 - 132
Bromochloromethane	50.0	49.7		ug/L		99	70 - 130
Bromodichloromethane	50.0	47.8		ug/L		96	67 - 133
Bromoform	50.0	43.9		ug/L		88	57 - 140
Bromomethane	50.0	29.7		ug/L		59	10 - 160
2-Butanone (MEK)	200	290		ug/L		145	61 - 145
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	48.1		ug/L		96	61 - 137
Chlorobenzene	50.0	48.9		ug/L		98	70 - 130
Chloroethane	50.0	51.8		ug/L		104	55 - 141
2-Chloroethyl vinyl ether	50.0	35.1		ug/L		70	10 - 160
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	47.4		ug/L		95	69 - 130
Chloromethane	50.0	55.3		ug/L		111	58 - 137
cis-1,2-Dichloroethene	50.0	52.2		ug/L		104	68 - 130
cis-1,3-Dichloropropene	50.0	51.3		ug/L		103	69 - 132
Dibromochloromethane	50.0	45.6		ug/L		91	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	46.5		ug/L		93	54 - 135
1,2-Dichlorobenzene	50.0	47.2		ug/L		94	67 - 130
1,3-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	60.2		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	51.5		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	50.7		ug/L		101	69 - 130
1,1-Dichloroethene	50.0	46.0		ug/L		92	63 - 134
1,2-Dichloropropane	50.0	51.1		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	49.4		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	46.3		ug/L		93	52 - 135
1,1-Dichloropropene	50.0	50.3		ug/L		101	70 - 130
Ethylbenzene	50.0	46.2		ug/L		92	70 - 130
Ethylene Dibromide	50.0	49.5		ug/L		99	70 - 130
Ethyl methacrylate	50.0	48.2		ug/L		96	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447677/1002
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	55.3		ug/L		111	53 - 140
2-Hexanone	200	238		ug/L		119	65 - 137
Isopropylbenzene	50.0	45.8		ug/L		92	70 - 130
Methylene bromide	50.0	50.6		ug/L		101	70 - 130
Methylene Chloride	50.0	52.9		ug/L		106	66 - 135
4-Methyl-2-pentanone (MIBK)	200	219		ug/L		110	69 - 138
Methyl tert-butyl ether	50.0	50.7		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	47.2		ug/L		94	70 - 130
Naphthalene	50.0	46.4		ug/L		93	47 - 149
n-Butylbenzene	50.0	47.8		ug/L		96	67 - 130
N-Propylbenzene	50.0	48.5		ug/L		97	70 - 130
o-Chlorotoluene	50.0	50.0		ug/L		100	70 - 130
o-Xylene	50.0	45.9		ug/L		92	70 - 130
p-Chlorotoluene	50.0	50.0		ug/L		100	70 - 130
p-Isopropyltoluene	50.0	48.9		ug/L		98	65 - 130
sec-Butylbenzene	50.0	47.9		ug/L		96	66 - 130
Styrene	50.0	44.3		ug/L		89	70 - 130
tert-Butylbenzene	50.0	47.1		ug/L		94	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.5		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	57.3		ug/L		115	70 - 131
Tetrachloroethene	50.0	39.6		ug/L		79	65 - 130
Toluene	50.0	46.6		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	46.0		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	49.2		ug/L		98	60 - 138
1,2,4-Trichlorobenzene	50.0	48.4		ug/L		97	60 - 140
1,1,1-Trichloroethane	50.0	48.4		ug/L		97	68 - 130
1,1,2-Trichloroethane	50.0	48.9		ug/L		98	70 - 130
Trichloroethene	50.0	50.1		ug/L		100	70 - 130
Trichlorofluoromethane	50.0	49.4		ug/L		99	65 - 138
1,2,3-Trichloropropane	50.0	54.8		ug/L		110	70 - 130
1,2,4-Trimethylbenzene	50.0	48.0		ug/L		96	70 - 130
1,3,5-Trimethylbenzene	50.0	50.2		ug/L		100	69 - 130
Vinyl acetate	100	120		ug/L		120	26 - 160
Vinyl chloride	50.0	59.6		ug/L		119	59 - 136
Xylenes, Total	100	93.1		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	104		ug/L		52	43 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		500	618		ug/L		124	38 - 150
Acrylonitrile	ND		500	498		ug/L		100	62 - 149
Benzene	180		50.0	237		ug/L		110	56 - 142
Bromobenzene	ND		50.0	46.2		ug/L		92	59 - 136
Bromochloromethane	ND		50.0	47.5		ug/L		95	64 - 140
Bromodichloromethane	ND		50.0	48.5		ug/L		97	59 - 143
Bromoform	ND		50.0	42.0		ug/L		84	50 - 140
Bromomethane	ND		50.0	27.1		ug/L		54	10 - 150
2-Butanone (MEK)	ND		200	171		ug/L		85	55 - 150
Carbon disulfide	ND		50.0	44.5		ug/L		89	48 - 150
Carbon tetrachloride	ND		50.0	47.8		ug/L		96	55 - 145
Chlorobenzene	ND		50.0	46.9		ug/L		94	64 - 130
Chloroethane	ND		50.0	47.6		ug/L		95	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	50.5		ug/L		101	60 - 141
1-Chlorohexane	ND		50.0	42.9		ug/L		86	56 - 136
Chloromethane	ND		50.0	48.3		ug/L		97	49 - 148
cis-1,2-Dichloroethene	ND		50.0	49.8		ug/L		100	59 - 143
cis-1,3-Dichloropropene	ND		50.0	49.4		ug/L		99	57 - 140
Dibromochloromethane	ND		50.0	45.2		ug/L		90	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	39.6		ug/L		79	45 - 135
1,2-Dichlorobenzene	ND		50.0	44.0		ug/L		88	52 - 137
1,3-Dichlorobenzene	ND		50.0	44.1		ug/L		88	54 - 135
1,4-Dichlorobenzene	ND		50.0	44.9		ug/L		90	53 - 135
Dichlorodifluoromethane	ND		50.0	55.0		ug/L		110	16 - 150
1,1-Dichloroethane	ND		50.0	51.3		ug/L		103	61 - 144
1,2-Dichloroethane	ND		50.0	55.7		ug/L		111	60 - 141
1,1-Dichloroethene	ND		50.0	47.0		ug/L		94	54 - 147
1,2-Dichloropropane	ND		50.0	51.4		ug/L		103	66 - 137
1,3-Dichloropropane	ND		50.0	47.4		ug/L		95	66 - 133
2,2-Dichloropropane	ND		50.0	45.7		ug/L		91	42 - 144
1,1-Dichloropropene	ND		50.0	50.1		ug/L		100	65 - 136
Ethylbenzene	1.8		50.0	45.5		ug/L		87	58 - 131
Ethylene Dibromide	ND		50.0	47.6		ug/L		95	64 - 132
Ethyl methacrylate	ND		50.0	42.6		ug/L		85	64 - 130
Hexachlorobutadiene	ND		50.0	49.4		ug/L		99	31 - 149
2-Hexanone	ND		200	145		ug/L		73	65 - 140
Isopropylbenzene	ND		50.0	42.4		ug/L		85	56 - 133
Methylene bromide	ND		50.0	49.8		ug/L		100	63 - 138
Methylene Chloride	ND		50.0	53.2		ug/L		106	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	182		ug/L		91	63 - 146
Methyl tert-butyl ether	ND		50.0	47.5		ug/L		95	59 - 137
m-Xylene & p-Xylene	3.8	J	50.0	48.0		ug/L		88	57 - 130
Naphthalene	ND		50.0	38.3		ug/L		77	25 - 150
n-Butylbenzene	ND		50.0	43.5		ug/L		87	41 - 142
N-Propylbenzene	ND		50.0	45.9		ug/L		92	51 - 138
o-Chlorotoluene	ND		50.0	49.3		ug/L		99	53 - 134
o-Xylene	1.1	J	50.0	44.2		ug/L		86	61 - 130
p-Chlorotoluene	ND		50.0	47.8		ug/L		96	54 - 133

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		50.0	45.0		ug/L		90	48 - 139
sec-Butylbenzene	ND		50.0	44.8		ug/L		90	50 - 138
Styrene	ND		50.0	41.8		ug/L		84	58 - 131
tert-Butylbenzene	ND		50.0	45.0		ug/L		90	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	43.9		ug/L		88	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	52.2		ug/L		104	66 - 135
Tetrachloroethene	ND		50.0	39.6		ug/L		79	52 - 133
Toluene	0.61	J	50.0	45.3		ug/L		89	65 - 130
trans-1,2-Dichloroethene	ND		50.0	50.7		ug/L		101	61 - 143
trans-1,3-Dichloropropene	ND		50.0	42.2		ug/L		84	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.0		ug/L		88	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	42.7		ug/L		85	39 - 148
1,1,1-Trichloroethane	ND		50.0	47.8		ug/L		96	57 - 142
1,1,2-Trichloroethane	ND		50.0	48.0		ug/L		96	66 - 131
Trichloroethene	ND		50.0	51.0		ug/L		102	64 - 136
Trichlorofluoromethane	ND		50.0	46.4		ug/L		93	54 - 150
1,2,3-Trichloropropane	ND		50.0	49.9		ug/L		100	65 - 133
1,2,4-Trimethylbenzene	1.5		50.0	48.6		ug/L		94	50 - 139
1,3,5-Trimethylbenzene	0.63	J	50.0	48.3		ug/L		95	52 - 135
Vinyl acetate	ND		100	100		ug/L		100	26 - 150
Vinyl chloride	ND		50.0	53.2		ug/L		106	46 - 150
Xylenes, Total	4.9	J	100	92.2		ug/L		87	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	106		ug/L		53	43 - 150	2	30
Acrolein	ND		500	626		ug/L		125	38 - 150	1	31
Acrylonitrile	ND		500	521		ug/L		104	62 - 149	4	30
Benzene	180		50.0	236		ug/L		109	56 - 142	0	30
Bromobenzene	ND		50.0	47.9		ug/L		96	59 - 136	4	30
Bromochloromethane	ND		50.0	49.6		ug/L		99	64 - 140	4	30
Bromodichloromethane	ND		50.0	48.2		ug/L		96	59 - 143	0	30
Bromoform	ND		50.0	43.8		ug/L		88	50 - 140	4	30
Bromomethane	ND		50.0	32.7		ug/L		65	10 - 150	19	50
2-Butanone (MEK)	ND		200	175		ug/L		88	55 - 150	2	30
Carbon disulfide	ND		50.0	44.7		ug/L		89	48 - 150	0	30
Carbon tetrachloride	ND		50.0	47.5		ug/L		95	55 - 145	1	30
Chlorobenzene	ND		50.0	47.6		ug/L		95	64 - 130	1	30
Chloroethane	ND		50.0	48.5		ug/L		97	50 - 150	2	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		50.0	50.6		ug/L		101	60 - 141	0	30
1-Chlorohexane	ND		50.0	43.8		ug/L		88	56 - 136	2	30
Chloromethane	ND		50.0	54.8		ug/L		110	49 - 148	13	31
cis-1,2-Dichloroethene	ND		50.0	51.1		ug/L		102	59 - 143	3	30
cis-1,3-Dichloropropene	ND		50.0	50.3		ug/L		101	57 - 140	2	30
Dibromochloromethane	ND		50.0	46.3		ug/L		93	56 - 143	3	30
1,2-Dibromo-3-Chloropropane	ND		50.0	41.3		ug/L		83	45 - 135	4	30
1,2-Dichlorobenzene	ND		50.0	46.0		ug/L		92	52 - 137	4	30
1,3-Dichlorobenzene	ND		50.0	46.5		ug/L		93	54 - 135	5	30
1,4-Dichlorobenzene	ND		50.0	46.2		ug/L		92	53 - 135	3	30
Dichlorodifluoromethane	ND		50.0	57.9		ug/L		116	16 - 150	5	31
1,1-Dichloroethane	ND		50.0	51.9		ug/L		104	61 - 144	1	30
1,2-Dichloroethane	ND		50.0	55.0		ug/L		110	60 - 141	1	30
1,1-Dichloroethene	ND		50.0	48.4		ug/L		97	54 - 147	3	30
1,2-Dichloropropane	ND		50.0	52.1		ug/L		104	66 - 137	1	30
1,3-Dichloropropane	ND		50.0	47.0		ug/L		94	66 - 133	1	30
2,2-Dichloropropane	ND		50.0	46.1		ug/L		92	42 - 144	1	31
1,1-Dichloropropene	ND		50.0	50.9		ug/L		102	65 - 136	2	30
Ethylbenzene	1.8		50.0	46.1		ug/L		89	58 - 131	1	30
Ethylene Dibromide	ND		50.0	48.1		ug/L		96	64 - 132	1	30
Ethyl methacrylate	ND		50.0	43.4		ug/L		87	64 - 130	2	30
Hexachlorobutadiene	ND		50.0	52.5		ug/L		105	31 - 149	6	36
2-Hexanone	ND		200	146		ug/L		73	65 - 140	0	30
Isopropylbenzene	ND		50.0	43.2		ug/L		86	56 - 133	2	30
Methylene bromide	ND		50.0	49.3		ug/L		99	63 - 138	1	30
Methylene Chloride	ND		50.0	53.1		ug/L		106	60 - 146	0	32
4-Methyl-2-pentanone (MIBK)	ND		200	188		ug/L		94	63 - 146	3	30
Methyl tert-butyl ether	ND		50.0	49.1		ug/L		98	59 - 137	3	30
m-Xylene & p-Xylene	3.8	J	50.0	49.6		ug/L		91	57 - 130	3	30
Naphthalene	ND		50.0	41.3		ug/L		83	25 - 150	8	30
n-Butylbenzene	ND		50.0	45.6		ug/L		91	41 - 142	5	31
N-Propylbenzene	ND		50.0	48.5		ug/L		97	51 - 138	5	30
o-Chlorotoluene	ND		50.0	50.2		ug/L		100	53 - 134	2	30
o-Xylene	1.1	J	50.0	44.5		ug/L		87	61 - 130	1	30
p-Chlorotoluene	ND		50.0	49.1		ug/L		98	54 - 133	3	30
p-Isopropyltoluene	ND		50.0	47.2		ug/L		94	48 - 139	5	30
sec-Butylbenzene	ND		50.0	47.5		ug/L		95	50 - 138	6	30
Styrene	ND		50.0	42.1		ug/L		84	58 - 131	1	30
tert-Butylbenzene	ND		50.0	46.7		ug/L		93	54 - 146	4	30
1,1,1,2-Tetrachloroethane	ND		50.0	44.5		ug/L		89	59 - 137	1	30
1,1,2,2-Tetrachloroethane	ND		50.0	53.2		ug/L		106	66 - 135	2	30
Tetrachloroethene	ND		50.0	39.7		ug/L		79	52 - 133	0	30
Toluene	0.61	J	50.0	46.8		ug/L		92	65 - 130	3	30
trans-1,2-Dichloroethene	ND		50.0	50.9		ug/L		102	61 - 143	0	30
trans-1,3-Dichloropropene	ND		50.0	43.3		ug/L		87	53 - 133	2	30
1,2,3-Trichlorobenzene	ND		50.0	45.3		ug/L		91	43 - 145	3	30
1,2,4-Trichlorobenzene	ND		50.0	44.9		ug/L		90	39 - 148	5	30
1,1,1-Trichloroethane	ND		50.0	48.4		ug/L		97	57 - 142	1	30
1,1,2-Trichloroethane	ND		50.0	46.8		ug/L		94	66 - 131	3	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		50.0	50.5		ug/L		101	64 - 136	1	30
Trichlorofluoromethane	ND		50.0	50.3		ug/L		101	54 - 150	8	30
1,2,3-Trichloropropane	ND		50.0	50.7		ug/L		101	65 - 133	2	30
1,2,4-Trimethylbenzene	1.5		50.0	50.2		ug/L		97	50 - 139	3	30
1,3,5-Trimethylbenzene	0.63	J	50.0	50.6		ug/L		100	52 - 135	4	30
Vinyl acetate	ND		100	104		ug/L		104	26 - 150	4	33
Vinyl chloride	ND		50.0	58.0		ug/L		116	46 - 150	9	30
Xylenes, Total	4.9	J	100	94.1		ug/L		89	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*109*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzenethiol	ND		10	1.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 15:06	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 15:06	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 15:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 15:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*34 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2-Fluorophenol	*56*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Phenol-d5	*79*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Terphenyl-d14	*83*		*53 - 125*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/03/19 14:07*	*07/14/19 15:06*	*1*

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*34 - 120*
2-Fluorophenol	*67*		*10 - 120*
Nitrobenzene-d5	*88*		*27 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	81		10 - 120
Terphenyl-d14	83		53 - 125
2,4,6-Tribromophenol	85		15 - 135

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	20.9		ug/L		70	29 - 120
Benzoic acid	117	99.1		ug/L		85	10 - 150
Benzyl alcohol	30.0	25.1		ug/L		84	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.3		ug/L		71	45 - 120
Bis(2-chloroethyl)ether	30.0	18.9		ug/L		63	48 - 120
bis (2-chloroisopropyl) ether	30.0	21.5		ug/L		72	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.5		ug/L		85	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	23.4		ug/L		78	46 - 145
4-Chloroaniline	30.0	21.7		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	28.8		ug/L		96	39 - 140
2-Chloronaphthalene	30.0	21.0		ug/L		70	52 - 120
2-Chlorophenol	30.0	22.4		ug/L		75	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.5		ug/L		72	58 - 124
Dibenz[a,h]acridine	30.0	13.6	*	ug/L		45	46 - 149
Dibenzofuran	30.0	22.3		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	40.0	42.0		ug/L		105	39 - 135
2,4-Dichlorophenol	30.0	25.9		ug/L		86	39 - 128
Diethyl phthalate	30.0	24.4		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	22.6		ug/L		75	44 - 120
Dimethyl phthalate	30.0	24.0		ug/L		80	50 - 131
Di-n-butyl phthalate	30.0	25.3		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	47.6		ug/L		79	10 - 150
2,4-Dinitrophenol	60.0	53.2		ug/L		89	10 - 150
2,4-Dinitrotoluene	30.0	26.4		ug/L		88	58 - 140
2,6-Dinitrotoluene	30.0	25.0		ug/L		83	57 - 130
Di-n-octyl phthalate	30.0	22.9		ug/L		76	50 - 150
1,4-Dioxane	30.0	15.5		ug/L		52	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	23.4		ug/L		78	47 - 123
Hexachlorobenzene	30.0	21.9		ug/L		73	52 - 131
Hexachlorocyclopentadiene	30.0	3.16	J	ug/L		11	10 - 129
Hexachloroethane	30.0	13.7		ug/L		46	41 - 120
Indene	30.0	20.3		ug/L		68	47 - 120
Isophorone	30.0	23.4		ug/L		78	49 - 120
2-Methylphenol	30.0	23.3		ug/L		78	39 - 123
3 & 4 Methylphenol	30.0	22.6		ug/L		75	38 - 121
2-Nitroaniline	30.0	26.6		ug/L		89	47 - 150
3-Nitroaniline	30.0	26.0		ug/L		87	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	30.0	23.5		ug/L		78	47 - 120
2-Nitrophenol	30.0	25.6		ug/L		85	28 - 136
4-Nitrophenol	60.0	49.7		ug/L		83	10 - 150
N-Nitrosodimethylamine	30.0	20.9		ug/L		70	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.7		ug/L		69	44 - 120
N-Nitrosodiphenylamine	29.8	24.8		ug/L		83	56 - 120
Pentachlorophenol	60.0	46.8		ug/L		78	15 - 141
Phenol	30.0	21.4		ug/L		71	33 - 120
Pyridine	60.0	30.3		ug/L		51	26 - 120
Quinoline	30.0	20.8		ug/L		69	51 - 129
2,4,5-Trichlorophenol	30.0	25.3		ug/L		84	38 - 147
2,4,6-Trichlorophenol	30.0	24.8		ug/L		83	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*77*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*88*		*15 - 135*

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.0	20.0		ug/L		69	10 - 143
Benzoic acid	ND		112	129		ug/L		114	10 - 134
Benzyl alcohol	ND		29.0	22.9		ug/L		79	10 - 154
Bis(2-chloroethoxy)methane	ND		29.0	18.9		ug/L		65	14 - 147
Bis(2-chloroethyl)ether	ND		29.0	16.8		ug/L		58	28 - 130
bis (2-chloroisopropyl) ether	ND		29.0	19.3		ug/L		67	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.0	23.6		ug/L		81	43 - 160

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND		29.0	21.9		ug/L		76	26 - 159
Butyl benzyl phthalate	ND		29.0	22.0		ug/L		76	43 - 151
4-Chloroaniline	ND		29.0	17.7		ug/L		61	10 - 152
4-Chloro-3-methylphenol	ND		29.0	28.1		ug/L		97	17 - 156
2-Chloronaphthalene	ND		29.0	19.6		ug/L		68	10 - 155
2-Chlorophenol	ND		29.0	19.8		ug/L		68	19 - 130
4-Chlorophenyl phenyl ether	ND		29.0	21.2		ug/L		73	25 - 161
Dibenz[a,h]acridine	ND	F1 *	29.0	9.83	F1	ug/L		34	42 - 147
Dibenzofuran	ND		29.0	20.9		ug/L		72	18 - 157
3,3'-Dichlorobenzidine	ND		38.6	4.59	J	ug/L		12	10 - 172
2,4-Dichlorophenol	ND		29.0	23.8		ug/L		82	16 - 147
Diethyl phthalate	ND		29.0	23.5		ug/L		81	23 - 160
2,4-Dimethylphenol	ND		29.0	23.6		ug/L		81	25 - 146
Dimethyl phthalate	ND		29.0	23.5		ug/L		81	11 - 158
Di-n-butyl phthalate	ND		29.0	23.4		ug/L		81	28 - 162
4,6-Dinitro-ortho-cresol	ND		57.9	58.0		ug/L		100	10 - 168
2,4-Dinitrophenol	ND		57.9	69.4		ug/L		120	10 - 166
2,4-Dinitrotoluene	ND		29.0	25.8		ug/L		89	26 - 158
2,6-Dinitrotoluene	ND		29.0	24.4		ug/L		84	19 - 157
Di-n-octyl phthalate	ND		29.0	21.8		ug/L		75	42 - 150
1,4-Dioxane	ND		29.0	8.97	J	ug/L		31	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.0	20.4		ug/L		70	19 - 162
Hexachlorobenzene	ND		29.0	22.1		ug/L		76	45 - 145
Hexachlorocyclopentadiene	ND		29.0	11.3	J	ug/L		39	10 - 151
Hexachloroethane	ND		29.0	17.4		ug/L		60	29 - 130
Indene	ND		29.0	16.3		ug/L		56	22 - 130
Isophorone	ND		29.0	21.4		ug/L		74	24 - 144
2-Methylphenol	ND		29.0	21.7		ug/L		75	22 - 130
3 & 4 Methylphenol	ND		29.0	21.2		ug/L		73	31 - 130
2-Nitroaniline	ND		29.0	26.5		ug/L		91	10 - 162
3-Nitroaniline	ND		29.0	22.3		ug/L		77	10 - 163
4-Nitroaniline	ND		29.0	28.2		ug/L		97	10 - 162
Nitrobenzene	ND		29.0	21.6		ug/L		75	34 - 135
2-Nitrophenol	ND		29.0	23.3		ug/L		80	27 - 134
4-Nitrophenol	ND		57.9	54.8		ug/L		95	10 - 175
N-Nitrosodimethylamine	ND		29.0	21.3		ug/L		74	10 - 139
N-Nitrosodi-n-propylamine	ND		29.0	20.8		ug/L		72	13 - 147
N-Nitrosodiphenylamine	ND		28.7	16.6		ug/L		58	31 - 150
Pentachlorophenol	ND		57.9	62.3		ug/L		108	10 - 180
Phenol	4.3	J	29.0	23.0		ug/L		65	23 - 130
Pyridine	ND		57.9	28.1		ug/L		48	10 - 130
Quinoline	ND	F2	29.0	14.4		ug/L		50	10 - 180
2,4,5-Trichlorophenol	ND		29.0	25.8		ug/L		89	43 - 137
2,4,6-Trichlorophenol	ND		29.0	24.7		ug/L		85	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	38		10 - 120
Nitrobenzene-d5	62		27 - 120
Phenol-d5	51		10 - 120
Terphenyl-d14	37	X	53 - 125
2,4,6-Tribromophenol	69		15 - 135

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		29.1	19.2		ug/L		66	10 - 143	4	63
Benzoic acid	ND		113	107		ug/L		94	10 - 134	19	49
Benzyl alcohol	ND		29.1	21.5		ug/L		74	10 - 154	6	37
Bis(2-chloroethoxy)methane	ND		29.1	17.6		ug/L		60	14 - 147	7	70
Bis(2-chloroethyl)ether	ND		29.1	15.2		ug/L		52	28 - 130	10	42
bis (2-chloroisopropyl) ether	ND		29.1	18.5		ug/L		64	10 - 141	4	41
Bis(2-ethylhexyl) phthalate	ND		29.1	20.6		ug/L		71	43 - 160	14	35
4-Bromophenyl phenyl ether	ND		29.1	18.7		ug/L		64	26 - 159	16	30
Butyl benzyl phthalate	ND		29.1	19.4		ug/L		66	43 - 151	13	32
4-Chloroaniline	ND		29.1	15.1		ug/L		52	10 - 152	16	94
4-Chloro-3-methylphenol	ND		29.1	25.1		ug/L		86	17 - 156	11	40
2-Chloronaphthalene	ND		29.1	17.6		ug/L		60	10 - 155	11	29
2-Chlorophenol	ND		29.1	19.5		ug/L		67	19 - 130	2	42
4-Chlorophenyl phenyl ether	ND		29.1	17.9		ug/L		62	25 - 161	16	27
Dibenz[a,h]acridine	ND	F1 *	29.1	9.56	J F1	ug/L		33	42 - 147	3	40
Dibenzofuran	ND		29.1	18.7		ug/L		64	18 - 157	11	29
3,3'-Dichlorobenzidine	ND		38.9	5.67	J	ug/L		15	10 - 172	21	58
2,4-Dichlorophenol	ND		29.1	22.0		ug/L		75	16 - 147	8	43
Diethyl phthalate	ND		29.1	20.8		ug/L		71	23 - 160	12	40
2,4-Dimethylphenol	ND		29.1	22.0		ug/L		75	25 - 146	7	47
Dimethyl phthalate	ND		29.1	20.5		ug/L		70	11 - 158	14	36
Di-n-butyl phthalate	ND		29.1	20.3		ug/L		70	28 - 162	14	32
4,6-Dinitro-ortho-cresol	ND		58.3	51.0		ug/L		88	10 - 168	13	42
2,4-Dinitrophenol	ND		58.3	61.5		ug/L		106	10 - 166	12	36
2,4-Dinitrotoluene	ND		29.1	22.7		ug/L		78	26 - 158	13	28
2,6-Dinitrotoluene	ND		29.1	21.5		ug/L		74	19 - 157	13	28
Di-n-octyl phthalate	ND		29.1	19.2		ug/L		66	42 - 150	12	35
1,4-Dioxane	ND		29.1	8.79	J	ug/L		30	10 - 130	2	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.1	18.3		ug/L		63	19 - 162	11	40
Hexachlorobenzene	ND		29.1	19.1		ug/L		66	45 - 145	14	33
Hexachlorocyclopentadiene	ND		29.1	10.4	J	ug/L		36	10 - 151	9	50
Hexachloroethane	ND		29.1	16.6		ug/L		57	29 - 130	5	41
Indene	ND		29.1	15.4		ug/L		53	22 - 130	6	40
Isophorone	ND		29.1	19.9		ug/L		68	24 - 144	7	33
2-Methylphenol	ND		29.1	20.7		ug/L		71	22 - 130	5	47
3 & 4 Methylphenol	ND		29.1	19.4		ug/L		67	31 - 130	9	47
2-Nitroaniline	ND		29.1	23.9		ug/L		82	10 - 162	10	33

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3-Nitroaniline	ND		29.1	19.2		ug/L		66	10 - 163	15	39
4-Nitroaniline	ND		29.1	24.3		ug/L		83	10 - 162	15	50
Nitrobenzene	ND		29.1	19.9		ug/L		68	34 - 135	8	35
2-Nitrophenol	ND		29.1	22.3		ug/L		77	27 - 134	4	43
4-Nitrophenol	ND		58.3	47.1		ug/L		81	10 - 175	15	82
N-Nitrosodimethylamine	ND		29.1	21.1		ug/L		73	10 - 139	1	62
N-Nitrosodi-n-propylamine	ND		29.1	19.3		ug/L		66	13 - 147	8	36
N-Nitrosodiphenylamine	ND		28.9	17.6		ug/L		61	31 - 150	6	34
Pentachlorophenol	ND		58.3	54.6		ug/L		94	10 - 180	13	42
Phenol	4.3	J	29.1	22.6		ug/L		63	23 - 130	2	52
Pyridine	ND		58.3	29.7		ug/L		51	10 - 130	6	55
Quinoline	ND	F2	29.1	22.9	F2	ug/L		79	10 - 180	45	40
2,4,5-Trichlorophenol	ND		29.1	23.0		ug/L		79	43 - 137	12	42
2,4,6-Trichlorophenol	ND		29.1	22.5		ug/L		77	42 - 135	9	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*50*		*34 - 120*
2-Fluorophenol	*48*		*10 - 120*
Nitrobenzene-d5	*69*		*27 - 120*
Phenol-d5	*61*		*10 - 120*
Terphenyl-d14	*52*	*X*	*53 - 125*
2,4,6-Tribromophenol	*77*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 16:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
2-Methylnaphthalene	0.0487	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	117		15 - 122	07/03/19 14:07	07/12/19 16:04	1
Nitrobenzene-d5	120		19 - 130	07/03/19 14:07	07/12/19 16:04	1
Terphenyl-d14	200	X	33 - 138	07/03/19 14:07	07/12/19 16:04	1

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	32.9		ug/L		110	41 - 120
Acenaphthylene	30.0	30.0		ug/L		100	44 - 120
Anthracene	30.0	29.7		ug/L		99	49 - 120
Benzo[a]anthracene	30.0	30.7		ug/L		102	61 - 135
Benzo[a]pyrene	30.0	28.7		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	32.5		ug/L		108	53 - 134
Benzo[g,h,i]perylene	30.0	27.0		ug/L		90	47 - 133
Benzo[k]fluoranthene	30.0	31.2		ug/L		104	57 - 134
Chrysene	30.0	31.4		ug/L		105	55 - 122
Dibenz(a,h)anthracene	30.0	36.2		ug/L		121	48 - 146
Fluoranthene	30.0	30.5		ug/L		102	54 - 128
Fluorene	30.0	36.4		ug/L		121	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	34.0		ug/L		113	43 - 142
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124
Phenanthrene	30.0	32.0		ug/L		107	48 - 120
Pyrene	30.0	41.4	*	ug/L		138	48 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	83		15 - 122
Nitrobenzene-d5	74		19 - 130
Terphenyl-d14	136		33 - 138

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447502

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		29.0	29.8		ug/L		103	35 - 113
Acenaphthylene	ND		29.0	26.8		ug/L		93	41 - 118
Anthracene	ND		29.0	31.4		ug/L		109	45 - 122
Benzo[a]anthracene	ND		29.0	27.9		ug/L		96	55 - 133
Benzo[a]pyrene	ND		29.0	27.8		ug/L		96	50 - 108
Benzo[b]fluoranthene	ND		29.0	28.3		ug/L		98	50 - 128
Benzo[g,h,i]perylene	ND		29.0	24.1		ug/L		83	46 - 133
Benzo[k]fluoranthene	ND		29.0	31.3		ug/L		108	52 - 128
Chrysene	ND		29.0	29.5		ug/L		102	52 - 116
Dibenz(a,h)anthracene	ND		29.0	31.1		ug/L		107	52 - 143
Fluoranthene	ND		29.0	28.5		ug/L		98	32 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447502

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluorene	ND		29.0	31.9		ug/L		110	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.0	29.3		ug/L		101	41 - 141
1-Methylnaphthalene	0.12	J	29.0	21.4		ug/L		73	10 - 150
2-Methylnaphthalene	0.23	B	29.0	22.4		ug/L		77	10 - 150
Phenanthrene	ND		29.0	33.4		ug/L		115	36 - 125
Pyrene	ND	*	29.0	27.5		ug/L		95	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*15 - 122*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*40*		*33 - 138*

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447502

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		29.1	25.2		ug/L		87	35 - 113	16	49
Acenaphthylene	ND		29.1	23.7		ug/L		81	41 - 118	12	48
Anthracene	ND		29.1	25.6		ug/L		88	45 - 122	20	56
Benzo[a]anthracene	ND		29.1	23.6		ug/L		81	55 - 133	17	57
Benzo[a]pyrene	ND		29.1	22.3		ug/L		76	50 - 108	22	59
Benzo[b]fluoranthene	ND		29.1	24.9		ug/L		85	50 - 128	13	62
Benzo[g,h,i]perylene	ND		29.1	16.0		ug/L		55	46 - 133	40	58
Benzo[k]fluoranthene	ND		29.1	28.4		ug/L		97	52 - 128	10	58
Chrysene	ND		29.1	21.9		ug/L		75	52 - 116	30	59
Dibenz(a,h)anthracene	ND		29.1	20.8		ug/L		71	52 - 143	40	60
Fluoranthene	ND		29.1	24.7		ug/L		85	32 - 150	14	59
Fluorene	ND		29.1	26.3		ug/L		90	15 - 150	19	49
Indeno[1,2,3-cd]pyrene	ND		29.1	19.8		ug/L		68	41 - 141	39	58
1-Methylnaphthalene	0.12	J	29.1	19.0		ug/L		65	10 - 150	12	66
2-Methylnaphthalene	0.23	B	29.1	19.1		ug/L		65	10 - 150	16	66
Phenanthrene	ND		29.1	26.1		ug/L		90	36 - 125	25	69
Pyrene	ND	*	29.1	23.1		ug/L		79	41 - 127	17	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*15 - 122*
Nitrobenzene-d5	*87*		*19 - 130*
Terphenyl-d14	*55*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST ( )
- ☐ CALSCIENCE ( )
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/28/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
170 East Rand Avenue, Hartford — State: IL
AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
SAMPLER NAME(S) (Print): James Ragatz
LAB USE ONLY

TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS — UNIT COST 60592794 - 1.24.051 / NON-UNIT COST 60592794 - 1.24.050

400-172422 COC

FIELD NOTES: TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-062819-B	6/28/2019	0:00	Water	2					2		x		
	PD-5-GWP-80-062819	6/28/2019	10:05	Water	2			2		4	x	x	x	
	PD-5-GWP-80-062819-MS	6/28/2019	10:05	Water	2			2		4	x	x	x	
	PD-5-GWP-80-062819-MSD	6/28/2019	10:05	Water	2			2		4	x	x	x	
	PD-8-GWP-35-062819	6/28/2019	11:45	Water	2			2		4	x	x	x	
	PD-8-GWP-41-062819	6/28/2019	13:55	Water	2			2		4	x	x	x	
	PD-8-GWP-46-062819	6/28/2019	14:50	Water	2			2		4	x	x	x	
	PD-8-GWP-52-062819	6/28/2019	15:40	Water	2			2		4	x	x	x	

Relinquished by (Signature)	Received by (Signature)	Date	Time
		6/28/2019	1700
		6-29-19	9:19

Ref: 5400-83006 Date: 20Jun19 SHIPPING: 0.
Dep: Wgt: 10.00 LBS SPECIAL: 0.0
HANDLING: 0.0
DV: 0.00 TOTAL: 0.0

Svcs: PRIORITY OVERNIGHT Master 1054 5423 6403
TRCK: 1054 5423 6403

0.3 < 1R8

Version: 10May17

7/22/2019

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172422-1

Login Number: 172422
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	06-30-19 *
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172422-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 1:22:11 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172422-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172422-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-22-19.

Receipt
The samples were received on 6/29/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-447677 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-447677 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following samples were analyzed after 7 days from sampling: PD-8-GWP-41-062819 (400-172422-4) and PD-8-GWP-52-062819 (400-172422-6).

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: PD-8-GWP-41-062819 (400-172422-4) and PD-8-GWP-52-062819 (400-172422-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-GWP-41-062819 (400-172422-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following sample was analyzed after 7 days from sampling: PD-8-GWP-46-062819 (400-172422-5).

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-062819-B (400-172422-1), PD-5-GWP-80-062819 (400-172422-2), PD-5-GWP-35-062819 (400-172422-3) and PD-8-GWP-46-062819 (400-172422-5). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-5-GWP-35-062819 (400-172422-3) and PD-8-GWP-46-062819 (400-172422-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D LL: The method blank for preparation batch 400-446728 and analytical batch 400-447502 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Job ID: 400-172422-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-446728/1-A). These results have been reported and qualified.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-447918 recovered above the upper control limit for 1-Methylnaphthalene, 2-Methylnaphthalene, Anthracene and Benzo[k]fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-447918/3).

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446728 and analytical batch 400-447936 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-5-GWP-80-062819 (400-172422-2[MS]), PD-5-GWP-80-062819 (400-172422-2[MSD]), PD-8-GWP-46-062819 (400-172422-5) and PD-8-GWP-52-062819 (400-172422-6). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-446728 and analytical batch 400-447936: Dibenz[a,h]acridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-446728 and analytical batch 400-447936 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-446728 and analytical batch 400-447936 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-5-GWP-35-062819 (400-172422-3). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-446728 and analytical batch 400-447502 recovered outside control limits for the following analytes: Pyrene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-8-GWP-41-062819 (400-172422-4) and PD-8-GWP-46-062819 (400-172422-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172422-1	TB-PW-062819-B	Water	06/28/19 00:00	06/29/19 09:19	
400-172422-2	PD-5-GWP-80-062819	Water	06/28/19 10:05	06/29/19 09:19	
400-172422-3	PD-5-GWP-35-062819	Water	06/28/19 11:45	06/29/19 09:19	
400-172422-4	PD-8-GWP-41-062819	Water	06/28/19 13:55	06/29/19 09:19	
400-172422-5	PD-8-GWP-46-062819	Water	06/28/19 14:50	06/29/19 09:19	
400-172422-6	PD-8-GWP-52-062819	Water	06/28/19 15:40	06/29/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B — Lab Sample ID: 400-172422-1

No Detections.

Client Sample ID: PD-5-GWP-80-062819 — Lab Sample ID: 400-172422-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	180		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	1.8		1.0	0.50	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	3.8	J	5.0	1.6	ug/L	1		8260B	Total/NA
o-Xylene	1.1	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.61	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.5		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.63	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	4.9	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.12	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.23	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	4.3	J	9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-5-GWP-35-062819 — Lab Sample ID: 400-172422-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	1500		1000	410	ug/L	1000		8260B	Total/NA
Benzene - DL	810000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	2.7		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.8	B	0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	42		29	7.0	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol	22		9.6	3.4	ug/L	1		8270D	Total/NA
Indene	6.9	J	9.6	0.96	ug/L	1		8270D	Total/NA
2-Methylphenol	18		9.6	1.7	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	11	J	19	1.0	ug/L	1		8270D	Total/NA
Pentachlorophenol	2.3	J	19	1.7	ug/L	1		8270D	Total/NA
Phenol	230		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-8-GWP-41-062819 — Lab Sample ID: 400-172422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4900		25	9.5	ug/L	25		8260B	Total/NA
Ethylbenzene	1400		25	13	ug/L	25		8260B	Total/NA
Isopropylbenzene	29		25	13	ug/L	25		8260B	Total/NA
m-Xylene & p-Xylene	2200		130	40	ug/L	25		8260B	Total/NA
Naphthalene	120		25	25	ug/L	25		8260B	Total/NA
N-Propylbenzene	61		25	17	ug/L	25		8260B	Total/NA
o-Xylene	280		130	15	ug/L	25		8260B	Total/NA
Toluene	150		25	10	ug/L	25		8260B	Total/NA
1,2,4-Trimethylbenzene	330		25	21	ug/L	25		8260B	Total/NA
1,3,5-Trimethylbenzene	110		25	14	ug/L	25		8260B	Total/NA
Xylenes, Total	2500		250	40	ug/L	25		8260B	Total/NA
Acenaphthene	0.60		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.040	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.061	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.074	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.14	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.9		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	47		1.9	0.19	ug/L	10		8270D LL	Total/NA
2-Methylnaphthalene	56	B	1.9	0.19	ug/L	10		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819 (Continued) — Lab Sample ID: 400-172422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	2.4		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.13	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Indene	13		9.7	0.97	ug/L	1		8270D	Total/NA

Client Sample ID: PD-8-GWP-46-062819 — Lab Sample ID: 400-172422-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	42	J	50	20	ug/L	2		8260B	Total/NA
Benzene	86		2.0	0.76	ug/L	2		8260B	Total/NA
2-Butanone (MEK)	37	J	50	5.2	ug/L	2		8260B	Total/NA
Ethylbenzene	54		2.0	1.0	ug/L	2		8260B	Total/NA
Isopropylbenzene	32		2.0	1.1	ug/L	2		8260B	Total/NA
m-Xylene & p-Xylene	97		10	3.2	ug/L	2		8260B	Total/NA
Naphthalene	4.9		2.0	2.0	ug/L	2		8260B	Total/NA
n-Butylbenzene	3.4		2.0	1.5	ug/L	2		8260B	Total/NA
N-Propylbenzene	83		2.0	1.4	ug/L	2		8260B	Total/NA
o-Xylene	12		10	1.2	ug/L	2		8260B	Total/NA
sec-Butylbenzene	2.5		2.0	1.4	ug/L	2		8260B	Total/NA
tert-Butylbenzene	1.9	J	2.0	1.3	ug/L	2		8260B	Total/NA
Toluene	28		2.0	0.82	ug/L	2		8260B	Total/NA
1,2,4-Trimethylbenzene	8.2		2.0	1.6	ug/L	2		8260B	Total/NA
1,3,5-Trimethylbenzene	6.5		2.0	1.1	ug/L	2		8260B	Total/NA
Xylenes, Total	110		20	3.2	ug/L	2		8260B	Total/NA
Fluorene	0.26		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	46		2.0	0.20	ug/L	10		8270D LL	Total/NA
2-Methylnaphthalene	63	B	2.0	0.20	ug/L	10		8270D LL	Total/NA

Client Sample ID: PD-8-GWP-52-062819 — Lab Sample ID: 400-172422-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	14		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B

Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 10:25	1
Acrolein	ND		20	10	ug/L			07/12/19 10:25	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 10:25	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 10:25	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 10:25	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 10:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 10:25	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 10:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 10:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 10:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 10:25	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 10:25	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 10:25	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 10:25	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 10:25	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 10:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 10:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 10:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 10:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 10:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 10:25	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 10:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 10:25	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 10:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 10:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 10:25	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 10:25	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 10:25	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 10:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 10:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 10:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 10:25	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 10:25	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: TB-PW-062819-B
Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 10:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 10:25	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 10:25	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 10:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 10:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 10:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 10:25	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 10:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 10:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 10:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 10:25	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 10:25	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 10:25	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 10:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 10:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 10:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 10:25	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 10:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 10:25	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 10:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 10:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*111*		*78 - 118*		*07/12/19 10:25*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/12/19 10:25*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*07/12/19 10:25*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 11:18	1
Acrolein	ND		20	10	ug/L			07/12/19 11:18	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 11:18	1
Benzene	**180**		1.0	0.38	ug/L			07/12/19 11:18	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 11:18	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 11:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 11:18	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 11:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 11:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 11:18	1
2-Chloroethyl vinyl ether	ND	F1	5.0	2.0	ug/L			07/12/19 11:18	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 11:18	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 11:18	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 11:18	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 11:18	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 11:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 11:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 11:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 11:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Ethylbenzene	**1.8**		1.0	0.50	ug/L			07/12/19 11:18	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 11:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 11:18	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 11:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 11:18	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 11:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 11:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 11:18	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 11:18	1
m-Xylene & p-Xylene	**3.8**	**J**	5.0	1.6	ug/L			07/12/19 11:18	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 11:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 11:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 11:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 11:18	1
o-Xylene	**1.1**	**J**	5.0	0.60	ug/L			07/12/19 11:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819
Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 11:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 11:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 11:18	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 11:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 11:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 11:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 11:18	1
Toluene	**0.61**	**J**	1.0	0.41	ug/L			07/12/19 11:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 11:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 11:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 11:18	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 11:18	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 11:18	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 11:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 11:18	1
1,2,4-Trimethylbenzene	**1.5**		1.0	0.82	ug/L			07/12/19 11:18	1
1,3,5-Trimethylbenzene	**0.63**	**J**	1.0	0.56	ug/L			07/12/19 11:18	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 11:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 11:18	1
Xylenes, Total	**4.9**	**J**	10	1.6	ug/L			07/12/19 11:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*58*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/12/19 11:18*	*1*
Unknown	*28*	*T J*	*ug/L*		*2.45*			*07/12/19 11:18*	*1*
Hexane	*2.3*		*ug/L*		*2.73*	*110-54-3*		*07/12/19 11:18*	*1*
Cyclohexane	*1.8*		*ug/L*		*3.46*	*110-82-7*		*07/12/19 11:18*	*1*
n-Heptane	*1.1*		*ug/L*		*3.75*	*142-82-5*		*07/12/19 11:18*	*1*
Methylcyclohexane	*1.7*		*ug/L*		*4.13*	*108-87-2*		*07/12/19 11:18*	*1*
3-Ethyltoluene	*1.5*		*ug/L*		*6.86*	*620-14-4*		*07/12/19 11:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*07/12/19 11:18*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 11:18*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/12/19 11:18*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 23:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 23:17	1
1-Methylnaphthalene	**0.12**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
2-Methylnaphthalene	**0.23**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1
Pyrene	ND	*	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*15 - 122*	*07/03/19 14:07*	*07/12/19 23:17*	*1*
Nitrobenzene-d5	*73*		*19 - 130*	*07/03/19 14:07*	*07/12/19 23:17*	*1*
Terphenyl-d14	*106*		*33 - 138*	*07/03/19 14:07*	*07/12/19 23:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
Benzenethiol	ND	*	9.9	1.7	ug/L		07/03/19 14:07	07/14/19 17:14	1
Benzoic acid	ND		30	7.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 17:14	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/03/19 14:07	07/14/19 17:14	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/03/19 14:07	07/14/19 17:14	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/03/19 14:07	07/14/19 17:14	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Dibenz[a,h]acridine	ND	F1 *	9.9	3.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 17:14	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 17:14	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/03/19 14:07	07/14/19 17:14	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/03/19 14:07	07/14/19 17:14	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		07/03/19 14:07	07/14/19 17:14	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 17:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 17:14	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/03/19 14:07	07/14/19 17:14	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 17:14	1
Hexachloroethane	ND		9.9	4.1	ug/L		07/03/19 14:07	07/14/19 17:14	1
Indene	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 17:14	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.9	0.56	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Nitroaniline	ND		9.9	2.4	ug/L		07/03/19 14:07	07/14/19 17:14	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/03/19 14:07	07/14/19 17:14	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/03/19 14:07	07/14/19 17:14	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/03/19 14:07	07/14/19 17:14	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 17:14	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/03/19 14:07	07/14/19 17:14	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/03/19 14:07	07/14/19 17:14	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 17:14	1
Phenol	**4.3**	**J**	9.9	2.6	ug/L		07/03/19 14:07	07/14/19 17:14	1
Pyridine	ND		9.9	3.2	ug/L		07/03/19 14:07	07/14/19 17:14	1
Quinoline	ND	F2	9.9	5.9	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/03/19 14:07	07/14/19 17:14	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 17:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfolane	*1.4*	*J*	*ug/L*		*6.46*	*126-33-0*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 17:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*47*		*34 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Phenol-d5	*48*		*10 - 120*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
Terphenyl-d14	*58*		*53 - 125*	*07/03/19 14:07*	*07/14/19 17:14*	*1*
2,4,6-Tribromophenol	*58*		*15 - 135*	*07/03/19 14:07*	*07/14/19 17:14*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819

Lab Sample ID: 400-172422-3

Date Collected: 06/28/19 11:45

Matrix: Water

Date Received: 06/29/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/12/19 12:38	1000
Acrolein	ND		20000	10000	ug/L			07/12/19 12:38	1000
Acrylonitrile	ND		10000	2800	ug/L			07/12/19 12:38	1000
Bromobenzene	ND		1000	540	ug/L			07/12/19 12:38	1000
Bromochloromethane	ND		1000	520	ug/L			07/12/19 12:38	1000
Bromodichloromethane	ND		1000	500	ug/L			07/12/19 12:38	1000
Bromoform	ND		5000	710	ug/L			07/12/19 12:38	1000
Bromomethane	ND		1000	980	ug/L			07/12/19 12:38	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/12/19 12:38	1000
Carbon disulfide	ND		1000	500	ug/L			07/12/19 12:38	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/12/19 12:38	1000
Chlorobenzene	ND		1000	500	ug/L			07/12/19 12:38	1000
Chloroethane	ND		1000	760	ug/L			07/12/19 12:38	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/12/19 12:38	1000
Chloroform	ND		1000	600	ug/L			07/12/19 12:38	1000
1-Chlorohexane	ND		1000	700	ug/L			07/12/19 12:38	1000
Chloromethane	ND		1000	830	ug/L			07/12/19 12:38	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/12/19 12:38	1000
Dibromochloromethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/12/19 12:38	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/12/19 12:38	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/12/19 12:38	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/12/19 12:38	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/12/19 12:38	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/12/19 12:38	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/12/19 12:38	1000
Ethylbenzene	ND		1000	500	ug/L			07/12/19 12:38	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/12/19 12:38	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/12/19 12:38	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/12/19 12:38	1000
2-Hexanone	ND		25000	3100	ug/L			07/12/19 12:38	1000
Isopropylbenzene	ND		1000	530	ug/L			07/12/19 12:38	1000
Methylene bromide	ND		5000	590	ug/L			07/12/19 12:38	1000
Methylene Chloride	ND		5000	3000	ug/L			07/12/19 12:38	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/12/19 12:38	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/12/19 12:38	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			07/12/19 12:38	1000
Naphthalene	ND		1000	1000	ug/L			07/12/19 12:38	1000
n-Butylbenzene	ND		1000	760	ug/L			07/12/19 12:38	1000
N-Propylbenzene	ND		1000	690	ug/L			07/12/19 12:38	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/12/19 12:38	1000
o-Xylene	ND		5000	600	ug/L			07/12/19 12:38	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/12/19 12:38	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819
Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/12/19 12:38	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/12/19 12:38	1000
Styrene	ND		1000	1000	ug/L			07/12/19 12:38	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/12/19 12:38	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			07/12/19 12:38	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
Tetrachloroethene	ND		1000	580	ug/L			07/12/19 12:38	1000
Toluene	**1500**		1000	410	ug/L			07/12/19 12:38	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/12/19 12:38	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/12/19 12:38	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/12/19 12:38	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/12/19 12:38	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/12/19 12:38	1000
Trichloroethene	ND		1000	500	ug/L			07/12/19 12:38	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/12/19 12:38	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/12/19 12:38	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			07/12/19 12:38	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/12/19 12:38	1000
Vinyl acetate	ND		25000	2000	ug/L			07/12/19 12:38	1000
Vinyl chloride	ND		1000	500	ug/L			07/12/19 12:38	1000
Xylenes, Total	ND		10000	1600	ug/L			07/12/19 12:38	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 12:38*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/12/19 12:38*	*1000*
Dibromofluoromethane	*93*		*81 - 121*		*07/12/19 12:38*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/12/19 12:38*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**810000**		5000	1900	ug/L			07/12/19 15:18	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 15:18*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/12/19 15:18*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/12/19 15:18*	*5000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/12/19 15:18*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1

Client Sample ID: PD-5-GWP-35-062819
Lab Sample ID: 400-172422-3
Date Collected: 06/28/19 11:45
Matrix: Water
Date Received: 06/29/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Chrysene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
Fluoranthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Fluorene	ND		0.19	0.020	ug/L		07/03/19 14:07	07/13/19 23:17	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:17	1
1-Methylnaphthalene	**2.7**		0.19	0.019	ug/L		07/03/19 14:07	07/17/19 15:51	1
2-Methylnaphthalene	**1.8**	**B**	0.19	0.019	ug/L		07/03/19 14:07	07/17/19 15:51	1
Phenanthrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1
Pyrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*15 - 122*	*07/03/19 14:07*	*07/13/19 23:17*	*1*
Nitrobenzene-d5	*52*		*19 - 130*	*07/03/19 14:07*	*07/13/19 23:17*	*1*
Terphenyl-d14	*61*		*33 - 138*	*07/03/19 14:07*	*07/13/19 23:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/03/19 14:07	07/14/19 17:35	1
Benzoic acid	**42**		29	7.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/03/19 14:07	07/14/19 17:35	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/03/19 14:07	07/14/19 17:35	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/03/19 14:07	07/14/19 17:35	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/03/19 14:07	07/14/19 17:35	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Dibenz[a,h]acridine	ND	*	9.6	2.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/03/19 14:07	07/14/19 17:35	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dimethylphenol	**22**		9.6	3.4	ug/L		07/03/19 14:07	07/14/19 17:35	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/03/19 14:07	07/14/19 17:35	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/03/19 14:07	07/14/19 17:35	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/03/19 14:07	07/14/19 17:35	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/03/19 14:07	07/14/19 17:35	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/03/19 14:07	07/14/19 17:35	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819

Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/03/19 14:07	07/14/19 17:35	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 17:35	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
Indene	**6.9**	**J**	9.6	0.96	ug/L		07/03/19 14:07	07/14/19 17:35	1
Isophorone	ND		9.6	0.55	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Methylphenol	**18**		9.6	1.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
3 & 4 Methylphenol	**11**	**J**	19	1.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/03/19 14:07	07/14/19 17:35	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/03/19 14:07	07/14/19 17:35	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/03/19 14:07	07/14/19 17:35	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/03/19 14:07	07/14/19 17:35	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/03/19 14:07	07/14/19 17:35	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/03/19 14:07	07/14/19 17:35	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/03/19 14:07	07/14/19 17:35	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/03/19 14:07	07/14/19 17:35	1
Pentachlorophenol	**2.3**	**J**	19	1.7	ug/L		07/03/19 14:07	07/14/19 17:35	1
Phenol	**230**		48	13	ug/L		07/03/19 14:07	07/16/19 15:26	5
Pyridine	ND		9.6	3.1	ug/L		07/03/19 14:07	07/14/19 17:35	1
Quinoline	ND		9.6	5.8	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/03/19 14:07	07/14/19 17:35	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/03/19 14:07	07/14/19 17:35	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*210*	*T J N*	*ug/L*		*3.95*	*108-88-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Cyclopentanol, 1-methyl-	*25*	*T J N*	*ug/L*		*4.14*	*1462-03-9*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Ethylbenzene	*140*	*T J N*	*ug/L*		*4.69*	*100-41-4*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
p-Xylene	*170*	*T J N*	*ug/L*		*4.76*	*106-42-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
o-Xylene	*100*	*T J N*	*ug/L*		*4.91*	*95-47-6*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, (1-methylethyl)-	*7.3*	*T J N*	*ug/L*		*5.09*	*98-82-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, propyl-	*5.5*	*T J N*	*ug/L*		*5.27*	*103-65-1*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1-ethyl-2-methyl-	*7.3*	*T J N*	*ug/L*		*5.32*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1-ethyl-2-methyl-	*11*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Tricyclo[3.1.0.0(2,4)]hex-3-ene-3-carbonitrile	*8.3*	*T J N*	*ug/L*		*5.44*	*103495-51-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1,2,3-trimethyl-	*43*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzene, 1,2,3-trimethyl-	*20*	*T J N*	*ug/L*		*5.65*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*9.0*	*T J N*	*ug/L*		*5.70*	*1121-05-7*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Phenol, 2,3-dimethyl-	*8.3*	*T J N*	*ug/L*		*6.03*	*526-75-0*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Naphthalene	*54*	*T J N*	*ug/L*		*6.46*	*91-20-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Benzothiophene #	*14*	*T J N*	*ug/L*		*6.49*	*270-82-6*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzoic acid, 2-methyl-	*72*	*T J N*	*ug/L*		*6.61*	*118-90-1*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Tridecane	*10*	*T J N*	*ug/L*		*6.76*	*629-50-5*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Benzeneacetic acid, .alpha.-methyl-	*14*	*T J N*	*ug/L*		*6.79*	*492-37-5*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
2-Thiophenecarboxylic acid, 5-ethyl-	*15*	*T J N*	*ug/L*		*7.06*	*23229-72-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
n-Hexadecanoic acid	*15*	*T J N*	*ug/L*		*9.12*	*57-10-3*	*07/03/19 14:07*	*07/14/19 17:35*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/16/19 15:26*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*34 - 120*	*07/03/19 14:07*	*07/14/19 17:35*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-5-GWP-35-062819
Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		34 - 120	07/03/19 14:07	07/16/19 15:26	5
2-Fluorophenol	0	X	10 - 120	07/03/19 14:07	07/14/19 17:35	1
2-Fluorophenol	52		10 - 120	07/03/19 14:07	07/16/19 15:26	5
Nitrobenzene-d5	60		27 - 120	07/03/19 14:07	07/14/19 17:35	1
Nitrobenzene-d5	94		27 - 120	07/03/19 14:07	07/16/19 15:26	5
Phenol-d5	51		10 - 120	07/03/19 14:07	07/14/19 17:35	1
Phenol-d5	87		10 - 120	07/03/19 14:07	07/16/19 15:26	5
Terphenyl-d14	51	X	53 - 125	07/03/19 14:07	07/14/19 17:35	1
Terphenyl-d14	76		53 - 125	07/03/19 14:07	07/16/19 15:26	5
2,4,6-Tribromophenol	92		15 - 135	07/03/19 14:07	07/14/19 17:35	1
2,4,6-Tribromophenol	65		15 - 135	07/03/19 14:07	07/16/19 15:26	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819

Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		630	250	ug/L			07/11/19 22:19	25
Acrolein	ND		500	250	ug/L			07/11/19 22:19	25
Acrylonitrile	ND		250	70	ug/L			07/11/19 22:19	25
Benzene	**4900**		25	9.5	ug/L			07/11/19 22:19	25
Bromobenzene	ND		25	14	ug/L			07/11/19 22:19	25
Bromochloromethane	ND		25	13	ug/L			07/11/19 22:19	25
Bromodichloromethane	ND		25	13	ug/L			07/11/19 22:19	25
Bromoform	ND		130	18	ug/L			07/11/19 22:19	25
Bromomethane	ND		25	25	ug/L			07/11/19 22:19	25
2-Butanone (MEK)	ND		630	65	ug/L			07/11/19 22:19	25
Carbon disulfide	ND		25	13	ug/L			07/11/19 22:19	25
Carbon tetrachloride	ND		25	13	ug/L			07/11/19 22:19	25
Chlorobenzene	ND		25	13	ug/L			07/11/19 22:19	25
Chloroethane	ND		25	19	ug/L			07/11/19 22:19	25
2-Chloroethyl vinyl ether	ND		130	50	ug/L			07/11/19 22:19	25
Chloroform	ND		25	15	ug/L			07/11/19 22:19	25
1-Chlorohexane	ND		25	18	ug/L			07/11/19 22:19	25
Chloromethane	ND		25	21	ug/L			07/11/19 22:19	25
cis-1,2-Dichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
cis-1,3-Dichloropropene	ND		130	13	ug/L			07/11/19 22:19	25
Dibromochloromethane	ND		25	13	ug/L			07/11/19 22:19	25
1,2-Dibromo-3-Chloropropane	ND		130	38	ug/L			07/11/19 22:19	25
1,2-Dichlorobenzene	ND		25	13	ug/L			07/11/19 22:19	25
1,3-Dichlorobenzene	ND		25	14	ug/L			07/11/19 22:19	25
1,4-Dichlorobenzene	ND		25	16	ug/L			07/11/19 22:19	25
Dichlorodifluoromethane	ND		25	21	ug/L			07/11/19 22:19	25
1,1-Dichloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,2-Dichloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,1-Dichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
1,2-Dichloropropane	ND		25	13	ug/L			07/11/19 22:19	25
1,3-Dichloropropane	ND		25	13	ug/L			07/11/19 22:19	25
2,2-Dichloropropane	ND		25	13	ug/L			07/11/19 22:19	25
1,1-Dichloropropene	ND		25	13	ug/L			07/11/19 22:19	25
Ethylbenzene	**1400**		25	13	ug/L			07/11/19 22:19	25
Ethylene Dibromide	ND		25	13	ug/L			07/11/19 22:19	25
Ethyl methacrylate	ND		25	15	ug/L			07/11/19 22:19	25
Hexachlorobutadiene	ND		130	23	ug/L			07/11/19 22:19	25
2-Hexanone	ND		630	78	ug/L			07/11/19 22:19	25
Isopropylbenzene	**29**		25	13	ug/L			07/11/19 22:19	25
Methylene bromide	ND		130	15	ug/L			07/11/19 22:19	25
Methylene Chloride	ND		130	75	ug/L			07/11/19 22:19	25
4-Methyl-2-pentanone (MIBK)	ND		630	45	ug/L			07/11/19 22:19	25
Methyl tert-butyl ether	ND		25	19	ug/L			07/11/19 22:19	25
m-Xylene & p-Xylene	**2200**		130	40	ug/L			07/11/19 22:19	25
Naphthalene	**120**		25	25	ug/L			07/11/19 22:19	25
n-Butylbenzene	ND		25	19	ug/L			07/11/19 22:19	25
N-Propylbenzene	**61**		25	17	ug/L			07/11/19 22:19	25
o-Chlorotoluene	ND		25	14	ug/L			07/11/19 22:19	25
o-Xylene	**280**		130	15	ug/L			07/11/19 22:19	25

Client: AECOM Technical Services Inc.
Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-41-062819
Lab Sample ID: 400-172422-4

Date Collected: 06/28/19 13:55
Matrix: Water
Date Received: 06/29/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		25	14	ug/L			07/11/19 22:19	25
p-Isopropyltoluene	ND		25	18	ug/L			07/11/19 22:19	25
sec-Butylbenzene	ND		25	18	ug/L			07/11/19 22:19	25
Styrene	ND		25	25	ug/L			07/11/19 22:19	25
tert-Butylbenzene	ND		25	16	ug/L			07/11/19 22:19	25
1,1,1,2-Tetrachloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,1,2,2-Tetrachloroethane	ND		25	13	ug/L			07/11/19 22:19	25
Tetrachloroethene	ND		25	15	ug/L			07/11/19 22:19	25
Toluene	**150**		25	10	ug/L			07/11/19 22:19	25
trans-1,2-Dichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
trans-1,3-Dichloropropene	ND		130	13	ug/L			07/11/19 22:19	25
1,2,3-Trichlorobenzene	ND		25	18	ug/L			07/11/19 22:19	25
1,2,4-Trichlorobenzene	ND		25	21	ug/L			07/11/19 22:19	25
1,1,1-Trichloroethane	ND		25	13	ug/L			07/11/19 22:19	25
1,1,2-Trichloroethane	ND		130	13	ug/L			07/11/19 22:19	25
Trichloroethene	ND		25	13	ug/L			07/11/19 22:19	25
Trichlorofluoromethane	ND		25	13	ug/L			07/11/19 22:19	25
1,2,3-Trichloropropane	ND		130	21	ug/L			07/11/19 22:19	25
1,2,4-Trimethylbenzene	**330**		25	21	ug/L			07/11/19 22:19	25
1,3,5-Trimethylbenzene	**110**		25	14	ug/L			07/11/19 22:19	25
Vinyl acetate	ND		630	50	ug/L			07/11/19 22:19	25
Vinyl chloride	ND		25	13	ug/L			07/11/19 22:19	25
Xylenes, Total	**2500**		250	40	ug/L			07/11/19 22:19	25

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*550*	*T J*	*ug/L*		*1.48*			*07/11/19 22:19*	*25*
Butane, 2-methyl-	*320*	*T J N*	*ug/L*		*1.79*	*78-78-4*		*07/11/19 22:19*	*25*
Pentane	*470*	*T J N*	*ug/L*		*1.94*	*109-66-0*		*07/11/19 22:19*	*25*
Cyclopropane, 1,2-dimethyl-, cis-	*930*	*T J N*	*ug/L*		*2.11*	*930-18-7*		*07/11/19 22:19*	*25*
Unknown	*460*	*T J*	*ug/L*		*2.48*			*07/11/19 22:19*	*25*
Hexane	*250*		*ug/L*		*2.72*	*110-54-3*		*07/11/19 22:19*	*25*
2-Pentene, 3-methyl-, (Z)-	*160*	*T J N*	*ug/L*		*2.98*	*922-62-3*		*07/11/19 22:19*	*25*
Cyclopentene, 1-methyl-	*320*	*T J N*	*ug/L*		*3.34*	*693-89-0*		*07/11/19 22:19*	*25*
Cyclohexane	*400*		*ug/L*		*3.46*	*110-82-7*		*07/11/19 22:19*	*25*
n-Heptane	*38*		*ug/L*		*3.76*	*142-82-5*		*07/11/19 22:19*	*25*
Methylcyclohexane	*120*		*ug/L*		*4.13*	*108-87-2*		*07/11/19 22:19*	*25*
3-Ethyltoluene	*220*		*ug/L*		*6.86*	*620-14-4*		*07/11/19 22:19*	*25*
2-Ethyltoluene	*110*		*ug/L*		*7.08*	*611-14-3*		*07/11/19 22:19*	*25*
1,2,3-Trimethylbenzene	*120*	*J*	*ug/L*		*7.54*	*526-73-8*		*07/11/19 22:19*	*25*
1,3-Diethylbenzene	*26*	*J*	*ug/L*		*7.70*	*141-93-5*		*07/11/19 22:19*	*25*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/11/19 22:19*	*25*
Dibromofluoromethane	*97*		*81 - 121*		*07/11/19 22:19*	*25*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/11/19 22:19*	*25*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.60**		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-41-062819
Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[a]anthracene	**0.040**	**J**	0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[b]fluoranthene	**0.061**	**J**	0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Chrysene	**0.074**	**J**	0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
Fluoranthene	**0.14**	**J**	0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Fluorene	**1.9**		0.19	0.020	ug/L		07/03/19 14:07	07/13/19 23:34	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 23:34	1
1-Methylnaphthalene	**47**		1.9	0.19	ug/L		07/03/19 14:07	07/17/19 16:08	10
2-Methylnaphthalene	**56**	**B**	1.9	0.19	ug/L		07/03/19 14:07	07/17/19 16:08	10
Phenanthrene	**2.4**		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1
Pyrene	**0.13**	**J**	0.19	0.019	ug/L		07/03/19 14:07	07/13/19 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*15 - 122*	*07/03/19 14:07*	*07/13/19 23:34*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/03/19 14:07*	*07/13/19 23:34*	*1*
Terphenyl-d14	*58*		*33 - 138*	*07/03/19 14:07*	*07/13/19 23:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/03/19 14:07	07/14/19 17:56	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 17:56	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/03/19 14:07	07/14/19 17:56	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/03/19 14:07	07/14/19 17:56	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/03/19 14:07	07/14/19 17:56	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 17:56	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 17:56	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/03/19 14:07	07/14/19 17:56	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/03/19 14:07	07/14/19 17:56	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 17:56	1

Client: AECOM Technical Services Inc.
Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-41-062819
Lab Sample ID: 400-172422-4
Date Collected: 06/28/19 13:55
Matrix: Water
Date Received: 06/29/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/03/19 14:07	07/14/19 17:56	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 17:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 17:56	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/03/19 14:07	07/14/19 17:56	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 17:56	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
Indene	**13**		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 17:56	1
Isophorone	ND		9.7	0.55	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/03/19 14:07	07/14/19 17:56	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/03/19 14:07	07/14/19 17:56	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/03/19 14:07	07/14/19 17:56	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/03/19 14:07	07/14/19 17:56	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 17:56	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/03/19 14:07	07/14/19 17:56	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/03/19 14:07	07/14/19 17:56	1
Pentachlorophenol	ND		19	1.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
Phenol	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 17:56	1
Pyridine	ND		9.7	3.1	ug/L		07/03/19 14:07	07/14/19 17:56	1
Quinoline	ND		9.7	5.8	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/03/19 14:07	07/14/19 17:56	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 17:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*45*	*T J N*	*ug/L*		*3.91*	*108-88-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Cyclopentanol, 1-methyl-	*41*	*T J N*	*ug/L*		*4.14*	*1462-03-9*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
p-Xylene	*150*	*T J N*	*ug/L*		*4.75*	*106-42-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,3-dimethyl-	*130*	*T J N*	*ug/L*		*4.90*	*108-38-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, (1-methylethyl)-	*38*	*T J N*	*ug/L*		*5.08*	*98-82-8*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, propyl-	*77*	*T J N*	*ug/L*		*5.27*	*103-65-1*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2-methyl-	*120*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2-methyl-	*100*	*T J N*	*ug/L*		*5.32*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2-methyl-	*110*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,2,3-trimethyl-	*210*	*T J N*	*ug/L*		*5.50*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.65*	*526-73-8*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Indane	*150*	*T J N*	*ug/L*		*5.74*	*496-11-7*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,4-diethyl-	*57*	*T J N*	*ug/L*		*5.80*	*105-05-5*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*22*	*T J N*	*ug/L*		*5.89*	*1758-88-9*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*21*	*T J N*	*ug/L*		*5.91*	*2870-04-4*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*47*	*T J N*	*ug/L*		*5.94*	*933-98-2*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1,2,3,4-tetramethyl-	*31*	*T J N*	*ug/L*		*6.11*	*488-23-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
1H-Indene, 2,3-dihydro-2-methyl-	*34*	*T J N*	*ug/L*		*6.22*	*824-63-5*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*72*	*T J N*	*ug/L*		*6.26*	*3333-13-9*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Dodecane	*24*	*T J N*	*ug/L*		*6.37*	*112-40-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Naphthalene	*110*	*T J N*	*ug/L*		*6.46*	*91-20-3*	*07/03/19 14:07*	*07/14/19 17:56*	*1*
Unknown	*24*	*T J*	*ug/L*		*6.83*		*07/03/19 14:07*	*07/14/19 17:56*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-41-062819
Lab Sample ID: 400-172422-4
Date Collected: 06/28/19 13:55
Matrix: Water
Date Received: 06/29/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Naphthalene, 2-methyl-	45	T J N	ug/L		6.90	91-57-6	07/03/19 14:07	07/14/19 17:56	1
Naphthalene, 1-methyl-	42	T J N	ug/L		6.97	90-12-0	07/03/19 14:07	07/14/19 17:56	1
Naphthalene, 1,4-dimethyl-	27	T J N	ug/L		7.38	571-58-4	07/03/19 14:07	07/14/19 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	07/03/19 14:07	07/14/19 17:56	1
2-Fluorophenol	20		10 - 120	07/03/19 14:07	07/14/19 17:56	1
Nitrobenzene-d5	52		27 - 120	07/03/19 14:07	07/14/19 17:56	1
Phenol-d5	39		10 - 120	07/03/19 14:07	07/14/19 17:56	1
Terphenyl-d14	63		53 - 125	07/03/19 14:07	07/14/19 17:56	1
2,4,6-Tribromophenol	111		15 - 135	07/03/19 14:07	07/14/19 17:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Lab Sample ID: 400-172422-5

Date Collected: 06/28/19 14:50

Matrix: Water

Date Received: 06/29/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**42**	**J**	50	20	ug/L			07/12/19 11:44	2
Acrolein	ND		40	20	ug/L			07/12/19 11:44	2
Acrylonitrile	ND		20	5.6	ug/L			07/12/19 11:44	2
Benzene	**86**		2.0	0.76	ug/L			07/12/19 11:44	2
Bromobenzene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
Bromochloromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Bromodichloromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Bromoform	ND		10	1.4	ug/L			07/12/19 11:44	2
Bromomethane	ND		2.0	2.0	ug/L			07/12/19 11:44	2
2-Butanone (MEK)	**37**	**J**	50	5.2	ug/L			07/12/19 11:44	2
Carbon disulfide	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Carbon tetrachloride	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Chlorobenzene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Chloroethane	ND		2.0	1.5	ug/L			07/12/19 11:44	2
2-Chloroethyl vinyl ether	ND		10	4.0	ug/L			07/12/19 11:44	2
Chloroform	ND		2.0	1.2	ug/L			07/12/19 11:44	2
1-Chlorohexane	ND		2.0	1.4	ug/L			07/12/19 11:44	2
Chloromethane	ND		2.0	1.7	ug/L			07/12/19 11:44	2
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
cis-1,3-Dichloropropene	ND		10	1.0	ug/L			07/12/19 11:44	2
Dibromochloromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2-Dibromo-3-Chloropropane	ND		10	3.0	ug/L			07/12/19 11:44	2
1,2-Dichlorobenzene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,3-Dichlorobenzene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
1,4-Dichlorobenzene	ND		2.0	1.3	ug/L			07/12/19 11:44	2
Dichlorodifluoromethane	ND		2.0	1.7	ug/L			07/12/19 11:44	2
1,1-Dichloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2-Dichloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1-Dichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2-Dichloropropane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,3-Dichloropropane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
2,2-Dichloropropane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1-Dichloropropene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Ethylbenzene	**54**		2.0	1.0	ug/L			07/12/19 11:44	2
Ethylene Dibromide	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Ethyl methacrylate	ND		2.0	1.2	ug/L			07/12/19 11:44	2
Hexachlorobutadiene	ND		10	1.8	ug/L			07/12/19 11:44	2
2-Hexanone	ND		50	6.2	ug/L			07/12/19 11:44	2
Isopropylbenzene	**32**		2.0	1.1	ug/L			07/12/19 11:44	2
Methylene bromide	ND		10	1.2	ug/L			07/12/19 11:44	2
Methylene Chloride	ND		10	6.0	ug/L			07/12/19 11:44	2
4-Methyl-2-pentanone (MIBK)	ND		50	3.6	ug/L			07/12/19 11:44	2
Methyl tert-butyl ether	ND		2.0	1.5	ug/L			07/12/19 11:44	2
m-Xylene & p-Xylene	**97**		10	3.2	ug/L			07/12/19 11:44	2
Naphthalene	**4.9**		2.0	2.0	ug/L			07/12/19 11:44	2
n-Butylbenzene	**3.4**		2.0	1.5	ug/L			07/12/19 11:44	2
N-Propylbenzene	**83**		2.0	1.4	ug/L			07/12/19 11:44	2
o-Chlorotoluene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
o-Xylene	**12**		10	1.2	ug/L			07/12/19 11:44	2

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819

Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2.0	1.1	ug/L			07/12/19 11:44	2
p-Isopropyltoluene	ND		2.0	1.4	ug/L			07/12/19 11:44	2
sec-Butylbenzene	**2.5**		2.0	1.4	ug/L			07/12/19 11:44	2
Styrene	ND		2.0	2.0	ug/L			07/12/19 11:44	2
tert-Butylbenzene	**1.9**	**J**	2.0	1.3	ug/L			07/12/19 11:44	2
1,1,1,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Tetrachloroethene	ND		2.0	1.2	ug/L			07/12/19 11:44	2
Toluene	**28**		2.0	0.82	ug/L			07/12/19 11:44	2
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
trans-1,3-Dichloropropene	ND		10	1.0	ug/L			07/12/19 11:44	2
1,2,3-Trichlorobenzene	ND		2.0	1.4	ug/L			07/12/19 11:44	2
1,2,4-Trichlorobenzene	ND		2.0	1.6	ug/L			07/12/19 11:44	2
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,1,2-Trichloroethane	ND		10	1.0	ug/L			07/12/19 11:44	2
Trichloroethene	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Trichlorofluoromethane	ND		2.0	1.0	ug/L			07/12/19 11:44	2
1,2,3-Trichloropropane	ND		10	1.7	ug/L			07/12/19 11:44	2
1,2,4-Trimethylbenzene	**8.2**		2.0	1.6	ug/L			07/12/19 11:44	2
1,3,5-Trimethylbenzene	**6.5**		2.0	1.1	ug/L			07/12/19 11:44	2
Vinyl acetate	ND		50	4.0	ug/L			07/12/19 11:44	2
Vinyl chloride	ND		2.0	1.0	ug/L			07/12/19 11:44	2
Xylenes, Total	**110**		20	3.2	ug/L			07/12/19 11:44	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*150*	*T J*	*ug/L*		*1.18*			*07/12/19 11:44*	*2*
Unknown	*88*	*T J*	*ug/L*		*1.39*			*07/12/19 11:44*	*2*
Butane, 2-methyl-	*480*	*T J N*	*ug/L*		*1.79*	*78-78-4*		*07/12/19 11:44*	*2*
Unknown	*410*	*T J*	*ug/L*		*1.94*			*07/12/19 11:44*	*2*
Cyclopropane, 1,2-dimethyl-, cis-	*950*	*T J N*	*ug/L*		*2.11*	*930-18-7*		*07/12/19 11:44*	*2*
Isopropyl alcohol	*130*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/12/19 11:44*	*2*
Unknown	*240*	*T J*	*ug/L*		*2.45*			*07/12/19 11:44*	*2*
1-Pentene	*470*	*T J N*	*ug/L*		*2.49*	*109-67-1*		*07/12/19 11:44*	*2*
Pentane, 3-methyl-	*100*	*T J N*	*ug/L*		*2.58*	*96-14-0*		*07/12/19 11:44*	*2*
2-Pentene, 2-methyl-	*160*	*T J N*	*ug/L*		*2.84*	*625-27-4*		*07/12/19 11:44*	*2*
2-Pentene, 3-methyl-, (E)-	*79*	*T J N*	*ug/L*		*2.89*	*616-12-6*		*07/12/19 11:44*	*2*
2-Pentene, 3-methyl-, (Z)-	*130*	*T J N*	*ug/L*		*2.98*	*922-62-3*		*07/12/19 11:44*	*2*
Cyclopentane, methyl-	*360*	*T J N*	*ug/L*		*3.08*	*96-37-7*		*07/12/19 11:44*	*2*
Cyclopentene, 1-methyl-	*260*	*T J N*	*ug/L*		*3.35*	*693-89-0*		*07/12/19 11:44*	*2*
Cyclohexane	*450*		*ug/L*		*3.46*	*110-82-7*		*07/12/19 11:44*	*2*
Unknown	*110*	*T J*	*ug/L*		*3.69*			*07/12/19 11:44*	*2*
3,5-Dimethylcyclopentene	*79*	*T J N*	*ug/L*		*3.86*	*7459-71-4*		*07/12/19 11:44*	*2*
Methylcyclohexane	*72*		*ug/L*		*4.13*	*108-87-2*		*07/12/19 11:44*	*2*
Cyclohexene, 4-methyl-	*53*	*T J N*	*ug/L*		*4.36*	*591-47-9*		*07/12/19 11:44*	*2*
Cyclobutane, (1-methylethylidene)-	*87*	*T J N*	*ug/L*		*4.45*	*1528-22-9*		*07/12/19 11:44*	*2*
Cyclohexene, 1-methyl-	*61*	*T J N*	*ug/L*		*4.68*	*591-49-1*		*07/12/19 11:44*	*2*
Benzene, 1-ethyl-2-methyl-	*56*	*T J N*	*ug/L*		*7.08*	*611-14-3*		*07/12/19 11:44*	*2*
Benzene, 1-ethenyl-3-ethyl-	*70*	*T J N*	*ug/L*		*8.15*	*7525-62-4*		*07/12/19 11:44*	*2*
Benzene, 2-ethenyl-1,4-dimethyl-	*85*	*T J N*	*ug/L*		*8.75*	*2039-89-6*		*07/12/19 11:44*	*2*

Client Sample ID: PD-8-GWP-46-062819
Lab Sample ID: 400-172422-5
Date Collected: 06/28/19 14:50
Matrix: Water
Date Received: 06/29/19 09:19

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*110*		*78 - 118*		*07/12/19 11:44*	*2*
Dibromofluoromethane	*103*		*81 - 121*		*07/12/19 11:44*	*2*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/12/19 11:44*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Fluorene	**0.26**		0.20	0.021	ug/L		07/03/19 14:07	07/13/19 00:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/13/19 23:51	1
1-Methylnaphthalene	**46**		2.0	0.20	ug/L		07/03/19 14:07	07/17/19 16:25	10
2-Methylnaphthalene	**63**	**B**	2.0	0.20	ug/L		07/03/19 14:07	07/17/19 16:25	10
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 00:41	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/13/19 23:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*53*		*15 - 122*	*07/03/19 14:07*	*07/13/19 23:51*	*1*
Nitrobenzene-d5	*50*		*19 - 130*	*07/03/19 14:07*	*07/13/19 23:51*	*1*
Terphenyl-d14	*55*		*33 - 138*	*07/03/19 14:07*	*07/13/19 23:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 18:18	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 18:18	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 18:18	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/03/19 14:07	07/14/19 18:18	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/03/19 14:07	07/14/19 18:18	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 18:18	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 18:18	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 18:18	1

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Project/Site: PreDesign Invest PW

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Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 18:18	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 18:18	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 18:18	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 18:18	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 18:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 18:18	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/03/19 14:07	07/14/19 18:18	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/03/19 14:07	07/14/19 18:18	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 18:18	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 18:18	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 18:18	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 18:18	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 18:18	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/03/19 14:07	07/14/19 18:18	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 18:18	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 18:18	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 18:18	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 18:18	1
Phenol	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 18:18	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 18:18	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 18:18	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 18:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*14*	*T J N*	*ug/L*		*3.91*	*108-88-3*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Cyclohexene, 1-methyl-	*14*	*T J N*	*ug/L*		*3.94*	*591-49-1*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
2-Butanone, 4-hydroxy-	*27*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Cyclopentanol, 1-methyl-	*38*	*T J N*	*ug/L*		*4.13*	*1462-03-9*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
1,3-Dimethylcyclopentanol	*10*	*T J N*	*ug/L*		*4.54*	*19550-46-0*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Ethylbenzene	*70*	*T J N*	*ug/L*		*4.67*	*100-41-4*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
o-Xylene	*19*	*T J N*	*ug/L*		*4.89*	*95-47-6*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, (1-methylethyl)-	*57*	*T J N*	*ug/L*		*5.08*	*98-82-8*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, propyl-	*110*	*T J N*	*ug/L*		*5.27*	*103-65-1*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,2,4-trimethyl-	*18*	*T J N*	*ug/L*		*5.32*	*95-63-6*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1-ethyl-2-methyl-	*58*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,3,5-trimethyl-	*14*	*T J N*	*ug/L*		*5.49*	*108-67-8*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,2,3-trimethyl-	*39*	*T J N*	*ug/L*		*5.64*	*526-73-8*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Indane	*130*	*T J N*	*ug/L*		*5.74*	*496-11-7*	*07/03/19 14:07*	*07/14/19 18:18*	*1*
Benzene, 1,2-diethyl-	*20*	*T J N*	*ug/L*		*5.80*	*135-01-3*	*07/03/19 14:07*	*07/14/19 18:18*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-46-062819
Date Collected: 06/28/19 14:50
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-methyl-4-propyl-	12	T J N	ug/L		5.85	1074-55-1	07/03/19 14:07	07/14/19 18:18	1
Benzene, 2-ethyl-1,4-dimethyl-	68	T J N	ug/L		5.94	1758-88-9	07/03/19 14:07	07/14/19 18:18	1
Benzene, 1,2,3,4-tetramethyl-	21	T J N	ug/L		6.09	488-23-3	07/03/19 14:07	07/14/19 18:18	1
Benzene, 1,2,4,5-tetramethyl-	10	T J N	ug/L		6.10	95-93-2	07/03/19 14:07	07/14/19 18:18	1
1H-Indene, 2,3-dihydro-4-methyl-	32	T J N	ug/L		6.22	824-22-6	07/03/19 14:07	07/14/19 18:18	1
Benzene, 1-ethenyl-4-ethyl-	64	T J N	ug/L		6.26	3454-07-7	07/03/19 14:07	07/14/19 18:18	1
2-Methylindene	7.7	T J N	ug/L		6.29	2177-47-1	07/03/19 14:07	07/14/19 18:18	1
1H-Indene,2,3-dihydro-2,2-dimethyl-	10	T J N	ug/L		6.42	20836-11-7	07/03/19 14:07	07/14/19 18:18	1
Naphthalene, 1-methyl-	48	T J N	ug/L		6.90	90-12-0	07/03/19 14:07	07/14/19 18:18	1
Naphthalene, 1-methyl-	39	T J N	ug/L		6.97	90-12-0	07/03/19 14:07	07/14/19 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	44		34 - 120	07/03/19 14:07	07/14/19 18:18	1
2-Fluorophenol	27		10 - 120	07/03/19 14:07	07/14/19 18:18	1
Nitrobenzene-d5	50		27 - 120	07/03/19 14:07	07/14/19 18:18	1
Phenol-d5	45		10 - 120	07/03/19 14:07	07/14/19 18:18	1
Terphenyl-d14	46	X	53 - 125	07/03/19 14:07	07/14/19 18:18	1
2,4,6-Tribromophenol	64		15 - 135	07/03/19 14:07	07/14/19 18:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Date Collected: 06/28/19 15:40
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 21:26	1
Acrolein	ND		20	10	ug/L			07/11/19 21:26	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 21:26	1
Benzene	**14**		1.0	0.38	ug/L			07/11/19 21:26	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 21:26	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 21:26	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 21:26	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 21:26	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 21:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 21:26	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 21:26	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 21:26	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 21:26	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 21:26	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 21:26	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 21:26	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 21:26	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 21:26	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 21:26	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 21:26	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 21:26	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 21:26	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 21:26	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 21:26	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 21:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 21:26	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/11/19 21:26	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 21:26	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 21:26	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 21:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 21:26	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 21:26	1
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 21:26	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Lab Sample ID: 400-172422-6

Date Collected: 06/28/19 15:40

Matrix: Water

Date Received: 06/29/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 21:26	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 21:26	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 21:26	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 21:26	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 21:26	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 21:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 21:26	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 21:26	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 21:26	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 21:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 21:26	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 21:26	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 21:26	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 21:26	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 21:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 21:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 21:26	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 21:26	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 21:26	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 21:26	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*190*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/11/19 21:26*	*1*
2-Methyl-2-propanol	*22*		*ug/L*		*2.49*	*75-65-0*		*07/11/19 21:26*	*1*
Unknown	*6.3*	*T J*	*ug/L*		*6.51*			*07/11/19 21:26*	*1*
2-Methylnaphthalene	*7.0*	*J*	*ug/L*		*10.37*	*91-57-6*		*07/11/19 21:26*	*1*
1-Methylnaphthalene	*4.5*	*J*	*ug/L*		*10.54*	*90-12-0*		*07/11/19 21:26*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/11/19 21:26*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/11/19 21:26*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*07/11/19 21:26*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 00:08	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Chrysene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 00:08	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
Fluoranthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Fluorene	ND		0.19	0.020	ug/L		07/03/19 14:07	07/13/19 00:59	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Client Sample ID: PD-8-GWP-52-062819

Lab Sample ID: 400-172422-6

Date Collected: 06/28/19 15:40

Matrix: Water

Date Received: 06/29/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/13/19 00:59	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/13/19 00:59	1
Pyrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*15 - 122*	*07/03/19 14:07*	*07/14/19 00:08*	*1*
Nitrobenzene-d5	*63*		*19 - 130*	*07/03/19 14:07*	*07/14/19 00:08*	*1*
Terphenyl-d14	*48*		*33 - 138*	*07/03/19 14:07*	*07/14/19 00:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/03/19 14:07	07/14/19 19:01	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 19:01	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/03/19 14:07	07/14/19 19:01	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/03/19 14:07	07/14/19 19:01	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/03/19 14:07	07/14/19 19:01	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/03/19 14:07	07/14/19 19:01	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 19:01	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/03/19 14:07	07/14/19 19:01	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/03/19 14:07	07/14/19 19:01	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/03/19 14:07	07/14/19 19:01	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 19:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 19:01	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/03/19 14:07	07/14/19 19:01	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 19:01	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
Indene	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 19:01	1
Isophorone	ND		9.7	0.55	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 19:01	1

Client: AECOM Technical Services Inc.
Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-52-062819
Lab Sample ID: 400-172422-6
Date Collected: 06/28/19 15:40
Matrix: Water
Date Received: 06/29/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/03/19 14:07	07/14/19 19:01	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/03/19 14:07	07/14/19 19:01	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/03/19 14:07	07/14/19 19:01	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/03/19 14:07	07/14/19 19:01	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 19:01	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/03/19 14:07	07/14/19 19:01	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/03/19 14:07	07/14/19 19:01	1
Pentachlorophenol	ND		19	1.7	ug/L		07/03/19 14:07	07/14/19 19:01	1
Phenol	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 19:01	1
Pyridine	ND		9.7	3.1	ug/L		07/03/19 14:07	07/14/19 19:01	1
Quinoline	ND		9.7	5.8	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/03/19 14:07	07/14/19 19:01	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 19:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*19*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
1-Heneicosyl formate	*5.7*	*T J N*	*ug/L*		*10.89*	*77899-03-7*	*07/03/19 14:07*	*07/14/19 19:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*49*		*34 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
Phenol-d5	*55*		*10 - 120*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
Terphenyl-d14	*44*	*X*	*53 - 125*	*07/03/19 14:07*	*07/14/19 19:01*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/03/19 14:07*	*07/14/19 19:01*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172422-1	TB-PW-062819-B	111	101	94
400-172422-2	PD-5-GWP-80-062819	106	100	97
400-172422-2 MS	PD-5-GWP-80-062819	102	100	90
400-172422-2 MSD	PD-5-GWP-80-062819	109	101	93
400-172422-3	PD-5-GWP-35-062819	109	93	102
400-172422-3 - DL	PD-5-GWP-35-062819	107	96	98
400-172422-4	PD-8-GWP-41-062819	108	97	97
400-172422-5	PD-8-GWP-46-062819	110	103	99
400-172422-6	PD-8-GWP-52-062819	110	97	96
LCS 400-447496/1002	Lab Control Sample	108	100	91
LCS 400-447677/1002	Lab Control Sample	104	101	93
MB 400-447496/5	Method Blank	108	101	101
MB 400-447677/5	Method Blank	107	100	94

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172422-2	PD-5-GWP-80-062819	47	34	54	48	58	58
400-172422-2 MS	PD-5-GWP-80-062819	44	38	62	51	37 X	69
400-172422-2 MSD	PD-5-GWP-80-062819	50	48	69	61	52 X	77
400-172422-3	PD-5-GWP-35-062819	50	0 X	60	51	51 X	92
400-172422-3	PD-5-GWP-35-062819	85	52	94	87	76	65
400-172422-4	PD-8-GWP-41-062819	49	20	52	39	63	111
400-172422-5	PD-8-GWP-46-062819	44	27	50	45	46 X	64
400-172422-6	PD-8-GWP-52-062819	49	44	60	55	44 X	65
LCS 400-446728/18-A	Lab Control Sample	71	67	88	81	83	85
LCS 400-446728/2-A	Lab Control Sample	63	61	84	77	79	88
LCSD 400-446728/19-A	Lab Control Sample Dup	66	42	80	67	79	71
MB 400-446728/1-A	Method Blank	67	56	86	79	83	78

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172422-2	PD-5-GWP-80-062819	71	73	106
400-172422-2 MS	PD-5-GWP-80-062819	58	68	40
400-172422-2 MSD	PD-5-GWP-80-062819	66	87	55
400-172422-3	PD-5-GWP-35-062819	55	52	61
400-172422-4	PD-8-GWP-41-062819	62	65	58
400-172422-5	PD-8-GWP-46-062819	53	50	55
400-172422-6	PD-8-GWP-52-062819	62	63	48
LCS 400-446728/2-A	Lab Control Sample	83	74	136
MB 400-446728/1-A	Method Blank	117	120	200 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-062819-B
Date Collected: 06/28/19 00:00
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 10:25	RS	TAL PEN

Client Sample ID: PD-5-GWP-80-062819
Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 11:18	RS	TAL PEN
Total/NA	Prep	3520C			1012.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 17:14	VC1	TAL PEN
Total/NA	Prep	3520C			1012.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 23:17	KJA	TAL PEN

Client Sample ID: PD-5-GWP-35-062819
Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447677	07/12/19 12:38	RS	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	447677	07/12/19 15:18	RS	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 17:35	VC1	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	448221	07/16/19 15:26	VC1	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/13/19 23:17	S1S	TAL PEN
Total/NA	Prep	3520C			1037.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 15:51	KJA	TAL PEN

Client Sample ID: PD-8-GWP-41-062819
Date Collected: 06/28/19 13:55
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	5 mL	5 mL	447496	07/11/19 22:19	RS	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 17:56	VC1	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/13/19 23:34	S1S	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		10			448402	07/17/19 16:08	KJA	TAL PEN

Client Sample ID: PD-8-GWP-46-062819

Lab Sample ID: 400-172422-5

Date Collected: 06/28/19 14:50

Matrix: Water

Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	447677	07/12/19 11:44	RS	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 18:18	VC1	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/13/19 23:51	S1S	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		10			448402	07/17/19 16:25	KJA	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/13/19 00:41	KJA	TAL PEN

Client Sample ID: PD-8-GWP-52-062819

Lab Sample ID: 400-172422-6

Date Collected: 06/28/19 15:40

Matrix: Water

Date Received: 06/29/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 21:26	RS	TAL PEN
Total/NA	Prep	3520C			1034.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 19:01	VC1	TAL PEN
Total/NA	Prep	3520C			1034.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 00:08	S1S	TAL PEN
Total/NA	Prep	3520C			1034.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/13/19 00:59	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-446728/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 16:04	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447496/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 13:27	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447677/5

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 09:06	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446728/18-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446728/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 16:20	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447496/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447496	07/11/19 11:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447677/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 08:06	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-446728/19-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 15:49	VC1	TAL PEN

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2 MS

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 13:05	RS	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:31	VC1	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 23:33	KJA	TAL PEN

Client Sample ID: PD-5-GWP-80-062819

Date Collected: 06/28/19 10:05
Date Received: 06/29/19 09:19

Lab Sample ID: 400-172422-2 MSD

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447677	07/12/19 13:31	RS	TAL PEN
Total/NA	Prep	3520C			1029.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:52	VC1	TAL PEN
Total/NA	Prep	3520C			1029.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 23:49	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

GC/MS VOA

Analysis Batch: 447496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8260B	
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8260B	
MB 400-447496/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447496/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-1	TB-PW-062819-B	Total/NA	Water	8260B	
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	8260B	
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8260B	
400-172422-3 - DL	PD-5-GWP-35-062819	Total/NA	Water	8260B	
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8260B	
MB 400-447677/5	Method Blank	Total/NA	Water	8260B	
LCS 400-447677/1002	Lab Control Sample	Total/NA	Water	8260B	
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	8260B	
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 446728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	3520C	
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	3520C	
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	3520C	
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	3520C	
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	3520C	
MB 400-446728/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	3520C	
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	3520C	

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	8270D LL	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D LL	446728
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8270D LL	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D LL	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D LL	446728
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	8270D LL	446728
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	8270D LL	446728

Analysis Batch: 447918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D LL	446728
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8270D LL	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D LL	446728
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8270D LL	446728

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

GC/MS Semi VOA

Analysis Batch: 447936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-2	PD-5-GWP-80-062819	Total/NA	Water	8270D	446728
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D	446728
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8270D	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D	446728
400-172422-6	PD-8-GWP-52-062819	Total/NA	Water	8270D	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D	446728
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	446728
400-172422-2 MS	PD-5-GWP-80-062819	Total/NA	Water	8270D	446728
400-172422-2 MSD	PD-5-GWP-80-062819	Total/NA	Water	8270D	446728

Analysis Batch: 448221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D	446728

Analysis Batch: 448402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172422-3	PD-5-GWP-35-062819	Total/NA	Water	8270D LL	446728
400-172422-4	PD-8-GWP-41-062819	Total/NA	Water	8270D LL	446728
400-172422-5	PD-8-GWP-46-062819	Total/NA	Water	8270D LL	446728

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/11/19 13:27	1
Acrolein	ND		20	10	ug/L			07/11/19 13:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/11/19 13:27	1
Benzene	ND		1.0	0.38	ug/L			07/11/19 13:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Bromoform	ND		5.0	0.71	ug/L			07/11/19 13:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/11/19 13:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/11/19 13:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/11/19 13:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/11/19 13:27	1
Chloroform	ND		1.0	0.60	ug/L			07/11/19 13:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/11/19 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/11/19 13:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/11/19 13:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/11/19 13:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/11/19 13:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/11/19 13:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/11/19 13:27	1
2-Hexanone	ND		25	3.1	ug/L			07/11/19 13:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/11/19 13:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/11/19 13:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/11/19 13:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/11/19 13:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/11/19 13:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/11/19 13:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/11/19 13:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/11/19 13:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/11/19 13:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447496/5
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/11/19 13:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/11/19 13:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
Styrene	ND		1.0	1.0	ug/L			07/11/19 13:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/11/19 13:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/11/19 13:27	1
Toluene	ND		1.0	0.41	ug/L			07/11/19 13:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/11/19 13:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/11/19 13:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/11/19 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/11/19 13:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/11/19 13:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/11/19 13:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/11/19 13:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/11/19 13:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/11/19 13:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/11/19 13:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/11/19 13:27	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/11/19 13:27*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/11/19 13:27*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/11/19 13:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/11/19 13:27*	*1*

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	233		ug/L		117	43 - 160
Acrolein	500	699		ug/L		140	38 - 160
Acrylonitrile	500	527		ug/L		105	64 - 142
Benzene	50.0	52.2		ug/L		104	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	48.7		ug/L		97	70 - 130
Bromodichloromethane	50.0	49.3		ug/L		99	67 - 133
Bromoform	50.0	47.1		ug/L		94	57 - 140
Bromomethane	50.0	31.6		ug/L		63	10 - 160
2-Butanone (MEK)	200	273		ug/L		136	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	49.0		ug/L		98	61 - 137
Chlorobenzene	50.0	50.1		ug/L		100	70 - 130
Chloroethane	50.0	48.8		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	36.2		ug/L		72	10 - 160
Chloroform	50.0	50.8		ug/L		102	69 - 130
1-Chlorohexane	50.0	47.7		ug/L		95	69 - 130
Chloromethane	50.0	54.3		ug/L		109	58 - 137
cis-1,2-Dichloroethene	50.0	50.9		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	51.2		ug/L		102	69 - 132
Dibromochloromethane	50.0	44.4		ug/L		89	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	49.3		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	50.4		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	60.2		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	52.0		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	50.8		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	49.1		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	47.7		ug/L		95	52 - 135
1,1-Dichloropropene	50.0	50.9		ug/L		102	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethylene Dibromide	50.0	49.4		ug/L		99	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	58.9		ug/L		118	53 - 140
2-Hexanone	200	222		ug/L		111	65 - 137
Isopropylbenzene	50.0	47.2		ug/L		94	70 - 130
Methylene bromide	50.0	49.6		ug/L		99	70 - 130
Methylene Chloride	50.0	51.9		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	208		ug/L		104	69 - 138
Methyl tert-butyl ether	50.0	50.4		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	48.0		ug/L		96	70 - 130
Naphthalene	50.0	47.5		ug/L		95	47 - 149
n-Butylbenzene	50.0	50.5		ug/L		101	67 - 130
N-Propylbenzene	50.0	51.9		ug/L		104	70 - 130
o-Chlorotoluene	50.0	53.3		ug/L		107	70 - 130
o-Xylene	50.0	46.9		ug/L		94	70 - 130
p-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.9		ug/L		104	66 - 130
Styrene	50.0	45.4		ug/L		91	70 - 130
tert-Butylbenzene	50.0	50.4		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.6		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	57.8		ug/L		116	70 - 131
Tetrachloroethene	50.0	39.9		ug/L		80	65 - 130
Toluene	50.0	47.0		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	51.0		ug/L		102	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447496/1002
Matrix: Water
Analysis Batch: 447496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	46.2		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	53.6		ug/L		107	65 - 138
1,2,3-Trichloropropane	50.0	54.6		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	52.7		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	53.8		ug/L		108	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	57.4		ug/L		115	59 - 136
Xylenes, Total	100	94.8		ug/L		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*108*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*91*		*80 - 120*

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 09:06	1
Acrolein	ND		20	10	ug/L			07/12/19 09:06	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 09:06	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 09:06	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 09:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 09:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 09:06	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 09:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 09:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 09:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 09:06	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 09:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 09:06	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 09:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 09:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 09:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 09:06	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 09:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 09:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 09:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 09:06	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 09:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 09:06	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 09:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 09:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 09:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 09:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 09:06	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 09:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 09:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 09:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 09:06	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 09:06	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 09:06	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 09:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 09:06	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 09:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 09:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 09:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 09:06	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 09:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 09:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 09:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 09:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 09:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 09:06	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 09:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 09:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 09:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 09:06	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 09:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 09:06	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 09:06	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447677/5
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/12/19 09:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/12/19 09:06	1
Dibromofluoromethane	100		81 - 121		07/12/19 09:06	1
Toluene-d8 (Surr)	94		80 - 120		07/12/19 09:06	1

Lab Sample ID: LCS 400-447677/1002
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	257		ug/L		129	43 - 160
Acrolein	500	749		ug/L		150	38 - 160
Acrylonitrile	500	570		ug/L		114	64 - 142
Benzene	50.0	53.1		ug/L		106	70 - 130
Bromobenzene	50.0	47.3		ug/L		95	70 - 132
Bromochloromethane	50.0	49.7		ug/L		99	70 - 130
Bromodichloromethane	50.0	47.8		ug/L		96	67 - 133
Bromoform	50.0	43.9		ug/L		88	57 - 140
Bromomethane	50.0	29.7		ug/L		59	10 - 160
2-Butanone (MEK)	200	290		ug/L		145	61 - 145
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	48.1		ug/L		96	61 - 137
Chlorobenzene	50.0	48.9		ug/L		98	70 - 130
Chloroethane	50.0	51.8		ug/L		104	55 - 141
2-Chloroethyl vinyl ether	50.0	35.1		ug/L		70	10 - 160
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	47.4		ug/L		95	69 - 130
Chloromethane	50.0	55.3		ug/L		111	58 - 137
cis-1,2-Dichloroethene	50.0	52.2		ug/L		104	68 - 130
cis-1,3-Dichloropropene	50.0	51.3		ug/L		103	69 - 132
Dibromochloromethane	50.0	45.6		ug/L		91	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	46.5		ug/L		93	54 - 135
1,2-Dichlorobenzene	50.0	47.2		ug/L		94	67 - 130
1,3-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	60.2		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	51.5		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	50.7		ug/L		101	69 - 130
1,1-Dichloroethene	50.0	46.0		ug/L		92	63 - 134
1,2-Dichloropropane	50.0	51.1		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	49.4		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	46.3		ug/L		93	52 - 135
1,1-Dichloropropene	50.0	50.3		ug/L		101	70 - 130
Ethylbenzene	50.0	46.2		ug/L		92	70 - 130
Ethylene Dibromide	50.0	49.5		ug/L		99	70 - 130
Ethyl methacrylate	50.0	48.2		ug/L		96	68 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447677/1002
Matrix: Water
Analysis Batch: 447677

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	55.3		ug/L		111	53 - 140
2-Hexanone	200	238		ug/L		119	65 - 137
Isopropylbenzene	50.0	45.8		ug/L		92	70 - 130
Methylene bromide	50.0	50.6		ug/L		101	70 - 130
Methylene Chloride	50.0	52.9		ug/L		106	66 - 135
4-Methyl-2-pentanone (MIBK)	200	219		ug/L		110	69 - 138
Methyl tert-butyl ether	50.0	50.7		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	47.2		ug/L		94	70 - 130
Naphthalene	50.0	46.4		ug/L		93	47 - 149
n-Butylbenzene	50.0	47.8		ug/L		96	67 - 130
N-Propylbenzene	50.0	48.5		ug/L		97	70 - 130
o-Chlorotoluene	50.0	50.0		ug/L		100	70 - 130
o-Xylene	50.0	45.9		ug/L		92	70 - 130
p-Chlorotoluene	50.0	50.0		ug/L		100	70 - 130
p-Isopropyltoluene	50.0	48.9		ug/L		98	65 - 130
sec-Butylbenzene	50.0	47.9		ug/L		96	66 - 130
Styrene	50.0	44.3		ug/L		89	70 - 130
tert-Butylbenzene	50.0	47.1		ug/L		94	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.5		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	57.3		ug/L		115	70 - 131
Tetrachloroethene	50.0	39.6		ug/L		79	65 - 130
Toluene	50.0	46.6		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	46.0		ug/L		92	63 - 130
1,2,3-Trichlorobenzene	50.0	49.2		ug/L		98	60 - 138
1,2,4-Trichlorobenzene	50.0	48.4		ug/L		97	60 - 140
1,1,1-Trichloroethane	50.0	48.4		ug/L		97	68 - 130
1,1,2-Trichloroethane	50.0	48.9		ug/L		98	70 - 130
Trichloroethene	50.0	50.1		ug/L		100	70 - 130
Trichlorofluoromethane	50.0	49.4		ug/L		99	65 - 138
1,2,3-Trichloropropane	50.0	54.8		ug/L		110	70 - 130
1,2,4-Trimethylbenzene	50.0	48.0		ug/L		96	70 - 130
1,3,5-Trimethylbenzene	50.0	50.2		ug/L		100	69 - 130
Vinyl acetate	100	120		ug/L		120	26 - 160
Vinyl chloride	50.0	59.6		ug/L		119	59 - 136
Xylenes, Total	100	93.1		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	104		ug/L		52	43 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		500	618		ug/L		124	38 - 150
Acrylonitrile	ND		500	498		ug/L		100	62 - 149
Benzene	180		50.0	237		ug/L		110	56 - 142
Bromobenzene	ND		50.0	46.2		ug/L		92	59 - 136
Bromochloromethane	ND		50.0	47.5		ug/L		95	64 - 140
Bromodichloromethane	ND		50.0	48.5		ug/L		97	59 - 143
Bromoform	ND		50.0	42.0		ug/L		84	50 - 140
Bromomethane	ND		50.0	27.1		ug/L		54	10 - 150
2-Butanone (MEK)	ND		200	171		ug/L		85	55 - 150
Carbon disulfide	ND		50.0	44.5		ug/L		89	48 - 150
Carbon tetrachloride	ND		50.0	47.8		ug/L		96	55 - 145
Chlorobenzene	ND		50.0	46.9		ug/L		94	64 - 130
Chloroethane	ND		50.0	47.6		ug/L		95	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	50.5		ug/L		101	60 - 141
1-Chlorohexane	ND		50.0	42.9		ug/L		86	56 - 136
Chloromethane	ND		50.0	48.3		ug/L		97	49 - 148
cis-1,2-Dichloroethene	ND		50.0	49.8		ug/L		100	59 - 143
cis-1,3-Dichloropropene	ND		50.0	49.4		ug/L		99	57 - 140
Dibromochloromethane	ND		50.0	45.2		ug/L		90	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	39.6		ug/L		79	45 - 135
1,2-Dichlorobenzene	ND		50.0	44.0		ug/L		88	52 - 137
1,3-Dichlorobenzene	ND		50.0	44.1		ug/L		88	54 - 135
1,4-Dichlorobenzene	ND		50.0	44.9		ug/L		90	53 - 135
Dichlorodifluoromethane	ND		50.0	55.0		ug/L		110	16 - 150
1,1-Dichloroethane	ND		50.0	51.3		ug/L		103	61 - 144
1,2-Dichloroethane	ND		50.0	55.7		ug/L		111	60 - 141
1,1-Dichloroethene	ND		50.0	47.0		ug/L		94	54 - 147
1,2-Dichloropropane	ND		50.0	51.4		ug/L		103	66 - 137
1,3-Dichloropropane	ND		50.0	47.4		ug/L		95	66 - 133
2,2-Dichloropropane	ND		50.0	45.7		ug/L		91	42 - 144
1,1-Dichloropropene	ND		50.0	50.1		ug/L		100	65 - 136
Ethylbenzene	1.8		50.0	45.5		ug/L		87	58 - 131
Ethylene Dibromide	ND		50.0	47.6		ug/L		95	64 - 132
Ethyl methacrylate	ND		50.0	42.6		ug/L		85	64 - 130
Hexachlorobutadiene	ND		50.0	49.4		ug/L		99	31 - 149
2-Hexanone	ND		200	145		ug/L		73	65 - 140
Isopropylbenzene	ND		50.0	42.4		ug/L		85	56 - 133
Methylene bromide	ND		50.0	49.8		ug/L		100	63 - 138
Methylene Chloride	ND		50.0	53.2		ug/L		106	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	182		ug/L		91	63 - 146
Methyl tert-butyl ether	ND		50.0	47.5		ug/L		95	59 - 137
m-Xylene & p-Xylene	3.8	J	50.0	48.0		ug/L		88	57 - 130
Naphthalene	ND		50.0	38.3		ug/L		77	25 - 150
n-Butylbenzene	ND		50.0	43.5		ug/L		87	41 - 142
N-Propylbenzene	ND		50.0	45.9		ug/L		92	51 - 138
o-Chlorotoluene	ND		50.0	49.3		ug/L		99	53 - 134
o-Xylene	1.1	J	50.0	44.2		ug/L		86	61 - 130
p-Chlorotoluene	ND		50.0	47.8		ug/L		96	54 - 133

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		50.0	45.0		ug/L		90	48 - 139
sec-Butylbenzene	ND		50.0	44.8		ug/L		90	50 - 138
Styrene	ND		50.0	41.8		ug/L		84	58 - 131
tert-Butylbenzene	ND		50.0	45.0		ug/L		90	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	43.9		ug/L		88	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	52.2		ug/L		104	66 - 135
Tetrachloroethene	ND		50.0	39.6		ug/L		79	52 - 133
Toluene	0.61	J	50.0	45.3		ug/L		89	65 - 130
trans-1,2-Dichloroethene	ND		50.0	50.7		ug/L		101	61 - 143
trans-1,3-Dichloropropene	ND		50.0	42.2		ug/L		84	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.0		ug/L		88	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	42.7		ug/L		85	39 - 148
1,1,1-Trichloroethane	ND		50.0	47.8		ug/L		96	57 - 142
1,1,2-Trichloroethane	ND		50.0	48.0		ug/L		96	66 - 131
Trichloroethene	ND		50.0	51.0		ug/L		102	64 - 136
Trichlorofluoromethane	ND		50.0	46.4		ug/L		93	54 - 150
1,2,3-Trichloropropane	ND		50.0	49.9		ug/L		100	65 - 133
1,2,4-Trimethylbenzene	1.5		50.0	48.6		ug/L		94	50 - 139
1,3,5-Trimethylbenzene	0.63	J	50.0	48.3		ug/L		95	52 - 135
Vinyl acetate	ND		100	100		ug/L		100	26 - 150
Vinyl chloride	ND		50.0	53.2		ug/L		106	46 - 150
Xylenes, Total	4.9	J	100	92.2		ug/L		87	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*90*		*80 - 120*

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	106		ug/L		53	43 - 150	2	30
Acrolein	ND		500	626		ug/L		125	38 - 150	1	31
Acrylonitrile	ND		500	521		ug/L		104	62 - 149	4	30
Benzene	180		50.0	236		ug/L		109	56 - 142	0	30
Bromobenzene	ND		50.0	47.9		ug/L		96	59 - 136	4	30
Bromochloromethane	ND		50.0	49.6		ug/L		99	64 - 140	4	30
Bromodichloromethane	ND		50.0	48.2		ug/L		96	59 - 143	0	30
Bromoform	ND		50.0	43.8		ug/L		88	50 - 140	4	30
Bromomethane	ND		50.0	32.7		ug/L		65	10 - 150	19	50
2-Butanone (MEK)	ND		200	175		ug/L		88	55 - 150	2	30
Carbon disulfide	ND		50.0	44.7		ug/L		89	48 - 150	0	30
Carbon tetrachloride	ND		50.0	47.5		ug/L		95	55 - 145	1	30
Chlorobenzene	ND		50.0	47.6		ug/L		95	64 - 130	1	30
Chloroethane	ND		50.0	48.5		ug/L		97	50 - 150	2	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		50.0	50.6		ug/L		101	60 - 141	0	30
1-Chlorohexane	ND		50.0	43.8		ug/L		88	56 - 136	2	30
Chloromethane	ND		50.0	54.8		ug/L		110	49 - 148	13	31
cis-1,2-Dichloroethene	ND		50.0	51.1		ug/L		102	59 - 143	3	30
cis-1,3-Dichloropropene	ND		50.0	50.3		ug/L		101	57 - 140	2	30
Dibromochloromethane	ND		50.0	46.3		ug/L		93	56 - 143	3	30
1,2-Dibromo-3-Chloropropane	ND		50.0	41.3		ug/L		83	45 - 135	4	30
1,2-Dichlorobenzene	ND		50.0	46.0		ug/L		92	52 - 137	4	30
1,3-Dichlorobenzene	ND		50.0	46.5		ug/L		93	54 - 135	5	30
1,4-Dichlorobenzene	ND		50.0	46.2		ug/L		92	53 - 135	3	30
Dichlorodifluoromethane	ND		50.0	57.9		ug/L		116	16 - 150	5	31
1,1-Dichloroethane	ND		50.0	51.9		ug/L		104	61 - 144	1	30
1,2-Dichloroethane	ND		50.0	55.0		ug/L		110	60 - 141	1	30
1,1-Dichloroethene	ND		50.0	48.4		ug/L		97	54 - 147	3	30
1,2-Dichloropropane	ND		50.0	52.1		ug/L		104	66 - 137	1	30
1,3-Dichloropropane	ND		50.0	47.0		ug/L		94	66 - 133	1	30
2,2-Dichloropropane	ND		50.0	46.1		ug/L		92	42 - 144	1	31
1,1-Dichloropropene	ND		50.0	50.9		ug/L		102	65 - 136	2	30
Ethylbenzene	1.8		50.0	46.1		ug/L		89	58 - 131	1	30
Ethylene Dibromide	ND		50.0	48.1		ug/L		96	64 - 132	1	30
Ethyl methacrylate	ND		50.0	43.4		ug/L		87	64 - 130	2	30
Hexachlorobutadiene	ND		50.0	52.5		ug/L		105	31 - 149	6	36
2-Hexanone	ND		200	146		ug/L		73	65 - 140	0	30
Isopropylbenzene	ND		50.0	43.2		ug/L		86	56 - 133	2	30
Methylene bromide	ND		50.0	49.3		ug/L		99	63 - 138	1	30
Methylene Chloride	ND		50.0	53.1		ug/L		106	60 - 146	0	32
4-Methyl-2-pentanone (MIBK)	ND		200	188		ug/L		94	63 - 146	3	30
Methyl tert-butyl ether	ND		50.0	49.1		ug/L		98	59 - 137	3	30
m-Xylene & p-Xylene	3.8	J	50.0	49.6		ug/L		91	57 - 130	3	30
Naphthalene	ND		50.0	41.3		ug/L		83	25 - 150	8	30
n-Butylbenzene	ND		50.0	45.6		ug/L		91	41 - 142	5	31
N-Propylbenzene	ND		50.0	48.5		ug/L		97	51 - 138	5	30
o-Chlorotoluene	ND		50.0	50.2		ug/L		100	53 - 134	2	30
o-Xylene	1.1	J	50.0	44.5		ug/L		87	61 - 130	1	30
p-Chlorotoluene	ND		50.0	49.1		ug/L		98	54 - 133	3	30
p-Isopropyltoluene	ND		50.0	47.2		ug/L		94	48 - 139	5	30
sec-Butylbenzene	ND		50.0	47.5		ug/L		95	50 - 138	6	30
Styrene	ND		50.0	42.1		ug/L		84	58 - 131	1	30
tert-Butylbenzene	ND		50.0	46.7		ug/L		93	54 - 146	4	30
1,1,1,2-Tetrachloroethane	ND		50.0	44.5		ug/L		89	59 - 137	1	30
1,1,2,2-Tetrachloroethane	ND		50.0	53.2		ug/L		106	66 - 135	2	30
Tetrachloroethene	ND		50.0	39.7		ug/L		79	52 - 133	0	30
Toluene	0.61	J	50.0	46.8		ug/L		92	65 - 130	3	30
trans-1,2-Dichloroethene	ND		50.0	50.9		ug/L		102	61 - 143	0	30
trans-1,3-Dichloropropene	ND		50.0	43.3		ug/L		87	53 - 133	2	30
1,2,3-Trichlorobenzene	ND		50.0	45.3		ug/L		91	43 - 145	3	30
1,2,4-Trichlorobenzene	ND		50.0	44.9		ug/L		90	39 - 148	5	30
1,1,1-Trichloroethane	ND		50.0	48.4		ug/L		97	57 - 142	1	30
1,1,2-Trichloroethane	ND		50.0	46.8		ug/L		94	66 - 131	3	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447677

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		50.0	50.5		ug/L		101	64 - 136	1	30
Trichlorofluoromethane	ND		50.0	50.3		ug/L		101	54 - 150	8	30
1,2,3-Trichloropropane	ND		50.0	50.7		ug/L		101	65 - 133	2	30
1,2,4-Trimethylbenzene	1.5		50.0	50.2		ug/L		97	50 - 139	3	30
1,3,5-Trimethylbenzene	0.63	J	50.0	50.6		ug/L		100	52 - 135	4	30
Vinyl acetate	ND		100	104		ug/L		104	26 - 150	4	33
Vinyl chloride	ND		50.0	58.0		ug/L		116	46 - 150	9	30
Xylenes, Total	4.9	J	100	94.1		ug/L		89	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*109*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzenethiol	ND		10	1.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 15:06	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 15:06	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 15:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 15:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*34 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2-Fluorophenol	*56*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Phenol-d5	*79*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Terphenyl-d14	*83*		*53 - 125*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/03/19 14:07*	*07/14/19 15:06*	*1*

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzenethiol			30.0	ND	*	ug/L		5	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*34 - 120*
2-Fluorophenol	*67*		*10 - 120*
Nitrobenzene-d5	*88*		*27 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	81		10 - 120
Terphenyl-d14	83		53 - 125
2,4,6-Tribromophenol	85		15 - 135

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	20.9		ug/L		70	29 - 120
Benzoic acid	117	99.1		ug/L		85	10 - 150
Benzyl alcohol	30.0	25.1		ug/L		84	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.3		ug/L		71	45 - 120
Bis(2-chloroethyl)ether	30.0	18.9		ug/L		63	48 - 120
bis (2-chloroisopropyl) ether	30.0	21.5		ug/L		72	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.5		ug/L		85	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	23.4		ug/L		78	46 - 145
4-Chloroaniline	30.0	21.7		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	28.8		ug/L		96	39 - 140
2-Chloronaphthalene	30.0	21.0		ug/L		70	52 - 120
2-Chlorophenol	30.0	22.4		ug/L		75	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.5		ug/L		72	58 - 124
Dibenz[a,h]acridine	30.0	13.6	*	ug/L		45	46 - 149
Dibenzofuran	30.0	22.3		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	40.0	42.0		ug/L		105	39 - 135
2,4-Dichlorophenol	30.0	25.9		ug/L		86	39 - 128
Diethyl phthalate	30.0	24.4		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	22.6		ug/L		75	44 - 120
Dimethyl phthalate	30.0	24.0		ug/L		80	50 - 131
Di-n-butyl phthalate	30.0	25.3		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	47.6		ug/L		79	10 - 150
2,4-Dinitrophenol	60.0	53.2		ug/L		89	10 - 150
2,4-Dinitrotoluene	30.0	26.4		ug/L		88	58 - 140
2,6-Dinitrotoluene	30.0	25.0		ug/L		83	57 - 130
Di-n-octyl phthalate	30.0	22.9		ug/L		76	50 - 150
1,4-Dioxane	30.0	15.5		ug/L		52	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	23.4		ug/L		78	47 - 123
Hexachlorobenzene	30.0	21.9		ug/L		73	52 - 131
Hexachlorocyclopentadiene	30.0	3.16	J	ug/L		11	10 - 129
Hexachloroethane	30.0	13.7		ug/L		46	41 - 120
Indene	30.0	20.3		ug/L		68	47 - 120
Isophorone	30.0	23.4		ug/L		78	49 - 120
2-Methylphenol	30.0	23.3		ug/L		78	39 - 123
3 & 4 Methylphenol	30.0	22.6		ug/L		75	38 - 121
2-Nitroaniline	30.0	26.6		ug/L		89	47 - 150
3-Nitroaniline	30.0	26.0		ug/L		87	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	30.0	23.5		ug/L		78	47 - 120
2-Nitrophenol	30.0	25.6		ug/L		85	28 - 136
4-Nitrophenol	60.0	49.7		ug/L		83	10 - 150
N-Nitrosodimethylamine	30.0	20.9		ug/L		70	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.7		ug/L		69	44 - 120
N-Nitrosodiphenylamine	29.8	24.8		ug/L		83	56 - 120
Pentachlorophenol	60.0	46.8		ug/L		78	15 - 141
Phenol	30.0	21.4		ug/L		71	33 - 120
Pyridine	60.0	30.3		ug/L		51	26 - 120
Quinoline	30.0	20.8		ug/L		69	51 - 129
2,4,5-Trichlorophenol	30.0	25.3		ug/L		84	38 - 147
2,4,6-Trichlorophenol	30.0	24.8		ug/L		83	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*77*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*88*		*15 - 135*

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.0	20.0		ug/L		69	10 - 143
Benzoic acid	ND		112	129		ug/L		114	10 - 134
Benzyl alcohol	ND		29.0	22.9		ug/L		79	10 - 154
Bis(2-chloroethoxy)methane	ND		29.0	18.9		ug/L		65	14 - 147
Bis(2-chloroethyl)ether	ND		29.0	16.8		ug/L		58	28 - 130
bis (2-chloroisopropyl) ether	ND		29.0	19.3		ug/L		67	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.0	23.6		ug/L		81	43 - 160

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND		29.0	21.9		ug/L		76	26 - 159
Butyl benzyl phthalate	ND		29.0	22.0		ug/L		76	43 - 151
4-Chloroaniline	ND		29.0	17.7		ug/L		61	10 - 152
4-Chloro-3-methylphenol	ND		29.0	28.1		ug/L		97	17 - 156
2-Chloronaphthalene	ND		29.0	19.6		ug/L		68	10 - 155
2-Chlorophenol	ND		29.0	19.8		ug/L		68	19 - 130
4-Chlorophenyl phenyl ether	ND		29.0	21.2		ug/L		73	25 - 161
Dibenz[a,h]acridine	ND	F1 *	29.0	9.83	F1	ug/L		34	42 - 147
Dibenzofuran	ND		29.0	20.9		ug/L		72	18 - 157
3,3'-Dichlorobenzidine	ND		38.6	4.59	J	ug/L		12	10 - 172
2,4-Dichlorophenol	ND		29.0	23.8		ug/L		82	16 - 147
Diethyl phthalate	ND		29.0	23.5		ug/L		81	23 - 160
2,4-Dimethylphenol	ND		29.0	23.6		ug/L		81	25 - 146
Dimethyl phthalate	ND		29.0	23.5		ug/L		81	11 - 158
Di-n-butyl phthalate	ND		29.0	23.4		ug/L		81	28 - 162
4,6-Dinitro-ortho-cresol	ND		57.9	58.0		ug/L		100	10 - 168
2,4-Dinitrophenol	ND		57.9	69.4		ug/L		120	10 - 166
2,4-Dinitrotoluene	ND		29.0	25.8		ug/L		89	26 - 158
2,6-Dinitrotoluene	ND		29.0	24.4		ug/L		84	19 - 157
Di-n-octyl phthalate	ND		29.0	21.8		ug/L		75	42 - 150
1,4-Dioxane	ND		29.0	8.97	J	ug/L		31	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.0	20.4		ug/L		70	19 - 162
Hexachlorobenzene	ND		29.0	22.1		ug/L		76	45 - 145
Hexachlorocyclopentadiene	ND		29.0	11.3	J	ug/L		39	10 - 151
Hexachloroethane	ND		29.0	17.4		ug/L		60	29 - 130
Indene	ND		29.0	16.3		ug/L		56	22 - 130
Isophorone	ND		29.0	21.4		ug/L		74	24 - 144
2-Methylphenol	ND		29.0	21.7		ug/L		75	22 - 130
3 & 4 Methylphenol	ND		29.0	21.2		ug/L		73	31 - 130
2-Nitroaniline	ND		29.0	26.5		ug/L		91	10 - 162
3-Nitroaniline	ND		29.0	22.3		ug/L		77	10 - 163
4-Nitroaniline	ND		29.0	28.2		ug/L		97	10 - 162
Nitrobenzene	ND		29.0	21.6		ug/L		75	34 - 135
2-Nitrophenol	ND		29.0	23.3		ug/L		80	27 - 134
4-Nitrophenol	ND		57.9	54.8		ug/L		95	10 - 175
N-Nitrosodimethylamine	ND		29.0	21.3		ug/L		74	10 - 139
N-Nitrosodi-n-propylamine	ND		29.0	20.8		ug/L		72	13 - 147
N-Nitrosodiphenylamine	ND		28.7	16.6		ug/L		58	31 - 150
Pentachlorophenol	ND		57.9	62.3		ug/L		108	10 - 180
Phenol	4.3	J	29.0	23.0		ug/L		65	23 - 130
Pyridine	ND		57.9	28.1		ug/L		48	10 - 130
Quinoline	ND	F2	29.0	14.4		ug/L		50	10 - 180
2,4,5-Trichlorophenol	ND		29.0	25.8		ug/L		89	43 - 137
2,4,6-Trichlorophenol	ND		29.0	24.7		ug/L		85	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	38		10 - 120
Nitrobenzene-d5	62		27 - 120
Phenol-d5	51		10 - 120
Terphenyl-d14	37	X	53 - 125
2,4,6-Tribromophenol	69		15 - 135

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		29.1	19.2		ug/L		66	10 - 143	4	63
Benzoic acid	ND		113	107		ug/L		94	10 - 134	19	49
Benzyl alcohol	ND		29.1	21.5		ug/L		74	10 - 154	6	37
Bis(2-chloroethoxy)methane	ND		29.1	17.6		ug/L		60	14 - 147	7	70
Bis(2-chloroethyl)ether	ND		29.1	15.2		ug/L		52	28 - 130	10	42
bis (2-chloroisopropyl) ether	ND		29.1	18.5		ug/L		64	10 - 141	4	41
Bis(2-ethylhexyl) phthalate	ND		29.1	20.6		ug/L		71	43 - 160	14	35
4-Bromophenyl phenyl ether	ND		29.1	18.7		ug/L		64	26 - 159	16	30
Butyl benzyl phthalate	ND		29.1	19.4		ug/L		66	43 - 151	13	32
4-Chloroaniline	ND		29.1	15.1		ug/L		52	10 - 152	16	94
4-Chloro-3-methylphenol	ND		29.1	25.1		ug/L		86	17 - 156	11	40
2-Chloronaphthalene	ND		29.1	17.6		ug/L		60	10 - 155	11	29
2-Chlorophenol	ND		29.1	19.5		ug/L		67	19 - 130	2	42
4-Chlorophenyl phenyl ether	ND		29.1	17.9		ug/L		62	25 - 161	16	27
Dibenz[a,h]acridine	ND	F1 *	29.1	9.56	J F1	ug/L		33	42 - 147	3	40
Dibenzofuran	ND		29.1	18.7		ug/L		64	18 - 157	11	29
3,3'-Dichlorobenzidine	ND		38.9	5.67	J	ug/L		15	10 - 172	21	58
2,4-Dichlorophenol	ND		29.1	22.0		ug/L		75	16 - 147	8	43
Diethyl phthalate	ND		29.1	20.8		ug/L		71	23 - 160	12	40
2,4-Dimethylphenol	ND		29.1	22.0		ug/L		75	25 - 146	7	47
Dimethyl phthalate	ND		29.1	20.5		ug/L		70	11 - 158	14	36
Di-n-butyl phthalate	ND		29.1	20.3		ug/L		70	28 - 162	14	32
4,6-Dinitro-ortho-cresol	ND		58.3	51.0		ug/L		88	10 - 168	13	42
2,4-Dinitrophenol	ND		58.3	61.5		ug/L		106	10 - 166	12	36
2,4-Dinitrotoluene	ND		29.1	22.7		ug/L		78	26 - 158	13	28
2,6-Dinitrotoluene	ND		29.1	21.5		ug/L		74	19 - 157	13	28
Di-n-octyl phthalate	ND		29.1	19.2		ug/L		66	42 - 150	12	35
1,4-Dioxane	ND		29.1	8.79	J	ug/L		30	10 - 130	2	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.1	18.3		ug/L		63	19 - 162	11	40
Hexachlorobenzene	ND		29.1	19.1		ug/L		66	45 - 145	14	33
Hexachlorocyclopentadiene	ND		29.1	10.4	J	ug/L		36	10 - 151	9	50
Hexachloroethane	ND		29.1	16.6		ug/L		57	29 - 130	5	41
Indene	ND		29.1	15.4		ug/L		53	22 - 130	6	40
Isophorone	ND		29.1	19.9		ug/L		68	24 - 144	7	33
2-Methylphenol	ND		29.1	20.7		ug/L		71	22 - 130	5	47
3 & 4 Methylphenol	ND		29.1	19.4		ug/L		67	31 - 130	9	47
2-Nitroaniline	ND		29.1	23.9		ug/L		82	10 - 162	10	33

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447936

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3-Nitroaniline	ND		29.1	19.2		ug/L		66	10 - 163	15	39
4-Nitroaniline	ND		29.1	24.3		ug/L		83	10 - 162	15	50
Nitrobenzene	ND		29.1	19.9		ug/L		68	34 - 135	8	35
2-Nitrophenol	ND		29.1	22.3		ug/L		77	27 - 134	4	43
4-Nitrophenol	ND		58.3	47.1		ug/L		81	10 - 175	15	82
N-Nitrosodimethylamine	ND		29.1	21.1		ug/L		73	10 - 139	1	62
N-Nitrosodi-n-propylamine	ND		29.1	19.3		ug/L		66	13 - 147	8	36
N-Nitrosodiphenylamine	ND		28.9	17.6		ug/L		61	31 - 150	6	34
Pentachlorophenol	ND		58.3	54.6		ug/L		94	10 - 180	13	42
Phenol	4.3	J	29.1	22.6		ug/L		63	23 - 130	2	52
Pyridine	ND		58.3	29.7		ug/L		51	10 - 130	6	55
Quinoline	ND	F2	29.1	22.9	F2	ug/L		79	10 - 180	45	40
2,4,5-Trichlorophenol	ND		29.1	23.0		ug/L		79	43 - 137	12	42
2,4,6-Trichlorophenol	ND		29.1	22.5		ug/L		77	42 - 135	9	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*50*		*34 - 120*
2-Fluorophenol	*48*		*10 - 120*
Nitrobenzene-d5	*69*		*27 - 120*
Phenol-d5	*61*		*10 - 120*
Terphenyl-d14	*52*	*X*	*53 - 125*
2,4,6-Tribromophenol	*77*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 16:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
2-Methylnaphthalene	0.0487	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	117		15 - 122	07/03/19 14:07	07/12/19 16:04	1
Nitrobenzene-d5	120		19 - 130	07/03/19 14:07	07/12/19 16:04	1
Terphenyl-d14	200	X	33 - 138	07/03/19 14:07	07/12/19 16:04	1

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	32.9		ug/L		110	41 - 120
Acenaphthylene	30.0	30.0		ug/L		100	44 - 120
Anthracene	30.0	29.7		ug/L		99	49 - 120
Benzo[a]anthracene	30.0	30.7		ug/L		102	61 - 135
Benzo[a]pyrene	30.0	28.7		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	32.5		ug/L		108	53 - 134
Benzo[g,h,i]perylene	30.0	27.0		ug/L		90	47 - 133
Benzo[k]fluoranthene	30.0	31.2		ug/L		104	57 - 134
Chrysene	30.0	31.4		ug/L		105	55 - 122
Dibenz(a,h)anthracene	30.0	36.2		ug/L		121	48 - 146
Fluoranthene	30.0	30.5		ug/L		102	54 - 128
Fluorene	30.0	36.4		ug/L		121	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	34.0		ug/L		113	43 - 142
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124
Phenanthrene	30.0	32.0		ug/L		107	48 - 120
Pyrene	30.0	41.4	*	ug/L		138	48 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	83		15 - 122
Nitrobenzene-d5	74		19 - 130
Terphenyl-d14	136		33 - 138

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447502

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		29.0	29.8		ug/L		103	35 - 113
Acenaphthylene	ND		29.0	26.8		ug/L		93	41 - 118
Anthracene	ND		29.0	31.4		ug/L		109	45 - 122
Benzo[a]anthracene	ND		29.0	27.9		ug/L		96	55 - 133
Benzo[a]pyrene	ND		29.0	27.8		ug/L		96	50 - 108
Benzo[b]fluoranthene	ND		29.0	28.3		ug/L		98	50 - 128
Benzo[g,h,i]perylene	ND		29.0	24.1		ug/L		83	46 - 133
Benzo[k]fluoranthene	ND		29.0	31.3		ug/L		108	52 - 128
Chrysene	ND		29.0	29.5		ug/L		102	52 - 116
Dibenz(a,h)anthracene	ND		29.0	31.1		ug/L		107	52 - 143
Fluoranthene	ND		29.0	28.5		ug/L		98	32 - 150

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172422-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-172422-2 MS
Matrix: Water
Analysis Batch: 447502

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluorene	ND		29.0	31.9		ug/L		110	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.0	29.3		ug/L		101	41 - 141
1-Methylnaphthalene	0.12	J	29.0	21.4		ug/L		73	10 - 150
2-Methylnaphthalene	0.23	B	29.0	22.4		ug/L		77	10 - 150
Phenanthrene	ND		29.0	33.4		ug/L		115	36 - 125
Pyrene	ND	*	29.0	27.5		ug/L		95	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*15 - 122*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*40*		*33 - 138*

Lab Sample ID: 400-172422-2 MSD
Matrix: Water
Analysis Batch: 447502

Client Sample ID: PD-5-GWP-80-062819
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		29.1	25.2		ug/L		87	35 - 113	16	49
Acenaphthylene	ND		29.1	23.7		ug/L		81	41 - 118	12	48
Anthracene	ND		29.1	25.6		ug/L		88	45 - 122	20	56
Benzo[a]anthracene	ND		29.1	23.6		ug/L		81	55 - 133	17	57
Benzo[a]pyrene	ND		29.1	22.3		ug/L		76	50 - 108	22	59
Benzo[b]fluoranthene	ND		29.1	24.9		ug/L		85	50 - 128	13	62
Benzo[g,h,i]perylene	ND		29.1	16.0		ug/L		55	46 - 133	40	58
Benzo[k]fluoranthene	ND		29.1	28.4		ug/L		97	52 - 128	10	58
Chrysene	ND		29.1	21.9		ug/L		75	52 - 116	30	59
Dibenz(a,h)anthracene	ND		29.1	20.8		ug/L		71	52 - 143	40	60
Fluoranthene	ND		29.1	24.7		ug/L		85	32 - 150	14	59
Fluorene	ND		29.1	26.3		ug/L		90	15 - 150	19	49
Indeno[1,2,3-cd]pyrene	ND		29.1	19.8		ug/L		68	41 - 141	39	58
1-Methylnaphthalene	0.12	J	29.1	19.0		ug/L		65	10 - 150	12	66
2-Methylnaphthalene	0.23	B	29.1	19.1		ug/L		65	10 - 150	16	66
Phenanthrene	ND		29.1	26.1		ug/L		90	36 - 125	25	69
Pyrene	ND	*	29.1	23.1		ug/L		79	41 - 127	17	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*15 - 122*
Nitrobenzene-d5	*87*		*19 - 130*
Terphenyl-d14	*55*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/28/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): James Ragatz | LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

400-172422 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-062819-B	6/28/2019	0:00	Water	2					2		x	
	PD-5-GWP-80-062819	6/28/2019	10:05	Water	2			2		4	x	x	x
	PD-5-GWP-80-062819-MS	6/28/2019	10:05	Water	2			2		4	x	x	x
	PD-5-GWP-80-062819-MSD	6/28/2019	10:05	Water	2			2		4	x	x	x
	PD-8-GWP-35-062819	6/28/2019	11:45	Water	2			2		4	x	x	x
	PD-8-GWP-41-062819	6/28/2019	13:55	Water	2			2		4	x	x	x
	PD-8-GWP-46-062819	6/28/2019	14:50	Water	2			2		4	x	x	x
	PD-8-GWP-52-062819	6/28/2019	15:40	Water	2			2		4	x	x	x

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		6/28/2019	1700
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Ref: 5400-85008 Dep: Date: 20JUN19 Wgt: 10.00 LBS DVC SHIPPING: SPECIAL: HANDLING: 0.00 TOTAL 0.0 0.0 0.0	6-29-19	9:18

Svcs: PRIORITY OVERNIGHT Master 1054 5423 6403
TRCK: 1054 5423 6403

0.3 < IRB

Version: 10May17

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172422-1

Login Number: 172422
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172422-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-172541

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/2/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070119-B	PD-8-GWP-57-070119
PD-8-GWP-62-070119	PD-8-GWP-70-070119
PD-8-GWP-80-070119	PD-8-GWP-35-070119

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated 2-methylnaphthalene was detected in the PAH method blank. SVOC LCS/LCSD recoveries were outside evaluation criteria. The SVOC surrogate terphenyl-d_{14} was outside evaluation criteria in sample PD-8-GWP-70-070119-RE. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-446728/1-A	PAHs	2-Methylnaphthalene	0.0487 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-446728/18-A	SVOCs	Benzenethiol	**5/5**	0	10-120/30
400-446728/2-A	SVOCs	Dibenz[a,h]acridine	**45**	NA	46-149
400-446728/2-A	PAHs	Pyrene	**138**	NA	48-132

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-8-GWP-57-070119	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-62-070119	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-70-070119	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-80-070119	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-35-070119	SVOCs	Benzenethiol	**UJ**
PD-8-GWP-57-070119	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-62-070119	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-70-070119	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-80-070119	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-8-GWP-35-070119	SVOCs	Dibenz[a,h]acridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-8-GWP-70-070119-RE	SVOCs	Terphenyl-d_{14}	**30**	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-8-GWP-57-070119 was spiked and duplicated for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172541-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/2/2019 11:23:08 AM
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Reviewed on 8/2/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Job ID: 400-172541-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172541-1

Comments
No additional comments.

Receipt
The samples were received on 7/2/2019 8:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.7° C and 4.1° C.

GC/MS VOA
Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-070119-B (400-172541-1), PD-8-GWP-57-070119 (400-172541-2), PD-8-GWP-62-070119 (400-172541-3), PD-8-GWP-70-070119 (400-172541-4), PD-8-GWP-80-070119 (400-172541-5) and PD-12-GWP-35-070119 (400-172541-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-GWP-80-070119 (400-172541-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D LL: The method blank for preparation batch 400-446728 and analytical batch 400-447502 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-447918 recovered above the upper control limit for 1-Methylnaphthalene, 2-Methylnaphthalene, Anthracene and Benzo[k]fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-447918/3).

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446728 and analytical batch 400-447936 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: (400-172422-C-2-A MS) and (400-172422-D-2-C MSD). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-446728 and analytical batch 400-447936: Dibenz[a,h]acridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-446728/1-A). These results have been reported and qualified.

Method(s) 8270D LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-446728 and analytical batch 400-447502 recovered outside control limits for the following analytes: Pyrene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-8-GWP-70-070119 (400-172541-4). These results have been reported and qualified.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Job ID: 400-172541-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: Bis(2-ethylhexyl) phthalate was detected above the method detection limit on the sample for preparation batch 400-446728. The sample was re-extracted and/or re-analyzed outside of holding time. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172541-1	TB-PW-070119-B	Water	07/01/19 00:00	07/02/19 08:34	
400-172541-2	PD-8-GWP-57-070119	Water	07/01/19 09:15	07/02/19 08:34	
400-172541-3	PD-8-GWP-62-070119	Water	07/01/19 10:15	07/02/19 08:34	
400-172541-4	PD-8-GWP-70-070119	Water	07/01/19 11:25	07/02/19 08:34	
400-172541-5	PD-8-GWP-80-070119	Water	07/01/19 13:42	07/02/19 08:34	
400-172541-6	PD-12-GWP-35-070119	Water	07/01/19 15:50	07/02/19 08:34	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B — Lab Sample ID: 400-172541-1

No Detections.

Client Sample ID: PD-8-GWP-57-070119 — Lab Sample ID: 400-172541-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	11		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.068	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-8-GWP-62-070119 — Lab Sample ID: 400-172541-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	20		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	0.82	J	1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.6	J	5.0	1.6	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.2		1.0	0.82	ug/L	1		8260B	Total/NA
Xylenes, Total	1.6	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.16	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.27	B	0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-8-GWP-70-070119 — Lab Sample ID: 400-172541-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	59		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	4.4		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	1.3		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	130		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	22		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	14		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	16		5.0	0.60	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	0.74	J	1.0	0.71	ug/L	1		8260B	Total/NA
sec-Butylbenzene	0.96	J	1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.1		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	2.4		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	110		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	32		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	150		10	1.6	ug/L	1		8260B	Total/NA
Acenaphthene	0.21		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.071	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.29		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	14		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	23	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.29		0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.6	J	10	5.0	ug/L	1		8270D	Total/NA

Client Sample ID: PD-8-GWP-80-070119 — Lab Sample ID: 400-172541-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	270		2.0	0.76	ug/L	2		8260B	Total/NA
Ethylbenzene	1.4	J	2.0	1.0	ug/L	2		8260B	Total/NA
Toluene	0.95	J	2.0	0.82	ug/L	2		8260B	Total/NA
1,2,4-Trimethylbenzene	2.1		2.0	1.6	ug/L	2		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119 (Continued)

Lab Sample ID: 400-172541-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.82		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.1	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.045	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	6.3	J	9.8	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-35-070119

Lab Sample ID: 400-172541-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	27		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	2.4		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	2.3		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	4.9	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.1		1.0	1.0	ug/L	1		8260B	Total/NA
o-Xylene	0.72	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.47	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	3.7		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.2		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	5.6	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.39		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.70	B	0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 18:29	1
Acrolein	ND		20	10	ug/L			07/07/19 18:29	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 18:29	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 18:29	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 18:29	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 18:29	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 18:29	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 18:29	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 18:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 18:29	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 18:29	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 18:29	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 18:29	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 18:29	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 18:29	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 18:29	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 18:29	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 18:29	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 18:29	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 18:29	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 18:29	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 18:29	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 18:29	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 18:29	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 18:29	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 18:29	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 18:29	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 18:29	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 18:29	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 18:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 18:29	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 18:29	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 18:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B
Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 18:29	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 18:29	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 18:29	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 18:29	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 18:29	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 18:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 18:29	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 18:29	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 18:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 18:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 18:29	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 18:29	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 18:29	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 18:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 18:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 18:29	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 18:29	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 18:29	1

Tentatively Identified Compound	*Est Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 18:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 18:29*	*1*
Dibromofluoromethane	*90*		*81 - 121*		*07/07/19 18:29*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 18:29*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119
Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 16:52	1
Acrolein	ND		20	10	ug/L			07/07/19 16:52	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 16:52	1
Benzene	**11**		1.0	0.38	ug/L			07/07/19 16:52	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 16:52	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 16:52	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 16:52	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 16:52	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 16:52	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 16:52	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 16:52	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 16:52	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 16:52	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 16:52	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:52	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 16:52	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 16:52	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 16:52	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 16:52	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 16:52	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 16:52	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 16:52	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 16:52	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 16:52	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 16:52	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 16:52	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/07/19 16:52	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 16:52	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 16:52	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 16:52	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 16:52	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 16:52	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 16:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 16:52	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 16:52	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 16:52	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 16:52	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 16:52	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 16:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 16:52	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 16:52	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 16:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 16:52	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 16:52	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 16:52	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 16:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 16:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 16:52	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 16:52	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 16:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*62*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 16:52*	*1*
2-Methyl-2-propanol	*25*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 16:52*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 16:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/07/19 16:52*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 16:52*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 16:52*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/14/19 02:07	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
1-Methylnaphthalene	**0.068**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:08	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:08	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:07*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:07*	*1*
Terphenyl-d14	*65*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 20:25	1
Benzenethiol	ND * UJ		9.8	1.7	ug/L		07/03/19 14:07	07/14/19 20:25	1
Benzoic acid	ND		29	7.2	ug/L		07/03/19 14:07	07/14/19 20:25	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 20:25	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/03/19 14:07	07/14/19 20:25	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/03/19 14:07	07/14/19 20:25	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 20:25	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
Dibenz[a,h]acridine	ND * UJ		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 20:25	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 20:25	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 20:25	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 20:25	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 20:25	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 20:25	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 20:25	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/03/19 14:07	07/14/19 20:25	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/03/19 14:07	07/14/19 20:25	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 20:25	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 20:25	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 20:25	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 20:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 20:25	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 20:25	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 20:25	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 20:25	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 20:25	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 20:25	1
Phenol	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 20:25	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 20:25	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 20:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*30*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
3-Eicosene, (E)-	*6.3*	*T J N*	*ug/L*		*10.89*	*74685-33-9*	*07/03/19 14:07*	*07/14/19 20:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*34 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
Phenol-d5	*64*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
2,4,6-Tribromophenol	*79*		*15 - 135*	*07/03/19 14:07*	*07/14/19 20:25*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-62-070119

Date Collected: 07/01/19 10:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 20:05	1
Acrolein	ND		20	10	ug/L			07/07/19 20:05	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 20:05	1
Benzene	**20**		1.0	0.38	ug/L			07/07/19 20:05	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 20:05	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 20:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 20:05	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 20:05	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 20:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 20:05	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 20:05	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 20:05	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 20:05	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 20:05	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:05	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 20:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 20:05	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 20:05	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 20:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Ethylbenzene	**0.82**	**J**	1.0	0.50	ug/L			07/07/19 20:05	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 20:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 20:05	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 20:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 20:05	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 20:05	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 20:05	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 20:05	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/07/19 20:05	1
m-Xylene & p-Xylene	**1.6**	**J**	5.0	1.6	ug/L			07/07/19 20:05	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 20:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 20:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 20:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 20:05	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 20:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-62-070119

Date Collected: 07/01/19 10:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 20:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 20:05	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 20:05	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 20:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 20:05	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 20:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 20:05	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 20:05	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 20:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 20:05	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 20:05	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 20:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 20:05	1
1,2,4-Trimethylbenzene	**1.2**		1.0	0.82	ug/L			07/07/19 20:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 20:05	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 20:05	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Xylenes, Total	**1.6**	**J**	10	1.6	ug/L			07/07/19 20:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*18*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 20:05*	*1*
2-Methyl-2-propanol	*27*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 20:05*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 20:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 20:05*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 20:05*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 20:05*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Chrysene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Fluoranthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Fluorene	ND		0.19	0.020	ug/L		07/03/19 14:07	07/14/19 02:24	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
1-Methylnaphthalene	**0.16**	**J**	0.19	0.019	ug/L		07/03/19 14:07	07/19/19 16:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-62-070119

Date Collected: 07/01/19 10:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-3
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.27	B	0.19	0.019	ug/L		07/03/19 14:07	07/19/19 16:52	1
Phenanthrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Pyrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:24*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:24*	*1*
Terphenyl-d14	*98*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:24*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 20:46	1
Benzenethiol	ND	* U5	9.7	1.7	ug/L		07/03/19 14:07	07/14/19 20:46	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 20:46	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/03/19 14:07	07/14/19 20:46	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/03/19 14:07	07/14/19 20:46	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/03/19 14:07	07/14/19 20:46	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Dibenz[a,h]acridine	ND	* U5	9.7	2.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/03/19 14:07	07/14/19 20:46	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 20:46	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/03/19 14:07	07/14/19 20:46	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/03/19 14:07	07/14/19 20:46	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/03/19 14:07	07/14/19 20:46	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 20:46	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 20:46	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/03/19 14:07	07/14/19 20:46	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 20:46	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
Indene	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 20:46	1
Isophorone	ND		9.7	0.56	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 20:46	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-62-070119
Date Collected: 07/01/19 10:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/03/19 14:07	07/14/19 20:46	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/03/19 14:07	07/14/19 20:46	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 20:46	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/03/19 14:07	07/14/19 20:46	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/03/19 14:07	07/14/19 20:46	1
Pentachlorophenol	ND		19	1.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
Phenol	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 20:46	1
Pyridine	ND		9.7	3.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
Quinoline	ND		9.7	5.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 20:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*38*	*T J N*	*ug/L*		*4.07*	*590-90-9*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Thiophene, tetrahydro-, 1,1-dioxide	*6.6*	*T J N*	*ug/L*		*6.47*	*126-33-0*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Octadecanoic acid	*13*	*T J N*	*ug/L*		*9.78*	*57-11-4*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
5-Eicosene, (E)-	*4.3*	*T J N*	*ug/L*		*10.89*	*74685-30-6*	*07/03/19 14:07*	*07/14/19 20:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*34 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
2-Fluorophenol	*66*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Phenol-d5	*85*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Terphenyl-d14	*87*		*53 - 125*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
2,4,6-Tribromophenol	*106*		*15 - 135*	*07/03/19 14:07*	*07/14/19 20:46*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119

Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 20:29	1
Acrolein	ND		20	10	ug/L			07/07/19 20:29	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 20:29	1
Benzene	**120**		1.0	0.38	ug/L			07/07/19 20:29	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 20:29	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 20:29	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 20:29	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 20:29	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 20:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 20:29	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 20:29	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 20:29	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 20:29	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 20:29	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:29	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 20:29	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 20:29	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 20:29	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 20:29	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Ethylbenzene	**59**		1.0	0.50	ug/L			07/07/19 20:29	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 20:29	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 20:29	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 20:29	1
Isopropylbenzene	**4.4**		1.0	0.53	ug/L			07/07/19 20:29	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 20:29	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 20:29	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 20:29	1
Methyl tert-butyl ether	**1.3**		1.0	0.74	ug/L			07/07/19 20:29	1
m-Xylene & p-Xylene	**130**		5.0	1.6	ug/L			07/07/19 20:29	1
Naphthalene	**22**		1.0	1.0	ug/L			07/07/19 20:29	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 20:29	1
N-Propylbenzene	**14**		1.0	0.69	ug/L			07/07/19 20:29	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 20:29	1
o-Xylene	**16**		5.0	0.60	ug/L			07/07/19 20:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119

Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 20:29	1
p-Isopropyltoluene	**0.74**	**J**	1.0	0.71	ug/L			07/07/19 20:29	1
sec-Butylbenzene	**0.96**	**J**	1.0	0.70	ug/L			07/07/19 20:29	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 20:29	1
tert-Butylbenzene	**1.1**		1.0	0.63	ug/L			07/07/19 20:29	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 20:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 20:29	1
Toluene	**2.4**		1.0	0.41	ug/L			07/07/19 20:29	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 20:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 20:29	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 20:29	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 20:29	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 20:29	1
1,2,4-Trimethylbenzene	**110**		1.0	0.82	ug/L			07/07/19 20:29	1
1,3,5-Trimethylbenzene	**32**		1.0	0.56	ug/L			07/07/19 20:29	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 20:29	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Xylenes, Total	**150**		10	1.6	ug/L			07/07/19 20:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*130*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 20:29*	*1*
2-Methyl-2-propanol	*21*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 20:29*	*1*
Hexane	*1.6*		*ug/L*		*2.93*	*110-54-3*		*07/07/19 20:29*	*1*
Cyclopentane, methyl-	*6.4*	*T J N*	*ug/L*		*3.31*	*96-37-7*		*07/07/19 20:29*	*1*
Cyclohexane	*4.2*		*ug/L*		*3.72*	*110-82-7*		*07/07/19 20:29*	*1*
n-Heptane	*0.78*	*J*	*ug/L*		*4.04*	*142-82-5*		*07/07/19 20:29*	*1*
Methylcyclohexane	*4.5*		*ug/L*		*4.43*	*108-87-2*		*07/07/19 20:29*	*1*
3-Ethyltoluene	*46*		*ug/L*		*7.21*	*620-14-4*		*07/07/19 20:29*	*1*
2-Ethyltoluene	*24*		*ug/L*		*7.44*	*611-14-3*		*07/07/19 20:29*	*1*
1,2,3-Trimethylbenzene	*33*		*ug/L*		*7.90*	*526-73-8*		*07/07/19 20:29*	*1*
1,3-Diethylbenzene	*2.6*	*J*	*ug/L*		*8.04*	*141-93-5*		*07/07/19 20:29*	*1*
p-Diethylbenzene	*7.8*		*ug/L*		*8.11*	*105-05-5*		*07/07/19 20:29*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*16*	*T J N*	*ug/L*		*8.33*	*535-77-3*		*07/07/19 20:29*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*12*	*T J N*	*ug/L*		*8.41*	*527-84-4*		*07/07/19 20:29*	*1*
Benzene, (2-methyl-1-propenyl)-	*16*	*T J N*	*ug/L*		*8.51*	*768-49-0*		*07/07/19 20:29*	*1*
Benzene, 1,2,3,5-tetramethyl-	*7.7*	*T J N*	*ug/L*		*8.72*	*527-53-7*		*07/07/19 20:29*	*1*
Benzene, 1,2,3,4-tetramethyl-	*12*	*T J N*	*ug/L*		*8.76*	*488-23-3*		*07/07/19 20:29*	*1*
3-Phenylbut-1-ene	*9.2*	*T J N*	*ug/L*		*8.98*	*934-10-1*		*07/07/19 20:29*	*1*
1H-Indene, 2,3-dihydro-5-methyl-	*20*	*T J N*	*ug/L*		*9.12*	*874-35-1*		*07/07/19 20:29*	*1*
2-Methylnaphthalene	*4.8*	*J*	*ug/L*		*10.75*	*91-57-6*		*07/07/19 20:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 20:29*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 20:29*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/07/19 20:29*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119

Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.21**		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Anthracene	**0.071**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Fluorene	**0.29**		0.20	0.021	ug/L		07/03/19 14:07	07/14/19 02:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
1-Methylnaphthalene	**14**		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:42	1
2-Methylnaphthalene	**23**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:42	1
Phenanthrene	**0.29**		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:41*	*1*
Nitrobenzene-d5	*58*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:41*	*1*
Terphenyl-d14	*64*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/03/19 14:07	07/14/19 21:07	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 21:07	1
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 21:07	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 21:07	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 21:07	1
Bis(2-ethylhexyl) phthalate	**9.6**	**J**	10	5.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 21:07	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Dibenz[a,h]acridine	ND	* UJ	10	3.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 21:07	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 21:07	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 21:07	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 21:07	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 21:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119

Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 21:07	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 21:07	1
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 21:07	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 21:07	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 21:07	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 21:07	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 21:07	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 21:07	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 21:07	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 21:07	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 21:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*18*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Ethylbenzene	*39*	*T J N*	*ug/L*		*4.67*	*100-41-4*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
o-Xylene	*12*	*T J N*	*ug/L*		*4.89*	*95-47-6*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, propyl-	*24*	*T J N*	*ug/L*		*5.26*	*103-65-1*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-2-methyl-	*49*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-4-methyl-	*37*	*T J N*	*ug/L*		*5.32*	*622-96-8*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,4-trimethyl-	*31*	*T J N*	*ug/L*		*5.41*	*95-63-6*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,3,5-trimethyl-	*47*	*T J N*	*ug/L*		*5.64*	*108-67-8*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Indane	*25*	*T J N*	*ug/L*		*5.73*	*496-11-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-methyl-3-propyl-	*17*	*T J N*	*ug/L*		*5.77*	*1074-43-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*40*	*T J N*	*ug/L*		*5.79*	*934-74-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*21*	*T J N*	*ug/L*		*5.89*	*1758-88-9*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*23*	*T J N*	*ug/L*		*5.91*	*2870-04-4*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*46*	*T J N*	*ug/L*		*5.93*	*933-98-2*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*10*	*T J N*	*ug/L*		*6.04*	*527-84-4*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,4,5-tetramethyl-	*16*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,3,4-tetramethyl-	*24*	*T J N*	*ug/L*		*6.10*	*488-23-3*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethenyl-4-ethyl-	*22*	*T J N*	*ug/L*		*6.22*	*3454-07-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*37*	*T J N*	*ug/L*		*6.26*	*3333-13-9*	*07/03/19 14:07*	*07/14/19 21:07*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119
Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, (1-methyl-1-butenyl)-	24	T J N	ug/L		6.42	53172-84-2	07/03/19 14:07	07/14/19 21:07	1
Naphthalene	30	T J N	ug/L		6.45	91-20-3	07/03/19 14:07	07/14/19 21:07	1
Tridecane	9.7	T J N	ug/L		6.76	629-50-5	07/03/19 14:07	07/14/19 21:07	1
Naphthalene, 2-methyl-	19	T J N	ug/L		6.90	91-57-6	07/03/19 14:07	07/14/19 21:07	1
Naphthalene, 1-methyl-	15	T J N	ug/L		6.97	90-12-0	07/03/19 14:07	07/14/19 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		34 - 120	07/03/19 14:07	07/14/19 21:07	1
2-Fluorophenol	32		10 - 120	07/03/19 14:07	07/14/19 21:07	1
Nitrobenzene-d5	65		27 - 120	07/03/19 14:07	07/14/19 21:07	1
Phenol-d5	50		10 - 120	07/03/19 14:07	07/14/19 21:07	1
Terphenyl-d14	67		53 - 125	07/03/19 14:07	07/14/19 21:07	1
2,4,6-Tribromophenol	74		15 - 135	07/03/19 14:07	07/14/19 21:07	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	H	9.9	5.0	ug/L		07/24/19 21:29	07/30/19 22:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		34 - 120	07/24/19 21:29	07/30/19 22:46	1
2-Fluorophenol	60		10 - 120	07/24/19 21:29	07/30/19 22:46	1
Nitrobenzene-d5	68		27 - 120	07/24/19 21:29	07/30/19 22:46	1
Phenol-d5	68		10 - 120	07/24/19 21:29	07/30/19 22:46	1
Terphenyl-d14	30	X	53 - 125	07/24/19 21:29	07/30/19 22:46	1
2,4,6-Tribromophenol	40		15 - 135	07/24/19 21:29	07/30/19 22:46	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119
Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50	20	ug/L			07/07/19 21:41	2
Acrolein	ND		40	20	ug/L			07/07/19 21:41	2
Acrylonitrile	ND		20	5.6	ug/L			07/07/19 21:41	2
Benzene	**270**		2.0	0.76	ug/L			07/07/19 21:41	2
Bromobenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
Bromochloromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Bromodichloromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Bromoform	ND		10	1.4	ug/L			07/07/19 21:41	2
Bromomethane	ND		2.0	2.0	ug/L			07/07/19 21:41	2
2-Butanone (MEK)	ND		50	5.2	ug/L			07/07/19 21:41	2
Carbon disulfide	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Carbon tetrachloride	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Chlorobenzene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Chloroethane	ND		2.0	1.5	ug/L			07/07/19 21:41	2
2-Chloroethyl vinyl ether	ND		10	4.0	ug/L			07/07/19 21:41	2
Chloroform	ND		2.0	1.2	ug/L			07/07/19 21:41	2
1-Chlorohexane	ND		2.0	1.4	ug/L			07/07/19 21:41	2
Chloromethane	ND		2.0	1.7	ug/L			07/07/19 21:41	2
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
cis-1,3-Dichloropropene	ND		10	1.0	ug/L			07/07/19 21:41	2
Dibromochloromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2-Dibromo-3-Chloropropane	ND		10	3.0	ug/L			07/07/19 21:41	2
1,2-Dichlorobenzene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,3-Dichlorobenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
1,4-Dichlorobenzene	ND		2.0	1.3	ug/L			07/07/19 21:41	2
Dichlorodifluoromethane	ND		2.0	1.7	ug/L			07/07/19 21:41	2
1,1-Dichloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2-Dichloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1-Dichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2-Dichloropropane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,3-Dichloropropane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
2,2-Dichloropropane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1-Dichloropropene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Ethylbenzene	**1.4**	**J**	2.0	1.0	ug/L			07/07/19 21:41	2
Ethylene Dibromide	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Ethyl methacrylate	ND		2.0	1.2	ug/L			07/07/19 21:41	2
Hexachlorobutadiene	ND		10	1.8	ug/L			07/07/19 21:41	2
2-Hexanone	ND		50	6.2	ug/L			07/07/19 21:41	2
Isopropylbenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
Methylene bromide	ND		10	1.2	ug/L			07/07/19 21:41	2
Methylene Chloride	ND		10	6.0	ug/L			07/07/19 21:41	2
4-Methyl-2-pentanone (MIBK)	ND		50	3.6	ug/L			07/07/19 21:41	2
Methyl tert-butyl ether	ND		2.0	1.5	ug/L			07/07/19 21:41	2
m-Xylene & p-Xylene	ND		10	3.2	ug/L			07/07/19 21:41	2
Naphthalene	ND		2.0	2.0	ug/L			07/07/19 21:41	2
n-Butylbenzene	ND		2.0	1.5	ug/L			07/07/19 21:41	2
N-Propylbenzene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
o-Chlorotoluene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
o-Xylene	ND		10	1.2	ug/L			07/07/19 21:41	2

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119

Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
p-Isopropyltoluene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
sec-Butylbenzene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
Styrene	ND		2.0	2.0	ug/L			07/07/19 21:41	2
tert-Butylbenzene	ND		2.0	1.3	ug/L			07/07/19 21:41	2
1,1,1,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Tetrachloroethene	ND		2.0	1.2	ug/L			07/07/19 21:41	2
Toluene	**0.95**	**J**	2.0	0.82	ug/L			07/07/19 21:41	2
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
trans-1,3-Dichloropropene	ND		10	1.0	ug/L			07/07/19 21:41	2
1,2,3-Trichlorobenzene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
1,2,4-Trichlorobenzene	ND		2.0	1.6	ug/L			07/07/19 21:41	2
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1,2-Trichloroethane	ND		10	1.0	ug/L			07/07/19 21:41	2
Trichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Trichlorofluoromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2,3-Trichloropropane	ND		10	1.7	ug/L			07/07/19 21:41	2
1,2,4-Trimethylbenzene	**2.1**		2.0	1.6	ug/L			07/07/19 21:41	2
1,3,5-Trimethylbenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
Vinyl acetate	ND		50	4.0	ug/L			07/07/19 21:41	2
Vinyl chloride	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Xylenes, Total	ND		20	3.2	ug/L			07/07/19 21:41	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methyl-2-propanol	*18*	*J*	*ug/L*		*2.67*	*75-65-0*		*07/07/19 21:41*	*2*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 21:41*	*2*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/07/19 21:41*	*2*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 21:41*	*2*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 21:41*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Fluorene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
1-Methylnaphthalene	**0.82**		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:59	1
2-Methylnaphthalene	**1.1**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119
Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-5
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.045	J	0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	67		15 - 122	07/03/19 14:07	07/14/19 02:58	1
Nitrobenzene-d5	65		19 - 130	07/03/19 14:07	07/14/19 02:58	1
Terphenyl-d14	67		33 - 138	07/03/19 14:07	07/14/19 02:58	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 21:28	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 21:28	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 21:28	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/03/19 14:07	07/14/19 21:28	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/03/19 14:07	07/14/19 21:28	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 21:28	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
Dibenz[a,h]acridine	ND	* UJ	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 21:28	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 21:28	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 21:28	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 21:28	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 21:28	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 21:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 21:28	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/03/19 14:07	07/14/19 21:28	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/03/19 14:07	07/14/19 21:28	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 21:28	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 21:28	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 21:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119
Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 21:28	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Nitrophenol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 21:28	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 21:28	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 21:28	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 21:28	1
Phenol	**6.3**	**J**	9.8	2.5	ug/L		07/03/19 14:07	07/14/19 21:28	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 21:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*25*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Benzene, 1,3,5-trimethyl-	*6.9*	*T J N*	*ug/L*		*5.49*	*108-67-8*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Cyclopentadecane	*4.8*	*T J N*	*ug/L*		*10.89*	*295-48-7*	*07/03/19 14:07*	*07/14/19 21:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Nitrobenzene-d5	*74*		*27 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Phenol-d5	*61*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
2,4,6-Tribromophenol	*81*		*15 - 135*	*07/03/19 14:07*	*07/14/19 21:28*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119
Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 20:53	1
Acrolein	ND		20	10	ug/L			07/07/19 20:53	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 20:53	1
Benzene	**27**		1.0	0.38	ug/L			07/07/19 20:53	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 20:53	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 20:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 20:53	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 20:53	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 20:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 20:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 20:53	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 20:53	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 20:53	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 20:53	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:53	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 20:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 20:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 20:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 20:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Ethylbenzene	**2.4**		1.0	0.50	ug/L			07/07/19 20:53	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 20:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 20:53	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 20:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 20:53	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 20:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 20:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 20:53	1
Methyl tert-butyl ether	**2.3**		1.0	0.74	ug/L			07/07/19 20:53	1
m-Xylene & p-Xylene	**4.9**	**J**	5.0	1.6	ug/L			07/07/19 20:53	1
Naphthalene	**1.1**		1.0	1.0	ug/L			07/07/19 20:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 20:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 20:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 20:53	1
o-Xylene	**0.72**	**J**	5.0	0.60	ug/L			07/07/19 20:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119

Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 20:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 20:53	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 20:53	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 20:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 20:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 20:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 20:53	1
Toluene	**0.47**	**J**	1.0	0.41	ug/L			07/07/19 20:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 20:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 20:53	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 20:53	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 20:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 20:53	1
1,2,4-Trimethylbenzene	**3.7**		1.0	0.82	ug/L			07/07/19 20:53	1
1,3,5-Trimethylbenzene	**1.2**		1.0	0.56	ug/L			07/07/19 20:53	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 20:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Xylenes, Total	**5.6**	**J**	10	1.6	ug/L			07/07/19 20:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*15*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 20:53*	*1*
2-Methyl-2-propanol	*650*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 20:53*	*1*
3-Ethyltoluene	*1.4*		*ug/L*		*7.21*	*620-14-4*		*07/07/19 20:53*	*1*
2-Ethyltoluene	*0.87*	*J*	*ug/L*		*7.44*	*611-14-3*		*07/07/19 20:53*	*1*
1,2,3-Trimethylbenzene	*1.4*	*J*	*ug/L*		*7.90*	*526-73-8*		*07/07/19 20:53*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 20:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 20:53*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 20:53*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 20:53*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119

Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/14/19 03:15	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
1-Methylnaphthalene	**0.39**		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 15:16	1
2-Methylnaphthalene	**0.70**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 15:16	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*15 - 122*	*07/03/19 14:07*	*07/14/19 03:15*	*1*
Nitrobenzene-d5	*73*		*19 - 130*	*07/03/19 14:07*	*07/14/19 03:15*	*1*
Terphenyl-d14	*70*		*33 - 138*	*07/03/19 14:07*	*07/14/19 03:15*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		07/03/19 14:07	07/14/19 21:49	1
Benzoic acid	ND		30	7.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 21:49	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/03/19 14:07	07/14/19 21:49	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/03/19 14:07	07/14/19 21:49	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/03/19 14:07	07/14/19 21:49	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Dibenz[a,h]acridine	ND	* UJ	9.9	3.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 21:49	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 21:49	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/03/19 14:07	07/14/19 21:49	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/03/19 14:07	07/14/19 21:49	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		07/03/19 14:07	07/14/19 21:49	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 21:49	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 21:49	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/03/19 14:07	07/14/19 21:49	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 21:49	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
Indene	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 21:49	1
Isophorone	ND		9.9	0.56	ug/L		07/03/19 14:07	07/14/19 21:49	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119
Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/03/19 14:07	07/14/19 21:49	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/03/19 14:07	07/14/19 21:49	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 21:49	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/03/19 14:07	07/14/19 21:49	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/03/19 14:07	07/14/19 21:49	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
Phenol	ND		9.9	2.6	ug/L		07/03/19 14:07	07/14/19 21:49	1
Pyridine	ND		9.9	3.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
Quinoline	ND		9.9	5.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 21:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*19*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
1-Propene, 1,2,3-trichloro-, (E)-	*4.3*	*T J N*	*ug/L*		*5.22*	*13116-58-0*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Benzene, 1,3,5-trimethyl-	*6.5*	*T J N*	*ug/L*		*5.49*	*108-67-8*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
1-Heneicosyl formate	*4.2*	*T J N*	*ug/L*		*10.90*	*77899-03-7*	*07/03/19 14:07*	*07/14/19 21:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*34 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Nitrobenzene-d5	*72*		*27 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Phenol-d5	*64*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Terphenyl-d14	*61*		*53 - 125*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
2,4,6-Tribromophenol	*73*		*15 - 135*	*07/03/19 14:07*	*07/14/19 21:49*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-172541-1	TB-PW-070119-B	99	90	101
400-172541-2	PD-8-GWP-57-070119	101	89	101
400-172541-2 MS	PD-8-GWP-57-070119	102	92	102
400-172541-2 MSD	PD-8-GWP-57-070119	103	94	103
400-172541-3	PD-8-GWP-62-070119	99	89	101
400-172541-4	PD-8-GWP-70-070119	99	89	102
400-172541-5	PD-8-GWP-80-070119	101	89	101
400-172541-6	PD-12-GWP-35-070119	99	89	101
LCS 400-447037/1002	Lab Control Sample	102	94	103
MB 400-447037/4	Method Blank	98	90	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-172541-2	PD-8-GWP-57-070119	58	49	69	64	63	79
400-172541-3	PD-8-GWP-62-070119	71	66	86	85	87	106
400-172541-4	PD-8-GWP-70-070119	52	32	65	50	67	74
400-172541-4 - RERA	PD-8-GWP-70-070119	45	60	68	68	30 X	40
400-172541-5	PD-8-GWP-80-070119	52	44	74	61	66	81
400-172541-6	PD-12-GWP-35-070119	63	49	72	64	61	73
LCS 400-446728/18-A	Lab Control Sample	71	67	88	81	83	85
LCS 400-446728/2-A	Lab Control Sample	63	61	84	77	79	88
LCS 400-449437/2-A	Lab Control Sample	49	44	80	66	59	41
LCSD 400-446728/19-A	Lab Control Sample Dup	66	42	80	67	79	71
LCSD 400-449437/3-A	Lab Control Sample Dup	45	44	86	64	57	38
MB 400-446728/1-A	Method Blank	67	56	86	79	83	78
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (15-122)	NBZ (19-130)	TPHL (33-138)
400-172541-2	PD-8-GWP-57-070119	68	69	65

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172541-3	PD-8-GWP-62-070119	95	91	98
400-172541-4	PD-8-GWP-70-070119	63	58	64
400-172541-5	PD-8-GWP-80-070119	67	65	67
400-172541-6	PD-12-GWP-35-070119	79	73	70
LCS 400-446728/2-A	Lab Control Sample	83	74	136
MB 400-446728/1-A	Method Blank	117	120	200 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 18:29	BSW	TAL PEN

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 16:52	BSW	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 20:25	VC1	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:07	S1S	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 14:08	KJA	TAL PEN

Client Sample ID: PD-8-GWP-62-070119

Date Collected: 07/01/19 10:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 20:05	BSW	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 20:46	VC1	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:24	S1S	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448700	07/19/19 16:52	S1S	TAL PEN

Client Sample ID: PD-8-GWP-70-070119

Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 20:29	BSW	TAL PEN
Total/NA	Prep	3520C			1000.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 21:07	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1007.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450063	07/30/19 22:46	VC1	TAL PEN
Total/NA	Prep	3520C			1000.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:41	S1S	TAL PEN
Total/NA	Prep	3520C			1000.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 14:42	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119

Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	447037	07/07/19 21:41	BSW	TAL PEN
Total/NA	Prep	3520C			1025 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 21:28	VC1	TAL PEN
Total/NA	Prep	3520C			1025 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:58	S1S	TAL PEN
Total/NA	Prep	3520C			1025 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 14:59	KJA	TAL PEN

Client Sample ID: PD-12-GWP-35-070119

Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 20:53	BSW	TAL PEN
Total/NA	Prep	3520C			1012 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 21:49	VC1	TAL PEN
Total/NA	Prep	3520C			1012 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 03:15	S1S	TAL PEN
Total/NA	Prep	3520C			1012 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 15:16	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-446728/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 16:04	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447037/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 16:28	BSW	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449437/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:27	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 16:20	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447037/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 15:26	BSW	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:21	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 15:49	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:42	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2 MS

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 17:16	BSW	TAL PEN

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2 MSD

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 17:41	BSW	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

GC/MS VOA

Analysis Batch: 447037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-1	TB-PW-070119-B	Total/NA	Water	8260B	
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8260B	
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8260B	
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8260B	
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8260B	
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8260B	
MB 400-447037/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447037/1002	Lab Control Sample	Total/NA	Water	8260B	
400-172541-2 MS	PD-8-GWP-57-070119	Total/NA	Water	8260B	
400-172541-2 MSD	PD-8-GWP-57-070119	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 446728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	3520C	
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	3520C	
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	3520C	
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	3520C	
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	3520C	
MB 400-446728/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D LL	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D LL	446728

Analysis Batch: 447918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8270D LL	446728
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8270D LL	446728
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8270D LL	446728
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8270D LL	446728
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8270D LL	446728

Analysis Batch: 447936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8270D	446728
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8270D	446728
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8270D	446728
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8270D	446728
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8270D	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D	446728
LCS 400-446728/18-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	446728

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

GC/MS Semi VOA

Analysis Batch: 448402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8270D LL	446728
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8270D LL	446728
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8270D LL	446728
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8270D LL	446728

Analysis Batch: 448700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8270D LL	446728

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-4 - RERA	PD-8-GWP-70-070119	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-4 - RERA	PD-8-GWP-70-070119	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447037/4
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 16:28	1
Acrolein	ND		20	10	ug/L			07/07/19 16:28	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 16:28	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 16:28	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 16:28	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 16:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 16:28	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 16:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 16:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 16:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 16:28	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 16:28	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 16:28	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 16:28	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:28	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 16:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 16:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 16:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 16:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 16:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 16:28	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 16:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 16:28	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 16:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 16:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 16:28	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 16:28	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 16:28	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 16:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 16:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 16:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 16:28	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447037/4
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 16:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 16:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 16:28	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 16:28	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 16:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 16:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 16:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 16:28	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 16:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 16:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 16:28	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 16:28	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 16:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 16:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 16:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 16:28	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 16:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 16:28	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 16:28*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/07/19 16:28*	*1*
Dibromofluoromethane	*90*		*81 - 121*		*07/07/19 16:28*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 16:28*	*1*

Lab Sample ID: LCS 400-447037/1002
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	233		ug/L		117	43 - 160
Acrolein	500	550		ug/L		110	38 - 160
Acrylonitrile	500	639		ug/L		128	64 - 142
Benzene	50.0	52.1		ug/L		104	70 - 130
Bromobenzene	50.0	55.4		ug/L		111	70 - 132
Bromochloromethane	50.0	56.2		ug/L		112	70 - 130
Bromodichloromethane	50.0	49.6		ug/L		99	67 - 133
Bromoform	50.0	54.2		ug/L		108	57 - 140
Bromomethane	50.0	45.0		ug/L		90	10 - 160
2-Butanone (MEK)	200	206		ug/L		103	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447037/1002
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	51.6		ug/L		103	61 - 137
Carbon tetrachloride	50.0	49.1		ug/L		98	61 - 137
Chlorobenzene	50.0	54.4		ug/L		109	70 - 130
Chloroethane	50.0	54.0		ug/L		108	55 - 141
2-Chloroethyl vinyl ether	50.0	40.2		ug/L		80	10 - 160
Chloroform	50.0	51.0		ug/L		102	69 - 130
1-Chlorohexane	50.0	55.3		ug/L		111	69 - 130
Chloromethane	50.0	54.5		ug/L		109	58 - 137
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	68 - 130
cis-1,3-Dichloropropene	50.0	51.8		ug/L		104	69 - 132
Dibromochloromethane	50.0	55.2		ug/L		110	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.3		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	59.3		ug/L		119	67 - 130
1,3-Dichlorobenzene	50.0	59.3		ug/L		119	70 - 130
1,4-Dichlorobenzene	50.0	57.7		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	46.4		ug/L		93	41 - 146
1,1-Dichloroethane	50.0	52.1		ug/L		104	70 - 130
1,2-Dichloroethane	50.0	51.0		ug/L		102	69 - 130
1,1-Dichloroethene	50.0	53.8		ug/L		108	63 - 134
1,2-Dichloropropane	50.0	51.1		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	54.4		ug/L		109	70 - 130
2,2-Dichloropropane	50.0	45.9		ug/L		92	52 - 135
1,1-Dichloropropene	50.0	51.4		ug/L		103	70 - 130
Ethylbenzene	50.0	56.7		ug/L		113	70 - 130
Ethylene Dibromide	50.0	56.6		ug/L		113	70 - 130
Ethyl methacrylate	50.0	56.7		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.5		ug/L		95	53 - 140
2-Hexanone	200	214		ug/L		107	65 - 137
Isopropylbenzene	50.0	55.5		ug/L		111	70 - 130
Methylene bromide	50.0	49.9		ug/L		100	70 - 130
Methylene Chloride	50.0	53.3		ug/L		107	66 - 135
4-Methyl-2-pentanone (MIBK)	200	238		ug/L		119	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	56.7		ug/L		113	70 - 130
Naphthalene	50.0	59.8		ug/L		120	47 - 149
n-Butylbenzene	50.0	57.1		ug/L		114	67 - 130
N-Propylbenzene	50.0	60.9		ug/L		122	70 - 130
o-Chlorotoluene	50.0	58.0		ug/L		116	70 - 130
o-Xylene	50.0	57.1		ug/L		114	70 - 130
p-Chlorotoluene	50.0	62.3		ug/L		125	70 - 130
p-Isopropyltoluene	50.0	61.7		ug/L		123	65 - 130
sec-Butylbenzene	50.0	59.0		ug/L		118	66 - 130
Styrene	50.0	54.1		ug/L		108	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	56.7		ug/L		113	67 - 131
1,1,2,2-Tetrachloroethane	50.0	61.0		ug/L		122	70 - 131
Tetrachloroethene	50.0	51.8		ug/L		104	65 - 130
Toluene	50.0	57.3		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	57.2		ug/L		114	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447037/1002
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	53.2		ug/L		106	63 - 130
1,2,3-Trichlorobenzene	50.0	51.9		ug/L		104	60 - 138
1,2,4-Trichlorobenzene	50.0	51.2		ug/L		102	60 - 140
1,1,1-Trichloroethane	50.0	50.4		ug/L		101	68 - 130
1,1,2-Trichloroethane	50.0	55.2		ug/L		110	70 - 130
Trichloroethene	50.0	51.2		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	44.4		ug/L		89	65 - 138
1,2,3-Trichloropropane	50.0	62.4		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	59.6		ug/L		119	70 - 130
1,3,5-Trimethylbenzene	50.0	59.4		ug/L		119	69 - 130
Vinyl acetate	100	126		ug/L		126	26 - 160
Vinyl chloride	50.0	56.5		ug/L		113	59 - 136
Xylenes, Total	100	114		ug/L		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 400-172541-2 MS
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	147		ug/L		74	43 - 150
Acrolein	ND		500	553		ug/L		111	38 - 150
Acrylonitrile	ND		500	666		ug/L		133	62 - 149
Benzene	11		50.0	62.4		ug/L		104	56 - 142
Bromobenzene	ND		50.0	54.3		ug/L		109	59 - 136
Bromochloromethane	ND		50.0	57.3		ug/L		115	64 - 140
Bromodichloromethane	ND		50.0	50.0		ug/L		100	59 - 143
Bromoform	ND		50.0	55.6		ug/L		111	50 - 140
Bromomethane	ND		50.0	44.2		ug/L		88	10 - 150
2-Butanone (MEK)	ND		200	145		ug/L		72	55 - 150
Carbon disulfide	ND		50.0	50.6		ug/L		101	48 - 150
Carbon tetrachloride	ND		50.0	48.9		ug/L		98	55 - 145
Chlorobenzene	ND		50.0	52.6		ug/L		105	64 - 130
Chloroethane	ND		50.0	47.4		ug/L		95	50 - 150
2-Chloroethyl vinyl ether	ND		50.0	39.3		ug/L		79	10 - 150
Chloroform	ND		50.0	52.3		ug/L		105	60 - 141
1-Chlorohexane	ND		50.0	50.9		ug/L		102	56 - 136
Chloromethane	ND		50.0	54.8		ug/L		110	49 - 148
cis-1,2-Dichloroethene	ND		50.0	52.8		ug/L		106	59 - 143
cis-1,3-Dichloropropene	ND		50.0	51.6		ug/L		103	57 - 140
Dibromochloromethane	ND		50.0	55.9		ug/L		112	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	55.1		ug/L		110	45 - 135
1,2-Dichlorobenzene	ND		50.0	55.4		ug/L		111	52 - 137
1,3-Dichlorobenzene	ND		50.0	53.6		ug/L		107	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172541-2 MS
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		50.0	52.8		ug/L		106	53 - 135
Dichlorodifluoromethane	ND		50.0	47.5		ug/L		95	16 - 150
1,1-Dichloroethane	ND		50.0	53.4		ug/L		107	61 - 144
1,2-Dichloroethane	ND		50.0	52.2		ug/L		104	60 - 141
1,1-Dichloroethene	ND		50.0	54.1		ug/L		108	54 - 147
1,2-Dichloropropane	ND		50.0	52.7		ug/L		105	66 - 137
1,3-Dichloropropane	ND		50.0	55.5		ug/L		111	66 - 133
2,2-Dichloropropane	ND		50.0	46.4		ug/L		93	42 - 144
1,1-Dichloropropene	ND		50.0	50.8		ug/L		102	65 - 136
Ethylbenzene	ND		50.0	53.6		ug/L		107	58 - 131
Ethylene Dibromide	ND		50.0	57.8		ug/L		116	64 - 132
Ethyl methacrylate	ND		50.0	57.1		ug/L		114	64 - 130
Hexachlorobutadiene	ND		50.0	36.2		ug/L		72	31 - 149
2-Hexanone	ND		200	149		ug/L		75	65 - 140
Isopropylbenzene	ND		50.0	50.7		ug/L		101	56 - 133
Methylene bromide	ND		50.0	50.5		ug/L		101	63 - 138
Methylene Chloride	ND		50.0	54.4		ug/L		109	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	223		ug/L		112	63 - 146
Methyl tert-butyl ether	4.9		50.0	54.8		ug/L		100	59 - 137
m-Xylene & p-Xylene	ND		50.0	53.6		ug/L		107	57 - 130
Naphthalene	ND		50.0	53.1		ug/L		106	25 - 150
n-Butylbenzene	ND		50.0	47.6		ug/L		95	41 - 142
N-Propylbenzene	ND		50.0	54.4		ug/L		109	51 - 138
o-Chlorotoluene	ND		50.0	53.7		ug/L		107	53 - 134
o-Xylene	ND		50.0	53.9		ug/L		108	61 - 130
p-Chlorotoluene	ND		50.0	57.1		ug/L		114	54 - 133
p-Isopropyltoluene	ND		50.0	52.5		ug/L		105	48 - 139
sec-Butylbenzene	ND		50.0	51.9		ug/L		104	50 - 138
Styrene	ND		50.0	51.3		ug/L		103	58 - 131
tert-Butylbenzene	ND		50.0	52.6		ug/L		105	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	55.8		ug/L		112	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	61.8		ug/L		124	66 - 135
Tetrachloroethene	ND		50.0	48.7		ug/L		97	52 - 133
Toluene	ND		50.0	55.7		ug/L		111	65 - 130
trans-1,2-Dichloroethene	ND		50.0	56.0		ug/L		112	61 - 143
trans-1,3-Dichloropropene	ND		50.0	53.4		ug/L		107	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.7		ug/L		89	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.6		ug/L		87	39 - 148
1,1,1-Trichloroethane	ND		50.0	50.2		ug/L		100	57 - 142
1,1,2-Trichloroethane	ND		50.0	55.5		ug/L		111	66 - 131
Trichloroethene	ND		50.0	50.7		ug/L		101	64 - 136
Trichlorofluoromethane	ND		50.0	44.0		ug/L		88	54 - 150
1,2,3-Trichloropropane	ND		50.0	61.3		ug/L		123	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	54.2		ug/L		108	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	54.5		ug/L		109	52 - 135
Vinyl acetate	ND		100	125		ug/L		125	26 - 150
Vinyl chloride	ND		50.0	56.7		ug/L		113	46 - 150
Xylenes, Total	ND		100	107		ug/L		107	59 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172541-2 MS
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	92		81 - 121
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 400-172541-2 MSD
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	121		ug/L		60	43 - 150	20	30
Acrolein	ND		500	557		ug/L		111	38 - 150	1	31
Acrylonitrile	ND		500	644		ug/L		129	62 - 149	3	30
Benzene	11		50.0	62.1		ug/L		103	56 - 142	1	30
Bromobenzene	ND		50.0	54.0		ug/L		108	59 - 136	1	30
Bromochloromethane	ND		50.0	57.3		ug/L		115	64 - 140	0	30
Bromodichloromethane	ND		50.0	49.9		ug/L		100	59 - 143	0	30
Bromoform	ND		50.0	53.9		ug/L		108	50 - 140	3	30
Bromomethane	ND		50.0	44.7		ug/L		89	10 - 150	1	50
2-Butanone (MEK)	ND		200	133		ug/L		67	55 - 150	8	30
Carbon disulfide	ND		50.0	50.5		ug/L		101	48 - 150	0	30
Carbon tetrachloride	ND		50.0	48.1		ug/L		96	55 - 145	2	30
Chlorobenzene	ND		50.0	52.4		ug/L		105	64 - 130	0	30
Chloroethane	ND		50.0	49.6		ug/L		99	50 - 150	4	30
2-Chloroethyl vinyl ether	ND		50.0	39.2		ug/L		78	10 - 150	0	50
Chloroform	ND		50.0	51.8		ug/L		104	60 - 141	1	30
1-Chlorohexane	ND		50.0	51.0		ug/L		102	56 - 136	0	30
Chloromethane	ND		50.0	54.4		ug/L		109	49 - 148	1	31
cis-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	59 - 143	1	30
cis-1,3-Dichloropropene	ND		50.0	51.1		ug/L		102	57 - 140	1	30
Dibromochloromethane	ND		50.0	54.8		ug/L		110	56 - 143	2	30
1,2-Dibromo-3-Chloropropane	ND		50.0	54.1		ug/L		108	45 - 135	2	30
1,2-Dichlorobenzene	ND		50.0	56.8		ug/L		114	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	54.3		ug/L		109	54 - 135	1	30
1,4-Dichlorobenzene	ND		50.0	53.7		ug/L		107	53 - 135	2	30
Dichlorodifluoromethane	ND		50.0	46.1		ug/L		92	16 - 150	3	31
1,1-Dichloroethane	ND		50.0	53.4		ug/L		107	61 - 144	0	30
1,2-Dichloroethane	ND		50.0	51.7		ug/L		103	60 - 141	1	30
1,1-Dichloroethene	ND		50.0	53.8		ug/L		108	54 - 147	0	30
1,2-Dichloropropane	ND		50.0	53.6		ug/L		107	66 - 137	2	30
1,3-Dichloropropane	ND		50.0	55.4		ug/L		111	66 - 133	0	30
2,2-Dichloropropane	ND		50.0	46.0		ug/L		92	42 - 144	1	31
1,1-Dichloropropene	ND		50.0	49.5		ug/L		99	65 - 136	3	30
Ethylbenzene	ND		50.0	54.0		ug/L		108	58 - 131	1	30
Ethylene Dibromide	ND		50.0	56.6		ug/L		113	64 - 132	2	30
Ethyl methacrylate	ND		50.0	56.2		ug/L		112	64 - 130	2	30
Hexachlorobutadiene	ND		50.0	38.7		ug/L		77	31 - 149	7	36
2-Hexanone	ND		200	136		ug/L		68	65 - 140	9	30
Isopropylbenzene	ND		50.0	51.2		ug/L		102	56 - 133	1	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172541-2 MSD
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		50.0	50.2		ug/L		100	63 - 138	1	30
Methylene Chloride	ND		50.0	54.2		ug/L		108	60 - 146	0	32
4-Methyl-2-pentanone (MIBK)	ND		200	220		ug/L		110	63 - 146	1	30
Methyl tert-butyl ether	4.9		50.0	54.7		ug/L		100	59 - 137	0	30
m-Xylene & p-Xylene	ND		50.0	53.6		ug/L		107	57 - 130	0	30
Naphthalene	ND		50.0	56.3		ug/L		113	25 - 150	6	30
n-Butylbenzene	ND		50.0	48.4		ug/L		97	41 - 142	2	31
N-Propylbenzene	ND		50.0	54.2		ug/L		108	51 - 138	0	30
o-Chlorotoluene	ND		50.0	54.1		ug/L		108	53 - 134	1	30
o-Xylene	ND		50.0	54.4		ug/L		109	61 - 130	1	30
p-Chlorotoluene	ND		50.0	53.1		ug/L		106	54 - 133	7	30
p-Isopropyltoluene	ND		50.0	53.5		ug/L		107	48 - 139	2	30
sec-Butylbenzene	ND		50.0	52.3		ug/L		105	50 - 138	1	30
Styrene	ND		50.0	52.2		ug/L		104	58 - 131	2	30
tert-Butylbenzene	ND		50.0	52.3		ug/L		105	54 - 146	1	30
1,1,1,2-Tetrachloroethane	ND		50.0	55.2		ug/L		110	59 - 137	1	30
1,1,2,2-Tetrachloroethane	ND		50.0	61.1		ug/L		122	66 - 135	1	30
Tetrachloroethene	ND		50.0	49.0		ug/L		98	52 - 133	1	30
Toluene	ND		50.0	55.6		ug/L		111	65 - 130	0	30
trans-1,2-Dichloroethene	ND		50.0	55.2		ug/L		110	61 - 143	1	30
trans-1,3-Dichloropropene	ND		50.0	53.2		ug/L		106	53 - 133	0	30
1,2,3-Trichlorobenzene	ND		50.0	48.1		ug/L		96	43 - 145	7	30
1,2,4-Trichlorobenzene	ND		50.0	45.3		ug/L		91	39 - 148	4	30
1,1,1-Trichloroethane	ND		50.0	50.6		ug/L		101	57 - 142	1	30
1,1,2-Trichloroethane	ND		50.0	55.8		ug/L		112	66 - 131	0	30
Trichloroethene	ND		50.0	51.3		ug/L		103	64 - 136	1	30
Trichlorofluoromethane	ND		50.0	44.0		ug/L		88	54 - 150	0	30
1,2,3-Trichloropropane	ND		50.0	61.6		ug/L		123	65 - 133	0	30
1,2,4-Trimethylbenzene	ND		50.0	54.8		ug/L		110	50 - 139	1	30
1,3,5-Trimethylbenzene	ND		50.0	55.1		ug/L		110	52 - 135	1	30
Vinyl acetate	ND		100	121		ug/L		121	26 - 150	3	33
Vinyl chloride	ND		50.0	55.5		ug/L		111	46 - 150	2	30
Xylenes, Total	ND		100	108		ug/L		108	59 - 130	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzenethiol	ND		10	1.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 15:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 15:06	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 15:06	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 15:06	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 15:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*34 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2-Fluorophenol	*56*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Phenol-d5	*79*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Terphenyl-d14	*83*		*53 - 125*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/03/19 14:07*	*07/14/19 15:06*	*1*

Lab Sample ID: LCS 400-446728/18-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*34 - 120*
2-Fluorophenol	*67*		*10 - 120*
Nitrobenzene-d5	*88*		*27 - 120*
Phenol-d5	*81*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*85*		*15 - 135*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	20.9		ug/L		70	29 - 120
Benzoic acid	117	99.1		ug/L		85	10 - 150
Benzyl alcohol	30.0	25.1		ug/L		84	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.3		ug/L		71	45 - 120
Bis(2-chloroethyl)ether	30.0	18.9		ug/L		63	48 - 120
bis (2-chloroisopropyl) ether	30.0	21.5		ug/L		72	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.5		ug/L		85	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	23.4		ug/L		78	46 - 145
4-Chloroaniline	30.0	21.7		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	28.8		ug/L		96	39 - 140
2-Chloronaphthalene	30.0	21.0		ug/L		70	52 - 120
2-Chlorophenol	30.0	22.4		ug/L		75	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.5		ug/L		72	58 - 124
Dibenz[a,h]acridine	30.0	13.6	*	ug/L		45	46 - 149

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenzofuran	30.0	22.3		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	40.0	42.0		ug/L		105	39 - 135
2,4-Dichlorophenol	30.0	25.9		ug/L		86	39 - 128
Diethyl phthalate	30.0	24.4		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	22.6		ug/L		75	44 - 120
Dimethyl phthalate	30.0	24.0		ug/L		80	50 - 131
Di-n-butyl phthalate	30.0	25.3		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	47.6		ug/L		79	10 - 150
2,4-Dinitrophenol	60.0	53.2		ug/L		89	10 - 150
2,4-Dinitrotoluene	30.0	26.4		ug/L		88	58 - 140
2,6-Dinitrotoluene	30.0	25.0		ug/L		83	57 - 130
Di-n-octyl phthalate	30.0	22.9		ug/L		76	50 - 150
1,4-Dioxane	30.0	15.5		ug/L		52	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	23.4		ug/L		78	47 - 123
Hexachlorobenzene	30.0	21.9		ug/L		73	52 - 131
Hexachlorocyclopentadiene	30.0	3.16	J	ug/L		11	10 - 129
Hexachloroethane	30.0	13.7		ug/L		46	41 - 120
Indene	30.0	20.3		ug/L		68	47 - 120
Isophorone	30.0	23.4		ug/L		78	49 - 120
2-Methylphenol	30.0	23.3		ug/L		78	39 - 123
3 & 4 Methylphenol	30.0	22.6		ug/L		75	38 - 121
2-Nitroaniline	30.0	26.6		ug/L		89	47 - 150
3-Nitroaniline	30.0	26.0		ug/L		87	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	23.5		ug/L		78	47 - 120
2-Nitrophenol	30.0	25.6		ug/L		85	28 - 136
4-Nitrophenol	60.0	49.7		ug/L		83	10 - 150
N-Nitrosodimethylamine	30.0	20.9		ug/L		70	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.7		ug/L		69	44 - 120
N-Nitrosodiphenylamine	29.8	24.8		ug/L		83	56 - 120
Pentachlorophenol	60.0	46.8		ug/L		78	15 - 141
Phenol	30.0	21.4		ug/L		71	33 - 120
Pyridine	60.0	30.3		ug/L		51	26 - 120
Quinoline	30.0	20.8		ug/L		69	51 - 129
2,4,5-Trichlorophenol	30.0	25.3		ug/L		84	38 - 147
2,4,6-Trichlorophenol	30.0	24.8		ug/L		83	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*77*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*88*		*15 - 135*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446728

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		5	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*07/30/19 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Phenol-d5	*70*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2,4,6-Tribromophenol	*35*		*15 - 135*	*07/24/19 21:29*	*07/30/19 21:00*	*1*

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-ethylhexyl) phthalate			30.0	22.4		ug/L		75	48 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*49*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*66*		*10 - 120*
Terphenyl-d14	*59*		*53 - 125*
2,4,6-Tribromophenol	*41*		*15 - 135*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate	30.0	23.4		ug/L		78	48 - 150	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*45*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*86*		*27 - 120*
Phenol-d5	*64*		*10 - 120*
Terphenyl-d14	*57*		*53 - 125*
2,4,6-Tribromophenol	*38*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 16:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
2-Methylnaphthalene	0.0487	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*15 - 122*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Nitrobenzene-d5	*120*		*19 - 130*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Terphenyl-d14	*200*	*X*	*33 - 138*	*07/03/19 14:07*	*07/12/19 16:04*	*1*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	32.9		ug/L		110	41 - 120
Acenaphthylene	30.0	30.0		ug/L		100	44 - 120
Anthracene	30.0	29.7		ug/L		99	49 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	30.0	30.7		ug/L		102	61 - 135
Benzo[a]pyrene	30.0	28.7		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	32.5		ug/L		108	53 - 134
Benzo[g,h,i]perylene	30.0	27.0		ug/L		90	47 - 133
Benzo[k]fluoranthene	30.0	31.2		ug/L		104	57 - 134
Chrysene	30.0	31.4		ug/L		105	55 - 122
Dibenz(a,h)anthracene	30.0	36.2		ug/L		121	48 - 146
Fluoranthene	30.0	30.5		ug/L		102	54 - 128
Fluorene	30.0	36.4		ug/L		121	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	34.0		ug/L		113	43 - 142
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124
Phenanthrene	30.0	32.0		ug/L		107	48 - 120
Pyrene	30.0	41.4	*	ug/L		138	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*74*		*19 - 130*
Terphenyl-d14	*136*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)

☐CALSCIENCE (_____)

☑TESTAMERICA (___Pensacola_____)

☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/1/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM — LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 — FAX: 314-429-0462 — Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford — State: IL — AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel — PHONE NO.: 3144290100 — E-MAIL: elizabeth.kunkel@aecom.com — AECOM Other ID:

SAMPLER NAME(S) (Print): James Carrino, Tony Jones — LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.061 / NON-UNIT COST 60592794 - 1.24.060

400-172541 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 Low Level (LL) PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: / Container PID Readings or Laboratory Notes
	TB-PW-070119-B	7/1/2019	0:00	Water	X					2		X		TEMPERATURE ON RECEIPT C°
	PD-8-GWP-57-070119	7/1/2019	9:15	Water	2			2		4	X	X	X	
	PD-8-GWP-62-070119	7/1/2019	10:15	Water	2			2		4	X	X	X	
	PD-8-GWP-70-070119	7/1/2019	11:25	Water	2			2		4	x	x	x	
	PD-8-GWP-80-070119	7/1/2019	13:42	Water	2			2		4	x	x	x	
	PD-12-GWP-35-070119	7/1/2019	15:50	Water	2			2		4	x	x	x	

	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	FeDex: 1054 5423 6550 1054 5423 6540	7/1/2019	1800
Relinquished by: (Signature)			
Relinquished by: (Signature)	3.7°C, 4.1°C IR8	7-2-19	8:34

Version: 10May17

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8/2/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172541-1

Login Number: 172541
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	641123,641122,641120,
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7°C, 4.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172541-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 4:49:06 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172541-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172541-1

Comments
No additional comments.

Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-2-19.

Receipt
The samples were received on 7/2/2019 8:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.7º C and 4.1º C.

GC/MS VOA
Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-070119-B (400-172541-1), PD-8-GWP-57-070119 (400-172541-2), PD-8-GWP-62-070119 (400-172541-3), PD-8-GWP-70-070119 (400-172541-4), PD-8-GWP-80-070119 (400-172541-5) and PD-12-GWP-35-070119 (400-172541-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-8-GWP-80-070119 (400-172541-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D LL: The method blank for preparation batch 400-446728 and analytical batch 400-447502 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-447918 recovered above the upper control limit for 1-Methylnaphthalene, 2-Methylnaphthalene, Anthracene and Benzo[k]fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-447918/3).

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-446728 and analytical batch 400-447936 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: (400-172422-C-2-A MS) and (400-172422-D-2-C MSD). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-446728 and analytical batch 400-447936: Dibenz[a,h]acridine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-446728/1-A). These results have been reported and qualified.

Method(s) 8270D LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-446728 and analytical batch 400-447502 recovered outside control limits for the following analytes: Pyrene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Job ID: 400-172541-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-8-GWP-70-070119 (400-172541-4). These results have been reported and qualified.

Method(s) 8270D: Bis(2-ethylhexyl) phthalate was detected above the method detection limit on the sample for preparation batch 400-446728. The sample was re-extracted and/or re-analyzed outside of holding time. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172541-1	TB-PW-070119-B	Water	07/01/19 00:00	07/02/19 08:34	
400-172541-2	PD-8-GWP-57-070119	Water	07/01/19 09:15	07/02/19 08:34	
400-172541-3	PD-8-GWP-62-070119	Water	07/01/19 10:15	07/02/19 08:34	
400-172541-4	PD-8-GWP-70-070119	Water	07/01/19 11:25	07/02/19 08:34	
400-172541-5	PD-8-GWP-80-070119	Water	07/01/19 13:42	07/02/19 08:34	
400-172541-6	PD-12-GWP-35-070119	Water	07/01/19 15:50	07/02/19 08:34	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B — Lab Sample ID: 400-172541-1

No Detections.

Client Sample ID: PD-8-GWP-57-070119 — Lab Sample ID: 400-172541-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	11		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.068	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-8-GWP-62-070119 — Lab Sample ID: 400-172541-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	20		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	0.82	J	1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.6	J	5.0	1.6	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.2		1.0	0.82	ug/L	1		8260B	Total/NA
Xylenes, Total	1.6	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.16	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.27	B	0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-8-GWP-70-070119 — Lab Sample ID: 400-172541-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	59		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	4.4		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	1.3		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	130		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	22		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	14		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	16		5.0	0.60	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	0.74	J	1.0	0.71	ug/L	1		8260B	Total/NA
sec-Butylbenzene	0.96	J	1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.1		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	2.4		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	110		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	32		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	150		10	1.6	ug/L	1		8260B	Total/NA
Acenaphthene	0.21		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.071	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.29		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	14		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	23	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.29		0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.6	J	10	5.0	ug/L	1		8270D	Total/NA

Client Sample ID: PD-8-GWP-80-070119 — Lab Sample ID: 400-172541-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	270		2.0	0.76	ug/L	2		8260B	Total/NA
Ethylbenzene	1.4	J	2.0	1.0	ug/L	2		8260B	Total/NA
Toluene	0.95	J	2.0	0.82	ug/L	2		8260B	Total/NA
1,2,4-Trimethylbenzene	2.1		2.0	1.6	ug/L	2		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119 (Continued)

Lab Sample ID: 400-172541-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.82		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.1	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.045	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	6.3	J	9.8	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-35-070119

Lab Sample ID: 400-172541-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	27		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	2.4		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	2.3		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	4.9	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.1		1.0	1.0	ug/L	1		8260B	Total/NA
o-Xylene	0.72	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.47	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	3.7		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.2		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	5.6	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.39		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.70	B	0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B

Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 18:29	1
Acrolein	ND		20	10	ug/L			07/07/19 18:29	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 18:29	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 18:29	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 18:29	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 18:29	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 18:29	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 18:29	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 18:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 18:29	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 18:29	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 18:29	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 18:29	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 18:29	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 18:29	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 18:29	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 18:29	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 18:29	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 18:29	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 18:29	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 18:29	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 18:29	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 18:29	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 18:29	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 18:29	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 18:29	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 18:29	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 18:29	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 18:29	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 18:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 18:29	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 18:29	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 18:29	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: TB-PW-070119-B
Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 18:29	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 18:29	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 18:29	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 18:29	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 18:29	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 18:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 18:29	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 18:29	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 18:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 18:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 18:29	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 18:29	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 18:29	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 18:29	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 18:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 18:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 18:29	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 18:29	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 18:29	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 18:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 18:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 18:29*	*1*
Dibromofluoromethane	*90*		*81 - 121*		*07/07/19 18:29*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 18:29*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-57-070119
Lab Sample ID: 400-172541-2

Date Collected: 07/01/19 09:15
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 16:52	1
Acrolein	ND		20	10	ug/L			07/07/19 16:52	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 16:52	1
Benzene	**11**		1.0	0.38	ug/L			07/07/19 16:52	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 16:52	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 16:52	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 16:52	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 16:52	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 16:52	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 16:52	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 16:52	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 16:52	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 16:52	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 16:52	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:52	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 16:52	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 16:52	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 16:52	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 16:52	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 16:52	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 16:52	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 16:52	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 16:52	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 16:52	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 16:52	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 16:52	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/07/19 16:52	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 16:52	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 16:52	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 16:52	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 16:52	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 16:52	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 16:52	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119

Lab Sample ID: 400-172541-2

Date Collected: 07/01/19 09:15

Matrix: Water

Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 16:52	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 16:52	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 16:52	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 16:52	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 16:52	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 16:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 16:52	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 16:52	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 16:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 16:52	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:52	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 16:52	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 16:52	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 16:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 16:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 16:52	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 16:52	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 16:52	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 16:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*62*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 16:52*	*1*
2-Methyl-2-propanol	*25*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 16:52*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 16:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/07/19 16:52*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 16:52*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 16:52*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/14/19 02:07	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:07	1
1-Methylnaphthalene	**0.068**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-57-070119

Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:08	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:07*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:07*	*1*
Terphenyl-d14	*65*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 20:25	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 20:25	1
Benzoic acid	ND		29	7.2	ug/L		07/03/19 14:07	07/14/19 20:25	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 20:25	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/03/19 14:07	07/14/19 20:25	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/03/19 14:07	07/14/19 20:25	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 20:25	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 20:25	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 20:25	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 20:25	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 20:25	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 20:25	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 20:25	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 20:25	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/03/19 14:07	07/14/19 20:25	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/03/19 14:07	07/14/19 20:25	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 20:25	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 20:25	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 20:25	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/03/19 14:07	07/14/19 20:25	1

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-57-070119
Lab Sample ID: 400-172541-2
Date Collected: 07/01/19 09:15
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 20:25	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 20:25	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/03/19 14:07	07/14/19 20:25	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 20:25	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 20:25	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 20:25	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 20:25	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 20:25	1
Phenol	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 20:25	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 20:25	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 20:25	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 20:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*7.6*	*T J*	*ug/L*		*5.11*		*07/03/19 14:07*	*07/14/19 20:25*	*1*
Unknown	*5.6*	*T J*	*ug/L*		*6.47*		*07/03/19 14:07*	*07/14/19 20:25*	*1*
Unknown	*5.8*	*T J*	*ug/L*		*7.18*		*07/03/19 14:07*	*07/14/19 20:25*	*1*
3-Eicosene, (E)-	*6.3*	*T J N*	*ug/L*		*10.89*	*74685-33-9*	*07/03/19 14:07*	*07/14/19 20:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*34 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
Phenol-d5	*64*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/03/19 14:07*	*07/14/19 20:25*	*1*
2,4,6-Tribromophenol	*79*		*15 - 135*	*07/03/19 14:07*	*07/14/19 20:25*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-62-070119

Lab Sample ID: 400-172541-3

Date Collected: 07/01/19 10:15

Matrix: Water

Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 20:05	1
Acrolein	ND		20	10	ug/L			07/07/19 20:05	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 20:05	1
Benzene	**20**		1.0	0.38	ug/L			07/07/19 20:05	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 20:05	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 20:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 20:05	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 20:05	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 20:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 20:05	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 20:05	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 20:05	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 20:05	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 20:05	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:05	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 20:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 20:05	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 20:05	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 20:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Ethylbenzene	**0.82**	**J**	1.0	0.50	ug/L			07/07/19 20:05	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 20:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 20:05	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 20:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 20:05	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 20:05	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 20:05	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 20:05	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/07/19 20:05	1
m-Xylene & p-Xylene	**1.6**	**J**	5.0	1.6	ug/L			07/07/19 20:05	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 20:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 20:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 20:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 20:05	1
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 20:05	1

Client Sample ID: PD-8-GWP-62-070119
Lab Sample ID: 400-172541-3
Date Collected: 07/01/19 10:15
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 20:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 20:05	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 20:05	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 20:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 20:05	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 20:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 20:05	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 20:05	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 20:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 20:05	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:05	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 20:05	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 20:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 20:05	1
1,2,4-Trimethylbenzene	**1.2**		1.0	0.82	ug/L			07/07/19 20:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 20:05	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 20:05	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 20:05	1
Xylenes, Total	**1.6**	**J**	10	1.6	ug/L			07/07/19 20:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*18*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 20:05*	*1*
2-Methyl-2-propanol	*27*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 20:05*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 20:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 20:05*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 20:05*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 20:05*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Anthracene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Chrysene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
Fluoranthene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Fluorene	ND		0.19	0.020	ug/L		07/03/19 14:07	07/14/19 02:24	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/03/19 14:07	07/14/19 02:24	1
1-Methylnaphthalene	**0.16**	**J**	0.19	0.019	ug/L		07/03/19 14:07	07/19/19 16:52	1

Client Sample ID: PD-8-GWP-62-070119
Lab Sample ID: 400-172541-3
Date Collected: 07/01/19 10:15
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.27	B	0.19	0.019	ug/L		07/03/19 14:07	07/19/19 16:52	1
Phenanthrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1
Pyrene	ND		0.19	0.019	ug/L		07/03/19 14:07	07/14/19 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:24*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:24*	*1*
Terphenyl-d14	*98*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:24*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 20:46	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/03/19 14:07	07/14/19 20:46	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 20:46	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/03/19 14:07	07/14/19 20:46	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/03/19 14:07	07/14/19 20:46	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/03/19 14:07	07/14/19 20:46	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/03/19 14:07	07/14/19 20:46	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 20:46	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/03/19 14:07	07/14/19 20:46	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/03/19 14:07	07/14/19 20:46	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/03/19 14:07	07/14/19 20:46	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/03/19 14:07	07/14/19 20:46	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 20:46	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 20:46	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/03/19 14:07	07/14/19 20:46	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/03/19 14:07	07/14/19 20:46	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
Indene	ND		9.7	0.97	ug/L		07/03/19 14:07	07/14/19 20:46	1
Isophorone	ND		9.7	0.56	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/03/19 14:07	07/14/19 20:46	1

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-62-070119
Lab Sample ID: 400-172541-3
Date Collected: 07/01/19 10:15
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.7	1.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/03/19 14:07	07/14/19 20:46	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/03/19 14:07	07/14/19 20:46	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/03/19 14:07	07/14/19 20:46	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/03/19 14:07	07/14/19 20:46	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 20:46	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/03/19 14:07	07/14/19 20:46	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/03/19 14:07	07/14/19 20:46	1
Pentachlorophenol	ND		19	1.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
Phenol	ND		9.7	2.5	ug/L		07/03/19 14:07	07/14/19 20:46	1
Pyridine	ND		9.7	3.1	ug/L		07/03/19 14:07	07/14/19 20:46	1
Quinoline	ND		9.7	5.8	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/03/19 14:07	07/14/19 20:46	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/03/19 14:07	07/14/19 20:46	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Thiophene, tetrahydro-, 1,1-dioxide	*6.6*	*T J N*	*ug/L*		*6.47*	*126-33-0*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Unknown	*4.5*	*T J*	*ug/L*		*7.18*		*07/03/19 14:07*	*07/14/19 20:46*	*1*
Octadecanoic acid	*13*	*T J N*	*ug/L*		*9.78*	*57-11-4*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
5-Eicosene, (E)-	*4.3*	*T J N*	*ug/L*		*10.89*	*74685-30-6*	*07/03/19 14:07*	*07/14/19 20:46*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*34 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
2-Fluorophenol	*66*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Phenol-d5	*85*		*10 - 120*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
Terphenyl-d14	*87*		*53 - 125*	*07/03/19 14:07*	*07/14/19 20:46*	*1*
2,4,6-Tribromophenol	*106*		*15 - 135*	*07/03/19 14:07*	*07/14/19 20:46*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-70-070119
Lab Sample ID: 400-172541-4
Date Collected: 07/01/19 11:25
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 20:29	1
Acrolein	ND		20	10	ug/L			07/07/19 20:29	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 20:29	1
Benzene	**120**		1.0	0.38	ug/L			07/07/19 20:29	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 20:29	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 20:29	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 20:29	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 20:29	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 20:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 20:29	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 20:29	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 20:29	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 20:29	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 20:29	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:29	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 20:29	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 20:29	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 20:29	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 20:29	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Ethylbenzene	**59**		1.0	0.50	ug/L			07/07/19 20:29	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 20:29	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 20:29	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 20:29	1
Isopropylbenzene	**4.4**		1.0	0.53	ug/L			07/07/19 20:29	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 20:29	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 20:29	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 20:29	1
Methyl tert-butyl ether	**1.3**		1.0	0.74	ug/L			07/07/19 20:29	1
m-Xylene & p-Xylene	**130**		5.0	1.6	ug/L			07/07/19 20:29	1
Naphthalene	**22**		1.0	1.0	ug/L			07/07/19 20:29	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 20:29	1
N-Propylbenzene	**14**		1.0	0.69	ug/L			07/07/19 20:29	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 20:29	1
o-Xylene	**16**		5.0	0.60	ug/L			07/07/19 20:29	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119

Lab Sample ID: 400-172541-4

Date Collected: 07/01/19 11:25

Matrix: Water

Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 20:29	1
p-Isopropyltoluene	**0.74**	**J**	1.0	0.71	ug/L			07/07/19 20:29	1
sec-Butylbenzene	**0.96**	**J**	1.0	0.70	ug/L			07/07/19 20:29	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 20:29	1
tert-Butylbenzene	**1.1**		1.0	0.63	ug/L			07/07/19 20:29	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 20:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 20:29	1
Toluene	**2.4**		1.0	0.41	ug/L			07/07/19 20:29	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 20:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 20:29	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:29	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 20:29	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 20:29	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 20:29	1
1,2,4-Trimethylbenzene	**110**		1.0	0.82	ug/L			07/07/19 20:29	1
1,3,5-Trimethylbenzene	**32**		1.0	0.56	ug/L			07/07/19 20:29	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 20:29	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 20:29	1
Xylenes, Total	**150**		10	1.6	ug/L			07/07/19 20:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*130*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 20:29*	*1*
2-Methyl-2-propanol	*21*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 20:29*	*1*
Hexane	*1.6*		*ug/L*		*2.93*	*110-54-3*		*07/07/19 20:29*	*1*
Cyclopentane, methyl-	*6.4*	*T J N*	*ug/L*		*3.31*	*96-37-7*		*07/07/19 20:29*	*1*
Cyclohexane	*4.2*		*ug/L*		*3.72*	*110-82-7*		*07/07/19 20:29*	*1*
n-Heptane	*0.78*	*J*	*ug/L*		*4.04*	*142-82-5*		*07/07/19 20:29*	*1*
Methylcyclohexane	*4.5*		*ug/L*		*4.43*	*108-87-2*		*07/07/19 20:29*	*1*
3-Ethyltoluene	*46*		*ug/L*		*7.21*	*620-14-4*		*07/07/19 20:29*	*1*
2-Ethyltoluene	*24*		*ug/L*		*7.44*	*611-14-3*		*07/07/19 20:29*	*1*
1,2,3-Trimethylbenzene	*33*		*ug/L*		*7.90*	*526-73-8*		*07/07/19 20:29*	*1*
1,3-Diethylbenzene	*2.6*	*J*	*ug/L*		*8.04*	*141-93-5*		*07/07/19 20:29*	*1*
p-Diethylbenzene	*7.8*		*ug/L*		*8.11*	*105-05-5*		*07/07/19 20:29*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*16*	*T J N*	*ug/L*		*8.33*	*535-77-3*		*07/07/19 20:29*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*12*	*T J N*	*ug/L*		*8.41*	*527-84-4*		*07/07/19 20:29*	*1*
Benzene, (2-methyl-1-propenyl)-	*16*	*T J N*	*ug/L*		*8.51*	*768-49-0*		*07/07/19 20:29*	*1*
Benzene, 1,2,3,5-tetramethyl-	*7.7*	*T J N*	*ug/L*		*8.72*	*527-53-7*		*07/07/19 20:29*	*1*
Benzene, 1,2,3,4-tetramethyl-	*12*	*T J N*	*ug/L*		*8.76*	*488-23-3*		*07/07/19 20:29*	*1*
3-Phenylbut-1-ene	*9.2*	*T J N*	*ug/L*		*8.98*	*934-10-1*		*07/07/19 20:29*	*1*
1H-Indene, 2,3-dihydro-5-methyl-	*20*	*T J N*	*ug/L*		*9.12*	*874-35-1*		*07/07/19 20:29*	*1*
2-Methylnaphthalene	*4.8*	*J*	*ug/L*		*10.75*	*91-57-6*		*07/07/19 20:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 20:29*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 20:29*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/07/19 20:29*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-70-070119

Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.21**		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Anthracene	**0.071**	**J**	0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Fluorene	**0.29**		0.20	0.021	ug/L		07/03/19 14:07	07/14/19 02:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 02:41	1
1-Methylnaphthalene	**14**		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:42	1
2-Methylnaphthalene	**23**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:42	1
Phenanthrene	**0.29**		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:41*	*1*
Nitrobenzene-d5	*58*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:41*	*1*
Terphenyl-d14	*64*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
Benzenethiol	ND	*	10	1.7	ug/L		07/03/19 14:07	07/14/19 21:07	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 21:07	1
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 21:07	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 21:07	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 21:07	1
Bis(2-ethylhexyl) phthalate	**9.6**	**J**	10	5.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 21:07	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Dibenz[a,h]acridine	ND	*	10	3.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 21:07	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 21:07	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 21:07	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 21:07	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 21:07	1

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-70-070119
Lab Sample ID: 400-172541-4
Date Collected: 07/01/19 11:25
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 21:07	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 21:07	1
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 21:07	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 21:07	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 21:07	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 21:07	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 21:07	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 21:07	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 21:07	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 21:07	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 21:07	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 21:07	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 21:07	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 21:07	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 21:07	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 21:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*39*	*T J N*	*ug/L*		*4.67*	*100-41-4*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
o-Xylene	*12*	*T J N*	*ug/L*		*4.89*	*95-47-6*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, propyl-	*24*	*T J N*	*ug/L*		*5.26*	*103-65-1*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-2-methyl-	*49*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-2-methyl-	*37*	*T J N*	*ug/L*		*5.32*	*611-14-3*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-2-methyl-	*31*	*T J N*	*ug/L*		*5.41*	*611-14-3*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,3,5-trimethyl-	*47*	*T J N*	*ug/L*		*5.64*	*108-67-8*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Indane	*25*	*T J N*	*ug/L*		*5.73*	*496-11-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-methyl-3-propyl-	*17*	*T J N*	*ug/L*		*5.77*	*1074-43-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*40*	*T J N*	*ug/L*		*5.79*	*934-74-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*21*	*T J N*	*ug/L*		*5.89*	*1758-88-9*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*23*	*T J N*	*ug/L*		*5.91*	*2870-04-4*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*46*	*T J N*	*ug/L*		*5.93*	*933-98-2*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*10*	*T J N*	*ug/L*		*6.04*	*527-84-4*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,4,5-tetramethyl-	*16*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1,2,3,4-tetramethyl-	*24*	*T J N*	*ug/L*		*6.10*	*488-23-3*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-ethenyl-4-ethyl-	*22*	*T J N*	*ug/L*		*6.22*	*3454-07-7*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*37*	*T J N*	*ug/L*		*6.26*	*3333-13-9*	*07/03/19 14:07*	*07/14/19 21:07*	*1*
Unknown	*11*	*T J*	*ug/L*		*6.33*		*07/03/19 14:07*	*07/14/19 21:07*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-8-GWP-70-070119
Lab Sample ID: 400-172541-4
Date Collected: 07/01/19 11:25
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, (1-methyl-1-butenyl)-	24	T J N	ug/L		6.42	53172-84-2	07/03/19 14:07	07/14/19 21:07	1
Naphthalene	30	T J N	ug/L		6.45	91-20-3	07/03/19 14:07	07/14/19 21:07	1
Tridecane	9.7	T J N	ug/L		6.76	629-50-5	07/03/19 14:07	07/14/19 21:07	1
Naphthalene, 2-methyl-	19	T J N	ug/L		6.90	91-57-6	07/03/19 14:07	07/14/19 21:07	1
Naphthalene, 1-methyl-	15	T J N	ug/L		6.97	90-12-0	07/03/19 14:07	07/14/19 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		34 - 120	07/03/19 14:07	07/14/19 21:07	1
2-Fluorophenol	32		10 - 120	07/03/19 14:07	07/14/19 21:07	1
Nitrobenzene-d5	65		27 - 120	07/03/19 14:07	07/14/19 21:07	1
Phenol-d5	50		10 - 120	07/03/19 14:07	07/14/19 21:07	1
Terphenyl-d14	67		53 - 125	07/03/19 14:07	07/14/19 21:07	1
2,4,6-Tribromophenol	74		15 - 135	07/03/19 14:07	07/14/19 21:07	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	H	9.9	5.0	ug/L		07/24/19 21:29	07/30/19 22:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		34 - 120	07/24/19 21:29	07/30/19 22:46	1
2-Fluorophenol	60		10 - 120	07/24/19 21:29	07/30/19 22:46	1
Nitrobenzene-d5	68		27 - 120	07/24/19 21:29	07/30/19 22:46	1
Phenol-d5	68		10 - 120	07/24/19 21:29	07/30/19 22:46	1
Terphenyl-d14	30	X	53 - 125	07/24/19 21:29	07/30/19 22:46	1
2,4,6-Tribromophenol	40		15 - 135	07/24/19 21:29	07/30/19 22:46	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119

Lab Sample ID: 400-172541-5

Date Collected: 07/01/19 13:42

Matrix: Water

Date Received: 07/02/19 08:34

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50	20	ug/L			07/07/19 21:41	2
Acrolein	ND		40	20	ug/L			07/07/19 21:41	2
Acrylonitrile	ND		20	5.6	ug/L			07/07/19 21:41	2
Benzene	**270**		2.0	0.76	ug/L			07/07/19 21:41	2
Bromobenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
Bromochloromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Bromodichloromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Bromoform	ND		10	1.4	ug/L			07/07/19 21:41	2
Bromomethane	ND		2.0	2.0	ug/L			07/07/19 21:41	2
2-Butanone (MEK)	ND		50	5.2	ug/L			07/07/19 21:41	2
Carbon disulfide	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Carbon tetrachloride	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Chlorobenzene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Chloroethane	ND		2.0	1.5	ug/L			07/07/19 21:41	2
2-Chloroethyl vinyl ether	ND		10	4.0	ug/L			07/07/19 21:41	2
Chloroform	ND		2.0	1.2	ug/L			07/07/19 21:41	2
1-Chlorohexane	ND		2.0	1.4	ug/L			07/07/19 21:41	2
Chloromethane	ND		2.0	1.7	ug/L			07/07/19 21:41	2
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
cis-1,3-Dichloropropene	ND		10	1.0	ug/L			07/07/19 21:41	2
Dibromochloromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2-Dibromo-3-Chloropropane	ND		10	3.0	ug/L			07/07/19 21:41	2
1,2-Dichlorobenzene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,3-Dichlorobenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
1,4-Dichlorobenzene	ND		2.0	1.3	ug/L			07/07/19 21:41	2
Dichlorodifluoromethane	ND		2.0	1.7	ug/L			07/07/19 21:41	2
1,1-Dichloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2-Dichloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1-Dichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2-Dichloropropane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,3-Dichloropropane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
2,2-Dichloropropane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1-Dichloropropene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Ethylbenzene	**1.4**	**J**	2.0	1.0	ug/L			07/07/19 21:41	2
Ethylene Dibromide	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Ethyl methacrylate	ND		2.0	1.2	ug/L			07/07/19 21:41	2
Hexachlorobutadiene	ND		10	1.8	ug/L			07/07/19 21:41	2
2-Hexanone	ND		50	6.2	ug/L			07/07/19 21:41	2
Isopropylbenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
Methylene bromide	ND		10	1.2	ug/L			07/07/19 21:41	2
Methylene Chloride	ND		10	6.0	ug/L			07/07/19 21:41	2
4-Methyl-2-pentanone (MIBK)	ND		50	3.6	ug/L			07/07/19 21:41	2
Methyl tert-butyl ether	ND		2.0	1.5	ug/L			07/07/19 21:41	2
m-Xylene & p-Xylene	ND		10	3.2	ug/L			07/07/19 21:41	2
Naphthalene	ND		2.0	2.0	ug/L			07/07/19 21:41	2
n-Butylbenzene	ND		2.0	1.5	ug/L			07/07/19 21:41	2
N-Propylbenzene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
o-Chlorotoluene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
o-Xylene	ND		10	1.2	ug/L			07/07/19 21:41	2

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119

Lab Sample ID: 400-172541-5

Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
p-Isopropyltoluene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
sec-Butylbenzene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
Styrene	ND		2.0	2.0	ug/L			07/07/19 21:41	2
tert-Butylbenzene	ND		2.0	1.3	ug/L			07/07/19 21:41	2
1,1,1,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Tetrachloroethene	ND		2.0	1.2	ug/L			07/07/19 21:41	2
Toluene	**0.95**	**J**	2.0	0.82	ug/L			07/07/19 21:41	2
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
trans-1,3-Dichloropropene	ND		10	1.0	ug/L			07/07/19 21:41	2
1,2,3-Trichlorobenzene	ND		2.0	1.4	ug/L			07/07/19 21:41	2
1,2,4-Trichlorobenzene	ND		2.0	1.6	ug/L			07/07/19 21:41	2
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,1,2-Trichloroethane	ND		10	1.0	ug/L			07/07/19 21:41	2
Trichloroethene	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Trichlorofluoromethane	ND		2.0	1.0	ug/L			07/07/19 21:41	2
1,2,3-Trichloropropane	ND		10	1.7	ug/L			07/07/19 21:41	2
1,2,4-Trimethylbenzene	**2.1**		2.0	1.6	ug/L			07/07/19 21:41	2
1,3,5-Trimethylbenzene	ND		2.0	1.1	ug/L			07/07/19 21:41	2
Vinyl acetate	ND		50	4.0	ug/L			07/07/19 21:41	2
Vinyl chloride	ND		2.0	1.0	ug/L			07/07/19 21:41	2
Xylenes, Total	ND		20	3.2	ug/L			07/07/19 21:41	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Methyl-2-propanol	*18*	*J*	*ug/L*		*2.67*	*75-65-0*		*07/07/19 21:41*	*2*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 21:41*	*2*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/07/19 21:41*	*2*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 21:41*	*2*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 21:41*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Chrysene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Fluorene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/03/19 14:07	07/14/19 02:58	1
1-Methylnaphthalene	**0.82**		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:59	1
2-Methylnaphthalene	**1.1**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 14:59	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119

Lab Sample ID: 400-172541-5

Date Collected: 07/01/19 13:42

Matrix: Water

Date Received: 07/02/19 08:34

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.045	J	0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*15 - 122*	*07/03/19 14:07*	*07/14/19 02:58*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/03/19 14:07*	*07/14/19 02:58*	*1*
Terphenyl-d14	*67*		*33 - 138*	*07/03/19 14:07*	*07/14/19 02:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 21:28	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/03/19 14:07	07/14/19 21:28	1
Benzoic acid	ND		29	7.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 21:28	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/03/19 14:07	07/14/19 21:28	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/03/19 14:07	07/14/19 21:28	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/03/19 14:07	07/14/19 21:28	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/03/19 14:07	07/14/19 21:28	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 21:28	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/03/19 14:07	07/14/19 21:28	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/03/19 14:07	07/14/19 21:28	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/03/19 14:07	07/14/19 21:28	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 21:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 21:28	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/03/19 14:07	07/14/19 21:28	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/03/19 14:07	07/14/19 21:28	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
Indene	ND		9.8	0.98	ug/L		07/03/19 14:07	07/14/19 21:28	1
Isophorone	ND		9.8	0.56	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 21:28	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/03/19 14:07	07/14/19 21:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-8-GWP-80-070119
Date Collected: 07/01/19 13:42
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/03/19 14:07	07/14/19 21:28	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/03/19 14:07	07/14/19 21:28	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/03/19 14:07	07/14/19 21:28	1
4-Nitrophenol	ND		9.8	2.0	ug/L		07/03/19 14:07	07/14/19 21:28	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 21:28	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/03/19 14:07	07/14/19 21:28	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/03/19 14:07	07/14/19 21:28	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 21:28	1
Phenol	**6.3**	**J**	9.8	2.5	ug/L		07/03/19 14:07	07/14/19 21:28	1
Pyridine	ND		9.8	3.1	ug/L		07/03/19 14:07	07/14/19 21:28	1
Quinoline	ND		9.8	5.9	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/03/19 14:07	07/14/19 21:28	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/03/19 14:07	07/14/19 21:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, 1,3,5-trimethyl-	*6.9*	*T J N*	*ug/L*		*5.49*	*108-67-8*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Cyclopentadecane	*4.8*	*T J N*	*ug/L*		*10.89*	*295-48-7*	*07/03/19 14:07*	*07/14/19 21:28*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Nitrobenzene-d5	*74*		*27 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Phenol-d5	*61*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/03/19 14:07*	*07/14/19 21:28*	*1*
2,4,6-Tribromophenol	*81*		*15 - 135*	*07/03/19 14:07*	*07/14/19 21:28*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119

Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 20:53	1
Acrolein	ND		20	10	ug/L			07/07/19 20:53	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 20:53	1
Benzene	**27**		1.0	0.38	ug/L			07/07/19 20:53	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 20:53	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 20:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 20:53	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 20:53	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 20:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 20:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 20:53	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 20:53	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 20:53	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 20:53	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:53	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 20:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 20:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 20:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 20:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Ethylbenzene	**2.4**		1.0	0.50	ug/L			07/07/19 20:53	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 20:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 20:53	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 20:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 20:53	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 20:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 20:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 20:53	1
Methyl tert-butyl ether	**2.3**		1.0	0.74	ug/L			07/07/19 20:53	1
m-Xylene & p-Xylene	**4.9**	**J**	5.0	1.6	ug/L			07/07/19 20:53	1
Naphthalene	**1.1**		1.0	1.0	ug/L			07/07/19 20:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 20:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 20:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 20:53	1
o-Xylene	**0.72**	**J**	5.0	0.60	ug/L			07/07/19 20:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119

Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 20:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 20:53	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 20:53	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 20:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 20:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 20:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 20:53	1
Toluene	**0.47**	**J**	1.0	0.41	ug/L			07/07/19 20:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 20:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 20:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 20:53	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 20:53	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 20:53	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 20:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 20:53	1
1,2,4-Trimethylbenzene	**3.7**		1.0	0.82	ug/L			07/07/19 20:53	1
1,3,5-Trimethylbenzene	**1.2**		1.0	0.56	ug/L			07/07/19 20:53	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 20:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 20:53	1
Xylenes, Total	**5.6**	**J**	10	1.6	ug/L			07/07/19 20:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*15*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/07/19 20:53*	*1*
2-Methyl-2-propanol	*650*		*ug/L*		*2.67*	*75-65-0*		*07/07/19 20:53*	*1*
3-Ethyltoluene	*1.4*		*ug/L*		*7.21*	*620-14-4*		*07/07/19 20:53*	*1*
2-Ethyltoluene	*0.87*	*J*	*ug/L*		*7.44*	*611-14-3*		*07/07/19 20:53*	*1*
1,2,3-Trimethylbenzene	*1.4*	*J*	*ug/L*		*7.90*	*526-73-8*		*07/07/19 20:53*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 20:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/07/19 20:53*	*1*
Dibromofluoromethane	*89*		*81 - 121*		*07/07/19 20:53*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 20:53*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Client Sample ID: PD-12-GWP-35-070119

Date Collected: 07/01/19 15:50
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/14/19 03:15	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/14/19 03:15	1
1-Methylnaphthalene	**0.39**		0.20	0.020	ug/L		07/03/19 14:07	07/17/19 15:16	1
2-Methylnaphthalene	**0.70**	**B**	0.20	0.020	ug/L		07/03/19 14:07	07/17/19 15:16	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/14/19 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*15 - 122*	*07/03/19 14:07*	*07/14/19 03:15*	*1*
Nitrobenzene-d5	*73*		*19 - 130*	*07/03/19 14:07*	*07/14/19 03:15*	*1*
Terphenyl-d14	*70*		*33 - 138*	*07/03/19 14:07*	*07/14/19 03:15*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
Benzenethiol	ND	*	9.9	1.7	ug/L		07/03/19 14:07	07/14/19 21:49	1
Benzoic acid	ND		30	7.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 21:49	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/03/19 14:07	07/14/19 21:49	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/03/19 14:07	07/14/19 21:49	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/03/19 14:07	07/14/19 21:49	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Dibenz[a,h]acridine	ND	*	9.9	3.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/03/19 14:07	07/14/19 21:49	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 21:49	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/03/19 14:07	07/14/19 21:49	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/03/19 14:07	07/14/19 21:49	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		07/03/19 14:07	07/14/19 21:49	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 21:49	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 21:49	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/03/19 14:07	07/14/19 21:49	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 21:49	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
Indene	ND		9.9	0.99	ug/L		07/03/19 14:07	07/14/19 21:49	1
Isophorone	ND		9.9	0.56	ug/L		07/03/19 14:07	07/14/19 21:49	1

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-35-070119
Lab Sample ID: 400-172541-6
Date Collected: 07/01/19 15:50
Matrix: Water
Date Received: 07/02/19 08:34

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/03/19 14:07	07/14/19 21:49	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/03/19 14:07	07/14/19 21:49	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/03/19 14:07	07/14/19 21:49	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/03/19 14:07	07/14/19 21:49	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 21:49	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/03/19 14:07	07/14/19 21:49	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/03/19 14:07	07/14/19 21:49	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 21:49	1
Phenol	ND		9.9	2.6	ug/L		07/03/19 14:07	07/14/19 21:49	1
Pyridine	ND		9.9	3.2	ug/L		07/03/19 14:07	07/14/19 21:49	1
Quinoline	ND		9.9	5.9	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/03/19 14:07	07/14/19 21:49	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/03/19 14:07	07/14/19 21:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1-Propene, 1,2,3-trichloro-, (E)-	*4.3*	*T J N*	*ug/L*		*5.22*	*13116-58-0*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Benzene, 1,3,5-trimethyl-	*6.5*	*T J N*	*ug/L*		*5.49*	*108-67-8*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
1-Heneicosyl formate	*4.2*	*T J N*	*ug/L*		*10.90*	*77899-03-7*	*07/03/19 14:07*	*07/14/19 21:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*34 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Nitrobenzene-d5	*72*		*27 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Phenol-d5	*64*		*10 - 120*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
Terphenyl-d14	*61*		*53 - 125*	*07/03/19 14:07*	*07/14/19 21:49*	*1*
2,4,6-Tribromophenol	*73*		*15 - 135*	*07/03/19 14:07*	*07/14/19 21:49*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172541-1	TB-PW-070119-B	99	90	101
400-172541-2	PD-8-GWP-57-070119	101	89	101
400-172541-2 MS	PD-8-GWP-57-070119	102	92	102
400-172541-2 MSD	PD-8-GWP-57-070119	103	94	103
400-172541-3	PD-8-GWP-62-070119	99	89	101
400-172541-4	PD-8-GWP-70-070119	99	89	102
400-172541-5	PD-8-GWP-80-070119	101	89	101
400-172541-6	PD-12-GWP-35-070119	99	89	101
LCS 400-447037/1002	Lab Control Sample	102	94	103
MB 400-447037/4	Method Blank	98	90	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172541-2	PD-8-GWP-57-070119	58	49	69	64	63	79
400-172541-3	PD-8-GWP-62-070119	71	66	86	85	87	106
400-172541-4	PD-8-GWP-70-070119	52	32	65	50	67	74
400-172541-4 - RERA	PD-8-GWP-70-070119	45	60	68	68	30 X	40
400-172541-5	PD-8-GWP-80-070119	52	44	74	61	66	81
400-172541-6	PD-12-GWP-35-070119	63	49	72	64	61	73
LCS 400-446728/2-A	Lab Control Sample	63	61	84	77	79	88
LCSD 400-446728/19-A	Lab Control Sample Dup	66	42	80	67	79	71
MB 400-446728/1-A	Method Blank	67	56	86	79	83	78
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172541-2	PD-8-GWP-57-070119	68	69	65
400-172541-3	PD-8-GWP-62-070119	95	91	98
400-172541-4	PD-8-GWP-70-070119	63	58	64
400-172541-5	PD-8-GWP-80-070119	67	65	67

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172541-6	PD-12-GWP-35-070119	79	73	70
LCS 400-446728/2-A	Lab Control Sample	83	74	136
MB 400-446728/1-A	Method Blank	117	120	200 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070119-B
Date Collected: 07/01/19 00:00
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 18:29	BSW	TAL PEN

Client Sample ID: PD-8-GWP-57-070119
Date Collected: 07/01/19 09:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 16:52	BSW	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 20:25	VC1	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:07	S1S	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 14:08	KJA	TAL PEN

Client Sample ID: PD-8-GWP-62-070119
Date Collected: 07/01/19 10:15
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 20:05	BSW	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 20:46	VC1	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:24	S1S	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448700	07/19/19 16:52	S1S	TAL PEN

Client Sample ID: PD-8-GWP-70-070119
Date Collected: 07/01/19 11:25
Date Received: 07/02/19 08:34

Lab Sample ID: 400-172541-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 20:29	BSW	TAL PEN
Total/NA	Prep	3520C			1000.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 21:07	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1007.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450063	07/30/19 22:46	VC1	TAL PEN
Total/NA	Prep	3520C			1000.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:41	S1S	TAL PEN
Total/NA	Prep	3520C			1000.8 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 14:42	KJA	TAL PEN

Client Sample ID: PD-8-GWP-80-070119 Lab Sample ID: 400-172541-5

Date Collected: 07/01/19 13:42 **Matrix: Water**
Date Received: 07/02/19 08:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	447037	07/07/19 21:41	BSW	TAL PEN
Total/NA	Prep	3520C			1025 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 21:28	VC1	TAL PEN
Total/NA	Prep	3520C			1025 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 02:58	S1S	TAL PEN
Total/NA	Prep	3520C			1025 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 14:59	KJA	TAL PEN

Client Sample ID: PD-12-GWP-35-070119 Lab Sample ID: 400-172541-6

Date Collected: 07/01/19 15:50 **Matrix: Water**
Date Received: 07/02/19 08:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 20:53	BSW	TAL PEN
Total/NA	Prep	3520C			1012 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 21:49	VC1	TAL PEN
Total/NA	Prep	3520C			1012 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447918	07/14/19 03:15	S1S	TAL PEN
Total/NA	Prep	3520C			1012 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448402	07/17/19 15:16	KJA	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-446728/1-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 15:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			447502	07/12/19 16:04	KJA	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-447037/4

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 16:28	BSW	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-449437/1-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-446728/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D		1			447936	07/14/19 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:07	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			447502	07/12/19 16:20	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447037/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 15:26	BSW	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-446728/19-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	446728	07/03/19 14:31	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	447936	07/14/19 15:49	VC1	TAL PEN

Client Sample ID: PD-8-GWP-57-070119
Lab Sample ID: 400-172541-2 MS
Date Collected: 07/01/19 09:15
Matrix: Water
Date Received: 07/02/19 08:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 17:16	BSW	TAL PEN

Client Sample ID: PD-8-GWP-57-070119
Lab Sample ID: 400-172541-2 MSD
Date Collected: 07/01/19 09:15
Matrix: Water
Date Received: 07/02/19 08:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447037	07/07/19 17:41	BSW	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

GC/MS VOA

Analysis Batch: 447037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-1	TB-PW-070119-B	Total/NA	Water	8260B	
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8260B	
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8260B	
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8260B	
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8260B	
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8260B	
MB 400-447037/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447037/1002	Lab Control Sample	Total/NA	Water	8260B	
400-172541-2 MS	PD-8-GWP-57-070119	Total/NA	Water	8260B	
400-172541-2 MSD	PD-8-GWP-57-070119	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 446728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	3520C	
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	3520C	
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	3520C	
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	3520C	
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	3520C	
MB 400-446728/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 447502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D LL	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D LL	446728

Analysis Batch: 447918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8270D LL	446728
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8270D LL	446728
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8270D LL	446728
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8270D LL	446728
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8270D LL	446728

Analysis Batch: 447936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8270D	446728
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8270D	446728
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8270D	446728
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8270D	446728
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8270D	446728
MB 400-446728/1-A	Method Blank	Total/NA	Water	8270D	446728
LCS 400-446728/2-A	Lab Control Sample	Total/NA	Water	8270D	446728
LCSD 400-446728/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	446728

Analysis Batch: 448402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-2	PD-8-GWP-57-070119	Total/NA	Water	8270D LL	446728

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448402 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-4	PD-8-GWP-70-070119	Total/NA	Water	8270D LL	446728
400-172541-5	PD-8-GWP-80-070119	Total/NA	Water	8270D LL	446728
400-172541-6	PD-12-GWP-35-070119	Total/NA	Water	8270D LL	446728

Analysis Batch: 448700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-3	PD-8-GWP-62-070119	Total/NA	Water	8270D LL	446728

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-4 - RERA	PD-8-GWP-70-070119	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172541-4 - RERA	PD-8-GWP-70-070119	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447037/4
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/07/19 16:28	1
Acrolein	ND		20	10	ug/L			07/07/19 16:28	1
Acrylonitrile	ND		10	2.8	ug/L			07/07/19 16:28	1
Benzene	ND		1.0	0.38	ug/L			07/07/19 16:28	1
Bromobenzene	ND		1.0	0.54	ug/L			07/07/19 16:28	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/07/19 16:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Bromoform	ND		5.0	0.71	ug/L			07/07/19 16:28	1
Bromomethane	ND		1.0	0.98	ug/L			07/07/19 16:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/07/19 16:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Chloroethane	ND		1.0	0.76	ug/L			07/07/19 16:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/07/19 16:28	1
Chloroform	ND		1.0	0.60	ug/L			07/07/19 16:28	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/07/19 16:28	1
Chloromethane	ND		1.0	0.83	ug/L			07/07/19 16:28	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:28	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/07/19 16:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/07/19 16:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/07/19 16:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/07/19 16:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/07/19 16:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/07/19 16:28	1
2-Hexanone	ND		25	3.1	ug/L			07/07/19 16:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/07/19 16:28	1
Methylene bromide	ND		5.0	0.59	ug/L			07/07/19 16:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/07/19 16:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/07/19 16:28	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/07/19 16:28	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/07/19 16:28	1
Naphthalene	ND		1.0	1.0	ug/L			07/07/19 16:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/07/19 16:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/07/19 16:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/07/19 16:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447037/4
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/07/19 16:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/07/19 16:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/07/19 16:28	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/07/19 16:28	1
Styrene	ND		1.0	1.0	ug/L			07/07/19 16:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/07/19 16:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/07/19 16:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/07/19 16:28	1
Toluene	ND		1.0	0.41	ug/L			07/07/19 16:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/07/19 16:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/07/19 16:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/07/19 16:28	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/07/19 16:28	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/07/19 16:28	1
Trichloroethene	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/07/19 16:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/07/19 16:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/07/19 16:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/07/19 16:28	1
Vinyl acetate	ND		25	2.0	ug/L			07/07/19 16:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/07/19 16:28	1
Xylenes, Total	ND		10	1.6	ug/L			07/07/19 16:28	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/07/19 16:28*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/07/19 16:28*	*1*
Dibromofluoromethane	*90*		*81 - 121*		*07/07/19 16:28*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/07/19 16:28*	*1*

Lab Sample ID: LCS 400-447037/1002
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	233		ug/L		117	43 - 160
Acrolein	500	550		ug/L		110	38 - 160
Acrylonitrile	500	639		ug/L		128	64 - 142
Benzene	50.0	52.1		ug/L		104	70 - 130
Bromobenzene	50.0	55.4		ug/L		111	70 - 132
Bromochloromethane	50.0	56.2		ug/L		112	70 - 130
Bromodichloromethane	50.0	49.6		ug/L		99	67 - 133
Bromoform	50.0	54.2		ug/L		108	57 - 140
Bromomethane	50.0	45.0		ug/L		90	10 - 160
2-Butanone (MEK)	200	206		ug/L		103	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447037/1002
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	51.6		ug/L		103	61 - 137
Carbon tetrachloride	50.0	49.1		ug/L		98	61 - 137
Chlorobenzene	50.0	54.4		ug/L		109	70 - 130
Chloroethane	50.0	54.0		ug/L		108	55 - 141
2-Chloroethyl vinyl ether	50.0	40.2		ug/L		80	10 - 160
Chloroform	50.0	51.0		ug/L		102	69 - 130
1-Chlorohexane	50.0	55.3		ug/L		111	69 - 130
Chloromethane	50.0	54.5		ug/L		109	58 - 137
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	68 - 130
cis-1,3-Dichloropropene	50.0	51.8		ug/L		104	69 - 132
Dibromochloromethane	50.0	55.2		ug/L		110	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.3		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	59.3		ug/L		119	67 - 130
1,3-Dichlorobenzene	50.0	59.3		ug/L		119	70 - 130
1,4-Dichlorobenzene	50.0	57.7		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	46.4		ug/L		93	41 - 146
1,1-Dichloroethane	50.0	52.1		ug/L		104	70 - 130
1,2-Dichloroethane	50.0	51.0		ug/L		102	69 - 130
1,1-Dichloroethene	50.0	53.8		ug/L		108	63 - 134
1,2-Dichloropropane	50.0	51.1		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	54.4		ug/L		109	70 - 130
2,2-Dichloropropane	50.0	45.9		ug/L		92	52 - 135
1,1-Dichloropropene	50.0	51.4		ug/L		103	70 - 130
Ethylbenzene	50.0	56.7		ug/L		113	70 - 130
Ethylene Dibromide	50.0	56.6		ug/L		113	70 - 130
Ethyl methacrylate	50.0	56.7		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.5		ug/L		95	53 - 140
2-Hexanone	200	214		ug/L		107	65 - 137
Isopropylbenzene	50.0	55.5		ug/L		111	70 - 130
Methylene bromide	50.0	49.9		ug/L		100	70 - 130
Methylene Chloride	50.0	53.3		ug/L		107	66 - 135
4-Methyl-2-pentanone (MIBK)	200	238		ug/L		119	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	56.7		ug/L		113	70 - 130
Naphthalene	50.0	59.8		ug/L		120	47 - 149
n-Butylbenzene	50.0	57.1		ug/L		114	67 - 130
N-Propylbenzene	50.0	60.9		ug/L		122	70 - 130
o-Chlorotoluene	50.0	58.0		ug/L		116	70 - 130
o-Xylene	50.0	57.1		ug/L		114	70 - 130
p-Chlorotoluene	50.0	62.3		ug/L		125	70 - 130
p-Isopropyltoluene	50.0	61.7		ug/L		123	65 - 130
sec-Butylbenzene	50.0	59.0		ug/L		118	66 - 130
Styrene	50.0	54.1		ug/L		108	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	56.7		ug/L		113	67 - 131
1,1,2,2-Tetrachloroethane	50.0	61.0		ug/L		122	70 - 131
Tetrachloroethene	50.0	51.8		ug/L		104	65 - 130
Toluene	50.0	57.3		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	57.2		ug/L		114	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447037/1002
Matrix: Water
Analysis Batch: 447037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	53.2		ug/L		106	63 - 130
1,2,3-Trichlorobenzene	50.0	51.9		ug/L		104	60 - 138
1,2,4-Trichlorobenzene	50.0	51.2		ug/L		102	60 - 140
1,1,1-Trichloroethane	50.0	50.4		ug/L		101	68 - 130
1,1,2-Trichloroethane	50.0	55.2		ug/L		110	70 - 130
Trichloroethene	50.0	51.2		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	44.4		ug/L		89	65 - 138
1,2,3-Trichloropropane	50.0	62.4		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	59.6		ug/L		119	70 - 130
1,3,5-Trimethylbenzene	50.0	59.4		ug/L		119	69 - 130
Vinyl acetate	100	126		ug/L		126	26 - 160
Vinyl chloride	50.0	56.5		ug/L		113	59 - 136
Xylenes, Total	100	114		ug/L		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 400-172541-2 MS
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	147		ug/L		74	43 - 150
Acrolein	ND		500	553		ug/L		111	38 - 150
Acrylonitrile	ND		500	666		ug/L		133	62 - 149
Benzene	11		50.0	62.4		ug/L		104	56 - 142
Bromobenzene	ND		50.0	54.3		ug/L		109	59 - 136
Bromochloromethane	ND		50.0	57.3		ug/L		115	64 - 140
Bromodichloromethane	ND		50.0	50.0		ug/L		100	59 - 143
Bromoform	ND		50.0	55.6		ug/L		111	50 - 140
Bromomethane	ND		50.0	44.2		ug/L		88	10 - 150
2-Butanone (MEK)	ND		200	145		ug/L		72	55 - 150
Carbon disulfide	ND		50.0	50.6		ug/L		101	48 - 150
Carbon tetrachloride	ND		50.0	48.9		ug/L		98	55 - 145
Chlorobenzene	ND		50.0	52.6		ug/L		105	64 - 130
Chloroethane	ND		50.0	47.4		ug/L		95	50 - 150
2-Chloroethyl vinyl ether	ND		50.0	39.3		ug/L		79	10 - 150
Chloroform	ND		50.0	52.3		ug/L		105	60 - 141
1-Chlorohexane	ND		50.0	50.9		ug/L		102	56 - 136
Chloromethane	ND		50.0	54.8		ug/L		110	49 - 148
cis-1,2-Dichloroethene	ND		50.0	52.8		ug/L		106	59 - 143
cis-1,3-Dichloropropene	ND		50.0	51.6		ug/L		103	57 - 140
Dibromochloromethane	ND		50.0	55.9		ug/L		112	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	55.1		ug/L		110	45 - 135
1,2-Dichlorobenzene	ND		50.0	55.4		ug/L		111	52 - 137
1,3-Dichlorobenzene	ND		50.0	53.6		ug/L		107	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172541-2 MS
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		50.0	52.8		ug/L		106	53 - 135
Dichlorodifluoromethane	ND		50.0	47.5		ug/L		95	16 - 150
1,1-Dichloroethane	ND		50.0	53.4		ug/L		107	61 - 144
1,2-Dichloroethane	ND		50.0	52.2		ug/L		104	60 - 141
1,1-Dichloroethene	ND		50.0	54.1		ug/L		108	54 - 147
1,2-Dichloropropane	ND		50.0	52.7		ug/L		105	66 - 137
1,3-Dichloropropane	ND		50.0	55.5		ug/L		111	66 - 133
2,2-Dichloropropane	ND		50.0	46.4		ug/L		93	42 - 144
1,1-Dichloropropene	ND		50.0	50.8		ug/L		102	65 - 136
Ethylbenzene	ND		50.0	53.6		ug/L		107	58 - 131
Ethylene Dibromide	ND		50.0	57.8		ug/L		116	64 - 132
Ethyl methacrylate	ND		50.0	57.1		ug/L		114	64 - 130
Hexachlorobutadiene	ND		50.0	36.2		ug/L		72	31 - 149
2-Hexanone	ND		200	149		ug/L		75	65 - 140
Isopropylbenzene	ND		50.0	50.7		ug/L		101	56 - 133
Methylene bromide	ND		50.0	50.5		ug/L		101	63 - 138
Methylene Chloride	ND		50.0	54.4		ug/L		109	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	223		ug/L		112	63 - 146
Methyl tert-butyl ether	4.9		50.0	54.8		ug/L		100	59 - 137
m-Xylene & p-Xylene	ND		50.0	53.6		ug/L		107	57 - 130
Naphthalene	ND		50.0	53.1		ug/L		106	25 - 150
n-Butylbenzene	ND		50.0	47.6		ug/L		95	41 - 142
N-Propylbenzene	ND		50.0	54.4		ug/L		109	51 - 138
o-Chlorotoluene	ND		50.0	53.7		ug/L		107	53 - 134
o-Xylene	ND		50.0	53.9		ug/L		108	61 - 130
p-Chlorotoluene	ND		50.0	57.1		ug/L		114	54 - 133
p-Isopropyltoluene	ND		50.0	52.5		ug/L		105	48 - 139
sec-Butylbenzene	ND		50.0	51.9		ug/L		104	50 - 138
Styrene	ND		50.0	51.3		ug/L		103	58 - 131
tert-Butylbenzene	ND		50.0	52.6		ug/L		105	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	55.8		ug/L		112	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	61.8		ug/L		124	66 - 135
Tetrachloroethene	ND		50.0	48.7		ug/L		97	52 - 133
Toluene	ND		50.0	55.7		ug/L		111	65 - 130
trans-1,2-Dichloroethene	ND		50.0	56.0		ug/L		112	61 - 143
trans-1,3-Dichloropropene	ND		50.0	53.4		ug/L		107	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.7		ug/L		89	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.6		ug/L		87	39 - 148
1,1,1-Trichloroethane	ND		50.0	50.2		ug/L		100	57 - 142
1,1,2-Trichloroethane	ND		50.0	55.5		ug/L		111	66 - 131
Trichloroethene	ND		50.0	50.7		ug/L		101	64 - 136
Trichlorofluoromethane	ND		50.0	44.0		ug/L		88	54 - 150
1,2,3-Trichloropropane	ND		50.0	61.3		ug/L		123	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	54.2		ug/L		108	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	54.5		ug/L		109	52 - 135
Vinyl acetate	ND		100	125		ug/L		125	26 - 150
Vinyl chloride	ND		50.0	56.7		ug/L		113	46 - 150
Xylenes, Total	ND		100	107		ug/L		107	59 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172541-2 MS
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*92*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-172541-2 MSD
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	121		ug/L		60	43 - 150	20	30
Acrolein	ND		500	557		ug/L		111	38 - 150	1	31
Acrylonitrile	ND		500	644		ug/L		129	62 - 149	3	30
Benzene	11		50.0	62.1		ug/L		103	56 - 142	1	30
Bromobenzene	ND		50.0	54.0		ug/L		108	59 - 136	1	30
Bromochloromethane	ND		50.0	57.3		ug/L		115	64 - 140	0	30
Bromodichloromethane	ND		50.0	49.9		ug/L		100	59 - 143	0	30
Bromoform	ND		50.0	53.9		ug/L		108	50 - 140	3	30
Bromomethane	ND		50.0	44.7		ug/L		89	10 - 150	1	50
2-Butanone (MEK)	ND		200	133		ug/L		67	55 - 150	8	30
Carbon disulfide	ND		50.0	50.5		ug/L		101	48 - 150	0	30
Carbon tetrachloride	ND		50.0	48.1		ug/L		96	55 - 145	2	30
Chlorobenzene	ND		50.0	52.4		ug/L		105	64 - 130	0	30
Chloroethane	ND		50.0	49.6		ug/L		99	50 - 150	4	30
2-Chloroethyl vinyl ether	ND		50.0	39.2		ug/L		78	10 - 150	0	50
Chloroform	ND		50.0	51.8		ug/L		104	60 - 141	1	30
1-Chlorohexane	ND		50.0	51.0		ug/L		102	56 - 136	0	30
Chloromethane	ND		50.0	54.4		ug/L		109	49 - 148	1	31
cis-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	59 - 143	1	30
cis-1,3-Dichloropropene	ND		50.0	51.1		ug/L		102	57 - 140	1	30
Dibromochloromethane	ND		50.0	54.8		ug/L		110	56 - 143	2	30
1,2-Dibromo-3-Chloropropane	ND		50.0	54.1		ug/L		108	45 - 135	2	30
1,2-Dichlorobenzene	ND		50.0	56.8		ug/L		114	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	54.3		ug/L		109	54 - 135	1	30
1,4-Dichlorobenzene	ND		50.0	53.7		ug/L		107	53 - 135	2	30
Dichlorodifluoromethane	ND		50.0	46.1		ug/L		92	16 - 150	3	31
1,1-Dichloroethane	ND		50.0	53.4		ug/L		107	61 - 144	0	30
1,2-Dichloroethane	ND		50.0	51.7		ug/L		103	60 - 141	1	30
1,1-Dichloroethene	ND		50.0	53.8		ug/L		108	54 - 147	0	30
1,2-Dichloropropane	ND		50.0	53.6		ug/L		107	66 - 137	2	30
1,3-Dichloropropane	ND		50.0	55.4		ug/L		111	66 - 133	0	30
2,2-Dichloropropane	ND		50.0	46.0		ug/L		92	42 - 144	1	31
1,1-Dichloropropene	ND		50.0	49.5		ug/L		99	65 - 136	3	30
Ethylbenzene	ND		50.0	54.0		ug/L		108	58 - 131	1	30
Ethylene Dibromide	ND		50.0	56.6		ug/L		113	64 - 132	2	30
Ethyl methacrylate	ND		50.0	56.2		ug/L		112	64 - 130	2	30
Hexachlorobutadiene	ND		50.0	38.7		ug/L		77	31 - 149	7	36
2-Hexanone	ND		200	136		ug/L		68	65 - 140	9	30
Isopropylbenzene	ND		50.0	51.2		ug/L		102	56 - 133	1	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172541-2 MSD
Matrix: Water
Analysis Batch: 447037

Client Sample ID: PD-8-GWP-57-070119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		50.0	50.2		ug/L		100	63 - 138	1	30
Methylene Chloride	ND		50.0	54.2		ug/L		108	60 - 146	0	32
4-Methyl-2-pentanone (MIBK)	ND		200	220		ug/L		110	63 - 146	1	30
Methyl tert-butyl ether	4.9		50.0	54.7		ug/L		100	59 - 137	0	30
m-Xylene & p-Xylene	ND		50.0	53.6		ug/L		107	57 - 130	0	30
Naphthalene	ND		50.0	56.3		ug/L		113	25 - 150	6	30
n-Butylbenzene	ND		50.0	48.4		ug/L		97	41 - 142	2	31
N-Propylbenzene	ND		50.0	54.2		ug/L		108	51 - 138	0	30
o-Chlorotoluene	ND		50.0	54.1		ug/L		108	53 - 134	1	30
o-Xylene	ND		50.0	54.4		ug/L		109	61 - 130	1	30
p-Chlorotoluene	ND		50.0	53.1		ug/L		106	54 - 133	7	30
p-Isopropyltoluene	ND		50.0	53.5		ug/L		107	48 - 139	2	30
sec-Butylbenzene	ND		50.0	52.3		ug/L		105	50 - 138	1	30
Styrene	ND		50.0	52.2		ug/L		104	58 - 131	2	30
tert-Butylbenzene	ND		50.0	52.3		ug/L		105	54 - 146	1	30
1,1,1,2-Tetrachloroethane	ND		50.0	55.2		ug/L		110	59 - 137	1	30
1,1,2,2-Tetrachloroethane	ND		50.0	61.1		ug/L		122	66 - 135	1	30
Tetrachloroethene	ND		50.0	49.0		ug/L		98	52 - 133	1	30
Toluene	ND		50.0	55.6		ug/L		111	65 - 130	0	30
trans-1,2-Dichloroethene	ND		50.0	55.2		ug/L		110	61 - 143	1	30
trans-1,3-Dichloropropene	ND		50.0	53.2		ug/L		106	53 - 133	0	30
1,2,3-Trichlorobenzene	ND		50.0	48.1		ug/L		96	43 - 145	7	30
1,2,4-Trichlorobenzene	ND		50.0	45.3		ug/L		91	39 - 148	4	30
1,1,1-Trichloroethane	ND		50.0	50.6		ug/L		101	57 - 142	1	30
1,1,2-Trichloroethane	ND		50.0	55.8		ug/L		112	66 - 131	0	30
Trichloroethene	ND		50.0	51.3		ug/L		103	64 - 136	1	30
Trichlorofluoromethane	ND		50.0	44.0		ug/L		88	54 - 150	0	30
1,2,3-Trichloropropane	ND		50.0	61.6		ug/L		123	65 - 133	0	30
1,2,4-Trimethylbenzene	ND		50.0	54.8		ug/L		110	50 - 139	1	30
1,3,5-Trimethylbenzene	ND		50.0	55.1		ug/L		110	52 - 135	1	30
Vinyl acetate	ND		100	121		ug/L		121	26 - 150	3	33
Vinyl chloride	ND		50.0	55.5		ug/L		111	46 - 150	2	30
Xylenes, Total	ND		100	108		ug/L		108	59 - 130	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzenethiol	ND		10	1.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
Benzoic acid	ND		30	7.3	ug/L		07/03/19 14:07	07/14/19 15:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/03/19 14:07	07/14/19 15:06	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/03/19 14:07	07/14/19 15:06	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/03/19 14:07	07/14/19 15:06	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloroaniline	ND		10	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Chlorophenol	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dibenzofuran	ND		10	0.52	ug/L		07/03/19 14:07	07/14/19 15:06	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Diethyl phthalate	ND		10	0.70	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/03/19 14:07	07/14/19 15:06	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/03/19 14:07	07/14/19 15:06	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,4-Dioxane	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Hexachloroethane	ND		10	4.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Indene	ND		10	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
Isophorone	ND		10	0.57	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Methylphenol	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitroaniline	ND		10	2.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
3-Nitroaniline	ND		10	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitroaniline	ND		10	2.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
Nitrobenzene	ND		10	0.55	ug/L		07/03/19 14:07	07/14/19 15:06	1
2-Nitrophenol	ND		10	0.65	ug/L		07/03/19 14:07	07/14/19 15:06	1
4-Nitrophenol	ND		10	2.1	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/03/19 14:07	07/14/19 15:06	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pentachlorophenol	ND		20	1.8	ug/L		07/03/19 14:07	07/14/19 15:06	1
Phenol	ND		10	2.6	ug/L		07/03/19 14:07	07/14/19 15:06	1
Pyridine	ND		10	3.2	ug/L		07/03/19 14:07	07/14/19 15:06	1
Quinoline	ND		10	6.0	ug/L		07/03/19 14:07	07/14/19 15:06	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/03/19 14:07	07/14/19 15:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/03/19 14:07	07/14/19 15:06	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/03/19 14:07*	*07/14/19 15:06*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*34 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2-Fluorophenol	*56*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Phenol-d5	*79*		*10 - 120*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
Terphenyl-d14	*83*		*53 - 125*	*07/03/19 14:07*	*07/14/19 15:06*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/03/19 14:07*	*07/14/19 15:06*	*1*

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	20.9		ug/L		70	29 - 120
Benzoic acid	117	99.1		ug/L		85	10 - 150
Benzyl alcohol	30.0	25.1		ug/L		84	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.3		ug/L		71	45 - 120
Bis(2-chloroethyl)ether	30.0	18.9		ug/L		63	48 - 120
bis (2-chloroisopropyl) ether	30.0	21.5		ug/L		72	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.5		ug/L		85	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	23.4		ug/L		78	46 - 145
4-Chloroaniline	30.0	21.7		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	28.8		ug/L		96	39 - 140
2-Chloronaphthalene	30.0	21.0		ug/L		70	52 - 120
2-Chlorophenol	30.0	22.4		ug/L		75	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.5		ug/L		72	58 - 124
Dibenz[a,h]acridine	30.0	13.6	*	ug/L		45	46 - 149
Dibenzofuran	30.0	22.3		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	40.0	42.0		ug/L		105	39 - 135
2,4-Dichlorophenol	30.0	25.9		ug/L		86	39 - 128
Diethyl phthalate	30.0	24.4		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	22.6		ug/L		75	44 - 120
Dimethyl phthalate	30.0	24.0		ug/L		80	50 - 131
Di-n-butyl phthalate	30.0	25.3		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	47.6		ug/L		79	10 - 150
2,4-Dinitrophenol	60.0	53.2		ug/L		89	10 - 150
2,4-Dinitrotoluene	30.0	26.4		ug/L		88	58 - 140
2,6-Dinitrotoluene	30.0	25.0		ug/L		83	57 - 130
Di-n-octyl phthalate	30.0	22.9		ug/L		76	50 - 150
1,4-Dioxane	30.0	15.5		ug/L		52	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	23.4		ug/L		78	47 - 123

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobenzene	30.0	21.9		ug/L		73	52 - 131
Hexachlorocyclopentadiene	30.0	3.16	J	ug/L		11	10 - 129
Hexachloroethane	30.0	13.7		ug/L		46	41 - 120
Indene	30.0	20.3		ug/L		68	47 - 120
Isophorone	30.0	23.4		ug/L		78	49 - 120
2-Methylphenol	30.0	23.3		ug/L		78	39 - 123
3 & 4 Methylphenol	30.0	22.6		ug/L		75	38 - 121
2-Nitroaniline	30.0	26.6		ug/L		89	47 - 150
3-Nitroaniline	30.0	26.0		ug/L		87	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	23.5		ug/L		78	47 - 120
2-Nitrophenol	30.0	25.6		ug/L		85	28 - 136
4-Nitrophenol	60.0	49.7		ug/L		83	10 - 150
N-Nitrosodimethylamine	30.0	20.9		ug/L		70	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.7		ug/L		69	44 - 120
N-Nitrosodiphenylamine	29.8	24.8		ug/L		83	56 - 120
Pentachlorophenol	60.0	46.8		ug/L		78	15 - 141
Phenol	30.0	21.4		ug/L		71	33 - 120
Pyridine	60.0	30.3		ug/L		51	26 - 120
Quinoline	30.0	20.8		ug/L		69	51 - 129
2,4,5-Trichlorophenol	30.0	25.3		ug/L		84	38 - 147
2,4,6-Trichlorophenol	30.0	24.8		ug/L		83	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*77*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*88*		*15 - 135*

Lab Sample ID: LCSD 400-446728/19-A
Matrix: Water
Analysis Batch: 447936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120	NaN	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*79*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172541-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*07/30/19 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Phenol-d5	*70*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2,4,6-Tribromophenol	*35*		*15 - 135*	*07/24/19 21:29*	*07/30/19 21:00*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-446728/1-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 446728

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Anthracene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Chrysene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Fluorene	ND		0.20	0.021	ug/L		07/03/19 14:07	07/12/19 16:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/03/19 14:07	07/12/19 16:04	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
2-Methylnaphthalene	0.0487	J	0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1
Pyrene	ND		0.20	0.020	ug/L		07/03/19 14:07	07/12/19 16:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*15 - 122*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Nitrobenzene-d5	*120*		*19 - 130*	*07/03/19 14:07*	*07/12/19 16:04*	*1*
Terphenyl-d14	*200*	*X*	*33 - 138*	*07/03/19 14:07*	*07/12/19 16:04*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-446728/2-A
Matrix: Water
Analysis Batch: 447502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 446728

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	32.9		ug/L		110	41 - 120
Acenaphthylene	30.0	30.0		ug/L		100	44 - 120
Anthracene	30.0	29.7		ug/L		99	49 - 120
Benzo[a]anthracene	30.0	30.7		ug/L		102	61 - 135
Benzo[a]pyrene	30.0	28.7		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	32.5		ug/L		108	53 - 134
Benzo[g,h,i]perylene	30.0	27.0		ug/L		90	47 - 133
Benzo[k]fluoranthene	30.0	31.2		ug/L		104	57 - 134
Chrysene	30.0	31.4		ug/L		105	55 - 122
Dibenz(a,h)anthracene	30.0	36.2		ug/L		121	48 - 146
Fluoranthene	30.0	30.5		ug/L		102	54 - 128
Fluorene	30.0	36.4		ug/L		121	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	34.0		ug/L		113	43 - 142
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124
Phenanthrene	30.0	32.0		ug/L		107	48 - 120
Pyrene	30.0	41.4	*	ug/L		138	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*74*		*19 - 130*
Terphenyl-d14	*136*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/1/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID
SAMPLER NAME(S) (Print): James Carrino, Tony Jones
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.061 | NON-UNIT COST 60592794 - 1.24.060

400-172541 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 Low Level (LL) PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-070119-B	7/1/2019	0:00	Water	X					2		X		
	PD-8-GWP-57-070119	7/1/2019	9:15	Water	2			2		4	X	X	X	
	PD-8-GWP-62-070119	7/1/2019	10:15	Water	2			2		4	X	X	X	
	PD-8-GWP-70-070119	7/1/2019	11:25	Water	2			2		4	x	x	x	
	PD-8-GWP-80-070119	7/1/2019	13:42	Water	2			2		4	x	x	x	
	PD-12-GWP-35-070119	7/1/2019	15:50	Water	2			2		4	x	x	x	

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FeDex: 1054 5423 6550 1054 5423 6540	7/1/2019	1800
	Beyoae 3.7°C, 4.1°C IR8	7-2-19	8:34

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172541-1

Login Number: 172541
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	641123,641122,641120,
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7°C, 4.1°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172541-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-172761

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/23/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070819-B	PD-13-GWP-40-070819
PD-13-GWP-46-070819	PD-13-GWP-50-070819
PD-13-GWP-59-070819	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated PAHs were detected in the method blank. SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC and/or PAH surrogate recoveries were outside evaluation criteria in several samples. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-447399/1-A	PAHs	Dibenz(a,h)anthracene	0.0709 µg/L
MB 400-447399/1-A	PAHs	Fluoranthene	0.0350 µg/L
MB 400-447399/1-A	PAHs	Indeno[1,2,3-cd]pyrene	0.0779 µg/L
MB 400-447399/1-A	PAHs	Pyrene	0.0309 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-447399/2-A	SVOCs	Hexachlorocyclopentadiene	34/48	**32**	10-129/30
400-447399/4-A/5-A	SVOCs	Benzenethiol	**3**/**4**	**41**	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-13-GWP-40-070819	SVOCs	Benzenethiol	**UJ**
PD-13-GWP-46-070819	SVOCs	Benzenethiol	**UJ**
PD-13-GWP-50-070819	SVOCs	Benzenethiol	**UJ**
PD-13-GWP-59-070819	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-13-GWP-46-070819	SVOCs	Terphenyl-d_{14}	**50**	53-125
PD-13-GWP-50-070819	SVOCs	Terphenyl-d_{14}	**38**	53-125
LCS 400-447399/4-A	SVOCs	2-Fluorophenol	**0.2**	10-120
LCS 400-447399/4-A	SVOCs	Phenol-d_5	**2**	10-120
LCS 400-447399/4-A	SVOCs	2,4,6-Tribromophenol	**0**	15-135
PD-13-GWP-50-070819	PAHs	Terphenyl-d_{14}	**32**	33-138

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

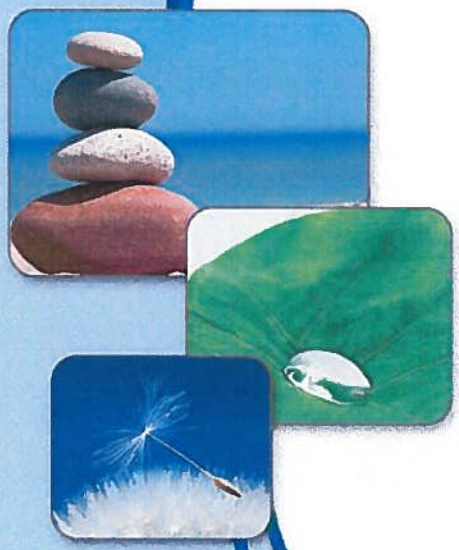
Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172761-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/22/2019 12:28:02 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed
on
7/23/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Job ID: 400-172761-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172761-1

Comments
No additional comments.

Receipt
The samples were received on 7/9/2019 8:53 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448145 recovered outside control limits for the following analyte: 2-Hexanone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: PD-13-GWP-40-070819 (400-172761-2), PD-13-GWP-46-070819 (400-172761-3), PD-13-GWP-50-070819 (400-172761-4) and PD-13-GWP-59-070819 (400-172761-5). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070819-B (400-172761-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-447399 and analytical batch 400-448057 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene.

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447399 and analytical batch 400-448057 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-447399 and analytical batch 400-448057 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448057 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Aniline and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448057 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-13-GWP-46-070819 (400-172761-3) and PD-13-GWP-50-070819 (400-172761-4). These results have been reported and qualified.

Method(s) 8270D LL: The method blank for preparation batch 400-447399 and analytical batch 400-448058 contained

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Job ID: 400-172761-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Indeno[1,2,3-cd]pyrene, Pyrene, Fluoranthene and Dibenz(a,h)anthracene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-13-GWP-50-070819 (400-172761-4). These results have been reported and qualified.

Method(s) 8270D: The probable swing of the pH has caused the LCS to fail for the acid surrogates. The surrogate recovery for the associated samples was within the control limits; therefore, the data are flagged and reported. (LCS 400-447399/4-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172761-1	TB-PW-070819-B	Water	07/08/19 00:00	07/09/19 08:53	
400-172761-2	PD-13-GWP-40-070819	Water	07/08/19 11:20	07/09/19 08:53	
400-172761-3	PD-13-GWP-46-070819	Water	07/08/19 12:15	07/09/19 08:53	
400-172761-4	PD-13-GWP-50-070819	Water	07/08/19 14:15	07/09/19 08:53	
400-172761-5	PD-13-GWP-59-070819	Water	07/08/19 15:10	07/09/19 08:53	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B — Lab Sample ID: 400-172761-1

No Detections.

Client Sample ID: PD-13-GWP-40-070819 — Lab Sample ID: 400-172761-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.43	J	1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	5.8		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	1.4		1.0	0.41	ug/L	1		8260B	Total/NA

Client Sample ID: PD-13-GWP-46-070819 — Lab Sample ID: 400-172761-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.1		1.0	0.38	ug/L	1		8260B	Total/NA
Isopropylbenzene	4.0		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.9	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.7		1.0	1.0	ug/L	1		8260B	Total/NA
n-Butylbenzene	0.90	J	1.0	0.76	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.3		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	1.9	J	5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.6		1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	2.9		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	1.1		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.7		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	3.0		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	3.8	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	15		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.55		0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-13-GWP-50-070819 — Lab Sample ID: 400-172761-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.93	J	1.0	0.38	ug/L	1		8260B	Total/NA
Isopropylbenzene	8.6		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	3.4	J	5.0	1.6	ug/L	1		8260B	Total/NA
N-Propylbenzene	2.8		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	0.99	J	5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.5		1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	2.3		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	1.7		1.0	0.41	ug/L	1		8260B	Total/NA
Xylenes, Total	4.4	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	9.3		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.51		0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-13-GWP-59-070819 — Lab Sample ID: 400-172761-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.7		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	1.2		1.0	0.41	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 13:23	1
Acrolein	ND		20	10	ug/L			07/16/19 13:23	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 13:23	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 13:23	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 13:23	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 13:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 13:23	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 13:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 13:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 13:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 13:23	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 13:23	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 13:23	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 13:23	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:23	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 13:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 13:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 13:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 13:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 13:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 13:23	1
2-Hexanone	ND	*	25	3.1	ug/L			07/16/19 13:23	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 13:23	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 13:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 13:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 13:23	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 13:23	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 13:23	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 13:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 13:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 13:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 13:23	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 13:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 13:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 13:23	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 13:23	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 13:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 13:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 13:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 13:23	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 13:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 13:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 13:23	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 13:23	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 13:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 13:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 13:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 13:23	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 13:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 13:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 13:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/16/19 13:23*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/16/19 13:23*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/16/19 13:23*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 21:30	1
Acrolein	ND		20	10	ug/L			07/12/19 21:30	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 21:30	1
Benzene	**0.43**	**J**	1.0	0.38	ug/L			07/12/19 21:30	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 21:30	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 21:30	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 21:30	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 21:30	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 21:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 21:30	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 21:30	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 21:30	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 21:30	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 21:30	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:30	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 21:30	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 21:30	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 21:30	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 21:30	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 21:30	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 21:30	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 21:30	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 21:30	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 21:30	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 21:30	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 21:30	1
Methyl tert-butyl ether	**5.8**		1.0	0.74	ug/L			07/12/19 21:30	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 21:30	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 21:30	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 21:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 21:30	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 21:30	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 21:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 21:30	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 21:30	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 21:30	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 21:30	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 21:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 21:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 21:30	1
Toluene	**1.4**		1.0	0.41	ug/L			07/12/19 21:30	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:30	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 21:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 21:30	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 21:30	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 21:30	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 21:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 21:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 21:30	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 21:30	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 21:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2,2-dimethyl-	*18*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/12/19 21:30*	*1*
Isopropyl alcohol	*74*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 21:30*	*1*
2-Methyl-2-propanol	*510*		*ug/L*		*3.39*	*75-65-0*		*07/12/19 21:30*	*1*
Isopropyl ether	*0.93*	*J*	*ug/L*		*3.82*	*108-20-3*		*07/12/19 21:30*	*1*
Cyclohexane	*20*		*ug/L*		*4.54*	*110-82-7*		*07/12/19 21:30*	*1*
Methylcyclohexane	*1.3*		*ug/L*		*5.27*	*108-87-2*		*07/12/19 21:30*	*1*
2-Ethyltoluene	*0.41*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/12/19 21:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/12/19 21:30*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 21:30*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 21:30*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Anthracene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Chrysene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Fluorene	ND		0.19	0.020	ug/L		07/10/19 11:57	07/15/19 17:35	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Phenanthrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Pyrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/10/19 11:57*	*07/15/19 17:35*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/10/19 11:57*	*07/15/19 17:35*	*1*
Terphenyl-d14	*87*		*33 - 138*	*07/10/19 11:57*	*07/15/19 17:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
Benzenethiol	ND	* UJ	9.6	1.6	ug/L		07/10/19 11:57	07/15/19 19:23	1
Benzoic acid	ND		29	7.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/10/19 11:57	07/15/19 19:23	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/10/19 11:57	07/15/19 19:23	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/10/19 11:57	07/15/19 19:23	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/10/19 11:57	07/15/19 19:23	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/10/19 11:57	07/15/19 19:23	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/10/19 11:57	07/15/19 19:23	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/10/19 11:57	07/15/19 19:23	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/10/19 11:57	07/15/19 19:23	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/10/19 11:57	07/15/19 19:23	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/10/19 11:57	07/15/19 19:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/10/19 11:57	07/15/19 19:23	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/10/19 11:57	07/15/19 19:23	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/10/19 11:57	07/15/19 19:23	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
Indene	ND		9.6	0.96	ug/L		07/10/19 11:57	07/15/19 19:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.6	0.55	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/10/19 11:57	07/15/19 19:23	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/10/19 11:57	07/15/19 19:23	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/10/19 11:57	07/15/19 19:23	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/10/19 11:57	07/15/19 19:23	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/10/19 11:57	07/15/19 19:23	1
Pentachlorophenol	ND		19	1.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
Phenol	ND		9.6	2.5	ug/L		07/10/19 11:57	07/15/19 19:23	1
Pyridine	ND		9.6	3.1	ug/L		07/10/19 11:57	07/15/19 19:23	1
Quinoline	ND		9.6	5.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/10/19 11:57	07/15/19 19:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Ethoxyethanol	*80*		*ug/L*		*3.56*	*110-80-5*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
2-Butanone, 4-hydroxy-	*24*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Acrylamide	*4.0*	*J*	*ug/L*		*4.66*	*79-06-1*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*5.36*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Indane	*25*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
N-Nitrosopyrrolidine	*11*		*ug/L*		*5.94*	*930-55-2*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*7.4*	*T J*	*ug/L*		*6.00*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*6.13*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
2-(2-Butoxyethoxy)ethanol	*5.4*	*J*	*ug/L*		*6.32*	*112-34-5*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Sulfolane	*1.7*	*J*	*ug/L*		*6.46*	*126-33-0*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Caprolactam	*6.4*	*J*	*ug/L*		*6.70*	*105-60-2*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
1,3-Dinitrobenzene	*1.1*	*J*	*ug/L*		*7.46*	*99-65-0*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*11.71*		*07/10/19 11:57*	*07/15/19 19:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*34 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
2-Fluorophenol	*65*		*10 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Nitrobenzene-d5	*94*		*27 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Phenol-d5	*83*		*10 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Terphenyl-d14	*88*		*53 - 125*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
2,4,6-Tribromophenol	*109*		*15 - 135*	*07/10/19 11:57*	*07/15/19 19:23*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 21:56	1
Acrolein	ND		20	10	ug/L			07/12/19 21:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 21:56	1
Benzene	**2.1**		1.0	0.38	ug/L			07/12/19 21:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 21:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 21:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 21:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 21:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 21:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 21:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 21:56	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 21:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 21:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 21:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 21:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 21:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 21:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 21:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 21:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 21:56	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 21:56	1
Isopropylbenzene	**4.0**		1.0	0.53	ug/L			07/12/19 21:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 21:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 21:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 21:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 21:56	1
m-Xylene & p-Xylene	**1.9**	**J**	5.0	1.6	ug/L			07/12/19 21:56	1
Naphthalene	**1.7**		1.0	1.0	ug/L			07/12/19 21:56	1
n-Butylbenzene	**0.90**	**J**	1.0	0.76	ug/L			07/12/19 21:56	1
N-Propylbenzene	**1.3**		1.0	0.69	ug/L			07/12/19 21:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 21:56	1
o-Xylene	**1.9**	**J**	5.0	0.60	ug/L			07/12/19 21:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 21:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 21:56	1
sec-Butylbenzene	**1.6**		1.0	0.70	ug/L			07/12/19 21:56	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 21:56	1
tert-Butylbenzene	**2.9**		1.0	0.63	ug/L			07/12/19 21:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 21:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 21:56	1
Toluene	**1.1**		1.0	0.41	ug/L			07/12/19 21:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 21:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 21:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 21:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 21:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 21:56	1
1,2,4-Trimethylbenzene	**1.7**		1.0	0.82	ug/L			07/12/19 21:56	1
1,3,5-Trimethylbenzene	**3.0**		1.0	0.56	ug/L			07/12/19 21:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 21:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Xylenes, Total	**3.8**	**J**	10	1.6	ug/L			07/12/19 21:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*64*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/12/19 21:56*	*1*
Butane, 2,2-dimethyl-	*23*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/12/19 21:56*	*1*
Isopropyl alcohol	*81*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 21:56*	*1*
2-Methyl-2-propanol	*120*		*ug/L*		*3.39*	*75-65-0*		*07/12/19 21:56*	*1*
Pentane, 3-methyl-	*65*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/12/19 21:56*	*1*
Hexane	*1.1*		*ug/L*		*3.70*	*110-54-3*		*07/12/19 21:56*	*1*
2-Pentene, 3-methyl-, (Z)-	*5.3*	*T J N*	*ug/L*		*4.12*	*922-62-3*		*07/12/19 21:56*	*1*
Cyclohexane	*10*		*ug/L*		*4.54*	*110-82-7*		*07/12/19 21:56*	*1*
Cyclobutane, (1-methylethylidene)-	*8.8*	*T J N*	*ug/L*		*5.00*	*1528-22-9*		*07/12/19 21:56*	*1*
Methylcyclohexane	*34*		*ug/L*		*5.27*	*108-87-2*		*07/12/19 21:56*	*1*
Cyclohexene, 1-methyl-	*9.1*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/12/19 21:56*	*1*
Cyclohexene, 3,5-dimethyl-	*5.3*	*T J N*	*ug/L*		*6.44*	*823-17-6*		*07/12/19 21:56*	*1*
2-Ethyltoluene	*4.3*		*ug/L*		*8.30*	*611-14-3*		*07/12/19 21:56*	*1*
1,2,3-Trimethylbenzene	*3.5*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/12/19 21:56*	*1*
p-Diethylbenzene	*1.0*	*J*	*ug/L*		*8.97*	*105-05-5*		*07/12/19 21:56*	*1*
o-diethylbenzene	*2.6*	*J*	*ug/L*		*9.07*	*135-01-3*		*07/12/19 21:56*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*14*	*T J N*	*ug/L*		*9.29*	*2870-04-4*		*07/12/19 21:56*	*1*
1-Phenyl-1-butene	*6.1*	*T J N*	*ug/L*		*9.36*	*824-90-8*		*07/12/19 21:56*	*1*
Indan, 1-methyl-	*28*	*T J N*	*ug/L*		*9.42*	*767-58-8*		*07/12/19 21:56*	*1*
Benzene, 1,2,3,4-tetramethyl-	*14*	*T J N*	*ug/L*		*9.65*	*488-23-3*		*07/12/19 21:56*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*23*	*T J N*	*ug/L*		*10.13*	*2039-89-6*		*07/12/19 21:56*	*1*
1H-Indene, 2,3-dihydro-1,6-dimethyl-	*8.2*	*T J N*	*ug/L*		*10.55*	*17059-48-2*		*07/12/19 21:56*	*1*
1-Methylnaphthalene	*9.7*		*ug/L*		*11.91*	*90-12-0*		*07/12/19 21:56*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*104*		*78 - 118*		*07/12/19 21:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/12/19 21:56*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 21:56*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Anthracene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Chrysene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Fluoranthene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Fluorene	ND		0.20	0.021	ug/L		07/10/19 11:57	07/15/19 17:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
1-Methylnaphthalene	**15**		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
2-Methylnaphthalene	**0.55**		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Phenanthrene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Pyrene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*74*		*15 - 122*	*07/10/19 11:57*	*07/15/19 17:53*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/10/19 11:57*	*07/15/19 17:53*	*1*
Terphenyl-d14	*49*		*33 - 138*	*07/10/19 11:57*	*07/15/19 17:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
Benzoic acid	ND		29	7.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/10/19 11:57	07/15/19 19:44	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/10/19 11:57	07/15/19 19:44	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/10/19 11:57	07/15/19 19:44	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/10/19 11:57	07/15/19 19:44	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/10/19 11:57	07/15/19 19:44	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/10/19 11:57	07/15/19 19:44	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/10/19 11:57	07/15/19 19:44	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/10/19 11:57	07/15/19 19:44	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/10/19 11:57	07/15/19 19:44	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/10/19 11:57	07/15/19 19:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/10/19 11:57	07/15/19 19:44	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/10/19 11:57	07/15/19 19:44	1
Hexachlorocyclopentadiene	ND	*	20	2.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/10/19 11:57	07/15/19 19:44	1
Indene	ND		9.8	0.98	ug/L		07/10/19 11:57	07/15/19 19:44	1
Isophorone	ND		9.8	0.56	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/10/19 11:57	07/15/19 19:44	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/10/19 11:57	07/15/19 19:44	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/10/19 11:57	07/15/19 19:44	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/10/19 11:57	07/15/19 19:44	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/10/19 11:57	07/15/19 19:44	1
Pentachlorophenol	ND		20	1.8	ug/L		07/10/19 11:57	07/15/19 19:44	1
Phenol	ND		9.8	2.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
Pyridine	ND		9.8	3.1	ug/L		07/10/19 11:57	07/15/19 19:44	1
Quinoline	ND		9.8	5.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/10/19 11:57	07/15/19 19:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Ethoxyethanol	*38*	*J*	*ug/L*		*3.56*	*110-80-5*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*42*	*T J*	*ug/L*		*4.49*		*07/10/19 11:57*	*07/15/19 19:44*	*1*
Acrylamide	*3.7*	*J*	*ug/L*		*4.66*	*79-06-1*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*4.4*	*T J*	*ug/L*		*5.79*		*07/10/19 11:57*	*07/15/19 19:44*	*1*
Acetophenone	*1.5*	*J B*	*ug/L*		*5.85*	*98-86-2*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*9.1*	*T J*	*ug/L*		*5.91*		*07/10/19 11:57*	*07/15/19 19:44*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*22*	*T J N*	*ug/L*		*6.26*	*2039-89-6*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
p-Phenylene diamine	*2.2*	*J **	*ug/L*		*6.95*	*106-50-3*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
1-Methylnaphthalene	*13*		*ug/L*		*6.97*	*90-12-0*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Isosafrole Peak 1	*1.5*	*J*	*ug/L*		*7.07*	*120-58-1*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Phenyl ether	*3.9*	*J*	*ug/L*		*7.12*	*101-84-8*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
2,3-Dinitrotoluene	*14*		*ug/L*		*7.63*	*602-01-7*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*4.9*	*T J*	*ug/L*		*11.71*		*07/10/19 11:57*	*07/15/19 19:44*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		34 - 120	07/10/19 11:57	07/15/19 19:44	1
2-Fluorophenol	64		10 - 120	07/10/19 11:57	07/15/19 19:44	1
Nitrobenzene-d5	78		27 - 120	07/10/19 11:57	07/15/19 19:44	1
Phenol-d5	80		10 - 120	07/10/19 11:57	07/15/19 19:44	1
Terphenyl-d14	50	X	53 - 125	07/10/19 11:57	07/15/19 19:44	1
2,4,6-Tribromophenol	102		15 - 135	07/10/19 11:57	07/15/19 19:44	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819

Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 22:23	1
Acrolein	ND		20	10	ug/L			07/12/19 22:23	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 22:23	1
Benzene	**0.93**	**J**	1.0	0.38	ug/L			07/12/19 22:23	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 22:23	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 22:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 22:23	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 22:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 22:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 22:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 22:23	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 22:23	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 22:23	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 22:23	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:23	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 22:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 22:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 22:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 22:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 22:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 22:23	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 22:23	1
Isopropylbenzene	**8.6**		1.0	0.53	ug/L			07/12/19 22:23	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 22:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 22:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 22:23	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 22:23	1
m-Xylene & p-Xylene	**3.4**	**J**	5.0	1.6	ug/L			07/12/19 22:23	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 22:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 22:23	1
N-Propylbenzene	**2.8**		1.0	0.69	ug/L			07/12/19 22:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 22:23	1
o-Xylene	**0.99**	**J**	5.0	0.60	ug/L			07/12/19 22:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819

Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 22:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 22:23	1
sec-Butylbenzene	**1.5**		1.0	0.70	ug/L			07/12/19 22:23	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 22:23	1
tert-Butylbenzene	**2.3**		1.0	0.63	ug/L			07/12/19 22:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 22:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 22:23	1
Toluene	**1.7**		1.0	0.41	ug/L			07/12/19 22:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 22:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 22:23	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 22:23	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 22:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 22:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 22:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 22:23	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 22:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Xylenes, Total	**4.4**	**J**	10	1.6	ug/L			07/12/19 22:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*180*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/12/19 22:23*	*1*
Cyclopropane, 1,2-dimethyl-, cis-	*12*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/12/19 22:23*	*1*
Butane, 2,2-dimethyl-	*37*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/12/19 22:23*	*1*
Isopropyl alcohol	*86*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 22:23*	*1*
Pentane, 3-methyl-	*130*	*T J N*	*ug/L*		*3.54*	*96-14-0*		*07/12/19 22:23*	*1*
2-Pentene, 4-methyl-	*11*	*T J N*	*ug/L*		*3.83*	*4461-48-7*		*07/12/19 22:23*	*1*
2-Pentene, 3-methyl-, (E)-	*7.1*	*T J N*	*ug/L*		*3.89*	*616-12-6*		*07/12/19 22:23*	*1*
2-Pentene, 3-methyl-	*12*	*T J N*	*ug/L*		*4.12*	*922-61-2*		*07/12/19 22:23*	*1*
Cyclohexane	*25*		*ug/L*		*4.54*	*110-82-7*		*07/12/19 22:23*	*1*
Cyclopentane, 1,1-dimethyl-	*39*	*T J N*	*ug/L*		*4.65*	*1638-26-2*		*07/12/19 22:23*	*1*
3,5-Dimethylcyclopentene	*14*	*T J N*	*ug/L*		*5.14*	*7459-71-4*		*07/12/19 22:23*	*1*
Methylcyclohexane	*47*		*ug/L*		*5.27*	*108-87-2*		*07/12/19 22:23*	*1*
Cyclopentane, ethyl-	*6.2*	*T J N*	*ug/L*		*5.38*	*1640-89-7*		*07/12/19 22:23*	*1*
Cyclohexene, 4-methyl-	*14*	*T J N*	*ug/L*		*5.51*	*591-47-9*		*07/12/19 22:23*	*1*
Cyclohexene, 1-methyl-	*27*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/12/19 22:23*	*1*
1,4-Pentadiene, 2,3,3-trimethyl-	*9.3*	*T J N*	*ug/L*		*6.23*	*756-02-5*		*07/12/19 22:23*	*1*
Bicyclo[3.1.0]hexane, 1,5-dimethyl-	*9.1*	*T J N*	*ug/L*		*6.44*	*1000142-17-5*		*07/12/19 22:23*	*1*
Thiophene, tetrahydro-	*5.2*	*T J N*	*ug/L*		*6.55*	*110-01-0*		*07/12/19 22:23*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*13*	*T J N*	*ug/L*		*9.29*	*527-84-4*		*07/12/19 22:23*	*1*
1-Phenyl-1-butene	*6.1*	*T J N*	*ug/L*		*9.36*	*824-90-8*		*07/12/19 22:23*	*1*
Indan, 1-methyl-	*28*	*T J N*	*ug/L*		*9.42*	*767-58-8*		*07/12/19 22:23*	*1*
Benzene, 1,2,3,4-tetramethyl-	*10*	*T J N*	*ug/L*		*9.65*	*488-23-3*		*07/12/19 22:23*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*26*	*T J N*	*ug/L*		*10.13*	*2039-89-6*		*07/12/19 22:23*	*1*
1-Methylnaphthalene	*7.6*		*ug/L*		*11.91*	*90-12-0*		*07/12/19 22:23*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819

Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/12/19 22:23	1
Dibromofluoromethane	98		81 - 121		07/12/19 22:23	1
Toluene-d8 (Surr)	101		80 - 120		07/12/19 22:23	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Anthracene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Chrysene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Fluoranthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Fluorene	ND		0.19	0.020	ug/L		07/10/19 11:57	07/15/19 18:10	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
1-Methylnaphthalene	**9.3**		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
2-Methylnaphthalene	**0.51**		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Phenanthrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Pyrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		15 - 122	07/10/19 11:57	07/15/19 18:10	1
Nitrobenzene-d5	74		19 - 130	07/10/19 11:57	07/15/19 18:10	1
Terphenyl-d14	32	X	33 - 138	07/10/19 11:57	07/15/19 18:10	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/10/19 11:57	07/15/19 20:05	1
Benzoic acid	ND		29	7.0	ug/L		07/10/19 11:57	07/15/19 20:05	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:05	1
Bis(2-chloroethyl)ether	ND		9.7	0.71	ug/L		07/10/19 11:57	07/15/19 20:05	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/10/19 11:57	07/15/19 20:05	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/10/19 11:57	07/15/19 20:05	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:05	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/10/19 11:57	07/15/19 20:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819

Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:05	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/10/19 11:57	07/15/19 20:05	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/10/19 11:57	07/15/19 20:05	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
Di-n-octyl phthalate	ND		9.7	0.42	ug/L		07/10/19 11:57	07/15/19 20:05	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:05	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/10/19 11:57	07/15/19 20:05	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/10/19 11:57	07/15/19 20:05	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
Indene	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:05	1
Isophorone	ND		9.7	0.55	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/10/19 11:57	07/15/19 20:05	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/10/19 11:57	07/15/19 20:05	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:05	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/10/19 11:57	07/15/19 20:05	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/10/19 11:57	07/15/19 20:05	1
Pentachlorophenol	ND		19	1.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
Phenol	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:05	1
Pyridine	ND		9.7	3.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
Quinoline	ND		9.7	5.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*11*	*T J*	*ug/L*		*3.57*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Cyclohexene, 1-methyl-	*5.3*	*T J N*	*ug/L*		*3.93*	*591-49-1*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
2-Butanone, 4-hydroxy-	*43*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Acrylamide	*8.6*	*J*	*ug/L*		*4.66*	*79-06-1*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*5.4*	*T J*	*ug/L*		*5.00*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzaldehyde	*3.7*	*J*	*ug/L*		*5.08*	*100-52-7*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Ethyl methanesulfonate	*3.4*	*J*	*ug/L*		*5.08*	*62-50-0*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*4.2*	*T J*	*ug/L*		*5.10*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, propyl-	*4.7*	*T J N*	*ug/L*		*5.26*	*103-65-1*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*6.8*	*T J*	*ug/L*		*5.36*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, 1-ethyl-2-methyl-	*4.7*	*T J N*	*ug/L*		*5.40*	*611-14-3*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, 1,2-diethyl-	*4.8*	*T J N*	*ug/L*		*5.81*	*135-01-3*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Acetophenone	*2.1*	*J B*	*ug/L*		*5.85*	*98-86-2*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*6.00*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*5.1*	*T J*	*ug/L*		*6.13*		*07/10/19 11:57*	*07/15/19 20:05*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819
Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-ethenyl-4-ethyl-	6.9	T J N	ug/L		6.21	3454-07-7	07/10/19 11:57	07/15/19 20:05	1
1-Phenyl-1-butene	22	T J N	ug/L		6.26	824-90-8	07/10/19 11:57	07/15/19 20:05	1
Caprolactam	3.7	J	ug/L		6.70	105-60-2	07/10/19 11:57	07/15/19 20:05	1
p-Phenylene diamine	1.9	J *	ug/L		6.95	106-50-3	07/10/19 11:57	07/15/19 20:05	1
1-Methylnaphthalene	8.8	J	ug/L		6.97	90-12-0	07/10/19 11:57	07/15/19 20:05	1
2,3-Dinitrotoluene	14		ug/L		7.63	602-01-7	07/10/19 11:57	07/15/19 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		34 - 120	07/10/19 11:57	07/15/19 20:05	1
2-Fluorophenol	56		10 - 120	07/10/19 11:57	07/15/19 20:05	1
Nitrobenzene-d5	82		27 - 120	07/10/19 11:57	07/15/19 20:05	1
Phenol-d5	80		10 - 120	07/10/19 11:57	07/15/19 20:05	1
Terphenyl-d14	38	X	53 - 125	07/10/19 11:57	07/15/19 20:05	1
2,4,6-Tribromophenol	107		15 - 135	07/10/19 11:57	07/15/19 20:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-59-070819

Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 22:49	1
Acrolein	ND		20	10	ug/L			07/12/19 22:49	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 22:49	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 22:49	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 22:49	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 22:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 22:49	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 22:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 22:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 22:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 22:49	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 22:49	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 22:49	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 22:49	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:49	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 22:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 22:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 22:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 22:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 22:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 22:49	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 22:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 22:49	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 22:49	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 22:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 22:49	1
Methyl tert-butyl ether	**1.7**		1.0	0.74	ug/L			07/12/19 22:49	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 22:49	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 22:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 22:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 22:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 22:49	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 22:49	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-59-070819

Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 22:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 22:49	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 22:49	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 22:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 22:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 22:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 22:49	1
Toluene	**1.2**		1.0	0.41	ug/L			07/12/19 22:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 22:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 22:49	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 22:49	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 22:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 22:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 22:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 22:49	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 22:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 22:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfur dioxide	*68*	*T J N*	*ug/L*		*1.93*	*7446-09-5*		*07/12/19 22:49*	*1*
Isopropyl alcohol	*100*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 22:49*	*1*
2-Methyl-2-propanol	*910*		*ug/L*		*3.39*	*75-65-0*		*07/12/19 22:49*	*1*
t-Amyl alcohol	*56*		*ug/L*		*4.66*	*75-85-4*		*07/12/19 22:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/12/19 22:49*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 22:49*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 22:49*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Anthracene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Chrysene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Fluoranthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Fluorene	ND		0.19	0.020	ug/L		07/10/19 11:57	07/15/19 18:27	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-59-070819

Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Phenanthrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Pyrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*15 - 122*	*07/10/19 11:57*	*07/15/19 18:27*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/10/19 11:57*	*07/15/19 18:27*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/10/19 11:57*	*07/15/19 18:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/10/19 11:57	07/15/19 20:27	1
Benzoic acid	ND		29	7.0	ug/L		07/10/19 11:57	07/15/19 20:27	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:27	1
Bis(2-chloroethyl)ether	ND		9.7	0.71	ug/L		07/10/19 11:57	07/15/19 20:27	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/10/19 11:57	07/15/19 20:27	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/10/19 11:57	07/15/19 20:27	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:27	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:27	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/10/19 11:57	07/15/19 20:27	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/10/19 11:57	07/15/19 20:27	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
Di-n-octyl phthalate	ND		9.7	0.42	ug/L		07/10/19 11:57	07/15/19 20:27	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:27	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/10/19 11:57	07/15/19 20:27	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/10/19 11:57	07/15/19 20:27	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
Indene	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:27	1
Isophorone	ND		9.7	0.55	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/10/19 11:57	07/15/19 20:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-59-070819

Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/10/19 11:57	07/15/19 20:27	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/10/19 11:57	07/15/19 20:27	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:27	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/10/19 11:57	07/15/19 20:27	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/10/19 11:57	07/15/19 20:27	1
Pentachlorophenol	ND		19	1.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
Phenol	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:27	1
Pyridine	ND		9.7	3.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
Quinoline	ND		9.7	5.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Ethoxyethanol	*33*	*J*	*ug/L*		*3.56*	*110-80-5*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Sulfolane	*13*		*ug/L*		*6.46*	*126-33-0*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
2,3-Dinitrotoluene	*13*		*ug/L*		*7.63*	*602-01-7*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*11.71*		*07/10/19 11:57*	*07/15/19 20:27*	*1*
13-Docosenamide, (Z)-	*5.4*	*T J N*	*ug/L*		*11.84*	*112-84-5*	*07/10/19 11:57*	*07/15/19 20:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*34 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
2-Fluorophenol	*61*		*10 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Nitrobenzene-d5	*87*		*27 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Phenol-d5	*78*		*10 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
2,4,6-Tribromophenol	*105*		*15 - 135*	*07/10/19 11:57*	*07/15/19 20:27*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172761-1	TB-PW-070819-B	101	99	103
400-172761-2	PD-13-GWP-40-070819	103	100	100
400-172761-3	PD-13-GWP-46-070819	104	98	100
400-172761-4	PD-13-GWP-50-070819	102	98	101
400-172761-5	PD-13-GWP-59-070819	102	100	100
LCS 400-447731/1002	Lab Control Sample	99	99	100
LCS 400-448145/1002	Lab Control Sample	96	100	102
MB 400-447731/4	Method Blank	101	99	99
MB 400-448145/4	Method Blank	102	99	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172761-2	PD-13-GWP-40-070819	71	65	94	83	88	109
400-172761-3	PD-13-GWP-46-070819	65	64	78	80	50 X	102
400-172761-4	PD-13-GWP-50-070819	63	56	82	80	38 X	107
400-172761-5	PD-13-GWP-59-070819	61	61	87	78	70	105
LCS 400-447399/2-A	Lab Control Sample	64	60	80	73	84	87
LCS 400-447399/4-A	Lab Control Sample	69	0.2 X	82	2 X	92	0 X
LCSD 400-447399/3-A	Lab Control Sample Dup	70	58	86	76	88	92
LCSD 400-447399/5-A	Lab Control Sample Dup	63	53	73	68	86	57
MB 400-447399/1-A	Method Blank	68	67	86	80	95	76

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172761-2	PD-13-GWP-40-070819	74	80	87
400-172761-3	PD-13-GWP-46-070819	74	70	49
400-172761-4	PD-13-GWP-50-070819	67	74	32 X
400-172761-5	PD-13-GWP-59-070819	71	80	77
LCS 400-447399/2-A	Lab Control Sample	69	68	87
LCSD 400-447399/3-A	Lab Control Sample Dup	73	75	91

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
MB 400-447399/1-A	Method Blank	86	91	131

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B
Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 13:23	RS	TAL PEN

Client Sample ID: PD-13-GWP-40-070819
Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 21:30	BSW	TAL PEN
Total/NA	Prep	3520C			1037.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 19:23	VC1	TAL PEN
Total/NA	Prep	3520C			1037.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 17:35	KJA	TAL PEN

Client Sample ID: PD-13-GWP-46-070819
Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 21:56	BSW	TAL PEN
Total/NA	Prep	3520C			1018.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 19:44	VC1	TAL PEN
Total/NA	Prep	3520C			1018.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 17:53	KJA	TAL PEN

Client Sample ID: PD-13-GWP-50-070819
Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 22:23	BSW	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 20:05	VC1	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 18:10	KJA	TAL PEN

Client Sample ID: PD-13-GWP-59-070819
Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 22:49	BSW	TAL PEN
Total/NA	Prep	3520C			1036.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 20:27	VC1	TAL PEN
Total/NA	Prep	3520C			1036.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 18:27	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447399/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 17:14	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 16:10	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447731/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 13:01	BSW	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448145/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 08:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447399/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 17:36	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			448058	07/15/19 16:27	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447399/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448057	07/15/19 18:19	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447731/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 12:02	BSW	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448145/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 07:58	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447399/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 17:57	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			448058	07/15/19 16:44	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447399/5-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 18:40	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

GC/MS VOA

Analysis Batch: 447731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	8260B	
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	8260B	
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	8260B	
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	8260B	
MB 400-447731/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447731/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-1	TB-PW-070819-B	Total/NA	Water	8260B	
MB 400-448145/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448145/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 447399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	3520C	
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	3520C	
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	3520C	
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	3520C	
MB 400-447399/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-447399/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-447399/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-447399/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-447399/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	8270D	447399
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	8270D	447399
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	8270D	447399
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	8270D	447399
MB 400-447399/1-A	Method Blank	Total/NA	Water	8270D	447399
LCS 400-447399/2-A	Lab Control Sample	Total/NA	Water	8270D	447399
LCS 400-447399/4-A	Lab Control Sample	Total/NA	Water	8270D	447399
LCSD 400-447399/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	447399
LCSD 400-447399/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	447399

Analysis Batch: 448058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	8270D LL	447399
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	8270D LL	447399
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	8270D LL	447399
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	8270D LL	447399
MB 400-447399/1-A	Method Blank	Total/NA	Water	8270D LL	447399
LCS 400-447399/2-A	Lab Control Sample	Total/NA	Water	8270D LL	447399
LCSD 400-447399/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	447399

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 13:01	1
Acrolein	ND		20	10	ug/L			07/12/19 13:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 13:01	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 13:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 13:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 13:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 13:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 13:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 13:01	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 13:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 13:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 13:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 13:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 13:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 13:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 13:01	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 13:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 13:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 13:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 13:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 13:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 13:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 13:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 13:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 13:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 13:01	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 13:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 13:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 13:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 13:01	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 13:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 13:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 13:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 13:01	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/12/19 13:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/12/19 13:01	1
Dibromofluoromethane	99		81 - 121		07/12/19 13:01	1
Toluene-d8 (Surr)	99		80 - 120		07/12/19 13:01	1

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	271		ug/L		135	43 - 160
Acrolein	500	624		ug/L		125	38 - 160
Acrylonitrile	500	541		ug/L		108	64 - 142
Benzene	50.0	49.6		ug/L		99	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	51.3		ug/L		103	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	35.6		ug/L		71	10 - 160
2-Butanone (MEK)	200	237		ug/L		118	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.3		ug/L		101	61 - 137
Carbon tetrachloride	50.0	56.6		ug/L		113	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130
Chloroethane	50.0	47.2		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	46.9		ug/L		94	10 - 160
Chloroform	50.0	50.2		ug/L		100	69 - 130
1-Chlorohexane	50.0	53.8		ug/L		108	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	53.3		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	55.9		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.5		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	51.0		ug/L		102	67 - 130
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.1		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.2		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	50.9		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	53.6		ug/L		107	52 - 135
1,1-Dichloropropene	50.0	51.3		ug/L		103	70 - 130
Ethylbenzene	50.0	51.1		ug/L		102	70 - 130
Ethylene Dibromide	50.0	49.8		ug/L		100	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 130
Methylene bromide	50.0	46.4		ug/L		93	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	234		ug/L		117	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	50.8		ug/L		102	70 - 130
Naphthalene	50.0	50.7		ug/L		101	47 - 149
n-Butylbenzene	50.0	51.5		ug/L		103	67 - 130
N-Propylbenzene	50.0	51.7		ug/L		103	70 - 130
o-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
o-Xylene	50.0	50.2		ug/L		100	70 - 130
p-Chlorotoluene	50.0	50.6		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	52.0		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.1		ug/L		100	66 - 130
Styrene	50.0	47.6		ug/L		95	70 - 130
tert-Butylbenzene	50.0	49.5		ug/L		99	64 - 139
1,1,1,2-Tetrachloroethane	50.0	59.9		ug/L		120	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	70 - 131
Tetrachloroethene	50.0	49.6		ug/L		99	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	57.2		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.3		ug/L		97	60 - 138
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	50.4		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	41.4		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	48.2		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	44.7		ug/L		89	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 08:58	1
Acrolein	ND		20	10	ug/L			07/16/19 08:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 08:58	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 08:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 08:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 08:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 08:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 08:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 08:58	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 08:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 08:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 08:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 08:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 08:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 08:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 08:58	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 08:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 08:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 08:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 08:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 08:58	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 08:58	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 08:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 08:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 08:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 08:58	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 08:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 08:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 08:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 08:58	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 08:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 08:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 08:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 08:58	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/16/19 08:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/16/19 08:58	1
Dibromofluoromethane	99		81 - 121		07/16/19 08:58	1
Toluene-d8 (Surr)	103		80 - 120		07/16/19 08:58	1

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	293		ug/L		146	43 - 160
Acrolein	500	603		ug/L		121	38 - 160
Acrylonitrile	500	560		ug/L		112	64 - 142
Benzene	50.0	50.0		ug/L		100	70 - 130
Bromobenzene	50.0	49.2		ug/L		98	70 - 132
Bromochloromethane	50.0	51.7		ug/L		103	70 - 130
Bromodichloromethane	50.0	51.9		ug/L		104	67 - 133
Bromoform	50.0	57.9		ug/L		116	57 - 140
Bromomethane	50.0	36.4		ug/L		73	10 - 160
2-Butanone (MEK)	200	250		ug/L		125	61 - 145
Carbon disulfide	50.0	50.2		ug/L		100	61 - 137
Carbon tetrachloride	50.0	56.9		ug/L		114	61 - 137
Chlorobenzene	50.0	52.1		ug/L		104	70 - 130
Chloroethane	50.0	45.7		ug/L		91	55 - 141
2-Chloroethyl vinyl ether	50.0	39.5		ug/L		79	10 - 160
Chloroform	50.0	51.2		ug/L		102	69 - 130
1-Chlorohexane	50.0	56.6		ug/L		113	69 - 130
Chloromethane	50.0	41.6		ug/L		83	58 - 137
cis-1,2-Dichloroethene	50.0	53.4		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	57.6		ug/L		115	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	56.3		ug/L		113	54 - 135
1,2-Dichlorobenzene	50.0	53.2		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	52.1		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	27.4		ug/L		55	41 - 146
1,1-Dichloroethane	50.0	53.5		ug/L		107	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.2		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.5		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	52.0		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	50.6		ug/L		101	70 - 130
Ethylbenzene	50.0	53.5		ug/L		107	70 - 130
Ethylene Dibromide	50.0	52.4		ug/L		105	70 - 130
Ethyl methacrylate	50.0	59.3		ug/L		119	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	280	*	ug/L		140	65 - 137
Isopropylbenzene	50.0	50.9		ug/L		102	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	238		ug/L		119	69 - 138
Methyl tert-butyl ether	50.0	47.2		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	51.4		ug/L		103	47 - 149
n-Butylbenzene	50.0	53.1		ug/L		106	67 - 130
N-Propylbenzene	50.0	53.2		ug/L		106	70 - 130
o-Chlorotoluene	50.0	52.0		ug/L		104	70 - 130
o-Xylene	50.0	52.0		ug/L		104	70 - 130
p-Chlorotoluene	50.0	51.9		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.0		ug/L		102	66 - 130
Styrene	50.0	49.8		ug/L		100	70 - 130
tert-Butylbenzene	50.0	50.8		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	63.2		ug/L		126	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.5		ug/L		105	70 - 131
Tetrachloroethene	50.0	52.2		ug/L		104	65 - 130
Toluene	50.0	53.5		ug/L		107	70 - 130
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	59.9		ug/L		120	63 - 130
1,2,3-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.5		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	70 - 130
Trichloroethene	50.0	50.7		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	40.5		ug/L		81	65 - 138
1,2,3-Trichloropropane	50.0	49.0		ug/L		98	70 - 130
1,2,4-Trimethylbenzene	50.0	50.6		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	50.4		ug/L		101	69 - 130
Vinyl acetate	100	104		ug/L		104	26 - 160
Vinyl chloride	50.0	41.8		ug/L		84	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
Benzenethiol	ND		10	1.7	ug/L		07/10/19 11:57	07/15/19 17:14	1
Benzoic acid	ND		30	7.3	ug/L		07/10/19 11:57	07/15/19 17:14	1
Benzyl alcohol	ND		10	2.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/10/19 11:57	07/15/19 17:14	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/10/19 11:57	07/15/19 17:14	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/10/19 11:57	07/15/19 17:14	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/10/19 11:57	07/15/19 17:14	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Chloroaniline	ND		10	3.4	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Chlorophenol	ND		10	2.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Dibenzofuran	ND		10	0.52	ug/L		07/10/19 11:57	07/15/19 17:14	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Diethyl phthalate	ND		10	0.70	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/10/19 11:57	07/15/19 17:14	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/10/19 11:57	07/15/19 17:14	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/10/19 11:57	07/15/19 17:14	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/10/19 11:57	07/15/19 17:14	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/10/19 11:57	07/15/19 17:14	1
1,4-Dioxane	ND		10	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/10/19 11:57	07/15/19 17:14	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/10/19 11:57	07/15/19 17:14	1
Hexachloroethane	ND		10	4.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
Indene	ND		10	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Isophorone	ND		10	0.57	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Methylphenol	ND		10	1.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Nitroaniline	ND		10	2.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
3-Nitroaniline	ND		10	1.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Nitroaniline	ND		10	2.5	ug/L		07/10/19 11:57	07/15/19 17:14	1
Nitrobenzene	ND		10	0.55	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Nitrophenol	ND		10	0.65	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Nitrophenol	ND		10	2.1	ug/L		07/10/19 11:57	07/15/19 17:14	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/10/19 11:57	07/15/19 17:14	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/10/19 11:57	07/15/19 17:14	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/10/19 11:57	07/15/19 17:14	1
Pentachlorophenol	ND		20	1.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
Phenol	ND		10	2.6	ug/L		07/10/19 11:57	07/15/19 17:14	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
Quinoline	ND		10	6.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/10/19 11:57	07/15/19 17:14	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Acetophenone	*0.776*	*J*	*ug/L*		*5.85*	*98-86-2*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/10/19 11:57*	*07/15/19 17:14*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*68*		*34 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
2-Fluorophenol	*67*		*10 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Phenol-d5	*80*		*10 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Terphenyl-d14	*95*		*53 - 125*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
2,4,6-Tribromophenol	*76*		*15 - 135*	*07/10/19 11:57*	*07/15/19 17:14*	*1*

Lab Sample ID: LCS 400-447399/2-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	21.5		ug/L		72	29 - 120
Benzoic acid	117	51.8		ug/L		44	10 - 150
Benzyl alcohol	30.0	21.3		ug/L		71	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.3		ug/L		58	45 - 120
Bis(2-chloroethyl)ether	30.0	15.7		ug/L		52	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.6		ug/L		62	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	22.0		ug/L		73	48 - 150
4-Bromophenyl phenyl ether	30.0	19.8		ug/L		66	55 - 122
Butyl benzyl phthalate	30.0	21.9		ug/L		73	46 - 145
4-Chloroaniline	30.0	18.7		ug/L		62	30 - 120
4-Chloro-3-methylphenol	30.0	24.0		ug/L		80	39 - 140
2-Chloronaphthalene	30.0	18.6		ug/L		62	52 - 120
2-Chlorophenol	30.0	19.9		ug/L		66	34 - 120
4-Chlorophenyl phenyl ether	30.0	19.1		ug/L		64	58 - 124
Dibenz[a,h]acridine	30.0	16.2		ug/L		54	46 - 149
Dibenzofuran	30.0	19.9		ug/L		66	58 - 123
3,3'-Dichlorobenzidine	40.0	45.2		ug/L		113	39 - 135
2,4-Dichlorophenol	30.0	21.4		ug/L		71	39 - 128
Diethyl phthalate	30.0	21.0		ug/L		70	44 - 146
2,4-Dimethylphenol	30.0	20.8		ug/L		69	44 - 120
Dimethyl phthalate	30.0	20.4		ug/L		68	50 - 131
Di-n-butyl phthalate	30.0	23.2		ug/L		77	55 - 131
4,6-Dinitro-ortho-cresol	60.0	51.4		ug/L		86	10 - 150
2,4-Dinitrophenol	60.0	58.3		ug/L		97	10 - 150
2,4-Dinitrotoluene	30.0	22.4		ug/L		75	58 - 140
2,6-Dinitrotoluene	30.0	21.4		ug/L		71	57 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447399/2-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Di-n-octyl phthalate	30.0	20.5		ug/L		68	50 - 150
1,4-Dioxane	30.0	12.4		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.2		ug/L		67	47 - 123
Hexachlorobenzene	30.0	19.3		ug/L		64	52 - 131
Hexachlorocyclopentadiene	30.0	10.3	J	ug/L		34	10 - 129
Hexachloroethane	30.0	13.3		ug/L		44	41 - 120
Indene	30.0	18.0		ug/L		60	47 - 120
Isophorone	30.0	19.7		ug/L		66	49 - 120
2-Methylphenol	30.0	20.6		ug/L		69	39 - 123
3 & 4 Methylphenol	30.0	19.7	J	ug/L		66	38 - 121
2-Nitroaniline	30.0	22.9		ug/L		76	47 - 150
3-Nitroaniline	30.0	22.3		ug/L		74	34 - 132
4-Nitroaniline	30.0	24.8		ug/L		83	41 - 135
Nitrobenzene	30.0	20.0		ug/L		67	47 - 120
2-Nitrophenol	30.0	22.2		ug/L		74	28 - 136
4-Nitrophenol	60.0	40.0		ug/L		67	10 - 150
N-Nitrosodimethylamine	30.0	20.5		ug/L		68	22 - 148
N-Nitrosodi-n-propylamine	30.0	19.7		ug/L		66	44 - 120
N-Nitrosodiphenylamine	29.8	21.0		ug/L		70	56 - 120
Pentachlorophenol	60.0	42.4		ug/L		71	15 - 141
Phenol	30.0	18.4		ug/L		61	33 - 120
Pyridine	60.0	31.4		ug/L		52	26 - 120
Quinoline	30.0	24.3		ug/L		81	51 - 129
2,4,5-Trichlorophenol	30.0	21.8		ug/L		73	38 - 147
2,4,6-Trichlorophenol	30.0	21.5		ug/L		72	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*34 - 120*
2-Fluorophenol	*60*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*73*		*10 - 120*
Terphenyl-d14	*84*		*53 - 125*
2,4,6-Tribromophenol	*87*		*15 - 135*

Lab Sample ID: LCS 400-447399/4-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*34 - 120*
2-Fluorophenol	*0.2*	*X*	*10 - 120*
Nitrobenzene-d5	*82*		*27 - 120*
Phenol-d5	*2*	*X*	*10 - 120*
Terphenyl-d14	*92*		*53 - 125*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447399/4-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	0	X	15 - 135

Lab Sample ID: LCSD 400-447399/3-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	22.5		ug/L		75	29 - 120	4	30
Benzoic acid	117	56.0		ug/L		48	10 - 150	8	30
Benzyl alcohol	30.0	21.8		ug/L		73	19 - 125	2	30
Bis(2-chloroethoxy)methane	30.0	17.4		ug/L		58	45 - 120	1	30
Bis(2-chloroethyl)ether	30.0	17.0		ug/L		57	48 - 120	8	30
bis (2-chloroisopropyl) ether	30.0	19.1		ug/L		64	30 - 125	3	30
Bis(2-ethylhexyl) phthalate	30.0	24.0		ug/L		80	48 - 150	8	30
4-Bromophenyl phenyl ether	30.0	20.3		ug/L		68	55 - 122	2	30
Butyl benzyl phthalate	30.0	22.8		ug/L		76	46 - 145	4	30
4-Chloroaniline	30.0	17.1		ug/L		57	30 - 120	9	30
4-Chloro-3-methylphenol	30.0	23.4		ug/L		78	39 - 140	2	30
2-Chloronaphthalene	30.0	19.6		ug/L		65	52 - 120	5	30
2-Chlorophenol	30.0	19.7		ug/L		66	34 - 120	1	30
4-Chlorophenyl phenyl ether	30.0	19.9		ug/L		66	58 - 124	4	30
Dibenz[a,h]acridine	30.0	21.3		ug/L		71	46 - 149	27	30
Dibenzofuran	30.0	20.2		ug/L		67	58 - 123	2	30
3,3'-Dichlorobenzidine	40.0	42.3		ug/L		106	39 - 135	7	30
2,4-Dichlorophenol	30.0	21.6		ug/L		72	39 - 128	1	30
Diethyl phthalate	30.0	21.2		ug/L		71	44 - 146	1	30
2,4-Dimethylphenol	30.0	20.8		ug/L		69	44 - 120	0	30
Dimethyl phthalate	30.0	20.4		ug/L		68	50 - 131	0	30
Di-n-butyl phthalate	30.0	24.4		ug/L		81	55 - 131	5	30
4,6-Dinitro-ortho-cresol	60.0	50.4		ug/L		84	10 - 150	2	30
2,4-Dinitrophenol	60.0	56.2		ug/L		94	10 - 150	4	30
2,4-Dinitrotoluene	30.0	22.5		ug/L		75	58 - 140	1	30
2,6-Dinitrotoluene	30.0	21.2		ug/L		71	57 - 130	1	30
Di-n-octyl phthalate	30.0	22.6		ug/L		75	50 - 150	10	30
1,4-Dioxane	30.0	13.3		ug/L		44	25 - 120	7	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	19.9		ug/L		66	47 - 123	1	30
Hexachlorobenzene	30.0	20.8		ug/L		69	52 - 131	7	30
Hexachlorocyclopentadiene	30.0	14.3	J*	ug/L		48	10 - 129	32	30
Hexachloroethane	30.0	17.3		ug/L		58	41 - 120	26	30
Indene	30.0	20.6		ug/L		69	47 - 120	14	30
Isophorone	30.0	19.8		ug/L		66	49 - 120	1	30
2-Methylphenol	30.0	21.1		ug/L		70	39 - 123	2	30
3 & 4 Methylphenol	30.0	19.6	J	ug/L		65	38 - 121	1	30
2-Nitroaniline	30.0	22.6		ug/L		75	47 - 150	1	30
3-Nitroaniline	30.0	21.1		ug/L		70	34 - 132	6	30
4-Nitroaniline	30.0	24.0		ug/L		80	41 - 135	4	30
Nitrobenzene	30.0	20.4		ug/L		68	47 - 120	2	30
2-Nitrophenol	30.0	22.4		ug/L		75	28 - 136	1	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447399/3-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitrophenol	60.0	38.9		ug/L		65	10 - 150	3	30
N-Nitrosodimethylamine	30.0	21.4		ug/L		71	22 - 148	4	30
N-Nitrosodi-n-propylamine	30.0	20.3		ug/L		68	44 - 120	3	30
N-Nitrosodiphenylamine	29.8	20.7		ug/L		70	56 - 120	1	30
Pentachlorophenol	60.0	44.2		ug/L		74	15 - 141	4	30
Phenol	30.0	18.5		ug/L		62	33 - 120	0	30
Pyridine	60.0	34.3		ug/L		57	26 - 120	9	30
Quinoline	30.0	25.8		ug/L		86	51 - 129	6	30
2,4,5-Trichlorophenol	30.0	21.9		ug/L		73	38 - 147	1	30
2,4,6-Trichlorophenol	30.0	21.5		ug/L		72	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*34 - 120*
2-Fluorophenol	*58*		*10 - 120*
Nitrobenzene-d5	*86*		*27 - 120*
Phenol-d5	*76*		*10 - 120*
Terphenyl-d14	*88*		*53 - 125*
2,4,6-Tribromophenol	*92*		*15 - 135*

Lab Sample ID: LCSD 400-447399/5-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120	41	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*53*		*10 - 120*
Nitrobenzene-d5	*73*		*27 - 120*
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*86*		*53 - 125*
2,4,6-Tribromophenol	*57*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Anthracene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Chrysene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Dibenz(a,h)anthracene	0.0709	J	0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Fluoranthene	0.0350	J	0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Fluorene	ND		0.20	0.021	ug/L		07/10/19 11:57	07/15/19 16:10	1
Indeno[1,2,3-cd]pyrene	0.0779	J	0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Phenanthrene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Pyrene	0.0309	J	0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*15 - 122*	*07/10/19 11:57*	*07/15/19 16:10*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/10/19 11:57*	*07/15/19 16:10*	*1*
Terphenyl-d14	*131*		*33 - 138*	*07/10/19 11:57*	*07/15/19 16:10*	*1*

Lab Sample ID: LCS 400-447399/2-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	21.9		ug/L		73	41 - 120
Acenaphthylene	30.0	21.4		ug/L		71	44 - 120
Anthracene	30.0	21.9		ug/L		73	49 - 120
Benzo[a]anthracene	30.0	19.8		ug/L		66	61 - 135
Benzo[a]pyrene	30.0	21.8		ug/L		73	52 - 120
Benzo[b]fluoranthene	30.0	23.6		ug/L		79	53 - 134
Benzo[g,h,i]perylene	30.0	20.0		ug/L		67	47 - 133
Benzo[k]fluoranthene	30.0	21.4		ug/L		71	57 - 134
Chrysene	30.0	19.7		ug/L		66	55 - 122
Dibenz(a,h)anthracene	30.0	20.4		ug/L		68	48 - 146
Fluoranthene	30.0	19.9		ug/L		66	54 - 128
Fluorene	30.0	23.7		ug/L		79	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	19.7		ug/L		66	43 - 142
1-Methylnaphthalene	30.0	18.5		ug/L		62	41 - 120
2-Methylnaphthalene	30.0	18.5		ug/L		62	32 - 124
Phenanthrene	30.0	20.9		ug/L		70	48 - 120
Pyrene	30.0	21.4		ug/L		71	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*15 - 122*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*87*		*33 - 138*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-447399/3-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	21.8		ug/L		73	41 - 120	0	56
Acenaphthylene	30.0	21.4		ug/L		71	44 - 120	0	56
Anthracene	30.0	21.6		ug/L		72	49 - 120	2	51
Benzo[a]anthracene	30.0	20.1		ug/L		67	61 - 135	2	49
Benzo[a]pyrene	30.0	21.9		ug/L		73	52 - 120	0	50
Benzo[b]fluoranthene	30.0	25.0		ug/L		83	53 - 134	6	54
Benzo[g,h,i]perylene	30.0	20.3		ug/L		68	47 - 133	2	50
Benzo[k]fluoranthene	30.0	21.8		ug/L		73	57 - 134	2	52
Chrysene	30.0	20.3		ug/L		68	55 - 122	3	50
Dibenz(a,h)anthracene	30.0	20.7		ug/L		69	48 - 146	1	50
Fluoranthene	30.0	20.6		ug/L		69	54 - 128	3	52
Fluorene	30.0	23.4		ug/L		78	45 - 125	1	56
Indeno[1,2,3-cd]pyrene	30.0	20.1		ug/L		67	43 - 142	2	51
1-Methylnaphthalene	30.0	19.5		ug/L		65	41 - 120	5	55
2-Methylnaphthalene	30.0	19.9		ug/L		66	32 - 124	7	57
Phenanthrene	30.0	21.1		ug/L		70	48 - 120	1	56
Pyrene	30.0	22.6		ug/L		75	48 - 132	5	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*73*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*91*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

400-172761 COC

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name: James Carrino

PlaNet Site or Pro: 25278

IF NO INCIDENT # APPLIES

DATE 7/8/2019

PAGE: ___1___ of ___1___

PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060

GSAP Project ID: USPC/00114/R/02

SAMPLING COMPANY: AECOM

LOG CODE:

State: IL

170 East Rand Avenue, Hartford

AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel

PHONE NO.: 3144290100

E-MAIL: elizabeth.kunkel@aecom.com

AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

SAMPLER NAME(S) (Print): James Ragatz

LAB USE ONLY

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
TB-PW-070819-B	7/8/2019	0:00	Water	2					2		x	
PD-13-GWP-40-070819	7/8/2019	11:20	Water	2			2		4	x	x	x
PD-13-GWP-46-070819	7/8/2019	12:15	Water	2			2		4	x	x	x
PD-13-GWP-50-070819	7/8/2019	14:15	Water	2			2		4	x	x	x
PD-13-GWP-59-070819	7/8/2019	15:10	Water	2			2		4	x	x	x

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Relinquished by: (Signature) James Ragatz	Received by: (Signature) Fedex:	Date: 7/8/2019	Time: 18:00
Relinquished by: (Signature)	Received by: (Signature)	Date: 07.09.19	Time: 853
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

Custody Seals: 1011539 & 1011538
FedEx #: 4931 8203 7373

1.5°C IR8

7/24/2019

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CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172761-1

Login Number: 172761
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172761-1
Client Project/Site: PreDesign Invest PW
Revision: 2

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 11:14:47 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172761-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172761-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 10-4-19.

Revised Report
Report revised to correct TICs reporting for the 8270 analysis.
Supersedes report dated 7-22-19

Receipt
The samples were received on 7/9/2019 8:53 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448145 recovered outside control limits for the following analyte: 2-Hexanone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: PD-13-GWP-40-070819 (400-172761-2), PD-13-GWP-46-070819 (400-172761-3), PD-13-GWP-50-070819 (400-172761-4) and PD-13-GWP-59-070819 (400-172761-5). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-PW-070819-B (400-172761-1). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The semi-volatile analyst did not note the request for TICs on the following samples at the time of data analysis and review. Therefore, non-target peaks were reported without evaluation. The data has been re-evaluated and re-reported accordingly: PD-13-GWP-40-070819 (400-172761-2), PD-13-GWP-46-070819 (400-172761-3), PD-13-GWP-50-070819 (400-172761-4) and PD-13-GWP-59-070819 (400-172761-5)

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-447399 and analytical batch 400-448057 recovered outside control limits for the following analytes: Hexachlorocyclopentadiene.

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447399 and analytical batch 400-448057 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-447399 and analytical batch 400-448057 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448057 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate, 4-Chloro-3-methylphenol, Aniline and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 400-172761-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448057 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-13-GWP-46-070819 (400-172761-3) and PD-13-GWP-50-070819 (400-172761-4). These results have been reported and qualified.

Method(s) 8270D LL: The method blank for preparation batch 400-447399 and analytical batch 400-448058 contained Indeno[1,2,3-cd]pyrene, Pyrene, Fluoranthene and Dibenz(a,h)anthracene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-13-GWP-50-070819 (400-172761-4). These results have been reported and qualified.

Method(s) 8270D: The probable swing of the pH has caused the LCS to fail for the acid surrogates. The surrogate recovery for the associated samples was within the control limits; therefore, the data are flagged and reported. (LCS 400-447399/4-A)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172761-1	TB-PW-070819-B	Water	07/08/19 00:00	07/09/19 08:53	
400-172761-2	PD-13-GWP-40-070819	Water	07/08/19 11:20	07/09/19 08:53	
400-172761-3	PD-13-GWP-46-070819	Water	07/08/19 12:15	07/09/19 08:53	
400-172761-4	PD-13-GWP-50-070819	Water	07/08/19 14:15	07/09/19 08:53	
400-172761-5	PD-13-GWP-59-070819	Water	07/08/19 15:10	07/09/19 08:53	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B — Lab Sample ID: 400-172761-1

No Detections.

Client Sample ID: PD-13-GWP-40-070819 — Lab Sample ID: 400-172761-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.43	J	1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	5.8		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	1.4		1.0	0.41	ug/L	1		8260B	Total/NA

Client Sample ID: PD-13-GWP-46-070819 — Lab Sample ID: 400-172761-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.1		1.0	0.38	ug/L	1		8260B	Total/NA
Isopropylbenzene	4.0		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.9	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.7		1.0	1.0	ug/L	1		8260B	Total/NA
n-Butylbenzene	0.90	J	1.0	0.76	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.3		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	1.9	J	5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.6		1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	2.9		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	1.1		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.7		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	3.0		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	3.8	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	15		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.55		0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-13-GWP-50-070819 — Lab Sample ID: 400-172761-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.93	J	1.0	0.38	ug/L	1		8260B	Total/NA
Isopropylbenzene	8.6		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	3.4	J	5.0	1.6	ug/L	1		8260B	Total/NA
N-Propylbenzene	2.8		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	0.99	J	5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.5		1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	2.3		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	1.7		1.0	0.41	ug/L	1		8260B	Total/NA
Xylenes, Total	4.4	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	9.3		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.51		0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-13-GWP-59-070819 — Lab Sample ID: 400-172761-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.7		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	1.2		1.0	0.41	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B

Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 13:23	1
Acrolein	ND		20	10	ug/L			07/16/19 13:23	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 13:23	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 13:23	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 13:23	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 13:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 13:23	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 13:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 13:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 13:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 13:23	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 13:23	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 13:23	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 13:23	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:23	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 13:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 13:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 13:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 13:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 13:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 13:23	1
2-Hexanone	ND	*	25	3.1	ug/L			07/16/19 13:23	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 13:23	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 13:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 13:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 13:23	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 13:23	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 13:23	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 13:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 13:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 13:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 13:23	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 13:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: TB-PW-070819-B
Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 13:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 13:23	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 13:23	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 13:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 13:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 13:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 13:23	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 13:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 13:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 13:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 13:23	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 13:23	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 13:23	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 13:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 13:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 13:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 13:23	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 13:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 13:23	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 13:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/16/19 13:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/16/19 13:23*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/16/19 13:23*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/16/19 13:23*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 21:30	1
Acrolein	ND		20	10	ug/L			07/12/19 21:30	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 21:30	1
Benzene	**0.43**	**J**	1.0	0.38	ug/L			07/12/19 21:30	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 21:30	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 21:30	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 21:30	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 21:30	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 21:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 21:30	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 21:30	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 21:30	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 21:30	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 21:30	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:30	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 21:30	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 21:30	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 21:30	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 21:30	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 21:30	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 21:30	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 21:30	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 21:30	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 21:30	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 21:30	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 21:30	1
Methyl tert-butyl ether	**5.8**		1.0	0.74	ug/L			07/12/19 21:30	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 21:30	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 21:30	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 21:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 21:30	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 21:30	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 21:30	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Lab Sample ID: 400-172761-2

Date Collected: 07/08/19 11:20

Matrix: Water

Date Received: 07/09/19 08:53

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 21:30	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 21:30	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 21:30	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 21:30	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 21:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 21:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 21:30	1
Toluene	**1.4**		1.0	0.41	ug/L			07/12/19 21:30	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:30	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 21:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 21:30	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:30	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 21:30	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 21:30	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 21:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 21:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 21:30	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 21:30	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 21:30	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 21:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*100*	*T J*	*ug/L*		*1.93*			*07/12/19 21:30*	*1*
Unknown	*15*	*T J*	*ug/L*		*2.53*			*07/12/19 21:30*	*1*
Butane, 2,2-dimethyl-	*18*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/12/19 21:30*	*1*
Isopropyl alcohol	*74*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 21:30*	*1*
2-Methyl-2-propanol	*510*		*ug/L*		*3.39*	*75-65-0*		*07/12/19 21:30*	*1*
Isopropyl ether	*0.93*	*J*	*ug/L*		*3.82*	*108-20-3*		*07/12/19 21:30*	*1*
Unknown	*11*	*T J*	*ug/L*		*4.12*			*07/12/19 21:30*	*1*
Cyclohexane	*20*		*ug/L*		*4.54*	*110-82-7*		*07/12/19 21:30*	*1*
Unknown	*5.0*	*T J*	*ug/L*		*4.99*			*07/12/19 21:30*	*1*
Methylcyclohexane	*1.3*		*ug/L*		*5.27*	*108-87-2*		*07/12/19 21:30*	*1*
2-Ethyltoluene	*0.41*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/12/19 21:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/12/19 21:30*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 21:30*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 21:30*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Anthracene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Chrysene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
Fluoranthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Fluorene	ND		0.19	0.020	ug/L		07/10/19 11:57	07/15/19 17:35	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 17:35	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Phenanthrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1
Pyrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/10/19 11:57*	*07/15/19 17:35*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/10/19 11:57*	*07/15/19 17:35*	*1*
Terphenyl-d14	*87*		*33 - 138*	*07/10/19 11:57*	*07/15/19 17:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/10/19 11:57	07/15/19 19:23	1
Benzoic acid	ND		29	7.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/10/19 11:57	07/15/19 19:23	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/10/19 11:57	07/15/19 19:23	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/10/19 11:57	07/15/19 19:23	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/10/19 11:57	07/15/19 19:23	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/10/19 11:57	07/15/19 19:23	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/10/19 11:57	07/15/19 19:23	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/10/19 11:57	07/15/19 19:23	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/10/19 11:57	07/15/19 19:23	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/10/19 11:57	07/15/19 19:23	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/10/19 11:57	07/15/19 19:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/10/19 11:57	07/15/19 19:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-40-070819

Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/10/19 11:57	07/15/19 19:23	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/10/19 11:57	07/15/19 19:23	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
Indene	ND		9.6	0.96	ug/L		07/10/19 11:57	07/15/19 19:23	1
Isophorone	ND		9.6	0.55	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/10/19 11:57	07/15/19 19:23	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/10/19 11:57	07/15/19 19:23	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/10/19 11:57	07/15/19 19:23	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/10/19 11:57	07/15/19 19:23	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/10/19 11:57	07/15/19 19:23	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/10/19 11:57	07/15/19 19:23	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/10/19 11:57	07/15/19 19:23	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/10/19 11:57	07/15/19 19:23	1
Pentachlorophenol	ND		19	1.7	ug/L		07/10/19 11:57	07/15/19 19:23	1
Phenol	ND		9.6	2.5	ug/L		07/10/19 11:57	07/15/19 19:23	1
Pyridine	ND		9.6	3.1	ug/L		07/10/19 11:57	07/15/19 19:23	1
Quinoline	ND		9.6	5.8	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/10/19 11:57	07/15/19 19:23	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/10/19 11:57	07/15/19 19:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*4.6*	*T J*	*ug/L*		*5.36*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Indane	*25*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*7.4*	*T J*	*ug/L*		*6.00*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*6.13*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*7.0*	*T J*	*ug/L*		*6.19*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*7.2*	*T J*	*ug/L*		*6.33*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*6.37*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*4.9*	*T J*	*ug/L*		*6.80*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
Octadecanoic acid	*6.4*	*T J N*	*ug/L*		*9.78*	*57-11-4*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
9-Octadecenamide, (Z)-	*10*	*T J N*	*ug/L*		*10.50*	*301-02-0*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
1-Heneicosyl formate	*6.4*	*T J N*	*ug/L*		*10.90*	*77899-03-7*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*11.71*		*07/10/19 11:57*	*07/15/19 19:23*	*1*
13-Docosenamide, (Z)-	*13*	*T J N*	*ug/L*		*11.84*	*112-84-5*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Unknown	*5.7*	*T J*	*ug/L*		*11.93*		*07/10/19 11:57*	*07/15/19 19:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*34 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
2-Fluorophenol	*65*		*10 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Nitrobenzene-d5	*94*		*27 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Phenol-d5	*83*		*10 - 120*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
Terphenyl-d14	*88*		*53 - 125*	*07/10/19 11:57*	*07/15/19 19:23*	*1*
2,4,6-Tribromophenol	*109*		*15 - 135*	*07/10/19 11:57*	*07/15/19 19:23*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 21:56	1
Acrolein	ND		20	10	ug/L			07/12/19 21:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 21:56	1
Benzene	**2.1**		1.0	0.38	ug/L			07/12/19 21:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 21:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 21:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 21:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 21:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 21:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 21:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 21:56	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 21:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 21:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 21:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 21:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 21:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 21:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 21:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 21:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 21:56	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 21:56	1
Isopropylbenzene	**4.0**		1.0	0.53	ug/L			07/12/19 21:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 21:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 21:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 21:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 21:56	1
m-Xylene & p-Xylene	**1.9**	**J**	5.0	1.6	ug/L			07/12/19 21:56	1
Naphthalene	**1.7**		1.0	1.0	ug/L			07/12/19 21:56	1
n-Butylbenzene	**0.90**	**J**	1.0	0.76	ug/L			07/12/19 21:56	1
N-Propylbenzene	**1.3**		1.0	0.69	ug/L			07/12/19 21:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 21:56	1
o-Xylene	**1.9**	**J**	5.0	0.60	ug/L			07/12/19 21:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 21:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 21:56	1
sec-Butylbenzene	**1.6**		1.0	0.70	ug/L			07/12/19 21:56	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 21:56	1
tert-Butylbenzene	**2.9**		1.0	0.63	ug/L			07/12/19 21:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 21:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 21:56	1
Toluene	**1.1**		1.0	0.41	ug/L			07/12/19 21:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 21:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 21:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 21:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 21:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 21:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 21:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 21:56	1
1,2,4-Trimethylbenzene	**1.7**		1.0	0.82	ug/L			07/12/19 21:56	1
1,3,5-Trimethylbenzene	**3.0**		1.0	0.56	ug/L			07/12/19 21:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 21:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 21:56	1
Xylenes, Total	**3.8**	**J**	10	1.6	ug/L			07/12/19 21:56	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*99*	*T J*	*ug/L*		*1.96*			*07/12/19 21:56*	*1*
Butane, 2-methyl-	*64*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/12/19 21:56*	*1*
Butane, 2,2-dimethyl-	*23*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/12/19 21:56*	*1*
Isopropyl alcohol	*81*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 21:56*	*1*
2-Methyl-2-propanol	*120*		*ug/L*		*3.39*	*75-65-0*		*07/12/19 21:56*	*1*
Pentane, 3-methyl-	*65*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/12/19 21:56*	*1*
Cyclohexane	*10*		*ug/L*		*4.54*	*110-82-7*		*07/12/19 21:56*	*1*
Cyclobutane, (1-methylethylidene)-	*8.8*	*T J N*	*ug/L*		*5.00*	*1528-22-9*		*07/12/19 21:56*	*1*
Methylcyclohexane	*34*		*ug/L*		*5.27*	*108-87-2*		*07/12/19 21:56*	*1*
Unknown	*6.2*	*T J*	*ug/L*		*5.38*			*07/12/19 21:56*	*1*
Unknown	*8.9*	*T J*	*ug/L*		*5.51*			*07/12/19 21:56*	*1*
Unknown	*7.0*	*T J*	*ug/L*		*5.60*			*07/12/19 21:56*	*1*
Cyclohexene, 1-methyl-	*9.1*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/12/19 21:56*	*1*
Unknown	*6.6*	*T J*	*ug/L*		*6.05*			*07/12/19 21:56*	*1*
Unknown	*6.3*	*T J*	*ug/L*		*6.16*			*07/12/19 21:56*	*1*
Unknown	*12*	*T J*	*ug/L*		*6.23*			*07/12/19 21:56*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*14*	*T J N*	*ug/L*		*9.29*	*2870-04-4*		*07/12/19 21:56*	*1*
1-Phenyl-1-butene	*6.1*	*T J N*	*ug/L*		*9.36*	*824-90-8*		*07/12/19 21:56*	*1*
Indan, 1-methyl-	*28*	*T J N*	*ug/L*		*9.42*	*767-58-8*		*07/12/19 21:56*	*1*
Benzene, 1,2,3,4-tetramethyl-	*14*	*T J N*	*ug/L*		*9.65*	*488-23-3*		*07/12/19 21:56*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*23*	*T J N*	*ug/L*		*10.13*	*2039-89-6*		*07/12/19 21:56*	*1*
Unknown	*6.4*	*T J*	*ug/L*		*10.42*			*07/12/19 21:56*	*1*
1H-Indene, 2,3-dihydro-1,6-dimethyl-	*8.2*	*T J N*	*ug/L*		*10.55*	*17059-48-2*		*07/12/19 21:56*	*1*
1-Methylnaphthalene	*9.7*		*ug/L*		*11.91*	*90-12-0*		*07/12/19 21:56*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-46-070819
Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*104*		*78 - 118*		*07/12/19 21:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/12/19 21:56*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 21:56*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Anthracene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Chrysene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
Fluoranthene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Fluorene	ND		0.20	0.021	ug/L		07/10/19 11:57	07/15/19 17:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/10/19 11:57	07/15/19 17:53	1
1-Methylnaphthalene	**15**		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
2-Methylnaphthalene	**0.55**		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Phenanthrene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1
Pyrene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*74*		*15 - 122*	*07/10/19 11:57*	*07/15/19 17:53*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/10/19 11:57*	*07/15/19 17:53*	*1*
Terphenyl-d14	*49*		*33 - 138*	*07/10/19 11:57*	*07/15/19 17:53*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
Benzoic acid	ND		29	7.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/10/19 11:57	07/15/19 19:44	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/10/19 11:57	07/15/19 19:44	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/10/19 11:57	07/15/19 19:44	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/10/19 11:57	07/15/19 19:44	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/10/19 11:57	07/15/19 19:44	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/10/19 11:57	07/15/19 19:44	1

Client Sample ID: PD-13-GWP-46-070819
Lab Sample ID: 400-172761-3
Date Collected: 07/08/19 12:15
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/10/19 11:57	07/15/19 19:44	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/10/19 11:57	07/15/19 19:44	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/10/19 11:57	07/15/19 19:44	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/10/19 11:57	07/15/19 19:44	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/10/19 11:57	07/15/19 19:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/10/19 11:57	07/15/19 19:44	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/10/19 11:57	07/15/19 19:44	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/10/19 11:57	07/15/19 19:44	1
Indene	ND		9.8	0.98	ug/L		07/10/19 11:57	07/15/19 19:44	1
Isophorone	ND		9.8	0.56	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/10/19 11:57	07/15/19 19:44	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/10/19 11:57	07/15/19 19:44	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/10/19 11:57	07/15/19 19:44	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/10/19 11:57	07/15/19 19:44	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/10/19 11:57	07/15/19 19:44	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/10/19 11:57	07/15/19 19:44	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/10/19 11:57	07/15/19 19:44	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/10/19 11:57	07/15/19 19:44	1
Pentachlorophenol	ND		20	1.8	ug/L		07/10/19 11:57	07/15/19 19:44	1
Phenol	ND		9.8	2.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
Pyridine	ND		9.8	3.1	ug/L		07/10/19 11:57	07/15/19 19:44	1
Quinoline	ND		9.8	5.9	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/10/19 11:57	07/15/19 19:44	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/10/19 11:57	07/15/19 19:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, (1-methylethyl)-	*4.2*	*T J N*	*ug/L*		*5.08*	*98-82-8*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Indane	*27*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*4.4*	*T J*	*ug/L*		*5.79*		*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*9.1*	*T J*	*ug/L*		*5.91*		*07/10/19 11:57*	*07/15/19 19:44*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*24*	*T J N*	*ug/L*		*5.93*	*527-84-4*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Benzene, 1,2,3,4-tetramethyl-	*12*	*T J N*	*ug/L*		*6.08*	*488-23-3*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*22*	*T J N*	*ug/L*		*6.26*	*2039-89-6*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Naphthalene, 2-methyl-	*17*	*T J N*	*ug/L*		*6.97*	*91-57-6*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Octadecanoic acid	*6.8*	*T J N*	*ug/L*		*9.78*	*57-11-4*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
9-Octadecenamide, (Z)-	*11*	*T J N*	*ug/L*		*10.50*	*301-02-0*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
1-Heneicosyl formate	*5.5*	*T J N*	*ug/L*		*10.89*	*77899-03-7*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*4.9*	*T J*	*ug/L*		*11.71*		*07/10/19 11:57*	*07/15/19 19:44*	*1*
13-Docosenamide, (Z)-	*14*	*T J N*	*ug/L*		*11.84*	*112-84-5*	*07/10/19 11:57*	*07/15/19 19:44*	*1*
Unknown	*8.0*	*T J*	*ug/L*		*11.92*		*07/10/19 11:57*	*07/15/19 19:44*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-46-070819
Lab Sample ID: 400-172761-3
Date Collected: 07/08/19 12:15
Matrix: Water
Date Received: 07/09/19 08:53

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		34 - 120	07/10/19 11:57	07/15/19 19:44	1
2-Fluorophenol	64		10 - 120	07/10/19 11:57	07/15/19 19:44	1
Nitrobenzene-d5	78		27 - 120	07/10/19 11:57	07/15/19 19:44	1
Phenol-d5	80		10 - 120	07/10/19 11:57	07/15/19 19:44	1
Terphenyl-d14	50	X	53 - 125	07/10/19 11:57	07/15/19 19:44	1
2,4,6-Tribromophenol	102		15 - 135	07/10/19 11:57	07/15/19 19:44	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819

Lab Sample ID: 400-172761-4

Date Collected: 07/08/19 14:15

Matrix: Water

Date Received: 07/09/19 08:53

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 22:23	1
Acrolein	ND		20	10	ug/L			07/12/19 22:23	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 22:23	1
Benzene	**0.93**	**J**	1.0	0.38	ug/L			07/12/19 22:23	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 22:23	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 22:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 22:23	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 22:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 22:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 22:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 22:23	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 22:23	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 22:23	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 22:23	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:23	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 22:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 22:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 22:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 22:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 22:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 22:23	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 22:23	1
Isopropylbenzene	**8.6**		1.0	0.53	ug/L			07/12/19 22:23	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 22:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 22:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 22:23	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 22:23	1
m-Xylene & p-Xylene	**3.4**	**J**	5.0	1.6	ug/L			07/12/19 22:23	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 22:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 22:23	1
N-Propylbenzene	**2.8**		1.0	0.69	ug/L			07/12/19 22:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 22:23	1
o-Xylene	**0.99**	**J**	5.0	0.60	ug/L			07/12/19 22:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-50-070819

Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 22:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 22:23	1
sec-Butylbenzene	**1.5**		1.0	0.70	ug/L			07/12/19 22:23	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 22:23	1
tert-Butylbenzene	**2.3**		1.0	0.63	ug/L			07/12/19 22:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 22:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 22:23	1
Toluene	**1.7**		1.0	0.41	ug/L			07/12/19 22:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 22:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 22:23	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:23	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 22:23	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 22:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 22:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 22:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 22:23	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 22:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 22:23	1
Xylenes, Total	**4.4**	**J**	10	1.6	ug/L			07/12/19 22:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*56*	*T J*	*ug/L*		*1.96*			*07/12/19 22:23*	*1*
Unknown	*58*	*T J*	*ug/L*		*2.10*			*07/12/19 22:23*	*1*
Butane, 2-methyl-	*180*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/12/19 22:23*	*1*
Cyclopropane, 1,2-dimethyl-, cis-	*12*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/12/19 22:23*	*1*
Butane, 2,2-dimethyl-	*37*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/12/19 22:23*	*1*
Isopropyl alcohol	*86*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 22:23*	*1*
Pentane, 3-methyl-	*130*	*T J N*	*ug/L*		*3.54*	*96-14-0*		*07/12/19 22:23*	*1*
2-Pentene, 4-methyl-	*11*	*T J N*	*ug/L*		*3.83*	*4461-48-7*		*07/12/19 22:23*	*1*
Unknown	*14*	*T J*	*ug/L*		*3.99*			*07/12/19 22:23*	*1*
2-Pentene, 3-methyl-	*12*	*T J N*	*ug/L*		*4.12*	*922-61-2*		*07/12/19 22:23*	*1*
Cyclohexane	*25*		*ug/L*		*4.54*	*110-82-7*		*07/12/19 22:23*	*1*
Cyclopentane, 1,1-dimethyl-	*39*	*T J N*	*ug/L*		*4.65*	*1638-26-2*		*07/12/19 22:23*	*1*
Unknown	*24*	*T J*	*ug/L*		*4.97*			*07/12/19 22:23*	*1*
3,5-Dimethylcyclopentene	*14*	*T J N*	*ug/L*		*5.14*	*7459-71-4*		*07/12/19 22:23*	*1*
Methylcyclohexane	*47*		*ug/L*		*5.27*	*108-87-2*		*07/12/19 22:23*	*1*
Cyclohexene, 4-methyl-	*14*	*T J N*	*ug/L*		*5.51*	*591-47-9*		*07/12/19 22:23*	*1*
Unknown	*17*	*T J*	*ug/L*		*5.60*			*07/12/19 22:23*	*1*
Cyclohexene, 1-methyl-	*27*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/12/19 22:23*	*1*
1,4-Pentadiene, 2,3,3-trimethyl-	*9.3*	*T J N*	*ug/L*		*6.23*	*756-02-5*		*07/12/19 22:23*	*1*
Bicyclo[3.1.0]hexane, 1,5-dimethyl-	*9.1*	*T J N*	*ug/L*		*6.44*	*1000142-17-5*		*07/12/19 22:23*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*13*	*T J N*	*ug/L*		*9.29*	*527-84-4*		*07/12/19 22:23*	*1*
Indan, 1-methyl-	*28*	*T J N*	*ug/L*		*9.42*	*767-58-8*		*07/12/19 22:23*	*1*
Benzene, 1,2,3,4-tetramethyl-	*10*	*T J N*	*ug/L*		*9.65*	*488-23-3*		*07/12/19 22:23*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*26*	*T J N*	*ug/L*		*10.13*	*2039-89-6*		*07/12/19 22:23*	*1*

Client Sample ID: PD-13-GWP-50-070819
Lab Sample ID: 400-172761-4
Date Collected: 07/08/19 14:15
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	7.6		ug/L		11.91	90-12-0		07/12/19 22:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/12/19 22:23	1
Dibromofluoromethane	98		81 - 121		07/12/19 22:23	1
Toluene-d8 (Surr)	101		80 - 120		07/12/19 22:23	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Anthracene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Chrysene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
Fluoranthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Fluorene	ND		0.19	0.020	ug/L		07/10/19 11:57	07/15/19 18:10	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:10	1
1-Methylnaphthalene	**9.3**		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
2-Methylnaphthalene	**0.51**		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Phenanthrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1
Pyrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		15 - 122	07/10/19 11:57	07/15/19 18:10	1
Nitrobenzene-d5	74		19 - 130	07/10/19 11:57	07/15/19 18:10	1
Terphenyl-d14	32	X	33 - 138	07/10/19 11:57	07/15/19 18:10	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/10/19 11:57	07/15/19 20:05	1
Benzoic acid	ND		29	7.0	ug/L		07/10/19 11:57	07/15/19 20:05	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:05	1
Bis(2-chloroethyl)ether	ND		9.7	0.71	ug/L		07/10/19 11:57	07/15/19 20:05	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/10/19 11:57	07/15/19 20:05	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/10/19 11:57	07/15/19 20:05	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:05	1

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-50-070819
Lab Sample ID: 400-172761-4

Date Collected: 07/08/19 14:15
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:05	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:05	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/10/19 11:57	07/15/19 20:05	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/10/19 11:57	07/15/19 20:05	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
Di-n-octyl phthalate	ND		9.7	0.42	ug/L		07/10/19 11:57	07/15/19 20:05	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:05	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/10/19 11:57	07/15/19 20:05	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/10/19 11:57	07/15/19 20:05	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
Indene	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:05	1
Isophorone	ND		9.7	0.55	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/10/19 11:57	07/15/19 20:05	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/10/19 11:57	07/15/19 20:05	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/10/19 11:57	07/15/19 20:05	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/10/19 11:57	07/15/19 20:05	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:05	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/10/19 11:57	07/15/19 20:05	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/10/19 11:57	07/15/19 20:05	1
Pentachlorophenol	ND		19	1.7	ug/L		07/10/19 11:57	07/15/19 20:05	1
Phenol	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:05	1
Pyridine	ND		9.7	3.1	ug/L		07/10/19 11:57	07/15/19 20:05	1
Quinoline	ND		9.7	5.8	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/10/19 11:57	07/15/19 20:05	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexene, 1-methyl-	*5.3*	*T J N*	*ug/L*		*3.93*	*591-49-1*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*7.0*	*T J*	*ug/L*		*4.31*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*5.4*	*T J*	*ug/L*		*5.00*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, (1-methylethyl)-	*11*	*T J N*	*ug/L*		*5.08*	*98-82-8*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, propyl-	*4.7*	*T J N*	*ug/L*		*5.26*	*103-65-1*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*6.8*	*T J*	*ug/L*		*5.36*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, 1-ethyl-2-methyl-	*4.7*	*T J N*	*ug/L*		*5.40*	*611-14-3*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, (1-methylpropyl)-	*4.7*	*T J N*	*ug/L*		*5.57*	*135-98-8*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Indane	*57*	*T J N*	*ug/L*		*5.73*	*496-11-7*	*07/10/19 11:57*	*07/15/19 20:05*	*1*
Unknown	*5.3*	*T J*	*ug/L*		*5.79*		*07/10/19 11:57*	*07/15/19 20:05*	*1*
Benzene, 1,2-diethyl-	*4.8*	*T J N*	*ug/L*		*5.81*	*135-01-3*	*07/10/19 11:57*	*07/15/19 20:05*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-50-070819
Lab Sample ID: 400-172761-4
Date Collected: 07/08/19 14:15
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-methyl-2-(1-methylethyl)-	50	T J N	ug/L		5.93	527-84-4	07/10/19 11:57	07/15/19 20:05	1
Unknown	9.5	T J	ug/L		6.00		07/10/19 11:57	07/15/19 20:05	1
Benzene, 1,2,3,5-tetramethyl-	10	T J N	ug/L		6.08	527-53-7	07/10/19 11:57	07/15/19 20:05	1
Unknown	5.1	T J	ug/L		6.13		07/10/19 11:57	07/15/19 20:05	1
Unknown	4.7	T J	ug/L		6.19		07/10/19 11:57	07/15/19 20:05	1
Benzene, (1-methyl-1-propenyl)-, (E)-	6.9	T J N	ug/L		6.21	768-00-3	07/10/19 11:57	07/15/19 20:05	1
Benzene, 2-ethenyl-1,4-dimethyl-	22	T J N	ug/L		6.26	2039-89-6	07/10/19 11:57	07/15/19 20:05	1
Unknown	4.8	T J	ug/L		6.41		07/10/19 11:57	07/15/19 20:05	1
Unknown	5.4	T J	ug/L		6.80		07/10/19 11:57	07/15/19 20:05	1
Naphthalene, 2-methyl-	11	T J N	ug/L		6.97	91-57-6	07/10/19 11:57	07/15/19 20:05	1
Octadecanoic acid	5.6	T J N	ug/L		9.78	57-11-4	07/10/19 11:57	07/15/19 20:05	1
9-Octadecenamide, (Z)-	8.3	T J N	ug/L		10.50	301-02-0	07/10/19 11:57	07/15/19 20:05	1
Cyclopentadecane	4.4	T J N	ug/L		10.89	295-48-7	07/10/19 11:57	07/15/19 20:05	1
13-Docosenamide, (Z)-	10	T J N	ug/L		11.84	112-84-5	07/10/19 11:57	07/15/19 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		34 - 120	07/10/19 11:57	07/15/19 20:05	1
2-Fluorophenol	56		10 - 120	07/10/19 11:57	07/15/19 20:05	1
Nitrobenzene-d5	82		27 - 120	07/10/19 11:57	07/15/19 20:05	1
Phenol-d5	80		10 - 120	07/10/19 11:57	07/15/19 20:05	1
Terphenyl-d14	38	X	53 - 125	07/10/19 11:57	07/15/19 20:05	1
2,4,6-Tribromophenol	107		15 - 135	07/10/19 11:57	07/15/19 20:05	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-59-070819

Lab Sample ID: 400-172761-5

Date Collected: 07/08/19 15:10
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 22:49	1
Acrolein	ND		20	10	ug/L			07/12/19 22:49	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 22:49	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 22:49	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 22:49	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 22:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 22:49	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 22:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 22:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 22:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 22:49	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 22:49	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 22:49	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 22:49	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:49	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 22:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 22:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 22:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 22:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 22:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 22:49	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 22:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 22:49	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 22:49	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 22:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 22:49	1
Methyl tert-butyl ether	**1.7**		1.0	0.74	ug/L			07/12/19 22:49	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 22:49	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 22:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 22:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 22:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 22:49	1
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 22:49	1

Client Sample ID: PD-13-GWP-59-070819
Lab Sample ID: 400-172761-5
Date Collected: 07/08/19 15:10
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 22:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 22:49	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 22:49	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 22:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 22:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 22:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 22:49	1
Toluene	**1.2**		1.0	0.41	ug/L			07/12/19 22:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 22:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 22:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 22:49	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 22:49	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 22:49	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 22:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 22:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 22:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 22:49	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 22:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 22:49	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 22:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*68*	*T J*	*ug/L*		*1.93*			*07/12/19 22:49*	*1*
Isopropyl alcohol	*100*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/12/19 22:49*	*1*
2-Methyl-2-propanol	*910*		*ug/L*		*3.39*	*75-65-0*		*07/12/19 22:49*	*1*
t-Amyl alcohol	*56*		*ug/L*		*4.66*	*75-85-4*		*07/12/19 22:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/12/19 22:49*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/12/19 22:49*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/12/19 22:49*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Anthracene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Chrysene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1
Fluoranthene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Fluorene	ND		0.19	0.020	ug/L		07/10/19 11:57	07/15/19 18:27	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/10/19 11:57	07/15/19 18:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: PD-13-GWP-59-070819

Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Phenanthrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1
Pyrene	ND		0.19	0.019	ug/L		07/10/19 11:57	07/15/19 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*15 - 122*	*07/10/19 11:57*	*07/15/19 18:27*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/10/19 11:57*	*07/15/19 18:27*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/10/19 11:57*	*07/15/19 18:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/10/19 11:57	07/15/19 20:27	1
Benzoic acid	ND		29	7.0	ug/L		07/10/19 11:57	07/15/19 20:27	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:27	1
Bis(2-chloroethyl)ether	ND		9.7	0.71	ug/L		07/10/19 11:57	07/15/19 20:27	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/10/19 11:57	07/15/19 20:27	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/10/19 11:57	07/15/19 20:27	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/10/19 11:57	07/15/19 20:27	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:27	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/10/19 11:57	07/15/19 20:27	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/10/19 11:57	07/15/19 20:27	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
Di-n-octyl phthalate	ND		9.7	0.42	ug/L		07/10/19 11:57	07/15/19 20:27	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:27	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/10/19 11:57	07/15/19 20:27	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/10/19 11:57	07/15/19 20:27	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
Indene	ND		9.7	0.97	ug/L		07/10/19 11:57	07/15/19 20:27	1
Isophorone	ND		9.7	0.55	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/10/19 11:57	07/15/19 20:27	1

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-59-070819
Lab Sample ID: 400-172761-5
Date Collected: 07/08/19 15:10
Matrix: Water
Date Received: 07/09/19 08:53

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	2.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/10/19 11:57	07/15/19 20:27	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/10/19 11:57	07/15/19 20:27	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/10/19 11:57	07/15/19 20:27	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/10/19 11:57	07/15/19 20:27	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:27	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/10/19 11:57	07/15/19 20:27	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/10/19 11:57	07/15/19 20:27	1
Pentachlorophenol	ND		19	1.7	ug/L		07/10/19 11:57	07/15/19 20:27	1
Phenol	ND		9.7	2.5	ug/L		07/10/19 11:57	07/15/19 20:27	1
Pyridine	ND		9.7	3.1	ug/L		07/10/19 11:57	07/15/19 20:27	1
Quinoline	ND		9.7	5.8	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/10/19 11:57	07/15/19 20:27	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/10/19 11:57	07/15/19 20:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Thiophene, tetrahydro-, 1,1-dioxide	*5.7*	*T J N*	*ug/L*		*6.46*	*126-33-0*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
9-Octadecenamide, (Z)-	*6.7*	*T J N*	*ug/L*		*10.50*	*301-02-0*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*11.71*		*07/10/19 11:57*	*07/15/19 20:27*	*1*
13-Docosenamide, (Z)-	*5.4*	*T J N*	*ug/L*		*11.84*	*112-84-5*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*11.93*		*07/10/19 11:57*	*07/15/19 20:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*34 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
2-Fluorophenol	*61*		*10 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Nitrobenzene-d5	*87*		*27 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Phenol-d5	*78*		*10 - 120*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/10/19 11:57*	*07/15/19 20:27*	*1*
2,4,6-Tribromophenol	*105*		*15 - 135*	*07/10/19 11:57*	*07/15/19 20:27*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172761-1	TB-PW-070819-B	101	99	103
400-172761-2	PD-13-GWP-40-070819	103	100	100
400-172761-3	PD-13-GWP-46-070819	104	98	100
400-172761-4	PD-13-GWP-50-070819	102	98	101
400-172761-5	PD-13-GWP-59-070819	102	100	100
LCS 400-447731/1002	Lab Control Sample	99	99	100
LCS 400-448145/1002	Lab Control Sample	96	100	102
MB 400-447731/4	Method Blank	101	99	99
MB 400-448145/4	Method Blank	102	99	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172761-2	PD-13-GWP-40-070819	71	65	94	83	88	109
400-172761-3	PD-13-GWP-46-070819	65	64	78	80	50 X	102
400-172761-4	PD-13-GWP-50-070819	63	56	82	80	38 X	107
400-172761-5	PD-13-GWP-59-070819	61	61	87	78	70	105
LCS 400-447399/4-A	Lab Control Sample	69	0.2 X	82	2 X	92	0 X
LCSD 400-447399/5-A	Lab Control Sample Dup	63	53	73	68	86	57
MB 400-447399/1-A	Method Blank	68	67	86	80	95	76

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172761-2	PD-13-GWP-40-070819	74	80	87
400-172761-3	PD-13-GWP-46-070819	74	70	49
400-172761-4	PD-13-GWP-50-070819	67	74	32 X
400-172761-5	PD-13-GWP-59-070819	71	80	77
LCS 400-447399/2-A	Lab Control Sample	69	68	87
LCSD 400-447399/3-A	Lab Control Sample Dup	73	75	91
MB 400-447399/1-A	Method Blank	86	91	131

Surrogate Legend

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070819-B
Date Collected: 07/08/19 00:00
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 13:23	RS	TAL PEN

Client Sample ID: PD-13-GWP-40-070819
Date Collected: 07/08/19 11:20
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 21:30	BSW	TAL PEN
Total/NA	Prep	3520C			1037.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448057	07/15/19 19:23	VC1	TAL PEN
Total/NA	Prep	3520C			1037.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 17:35	KJA	TAL PEN

Client Sample ID: PD-13-GWP-46-070819
Date Collected: 07/08/19 12:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 21:56	BSW	TAL PEN
Total/NA	Prep	3520C			1018.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448057	07/15/19 19:44	VC1	TAL PEN
Total/NA	Prep	3520C			1018.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 17:53	KJA	TAL PEN

Client Sample ID: PD-13-GWP-50-070819
Date Collected: 07/08/19 14:15
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 22:23	BSW	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448057	07/15/19 20:05	VC1	TAL PEN
Total/NA	Prep	3520C			1035.8 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 18:10	KJA	TAL PEN

Client Sample ID: PD-13-GWP-59-070819
Date Collected: 07/08/19 15:10
Date Received: 07/09/19 08:53

Lab Sample ID: 400-172761-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 22:49	BSW	TAL PEN
Total/NA	Prep	3520C			1036.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448057	07/15/19 20:27	VC1	TAL PEN
Total/NA	Prep	3520C			1036.2 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 18:27	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447399/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 17:14	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448058	07/15/19 16:10	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447731/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 13:01	BSW	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448145/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 08:58	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447399/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			448058	07/15/19 16:27	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447399/4-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448057	07/15/19 18:19	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447731/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447731	07/12/19 12:02	BSW	TAL PEN

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-448145/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448145	07/16/19 07:58	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-447399/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			448058	07/15/19 16:44	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-447399/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447399	07/10/19 11:57	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448057	07/15/19 18:40	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

GC/MS VOA

Analysis Batch: 447731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	8260B	
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	8260B	
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	8260B	
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	8260B	
MB 400-447731/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447731/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-1	TB-PW-070819-B	Total/NA	Water	8260B	
MB 400-448145/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448145/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 447399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	3520C	
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	3520C	
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	3520C	
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	3520C	
MB 400-447399/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-447399/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-447399/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-447399/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-447399/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	8270D	447399
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	8270D	447399
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	8270D	447399
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	8270D	447399
MB 400-447399/1-A	Method Blank	Total/NA	Water	8270D	447399
LCS 400-447399/4-A	Lab Control Sample	Total/NA	Water	8270D	447399
LCSD 400-447399/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	447399

Analysis Batch: 448058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172761-2	PD-13-GWP-40-070819	Total/NA	Water	8270D LL	447399
400-172761-3	PD-13-GWP-46-070819	Total/NA	Water	8270D LL	447399
400-172761-4	PD-13-GWP-50-070819	Total/NA	Water	8270D LL	447399
400-172761-5	PD-13-GWP-59-070819	Total/NA	Water	8270D LL	447399
MB 400-447399/1-A	Method Blank	Total/NA	Water	8270D LL	447399
LCS 400-447399/2-A	Lab Control Sample	Total/NA	Water	8270D LL	447399
LCSD 400-447399/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	447399

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/12/19 13:01	1
Acrolein	ND		20	10	ug/L			07/12/19 13:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/12/19 13:01	1
Benzene	ND		1.0	0.38	ug/L			07/12/19 13:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Bromoform	ND		5.0	0.71	ug/L			07/12/19 13:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/12/19 13:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/12/19 13:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/12/19 13:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/12/19 13:01	1
Chloroform	ND		1.0	0.60	ug/L			07/12/19 13:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/12/19 13:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/12/19 13:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/12/19 13:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/12/19 13:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/12/19 13:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/12/19 13:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/12/19 13:01	1
2-Hexanone	ND		25	3.1	ug/L			07/12/19 13:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/12/19 13:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/12/19 13:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/12/19 13:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/12/19 13:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/12/19 13:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/12/19 13:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/12/19 13:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/12/19 13:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/12/19 13:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447731/4
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/12/19 13:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/12/19 13:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
Styrene	ND		1.0	1.0	ug/L			07/12/19 13:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/12/19 13:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/12/19 13:01	1
Toluene	ND		1.0	0.41	ug/L			07/12/19 13:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/12/19 13:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/12/19 13:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/12/19 13:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/12/19 13:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/12/19 13:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/12/19 13:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/12/19 13:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/12/19 13:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/12/19 13:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/12/19 13:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/12/19 13:01	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/12/19 13:01*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/12/19 13:01*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/12/19 13:01*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/12/19 13:01*	*1*

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	271		ug/L		135	43 - 160
Acrolein	500	624		ug/L		125	38 - 160
Acrylonitrile	500	541		ug/L		108	64 - 142
Benzene	50.0	49.6		ug/L		99	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	51.3		ug/L		103	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	35.6		ug/L		71	10 - 160
2-Butanone (MEK)	200	237		ug/L		118	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.3		ug/L		101	61 - 137
Carbon tetrachloride	50.0	56.6		ug/L		113	61 - 137
Chlorobenzene	50.0	49.9		ug/L		100	70 - 130
Chloroethane	50.0	47.2		ug/L		94	55 - 141
2-Chloroethyl vinyl ether	50.0	46.9		ug/L		94	10 - 160
Chloroform	50.0	50.2		ug/L		100	69 - 130
1-Chlorohexane	50.0	53.8		ug/L		108	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	53.3		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	55.9		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.5		ug/L		109	54 - 135
1,2-Dichlorobenzene	50.0	51.0		ug/L		102	67 - 130
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 130
1,4-Dichlorobenzene	50.0	50.2		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	52.8		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.1		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.2		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	50.9		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	53.6		ug/L		107	52 - 135
1,1-Dichloropropene	50.0	51.3		ug/L		103	70 - 130
Ethylbenzene	50.0	51.1		ug/L		102	70 - 130
Ethylene Dibromide	50.0	49.8		ug/L		100	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	49.8		ug/L		100	70 - 130
Methylene bromide	50.0	46.4		ug/L		93	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	234		ug/L		117	69 - 138
Methyl tert-butyl ether	50.0	48.1		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	50.8		ug/L		102	70 - 130
Naphthalene	50.0	50.7		ug/L		101	47 - 149
n-Butylbenzene	50.0	51.5		ug/L		103	67 - 130
N-Propylbenzene	50.0	51.7		ug/L		103	70 - 130
o-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
o-Xylene	50.0	50.2		ug/L		100	70 - 130
p-Chlorotoluene	50.0	50.6		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	52.0		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.1		ug/L		100	66 - 130
Styrene	50.0	47.6		ug/L		95	70 - 130
tert-Butylbenzene	50.0	49.5		ug/L		99	64 - 139
1,1,1,2-Tetrachloroethane	50.0	59.9		ug/L		120	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.6		ug/L		101	70 - 131
Tetrachloroethene	50.0	49.6		ug/L		99	65 - 130
Toluene	50.0	50.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	50.3		ug/L		101	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447731/1002
Matrix: Water
Analysis Batch: 447731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	57.2		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.3		ug/L		97	60 - 138
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	50.4		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	41.4		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	48.2		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	44.7		ug/L		89	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/16/19 08:58	1
Acrolein	ND		20	10	ug/L			07/16/19 08:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/16/19 08:58	1
Benzene	ND		1.0	0.38	ug/L			07/16/19 08:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Bromoform	ND		5.0	0.71	ug/L			07/16/19 08:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/16/19 08:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/16/19 08:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/16/19 08:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/16/19 08:58	1
Chloroform	ND		1.0	0.60	ug/L			07/16/19 08:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/16/19 08:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/16/19 08:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/19 08:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/16/19 08:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/16/19 08:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/16/19 08:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/16/19 08:58	1
2-Hexanone	ND		25	3.1	ug/L			07/16/19 08:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/16/19 08:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/16/19 08:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/16/19 08:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/16/19 08:58	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/16/19 08:58	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/16/19 08:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/16/19 08:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/16/19 08:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/16/19 08:58	1
o-Xylene	ND		5.0	0.60	ug/L			07/16/19 08:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/16/19 08:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
Styrene	ND		1.0	1.0	ug/L			07/16/19 08:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/16/19 08:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/16/19 08:58	1
Toluene	ND		1.0	0.41	ug/L			07/16/19 08:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/16/19 08:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/16/19 08:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/16/19 08:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/16/19 08:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/16/19 08:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/16/19 08:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/16/19 08:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/16/19 08:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/16/19 08:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/16/19 08:58	1
Xylenes, Total	ND		10	1.6	ug/L			07/16/19 08:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448145/4
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/16/19 08:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/16/19 08:58	1
Dibromofluoromethane	99		81 - 121		07/16/19 08:58	1
Toluene-d8 (Surr)	103		80 - 120		07/16/19 08:58	1

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	293		ug/L		146	43 - 160
Acrolein	500	603		ug/L		121	38 - 160
Acrylonitrile	500	560		ug/L		112	64 - 142
Benzene	50.0	50.0		ug/L		100	70 - 130
Bromobenzene	50.0	49.2		ug/L		98	70 - 132
Bromochloromethane	50.0	51.7		ug/L		103	70 - 130
Bromodichloromethane	50.0	51.9		ug/L		104	67 - 133
Bromoform	50.0	57.9		ug/L		116	57 - 140
Bromomethane	50.0	36.4		ug/L		73	10 - 160
2-Butanone (MEK)	200	250		ug/L		125	61 - 145
Carbon disulfide	50.0	50.2		ug/L		100	61 - 137
Carbon tetrachloride	50.0	56.9		ug/L		114	61 - 137
Chlorobenzene	50.0	52.1		ug/L		104	70 - 130
Chloroethane	50.0	45.7		ug/L		91	55 - 141
2-Chloroethyl vinyl ether	50.0	39.5		ug/L		79	10 - 160
Chloroform	50.0	51.2		ug/L		102	69 - 130
1-Chlorohexane	50.0	56.6		ug/L		113	69 - 130
Chloromethane	50.0	41.6		ug/L		83	58 - 137
cis-1,2-Dichloroethene	50.0	53.4		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	54.8		ug/L		110	69 - 132
Dibromochloromethane	50.0	57.6		ug/L		115	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	56.3		ug/L		113	54 - 135
1,2-Dichlorobenzene	50.0	53.2		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	52.1		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	27.4		ug/L		55	41 - 146
1,1-Dichloroethane	50.0	53.5		ug/L		107	70 - 130
1,2-Dichloroethane	50.0	51.8		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.2		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	52.5		ug/L		105	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	52.0		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	50.6		ug/L		101	70 - 130
Ethylbenzene	50.0	53.5		ug/L		107	70 - 130
Ethylene Dibromide	50.0	52.4		ug/L		105	70 - 130
Ethyl methacrylate	50.0	59.3		ug/L		119	68 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448145/1002
Matrix: Water
Analysis Batch: 448145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	280	*	ug/L		140	65 - 137
Isopropylbenzene	50.0	50.9		ug/L		102	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	238		ug/L		119	69 - 138
Methyl tert-butyl ether	50.0	47.2		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	51.4		ug/L		103	47 - 149
n-Butylbenzene	50.0	53.1		ug/L		106	67 - 130
N-Propylbenzene	50.0	53.2		ug/L		106	70 - 130
o-Chlorotoluene	50.0	52.0		ug/L		104	70 - 130
o-Xylene	50.0	52.0		ug/L		104	70 - 130
p-Chlorotoluene	50.0	51.9		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.0		ug/L		102	66 - 130
Styrene	50.0	49.8		ug/L		100	70 - 130
tert-Butylbenzene	50.0	50.8		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	63.2		ug/L		126	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.5		ug/L		105	70 - 131
Tetrachloroethene	50.0	52.2		ug/L		104	65 - 130
Toluene	50.0	53.5		ug/L		107	70 - 130
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	59.9		ug/L		120	63 - 130
1,2,3-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.5		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	52.8		ug/L		106	70 - 130
Trichloroethene	50.0	50.7		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	40.5		ug/L		81	65 - 138
1,2,3-Trichloropropane	50.0	49.0		ug/L		98	70 - 130
1,2,4-Trimethylbenzene	50.0	50.6		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	50.4		ug/L		101	69 - 130
Vinyl acetate	100	104		ug/L		104	26 - 160
Vinyl chloride	50.0	41.8		ug/L		84	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
Benzenethiol	ND		10	1.7	ug/L		07/10/19 11:57	07/15/19 17:14	1
Benzoic acid	ND		30	7.3	ug/L		07/10/19 11:57	07/15/19 17:14	1
Benzyl alcohol	ND		10	2.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/10/19 11:57	07/15/19 17:14	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/10/19 11:57	07/15/19 17:14	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/10/19 11:57	07/15/19 17:14	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/10/19 11:57	07/15/19 17:14	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Chloroaniline	ND		10	3.4	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Chlorophenol	ND		10	2.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Dibenzofuran	ND		10	0.52	ug/L		07/10/19 11:57	07/15/19 17:14	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Diethyl phthalate	ND		10	0.70	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/10/19 11:57	07/15/19 17:14	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/10/19 11:57	07/15/19 17:14	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/10/19 11:57	07/15/19 17:14	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/10/19 11:57	07/15/19 17:14	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/10/19 11:57	07/15/19 17:14	1
1,4-Dioxane	ND		10	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/10/19 11:57	07/15/19 17:14	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/10/19 11:57	07/15/19 17:14	1
Hexachloroethane	ND		10	4.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
Indene	ND		10	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
Isophorone	ND		10	0.57	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Methylphenol	ND		10	1.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Nitroaniline	ND		10	2.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
3-Nitroaniline	ND		10	1.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Nitroaniline	ND		10	2.5	ug/L		07/10/19 11:57	07/15/19 17:14	1
Nitrobenzene	ND		10	0.55	ug/L		07/10/19 11:57	07/15/19 17:14	1
2-Nitrophenol	ND		10	0.65	ug/L		07/10/19 11:57	07/15/19 17:14	1
4-Nitrophenol	ND		10	2.1	ug/L		07/10/19 11:57	07/15/19 17:14	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/10/19 11:57	07/15/19 17:14	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/10/19 11:57	07/15/19 17:14	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/10/19 11:57	07/15/19 17:14	1
Pentachlorophenol	ND		20	1.8	ug/L		07/10/19 11:57	07/15/19 17:14	1
Phenol	ND		10	2.6	ug/L		07/10/19 11:57	07/15/19 17:14	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/10/19 11:57	07/15/19 17:14	1
Quinoline	ND		10	6.0	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/10/19 11:57	07/15/19 17:14	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/10/19 11:57	07/15/19 17:14	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Acetophenone	*0.776*	*J*	*ug/L*		*5.85*	*98-86-2*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/10/19 11:57*	*07/15/19 17:14*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
2-Fluorophenol	*67*		*10 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Nitrobenzene-d5	*86*		*27 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Phenol-d5	*80*		*10 - 120*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
Terphenyl-d14	*95*		*53 - 125*	*07/10/19 11:57*	*07/15/19 17:14*	*1*
2,4,6-Tribromophenol	*76*		*15 - 135*	*07/10/19 11:57*	*07/15/19 17:14*	*1*

Lab Sample ID: LCS 400-447399/4-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*34 - 120*
2-Fluorophenol	*0.2*	*X*	*10 - 120*
Nitrobenzene-d5	*82*		*27 - 120*
Phenol-d5	*2*	*X*	*10 - 120*
Terphenyl-d14	*92*		*53 - 125*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*

Lab Sample ID: LCSD 400-447399/5-A
Matrix: Water
Analysis Batch: 448057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120	41	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*34 - 120*
2-Fluorophenol	*53*		*10 - 120*
Nitrobenzene-d5	*73*		*27 - 120*
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*86*		*53 - 125*
2,4,6-Tribromophenol	*57*		*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447399/1-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447399

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Anthracene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Chrysene	ND		0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Dibenz(a,h)anthracene	0.0709	J	0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
Fluoranthene	0.0350	J	0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Fluorene	ND		0.20	0.021	ug/L		07/10/19 11:57	07/15/19 16:10	1
Indeno[1,2,3-cd]pyrene	0.0779	J	0.20	0.040	ug/L		07/10/19 11:57	07/15/19 16:10	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Phenanthrene	ND		0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1
Pyrene	0.0309	J	0.20	0.020	ug/L		07/10/19 11:57	07/15/19 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*15 - 122*	*07/10/19 11:57*	*07/15/19 16:10*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/10/19 11:57*	*07/15/19 16:10*	*1*
Terphenyl-d14	*131*		*33 - 138*	*07/10/19 11:57*	*07/15/19 16:10*	*1*

Lab Sample ID: LCS 400-447399/2-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	21.9		ug/L		73	41 - 120
Acenaphthylene	30.0	21.4		ug/L		71	44 - 120
Anthracene	30.0	21.9		ug/L		73	49 - 120
Benzo[a]anthracene	30.0	19.8		ug/L		66	61 - 135
Benzo[a]pyrene	30.0	21.8		ug/L		73	52 - 120
Benzo[b]fluoranthene	30.0	23.6		ug/L		79	53 - 134
Benzo[g,h,i]perylene	30.0	20.0		ug/L		67	47 - 133
Benzo[k]fluoranthene	30.0	21.4		ug/L		71	57 - 134
Chrysene	30.0	19.7		ug/L		66	55 - 122
Dibenz(a,h)anthracene	30.0	20.4		ug/L		68	48 - 146
Fluoranthene	30.0	19.9		ug/L		66	54 - 128
Fluorene	30.0	23.7		ug/L		79	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	19.7		ug/L		66	43 - 142
1-Methylnaphthalene	30.0	18.5		ug/L		62	41 - 120
2-Methylnaphthalene	30.0	18.5		ug/L		62	32 - 124
Phenanthrene	30.0	20.9		ug/L		70	48 - 120
Pyrene	30.0	21.4		ug/L		71	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*15 - 122*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172761-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-447399/2-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447399

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*87*		*33 - 138*

Lab Sample ID: LCSD 400-447399/3-A
Matrix: Water
Analysis Batch: 448058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447399

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	21.8		ug/L		73	41 - 120	0	56
Acenaphthylene			30.0	21.4		ug/L		71	44 - 120	0	56
Anthracene			30.0	21.6		ug/L		72	49 - 120	2	51
Benzo[a]anthracene			30.0	20.1		ug/L		67	61 - 135	2	49
Benzo[a]pyrene			30.0	21.9		ug/L		73	52 - 120	0	50
Benzo[b]fluoranthene			30.0	25.0		ug/L		83	53 - 134	6	54
Benzo[g,h,i]perylene			30.0	20.3		ug/L		68	47 - 133	2	50
Benzo[k]fluoranthene			30.0	21.8		ug/L		73	57 - 134	2	52
Chrysene			30.0	20.3		ug/L		68	55 - 122	3	50
Dibenz(a,h)anthracene			30.0	20.7		ug/L		69	48 - 146	1	50
Fluoranthene			30.0	20.6		ug/L		69	54 - 128	3	52
Fluorene			30.0	23.4		ug/L		78	45 - 125	1	56
Indeno[1,2,3-cd]pyrene			30.0	20.1		ug/L		67	43 - 142	2	51
1-Methylnaphthalene			30.0	19.5		ug/L		65	41 - 120	5	55
2-Methylnaphthalene			30.0	19.9		ug/L		66	32 - 124	7	57
Phenanthrene			30.0	21.1		ug/L		70	48 - 120	1	56
Pyrene			30.0	22.6		ug/L		75	48 - 132	5	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	*73*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*91*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

400-172761 COC

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name: James Carrino

PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Pro: 25278

GSAP Project ID: USPC/00114/R/02

F NO INCIDENT # APPLIES

DATE 7/8/2019

PAGE: ___1___ of ___1___

SAMPLING COMPANY: AECOM

LOG CODE:

170 East Rand Avenue, Hartford | State: IL

AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel

PHONE NO.: 3144290100

E-MAIL: elizabeth.kunkel@aecom.com

AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

SAMPLER NAME(S) (Print): James Ragatz

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-070819-B	7/8/2019	0:00	Water	2					2		x	
	PD-13-GWP-40-070819	7/8/2019	11:20	Water	2			2		4	x	x	x
	PD-13-GWP-46-070819	7/8/2019	12:15	Water	2			2		4	x	x	x
	PD-13-GWP-50-070819	7/8/2019	14:15	Water	2			2		4	x	x	x
	PD-13-GWP-59-070819	7/8/2019	15:10	Water	2			2		4	x	x	x

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Fedex:	7/8/2019	18:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		07.09.19	853
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

Custody Seals: 1011539 & 1011538

FedEx #: 4931 8203 7373

1.5°C IR8

Page 46 of 48

10/22/2019 (Rev. 2)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172761-1

Login Number: 172761
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172761-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-172850

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/5/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-070919-B	PD-9-GWP-35-070919
PD-9-GWP-40-070919	PD-9-GWP-45-070919
PD-13-GWP-65-070919	PD-13-GWP-70-070919
PD-13-GWP-80-070919	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the SVOC compound bis(2-ethylhexyl) phthalate was detected in the method blank. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. VOC MS/MSD recoveries were outside evaluation criteria in sample PD-13-GWP-65-070919. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-447641/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	94.6 μg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-9-GWP-40-070919	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
400-447926/1002	VOCs	Acrylonitrile	**153**	NA	64-142/NA
400-447926/1002	VOCs	2-Chloroethyl vinyl ether	**294**	NA	10-160/NA
400-447926/1002	VOCs	1-Chlorohexane	**131**	NA	69-130/NA
400-447926/1002	VOCs	1,2-Dichloroethane	**148**	NA	69-130/NA
400-447641/2-A	SVOCs	3,3'-Dichlorobenzidine	**208**	NA	29-135/NA
400-447641/2-A	SVOCs	Hexachlorobenzene	**134**	NA	52-131/NA
400-447641/2-A	SVOCs	4-Nitroaniline	**149**	NA	41-135/NA
400-447641/4-A	SVOCs	Benzenethiol	**4**	15	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-9-GWP-35-070919	SVOCs	Benzenethiol	**UJ**
PD-9-GWP-40-070919	SVOCs	Benzenethiol	**UJ**
PD-9-GWP-45-070919	SVOCs	Benzenethiol	**UJ**
PD-13-GWP-65-070919	SVOCs	Benzenethiol	**UJ**
PD-13-GWP-70-070919	SVOCs	Benzenethiol	**UJ**
PD-13-GWP-80-070919	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-9-GWP-40-070919-RE	SVOCs	Terphenyl-d_{14}	**32**	53-125
PD-9-GWP-45-070919	SVOCs	2-Fluorophenol	**0**	10-120
MB 400-447641/1-A	PAHs	2-Fluorobiphenyl	**0**	15-122
MB 400-447641/1-A	PAHs	Terphenyl-d_{14}	**0**	33-138

Qualifications due to surrogate recoveries were not required if only one of three base/neutral or acid fraction surrogate recoveries were outside evaluation criteria in the

associated SVOC samples. Method blanks are quality control samples and do not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested, sample PD-13-GWP-65-070919 was spiked and duplicated for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-13-GWP-65-070919	VOCs	2-Butanone	**51/52**	1	55-150/30
PD-13-GWP-65-070919	VOCs	2-Chloroethyl vinyl ether	**151/182**	19	10-150/50
PD-13-GWP-65-070919	VOCs	1,2-Dichloroethane	**146/147**	0	60-141/30
PD-13-GWP-65-070919	VOCs	Vinyl acetate	79/112	**35**	26-150/33

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-13-GWP-65-070919	VOCs	2-Butanone	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

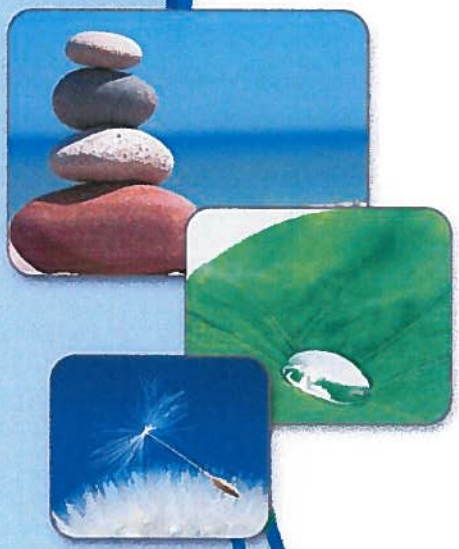
Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172850-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
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8/5/2019 3:04:10 PM
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Reviewed
on
8/5/2019

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
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Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172850-1

Comments
No additional comments.

Receipt
The samples were received on 7/10/2019 8:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.8° C and 4.8° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-9-GWP-35-070919 (400-172850-2), PD-9-GWP-40-070919 (400-172850-3) and PD-9-GWP-45-070919 (400-172850-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-070919-B (400-172850-1), PD-9-GWP-35-070919 (400-172850-2), PD-9-GWP-40-070919 (400-172850-3), PD-9-GWP-45-070919 (400-172850-4), PD-13-GWP-65-070919 (400-172850-5), PD-13-GWP-70-070919 (400-172850-6) and PD-13-GWP-80-070919 (400-172850-7). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442653 was outside method criteria for the following analyte(s): N-Nitrosodiphenylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-9-GWP-45-070919 (400-172850-4). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for N-Nitrosodimethylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, Benzyl alcohol, Nitrobenzene, Phenol, Isophorone, N-Nitrosodi-n-propylamine,

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Laboratory: Eurofins TestAmerica, Pensacola (Continued)

2,2'-oxybis[1-chloropropane], 1,2-Diphenylhydrazine (as Azobenzene), Pyridine and Bis(2-chloroethoxy)methane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447641 and analytical batch 400-448422 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, 1,4-Dioxane, Benzyl alcohol and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for N-Nitrosodimethylamine and 3-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-447641 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-447641 and analytical batch 400-448987 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Nitroaniline. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442656 was outside method criteria for the following analyte(s): Benzenethiol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D LL: Surrogate compounds were inadvertently omitted during the extraction process for the following sample: (MB 400-447641/1-A). All related sample surrogates are within QC limits; therefore, the data have been reported and qualified.

Method(s) 8270D LL: One of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-9-GWP-40-070919 (400-172850-3) Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-9-GWP-40-070919 (400-172850-3). These results have been reported and qualified.

Method(s) 8270D: Bis(2-ethylhexyl) phthalate was detected above the reporting limit (RL) in the method blank associated with preparation batch 400-447641 as well as in the sample. (MB 400-449437/1-A). The sample was re-extracted and/or re-analyzed outside of holding

Case Narrative

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Laboratory: Eurofins TestAmerica, Pensacola (Continued)

time. Both sets of data have been reported. PD-9-GWP-40-070919 (400-172850-3).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: The following sample(s) was re-prepared outside of preparation holding time due to sample being placed in rework after hold time expired. PD-9-GWP-40-070919 (400-172850-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172850-1	TB-PW-070919-B	Water	07/09/19 00:00	07/10/19 08:59	
400-172850-2	PD-9-GWP-35-070919	Water	07/09/19 14:15	07/10/19 08:59	
400-172850-3	PD-9-GWP-40-070919	Water	07/09/19 15:08	07/10/19 08:59	
400-172850-4	PD-9-GWP-45-070919	Water	07/09/19 15:55	07/10/19 08:59	
400-172850-5	PD-13-GWP-65-070919	Water	07/09/19 09:15	07/10/19 08:59	
400-172850-6	PD-13-GWP-70-070919	Water	07/09/19 10:20	07/10/19 08:59	
400-172850-7	PD-13-GWP-80-070919	Water	07/09/19 11:30	07/10/19 08:59	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B — Lab Sample ID: 400-172850-1

No Detections.

Client Sample ID: PD-9-GWP-35-070919 — Lab Sample ID: 400-172850-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400		10	3.8	ug/L	10		8260B	Total/NA
Methyl tert-butyl ether	7.5	J	10	7.4	ug/L	10		8260B	Total/NA
1-Methylnaphthalene	0.16	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	48		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-40-070919 — Lab Sample ID: 400-172850-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	680	J	1000	500	ug/L	1000		8260B	Total/NA
Toluene	2800		1000	410	ug/L	1000		8260B	Total/NA
Benzene - DL	1100000		5000	1900	ug/L	5000		8260B	Total/NA
Acenaphthene	0.43		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.099	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.13	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.48		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	28		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.26		0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.9	B	9.8	4.9	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol	5.6	J	9.8	3.4	ug/L	1		8270D	Total/NA
Indene	8.0	J	9.8	0.98	ug/L	1		8270D	Total/NA
2-Methylphenol	4.6	J	9.8	1.8	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	8.5	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	370		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-9-GWP-45-070919 — Lab Sample ID: 400-172850-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1300		1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	1600	J	5000	1600	ug/L	1000		8260B	Total/NA
Toluene	2100		1000	410	ug/L	1000		8260B	Total/NA
Xylenes, Total	2000	J	10000	1600	ug/L	1000		8260B	Total/NA
Benzene - DL	340000		2000	760	ug/L	2000		8260B	Total/NA
Acenaphthene	2.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
Anthracene	0.23		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.35		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.0		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	18		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	31		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	1.4		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.16	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Dibenzofuran	1.1	J	9.7	0.51	ug/L	1		8270D	Total/NA
Indene	57		9.7	0.97	ug/L	1		8270D	Total/NA
Phenol - DL	160		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-13-GWP-65-070919 — Lab Sample ID: 400-172850-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.6		1.0	0.38	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919 (Continued)

Lab Sample ID: 400-172850-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	3.9		1.0	0.74	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.72	J	1.0	0.56	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.15	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.19		0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-13-GWP-70-070919

Lab Sample ID: 400-172850-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.47	J	1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	3.8		1.0	0.74	ug/L	1		8260B	Total/NA

Client Sample ID: PD-13-GWP-80-070919

Lab Sample ID: 400-172850-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.18	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.26		0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 13:27	1
Acrolein	ND		20	10	ug/L			07/14/19 13:27	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 13:27	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 13:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 13:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 13:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 13:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 13:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 13:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 13:27	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 13:27	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 13:27	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 13:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 13:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 13:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 13:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 13:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 13:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 13:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 13:27	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 13:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 13:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 13:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 13:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 13:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 13:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 13:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 13:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 13:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 13:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 13:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 13:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 13:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 13:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 13:27	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 13:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 13:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 13:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 13:27	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 13:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 13:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 13:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 13:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 13:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 13:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 13:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 13:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 13:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 13:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*24*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 13:27*	*1*
1-Methylnaphthalene	*5.2*		*ug/L*		*11.07*	*90-12-0*		*07/14/19 13:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/14/19 13:27*	*1*
Dibromofluoromethane	*116*		*81 - 121*		*07/14/19 13:27*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 13:27*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/14/19 15:06	10
Acrolein	ND		200	100	ug/L			07/14/19 15:06	10
Acrylonitrile	ND	*	100	28	ug/L			07/14/19 15:06	10
Benzene	**1400**		10	3.8	ug/L			07/14/19 15:06	10
Bromobenzene	ND		10	5.4	ug/L			07/14/19 15:06	10
Bromochloromethane	ND		10	5.2	ug/L			07/14/19 15:06	10
Bromodichloromethane	ND		10	5.0	ug/L			07/14/19 15:06	10
Bromoform	ND		50	7.1	ug/L			07/14/19 15:06	10
Bromomethane	ND		10	9.8	ug/L			07/14/19 15:06	10
2-Butanone (MEK)	ND		250	26	ug/L			07/14/19 15:06	10
Carbon disulfide	ND		10	5.0	ug/L			07/14/19 15:06	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/14/19 15:06	10
Chlorobenzene	ND		10	5.0	ug/L			07/14/19 15:06	10
Chloroethane	ND		10	7.6	ug/L			07/14/19 15:06	10
2-Chloroethyl vinyl ether	ND	*	50	20	ug/L			07/14/19 15:06	10
Chloroform	ND		10	6.0	ug/L			07/14/19 15:06	10
1-Chlorohexane	ND	*	10	7.0	ug/L			07/14/19 15:06	10
Chloromethane	ND		10	8.3	ug/L			07/14/19 15:06	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:06	10
Dibromochloromethane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/14/19 15:06	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/14/19 15:06	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/14/19 15:06	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/14/19 15:06	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/14/19 15:06	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,2-Dichloroethane	ND	*	10	5.0	ug/L			07/14/19 15:06	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:06	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/14/19 15:06	10
Ethylbenzene	ND		10	5.0	ug/L			07/14/19 15:06	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/14/19 15:06	10
Ethyl methacrylate	ND		10	6.0	ug/L			07/14/19 15:06	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/14/19 15:06	10
2-Hexanone	ND		250	31	ug/L			07/14/19 15:06	10
Isopropylbenzene	ND		10	5.3	ug/L			07/14/19 15:06	10
Methylene bromide	ND		50	5.9	ug/L			07/14/19 15:06	10
Methylene Chloride	ND		50	30	ug/L			07/14/19 15:06	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/14/19 15:06	10
Methyl tert-butyl ether	**7.5**	**J**	10	7.4	ug/L			07/14/19 15:06	10
m-Xylene & p-Xylene	ND		50	16	ug/L			07/14/19 15:06	10
Naphthalene	ND		10	10	ug/L			07/14/19 15:06	10
n-Butylbenzene	ND		10	7.6	ug/L			07/14/19 15:06	10
N-Propylbenzene	ND		10	6.9	ug/L			07/14/19 15:06	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/14/19 15:06	10
o-Xylene	ND		50	6.0	ug/L			07/14/19 15:06	10

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/14/19 15:06	10
p-Isopropyltoluene	ND		10	7.1	ug/L			07/14/19 15:06	10
sec-Butylbenzene	ND		10	7.0	ug/L			07/14/19 15:06	10
Styrene	ND		10	10	ug/L			07/14/19 15:06	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/14/19 15:06	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			07/14/19 15:06	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/14/19 15:06	10
Tetrachloroethene	ND		10	5.8	ug/L			07/14/19 15:06	10
Toluene	ND		10	4.1	ug/L			07/14/19 15:06	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:06	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/14/19 15:06	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/14/19 15:06	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/14/19 15:06	10
Trichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/14/19 15:06	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/14/19 15:06	10
1,2,4-Trimethylbenzene	ND		10	8.2	ug/L			07/14/19 15:06	10
1,3,5-Trimethylbenzene	ND		10	5.6	ug/L			07/14/19 15:06	10
Vinyl acetate	ND		250	20	ug/L			07/14/19 15:06	10
Vinyl chloride	ND		10	5.0	ug/L			07/14/19 15:06	10
Xylenes, Total	ND		100	16	ug/L			07/14/19 15:06	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 15:06*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/14/19 15:06*	*10*
Dibromofluoromethane	*114*		*81 - 121*		*07/14/19 15:06*	*10*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 15:06*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Anthracene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Chrysene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Fluoranthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Fluorene	ND		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 11:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
1-Methylnaphthalene	**0.16**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Phenanthrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:08*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:08*	*1*
Terphenyl-d14	*67*		*33 - 138*	*07/11/19 17:18*	*07/18/19 11:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/11/19 17:18	07/19/19 01:34	1
Benzoic acid	ND		30	7.3	ug/L		07/11/19 17:18	07/19/19 01:34	1
Benzyl alcohol	ND		10	2.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/11/19 17:18	07/19/19 01:34	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/11/19 17:18	07/19/19 01:34	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/11/19 17:18	07/19/19 01:34	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/11/19 17:18	07/19/19 01:34	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Chloroaniline	ND		10	3.4	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Chlorophenol	ND		10	2.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Dibenzofuran	ND		10	0.52	ug/L		07/11/19 17:18	07/19/19 01:34	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Diethyl phthalate	ND		10	0.70	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/11/19 17:18	07/19/19 01:34	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/11/19 17:18	07/19/19 01:34	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/11/19 17:18	07/19/19 01:34	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/11/19 17:18	07/19/19 01:34	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/11/19 17:18	07/19/19 01:34	1
1,4-Dioxane	ND		10	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Hexachlorobenzene	ND	*	10	0.25	ug/L		07/11/19 17:18	07/19/19 01:34	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/11/19 17:18	07/19/19 01:34	1
Hexachloroethane	ND		10	4.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
Indene	ND		10	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Isophorone	ND		10	0.57	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Methylphenol	ND		10	1.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Nitroaniline	ND		10	2.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
3-Nitroaniline	ND		10	1.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Nitroaniline	ND	*	10	2.5	ug/L		07/11/19 17:18	07/19/19 01:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Nitrophenol	ND		10	0.65	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Nitrophenol	ND		10	2.1	ug/L		07/11/19 17:18	07/19/19 01:34	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/11/19 17:18	07/19/19 01:34	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/11/19 17:18	07/19/19 01:34	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/11/19 17:18	07/19/19 01:34	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
Phenol	**48**		10	2.6	ug/L		07/11/19 17:18	07/19/19 01:34	1
Pyridine	ND		10	3.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
Quinoline	ND		10	6.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/11/19 17:18	07/19/19 01:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*4.3*	*T J N*	*ug/L*		*4.03*	*590-90-9*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Acrylamide	*2.7*	*J*	*ug/L*		*4.51*	*79-06-1*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Indane	*14*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Alpha-Terpineol	*33*		*ug/L*		*6.30*	*98-55-5*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
2-(2-Butoxyethoxy)ethanol	*7.0*	*J*	*ug/L*		*6.31*	*112-34-5*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Sulfolane	*6.2*	*J*	*ug/L*		*6.45*	*126-33-0*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Unknown	*4.7*	*T J*	*ug/L*		*11.69*		*07/11/19 17:18*	*07/19/19 01:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Nitrobenzene-d5	*76*		*27 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Phenol-d5	*66*		*10 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Terphenyl-d14	*57*		*53 - 125*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/11/19 17:18*	*07/19/19 01:34*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919
Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/14/19 16:19	1000
Acrolein	ND		20000	10000	ug/L			07/14/19 16:19	1000
Acrylonitrile	ND	*	10000	2800	ug/L			07/14/19 16:19	1000
Bromobenzene	ND		1000	540	ug/L			07/14/19 16:19	1000
Bromochloromethane	ND		1000	520	ug/L			07/14/19 16:19	1000
Bromodichloromethane	ND		1000	500	ug/L			07/14/19 16:19	1000
Bromoform	ND		5000	710	ug/L			07/14/19 16:19	1000
Bromomethane	ND		1000	980	ug/L			07/14/19 16:19	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/14/19 16:19	1000
Carbon disulfide	ND		1000	500	ug/L			07/14/19 16:19	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/14/19 16:19	1000
Chlorobenzene	ND		1000	500	ug/L			07/14/19 16:19	1000
Chloroethane	ND		1000	760	ug/L			07/14/19 16:19	1000
2-Chloroethyl vinyl ether	ND	*	5000	2000	ug/L			07/14/19 16:19	1000
Chloroform	ND		1000	600	ug/L			07/14/19 16:19	1000
1-Chlorohexane	ND	*	1000	700	ug/L			07/14/19 16:19	1000
Chloromethane	ND		1000	830	ug/L			07/14/19 16:19	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:19	1000
Dibromochloromethane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/14/19 16:19	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/14/19 16:19	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/14/19 16:19	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/14/19 16:19	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/14/19 16:19	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,2-Dichloroethane	ND	*	1000	500	ug/L			07/14/19 16:19	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:19	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/14/19 16:19	1000
Ethylbenzene	**680**	**J**	1000	500	ug/L			07/14/19 16:19	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/14/19 16:19	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/14/19 16:19	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/14/19 16:19	1000
2-Hexanone	ND		25000	3100	ug/L			07/14/19 16:19	1000
Isopropylbenzene	ND		1000	530	ug/L			07/14/19 16:19	1000
Methylene bromide	ND		5000	590	ug/L			07/14/19 16:19	1000
Methylene Chloride	ND		5000	3000	ug/L			07/14/19 16:19	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/14/19 16:19	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/14/19 16:19	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			07/14/19 16:19	1000
Naphthalene	ND		1000	1000	ug/L			07/14/19 16:19	1000
n-Butylbenzene	ND		1000	760	ug/L			07/14/19 16:19	1000
N-Propylbenzene	ND		1000	690	ug/L			07/14/19 16:19	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/14/19 16:19	1000
o-Xylene	ND		5000	600	ug/L			07/14/19 16:19	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/14/19 16:19	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919

Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/14/19 16:19	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/14/19 16:19	1000
Styrene	ND		1000	1000	ug/L			07/14/19 16:19	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/14/19 16:19	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			07/14/19 16:19	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/14/19 16:19	1000
Tetrachloroethene	ND		1000	580	ug/L			07/14/19 16:19	1000
Toluene	**2800**		1000	410	ug/L			07/14/19 16:19	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:19	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/14/19 16:19	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/14/19 16:19	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/14/19 16:19	1000
Trichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/14/19 16:19	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/14/19 16:19	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			07/14/19 16:19	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/14/19 16:19	1000
Vinyl acetate	ND		25000	2000	ug/L			07/14/19 16:19	1000
Vinyl chloride	ND		1000	500	ug/L			07/14/19 16:19	1000
Xylenes, Total	ND		10000	1600	ug/L			07/14/19 16:19	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 16:19*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 16:19*	*1000*
Dibromofluoromethane	*114*		*81 - 121*		*07/14/19 16:19*	*1000*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/14/19 16:19*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1100000**		5000	1900	ug/L			07/15/19 10:05	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*07/15/19 10:05*	*5000*
Dibromofluoromethane	*113*		*81 - 121*		*07/15/19 10:05*	*5000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 10:05*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.43**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
Anthracene	**0.099**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/29/19 14:19	1
Benzo[a]anthracene	ND	*	0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Chrysene	ND	*	0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919

Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Fluoranthene	**0.13**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/29/19 14:19	1
Fluorene	**0.48**		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 11:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
1-Methylnaphthalene	**28**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
2-Methylnaphthalene	**1.8**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
Phenanthrene	**0.26**		0.20	0.020	ug/L		07/11/19 17:18	07/29/19 14:19	1
Pyrene	ND	*	0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:25*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:25*	*1*
Terphenyl-d14	*65*	*	*33 - 138*	*07/11/19 17:18*	*07/18/19 11:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 01:55	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/11/19 17:18	07/19/19 01:55	1
Benzoic acid	ND		29	7.1	ug/L		07/11/19 17:18	07/19/19 01:55	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/11/19 17:18	07/19/19 01:55	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/11/19 17:18	07/19/19 01:55	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/11/19 17:18	07/19/19 01:55	1
Bis(2-ethylhexyl) phthalate	**9.9**	**B**	9.8	4.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/11/19 17:18	07/19/19 01:55	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/11/19 17:18	07/19/19 01:55	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dimethylphenol	**5.6**	**J**	9.8	3.4	ug/L		07/11/19 17:18	07/19/19 01:55	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/11/19 17:18	07/19/19 01:55	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/11/19 17:18	07/19/19 01:55	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/11/19 17:18	07/19/19 01:55	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 01:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 01:55	1
Hexachlorobenzene	ND	*	9.8	0.24	ug/L		07/11/19 17:18	07/19/19 01:55	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/11/19 17:18	07/19/19 01:55	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/11/19 17:18	07/19/19 01:55	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919
Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	**8.0**	**J**	9.8	0.98	ug/L		07/11/19 17:18	07/19/19 01:55	1
Isophorone	ND		9.8	0.56	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Methylphenol	**4.6**	**J**	9.8	1.8	ug/L		07/11/19 17:18	07/19/19 01:55	1
3 & 4 Methylphenol	**8.5**	**J**	20	1.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 01:55	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Nitroaniline	ND	*	9.8	2.4	ug/L		07/11/19 17:18	07/19/19 01:55	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/11/19 17:18	07/19/19 01:55	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 01:55	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/11/19 17:18	07/19/19 01:55	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/11/19 17:18	07/19/19 01:55	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/19/19 01:55	1
Pyridine	ND		9.8	3.1	ug/L		07/11/19 17:18	07/19/19 01:55	1
Quinoline	ND		9.8	5.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 01:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	250	T J N	ug/L		3.92	108-88-3	07/11/19 17:18	07/19/19 01:55	1
Ethylbenzene	270	T J N	ug/L		4.67	100-41-4	07/11/19 17:18	07/19/19 01:55	1
p-Xylene	140	T J N	ug/L		4.88	106-42-3	07/11/19 17:18	07/19/19 01:55	1
Benzaldehyde	12		ug/L		5.07	100-52-7	07/11/19 17:18	07/19/19 01:55	1
Ethyl methanesulfonate	12		ug/L		5.07	62-50-0	07/11/19 17:18	07/19/19 01:55	1
Benzene, propyl-	78	T J N	ug/L		5.25	103-65-1	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1-ethyl-4-methyl-	25	T J N	ug/L		5.29	622-96-8	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1-ethyl-2-methyl-	48	T J N	ug/L		5.31	611-14-3	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1-ethyl-3-methyl-	84	T J N	ug/L		5.39	620-14-4	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1,2,3-trimethyl-	66	T J N	ug/L		5.63	526-73-8	07/11/19 17:18	07/19/19 01:55	1
Indane	95	T J N	ug/L		5.72	496-11-7	07/11/19 17:18	07/19/19 01:55	1
Benzene, 2-ethyl-1,4-dimethyl-	35	T J N	ug/L		5.87	1758-88-9	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1-methyl-3-(1-methylethyl)-	11	T J N	ug/L		5.89	535-77-3	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1-methyl-2-(1-methylethyl)-	68	T J N	ug/L		5.92	527-84-4	07/11/19 17:18	07/19/19 01:55	1
Benzene, 1,2,3,5-tetramethyl-	36	T J N	ug/L		6.07	527-53-7	07/11/19 17:18	07/19/19 01:55	1
Benzene, 2-ethenyl-1,4-dimethyl-	49	T J N	ug/L		6.25	2039-89-6	07/11/19 17:18	07/19/19 01:55	1
1H-Indene, 1-methyl-	11	T J N	ug/L		6.28	767-59-9	07/11/19 17:18	07/19/19 01:55	1
Naphthalene	81		ug/L		6.44	91-20-3	07/11/19 17:18	07/19/19 01:55	1
Sulfolane	13		ug/L		6.46	126-33-0	07/11/19 17:18	07/19/19 01:55	1
Hydroquinone	37		ug/L		6.68	123-31-9	07/11/19 17:18	07/19/19 01:55	1
1H-Inden-1-one, 2,3-dihydro-	47	T J N	ug/L		6.80	83-33-0	07/11/19 17:18	07/19/19 01:55	1
1-Methylindan-2-one	12	T J N	ug/L		6.94	35587-60-1	07/11/19 17:18	07/19/19 01:55	1
1-Methylnaphthalene	25		ug/L		6.96	90-12-0	07/11/19 17:18	07/19/19 01:55	1
Dimethyl-4-nitrobenzene, 1,2-	14		ug/L		7.07	99-51-4	07/11/19 17:18	07/19/19 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	68		34 - 120	07/11/19 17:18	07/19/19 01:55	1
2-Fluorophenol	29		10 - 120	07/11/19 17:18	07/19/19 01:55	1
Nitrobenzene-d5	81		27 - 120	07/11/19 17:18	07/19/19 01:55	1
Phenol-d5	62		10 - 120	07/11/19 17:18	07/19/19 01:55	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919
Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	*63*		*53 - 125*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
2,4,6-Tribromophenol	*109*		*15 - 135*	*07/11/19 17:18*	*07/19/19 01:55*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**370**		49	13	ug/L		07/11/19 17:18	07/19/19 21:38	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	H	9.9	4.9	ug/L		07/24/19 21:29	07/30/19 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*48*		*34 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
2-Fluorophenol	*31*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
Phenol-d5	*54*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
Terphenyl-d14	*32*	*X*	*53 - 125*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
2,4,6-Tribromophenol	*46*		*15 - 135*	*07/24/19 21:29*	*07/30/19 23:07*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-45-070919
Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/14/19 16:45	1000
Acrolein	ND		20000	10000	ug/L			07/14/19 16:45	1000
Acrylonitrile	ND	*	10000	2800	ug/L			07/14/19 16:45	1000
Bromobenzene	ND		1000	540	ug/L			07/14/19 16:45	1000
Bromochloromethane	ND		1000	520	ug/L			07/14/19 16:45	1000
Bromodichloromethane	ND		1000	500	ug/L			07/14/19 16:45	1000
Bromoform	ND		5000	710	ug/L			07/14/19 16:45	1000
Bromomethane	ND		1000	980	ug/L			07/14/19 16:45	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/14/19 16:45	1000
Carbon disulfide	ND		1000	500	ug/L			07/14/19 16:45	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/14/19 16:45	1000
Chlorobenzene	ND		1000	500	ug/L			07/14/19 16:45	1000
Chloroethane	ND		1000	760	ug/L			07/14/19 16:45	1000
2-Chloroethyl vinyl ether	ND	*	5000	2000	ug/L			07/14/19 16:45	1000
Chloroform	ND		1000	600	ug/L			07/14/19 16:45	1000
1-Chlorohexane	ND	*	1000	700	ug/L			07/14/19 16:45	1000
Chloromethane	ND		1000	830	ug/L			07/14/19 16:45	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:45	1000
Dibromochloromethane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/14/19 16:45	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/14/19 16:45	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/14/19 16:45	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/14/19 16:45	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/14/19 16:45	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,2-Dichloroethane	ND	*	1000	500	ug/L			07/14/19 16:45	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:45	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/14/19 16:45	1000
Ethylbenzene	**1300**		1000	500	ug/L			07/14/19 16:45	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/14/19 16:45	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/14/19 16:45	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/14/19 16:45	1000
2-Hexanone	ND		25000	3100	ug/L			07/14/19 16:45	1000
Isopropylbenzene	ND		1000	530	ug/L			07/14/19 16:45	1000
Methylene bromide	ND		5000	590	ug/L			07/14/19 16:45	1000
Methylene Chloride	ND		5000	3000	ug/L			07/14/19 16:45	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/14/19 16:45	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/14/19 16:45	1000
m-Xylene & p-Xylene	**1600**	**J**	5000	1600	ug/L			07/14/19 16:45	1000
Naphthalene	ND		1000	1000	ug/L			07/14/19 16:45	1000
n-Butylbenzene	ND		1000	760	ug/L			07/14/19 16:45	1000
N-Propylbenzene	ND		1000	690	ug/L			07/14/19 16:45	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/14/19 16:45	1000
o-Xylene	ND		5000	600	ug/L			07/14/19 16:45	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/14/19 16:45	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-45-070919

Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/14/19 16:45	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/14/19 16:45	1000
Styrene	ND		1000	1000	ug/L			07/14/19 16:45	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/14/19 16:45	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			07/14/19 16:45	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/14/19 16:45	1000
Tetrachloroethene	ND		1000	580	ug/L			07/14/19 16:45	1000
Toluene	**2100**		1000	410	ug/L			07/14/19 16:45	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:45	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/14/19 16:45	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/14/19 16:45	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/14/19 16:45	1000
Trichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/14/19 16:45	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/14/19 16:45	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			07/14/19 16:45	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/14/19 16:45	1000
Vinyl acetate	ND		25000	2000	ug/L			07/14/19 16:45	1000
Vinyl chloride	ND		1000	500	ug/L			07/14/19 16:45	1000
Xylenes, Total	**2000**	**J**	10000	1600	ug/L			07/14/19 16:45	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 16:45*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/14/19 16:45*	*1000*
Dibromofluoromethane	*116*		*81 - 121*		*07/14/19 16:45*	*1000*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 16:45*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**340000**		2000	760	ug/L			07/15/19 09:40	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/15/19 09:40*	*2000*
Dibromofluoromethane	*115*		*81 - 121*		*07/15/19 09:40*	*2000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/15/19 09:40*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.1**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Anthracene	**0.23**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Chrysene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-45-070919

Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Fluoranthene	**0.35**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Fluorene	**1.0**		0.19	0.020	ug/L		07/11/19 17:18	07/18/19 11:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
1-Methylnaphthalene	**18**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
2-Methylnaphthalene	**31**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Phenanthrene	**1.4**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Pyrene	**0.16**	J	0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:42*	*1*
Nitrobenzene-d5	*93*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:42*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/11/19 17:18*	*07/18/19 11:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/11/19 17:18	07/18/19 23:27	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/11/19 17:18	07/18/19 23:27	1
Benzoic acid	ND		29	7.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/11/19 17:18	07/18/19 23:27	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/11/19 17:18	07/18/19 23:27	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/11/19 17:18	07/18/19 23:27	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/11/19 17:18	07/18/19 23:27	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Dibenzofuran	**1.1**	J	9.7	0.51	ug/L		07/11/19 17:18	07/18/19 23:27	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/18/19 23:27	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/11/19 17:18	07/18/19 23:27	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/11/19 17:18	07/18/19 23:27	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/11/19 17:18	07/18/19 23:27	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/11/19 17:18	07/18/19 23:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/11/19 17:18	07/18/19 23:27	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/11/19 17:18	07/18/19 23:27	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/11/19 17:18	07/18/19 23:27	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/11/19 17:18	07/18/19 23:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-45-070919
Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	57		9.7	0.97	ug/L		07/11/19 17:18	07/18/19 23:27	1
Isophorone	ND		9.7	0.55	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Nitroaniline	ND	*	9.7	2.4	ug/L		07/11/19 17:18	07/18/19 23:27	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/11/19 17:18	07/18/19 23:27	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/11/19 17:18	07/18/19 23:27	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/11/19 17:18	07/18/19 23:27	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/11/19 17:18	07/18/19 23:27	1
Pentachlorophenol	ND		19	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
Pyridine	ND		9.7	3.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
Quinoline	ND		9.7	5.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/18/19 23:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*66*	*T J*	*ug/L*		*3.00*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*480*	*T J*	*ug/L*		*3.06*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*160*	*T J*	*ug/L*		*3.09*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*15*	*T J*	*ug/L*		*3.49*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*20*	*T J*	*ug/L*		*3.56*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*21*	*T J*	*ug/L*		*3.77*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Toluene	*2400*	*T J N*	*ug/L*		*3.92*	*108-88-3*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*31*	*T J*	*ug/L*		*4.11*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Acrylamide	*68*		*ug/L*		*4.66*	*79-06-1*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
o-Xylene	*2100*	*T J N*	*ug/L*		*4.74*	*95-47-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
N-Nitrosodiethylamine	*29*		*ug/L*		*4.89*	*55-18-5*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, (1-methylethyl)-	*36*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, propyl-	*100*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethyl-3-methyl-	*210*	*T J N*	*ug/L*		*5.29*	*620-14-4*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzaldehyde	*47*		*ug/L*		*5.31*	*100-52-7*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethyl-2-methyl-	*130*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,3-trimethyl-	*740*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,4-trimethyl-	*160*	*T J N*	*ug/L*		*5.64*	*95-63-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Indane	*180*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,4,5-tetramethyl-	*22*	*T J N*	*ug/L*		*6.08*	*95-93-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,4,5-tetramethyl-	*36*	*T J N*	*ug/L*		*6.10*	*95-93-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethenyl-4-ethyl-	*41*	*T J N*	*ug/L*		*6.21*	*3454-07-7*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, (1-methyl-1-butenyl)-	*21*	*T J N*	*ug/L*		*6.42*	*53172-84-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Naphthalene	*210*	*E*	*ug/L*		*6.46*	*91-20-3*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
2-Methylnaphthalene	*23*		*ug/L*		*6.90*	*91-57-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*34 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-45-070919
Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*77*		*10 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
2,4,6-Tribromophenol	*115*		*15 - 135*	*07/11/19 17:18*	*07/18/19 23:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**160**		49	13	ug/L		07/11/19 17:18	07/19/19 22:03	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 10:12	1
Acrolein	ND		20	10	ug/L			07/14/19 10:12	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 10:12	1
Benzene	**2.6**		1.0	0.38	ug/L			07/14/19 10:12	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 10:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 10:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 10:12	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 10:12	1
2-Butanone (MEK)	ND	F1 UJ	25	2.6	ug/L			07/14/19 10:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 10:12	1
2-Chloroethyl vinyl ether	ND	F1 *	5.0	2.0	ug/L			07/14/19 10:12	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 10:12	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 10:12	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 10:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 10:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 10:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 10:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 10:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 10:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,2-Dichloroethane	ND	F1 *	1.0	0.50	ug/L			07/14/19 10:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 10:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 10:12	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 10:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 10:12	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 10:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 10:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 10:12	1
Methyl tert-butyl ether	**3.9**		1.0	0.74	ug/L			07/14/19 10:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 10:12	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 10:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 10:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 10:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 10:12	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 10:12	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 10:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 10:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 10:12	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 10:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 10:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 10:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 10:12	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 10:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 10:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 10:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 10:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 10:12	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 10:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 10:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 10:12	1
1,3,5-Trimethylbenzene	**0.72**	**J**	1.0	0.56	ug/L			07/14/19 10:12	1
Vinyl acetate	ND	F2	25	2.0	ug/L			07/14/19 10:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 10:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*71*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 10:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/14/19 10:12*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 10:12*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/14/19 10:12*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Anthracene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Chrysene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Fluoranthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Fluorene	ND		0.19	0.020	ug/L		07/11/19 17:18	07/18/19 11:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
1-Methylnaphthalene	**0.15**	**J**	0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
2-Methylnaphthalene	**0.19**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:59*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:59*	*1*
Terphenyl-d14	*87*		*33 - 138*	*07/11/19 17:18*	*07/18/19 11:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
Benzenethiol	ND	* UJ	9.6	1.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
Benzoic acid	ND		29	7.0	ug/L		07/11/19 17:18	07/18/19 23:52	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/11/19 17:18	07/18/19 23:52	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/11/19 17:18	07/18/19 23:52	1
bis (2-chloroisopropyl) ether	ND		9.6	0.77	ug/L		07/11/19 17:18	07/18/19 23:52	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/11/19 17:18	07/18/19 23:52	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Chloroaniline	ND		9.6	3.2	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Chloro-3-methylphenol	ND		9.6	3.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/11/19 17:18	07/18/19 23:52	1
3,3'-Dichlorobenzidine	ND	*	9.6	2.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dimethylphenol	ND		9.6	3.3	ug/L		07/11/19 17:18	07/18/19 23:52	1
Dimethyl phthalate	ND		9.6	0.57	ug/L		07/11/19 17:18	07/18/19 23:52	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dinitrophenol	ND		29	3.2	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/11/19 17:18	07/18/19 23:52	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/11/19 17:18	07/18/19 23:52	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/11/19 17:18	07/18/19 23:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/11/19 17:18	07/18/19 23:52	1
Hexachlorobenzene	ND	*	9.6	0.24	ug/L		07/11/19 17:18	07/18/19 23:52	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/11/19 17:18	07/18/19 23:52	1
Indene	ND		9.6	0.96	ug/L		07/11/19 17:18	07/18/19 23:52	1
Isophorone	ND		9.6	0.54	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
3 & 4 Methylphenol	ND		19	0.99	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/11/19 17:18	07/18/19 23:52	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Nitroaniline	ND	*	9.6	2.4	ug/L		07/11/19 17:18	07/18/19 23:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.6	0.53	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Nitrophenol	ND		9.6	0.62	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/11/19 17:18	07/18/19 23:52	1
N-Nitrosodimethylamine	ND		9.6	3.3	ug/L		07/11/19 17:18	07/18/19 23:52	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/11/19 17:18	07/18/19 23:52	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/11/19 17:18	07/18/19 23:52	1
Pentachlorophenol	ND		19	1.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
Phenol	ND		9.6	2.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
Pyridine	ND		9.6	3.1	ug/L		07/11/19 17:18	07/18/19 23:52	1
Quinoline	ND		9.6	5.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4,5-Trichlorophenol	ND		9.6	3.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4,6-Trichlorophenol	ND		9.6	3.3	ug/L		07/11/19 17:18	07/18/19 23:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*41*	*T J*	*ug/L*		*2.95*		*07/11/19 17:18*	*07/18/19 23:52*	*1*
Unknown	*6.7*	*T J*	*ug/L*		*4.46*		*07/11/19 17:18*	*07/18/19 23:52*	*1*
Sulfolane	*3.8*	*J*	*ug/L*		*6.46*	*126-33-0*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Toluene diamine (2,4- + 2,6-isomers)	*30*		*ug/L*		*7.37*	*STL00848*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
3,4-Dichloroaniline	*11*		*ug/L*		*7.64*	*95-76-1*	*07/11/19 17:18*	*07/18/19 23:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*34 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
2-Fluorophenol	*39*		*10 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Nitrobenzene-d5	*47*		*27 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Phenol-d5	*42*		*10 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Terphenyl-d14	*65*		*53 - 125*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
2,4,6-Tribromophenol	*98*		*15 - 135*	*07/11/19 17:18*	*07/18/19 23:52*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919
Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 13:51	1
Acrolein	ND		20	10	ug/L			07/14/19 13:51	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 13:51	1
Benzene	**0.47**	**J**	1.0	0.38	ug/L			07/14/19 13:51	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 13:51	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 13:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 13:51	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 13:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 13:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 13:51	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 13:51	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 13:51	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 13:51	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 13:51	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:51	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 13:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 13:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 13:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 13:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 13:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 13:51	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 13:51	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 13:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 13:51	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 13:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 13:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 13:51	1
Methyl tert-butyl ether	**3.8**		1.0	0.74	ug/L			07/14/19 13:51	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 13:51	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 13:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 13:51	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 13:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 13:51	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 13:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919

Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 13:51	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 13:51	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 13:51	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 13:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 13:51	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 13:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 13:51	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 13:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 13:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 13:51	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 13:51	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 13:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 13:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 13:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 13:51	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 13:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 13:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*190*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 13:51*	*1*
2-Methyl-2-propanol	*57*	*	*ug/L*		*2.52*	*75-65-0*		*07/14/19 13:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/14/19 13:51*	*1*
Dibromofluoromethane	*114*		*81 - 121*		*07/14/19 13:51*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 13:51*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Anthracene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Chrysene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Fluoranthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Fluorene	ND		0.19	0.020	ug/L		07/11/19 17:18	07/18/19 12:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919

Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Pyrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/11/19 17:18*	*07/18/19 12:16*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/11/19 17:18*	*07/18/19 12:16*	*1*
Terphenyl-d14	*98*		*33 - 138*	*07/11/19 17:18*	*07/18/19 12:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/11/19 17:18	07/19/19 00:16	1
Benzoic acid	ND		29	7.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/11/19 17:18	07/19/19 00:16	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/11/19 17:18	07/19/19 00:16	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/11/19 17:18	07/19/19 00:16	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/11/19 17:18	07/19/19 00:16	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/11/19 17:18	07/19/19 00:16	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/19/19 00:16	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/11/19 17:18	07/19/19 00:16	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/11/19 17:18	07/19/19 00:16	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/11/19 17:18	07/19/19 00:16	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/11/19 17:18	07/19/19 00:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/11/19 17:18	07/19/19 00:16	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/11/19 17:18	07/19/19 00:16	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/11/19 17:18	07/19/19 00:16	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
Indene	ND		9.7	0.97	ug/L		07/11/19 17:18	07/19/19 00:16	1
Isophorone	ND		9.7	0.55	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/11/19 17:18	07/19/19 00:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919
Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	*	9.7	2.4	ug/L		07/11/19 17:18	07/19/19 00:16	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/11/19 17:18	07/19/19 00:16	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/11/19 17:18	07/19/19 00:16	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/11/19 17:18	07/19/19 00:16	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/11/19 17:18	07/19/19 00:16	1
Pentachlorophenol	ND		19	1.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
Phenol	ND		9.7	2.5	ug/L		07/11/19 17:18	07/19/19 00:16	1
Pyridine	ND		9.7	3.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
Quinoline	ND		9.7	5.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/19/19 00:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*29*	*T J*	*ug/L*		*2.94*		*07/11/19 17:18*	*07/19/19 00:16*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*4.46*		*07/11/19 17:18*	*07/19/19 00:16*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*5.08*		*07/11/19 17:18*	*07/19/19 00:16*	*1*
Sulfolane	*4.1*	*J*	*ug/L*		*6.47*	*126-33-0*	*07/11/19 17:18*	*07/19/19 00:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*34 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
2-Fluorophenol	*32*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
Nitrobenzene-d5	*53*		*27 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
Phenol-d5	*41*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
Terphenyl-d14	*72*		*53 - 125*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
2,4,6-Tribromophenol	*107*		*15 - 135*	*07/11/19 17:18*	*07/19/19 00:16*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919

Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 14:17	1
Acrolein	ND		20	10	ug/L			07/14/19 14:17	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 14:17	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 14:17	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 14:17	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 14:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 14:17	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 14:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 14:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 14:17	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 14:17	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 14:17	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 14:17	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 14:17	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:17	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 14:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 14:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 14:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 14:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 14:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 14:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 14:17	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 14:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 14:17	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 14:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 14:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 14:17	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 14:17	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 14:17	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 14:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 14:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 14:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 14:17	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 14:17	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919
Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 14:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 14:17	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 14:17	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 14:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 14:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 14:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 14:17	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 14:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 14:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 14:17	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 14:17	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 14:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 14:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 14:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 14:17	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 14:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 14:17	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*91*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 14:17*	*1*
2-Methyl-2-propanol	*32*	*	*ug/L*		*2.53*	*75-65-0*		*07/14/19 14:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/14/19 14:17*	*1*
Dibromofluoromethane	*116*		*81 - 121*		*07/14/19 14:17*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 14:17*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Anthracene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Chrysene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Fluoranthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Fluorene	ND		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 12:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
1-Methylnaphthalene	**0.18**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
2-Methylnaphthalene	**0.26**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919

Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Pyrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*90*		*15 - 122*	*07/11/19 17:18*	*07/18/19 12:33*	*1*
Nitrobenzene-d5	*81*		*19 - 130*	*07/11/19 17:18*	*07/18/19 12:33*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/11/19 17:18*	*07/18/19 12:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
Benzoic acid	ND		30	7.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/11/19 17:18	07/19/19 00:41	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/11/19 17:18	07/19/19 00:41	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/11/19 17:18	07/19/19 00:41	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/11/19 17:18	07/19/19 00:41	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Dibenz[a,h]acridine	ND		9.8	3.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/11/19 17:18	07/19/19 00:41	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dichlorophenol	ND		9.8	3.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 00:41	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/11/19 17:18	07/19/19 00:41	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dinitrophenol	ND		30	3.3	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/11/19 17:18	07/19/19 00:41	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 00:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 00:41	1
Hexachlorobenzene	ND	*	9.8	0.25	ug/L		07/11/19 17:18	07/19/19 00:41	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/11/19 17:18	07/19/19 00:41	1
Indene	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 00:41	1
Isophorone	ND		9.8	0.56	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/11/19 17:18	07/19/19 00:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/11/19 17:18	07/19/19 00:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919
Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	*	9.8	2.4	ug/L		07/11/19 17:18	07/19/19 00:41	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/11/19 17:18	07/19/19 00:41	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 00:41	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/11/19 17:18	07/19/19 00:41	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/19/19 00:41	1
Phenol	ND		9.8	2.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
Pyridine	ND		9.8	3.1	ug/L		07/11/19 17:18	07/19/19 00:41	1
Quinoline	ND		9.8	5.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 00:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*43*	*T J*	*ug/L*		*2.95*		*07/11/19 17:18*	*07/19/19 00:41*	*1*
Unknown	*9.3*	*T J*	*ug/L*		*4.03*		*07/11/19 17:18*	*07/19/19 00:41*	*1*
Unknown	*17*	*T J*	*ug/L*		*4.47*		*07/11/19 17:18*	*07/19/19 00:41*	*1*
Sulfolane	*1.2*	*J*	*ug/L*		*6.47*	*126-33-0*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Toluene diamine (2,4- + 2,6-isomers)	*27*		*ug/L*		*7.38*	*STL00848*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
9-Octadecenamide, (Z)-	*12*	*T J N*	*ug/L*		*11.85*	*301-02-0*	*07/11/19 17:18*	*07/19/19 00:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*34 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
2-Fluorophenol	*29*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Nitrobenzene-d5	*51*		*27 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Phenol-d5	*39*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Terphenyl-d14	*72*		*53 - 125*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
2,4,6-Tribromophenol	*106*		*15 - 135*	*07/11/19 17:18*	*07/19/19 00:41*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172850-1	TB-PW-070919-B	107	116	103
400-172850-2	PD-9-GWP-35-070919	107	114	103
400-172850-3	PD-9-GWP-40-070919	105	114	105
400-172850-3 - DL	PD-9-GWP-40-070919	106	113	103
400-172850-4	PD-9-GWP-45-070919	110	116	104
400-172850-4 - DL	PD-9-GWP-45-070919	108	115	101
400-172850-5	PD-13-GWP-65-070919	108	113	102
400-172850-5 MS	PD-13-GWP-65-070919	103	113	103
400-172850-5 MSD	PD-13-GWP-65-070919	104	112	103
400-172850-6	PD-13-GWP-70-070919	110	114	104
400-172850-7	PD-13-GWP-80-070919	110	116	104
LCS 400-447926/1002	Lab Control Sample	107	112	103
LCS 400-447978/1002	Lab Control Sample	105	113	102
MB 400-447926/4	Method Blank	105	113	103
MB 400-447978/4	Method Blank	107	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172850-2	PD-9-GWP-35-070919	59	53	76	66	57	82
400-172850-3	PD-9-GWP-40-070919	68	29	81	62	63	109
400-172850-3 - RERA	PD-9-GWP-40-070919	48	31	70	54	32 X	46
400-172850-4	PD-9-GWP-45-070919	78	0 X	59	77	66	115
400-172850-5	PD-13-GWP-65-070919	65	39	47	42	65	98
400-172850-6	PD-13-GWP-70-070919	78	32	53	41	72	107
400-172850-7	PD-13-GWP-80-070919	75	29	51	39	72	106
LCS 400-447641/2-A	Lab Control Sample	74	43	60	57	104	126
LCS 400-447641/4-A	Lab Control Sample	70	35	58	44	96	77
LCS 400-449437/2-A	Lab Control Sample	49	44	80	66	59	41
LCSD 400-447641/5-A	Lab Control Sample Dup	68	25	58	41	98	67
LCSD 400-449437/3-A	Lab Control Sample Dup	45	44	86	64	57	38
MB 400-447641/1-A	Method Blank	76	43	62	55	105	85
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172850-2	PD-9-GWP-35-070919	73	77	67
400-172850-3	PD-9-GWP-40-070919	74	70	65 *
400-172850-4	PD-9-GWP-45-070919	63	93	77
400-172850-5	PD-13-GWP-65-070919	74	69	87
400-172850-6	PD-13-GWP-70-070919	92	77	98
400-172850-7	PD-13-GWP-80-070919	90	81	111
LCS 400-447641/2-A	Lab Control Sample	60	44	89
MB 400-447641/1-A	Method Blank	0 X	NaN	0 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 13:27	WPD	TAL PEN

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447926	07/14/19 15:06	WPD	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/19/19 01:34	VC1	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:08	S1S	TAL PEN

Client Sample ID: PD-9-GWP-40-070919

Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447926	07/14/19 16:19	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	447978	07/15/19 10:05	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5	0.4 mL	1.0 mL	448749	07/19/19 21:38	VC1	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/19/19 01:55	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1010.6 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450063	07/30/19 23:07	VC1	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:25	S1S	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 14:19	KJA	TAL PEN

Client Sample ID: PD-9-GWP-45-070919

Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447926	07/14/19 16:45	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	447978	07/15/19 09:40	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1028 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			448749	07/19/19 22:03	VC1	TAL PEN
Total/NA	Prep	3520C			1028 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/18/19 23:27	VC1	TAL PEN
Total/NA	Prep	3520C			1028 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:42	S1S	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 10:12	WPD	TAL PEN
Total/NA	Prep	3520C			1046.4 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/18/19 23:52	VC1	TAL PEN
Total/NA	Prep	3520C			1046.4 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:59	S1S	TAL PEN

Client Sample ID: PD-13-GWP-70-070919

Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 13:51	WPD	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/19/19 00:16	VC1	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 12:16	S1S	TAL PEN

Client Sample ID: PD-13-GWP-80-070919

Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 14:17	WPD	TAL PEN
Total/NA	Prep	3520C			1016.6 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448563	07/19/19 00:41	VC1	TAL PEN
Total/NA	Prep	3520C			1016.6 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 12:33	S1S	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447641/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/18/19 00:08	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 09:53	S1S	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447926/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447978/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 07:39	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449437/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447641/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448987	07/22/19 16:22	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			449114	07/23/19 09:24	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447641/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/18/19 00:33	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447926/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447978/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 06:51	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:21	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447641/5-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/18/19 00:58	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:42	VC1	TAL PEN

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 12:14	WPD	TAL PEN

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 12:38	WPD	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

GC/MS VOA

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-1	TB-PW-070919-B	Total/NA	Water	8260B	
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	8260B	
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8260B	
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	8260B	
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	8260B	
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	8260B	
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	
400-172850-5 MS	PD-13-GWP-65-070919	Total/NA	Water	8260B	
400-172850-5 MSD	PD-13-GWP-65-070919	Total/NA	Water	8260B	

Analysis Batch: 447978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - DL	PD-9-GWP-40-070919	Total/NA	Water	8260B	
400-172850-4 - DL	PD-9-GWP-45-070919	Total/NA	Water	8260B	
MB 400-447978/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447978/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 447641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	3520C	
400-172850-3 - DL	PD-9-GWP-40-070919	Total/NA	Water	3520C	
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	3520C	
400-172850-4 - DL	PD-9-GWP-45-070919	Total/NA	Water	3520C	
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	3520C	
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	3520C	
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	3520C	
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	3520C	
MB 400-447641/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-447641/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-447641/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-447641/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447641/1-A	Method Blank	Total/NA	Water	8270D	447641
LCS 400-447641/4-A	Lab Control Sample	Total/NA	Water	8270D	447641
LCSD 400-447641/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	447641

Analysis Batch: 448495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	8270D LL	447641
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8270D LL	447641
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	8270D LL	447641
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	8270D LL	447641
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	8270D LL	447641
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	8270D LL	447641
MB 400-447641/1-A	Method Blank	Total/NA	Water	8270D LL	447641

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

GC/MS Semi VOA

Analysis Batch: 448563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	8270D	447641
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	8270D	447641
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	8270D	447641
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	8270D	447641

Analysis Batch: 448576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	8270D	447641
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8270D	447641

Analysis Batch: 448749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - DL	PD-9-GWP-40-070919	Total/NA	Water	8270D	447641
400-172850-4 - DL	PD-9-GWP-45-070919	Total/NA	Water	8270D	447641

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-447641/2-A	Lab Control Sample	Total/NA	Water	8270D	447641

Analysis Batch: 449114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-447641/2-A	Lab Control Sample	Total/NA	Water	8270D LL	447641

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - RERA	PD-9-GWP-40-070919	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8270D LL	447641

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - RERA	PD-9-GWP-40-070919	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/14/19 09:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118		07/14/19 09:00	1
Dibromofluoromethane	113		81 - 121		07/14/19 09:00	1
Toluene-d8 (Surr)	103		80 - 120		07/14/19 09:00	1

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 400-172850-5 MS
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	103		ug/L		51	43 - 150
Acrolein	ND		250	282		ug/L		113	38 - 150
Acrylonitrile	ND	*	500	721		ug/L		144	62 - 149
Benzene	2.6		50.0	51.7		ug/L		98	56 - 142
Bromobenzene	ND		50.0	47.3		ug/L		95	59 - 136
Bromochloromethane	ND		50.0	59.1		ug/L		118	64 - 140
Bromodichloromethane	ND		50.0	57.2		ug/L		114	59 - 143
Bromoform	ND		50.0	56.1		ug/L		112	50 - 140
Bromomethane	ND		25.0	31.0		ug/L		124	10 - 150
2-Butanone (MEK)	ND	F1	200	102	F1	ug/L		51	55 - 150
Carbon disulfide	ND		50.0	46.7		ug/L		93	48 - 150
Carbon tetrachloride	ND		50.0	64.8		ug/L		130	55 - 145
Chlorobenzene	ND		50.0	53.1		ug/L		106	64 - 130
Chloroethane	ND		25.0	25.8		ug/L		103	50 - 150
2-Chloroethyl vinyl ether	ND	F1 *	25.0	37.7	F1	ug/L		151	10 - 150
Chloroform	ND		50.0	60.6		ug/L		121	60 - 141
1-Chlorohexane	ND	*	50.0	65.8		ug/L		132	56 - 136
Chloromethane	ND		25.0	24.0		ug/L		96	49 - 148
cis-1,2-Dichloroethene	ND		50.0	66.6		ug/L		133	59 - 143
cis-1,3-Dichloropropene	ND		50.0	55.6		ug/L		111	57 - 140
Dibromochloromethane	ND		50.0	61.6		ug/L		123	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	47.3		ug/L		95	45 - 135
1,2-Dichlorobenzene	ND		50.0	47.8		ug/L		96	52 - 137
1,3-Dichlorobenzene	ND		50.0	46.4		ug/L		93	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172850-5 MS
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		50.0	46.8		ug/L		94	53 - 135
Dichlorodifluoromethane	ND		25.0	16.3		ug/L		65	16 - 150
1,1-Dichloroethane	ND		50.0	65.4		ug/L		131	61 - 144
1,2-Dichloroethane	ND	F1 *	50.0	73.1	F1	ug/L		146	60 - 141
1,1-Dichloroethene	ND		50.0	53.3		ug/L		107	54 - 147
1,2-Dichloropropane	ND		50.0	59.0		ug/L		118	66 - 137
1,3-Dichloropropane	ND		50.0	53.6		ug/L		107	66 - 133
2,2-Dichloropropane	ND		50.0	63.0		ug/L		126	42 - 144
1,1-Dichloropropene	ND		50.0	58.8		ug/L		118	65 - 136
Ethylbenzene	ND		50.0	51.7		ug/L		103	58 - 131
Ethylene Dibromide	ND		50.0	53.1		ug/L		106	64 - 132
Ethyl methacrylate	ND		50.0	49.7		ug/L		99	64 - 130
Hexachlorobutadiene	ND		50.0	46.2		ug/L		92	31 - 149
2-Hexanone	ND		200	172		ug/L		86	65 - 140
Isopropylbenzene	ND		50.0	53.7		ug/L		107	56 - 133
Methylene bromide	ND		50.0	52.6		ug/L		105	63 - 138
Methylene Chloride	ND		50.0	52.3		ug/L		105	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	242		ug/L		121	63 - 146
Methyl tert-butyl ether	3.9		50.0	62.4		ug/L		117	59 - 137
m-Xylene & p-Xylene	ND		50.0	52.7		ug/L		105	57 - 130
Naphthalene	ND		50.0	47.9		ug/L		96	25 - 150
n-Butylbenzene	ND		50.0	49.3		ug/L		99	41 - 142
N-Propylbenzene	ND		50.0	49.6		ug/L		99	51 - 138
o-Chlorotoluene	ND		50.0	52.8		ug/L		106	53 - 134
o-Xylene	ND		50.0	53.0		ug/L		106	61 - 130
p-Chlorotoluene	ND		50.0	52.1		ug/L		104	54 - 133
p-Isopropyltoluene	ND		50.0	50.7		ug/L		101	48 - 139
sec-Butylbenzene	ND		50.0	49.9		ug/L		100	50 - 138
Styrene	ND		50.0	47.1		ug/L		94	58 - 131
tert-Butylbenzene	ND		50.0	53.2		ug/L		106	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	54.6		ug/L		109	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	46.8		ug/L		94	66 - 135
Tetrachloroethene	ND		50.0	51.6		ug/L		103	52 - 133
Toluene	ND		50.0	48.9		ug/L		98	65 - 130
trans-1,2-Dichloroethene	ND		50.0	52.8		ug/L		106	61 - 143
trans-1,3-Dichloropropene	ND		50.0	58.6		ug/L		117	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	42.6		ug/L		85	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.1		ug/L		86	39 - 148
1,1,1-Trichloroethane	ND		50.0	64.5		ug/L		129	57 - 142
1,1,2-Trichloroethane	ND		50.0	47.1		ug/L		94	66 - 131
Trichloroethene	ND		50.0	52.3		ug/L		105	64 - 136
Trichlorofluoromethane	ND		25.0	25.3		ug/L		101	54 - 150
1,2,3-Trichloropropane	ND		50.0	58.9		ug/L		118	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	52.5		ug/L		105	50 - 139
1,3,5-Trimethylbenzene	0.72	J	50.0	53.9		ug/L		106	52 - 135
Vinyl acetate	ND	F2	50.0	39.3		ug/L		79	26 - 150
Vinyl chloride	ND		25.0	21.5		ug/L		86	46 - 150
Xylenes, Total	ND		100	106		ug/L		106	59 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172850-5 MS
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	103		78 - 118
Dibromofluoromethane	113		81 - 121
Toluene-d8 (Surr)	103		80 - 120

Lab Sample ID: 400-172850-5 MSD
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	102		ug/L		51	43 - 150	1	30
Acrolein	ND		250	351		ug/L		140	38 - 150	22	31
Acrylonitrile	ND	*	500	706		ug/L		141	62 - 149	2	30
Benzene	2.6		50.0	49.2		ug/L		93	56 - 142	5	30
Bromobenzene	ND		50.0	42.9		ug/L		86	59 - 136	10	30
Bromochloromethane	ND		50.0	57.5		ug/L		115	64 - 140	3	30
Bromodichloromethane	ND		50.0	55.7		ug/L		111	59 - 143	3	30
Bromoform	ND		50.0	52.7		ug/L		105	50 - 140	6	30
Bromomethane	ND		25.0	34.6		ug/L		138	10 - 150	11	50
2-Butanone (MEK)	ND	F1	200	103	F1	ug/L		52	55 - 150	1	30
Carbon disulfide	ND		50.0	45.9		ug/L		92	48 - 150	2	30
Carbon tetrachloride	ND		50.0	62.2		ug/L		124	55 - 145	4	30
Chlorobenzene	ND		50.0	46.8		ug/L		94	64 - 130	13	30
Chloroethane	ND		25.0	31.3		ug/L		125	50 - 150	19	30
2-Chloroethyl vinyl ether	ND	F1 *	25.0	45.6	F1	ug/L		182	10 - 150	19	50
Chloroform	ND		50.0	58.0		ug/L		116	60 - 141	4	30
1-Chlorohexane	ND	*	50.0	57.8		ug/L		116	56 - 136	13	30
Chloromethane	ND		25.0	28.5		ug/L		114	49 - 148	17	31
cis-1,2-Dichloroethene	ND		50.0	63.6		ug/L		127	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	52.7		ug/L		105	57 - 140	5	30
Dibromochloromethane	ND		50.0	55.6		ug/L		111	56 - 143	10	30
1,2-Dibromo-3-Chloropropane	ND		50.0	47.9		ug/L		96	45 - 135	1	30
1,2-Dichlorobenzene	ND		50.0	41.5		ug/L		83	52 - 137	14	30
1,3-Dichlorobenzene	ND		50.0	38.8		ug/L		78	54 - 135	18	30
1,4-Dichlorobenzene	ND		50.0	38.0		ug/L		76	53 - 135	21	30
Dichlorodifluoromethane	ND		25.0	20.4		ug/L		82	16 - 150	22	31
1,1-Dichloroethane	ND		50.0	63.1		ug/L		126	61 - 144	4	30
1,2-Dichloroethane	ND	F1 *	50.0	73.5	F1	ug/L		147	60 - 141	0	30
1,1-Dichloroethene	ND		50.0	52.7		ug/L		105	54 - 147	1	30
1,2-Dichloropropane	ND		50.0	57.5		ug/L		115	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	50.0		ug/L		100	66 - 133	7	30
2,2-Dichloropropane	ND		50.0	61.2		ug/L		122	42 - 144	3	31
1,1-Dichloropropene	ND		50.0	55.4		ug/L		111	65 - 136	6	30
Ethylbenzene	ND		50.0	45.2		ug/L		90	58 - 131	13	30
Ethylene Dibromide	ND		50.0	51.5		ug/L		103	64 - 132	3	30
Ethyl methacrylate	ND		50.0	47.3		ug/L		95	64 - 130	5	30
Hexachlorobutadiene	ND		50.0	34.6		ug/L		69	31 - 149	29	36
2-Hexanone	ND		200	168		ug/L		84	65 - 140	2	30
Isopropylbenzene	ND		50.0	45.5		ug/L		91	56 - 133	16	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172850-5 MSD
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		50.0	51.2		ug/L		102	63 - 138	3	30
Methylene Chloride	ND		50.0	50.1		ug/L		100	60 - 146	4	32
4-Methyl-2-pentanone (MIBK)	ND		200	242		ug/L		121	63 - 146	0	30
Methyl tert-butyl ether	3.9		50.0	63.8		ug/L		120	59 - 137	2	30
m-Xylene & p-Xylene	ND		50.0	45.1		ug/L		90	57 - 130	16	30
Naphthalene	ND		50.0	48.6		ug/L		97	25 - 150	1	30
n-Butylbenzene	ND		50.0	39.4		ug/L		79	41 - 142	22	31
N-Propylbenzene	ND		50.0	41.6		ug/L		83	51 - 138	17	30
o-Chlorotoluene	ND		50.0	46.8		ug/L		94	53 - 134	12	30
o-Xylene	ND		50.0	46.7		ug/L		93	61 - 130	13	30
p-Chlorotoluene	ND		50.0	44.3		ug/L		89	54 - 133	16	30
p-Isopropyltoluene	ND		50.0	41.4		ug/L		83	48 - 139	20	30
sec-Butylbenzene	ND		50.0	43.0		ug/L		86	50 - 138	15	30
Styrene	ND		50.0	40.1		ug/L		80	58 - 131	16	30
tert-Butylbenzene	ND		50.0	46.2		ug/L		92	54 - 146	14	30
1,1,1,2-Tetrachloroethane	ND		50.0	48.9		ug/L		98	59 - 137	11	30
1,1,2,2-Tetrachloroethane	ND		50.0	46.0		ug/L		92	66 - 135	2	30
Tetrachloroethene	ND		50.0	47.5		ug/L		95	52 - 133	8	30
Toluene	ND		50.0	44.3		ug/L		89	65 - 130	10	30
trans-1,2-Dichloroethene	ND		50.0	51.5		ug/L		103	61 - 143	3	30
trans-1,3-Dichloropropene	ND		50.0	55.5		ug/L		111	53 - 133	5	30
1,2,3-Trichlorobenzene	ND		50.0	39.3		ug/L		79	43 - 145	8	30
1,2,4-Trichlorobenzene	ND		50.0	35.0		ug/L		70	39 - 148	21	30
1,1,1-Trichloroethane	ND		50.0	62.5		ug/L		125	57 - 142	3	30
1,1,2-Trichloroethane	ND		50.0	46.0		ug/L		92	66 - 131	2	30
Trichloroethene	ND		50.0	48.6		ug/L		97	64 - 136	7	30
Trichlorofluoromethane	ND		25.0	32.0		ug/L		128	54 - 150	23	30
1,2,3-Trichloropropane	ND		50.0	58.8		ug/L		118	65 - 133	0	30
1,2,4-Trimethylbenzene	ND		50.0	44.1		ug/L		88	50 - 139	17	30
1,3,5-Trimethylbenzene	0.72	J	50.0	46.3		ug/L		91	52 - 135	15	30
Vinyl acetate	ND	F2	50.0	56.2	F2	ug/L		112	26 - 150	35	33
Vinyl chloride	ND		25.0	26.5		ug/L		106	46 - 150	21	30
Xylenes, Total	ND		100	91.7		ug/L		92	59 - 130	14	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/15/19 07:39	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 07:39*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/15/19 07:39	1
Dibromofluoromethane	113		81 - 121		07/15/19 07:39	1
Toluene-d8 (Surr)	102		80 - 120		07/15/19 07:39	1

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	45.4		ug/L		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	105		78 - 118
Dibromofluoromethane	113		81 - 121
Toluene-d8 (Surr)	102		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
Benzenethiol	ND		10	1.7	ug/L		07/11/19 17:18	07/18/19 00:08	1
Benzoic acid	ND		30	7.3	ug/L		07/11/19 17:18	07/18/19 00:08	1
Benzyl alcohol	ND		10	2.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/11/19 17:18	07/18/19 00:08	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/11/19 17:18	07/18/19 00:08	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/11/19 17:18	07/18/19 00:08	1
Bis(2-ethylhexyl) phthalate	94.6		10	5.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/11/19 17:18	07/18/19 00:08	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Chloroaniline	ND		10	3.4	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Chlorophenol	ND		10	2.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Dibenzofuran	ND		10	0.52	ug/L		07/11/19 17:18	07/18/19 00:08	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Diethyl phthalate	ND		10	0.70	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/11/19 17:18	07/18/19 00:08	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/11/19 17:18	07/18/19 00:08	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/11/19 17:18	07/18/19 00:08	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/11/19 17:18	07/18/19 00:08	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/11/19 17:18	07/18/19 00:08	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/11/19 17:18	07/18/19 00:08	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/11/19 17:18	07/18/19 00:08	1
Hexachloroethane	ND		10	4.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
Indene	ND		10	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Isophorone	ND		10	0.57	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Methylphenol	ND		10	1.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Nitroaniline	ND		10	2.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
3-Nitroaniline	ND		10	1.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Nitroaniline	ND		10	2.5	ug/L		07/11/19 17:18	07/18/19 00:08	1
Nitrobenzene	ND		10	0.55	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Nitrophenol	ND		10	0.65	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Nitrophenol	ND		10	2.1	ug/L		07/11/19 17:18	07/18/19 00:08	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/11/19 17:18	07/18/19 00:08	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/11/19 17:18	07/18/19 00:08	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/11/19 17:18	07/18/19 00:08	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
Phenol	ND		10	2.6	ug/L		07/11/19 17:18	07/18/19 00:08	1
Pyridine	ND		10	3.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
Quinoline	ND		10	6.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/11/19 17:18	07/18/19 00:08	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/11/19 17:18*	*07/18/19 00:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*34 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
2-Fluorophenol	*43*		*10 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
Phenol-d5	*55*		*10 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
Terphenyl-d14	*105*		*53 - 125*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
2,4,6-Tribromophenol	*85*		*15 - 135*	*07/11/19 17:18*	*07/18/19 00:08*	*1*

Lab Sample ID: LCS 400-447641/2-A
Matrix: Water
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	19.0		ug/L		63	29 - 120
Benzoic acid	117	17.0	J	ug/L		15	10 - 150
Benzyl alcohol	30.0	22.5		ug/L		75	19 - 125
Bis(2-chloroethoxy)methane	30.0	18.6		ug/L		62	45 - 120
Bis(2-chloroethyl)ether	30.0	16.9		ug/L		56	48 - 120
bis (2-chloroisopropyl) ether	30.0	15.3		ug/L		51	30 - 125

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447641/2-A
Matrix: Water
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-ethylhexyl) phthalate	30.0	25.5		ug/L		85	48 - 150
4-Bromophenyl phenyl ether	30.0	36.1		ug/L		120	55 - 122
Butyl benzyl phthalate	30.0	23.4		ug/L		78	46 - 145
4-Chloroaniline	30.0	17.2		ug/L		57	30 - 120
4-Chloro-3-methylphenol	30.0	25.5		ug/L		85	39 - 140
2-Chloronaphthalene	30.0	24.3		ug/L		81	52 - 120
2-Chlorophenol	30.0	20.4		ug/L		68	34 - 120
4-Chlorophenyl phenyl ether	30.0	31.4		ug/L		105	58 - 124
Dibenz[a,h]acridine	30.0	27.3		ug/L		91	46 - 149
Dibenzofuran	30.0	27.3		ug/L		91	58 - 123
3,3'-Dichlorobenzidine	40.0	83.2	*	ug/L		208	39 - 135
2,4-Dichlorophenol	30.0	25.6		ug/L		85	39 - 128
Diethyl phthalate	30.0	31.2		ug/L		104	44 - 146
2,4-Dimethylphenol	30.0	21.5		ug/L		72	44 - 120
Dimethyl phthalate	30.0	29.6		ug/L		99	50 - 131
Di-n-butyl phthalate	30.0	30.4		ug/L		101	55 - 131
4,6-Dinitro-ortho-cresol	60.0	65.1		ug/L		109	10 - 150
2,4-Dinitrophenol	60.0	64.5		ug/L		108	10 - 150
2,4-Dinitrotoluene	30.0	31.8		ug/L		106	58 - 140
2,6-Dinitrotoluene	30.0	32.6		ug/L		109	57 - 130
Di-n-octyl phthalate	30.0	28.1		ug/L		94	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.5		ug/L		82	47 - 123
Hexachlorobenzene	30.0	40.2	*	ug/L		134	52 - 131
Hexachlorocyclopentadiene	30.0	8.79	J	ug/L		29	10 - 129
Hexachloroethane	30.0	15.4		ug/L		51	41 - 120
Indene	30.0	17.2		ug/L		57	47 - 120
Isophorone	30.0	18.4		ug/L		61	49 - 120
2-Methylphenol	30.0	20.3		ug/L		68	39 - 123
3 & 4 Methylphenol	30.0	21.0		ug/L		70	38 - 121
2-Nitroaniline	30.0	25.1		ug/L		84	47 - 150
3-Nitroaniline	30.0	33.6		ug/L		112	34 - 132
4-Nitroaniline	30.0	44.6	*	ug/L		149	41 - 135
Nitrobenzene	30.0	18.3		ug/L		61	47 - 120
2-Nitrophenol	30.0	20.2		ug/L		67	28 - 136
4-Nitrophenol	60.0	56.5		ug/L		94	10 - 150
N-Nitrosodimethylamine	30.0	21.6		ug/L		72	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.0		ug/L		67	44 - 120
N-Nitrosodiphenylamine	29.8	30.7		ug/L		103	56 - 120
Pentachlorophenol	60.0	73.4		ug/L		122	15 - 141
Phenol	30.0	17.1		ug/L		57	33 - 120
Pyridine	60.0	29.0		ug/L		48	26 - 120
Quinoline	30.0	22.0		ug/L		73	51 - 129
2,4,5-Trichlorophenol	30.0	32.9		ug/L		110	38 - 147
2,4,6-Trichlorophenol	30.0	31.6		ug/L		105	36 - 139

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447641/2-A
Matrix: Water
Analysis Batch: 448987

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		34 - 120
2-Fluorophenol	43		10 - 120
Nitrobenzene-d5	60		27 - 120
Phenol-d5	57		10 - 120
Terphenyl-d14	104		53 - 125
2,4,6-Tribromophenol	126		15 - 135

Lab Sample ID: LCS 400-447641/4-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	70		34 - 120
2-Fluorophenol	35		10 - 120
Nitrobenzene-d5	58		27 - 120
Phenol-d5	44		10 - 120
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	77		15 - 135

Lab Sample ID: LCSD 400-447641/5-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447641

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120	15	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	68		34 - 120
2-Fluorophenol	25		10 - 120
Nitrobenzene-d5	58		27 - 120
Phenol-d5	41		10 - 120
Terphenyl-d14	98		53 - 125
2,4,6-Tribromophenol	67		15 - 135

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				07/24/19 21:29	07/30/19 21:00	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		34 - 120	07/24/19 21:29	07/30/19 21:00	1
2-Fluorophenol	53		10 - 120	07/24/19 21:29	07/30/19 21:00	1
Nitrobenzene-d5	82		27 - 120	07/24/19 21:29	07/30/19 21:00	1
Phenol-d5	70		10 - 120	07/24/19 21:29	07/30/19 21:00	1
Terphenyl-d14	70		53 - 125	07/24/19 21:29	07/30/19 21:00	1
2,4,6-Tribromophenol	35		15 - 135	07/24/19 21:29	07/30/19 21:00	1

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-ethylhexyl) phthalate	30.0	22.4		ug/L		75	48 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	49		34 - 120
2-Fluorophenol	44		10 - 120
Nitrobenzene-d5	80		27 - 120
Phenol-d5	66		10 - 120
Terphenyl-d14	59		53 - 125
2,4,6-Tribromophenol	41		15 - 135

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate	30.0	23.4		ug/L		78	48 - 150	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	45		34 - 120
2-Fluorophenol	44		10 - 120
Nitrobenzene-d5	86		27 - 120
Phenol-d5	64		10 - 120
Terphenyl-d14	57		53 - 125
2,4,6-Tribromophenol	38		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Anthracene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Chrysene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Fluoranthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Fluorene	ND		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 09:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Phenanthrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Pyrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/11/19 17:18*	*07/18/19 09:53*	*1*
Nitrobenzene-d5	*NaN*		*19 - 130*	*07/11/19 17:18*	*07/18/19 09:53*	*1*
Terphenyl-d14	*0*	*X*	*33 - 138*	*07/11/19 17:18*	*07/18/19 09:53*	*1*

Lab Sample ID: LCS 400-447641/2-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	23.7		ug/L		79	41 - 120
Acenaphthylene	30.0	22.5		ug/L		75	44 - 120
Anthracene	30.0	25.1		ug/L		84	49 - 120
Benzo[a]anthracene	30.0	23.9		ug/L		80	61 - 135
Benzo[a]pyrene	30.0	24.8		ug/L		83	52 - 120
Benzo[b]fluoranthene	30.0	27.1		ug/L		90	53 - 134
Benzo[g,h,i]perylene	30.0	24.8		ug/L		83	47 - 133
Benzo[k]fluoranthene	30.0	24.8		ug/L		83	57 - 134
Chrysene	30.0	24.1		ug/L		80	55 - 122
Dibenz(a,h)anthracene	30.0	28.0		ug/L		93	48 - 146
Fluoranthene	30.0	23.9		ug/L		80	54 - 128
Fluorene	30.0	28.6		ug/L		95	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	26.6		ug/L		89	43 - 142
1-Methylnaphthalene	30.0	16.7		ug/L		56	41 - 120
2-Methylnaphthalene	30.0	16.1		ug/L		54	32 - 124
Phenanthrene	30.0	26.2		ug/L		87	48 - 120
Pyrene	30.0	29.2		ug/L		97	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*15 - 122*
Nitrobenzene-d5	*44*		*19 - 130*
Terphenyl-d14	*89*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (___Pensacola___
☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHEC
James Carrino	25278	DAT
PO #	GSAP Project ID	PAG400-172850 COC
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE	State	AECOM Project / Task Number:
AECOM		IL	PreDesign Invest. PW

170 East Rand Avenue, Hartford

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO	E-MAIL	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

SAMPLER NAME(S) (Print): Sam Fisher

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST 60592794 - 1.24.051: 8270 SIM PAH	NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
TB-PW-070919-B	7/9/2019	0:00	Water	2					2		x	
PD-9-GWP-35-070919	7/9/2019	14:15	Water	2			2		4	x	x	x
PD-9-GWP-40-070919	7/9/2019	15:08	Water	2			2		4	x	x	x
PD-9-GWP-45-070919	7/9/2019	15:55	Water	2			2		4	x		
PD-13-GWP-65-070919	7/9/2019	9:15	Water	2			2		4	x	x	x
PD-13-GWP-70-070919	7/9/2019	10:20	Water	2			2		4	x	x	x
PD-13-GWP-80-070919	7/9/2019	11:30	Water	2			2		4	x	x	x

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

Relinquished by (Signature)	Received by (Signature)	Date	Time
	Fed Ex 4931 8203 6182 4931 8203 7395	7/9/2019	1745
		07.10.19	859

Version 10May17

Custody Seals 1011665 1011667 1011664 1011666

4.8 ; 4.8 C IR7

8/5/2019

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CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172850-1

Login Number: 172850
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C 4.8°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172850-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 2:53:34 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172850-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172850-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-5-19.

Receipt
The samples were received on 7/10/2019 8:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.8º C and 4.8º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-9-GWP-35-070919 (400-172850-2), PD-9-GWP-40-070919 (400-172850-3) and PD-9-GWP-45-070919 (400-172850-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-070919-B (400-172850-1), PD-9-GWP-35-070919 (400-172850-2), PD-9-GWP-40-070919 (400-172850-3), PD-9-GWP-45-070919 (400-172850-4), PD-13-GWP-65-070919 (400-172850-5), PD-13-GWP-70-070919 (400-172850-6) and PD-13-GWP-80-070919 (400-172850-7). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442653 was outside method criteria for the following analyte(s): N-Nitrosodiphenylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-9-GWP-45-070919 (400-172850-4). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered above the upper control limit for N-Nitrosodimethylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 400-172850-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448563 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, Benzyl alcohol, Nitrobenzene, Phenol, Isophorone, N-Nitrosodi-n-propylamine, 2,2'-oxybis[1-chloropropane], 1,2-Diphenylhydrazine (as Azobenzene), Pyridine and Bis(2-chloroethoxy)methane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447641 and analytical batch 400-448422 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, 1,4-Dioxane, Benzyl alcohol and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448422 recovered above the upper control limit for N-Nitrosodimethylamine and 3-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-447641 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-447641 and analytical batch 400-448987 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Nitroaniline. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-442656 was outside method criteria for the following analyte(s): Benzenethiol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D LL: Surrogate compounds were inadvertently omitted during the extraction process for the following sample: (MB 400-447641/1-A). All related sample surrogates are within QC limits; therefore, the data have been reported and qualified.

Method(s) 8270D LL: One of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-9-GWP-40-070919 (400-172850-3) Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-9-GWP-40-070919 (400-172850-3). These results have been reported and qualified.

Job ID: 400-172850-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: Bis(2-ethylhexyl) phthalate was detected above the reporting limit (RL) in the method blank associated with preparation batch 400-447641 as well as in the sample. (MB 400-449437/1-A). The sample was re-extracted and/or re-analyzed outside of holding time. Both sets of data have been reported. PD-9-GWP-40-070919 (400-172850-3).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C: The following sample(s) was re-prepared outside of preparation holding time due to sample being placed in rework after hold time expired. PD-9-GWP-40-070919 (400-172850-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172850-1	TB-PW-070919-B	Water	07/09/19 00:00	07/10/19 08:59	
400-172850-2	PD-9-GWP-35-070919	Water	07/09/19 14:15	07/10/19 08:59	
400-172850-3	PD-9-GWP-40-070919	Water	07/09/19 15:08	07/10/19 08:59	
400-172850-4	PD-9-GWP-45-070919	Water	07/09/19 15:55	07/10/19 08:59	
400-172850-5	PD-13-GWP-65-070919	Water	07/09/19 09:15	07/10/19 08:59	
400-172850-6	PD-13-GWP-70-070919	Water	07/09/19 10:20	07/10/19 08:59	
400-172850-7	PD-13-GWP-80-070919	Water	07/09/19 11:30	07/10/19 08:59	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B — Lab Sample ID: 400-172850-1

No Detections.

Client Sample ID: PD-9-GWP-35-070919 — Lab Sample ID: 400-172850-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400		10	3.8	ug/L	10		8260B	Total/NA
Methyl tert-butyl ether	7.5	J	10	7.4	ug/L	10		8260B	Total/NA
1-Methylnaphthalene	0.16	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	48		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-40-070919 — Lab Sample ID: 400-172850-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	680	J	1000	500	ug/L	1000		8260B	Total/NA
Toluene	2800		1000	410	ug/L	1000		8260B	Total/NA
Benzene - DL	1100000		5000	1900	ug/L	5000		8260B	Total/NA
Acenaphthene	0.43		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.099	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.13	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.48		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	28		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.26		0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.9	B	9.8	4.9	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol	5.6	J	9.8	3.4	ug/L	1		8270D	Total/NA
Indene	8.0	J *	9.8	0.98	ug/L	1		8270D	Total/NA
2-Methylphenol	4.6	J	9.8	1.8	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	8.5	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	370		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-9-GWP-45-070919 — Lab Sample ID: 400-172850-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1300		1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	1600	J	5000	1600	ug/L	1000		8260B	Total/NA
Toluene	2100		1000	410	ug/L	1000		8260B	Total/NA
Xylenes, Total	2000	J	10000	1600	ug/L	1000		8260B	Total/NA
Benzene - DL	340000		2000	760	ug/L	2000		8260B	Total/NA
Acenaphthene	2.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
Anthracene	0.23		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.35		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.0		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	18		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	31		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	1.4		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.16	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Dibenzofuran	1.1	J *	9.7	0.51	ug/L	1		8270D	Total/NA
Indene	57	*	9.7	0.97	ug/L	1		8270D	Total/NA
Phenol - DL	160		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-13-GWP-65-070919 — Lab Sample ID: 400-172850-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.6		1.0	0.38	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919 (Continued) — Lab Sample ID: 400-172850-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	3.9		1.0	0.74	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.72	J	1.0	0.56	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.15	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.19		0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-13-GWP-70-070919 — Lab Sample ID: 400-172850-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.47	J	1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	3.8		1.0	0.74	ug/L	1		8260B	Total/NA

Client Sample ID: PD-13-GWP-80-070919 — Lab Sample ID: 400-172850-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.18	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.26		0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 13:27	1
Acrolein	ND		20	10	ug/L			07/14/19 13:27	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 13:27	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 13:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 13:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 13:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 13:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 13:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 13:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 13:27	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 13:27	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 13:27	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 13:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 13:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 13:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 13:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 13:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 13:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 13:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 13:27	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 13:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 13:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 13:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 13:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 13:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 13:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 13:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 13:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 13:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 13:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 13:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 13:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: TB-PW-070919-B

Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 13:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 13:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 13:27	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 13:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 13:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 13:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 13:27	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 13:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 13:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 13:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 13:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 13:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 13:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 13:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 13:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 13:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 13:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 13:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*24*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 13:27*	*1*
1-Methylnaphthalene	*5.2*		*ug/L*		*11.07*	*90-12-0*		*07/14/19 13:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/14/19 13:27*	*1*
Dibromofluoromethane	*116*		*81 - 121*		*07/14/19 13:27*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 13:27*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/14/19 15:06	10
Acrolein	ND		200	100	ug/L			07/14/19 15:06	10
Acrylonitrile	ND	*	100	28	ug/L			07/14/19 15:06	10
Benzene	**1400**		10	3.8	ug/L			07/14/19 15:06	10
Bromobenzene	ND		10	5.4	ug/L			07/14/19 15:06	10
Bromochloromethane	ND		10	5.2	ug/L			07/14/19 15:06	10
Bromodichloromethane	ND		10	5.0	ug/L			07/14/19 15:06	10
Bromoform	ND		50	7.1	ug/L			07/14/19 15:06	10
Bromomethane	ND		10	9.8	ug/L			07/14/19 15:06	10
2-Butanone (MEK)	ND		250	26	ug/L			07/14/19 15:06	10
Carbon disulfide	ND		10	5.0	ug/L			07/14/19 15:06	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/14/19 15:06	10
Chlorobenzene	ND		10	5.0	ug/L			07/14/19 15:06	10
Chloroethane	ND		10	7.6	ug/L			07/14/19 15:06	10
2-Chloroethyl vinyl ether	ND	*	50	20	ug/L			07/14/19 15:06	10
Chloroform	ND		10	6.0	ug/L			07/14/19 15:06	10
1-Chlorohexane	ND	*	10	7.0	ug/L			07/14/19 15:06	10
Chloromethane	ND		10	8.3	ug/L			07/14/19 15:06	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:06	10
Dibromochloromethane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/14/19 15:06	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/14/19 15:06	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/14/19 15:06	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/14/19 15:06	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/14/19 15:06	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,2-Dichloroethane	ND	*	10	5.0	ug/L			07/14/19 15:06	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:06	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/14/19 15:06	10
Ethylbenzene	ND		10	5.0	ug/L			07/14/19 15:06	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/14/19 15:06	10
Ethyl methacrylate	ND		10	6.0	ug/L			07/14/19 15:06	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/14/19 15:06	10
2-Hexanone	ND		250	31	ug/L			07/14/19 15:06	10
Isopropylbenzene	ND		10	5.3	ug/L			07/14/19 15:06	10
Methylene bromide	ND		50	5.9	ug/L			07/14/19 15:06	10
Methylene Chloride	ND		50	30	ug/L			07/14/19 15:06	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/14/19 15:06	10
Methyl tert-butyl ether	**7.5**	**J**	10	7.4	ug/L			07/14/19 15:06	10
m-Xylene & p-Xylene	ND		50	16	ug/L			07/14/19 15:06	10
Naphthalene	ND		10	10	ug/L			07/14/19 15:06	10
n-Butylbenzene	ND		10	7.6	ug/L			07/14/19 15:06	10
N-Propylbenzene	ND		10	6.9	ug/L			07/14/19 15:06	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/14/19 15:06	10
o-Xylene	ND		50	6.0	ug/L			07/14/19 15:06	10

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Lab Sample ID: 400-172850-2

Date Collected: 07/09/19 14:15

Matrix: Water

Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/14/19 15:06	10
p-Isopropyltoluene	ND		10	7.1	ug/L			07/14/19 15:06	10
sec-Butylbenzene	ND		10	7.0	ug/L			07/14/19 15:06	10
Styrene	ND		10	10	ug/L			07/14/19 15:06	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/14/19 15:06	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			07/14/19 15:06	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/14/19 15:06	10
Tetrachloroethene	ND		10	5.8	ug/L			07/14/19 15:06	10
Toluene	ND		10	4.1	ug/L			07/14/19 15:06	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:06	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/14/19 15:06	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/14/19 15:06	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/14/19 15:06	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/14/19 15:06	10
Trichloroethene	ND		10	5.0	ug/L			07/14/19 15:06	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/14/19 15:06	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/14/19 15:06	10
1,2,4-Trimethylbenzene	ND		10	8.2	ug/L			07/14/19 15:06	10
1,3,5-Trimethylbenzene	ND		10	5.6	ug/L			07/14/19 15:06	10
Vinyl acetate	ND		250	20	ug/L			07/14/19 15:06	10
Vinyl chloride	ND		10	5.0	ug/L			07/14/19 15:06	10
Xylenes, Total	ND		100	16	ug/L			07/14/19 15:06	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 15:06*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/14/19 15:06*	*10*
Dibromofluoromethane	*114*		*81 - 121*		*07/14/19 15:06*	*10*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 15:06*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Anthracene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Chrysene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
Fluoranthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Fluorene	ND		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 11:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 11:08	1
1-Methylnaphthalene	**0.16**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1
Phenanthrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-35-070919

Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:08*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:08*	*1*
Terphenyl-d14	*67*		*33 - 138*	*07/11/19 17:18*	*07/18/19 11:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
Benzenethiol	ND	*	10	1.7	ug/L		07/11/19 17:18	07/19/19 01:34	1
Benzoic acid	ND	*	30	7.3	ug/L		07/11/19 17:18	07/19/19 01:34	1
Benzyl alcohol	ND		10	2.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Bis(2-chloroethoxy)methane	ND	*	10	0.69	ug/L		07/11/19 17:18	07/19/19 01:34	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		07/11/19 17:18	07/19/19 01:34	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/11/19 17:18	07/19/19 01:34	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Bromophenyl phenyl ether	ND	*	10	0.32	ug/L		07/11/19 17:18	07/19/19 01:34	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Chloroaniline	ND		10	3.4	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Chloronaphthalene	ND	*	10	0.52	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Chlorophenol	ND		10	2.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Chlorophenyl phenyl ether	ND	*	10	2.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Dibenz[a,h]acridine	ND	*	10	3.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Dibenzofuran	ND	*	10	0.52	ug/L		07/11/19 17:18	07/19/19 01:34	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Diethyl phthalate	ND		10	0.70	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/11/19 17:18	07/19/19 01:34	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/11/19 17:18	07/19/19 01:34	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/11/19 17:18	07/19/19 01:34	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4-Dinitrotoluene	ND	*	10	1.9	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,6-Dinitrotoluene	ND	*	10	1.9	ug/L		07/11/19 17:18	07/19/19 01:34	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/11/19 17:18	07/19/19 01:34	1
1,4-Dioxane	ND		10	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Hexachlorobenzene	ND	*	10	0.25	ug/L		07/11/19 17:18	07/19/19 01:34	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/11/19 17:18	07/19/19 01:34	1
Hexachloroethane	ND	*	10	4.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
Indene	ND	*	10	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
Isophorone	ND	*	10	0.57	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Methylphenol	ND		10	1.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Nitroaniline	ND		10	2.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
3-Nitroaniline	ND		10	1.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Nitroaniline	ND		10	2.5	ug/L		07/11/19 17:18	07/19/19 01:34	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-35-070919
Lab Sample ID: 400-172850-2
Date Collected: 07/09/19 14:15
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/11/19 17:18	07/19/19 01:34	1
2-Nitrophenol	ND		10	0.65	ug/L		07/11/19 17:18	07/19/19 01:34	1
4-Nitrophenol	ND		10	2.1	ug/L		07/11/19 17:18	07/19/19 01:34	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/11/19 17:18	07/19/19 01:34	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/11/19 17:18	07/19/19 01:34	1
N-Nitrosodiphenylamine	ND	*	10	0.47	ug/L		07/11/19 17:18	07/19/19 01:34	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/19/19 01:34	1
Phenol	**48**		10	2.6	ug/L		07/11/19 17:18	07/19/19 01:34	1
Pyridine	ND		10	3.2	ug/L		07/11/19 17:18	07/19/19 01:34	1
Quinoline	ND	*	10	6.0	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/11/19 17:18	07/19/19 01:34	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/11/19 17:18	07/19/19 01:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*4.3*	*T J N*	*ug/L*		*4.03*	*590-90-9*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Indane	*14*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Unknown	*8.8*	*T J*	*ug/L*		*6.30*		*07/11/19 17:18*	*07/19/19 01:34*	*1*
9-Octadecenamide, (Z)-	*18*	*T J N*	*ug/L*		*10.50*	*301-02-0*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Unknown	*4.7*	*T J*	*ug/L*		*11.69*		*07/11/19 17:18*	*07/19/19 01:34*	*1*
13-Docosenamide, (Z)-	*15*	*T J N*	*ug/L*		*11.83*	*112-84-5*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Unknown	*7.9*	*T J*	*ug/L*		*11.91*		*07/11/19 17:18*	*07/19/19 01:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Nitrobenzene-d5	*76*		*27 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Phenol-d5	*66*		*10 - 120*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
Terphenyl-d14	*57*		*53 - 125*	*07/11/19 17:18*	*07/19/19 01:34*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/11/19 17:18*	*07/19/19 01:34*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919

Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/14/19 16:19	1000
Acrolein	ND		20000	10000	ug/L			07/14/19 16:19	1000
Acrylonitrile	ND	*	10000	2800	ug/L			07/14/19 16:19	1000
Bromobenzene	ND		1000	540	ug/L			07/14/19 16:19	1000
Bromochloromethane	ND		1000	520	ug/L			07/14/19 16:19	1000
Bromodichloromethane	ND		1000	500	ug/L			07/14/19 16:19	1000
Bromoform	ND		5000	710	ug/L			07/14/19 16:19	1000
Bromomethane	ND		1000	980	ug/L			07/14/19 16:19	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/14/19 16:19	1000
Carbon disulfide	ND		1000	500	ug/L			07/14/19 16:19	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/14/19 16:19	1000
Chlorobenzene	ND		1000	500	ug/L			07/14/19 16:19	1000
Chloroethane	ND		1000	760	ug/L			07/14/19 16:19	1000
2-Chloroethyl vinyl ether	ND	*	5000	2000	ug/L			07/14/19 16:19	1000
Chloroform	ND		1000	600	ug/L			07/14/19 16:19	1000
1-Chlorohexane	ND	*	1000	700	ug/L			07/14/19 16:19	1000
Chloromethane	ND		1000	830	ug/L			07/14/19 16:19	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:19	1000
Dibromochloromethane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/14/19 16:19	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/14/19 16:19	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/14/19 16:19	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/14/19 16:19	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/14/19 16:19	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,2-Dichloroethane	ND	*	1000	500	ug/L			07/14/19 16:19	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:19	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/14/19 16:19	1000
Ethylbenzene	**680**	**J**	1000	500	ug/L			07/14/19 16:19	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/14/19 16:19	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/14/19 16:19	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/14/19 16:19	1000
2-Hexanone	ND		25000	3100	ug/L			07/14/19 16:19	1000
Isopropylbenzene	ND		1000	530	ug/L			07/14/19 16:19	1000
Methylene bromide	ND		5000	590	ug/L			07/14/19 16:19	1000
Methylene Chloride	ND		5000	3000	ug/L			07/14/19 16:19	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/14/19 16:19	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/14/19 16:19	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			07/14/19 16:19	1000
Naphthalene	ND		1000	1000	ug/L			07/14/19 16:19	1000
n-Butylbenzene	ND		1000	760	ug/L			07/14/19 16:19	1000
N-Propylbenzene	ND		1000	690	ug/L			07/14/19 16:19	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/14/19 16:19	1000
o-Xylene	ND		5000	600	ug/L			07/14/19 16:19	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/14/19 16:19	1000

Client Sample ID: PD-9-GWP-40-070919
Lab Sample ID: 400-172850-3
Date Collected: 07/09/19 15:08
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/14/19 16:19	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/14/19 16:19	1000
Styrene	ND		1000	1000	ug/L			07/14/19 16:19	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/14/19 16:19	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			07/14/19 16:19	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/14/19 16:19	1000
Tetrachloroethene	ND		1000	580	ug/L			07/14/19 16:19	1000
Toluene	**2800**		1000	410	ug/L			07/14/19 16:19	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:19	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/14/19 16:19	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/14/19 16:19	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/14/19 16:19	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/14/19 16:19	1000
Trichloroethene	ND		1000	500	ug/L			07/14/19 16:19	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/14/19 16:19	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/14/19 16:19	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			07/14/19 16:19	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/14/19 16:19	1000
Vinyl acetate	ND		25000	2000	ug/L			07/14/19 16:19	1000
Vinyl chloride	ND		1000	500	ug/L			07/14/19 16:19	1000
Xylenes, Total	ND		10000	1600	ug/L			07/14/19 16:19	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 16:19*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 16:19*	*1000*
Dibromofluoromethane	*114*		*81 - 121*		*07/14/19 16:19*	*1000*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/14/19 16:19*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1100000**		5000	1900	ug/L			07/15/19 10:05	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*07/15/19 10:05*	*5000*
Dibromofluoromethane	*113*		*81 - 121*		*07/15/19 10:05*	*5000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 10:05*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.43**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
Anthracene	**0.099**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/29/19 14:19	1
Benzo[a]anthracene	ND	*	0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Chrysene	ND	*	0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-40-070919
Lab Sample ID: 400-172850-3
Date Collected: 07/09/19 15:08
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
Fluoranthene	**0.13**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/29/19 14:19	1
Fluorene	**0.48**		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 11:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 11:25	1
1-Methylnaphthalene	**28**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
2-Methylnaphthalene	**1.8**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1
Phenanthrene	**0.26**		0.20	0.020	ug/L		07/11/19 17:18	07/29/19 14:19	1
Pyrene	ND	*	0.20	0.020	ug/L		07/11/19 17:18	07/18/19 11:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:25*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:25*	*1*
Terphenyl-d14	*65*	*	*33 - 138*	*07/11/19 17:18*	*07/18/19 11:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 01:55	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/11/19 17:18	07/19/19 01:55	1
Benzoic acid	ND	*	29	7.1	ug/L		07/11/19 17:18	07/19/19 01:55	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
Bis(2-chloroethoxy)methane	ND	*	9.8	0.67	ug/L		07/11/19 17:18	07/19/19 01:55	1
Bis(2-chloroethyl)ether	ND	*	9.8	0.72	ug/L		07/11/19 17:18	07/19/19 01:55	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/11/19 17:18	07/19/19 01:55	1
Bis(2-ethylhexyl) phthalate	**9.9**	**B**	9.8	4.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Bromophenyl phenyl ether	ND	*	9.8	0.31	ug/L		07/11/19 17:18	07/19/19 01:55	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Chloronaphthalene	ND	*	9.8	0.51	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Chlorophenyl phenyl ether	ND	*	9.8	2.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
Dibenzofuran	ND	*	9.8	0.51	ug/L		07/11/19 17:18	07/19/19 01:55	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dimethylphenol	**5.6**	**J**	9.8	3.4	ug/L		07/11/19 17:18	07/19/19 01:55	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/11/19 17:18	07/19/19 01:55	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/11/19 17:18	07/19/19 01:55	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4-Dinitrotoluene	ND	*	9.8	1.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,6-Dinitrotoluene	ND	*	9.8	1.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/11/19 17:18	07/19/19 01:55	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 01:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 01:55	1
Hexachlorobenzene	ND	*	9.8	0.24	ug/L		07/11/19 17:18	07/19/19 01:55	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/11/19 17:18	07/19/19 01:55	1
Hexachloroethane	ND	*	9.8	4.1	ug/L		07/11/19 17:18	07/19/19 01:55	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919

Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	**8.0**	**J ***	9.8	0.98	ug/L		07/11/19 17:18	07/19/19 01:55	1
Isophorone	ND	*	9.8	0.56	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Methylphenol	**4.6**	**J**	9.8	1.8	ug/L		07/11/19 17:18	07/19/19 01:55	1
3 & 4 Methylphenol	**8.5**	**J**	20	1.0	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 01:55	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/11/19 17:18	07/19/19 01:55	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/11/19 17:18	07/19/19 01:55	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/11/19 17:18	07/19/19 01:55	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/11/19 17:18	07/19/19 01:55	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 01:55	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/11/19 17:18	07/19/19 01:55	1
N-Nitrosodiphenylamine	ND	*	9.8	0.46	ug/L		07/11/19 17:18	07/19/19 01:55	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/19/19 01:55	1
Pyridine	ND		9.8	3.1	ug/L		07/11/19 17:18	07/19/19 01:55	1
Quinoline	ND	*	9.8	5.9	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/11/19 17:18	07/19/19 01:55	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 01:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*250*	*T J N*	*ug/L*		*3.92*	*108-88-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Unknown	*18*	*T J*	*ug/L*		*4.49*		*07/11/19 17:18*	*07/19/19 01:55*	*1*
Ethylbenzene	*270*	*T J N*	*ug/L*		*4.67*	*100-41-4*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
p-Xylene	*140*	*T J N*	*ug/L*		*4.88*	*106-42-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, (1-methylethyl)-	*38*	*T J N*	*ug/L*		*5.07*	*98-82-8*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, propyl-	*78*	*T J N*	*ug/L*		*5.25*	*103-65-1*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1-ethyl-2-methyl-	*25*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1-ethyl-2-methyl-	*48*	*T J N*	*ug/L*		*5.31*	*611-14-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1-ethyl-2-methyl-	*84*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1,2,3-trimethyl-	*210*	*T J N*	*ug/L*		*5.48*	*526-73-8*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1,2,3-trimethyl-	*66*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Indane	*95*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1,2-diethyl-	*36*	*T J N*	*ug/L*		*5.78*	*135-01-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*35*	*T J N*	*ug/L*		*5.87*	*1758-88-9*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*68*	*T J N*	*ug/L*		*5.92*	*527-84-4*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Phenol, 2,6-dimethyl-	*14*	*T J N*	*ug/L*		*6.02*	*576-26-1*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1,2,3,5-tetramethyl-	*36*	*T J N*	*ug/L*		*6.07*	*527-53-7*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 1,2,4,5-tetramethyl-	*34*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
1H-Indene, 2,3-dihydro-5-methyl-	*27*	*T J N*	*ug/L*		*6.20*	*874-35-1*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*49*	*T J N*	*ug/L*		*6.25*	*2039-89-6*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Naphthalene	*70*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Unknown	*19*	*T J*	*ug/L*		*6.56*		*07/11/19 17:18*	*07/19/19 01:55*	*1*
1H-Inden-1-one, 2,3-dihydro-	*47*	*T J N*	*ug/L*		*6.80*	*83-33-0*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Naphthalene, 1-methyl-	*25*	*T J N*	*ug/L*		*6.96*	*90-12-0*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Unknown	*17*	*T J*	*ug/L*		*7.07*		*07/11/19 17:18*	*07/19/19 01:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
2-Fluorophenol	*29*		*10 - 120*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Nitrobenzene-d5	*81*		*27 - 120*	*07/11/19 17:18*	*07/19/19 01:55*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-9-GWP-40-070919

Lab Sample ID: 400-172850-3

Date Collected: 07/09/19 15:08

Matrix: Water

Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*62*		*10 - 120*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/11/19 17:18*	*07/19/19 01:55*	*1*
2,4,6-Tribromophenol	*109*		*15 - 135*	*07/11/19 17:18*	*07/19/19 01:55*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**370**		49	13	ug/L		07/11/19 17:18	07/19/19 21:38	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	H	9.9	4.9	ug/L		07/24/19 21:29	07/30/19 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*34 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
2-Fluorophenol	*31*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
Phenol-d5	*54*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
Terphenyl-d14	*32*	*X*	*53 - 125*	*07/24/19 21:29*	*07/30/19 23:07*	*1*
2,4,6-Tribromophenol	*46*		*15 - 135*	*07/24/19 21:29*	*07/30/19 23:07*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-45-070919
Lab Sample ID: 400-172850-4
Date Collected: 07/09/19 15:55
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/14/19 16:45	1000
Acrolein	ND		20000	10000	ug/L			07/14/19 16:45	1000
Acrylonitrile	ND	*	10000	2800	ug/L			07/14/19 16:45	1000
Bromobenzene	ND		1000	540	ug/L			07/14/19 16:45	1000
Bromochloromethane	ND		1000	520	ug/L			07/14/19 16:45	1000
Bromodichloromethane	ND		1000	500	ug/L			07/14/19 16:45	1000
Bromoform	ND		5000	710	ug/L			07/14/19 16:45	1000
Bromomethane	ND		1000	980	ug/L			07/14/19 16:45	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/14/19 16:45	1000
Carbon disulfide	ND		1000	500	ug/L			07/14/19 16:45	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/14/19 16:45	1000
Chlorobenzene	ND		1000	500	ug/L			07/14/19 16:45	1000
Chloroethane	ND		1000	760	ug/L			07/14/19 16:45	1000
2-Chloroethyl vinyl ether	ND	*	5000	2000	ug/L			07/14/19 16:45	1000
Chloroform	ND		1000	600	ug/L			07/14/19 16:45	1000
1-Chlorohexane	ND	*	1000	700	ug/L			07/14/19 16:45	1000
Chloromethane	ND		1000	830	ug/L			07/14/19 16:45	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:45	1000
Dibromochloromethane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/14/19 16:45	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/14/19 16:45	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/14/19 16:45	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/14/19 16:45	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/14/19 16:45	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,2-Dichloroethane	ND	*	1000	500	ug/L			07/14/19 16:45	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:45	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/14/19 16:45	1000
Ethylbenzene	**1300**		1000	500	ug/L			07/14/19 16:45	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/14/19 16:45	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/14/19 16:45	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/14/19 16:45	1000
2-Hexanone	ND		25000	3100	ug/L			07/14/19 16:45	1000
Isopropylbenzene	ND		1000	530	ug/L			07/14/19 16:45	1000
Methylene bromide	ND		5000	590	ug/L			07/14/19 16:45	1000
Methylene Chloride	ND		5000	3000	ug/L			07/14/19 16:45	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/14/19 16:45	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/14/19 16:45	1000
m-Xylene & p-Xylene	**1600**	**J**	5000	1600	ug/L			07/14/19 16:45	1000
Naphthalene	ND		1000	1000	ug/L			07/14/19 16:45	1000
n-Butylbenzene	ND		1000	760	ug/L			07/14/19 16:45	1000
N-Propylbenzene	ND		1000	690	ug/L			07/14/19 16:45	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/14/19 16:45	1000
o-Xylene	ND		5000	600	ug/L			07/14/19 16:45	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/14/19 16:45	1000

Client Sample ID: PD-9-GWP-45-070919
Lab Sample ID: 400-172850-4
Date Collected: 07/09/19 15:55
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/14/19 16:45	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/14/19 16:45	1000
Styrene	ND		1000	1000	ug/L			07/14/19 16:45	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/14/19 16:45	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			07/14/19 16:45	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/14/19 16:45	1000
Tetrachloroethene	ND		1000	580	ug/L			07/14/19 16:45	1000
Toluene	**2100**		1000	410	ug/L			07/14/19 16:45	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/14/19 16:45	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/14/19 16:45	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/14/19 16:45	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/14/19 16:45	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/14/19 16:45	1000
Trichloroethene	ND		1000	500	ug/L			07/14/19 16:45	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/14/19 16:45	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/14/19 16:45	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			07/14/19 16:45	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/14/19 16:45	1000
Vinyl acetate	ND		25000	2000	ug/L			07/14/19 16:45	1000
Vinyl chloride	ND		1000	500	ug/L			07/14/19 16:45	1000
Xylenes, Total	**2000**	**J**	10000	1600	ug/L			07/14/19 16:45	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 16:45*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/14/19 16:45*	*1000*
Dibromofluoromethane	*116*		*81 - 121*		*07/14/19 16:45*	*1000*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 16:45*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**340000**		2000	760	ug/L			07/15/19 09:40	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/15/19 09:40*	*2000*
Dibromofluoromethane	*115*		*81 - 121*		*07/15/19 09:40*	*2000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/15/19 09:40*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.1**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Anthracene	**0.23**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Chrysene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-45-070919
Lab Sample ID: 400-172850-4
Date Collected: 07/09/19 15:55
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
Fluoranthene	**0.35**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Fluorene	**1.0**		0.19	0.020	ug/L		07/11/19 17:18	07/18/19 11:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 11:42	1
1-Methylnaphthalene	**18**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
2-Methylnaphthalene	**31**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Phenanthrene	**1.4**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1
Pyrene	**0.16**	**J**	0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:42*	*1*
Nitrobenzene-d5	*93*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:42*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/11/19 17:18*	*07/18/19 11:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/11/19 17:18	07/18/19 23:27	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/11/19 17:18	07/18/19 23:27	1
Benzoic acid	ND	*	29	7.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Bis(2-chloroethoxy)methane	ND	*	9.7	0.67	ug/L		07/11/19 17:18	07/18/19 23:27	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/11/19 17:18	07/18/19 23:27	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/11/19 17:18	07/18/19 23:27	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/11/19 17:18	07/18/19 23:27	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Chloronaphthalene	ND	*	9.7	0.51	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Dibenzofuran	**1.1**	**J ***	9.7	0.51	ug/L		07/11/19 17:18	07/18/19 23:27	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/18/19 23:27	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/11/19 17:18	07/18/19 23:27	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/11/19 17:18	07/18/19 23:27	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4-Dinitrotoluene	ND	*	9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,6-Dinitrotoluene	ND	*	9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/11/19 17:18	07/18/19 23:27	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/11/19 17:18	07/18/19 23:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/11/19 17:18	07/18/19 23:27	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/11/19 17:18	07/18/19 23:27	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/11/19 17:18	07/18/19 23:27	1
Hexachloroethane	ND	*	9.7	4.1	ug/L		07/11/19 17:18	07/18/19 23:27	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-45-070919
Lab Sample ID: 400-172850-4
Date Collected: 07/09/19 15:55
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	57	*	9.7	0.97	ug/L		07/11/19 17:18	07/18/19 23:27	1
Isophorone	ND	*	9.7	0.55	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/11/19 17:18	07/18/19 23:27	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/11/19 17:18	07/18/19 23:27	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/11/19 17:18	07/18/19 23:27	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/11/19 17:18	07/18/19 23:27	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/11/19 17:18	07/18/19 23:27	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/11/19 17:18	07/18/19 23:27	1
N-Nitrosodiphenylamine	ND	*	9.7	0.46	ug/L		07/11/19 17:18	07/18/19 23:27	1
Pentachlorophenol	ND		19	1.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
Pyridine	ND		9.7	3.1	ug/L		07/11/19 17:18	07/18/19 23:27	1
Quinoline	ND	*	9.7	5.8	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/11/19 17:18	07/18/19 23:27	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/18/19 23:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*66*	*T J*	*ug/L*		*3.00*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*480*	*T J*	*ug/L*		*3.06*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*160*	*T J*	*ug/L*		*3.09*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*21*	*T J*	*ug/L*		*3.77*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Toluene	*2400*	*T J N*	*ug/L*		*3.92*	*108-88-3*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Unknown	*31*	*T J*	*ug/L*		*4.11*		*07/11/19 17:18*	*07/18/19 23:27*	*1*
Ethylbenzene	*1400*	*T J N*	*ug/L*		*4.67*	*100-41-4*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
o-Xylene	*2100*	*T J N*	*ug/L*		*4.74*	*95-47-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
o-Xylene	*450*	*T J N*	*ug/L*		*4.89*	*95-47-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, (1-methylethyl)-	*36*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, propyl-	*100*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethyl-3-methyl-	*210*	*T J N*	*ug/L*		*5.29*	*620-14-4*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethyl-2-methyl-	*120*	*T J N*	*ug/L*		*5.31*	*611-14-3*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethyl-2-methyl-	*130*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,3-trimethyl-	*740*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,4-trimethyl-	*160*	*T J N*	*ug/L*		*5.64*	*95-63-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Indane	*180*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*50*	*T J N*	*ug/L*		*5.92*	*933-98-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,4,5-tetramethyl-	*22*	*T J N*	*ug/L*		*6.08*	*95-93-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1,2,4,5-tetramethyl-	*36*	*T J N*	*ug/L*		*6.10*	*95-93-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 1-ethenyl-4-ethyl-	*41*	*T J N*	*ug/L*		*6.21*	*3454-07-7*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*99*	*T J N*	*ug/L*		*6.25*	*2039-89-6*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzene, (1-methyl-1-butenyl)-	*21*	*T J N*	*ug/L*		*6.42*	*53172-84-2*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Benzo[b]thiophene	*22*	*T J N*	*ug/L*		*6.49*	*95-15-8*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Naphthalene, 1-methyl-	*26*	*T J N*	*ug/L*		*6.90*	*90-12-0*	*07/11/19 17:18*	*07/18/19 23:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*34 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-45-070919
Lab Sample ID: 400-172850-4

Date Collected: 07/09/19 15:55
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*77*		*10 - 120*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/11/19 17:18*	*07/18/19 23:27*	*1*
2,4,6-Tribromophenol	*115*		*15 - 135*	*07/11/19 17:18*	*07/18/19 23:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**160**		49	13	ug/L		07/11/19 17:18	07/19/19 22:03	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 10:12	1
Acrolein	ND		20	10	ug/L			07/14/19 10:12	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 10:12	1
Benzene	**2.6**		1.0	0.38	ug/L			07/14/19 10:12	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 10:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 10:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 10:12	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 10:12	1
2-Butanone (MEK)	ND	F1	25	2.6	ug/L			07/14/19 10:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 10:12	1
2-Chloroethyl vinyl ether	ND	F1 *	5.0	2.0	ug/L			07/14/19 10:12	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 10:12	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 10:12	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 10:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 10:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 10:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 10:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 10:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 10:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,2-Dichloroethane	ND	F1 *	1.0	0.50	ug/L			07/14/19 10:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 10:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 10:12	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 10:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 10:12	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 10:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 10:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 10:12	1
Methyl tert-butyl ether	**3.9**		1.0	0.74	ug/L			07/14/19 10:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 10:12	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 10:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 10:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 10:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 10:12	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 10:12	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-65-070919
Lab Sample ID: 400-172850-5

Date Collected: 07/09/19 09:15
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 10:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 10:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 10:12	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 10:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 10:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 10:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 10:12	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 10:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 10:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 10:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 10:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 10:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 10:12	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 10:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 10:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 10:12	1
1,3,5-Trimethylbenzene	**0.72**	**J**	1.0	0.56	ug/L			07/14/19 10:12	1
Vinyl acetate	ND	F2	25	2.0	ug/L			07/14/19 10:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 10:12	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 10:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*71*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 10:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/14/19 10:12*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 10:12*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/14/19 10:12*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Anthracene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Chrysene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
Fluoranthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Fluorene	ND		0.19	0.020	ug/L		07/11/19 17:18	07/18/19 11:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/11/19 17:18	07/18/19 11:59	1
1-Methylnaphthalene	**0.15**	**J**	0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
2-Methylnaphthalene	**0.19**		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-65-070919

Lab Sample ID: 400-172850-5

Date Collected: 07/09/19 09:15

Matrix: Water

Date Received: 07/10/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/11/19 17:18*	*07/18/19 11:59*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/11/19 17:18*	*07/18/19 11:59*	*1*
Terphenyl-d14	*87*		*33 - 138*	*07/11/19 17:18*	*07/18/19 11:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
Benzoic acid	ND	*	29	7.0	ug/L		07/11/19 17:18	07/18/19 23:52	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Bis(2-chloroethoxy)methane	ND	*	9.6	0.66	ug/L		07/11/19 17:18	07/18/19 23:52	1
Bis(2-chloroethyl)ether	ND	*	9.6	0.71	ug/L		07/11/19 17:18	07/18/19 23:52	1
bis (2-chloroisopropyl) ether	ND		9.6	0.77	ug/L		07/11/19 17:18	07/18/19 23:52	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Bromophenyl phenyl ether	ND	*	9.6	0.31	ug/L		07/11/19 17:18	07/18/19 23:52	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Chloroaniline	ND		9.6	3.2	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Chloro-3-methylphenol	ND		9.6	3.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Chloronaphthalene	ND	*	9.6	0.50	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Chlorophenyl phenyl ether	ND	*	9.6	1.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Dibenz[a,h]acridine	ND	*	9.6	2.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Dibenzofuran	ND	*	9.6	0.50	ug/L		07/11/19 17:18	07/18/19 23:52	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dimethylphenol	ND		9.6	3.3	ug/L		07/11/19 17:18	07/18/19 23:52	1
Dimethyl phthalate	ND		9.6	0.57	ug/L		07/11/19 17:18	07/18/19 23:52	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/11/19 17:18	07/18/19 23:52	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dinitrophenol	ND		29	3.2	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4-Dinitrotoluene	ND	*	9.6	1.8	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,6-Dinitrotoluene	ND	*	9.6	1.8	ug/L		07/11/19 17:18	07/18/19 23:52	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/11/19 17:18	07/18/19 23:52	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/11/19 17:18	07/18/19 23:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/11/19 17:18	07/18/19 23:52	1
Hexachlorobenzene	ND	*	9.6	0.24	ug/L		07/11/19 17:18	07/18/19 23:52	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
Hexachloroethane	ND	*	9.6	4.0	ug/L		07/11/19 17:18	07/18/19 23:52	1
Indene	ND	*	9.6	0.96	ug/L		07/11/19 17:18	07/18/19 23:52	1
Isophorone	ND	*	9.6	0.54	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
3 & 4 Methylphenol	ND		19	0.99	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/11/19 17:18	07/18/19 23:52	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/11/19 17:18	07/18/19 23:52	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-65-070919
Lab Sample ID: 400-172850-5
Date Collected: 07/09/19 09:15
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.6	0.53	ug/L		07/11/19 17:18	07/18/19 23:52	1
2-Nitrophenol	ND		9.6	0.62	ug/L		07/11/19 17:18	07/18/19 23:52	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/11/19 17:18	07/18/19 23:52	1
N-Nitrosodimethylamine	ND		9.6	3.3	ug/L		07/11/19 17:18	07/18/19 23:52	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/11/19 17:18	07/18/19 23:52	1
N-Nitrosodiphenylamine	ND	*	9.6	0.45	ug/L		07/11/19 17:18	07/18/19 23:52	1
Pentachlorophenol	ND		19	1.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
Phenol	ND		9.6	2.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
Pyridine	ND		9.6	3.1	ug/L		07/11/19 17:18	07/18/19 23:52	1
Quinoline	ND	*	9.6	5.7	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4,5-Trichlorophenol	ND		9.6	3.5	ug/L		07/11/19 17:18	07/18/19 23:52	1
2,4,6-Trichlorophenol	ND		9.6	3.3	ug/L		07/11/19 17:18	07/18/19 23:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*6.7*	*T J*	*ug/L*		*4.46*		*07/11/19 17:18*	*07/18/19 23:52*	*1*
9-Octadecenamide, (Z)-	*4.1*	*T J N*	*ug/L*		*10.51*	*301-02-0*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
13-Docosenamide, (Z)-	*5.9*	*T J N*	*ug/L*		*11.85*	*112-84-5*	*07/11/19 17:18*	*07/18/19 23:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*34 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
2-Fluorophenol	*39*		*10 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Nitrobenzene-d5	*47*		*27 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Phenol-d5	*42*		*10 - 120*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
Terphenyl-d14	*65*		*53 - 125*	*07/11/19 17:18*	*07/18/19 23:52*	*1*
2,4,6-Tribromophenol	*98*		*15 - 135*	*07/11/19 17:18*	*07/18/19 23:52*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919

Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 13:51	1
Acrolein	ND		20	10	ug/L			07/14/19 13:51	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 13:51	1
Benzene	**0.47**	**J**	1.0	0.38	ug/L			07/14/19 13:51	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 13:51	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 13:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 13:51	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 13:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 13:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 13:51	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 13:51	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 13:51	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 13:51	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 13:51	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:51	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 13:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 13:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 13:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 13:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 13:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 13:51	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 13:51	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 13:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 13:51	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 13:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 13:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 13:51	1
Methyl tert-butyl ether	**3.8**		1.0	0.74	ug/L			07/14/19 13:51	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 13:51	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 13:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 13:51	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 13:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 13:51	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 13:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919

Lab Sample ID: 400-172850-6

Date Collected: 07/09/19 10:20

Matrix: Water

Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 13:51	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 13:51	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 13:51	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 13:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 13:51	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 13:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 13:51	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 13:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 13:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 13:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 13:51	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 13:51	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 13:51	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 13:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 13:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 13:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 13:51	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 13:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 13:51	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 13:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*190*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 13:51*	*1*
2-Methyl-2-propanol	*57*	*	*ug/L*		*2.52*	*75-65-0*		*07/14/19 13:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/14/19 13:51*	*1*
Dibromofluoromethane	*114*		*81 - 121*		*07/14/19 13:51*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 13:51*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Anthracene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Chrysene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
Fluoranthene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Fluorene	ND		0.19	0.020	ug/L		07/11/19 17:18	07/18/19 12:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/11/19 17:18	07/18/19 12:16	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-70-070919

Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1
Pyrene	ND		0.19	0.019	ug/L		07/11/19 17:18	07/18/19 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/11/19 17:18*	*07/18/19 12:16*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/11/19 17:18*	*07/18/19 12:16*	*1*
Terphenyl-d14	*98*		*33 - 138*	*07/11/19 17:18*	*07/18/19 12:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/11/19 17:18	07/19/19 00:16	1
Benzoic acid	ND	*	29	7.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Bis(2-chloroethoxy)methane	ND	*	9.7	0.67	ug/L		07/11/19 17:18	07/19/19 00:16	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/11/19 17:18	07/19/19 00:16	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/11/19 17:18	07/19/19 00:16	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/11/19 17:18	07/19/19 00:16	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Chloronaphthalene	ND	*	9.7	0.50	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Dibenzofuran	ND	*	9.7	0.50	ug/L		07/11/19 17:18	07/19/19 00:16	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/19/19 00:16	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/11/19 17:18	07/19/19 00:16	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/11/19 17:18	07/19/19 00:16	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4-Dinitrotoluene	ND	*	9.7	1.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,6-Dinitrotoluene	ND	*	9.7	1.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/11/19 17:18	07/19/19 00:16	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/11/19 17:18	07/19/19 00:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/11/19 17:18	07/19/19 00:16	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/11/19 17:18	07/19/19 00:16	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/11/19 17:18	07/19/19 00:16	1
Hexachloroethane	ND	*	9.7	4.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
Indene	ND	*	9.7	0.97	ug/L		07/11/19 17:18	07/19/19 00:16	1
Isophorone	ND	*	9.7	0.55	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/11/19 17:18	07/19/19 00:16	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-70-070919
Lab Sample ID: 400-172850-6
Date Collected: 07/09/19 10:20
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.7	2.4	ug/L		07/11/19 17:18	07/19/19 00:16	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/11/19 17:18	07/19/19 00:16	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/11/19 17:18	07/19/19 00:16	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/11/19 17:18	07/19/19 00:16	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/11/19 17:18	07/19/19 00:16	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/11/19 17:18	07/19/19 00:16	1
N-Nitrosodiphenylamine	ND	*	9.7	0.45	ug/L		07/11/19 17:18	07/19/19 00:16	1
Pentachlorophenol	ND		19	1.7	ug/L		07/11/19 17:18	07/19/19 00:16	1
Phenol	ND		9.7	2.5	ug/L		07/11/19 17:18	07/19/19 00:16	1
Pyridine	ND		9.7	3.1	ug/L		07/11/19 17:18	07/19/19 00:16	1
Quinoline	ND	*	9.7	5.8	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/11/19 17:18	07/19/19 00:16	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/11/19 17:18	07/19/19 00:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.5*	*T J*	*ug/L*		*4.46*		*07/11/19 17:18*	*07/19/19 00:16*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*5.08*		*07/11/19 17:18*	*07/19/19 00:16*	*1*
Unknown	*6.1*	*T J*	*ug/L*		*10.51*		*07/11/19 17:18*	*07/19/19 00:16*	*1*
9-Octadecenamide, (Z)-	*8.4*	*T J N*	*ug/L*		*11.85*	*301-02-0*	*07/11/19 17:18*	*07/19/19 00:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*34 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
2-Fluorophenol	*32*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
Nitrobenzene-d5	*53*		*27 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
Phenol-d5	*41*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
Terphenyl-d14	*72*		*53 - 125*	*07/11/19 17:18*	*07/19/19 00:16*	*1*
2,4,6-Tribromophenol	*107*		*15 - 135*	*07/11/19 17:18*	*07/19/19 00:16*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919

Lab Sample ID: 400-172850-7

Date Collected: 07/09/19 11:30

Matrix: Water

Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 14:17	1
Acrolein	ND		20	10	ug/L			07/14/19 14:17	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 14:17	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 14:17	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 14:17	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 14:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 14:17	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 14:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 14:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 14:17	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 14:17	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 14:17	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 14:17	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 14:17	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:17	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 14:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 14:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 14:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 14:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 14:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 14:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 14:17	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 14:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 14:17	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 14:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 14:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 14:17	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 14:17	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 14:17	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 14:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 14:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 14:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 14:17	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 14:17	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919

Lab Sample ID: 400-172850-7

Date Collected: 07/09/19 11:30

Matrix: Water

Date Received: 07/10/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 14:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 14:17	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 14:17	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 14:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 14:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 14:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 14:17	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 14:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 14:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 14:17	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:17	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 14:17	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 14:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 14:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 14:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 14:17	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 14:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 14:17	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 14:17	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*91*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 14:17*	*1*
2-Methyl-2-propanol	*32*	*	*ug/L*		*2.53*	*75-65-0*		*07/14/19 14:17*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/14/19 14:17*	*1*
Dibromofluoromethane	*116*		*81 - 121*		*07/14/19 14:17*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 14:17*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Anthracene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Chrysene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
Fluoranthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Fluorene	ND		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 12:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/11/19 17:18	07/18/19 12:33	1
1-Methylnaphthalene	**0.18**	**J**	0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
2-Methylnaphthalene	**0.26**		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Client Sample ID: PD-13-GWP-80-070919

Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Lab Sample ID: 400-172850-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1
Pyrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*90*		*15 - 122*	*07/11/19 17:18*	*07/18/19 12:33*	*1*
Nitrobenzene-d5	*81*		*19 - 130*	*07/11/19 17:18*	*07/18/19 12:33*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/11/19 17:18*	*07/18/19 12:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
Benzoic acid	ND	*	30	7.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Bis(2-chloroethoxy)methane	ND	*	9.8	0.68	ug/L		07/11/19 17:18	07/19/19 00:41	1
Bis(2-chloroethyl)ether	ND	*	9.8	0.73	ug/L		07/11/19 17:18	07/19/19 00:41	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/11/19 17:18	07/19/19 00:41	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Bromophenyl phenyl ether	ND	*	9.8	0.31	ug/L		07/11/19 17:18	07/19/19 00:41	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Chloronaphthalene	ND	*	9.8	0.51	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Chlorophenyl phenyl ether	ND	*	9.8	2.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Dibenz[a,h]acridine	ND	*	9.8	3.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Dibenzofuran	ND	*	9.8	0.51	ug/L		07/11/19 17:18	07/19/19 00:41	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dichlorophenol	ND		9.8	3.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 00:41	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/11/19 17:18	07/19/19 00:41	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/11/19 17:18	07/19/19 00:41	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dinitrophenol	ND		30	3.3	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4-Dinitrotoluene	ND	*	9.8	1.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,6-Dinitrotoluene	ND	*	9.8	1.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/11/19 17:18	07/19/19 00:41	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 00:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/11/19 17:18	07/19/19 00:41	1
Hexachlorobenzene	ND	*	9.8	0.25	ug/L		07/11/19 17:18	07/19/19 00:41	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
Hexachloroethane	ND	*	9.8	4.1	ug/L		07/11/19 17:18	07/19/19 00:41	1
Indene	ND	*	9.8	0.98	ug/L		07/11/19 17:18	07/19/19 00:41	1
Isophorone	ND	*	9.8	0.56	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/11/19 17:18	07/19/19 00:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/11/19 17:18	07/19/19 00:41	1

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-13-GWP-80-070919
Lab Sample ID: 400-172850-7
Date Collected: 07/09/19 11:30
Matrix: Water
Date Received: 07/10/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/11/19 17:18	07/19/19 00:41	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/11/19 17:18	07/19/19 00:41	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/11/19 17:18	07/19/19 00:41	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/11/19 17:18	07/19/19 00:41	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 00:41	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/11/19 17:18	07/19/19 00:41	1
N-Nitrosodiphenylamine	ND	*	9.8	0.46	ug/L		07/11/19 17:18	07/19/19 00:41	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/19/19 00:41	1
Phenol	ND		9.8	2.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
Pyridine	ND		9.8	3.1	ug/L		07/11/19 17:18	07/19/19 00:41	1
Quinoline	ND	*	9.8	5.9	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/11/19 17:18	07/19/19 00:41	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/11/19 17:18	07/19/19 00:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*9.3*	*T J*	*ug/L*		*4.03*		*07/11/19 17:18*	*07/19/19 00:41*	*1*
Unknown	*17*	*T J*	*ug/L*		*4.47*		*07/11/19 17:18*	*07/19/19 00:41*	*1*
9-Octadecenamide, (Z)-	*7.6*	*T J N*	*ug/L*		*10.51*	*301-02-0*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
9-Octadecenamide, (Z)-	*12*	*T J N*	*ug/L*		*11.85*	*301-02-0*	*07/11/19 17:18*	*07/19/19 00:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*34 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
2-Fluorophenol	*29*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Nitrobenzene-d5	*51*		*27 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Phenol-d5	*39*		*10 - 120*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
Terphenyl-d14	*72*		*53 - 125*	*07/11/19 17:18*	*07/19/19 00:41*	*1*
2,4,6-Tribromophenol	*106*		*15 - 135*	*07/11/19 17:18*	*07/19/19 00:41*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172850-1	TB-PW-070919-B	107	116	103
400-172850-2	PD-9-GWP-35-070919	107	114	103
400-172850-3	PD-9-GWP-40-070919	105	114	105
400-172850-3 - DL	PD-9-GWP-40-070919	106	113	103
400-172850-4	PD-9-GWP-45-070919	110	116	104
400-172850-4 - DL	PD-9-GWP-45-070919	108	115	101
400-172850-5	PD-13-GWP-65-070919	108	113	102
400-172850-5 MS	PD-13-GWP-65-070919	103	113	103
400-172850-5 MSD	PD-13-GWP-65-070919	104	112	103
400-172850-6	PD-13-GWP-70-070919	110	114	104
400-172850-7	PD-13-GWP-80-070919	110	116	104
LCS 400-447926/1002	Lab Control Sample	107	112	103
LCS 400-447978/1002	Lab Control Sample	105	113	102
MB 400-447926/4	Method Blank	105	113	103
MB 400-447978/4	Method Blank	107	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172850-2	PD-9-GWP-35-070919	59	53	76	66	57	82
400-172850-3	PD-9-GWP-40-070919	68	29	81	62	63	109
400-172850-3 - RERA	PD-9-GWP-40-070919	48	31	70	54	32 X	46
400-172850-4	PD-9-GWP-45-070919	78	0 X	59	77	66	115
400-172850-5	PD-13-GWP-65-070919	65	39	47	42	65	98
400-172850-6	PD-13-GWP-70-070919	78	32	53	41	72	107
400-172850-7	PD-13-GWP-80-070919	75	29	51	39	72	106
LCS 400-447641/4-A	Lab Control Sample	70	35	58	44	96	77
LCS 400-449437/2-A	Lab Control Sample	49	44	80	66	59	41
LCSD 400-447641/5-A	Lab Control Sample Dup	68	25	58	41	98	67
LCSD 400-449437/3-A	Lab Control Sample Dup	45	44	86	64	57	38
MB 400-447641/1-A	Method Blank	76	43	62	55	105	85
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172850-2	PD-9-GWP-35-070919	73	77	67
400-172850-3	PD-9-GWP-40-070919	74	70	65 *
400-172850-4	PD-9-GWP-45-070919	63	93	77
400-172850-5	PD-13-GWP-65-070919	74	69	87
400-172850-6	PD-13-GWP-70-070919	92	77	98
400-172850-7	PD-13-GWP-80-070919	90	81	111
LCS 400-447641/2-A	Lab Control Sample	60	44	89
MB 400-447641/1-A	Method Blank	0 X	NaN	0 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-070919-B

Lab Sample ID: 400-172850-1
Matrix: Water
Date Collected: 07/09/19 00:00
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 13:27	WPD	TAL PEN

Client Sample ID: PD-9-GWP-35-070919

Lab Sample ID: 400-172850-2
Matrix: Water
Date Collected: 07/09/19 14:15
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447926	07/14/19 15:06	WPD	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/19/19 01:34	VC1	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:08	S1S	TAL PEN

Client Sample ID: PD-9-GWP-40-070919

Lab Sample ID: 400-172850-3
Matrix: Water
Date Collected: 07/09/19 15:08
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447926	07/14/19 16:19	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	447978	07/15/19 10:05	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5	0.4 mL	1.0 mL	448749	07/19/19 21:38	VC1	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/19/19 01:55	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1010.6 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450063	07/30/19 23:07	VC1	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:25	S1S	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 14:19	KJA	TAL PEN

Client Sample ID: PD-9-GWP-45-070919

Lab Sample ID: 400-172850-4
Matrix: Water
Date Collected: 07/09/19 15:55
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	447926	07/14/19 16:45	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	447978	07/15/19 09:40	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1028 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			448749	07/19/19 22:03	VC1	TAL PEN
Total/NA	Prep	3520C			1028 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 23:27	VC1	TAL PEN
Total/NA	Prep	3520C			1028 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:42	S1S	TAL PEN

Client Sample ID: PD-13-GWP-65-070919

Lab Sample ID: 400-172850-5
Matrix: Water
Date Collected: 07/09/19 09:15
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 10:12	WPD	TAL PEN
Total/NA	Prep	3520C			1046.4 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/18/19 23:52	VC1	TAL PEN
Total/NA	Prep	3520C			1046.4 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 11:59	S1S	TAL PEN

Client Sample ID: PD-13-GWP-70-070919

Lab Sample ID: 400-172850-6
Matrix: Water
Date Collected: 07/09/19 10:20
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 13:51	WPD	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/19/19 00:16	VC1	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 12:16	S1S	TAL PEN

Client Sample ID: PD-13-GWP-80-070919

Lab Sample ID: 400-172850-7
Matrix: Water
Date Collected: 07/09/19 11:30
Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 14:17	WPD	TAL PEN
Total/NA	Prep	3520C			1016.6 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448563	07/19/19 00:41	VC1	TAL PEN
Total/NA	Prep	3520C			1016.6 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 12:33	S1S	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/18/19 00:08	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 09:53	S1S	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447926/4
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447978/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 07:39	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449437/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447641/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			449114	07/23/19 09:24	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447641/4-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/18/19 00:33	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447926/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447978/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 06:51	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-449437/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:21	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-447641/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447641	07/11/19 17:18	HAD	TAL PEN
Total/NA	Analysis	8270D		1			448422	07/18/19 00:58	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-449437/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:42	VC1	TAL PEN

Client Sample ID: PD-13-GWP-65-070919

Lab Sample ID: 400-172850-5 MS

Date Collected: 07/09/19 09:15

Matrix: Water

Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 12:14	WPD	TAL PEN

Client Sample ID: PD-13-GWP-65-070919

Lab Sample ID: 400-172850-5 MSD

Date Collected: 07/09/19 09:15

Matrix: Water

Date Received: 07/10/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 12:38	WPD	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

GC/MS VOA

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-1	TB-PW-070919-B	Total/NA	Water	8260B	
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	8260B	
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8260B	
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	8260B	
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	8260B	
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	8260B	
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	
400-172850-5 MS	PD-13-GWP-65-070919	Total/NA	Water	8260B	
400-172850-5 MSD	PD-13-GWP-65-070919	Total/NA	Water	8260B	

Analysis Batch: 447978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - DL	PD-9-GWP-40-070919	Total/NA	Water	8260B	
400-172850-4 - DL	PD-9-GWP-45-070919	Total/NA	Water	8260B	
MB 400-447978/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447978/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 447641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	3520C	
400-172850-3 - DL	PD-9-GWP-40-070919	Total/NA	Water	3520C	
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	3520C	
400-172850-4 - DL	PD-9-GWP-45-070919	Total/NA	Water	3520C	
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	3520C	
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	3520C	
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	3520C	
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	3520C	
MB 400-447641/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-447641/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-447641/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-447641/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-447641/1-A	Method Blank	Total/NA	Water	8270D	447641
LCS 400-447641/4-A	Lab Control Sample	Total/NA	Water	8270D	447641
LCSD 400-447641/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	447641

Analysis Batch: 448495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	8270D LL	447641
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8270D LL	447641
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	8270D LL	447641
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	8270D LL	447641
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	8270D LL	447641
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	8270D LL	447641
MB 400-447641/1-A	Method Blank	Total/NA	Water	8270D LL	447641

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

GC/MS Semi VOA

Analysis Batch: 448563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-4	PD-9-GWP-45-070919	Total/NA	Water	8270D	447641
400-172850-5	PD-13-GWP-65-070919	Total/NA	Water	8270D	447641
400-172850-6	PD-13-GWP-70-070919	Total/NA	Water	8270D	447641
400-172850-7	PD-13-GWP-80-070919	Total/NA	Water	8270D	447641

Analysis Batch: 448576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-2	PD-9-GWP-35-070919	Total/NA	Water	8270D	447641
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8270D	447641

Analysis Batch: 448749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - DL	PD-9-GWP-40-070919	Total/NA	Water	8270D	447641
400-172850-4 - DL	PD-9-GWP-45-070919	Total/NA	Water	8270D	447641

Analysis Batch: 449114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-447641/2-A	Lab Control Sample	Total/NA	Water	8270D LL	447641

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - RERA	PD-9-GWP-40-070919	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3	PD-9-GWP-40-070919	Total/NA	Water	8270D LL	447641

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172850-3 - RERA	PD-9-GWP-40-070919	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 09:00*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:00*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 09:00*	*1*

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 400-172850-5 MS
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	103		ug/L		51	43 - 150
Acrolein	ND		250	282		ug/L		113	38 - 150
Acrylonitrile	ND	*	500	721		ug/L		144	62 - 149
Benzene	2.6		50.0	51.7		ug/L		98	56 - 142
Bromobenzene	ND		50.0	47.3		ug/L		95	59 - 136
Bromochloromethane	ND		50.0	59.1		ug/L		118	64 - 140
Bromodichloromethane	ND		50.0	57.2		ug/L		114	59 - 143
Bromoform	ND		50.0	56.1		ug/L		112	50 - 140
Bromomethane	ND		25.0	31.0		ug/L		124	10 - 150
2-Butanone (MEK)	ND	F1	200	102	F1	ug/L		51	55 - 150
Carbon disulfide	ND		50.0	46.7		ug/L		93	48 - 150
Carbon tetrachloride	ND		50.0	64.8		ug/L		130	55 - 145
Chlorobenzene	ND		50.0	53.1		ug/L		106	64 - 130
Chloroethane	ND		25.0	25.8		ug/L		103	50 - 150
2-Chloroethyl vinyl ether	ND	F1 *	25.0	37.7	F1	ug/L		151	10 - 150
Chloroform	ND		50.0	60.6		ug/L		121	60 - 141
1-Chlorohexane	ND	*	50.0	65.8		ug/L		132	56 - 136
Chloromethane	ND		25.0	24.0		ug/L		96	49 - 148
cis-1,2-Dichloroethene	ND		50.0	66.6		ug/L		133	59 - 143
cis-1,3-Dichloropropene	ND		50.0	55.6		ug/L		111	57 - 140
Dibromochloromethane	ND		50.0	61.6		ug/L		123	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	47.3		ug/L		95	45 - 135
1,2-Dichlorobenzene	ND		50.0	47.8		ug/L		96	52 - 137
1,3-Dichlorobenzene	ND		50.0	46.4		ug/L		93	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172850-5 MS
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		50.0	46.8		ug/L		94	53 - 135
Dichlorodifluoromethane	ND		25.0	16.3		ug/L		65	16 - 150
1,1-Dichloroethane	ND		50.0	65.4		ug/L		131	61 - 144
1,2-Dichloroethane	ND	F1 *	50.0	73.1	F1	ug/L		146	60 - 141
1,1-Dichloroethene	ND		50.0	53.3		ug/L		107	54 - 147
1,2-Dichloropropane	ND		50.0	59.0		ug/L		118	66 - 137
1,3-Dichloropropane	ND		50.0	53.6		ug/L		107	66 - 133
2,2-Dichloropropane	ND		50.0	63.0		ug/L		126	42 - 144
1,1-Dichloropropene	ND		50.0	58.8		ug/L		118	65 - 136
Ethylbenzene	ND		50.0	51.7		ug/L		103	58 - 131
Ethylene Dibromide	ND		50.0	53.1		ug/L		106	64 - 132
Ethyl methacrylate	ND		50.0	49.7		ug/L		99	64 - 130
Hexachlorobutadiene	ND		50.0	46.2		ug/L		92	31 - 149
2-Hexanone	ND		200	172		ug/L		86	65 - 140
Isopropylbenzene	ND		50.0	53.7		ug/L		107	56 - 133
Methylene bromide	ND		50.0	52.6		ug/L		105	63 - 138
Methylene Chloride	ND		50.0	52.3		ug/L		105	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	242		ug/L		121	63 - 146
Methyl tert-butyl ether	3.9		50.0	62.4		ug/L		117	59 - 137
m-Xylene & p-Xylene	ND		50.0	52.7		ug/L		105	57 - 130
Naphthalene	ND		50.0	47.9		ug/L		96	25 - 150
n-Butylbenzene	ND		50.0	49.3		ug/L		99	41 - 142
N-Propylbenzene	ND		50.0	49.6		ug/L		99	51 - 138
o-Chlorotoluene	ND		50.0	52.8		ug/L		106	53 - 134
o-Xylene	ND		50.0	53.0		ug/L		106	61 - 130
p-Chlorotoluene	ND		50.0	52.1		ug/L		104	54 - 133
p-Isopropyltoluene	ND		50.0	50.7		ug/L		101	48 - 139
sec-Butylbenzene	ND		50.0	49.9		ug/L		100	50 - 138
Styrene	ND		50.0	47.1		ug/L		94	58 - 131
tert-Butylbenzene	ND		50.0	53.2		ug/L		106	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	54.6		ug/L		109	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	46.8		ug/L		94	66 - 135
Tetrachloroethene	ND		50.0	51.6		ug/L		103	52 - 133
Toluene	ND		50.0	48.9		ug/L		98	65 - 130
trans-1,2-Dichloroethene	ND		50.0	52.8		ug/L		106	61 - 143
trans-1,3-Dichloropropene	ND		50.0	58.6		ug/L		117	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	42.6		ug/L		85	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.1		ug/L		86	39 - 148
1,1,1-Trichloroethane	ND		50.0	64.5		ug/L		129	57 - 142
1,1,2-Trichloroethane	ND		50.0	47.1		ug/L		94	66 - 131
Trichloroethene	ND		50.0	52.3		ug/L		105	64 - 136
Trichlorofluoromethane	ND		25.0	25.3		ug/L		101	54 - 150
1,2,3-Trichloropropane	ND		50.0	58.9		ug/L		118	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	52.5		ug/L		105	50 - 139
1,3,5-Trimethylbenzene	0.72	J	50.0	53.9		ug/L		106	52 - 135
Vinyl acetate	ND	F2	50.0	39.3		ug/L		79	26 - 150
Vinyl chloride	ND		25.0	21.5		ug/L		86	46 - 150
Xylenes, Total	ND		100	106		ug/L		106	59 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172850-5 MS
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: 400-172850-5 MSD
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	102		ug/L		51	43 - 150	1	30
Acrolein	ND		250	351		ug/L		140	38 - 150	22	31
Acrylonitrile	ND	*	500	706		ug/L		141	62 - 149	2	30
Benzene	2.6		50.0	49.2		ug/L		93	56 - 142	5	30
Bromobenzene	ND		50.0	42.9		ug/L		86	59 - 136	10	30
Bromochloromethane	ND		50.0	57.5		ug/L		115	64 - 140	3	30
Bromodichloromethane	ND		50.0	55.7		ug/L		111	59 - 143	3	30
Bromoform	ND		50.0	52.7		ug/L		105	50 - 140	6	30
Bromomethane	ND		25.0	34.6		ug/L		138	10 - 150	11	50
2-Butanone (MEK)	ND	F1	200	103	F1	ug/L		52	55 - 150	1	30
Carbon disulfide	ND		50.0	45.9		ug/L		92	48 - 150	2	30
Carbon tetrachloride	ND		50.0	62.2		ug/L		124	55 - 145	4	30
Chlorobenzene	ND		50.0	46.8		ug/L		94	64 - 130	13	30
Chloroethane	ND		25.0	31.3		ug/L		125	50 - 150	19	30
2-Chloroethyl vinyl ether	ND	F1 *	25.0	45.6	F1	ug/L		182	10 - 150	19	50
Chloroform	ND		50.0	58.0		ug/L		116	60 - 141	4	30
1-Chlorohexane	ND	*	50.0	57.8		ug/L		116	56 - 136	13	30
Chloromethane	ND		25.0	28.5		ug/L		114	49 - 148	17	31
cis-1,2-Dichloroethene	ND		50.0	63.6		ug/L		127	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	52.7		ug/L		105	57 - 140	5	30
Dibromochloromethane	ND		50.0	55.6		ug/L		111	56 - 143	10	30
1,2-Dibromo-3-Chloropropane	ND		50.0	47.9		ug/L		96	45 - 135	1	30
1,2-Dichlorobenzene	ND		50.0	41.5		ug/L		83	52 - 137	14	30
1,3-Dichlorobenzene	ND		50.0	38.8		ug/L		78	54 - 135	18	30
1,4-Dichlorobenzene	ND		50.0	38.0		ug/L		76	53 - 135	21	30
Dichlorodifluoromethane	ND		25.0	20.4		ug/L		82	16 - 150	22	31
1,1-Dichloroethane	ND		50.0	63.1		ug/L		126	61 - 144	4	30
1,2-Dichloroethane	ND	F1 *	50.0	73.5	F1	ug/L		147	60 - 141	0	30
1,1-Dichloroethene	ND		50.0	52.7		ug/L		105	54 - 147	1	30
1,2-Dichloropropane	ND		50.0	57.5		ug/L		115	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	50.0		ug/L		100	66 - 133	7	30
2,2-Dichloropropane	ND		50.0	61.2		ug/L		122	42 - 144	3	31
1,1-Dichloropropene	ND		50.0	55.4		ug/L		111	65 - 136	6	30
Ethylbenzene	ND		50.0	45.2		ug/L		90	58 - 131	13	30
Ethylene Dibromide	ND		50.0	51.5		ug/L		103	64 - 132	3	30
Ethyl methacrylate	ND		50.0	47.3		ug/L		95	64 - 130	5	30
Hexachlorobutadiene	ND		50.0	34.6		ug/L		69	31 - 149	29	36
2-Hexanone	ND		200	168		ug/L		84	65 - 140	2	30
Isopropylbenzene	ND		50.0	45.5		ug/L		91	56 - 133	16	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-172850-5 MSD
Matrix: Water
Analysis Batch: 447926

Client Sample ID: PD-13-GWP-65-070919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		50.0	51.2		ug/L		102	63 - 138	3	30
Methylene Chloride	ND		50.0	50.1		ug/L		100	60 - 146	4	32
4-Methyl-2-pentanone (MIBK)	ND		200	242		ug/L		121	63 - 146	0	30
Methyl tert-butyl ether	3.9		50.0	63.8		ug/L		120	59 - 137	2	30
m-Xylene & p-Xylene	ND		50.0	45.1		ug/L		90	57 - 130	16	30
Naphthalene	ND		50.0	48.6		ug/L		97	25 - 150	1	30
n-Butylbenzene	ND		50.0	39.4		ug/L		79	41 - 142	22	31
N-Propylbenzene	ND		50.0	41.6		ug/L		83	51 - 138	17	30
o-Chlorotoluene	ND		50.0	46.8		ug/L		94	53 - 134	12	30
o-Xylene	ND		50.0	46.7		ug/L		93	61 - 130	13	30
p-Chlorotoluene	ND		50.0	44.3		ug/L		89	54 - 133	16	30
p-Isopropyltoluene	ND		50.0	41.4		ug/L		83	48 - 139	20	30
sec-Butylbenzene	ND		50.0	43.0		ug/L		86	50 - 138	15	30
Styrene	ND		50.0	40.1		ug/L		80	58 - 131	16	30
tert-Butylbenzene	ND		50.0	46.2		ug/L		92	54 - 146	14	30
1,1,1,2-Tetrachloroethane	ND		50.0	48.9		ug/L		98	59 - 137	11	30
1,1,2,2-Tetrachloroethane	ND		50.0	46.0		ug/L		92	66 - 135	2	30
Tetrachloroethene	ND		50.0	47.5		ug/L		95	52 - 133	8	30
Toluene	ND		50.0	44.3		ug/L		89	65 - 130	10	30
trans-1,2-Dichloroethene	ND		50.0	51.5		ug/L		103	61 - 143	3	30
trans-1,3-Dichloropropene	ND		50.0	55.5		ug/L		111	53 - 133	5	30
1,2,3-Trichlorobenzene	ND		50.0	39.3		ug/L		79	43 - 145	8	30
1,2,4-Trichlorobenzene	ND		50.0	35.0		ug/L		70	39 - 148	21	30
1,1,1-Trichloroethane	ND		50.0	62.5		ug/L		125	57 - 142	3	30
1,1,2-Trichloroethane	ND		50.0	46.0		ug/L		92	66 - 131	2	30
Trichloroethene	ND		50.0	48.6		ug/L		97	64 - 136	7	30
Trichlorofluoromethane	ND		25.0	32.0		ug/L		128	54 - 150	23	30
1,2,3-Trichloropropane	ND		50.0	58.8		ug/L		118	65 - 133	0	30
1,2,4-Trimethylbenzene	ND		50.0	44.1		ug/L		88	50 - 139	17	30
1,3,5-Trimethylbenzene	0.72	J	50.0	46.3		ug/L		91	52 - 135	15	30
Vinyl acetate	ND	F2	50.0	56.2	F2	ug/L		112	26 - 150	35	33
Vinyl chloride	ND		25.0	26.5		ug/L		106	46 - 150	21	30
Xylenes, Total	ND		100	91.7		ug/L		92	59 - 130	14	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/15/19 07:39	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 07:39*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/15/19 07:39	1
Dibromofluoromethane	113		81 - 121		07/15/19 07:39	1
Toluene-d8 (Surr)	102		80 - 120		07/15/19 07:39	1

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	45.4		ug/L		91	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	105		78 - 118
Dibromofluoromethane	113		81 - 121
Toluene-d8 (Surr)	102		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
Benzenethiol	ND		10	1.7	ug/L		07/11/19 17:18	07/18/19 00:08	1
Benzoic acid	ND		30	7.3	ug/L		07/11/19 17:18	07/18/19 00:08	1
Benzyl alcohol	ND		10	2.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/11/19 17:18	07/18/19 00:08	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/11/19 17:18	07/18/19 00:08	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/11/19 17:18	07/18/19 00:08	1
Bis(2-ethylhexyl) phthalate	94.6		10	5.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/11/19 17:18	07/18/19 00:08	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Chloroaniline	ND		10	3.4	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Chlorophenol	ND		10	2.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Dibenzofuran	ND		10	0.52	ug/L		07/11/19 17:18	07/18/19 00:08	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Diethyl phthalate	ND		10	0.70	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/11/19 17:18	07/18/19 00:08	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/11/19 17:18	07/18/19 00:08	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/11/19 17:18	07/18/19 00:08	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/11/19 17:18	07/18/19 00:08	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/11/19 17:18	07/18/19 00:08	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/11/19 17:18	07/18/19 00:08	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/11/19 17:18	07/18/19 00:08	1
Hexachloroethane	ND		10	4.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
Indene	ND		10	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
Isophorone	ND		10	0.57	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Methylphenol	ND		10	1.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Nitroaniline	ND		10	2.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
3-Nitroaniline	ND		10	1.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Nitroaniline	ND		10	2.5	ug/L		07/11/19 17:18	07/18/19 00:08	1
Nitrobenzene	ND		10	0.55	ug/L		07/11/19 17:18	07/18/19 00:08	1
2-Nitrophenol	ND		10	0.65	ug/L		07/11/19 17:18	07/18/19 00:08	1
4-Nitrophenol	ND		10	2.1	ug/L		07/11/19 17:18	07/18/19 00:08	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/11/19 17:18	07/18/19 00:08	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/11/19 17:18	07/18/19 00:08	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/11/19 17:18	07/18/19 00:08	1
Pentachlorophenol	ND		20	1.8	ug/L		07/11/19 17:18	07/18/19 00:08	1
Phenol	ND		10	2.6	ug/L		07/11/19 17:18	07/18/19 00:08	1
Pyridine	ND		10	3.2	ug/L		07/11/19 17:18	07/18/19 00:08	1
Quinoline	ND		10	6.0	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/11/19 17:18	07/18/19 00:08	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/11/19 17:18	07/18/19 00:08	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/11/19 17:18*	*07/18/19 00:08*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*34 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
2-Fluorophenol	*43*		*10 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
Phenol-d5	*55*		*10 - 120*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
Terphenyl-d14	*105*		*53 - 125*	*07/11/19 17:18*	*07/18/19 00:08*	*1*
2,4,6-Tribromophenol	*85*		*15 - 135*	*07/11/19 17:18*	*07/18/19 00:08*	*1*

Lab Sample ID: LCS 400-447641/4-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzenethiol			30.0	ND	*	ug/L		3	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*34 - 120*
2-Fluorophenol	*35*		*10 - 120*
Nitrobenzene-d5	*58*		*27 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447641/4-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	44		10 - 120
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	77		15 - 135

Lab Sample ID: LCSD 400-447641/5-A
Matrix: Water
Analysis Batch: 448422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447641

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		4	10 - 120	15	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	68		34 - 120
2-Fluorophenol	25		10 - 120
Nitrobenzene-d5	58		27 - 120
Phenol-d5	41		10 - 120
Terphenyl-d14	98		53 - 125
2,4,6-Tribromophenol	67		15 - 135

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				07/24/19 21:29	07/30/19 21:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		34 - 120	07/24/19 21:29	07/30/19 21:00	1
2-Fluorophenol	53		10 - 120	07/24/19 21:29	07/30/19 21:00	1
Nitrobenzene-d5	82		27 - 120	07/24/19 21:29	07/30/19 21:00	1
Phenol-d5	70		10 - 120	07/24/19 21:29	07/30/19 21:00	1
Terphenyl-d14	70		53 - 125	07/24/19 21:29	07/30/19 21:00	1
2,4,6-Tribromophenol	35		15 - 135	07/24/19 21:29	07/30/19 21:00	1

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Bis(2-ethylhexyl) phthalate			30.0	22.4		ug/L		75	48 - 150		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	49		34 - 120
2-Fluorophenol	44		10 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*66*		*10 - 120*
Terphenyl-d14	*59*		*53 - 125*
2,4,6-Tribromophenol	*41*		*15 - 135*

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate			30.0	23.4		ug/L		78	48 - 150	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	*45*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*86*		*27 - 120*
Phenol-d5	*64*		*10 - 120*
Terphenyl-d14	*57*		*53 - 125*
2,4,6-Tribromophenol	*38*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Anthracene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Chrysene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
Fluoranthene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Fluorene	ND		0.20	0.021	ug/L		07/11/19 17:18	07/18/19 09:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/11/19 17:18	07/18/19 09:53	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Phenanthrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1
Pyrene	ND		0.20	0.020	ug/L		07/11/19 17:18	07/18/19 09:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/11/19 17:18*	*07/18/19 09:53*	*1*
Nitrobenzene-d5	*NaN*		*19 - 130*	*07/11/19 17:18*	*07/18/19 09:53*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172850-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-447641/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447641

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	0	X	33 - 138	07/11/19 17:18	07/18/19 09:53	1

Lab Sample ID: LCS 400-447641/2-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	23.7		ug/L		79	41 - 120
Acenaphthylene	30.0	22.5		ug/L		75	44 - 120
Anthracene	30.0	25.1		ug/L		84	49 - 120
Benzo[a]anthracene	30.0	23.9		ug/L		80	61 - 135
Benzo[a]pyrene	30.0	24.8		ug/L		83	52 - 120
Benzo[b]fluoranthene	30.0	27.1		ug/L		90	53 - 134
Benzo[g,h,i]perylene	30.0	24.8		ug/L		83	47 - 133
Benzo[k]fluoranthene	30.0	24.8		ug/L		83	57 - 134
Chrysene	30.0	24.1		ug/L		80	55 - 122
Dibenz(a,h)anthracene	30.0	28.0		ug/L		93	48 - 146
Fluoranthene	30.0	23.9		ug/L		80	54 - 128
Fluorene	30.0	28.6		ug/L		95	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	26.6		ug/L		89	43 - 142
1-Methylnaphthalene	30.0	16.7		ug/L		56	41 - 120
2-Methylnaphthalene	30.0	16.1		ug/L		54	32 - 124
Phenanthrene	30.0	26.2		ug/L		87	48 - 120
Pyrene	30.0	29.2		ug/L		97	48 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	60		15 - 122
Nitrobenzene-d5	44		19 - 130
Terphenyl-d14	89		33 - 138

Shell Oil Products US Chain Of Custody Record

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☐ TESTAMERICA (Pensacola)
- ☑ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHEC
James Carrino	25278	DAT
PO #	GSAP Project ID	PAG 400-172850 COC
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY:	LOG CODE:	State	AECOM Project / Task Number:
AECOM		170 East Rand Avenue, Hartford, IL	PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE:	FAX:	Bill To Contact E-MAIL:
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

EDF DELIVERABLE TO (Name, Company, Office Location):	PHONE NO.:	E-MAIL:	AECOM Other ID:
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

SAMPLER NAME(S) (Print): Sam Fisher

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☐ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Lab Only	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-070919-B	7/9/2019	0:00	Water	2					2		x	
	PD-9-GWP-35-070919	7/9/2019	14:15	Water	2			2		4	x	x	x
	PD-9-GWP-40-070919	7/9/2019	15:08	Water	2			2		4	x	x	x
	PD-9-GWP-45-070919	7/9/2019	15:55	Water	2			2		4	x		
	PD-13-GWP-65-070919	7/9/2019	9:15	Water	2			2		4	x	x	x
	PD-13-GWP-70-070919	7/9/2019	10:20	Water	2			2		4	x	x	x
	PD-13-GWP-80-070919	7/9/2019	11:30	Water	2			2		4	x	x	x

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Fed Ex 4931 8203 6182 / 4931 8203 7395	7/9/2019	1745
		07.10.19	859

Custody Seals 1011665 1011664 1011667 1011666

4.8 ; 48.C IR7

Version: 10May17

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172850-1

Login Number: 172850
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.8°C 4.8°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172850-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-172948

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/30/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071019-B	PD-9-GWP-54-071019
PD-9-GWP-60-071019	PD-9-GWP-70-071019
PD-9-GWP-70-071019-DUP	PD-9-GWP-80-071019
PD-9-GWP-80-071019-EB	PD-2-SB-071019-EB
PD-11-GWP-35-071019	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative VOCs were detected in an equipment blank. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. Several SVOC surrogates were outside evaluation criteria. Additionally, the RPD between analytical results for benzene in field duplicate pair PD-9-GWP-70-071019/PD-9-GWP-70-071019-Dup was outside evaluation criteria; therefore, results were qualified as estimated (**J**/**J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-2-SB-071019-EB	VOCs	Benzene	1.8 μg/L
PD-2-SB-071019-EB	VOCs	2-Butanone	9.5 μg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
400-447839/1002	VOCs	Bromomethane	**180**	NA	10-160
400-447839/1002	VOCs	2-Chloroethyl vinyl ether	**275**	NA	10-160
400-447839/1002	VOCs	1-Chlorohexane	**131**	NA	69-130
400-447839/1002	VOCs	1,2-Dichloroethane	**145**	NA	69-130
400-447839/1002	VOCs	Trichlorofluoromethane	**141**	NA	65-138
400-447926/1002	VOCs	Acrylonitrile	**153**	NA	64-142
400-447926/1002	VOCs	2-Chloroethyl vinyl ether	**294**	NA	10-160
400-447926/1002	VOCs	1-Chlorohexane	**131**	NA	69-130
400-447926/1002	VOCs	1,2-Dichloroethane	**148**	NA	69-130
400-447763/20-A	SVOCs	Benzenethiol	**4/3**	16	10-120/30
400-44763/2-A/ 3-A	SVOCs	Aniline	77/54	**34**	29-120/30
400-44763/2-A/ 3-A	SVOCs	Benzoic acid	**214**	NA	10-150
400-44763/2-A/ 3-A	SVOCs	2,4-Dinitrophenol	**164**	NA	10-150
400-44763/2-A/ 3-A	SVOCs	4-Nitrophenol	117/**187**	**187**	10-150

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-9-GWP-54-071019	SVOCs	Benzenethiol	**UJ**
PD-9-GWP-60-071019	SVOCs	Benzenethiol	**UJ**
PD-9-GWP-70-071019	SVOCs	Benzenethiol	**UJ**
PD-9-GWP-70-071019-DUP	SVOCs	Benzenethiol	**UJ**
PD-9-GWP-80-071019	SVOCs	Benzenethiol	**UJ**
PD-11-GWP-35-071019	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-9-GWP-54-071019	SVOCs	2-Fluorobiphenyl	**121**	34-120
PD-9-GWP-54-071019	SVOCs	Nitrobenzene-d_5	**0**	27-120
PD-9-GWP-54-071019	SVOCs	Phenol-d_5	**276**	10-120
PD-9-GWP-54-071019	SVOCs	2,4,6-Tribromophenol	**208**	15-135
MB 400-447763/1-A	SVOCs	Nitrobenzene-d_5	**121**	27-120
PD-9-GWP-54-071019-DL2	PAHs	Nitrobenzene-d_5	**219**	19-130
MB 400-447763/1-A	PAHs	Terphenyl-d_{14}	**155**	33-138

Analytical data that required qualification based on surrogate recovery outside evaluation criteria are included in the table below. Qualifications due to surrogate recoveries were not required if only one of three base/neutral or acid fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. Method blanks are quality control samples and do not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-9-GWP-54-071019	SVOCs	SVOC detects	**J**
PD-9-GWP-54-071019	SVOCs	SVOC non-detects	**UJ**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-9-GWP-70-071019	PD-9-GWP-70-071019-DUP

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-9-GWP-70-071019	PD-9-GWP-70-071019-DUP	VOCs	Benzene	**123**	**J/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

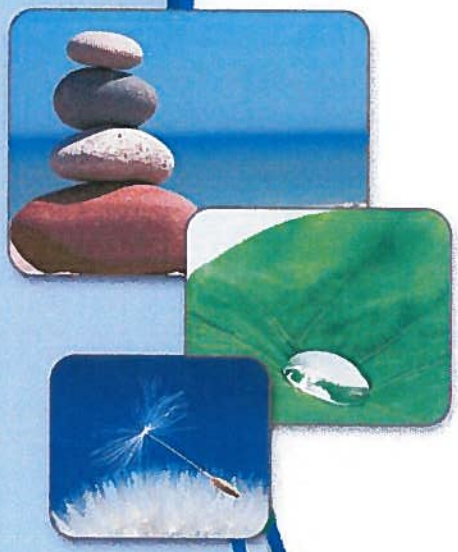
Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172948-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/30/2019 3:30:20 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/30/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Job ID: 400-172948-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172948-1

Comments
No additional comments.

Receipt
The samples were received on 7/11/2019 9:39 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3° C and 4.3° C.

Receipt Exceptions

One of two vials for the following sample was received broken: PD-2-SB-071019-EB (400-172948-8). Analysis is not impacted.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-9-GWP-54-071019 (400-172948-2), PD-9-GWP-60-071019 (400-172948-3), PD-9-GWP-70-071019 (400-172948-4) and PD-9-GWP-70-071019-DUP (400-172948-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447839 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrolein, Bromomethane and Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071019-B (400-172948-1), PD-9-GWP-54-071019 (400-172948-2), PD-9-GWP-60-071019 (400-172948-3), PD-9-GWP-70-071019 (400-172948-4), PD-9-GWP-70-071019-DUP (400-172948-5), PD-9-GWP-80-071019 (400-172948-6), PD-9-GWP-80-071019-EB (400-172948-7), PD-2-SB-071019-EB (400-172948-8) and PD-11-GWP-35-071019 (400-172948-9). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: Sample PD-9-GWP-70-071019-DUP (400-172948-5) is logged in as a duplicate of sample PD-9-GWP-70-071019 (400-172948-4) . The samples were analyzed at different dilutions and the screening data agrees with the analytical data.

Method(s) 8260B: Sample PD-2-SB-071019-EB (400-172948-8) contains 2-Butanone (MEK) above the method detection limit (MDL) and Benzene above the reporting limit (RL). Reanalysis was performed with concurring results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-447763/1-A). These results have been reported and qualified.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Job ID: 400-172948-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D LL: Surrogate recovery for the following sample was outside control limits: PD-9-GWP-54-071019 (400-172948-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The following sample was diluted due to the nature of the sample matrix: PD-9-GWP-54-071019 (400-172948-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene and Fluorene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448515 recovered above the upper control limit for 4-Chloro-3-methylphenol, 4-Bromophenyl phenyl ether, Aniline and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448515 recovered above the upper control limit for Indene and Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448515 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: PD-9-GWP-54-071019 (400-172948-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-9-GWP-54-071019 (400-172948-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered above the upper control limit for 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447763 and analytical batch 400-448576 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-447763/1-A). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS and LCSD associated with preparation batch 400-447763 and analytical batch 400-448576: 2,4-Dinitrophenol, Indene and Benzoic acid. This is not indicative of a systematic control

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Job ID: 400-172948-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-447763 and analytical batch 400-448576 recovered outside control limits for the following analytes: Aniline, Indene and Benzoic acid.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172948-1	TB-PW-071019-B	Water	07/10/19 00:00	07/11/19 09:39	
400-172948-2	PD-9-GWP-54-071019	Water	07/10/19 09:05	07/11/19 09:39	
400-172948-3	PD-9-GWP-60-071019	Water	07/10/19 10:05	07/11/19 09:39	
400-172948-4	PD-9-GWP-70-071019	Water	07/10/19 11:05	07/11/19 09:39	
400-172948-5	PD-9-GWP-70-071019-DUP	Water	07/10/19 11:05	07/11/19 09:39	
400-172948-6	PD-9-GWP-80-071019	Water	07/10/19 12:10	07/11/19 09:39	
400-172948-7	PD-9-GWP-80-071019-EB	Water	07/10/19 12:40	07/11/19 09:39	
400-172948-8	PD-2-SB-071019-EB	Water	07/10/19 13:35	07/11/19 09:39	
400-172948-9	PD-11-GWP-35-071019	Water	07/10/19 16:08	07/11/19 09:39	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: TB-PW-071019-B

Lab Sample ID: 400-172948-1

No Detections.

Client Sample ID: PD-9-GWP-54-071019

Lab Sample ID: 400-172948-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	20000		100	38	ug/L	100		8260B	Total/NA
Ethylbenzene	3500		100	50	ug/L	100		8260B	Total/NA
Isopropylbenzene	110		100	53	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	7200		500	160	ug/L	100		8260B	Total/NA
Naphthalene	240		100	100	ug/L	100		8260B	Total/NA
N-Propylbenzene	270		100	69	ug/L	100		8260B	Total/NA
o-Xylene	2200		500	60	ug/L	100		8260B	Total/NA
Toluene	2200		100	41	ug/L	100		8260B	Total/NA
1,2,4-Trimethylbenzene	1700		100	82	ug/L	100		8260B	Total/NA
1,3,5-Trimethylbenzene	480		100	56	ug/L	100		8260B	Total/NA
Xylenes, Total	9500		1000	160	ug/L	100		8260B	Total/NA
Benzo[a]anthracene	0.14	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.11	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Phenanthrene	4.7		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.53		0.19	0.019	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL2	240		9.7	0.97	ug/L	50		8270D LL	Total/NA
2-Methylnaphthalene - DL2	520		9.7	0.97	ug/L	50		8270D LL	Total/NA

Client Sample ID: PD-9-GWP-60-071019

Lab Sample ID: 400-172948-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	890		5.0	1.9	ug/L	5		8260B	Total/NA
Ethylbenzene	9.6		5.0	2.5	ug/L	5		8260B	Total/NA
m-Xylene & p-Xylene	21	J	25	8.0	ug/L	5		8260B	Total/NA
o-Xylene	7.6	J	25	3.0	ug/L	5		8260B	Total/NA
Toluene	11		5.0	2.1	ug/L	5		8260B	Total/NA
1,2,4-Trimethylbenzene	11		5.0	4.1	ug/L	5		8260B	Total/NA
1,3,5-Trimethylbenzene	3.5	J	5.0	2.8	ug/L	5		8260B	Total/NA
Xylenes, Total	28	J	50	8.0	ug/L	5		8260B	Total/NA
1-Methylnaphthalene	0.56		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.0		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol	13		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-70-071019

Lab Sample ID: 400-172948-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3100	J	20	7.6	ug/L	20		8260B	Total/NA
Ethylbenzene	98		20	10	ug/L	20		8260B	Total/NA
m-Xylene & p-Xylene	190		100	32	ug/L	20		8260B	Total/NA
N-Propylbenzene	18	J	20	14	ug/L	20		8260B	Total/NA
o-Xylene	77	J	100	12	ug/L	20		8260B	Total/NA
Toluene	68		20	8.2	ug/L	20		8260B	Total/NA
1,2,4-Trimethylbenzene	88		20	16	ug/L	20		8260B	Total/NA
1,3,5-Trimethylbenzene	26		20	11	ug/L	20		8260B	Total/NA
Xylenes, Total	270		200	32	ug/L	20		8260B	Total/NA
1-Methylnaphthalene	4.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	8.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.091	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	5.9	J	10	5.0	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019 (Continued) — Lab Sample ID: 400-172948-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	36		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-70-071019-DUP — Lab Sample ID: 400-172948-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13000	J	100	38	ug/L	100		8260B	Total/NA
Ethylbenzene	130		100	50	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	240	J	500	160	ug/L	100		8260B	Total/NA
o-Xylene	90	J	500	60	ug/L	100		8260B	Total/NA
Toluene	100		100	41	ug/L	100		8260B	Total/NA
1,2,4-Trimethylbenzene	94	J	100	82	ug/L	100		8260B	Total/NA
Xylenes, Total	330	J	1000	160	ug/L	100		8260B	Total/NA
1-Methylnaphthalene	2.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	4.6		0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.5	J	10	5.1	ug/L	1		8270D	Total/NA
Phenol	65		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-80-071019 — Lab Sample ID: 400-172948-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	25		1.0	0.38	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	0.063	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-9-GWP-80-071019-EB — Lab Sample ID: 400-172948-7

No Detections.

Client Sample ID: PD-2-SB-071019-EB — Lab Sample ID: 400-172948-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	9.5	J	25	2.6	ug/L	1		8260B	Total/NA

Client Sample ID: PD-11-GWP-35-071019 — Lab Sample ID: 400-172948-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	18		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	1.8		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	31		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	3.6	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.0		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	5.5		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	1.8	J	5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	10		1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	8.0		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	0.93	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.83	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	5.4	J	10	1.6	ug/L	1		8260B	Total/NA
Acenaphthene	8.2		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	3.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	2.3		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	2.7		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	1.1		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.56		0.20	0.041	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019 (Continued)

Lab Sample ID: 400-172948-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	4.7		0.20	0.041	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.40		0.20	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	1.3		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	9.7		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.31		0.20	0.041	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	18		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.95		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.65		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	9.4		0.20	0.020	ug/L	1		8270D LL	Total/NA
Dibenzofuran	3.7	J	10	0.53	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: TB-PW-071019-B

Date Collected: 07/10/19 00:00
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 13:44	1
Acrolein	ND		20	10	ug/L			07/13/19 13:44	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 13:44	1
Benzene	ND		1.0	0.38	ug/L			07/13/19 13:44	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 13:44	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 13:44	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 13:44	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 13:44	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 13:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 13:44	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 13:44	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 13:44	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 13:44	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 13:44	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 13:44	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 13:44	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 13:44	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 13:44	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 13:44	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 13:44	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 13:44	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 13:44	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 13:44	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 13:44	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 13:44	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 13:44	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 13:44	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 13:44	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 13:44	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 13:44	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 13:44	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 13:44	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 13:44	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 13:44	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: TB-PW-071019-B

Date Collected: 07/10/19 00:00
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 13:44	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 13:44	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 13:44	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 13:44	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 13:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 13:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 13:44	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 13:44	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 13:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 13:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 13:44	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 13:44	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 13:44	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 13:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 13:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 13:44	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 13:44	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 13:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 13:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 13:44*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*07/13/19 13:44*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 13:44*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		2500	1000	ug/L			07/13/19 17:48	100
Acrolein	ND		2000	1000	ug/L			07/13/19 17:48	100
Acrylonitrile	ND		1000	280	ug/L			07/13/19 17:48	100
Benzene	**20000**		100	38	ug/L			07/13/19 17:48	100
Bromobenzene	ND		100	54	ug/L			07/13/19 17:48	100
Bromochloromethane	ND		100	52	ug/L			07/13/19 17:48	100
Bromodichloromethane	ND		100	50	ug/L			07/13/19 17:48	100
Bromoform	ND		500	71	ug/L			07/13/19 17:48	100
Bromomethane	ND	*	100	98	ug/L			07/13/19 17:48	100
2-Butanone (MEK)	ND		2500	260	ug/L			07/13/19 17:48	100
Carbon disulfide	ND		100	50	ug/L			07/13/19 17:48	100
Carbon tetrachloride	ND		100	50	ug/L			07/13/19 17:48	100
Chlorobenzene	ND		100	50	ug/L			07/13/19 17:48	100
Chloroethane	ND		100	76	ug/L			07/13/19 17:48	100
2-Chloroethyl vinyl ether	ND	*	500	200	ug/L			07/13/19 17:48	100
Chloroform	ND		100	60	ug/L			07/13/19 17:48	100
1-Chlorohexane	ND	*	100	70	ug/L			07/13/19 17:48	100
Chloromethane	ND		100	83	ug/L			07/13/19 17:48	100
cis-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
cis-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 17:48	100
Dibromochloromethane	ND		100	50	ug/L			07/13/19 17:48	100
1,2-Dibromo-3-Chloropropane	ND		500	150	ug/L			07/13/19 17:48	100
1,2-Dichlorobenzene	ND		100	50	ug/L			07/13/19 17:48	100
1,3-Dichlorobenzene	ND		100	54	ug/L			07/13/19 17:48	100
1,4-Dichlorobenzene	ND		100	64	ug/L			07/13/19 17:48	100
Dichlorodifluoromethane	ND		100	85	ug/L			07/13/19 17:48	100
1,1-Dichloroethane	ND		100	50	ug/L			07/13/19 17:48	100
1,2-Dichloroethane	ND	*	100	50	ug/L			07/13/19 17:48	100
1,1-Dichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
1,2-Dichloropropane	ND		100	50	ug/L			07/13/19 17:48	100
1,3-Dichloropropane	ND		100	50	ug/L			07/13/19 17:48	100
2,2-Dichloropropane	ND		100	50	ug/L			07/13/19 17:48	100
1,1-Dichloropropene	ND		100	50	ug/L			07/13/19 17:48	100
Ethylbenzene	**3500**		100	50	ug/L			07/13/19 17:48	100
Ethylene Dibromide	ND		100	50	ug/L			07/13/19 17:48	100
Ethyl methacrylate	ND		100	60	ug/L			07/13/19 17:48	100
Hexachlorobutadiene	ND		500	90	ug/L			07/13/19 17:48	100
2-Hexanone	ND		2500	310	ug/L			07/13/19 17:48	100
Isopropylbenzene	**110**		100	53	ug/L			07/13/19 17:48	100
Methylene bromide	ND		500	59	ug/L			07/13/19 17:48	100
Methylene Chloride	ND		500	300	ug/L			07/13/19 17:48	100
4-Methyl-2-pentanone (MIBK)	ND		2500	180	ug/L			07/13/19 17:48	100
Methyl tert-butyl ether	ND		100	74	ug/L			07/13/19 17:48	100
m-Xylene & p-Xylene	**7200**		500	160	ug/L			07/13/19 17:48	100
Naphthalene	**240**		100	100	ug/L			07/13/19 17:48	100
n-Butylbenzene	ND		100	76	ug/L			07/13/19 17:48	100
N-Propylbenzene	**270**		100	69	ug/L			07/13/19 17:48	100
o-Chlorotoluene	ND		100	57	ug/L			07/13/19 17:48	100
o-Xylene	**2200**		500	60	ug/L			07/13/19 17:48	100

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		100	56	ug/L			07/13/19 17:48	100
p-Isopropyltoluene	ND		100	71	ug/L			07/13/19 17:48	100
sec-Butylbenzene	ND		100	70	ug/L			07/13/19 17:48	100
Styrene	ND		100	100	ug/L			07/13/19 17:48	100
tert-Butylbenzene	ND		100	63	ug/L			07/13/19 17:48	100
1,1,1,2-Tetrachloroethane	ND		100	52	ug/L			07/13/19 17:48	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/L			07/13/19 17:48	100
Tetrachloroethene	ND		100	58	ug/L			07/13/19 17:48	100
Toluene	**2200**		100	41	ug/L			07/13/19 17:48	100
trans-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
trans-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 17:48	100
1,2,3-Trichlorobenzene	ND		100	70	ug/L			07/13/19 17:48	100
1,2,4-Trichlorobenzene	ND		100	82	ug/L			07/13/19 17:48	100
1,1,1-Trichloroethane	ND		100	50	ug/L			07/13/19 17:48	100
1,1,2-Trichloroethane	ND		500	50	ug/L			07/13/19 17:48	100
Trichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
Trichlorofluoromethane	ND	*	100	52	ug/L			07/13/19 17:48	100
1,2,3-Trichloropropane	ND		500	84	ug/L			07/13/19 17:48	100
1,2,4-Trimethylbenzene	**1700**		100	82	ug/L			07/13/19 17:48	100
1,3,5-Trimethylbenzene	**480**		100	56	ug/L			07/13/19 17:48	100
Vinyl acetate	ND		2500	200	ug/L			07/13/19 17:48	100
Vinyl chloride	ND		100	50	ug/L			07/13/19 17:48	100
Xylenes, Total	**9500**		1000	160	ug/L			07/13/19 17:48	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*3000*	*T J N*	*ug/L*		*1.78*	*78-78-4*		*07/13/19 17:48*	*100*
Pentane	*3900*	*T J N*	*ug/L*		*1.94*	*109-66-0*		*07/13/19 17:48*	*100*
2-Methyl-1-butene	*1000*	*T J N*	*ug/L*		*2.02*	*563-46-2*		*07/13/19 17:48*	*100*
Cyclopropane, 1,2-dimethyl-, cis-	*3200*	*T J N*	*ug/L*		*2.12*	*930-18-7*		*07/13/19 17:48*	*100*
Pentane, 3-methyl-	*920*	*T J N*	*ug/L*		*2.63*	*96-14-0*		*07/13/19 17:48*	*100*
Hexane	*1400*		*ug/L*		*2.79*	*110-54-3*		*07/13/19 17:48*	*100*
2-Butene, 2,3-dimethyl-	*630*	*T J N*	*ug/L*		*2.91*	*563-79-1*		*07/13/19 17:48*	*100*
Cyclohexane	*2800*	*T J N*	*ug/L*		*3.16*	*110-82-7*		*07/13/19 17:48*	*100*
Cyclopentene, 1-methyl-	*990*	*T J N*	*ug/L*		*3.44*	*693-89-0*		*07/13/19 17:48*	*100*
Cyclohexane	*1500*		*ug/L*		*3.57*	*110-82-7*		*07/13/19 17:48*	*100*
n-Heptane	*310*		*ug/L*		*3.89*	*142-82-5*		*07/13/19 17:48*	*100*
Methylcyclohexane	*490*		*ug/L*		*4.28*	*108-87-2*		*07/13/19 17:48*	*100*
3-Ethyltoluene	*1300*		*ug/L*		*7.16*	*620-14-4*		*07/13/19 17:48*	*100*
2-Ethyltoluene	*390*		*ug/L*		*7.39*	*611-14-3*		*07/13/19 17:48*	*100*
1,2,3-Trimethylbenzene	*490*	*J*	*ug/L*		*7.88*	*526-73-8*		*07/13/19 17:48*	*100*
1,3-Diethylbenzene	*160*	*J*	*ug/L*		*8.05*	*141-93-5*		*07/13/19 17:48*	*100*
p-Diethylbenzene	*110*	*J*	*ug/L*		*8.09*	*105-05-5*		*07/13/19 17:48*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 17:48*	*100*
Dibromofluoromethane	*110*		*81 - 121*		*07/13/19 17:48*	*100*
Toluene-d8 (Surr)	*108*		*80 - 120*		*07/13/19 17:48*	*100*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.97	0.097	ug/L		07/12/19 14:17	07/29/19 14:37	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/12/19 14:17	07/29/19 14:37	5
Anthracene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[a]anthracene	**0.14**	**J**	0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Chrysene	**0.11**	**J**	0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Fluoranthene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1
Fluorene	ND		0.97	0.10	ug/L		07/12/19 14:17	07/29/19 14:37	5
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Phenanthrene	**4.7**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1
Pyrene	**0.53**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*15 - 122*	*07/12/19 14:17*	*07/29/19 14:37*	*5*
Terphenyl-d14	*79*		*33 - 138*	*07/12/19 14:17*	*07/18/19 13:42*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**240**		9.7	0.97	ug/L		07/12/19 14:17	07/29/19 16:45	50
2-Methylnaphthalene	**520**		9.7	0.97	ug/L		07/12/19 14:17	07/29/19 16:45	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*219*	*X*	*19 - 130*	*07/12/19 14:17*	*07/29/19 16:45*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	49	18	ug/L		07/12/19 14:17	07/19/19 22:06	5
Benzenethiol	ND		49	8.3	ug/L		07/12/19 14:17	07/19/19 22:06	5
Benzoic acid	ND	*	150	36	ug/L		07/12/19 14:17	07/19/19 22:06	5
Benzyl alcohol	ND		49	9.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
Bis(2-chloroethoxy)methane	ND		49	3.4	ug/L		07/12/19 14:17	07/19/19 22:06	5
Bis(2-chloroethyl)ether	ND		49	3.6	ug/L		07/12/19 14:17	07/19/19 22:06	5
bis (2-chloroisopropyl) ether	ND		49	3.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Bis(2-ethylhexyl) phthalate	ND		49	24	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Bromophenyl phenyl ether	ND		49	1.6	ug/L		07/12/19 14:17	07/19/19 22:06	5
Butyl benzyl phthalate	ND		49	3.4	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Chloroaniline	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Chloro-3-methylphenol	ND		49	18	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Chloronaphthalene	ND		49	2.5	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Chlorophenol	ND		49	11	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Chlorophenyl phenyl ether	ND		49	9.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
Dibenz[a,h]acridine	ND		49	15	ug/L		07/12/19 14:17	07/19/19 22:06	5
Dibenzofuran	ND		49	2.5	ug/L		07/12/19 14:17	07/19/19 22:06	5
3,3'-Dichlorobenzidine	ND		49	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4-Dichlorophenol	ND		49	15	ug/L		07/12/19 14:17	07/19/19 22:06	5
Diethyl phthalate	ND		49	3.4	ug/L		07/12/19 14:17	07/19/19 22:06	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
Dimethyl phthalate	ND		49	2.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Di-n-butyl phthalate	ND		49	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
4,6-Dinitro-ortho-cresol	ND		49	9.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4-Dinitrophenol	ND	*	150	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4-Dinitrotoluene	ND		49	9.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,6-Dinitrotoluene	ND		49	9.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
Di-n-octyl phthalate	ND		49	2.1	ug/L		07/12/19 14:17	07/19/19 22:06	5
1,4-Dioxane	ND		49	4.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		49	4.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Hexachlorobenzene	ND		49	1.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
Hexachlorocyclopentadiene	ND		97	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
Hexachloroethane	ND		49	20	ug/L		07/12/19 14:17	07/19/19 22:06	5
Indene	ND	*	49	4.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Isophorone	ND		49	2.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Methylphenol	ND		49	8.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
3 & 4 Methylphenol	ND		97	5.1	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Nitroaniline	ND		49	11	ug/L		07/12/19 14:17	07/19/19 22:06	5
3-Nitroaniline	ND		49	8.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Nitroaniline	ND		49	12	ug/L		07/12/19 14:17	07/19/19 22:06	5
Nitrobenzene	ND		49	2.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Nitrophenol	ND		49	3.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Nitrophenol	ND	*	49	10	ug/L		07/12/19 14:17	07/19/19 22:06	5
N-Nitrosodimethylamine	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
N-Nitrosodi-n-propylamine	ND		49	16	ug/L		07/12/19 14:17	07/19/19 22:06	5
N-Nitrosodiphenylamine	ND		49	2.3	ug/L		07/12/19 14:17	07/19/19 22:06	5
Pentachlorophenol	ND		97	8.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
Phenol	ND		49	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
Pyridine	ND		49	16	ug/L		07/12/19 14:17	07/19/19 22:06	5
Quinoline	ND		49	29	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4,5-Trichlorophenol	ND		49	18	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4,6-Trichlorophenol	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Heptane, 2-methyl-	*950*	*T J N*	*ug/L*		*3.66*	*592-27-8*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Toluene	*2000*	*T J N*	*ug/L*		*3.71*	*108-88-3*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*1100*	*T J*	*ug/L*		*3.74*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Octane	*2000*	*T J N*	*ug/L*		*3.99*	*111-65-9*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*700*	*T J*	*ug/L*		*4.22*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*790*	*T J*	*ug/L*		*4.28*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,3-dimethyl-	*3400*	*T J N*	*ug/L*		*4.58*	*108-38-3*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
p-Xylene	*2800*	*T J N*	*ug/L*		*4.74*	*106-42-3*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*700*	*T J*	*ug/L*		*4.85*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*1300*	*T J*	*ug/L*		*4.93*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*1100*	*T J*	*ug/L*		*4.99*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,2,3-trimethyl-	*1800*	*T J N*	*ug/L*		*5.26*	*526-73-8*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Indane	*1700*	*T J N*	*ug/L*		*5.59*	*496-11-7*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,4-diethyl-	*880*	*T J N*	*ug/L*		*5.61*	*105-05-5*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1-methyl-3-propyl-	*1200*	*T J N*	*ug/L*		*5.62*	*1074-43-7*	*07/12/19 14:17*	*07/19/19 22:06*	*5*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-ethyl-3,5-dimethyl-	2300	T J N	ug/L		5.66	934-74-7	07/12/19 14:17	07/19/19 22:06	5
Benzene, 1-methyl-2-(1-methylethyl)-	1100	T J N	ug/L		5.76	527-84-4	07/12/19 14:17	07/19/19 22:06	5
Benzene, 2-ethyl-1,4-dimethyl-	1800	T J N	ug/L		5.80	1758-88-9	07/12/19 14:17	07/19/19 22:06	5
Indan, 1-methyl-	1100	T J N	ug/L		5.83	767-58-8	07/12/19 14:17	07/19/19 22:06	5
Benzene, 4-ethyl-1,2-dimethyl-	990	T J N	ug/L		5.89	934-80-5	07/12/19 14:17	07/19/19 22:06	5
Benzene, 1,2,4,5-tetramethyl-	1400	T J N	ug/L		5.95	95-93-2	07/12/19 14:17	07/19/19 22:06	5
Unknown	930	T J	ug/L		6.02		07/12/19 14:17	07/19/19 22:06	5
Unknown	760	T J	ug/L		6.04		07/12/19 14:17	07/19/19 22:06	5
Benzene, 1-ethenyl-4-ethyl-	920	T J N	ug/L		6.07	3454-07-7	07/12/19 14:17	07/19/19 22:06	5
Unknown	960	T J	ug/L		6.15		07/12/19 14:17	07/19/19 22:06	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	121	X	34 - 120	07/12/19 14:17	07/19/19 22:06	5
2-Fluorophenol	53		10 - 120	07/12/19 14:17	07/19/19 22:06	5
Nitrobenzene-d5	0	X	27 - 120	07/12/19 14:17	07/19/19 22:06	5
Phenol-d5	276	X	10 - 120	07/12/19 14:17	07/19/19 22:06	5
Terphenyl-d14	107		53 - 125	07/12/19 14:17	07/19/19 22:06	5
2,4,6-Tribromophenol	208	X	15 - 135	07/12/19 14:17	07/19/19 22:06	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			07/14/19 11:49	5
Acrolein	ND		100	50	ug/L			07/14/19 11:49	5
Acrylonitrile	ND	*	50	14	ug/L			07/14/19 11:49	5
Benzene	**890**		5.0	1.9	ug/L			07/14/19 11:49	5
Bromobenzene	ND		5.0	2.7	ug/L			07/14/19 11:49	5
Bromochloromethane	ND		5.0	2.6	ug/L			07/14/19 11:49	5
Bromodichloromethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Bromoform	ND		25	3.6	ug/L			07/14/19 11:49	5
Bromomethane	ND		5.0	4.9	ug/L			07/14/19 11:49	5
2-Butanone (MEK)	ND		130	13	ug/L			07/14/19 11:49	5
Carbon disulfide	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Carbon tetrachloride	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Chlorobenzene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Chloroethane	ND		5.0	3.8	ug/L			07/14/19 11:49	5
2-Chloroethyl vinyl ether	ND	*	25	10	ug/L			07/14/19 11:49	5
Chloroform	ND		5.0	3.0	ug/L			07/14/19 11:49	5
1-Chlorohexane	ND	*	5.0	3.5	ug/L			07/14/19 11:49	5
Chloromethane	ND		5.0	4.2	ug/L			07/14/19 11:49	5
cis-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			07/14/19 11:49	5
Dibromochloromethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,2-Dibromo-3-Chloropropane	ND		25	7.5	ug/L			07/14/19 11:49	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			07/14/19 11:49	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			07/14/19 11:49	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			07/14/19 11:49	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,2-Dichloroethane	ND	*	5.0	2.5	ug/L			07/14/19 11:49	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Ethylbenzene	**9.6**		5.0	2.5	ug/L			07/14/19 11:49	5
Ethylene Dibromide	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			07/14/19 11:49	5
Hexachlorobutadiene	ND		25	4.5	ug/L			07/14/19 11:49	5
2-Hexanone	ND		130	16	ug/L			07/14/19 11:49	5
Isopropylbenzene	ND		5.0	2.7	ug/L			07/14/19 11:49	5
Methylene bromide	ND		25	3.0	ug/L			07/14/19 11:49	5
Methylene Chloride	ND		25	15	ug/L			07/14/19 11:49	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			07/14/19 11:49	5
Methyl tert-butyl ether	ND		5.0	3.7	ug/L			07/14/19 11:49	5
m-Xylene & p-Xylene	**21**	**J**	25	8.0	ug/L			07/14/19 11:49	5
Naphthalene	ND		5.0	5.0	ug/L			07/14/19 11:49	5
n-Butylbenzene	ND		5.0	3.8	ug/L			07/14/19 11:49	5
N-Propylbenzene	ND		5.0	3.5	ug/L			07/14/19 11:49	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			07/14/19 11:49	5
o-Xylene	**7.6**	**J**	25	3.0	ug/L			07/14/19 11:49	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5.0	2.8	ug/L			07/14/19 11:49	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			07/14/19 11:49	5
sec-Butylbenzene	ND		5.0	3.5	ug/L			07/14/19 11:49	5
Styrene	ND		5.0	5.0	ug/L			07/14/19 11:49	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			07/14/19 11:49	5
1,1,1,2-Tetrachloroethane	ND		5.0	2.6	ug/L			07/14/19 11:49	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Tetrachloroethene	ND		5.0	2.9	ug/L			07/14/19 11:49	5
Toluene	**11**		5.0	2.1	ug/L			07/14/19 11:49	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
trans-1,3-Dichloropropene	ND		25	2.5	ug/L			07/14/19 11:49	5
1,2,3-Trichlorobenzene	ND		5.0	3.5	ug/L			07/14/19 11:49	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			07/14/19 11:49	5
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,1,2-Trichloroethane	ND		25	2.5	ug/L			07/14/19 11:49	5
Trichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			07/14/19 11:49	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			07/14/19 11:49	5
1,2,4-Trimethylbenzene	**11**		5.0	4.1	ug/L			07/14/19 11:49	5
1,3,5-Trimethylbenzene	**3.5**	**J**	5.0	2.8	ug/L			07/14/19 11:49	5
Vinyl acetate	ND		130	10	ug/L			07/14/19 11:49	5
Vinyl chloride	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Xylenes, Total	**28**	**J**	50	8.0	ug/L			07/14/19 11:49	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*220*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 11:49*	*5*
Hexane	*6.9*		*ug/L*		*2.79*	*110-54-3*		*07/14/19 11:49*	*5*
Cyclohexane	*5.7*		*ug/L*		*3.57*	*110-82-7*		*07/14/19 11:49*	*5*
Methylcyclohexane	*4.0*	*J*	*ug/L*		*4.28*	*108-87-2*		*07/14/19 11:49*	*5*
3-Ethyltoluene	*6.2*		*ug/L*		*7.16*	*620-14-4*		*07/14/19 11:49*	*5*
1-Methylnaphthalene	*25*		*ug/L*		*11.07*	*90-12-0*		*07/14/19 11:49*	*5*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 11:49*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*07/14/19 11:49*	*5*
Dibromofluoromethane	*115*		*81 - 121*		*07/14/19 11:49*	*5*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 11:49*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Anthracene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Chrysene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Fluorene	ND		0.19	0.020	ug/L		07/12/19 14:17	07/18/19 13:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
1-Methylnaphthalene	**0.56**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
2-Methylnaphthalene	**1.0**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Pyrene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*15 - 122*	*07/12/19 14:17*	*07/18/19 13:59*	*1*
Nitrobenzene-d5	*84*		*19 - 130*	*07/12/19 14:17*	*07/18/19 13:59*	*1*
Terphenyl-d14	*100*		*33 - 138*	*07/12/19 14:17*	*07/18/19 13:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.7	3.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
Benzoic acid	ND	*	29	7.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/12/19 14:17	07/18/19 19:55	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/12/19 14:17	07/18/19 19:55	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/12/19 14:17	07/18/19 19:55	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/12/19 14:17	07/18/19 19:55	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/12/19 14:17	07/18/19 19:55	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/12/19 14:17	07/18/19 19:55	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/12/19 14:17	07/18/19 19:55	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/12/19 14:17	07/18/19 19:55	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dinitrophenol	ND	*	29	3.3	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/12/19 14:17	07/18/19 19:55	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/12/19 14:17	07/18/19 19:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/12/19 14:17	07/18/19 19:55	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/12/19 14:17	07/18/19 19:55	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/12/19 14:17	07/18/19 19:55	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
Indene	ND	*	9.7	0.97	ug/L		07/12/19 14:17	07/18/19 19:55	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.7	0.55	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/12/19 14:17	07/18/19 19:55	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Nitrophenol	ND	*	9.7	2.0	ug/L		07/12/19 14:17	07/18/19 19:55	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/12/19 14:17	07/18/19 19:55	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/12/19 14:17	07/18/19 19:55	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/12/19 14:17	07/18/19 19:55	1
Pentachlorophenol	ND		19	1.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
Phenol	**13**		9.7	2.5	ug/L		07/12/19 14:17	07/18/19 19:55	1
Pyridine	ND		9.7	3.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
Quinoline	ND		9.7	5.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/12/19 14:17	07/18/19 19:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*3.9*	*T J N*	*ug/L*		*3.89*	*108-88-3*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Ethylbenzene	*7.6*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
o-Xylene	*7.4*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Benzene, 1-ethyl-2-methyl-	*5.7*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Benzene, 1,2,3-trimethyl-	*15*	*T J N*	*ug/L*		*5.47*	*526-73-8*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Benzene, 1,2,3-trimethyl-	*4.1*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
1-Phenyl-1-butene	*5.1*	*T J N*	*ug/L*		*6.24*	*824-90-8*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
n-Hexadecanoic acid	*14*	*T J N*	*ug/L*		*9.09*	*57-10-3*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
3-Eicosene, (E)-	*4.2*	*T J N*	*ug/L*		*10.89*	*74685-33-9*	*07/12/19 14:17*	*07/18/19 19:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
2-Fluorophenol	*64*		*10 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Nitrobenzene-d5	*97*		*27 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Phenol-d5	*85*		*10 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Terphenyl-d14	*85*		*53 - 125*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
2,4,6-Tribromophenol	*109*		*15 - 135*	*07/12/19 14:17*	*07/18/19 19:55*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	200	ug/L			07/13/19 17:22	20
Acrolein	ND		400	200	ug/L			07/13/19 17:22	20
Acrylonitrile	ND		200	56	ug/L			07/13/19 17:22	20
Benzene	**3100**	J	20	7.6	ug/L			07/13/19 17:22	20
Bromobenzene	ND		20	11	ug/L			07/13/19 17:22	20
Bromochloromethane	ND		20	10	ug/L			07/13/19 17:22	20
Bromodichloromethane	ND		20	10	ug/L			07/13/19 17:22	20
Bromoform	ND		100	14	ug/L			07/13/19 17:22	20
Bromomethane	ND	*	20	20	ug/L			07/13/19 17:22	20
2-Butanone (MEK)	ND		500	52	ug/L			07/13/19 17:22	20
Carbon disulfide	ND		20	10	ug/L			07/13/19 17:22	20
Carbon tetrachloride	ND		20	10	ug/L			07/13/19 17:22	20
Chlorobenzene	ND		20	10	ug/L			07/13/19 17:22	20
Chloroethane	ND		20	15	ug/L			07/13/19 17:22	20
2-Chloroethyl vinyl ether	ND	*	100	40	ug/L			07/13/19 17:22	20
Chloroform	ND		20	12	ug/L			07/13/19 17:22	20
1-Chlorohexane	ND	*	20	14	ug/L			07/13/19 17:22	20
Chloromethane	ND		20	17	ug/L			07/13/19 17:22	20
cis-1,2-Dichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
cis-1,3-Dichloropropene	ND		100	10	ug/L			07/13/19 17:22	20
Dibromochloromethane	ND		20	10	ug/L			07/13/19 17:22	20
1,2-Dibromo-3-Chloropropane	ND		100	30	ug/L			07/13/19 17:22	20
1,2-Dichlorobenzene	ND		20	10	ug/L			07/13/19 17:22	20
1,3-Dichlorobenzene	ND		20	11	ug/L			07/13/19 17:22	20
1,4-Dichlorobenzene	ND		20	13	ug/L			07/13/19 17:22	20
Dichlorodifluoromethane	ND		20	17	ug/L			07/13/19 17:22	20
1,1-Dichloroethane	ND		20	10	ug/L			07/13/19 17:22	20
1,2-Dichloroethane	ND	*	20	10	ug/L			07/13/19 17:22	20
1,1-Dichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
1,2-Dichloropropane	ND		20	10	ug/L			07/13/19 17:22	20
1,3-Dichloropropane	ND		20	10	ug/L			07/13/19 17:22	20
2,2-Dichloropropane	ND		20	10	ug/L			07/13/19 17:22	20
1,1-Dichloropropene	ND		20	10	ug/L			07/13/19 17:22	20
Ethylbenzene	**98**		20	10	ug/L			07/13/19 17:22	20
Ethylene Dibromide	ND		20	10	ug/L			07/13/19 17:22	20
Ethyl methacrylate	ND		20	12	ug/L			07/13/19 17:22	20
Hexachlorobutadiene	ND		100	18	ug/L			07/13/19 17:22	20
2-Hexanone	ND		500	62	ug/L			07/13/19 17:22	20
Isopropylbenzene	ND		20	11	ug/L			07/13/19 17:22	20
Methylene bromide	ND		100	12	ug/L			07/13/19 17:22	20
Methylene Chloride	ND		100	60	ug/L			07/13/19 17:22	20
4-Methyl-2-pentanone (MIBK)	ND		500	36	ug/L			07/13/19 17:22	20
Methyl tert-butyl ether	ND		20	15	ug/L			07/13/19 17:22	20
m-Xylene & p-Xylene	**190**		100	32	ug/L			07/13/19 17:22	20
Naphthalene	ND		20	20	ug/L			07/13/19 17:22	20
n-Butylbenzene	ND		20	15	ug/L			07/13/19 17:22	20
N-Propylbenzene	**18**	J	20	14	ug/L			07/13/19 17:22	20
o-Chlorotoluene	ND		20	11	ug/L			07/13/19 17:22	20
o-Xylene	**77**	J	100	12	ug/L			07/13/19 17:22	20

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		20	11	ug/L			07/13/19 17:22	20
p-Isopropyltoluene	ND		20	14	ug/L			07/13/19 17:22	20
sec-Butylbenzene	ND		20	14	ug/L			07/13/19 17:22	20
Styrene	ND		20	20	ug/L			07/13/19 17:22	20
tert-Butylbenzene	ND		20	13	ug/L			07/13/19 17:22	20
1,1,1,2-Tetrachloroethane	ND		20	10	ug/L			07/13/19 17:22	20
1,1,2,2-Tetrachloroethane	ND		20	10	ug/L			07/13/19 17:22	20
Tetrachloroethene	ND		20	12	ug/L			07/13/19 17:22	20
Toluene	**68**		20	8.2	ug/L			07/13/19 17:22	20
trans-1,2-Dichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
trans-1,3-Dichloropropene	ND		100	10	ug/L			07/13/19 17:22	20
1,2,3-Trichlorobenzene	ND		20	14	ug/L			07/13/19 17:22	20
1,2,4-Trichlorobenzene	ND		20	16	ug/L			07/13/19 17:22	20
1,1,1-Trichloroethane	ND		20	10	ug/L			07/13/19 17:22	20
1,1,2-Trichloroethane	ND		100	10	ug/L			07/13/19 17:22	20
Trichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
Trichlorofluoromethane	ND	*	20	10	ug/L			07/13/19 17:22	20
1,2,3-Trichloropropane	ND		100	17	ug/L			07/13/19 17:22	20
1,2,4-Trimethylbenzene	**88**		20	16	ug/L			07/13/19 17:22	20
1,3,5-Trimethylbenzene	**26**		20	11	ug/L			07/13/19 17:22	20
Vinyl acetate	ND		500	40	ug/L			07/13/19 17:22	20
Vinyl chloride	ND		20	10	ug/L			07/13/19 17:22	20
Xylenes, Total	**270**		200	32	ug/L			07/13/19 17:22	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*120*	*T J N*	*ug/L*		*1.94*	*109-66-0*		*07/13/19 17:22*	*20*
Hexane	*94*		*ug/L*		*2.79*	*110-54-3*		*07/13/19 17:22*	*20*
Cyclopentane, methyl-	*120*	*T J N*	*ug/L*		*3.16*	*96-37-7*		*07/13/19 17:22*	*20*
Cyclohexane	*67*		*ug/L*		*3.56*	*110-82-7*		*07/13/19 17:22*	*20*
Methylcyclohexane	*55*		*ug/L*		*4.28*	*108-87-2*		*07/13/19 17:22*	*20*
3-Ethyltoluene	*75*		*ug/L*		*7.16*	*620-14-4*		*07/13/19 17:22*	*20*
2-Ethyltoluene	*21*		*ug/L*		*7.39*	*611-14-3*		*07/13/19 17:22*	*20*
1,2,3-Trimethylbenzene	*24*	*J*	*ug/L*		*7.87*	*526-73-8*		*07/13/19 17:22*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*07/13/19 17:22*	*20*
Dibromofluoromethane	*116*		*81 - 121*		*07/13/19 17:22*	*20*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/13/19 17:22*	*20*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 14:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
1-Methylnaphthalene	**4.8**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
2-Methylnaphthalene	**8.8**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Phenanthrene	**0.091**	**J**	0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*15 - 122*	*07/12/19 14:17*	*07/18/19 14:16*	*1*
Nitrobenzene-d5	*94*		*19 - 130*	*07/12/19 14:17*	*07/18/19 14:16*	*1*
Terphenyl-d14	*92*		*33 - 138*	*07/12/19 14:17*	*07/18/19 14:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/12/19 14:17	07/18/19 20:16	1
Benzoic acid	ND	*	30	7.3	ug/L		07/12/19 14:17	07/18/19 20:16	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:16	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/12/19 14:17	07/18/19 20:16	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/12/19 14:17	07/18/19 20:16	1
Bis(2-ethylhexyl) phthalate	**5.9**	**J**	10	5.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 20:16	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:16	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:16	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 20:16	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 20:16	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dinitrophenol	ND	*	30	3.4	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:16	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 20:16	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 20:16	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 20:16	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 20:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND	*	10	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:16	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 20:16	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 20:16	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:16	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 20:16	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 20:16	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
Phenol	**36**		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:16	1
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 20:16	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	26	T J N	ug/L		3.88	108-88-3	07/12/19 14:17	07/18/19 20:16	1
Unknown	29	T J	ug/L		4.48		07/12/19 14:17	07/18/19 20:16	1
Ethylbenzene	55	T J N	ug/L		4.65	100-41-4	07/12/19 14:17	07/18/19 20:16	1
Unknown	9.1	T J	ug/L		5.09		07/12/19 14:17	07/18/19 20:16	1
Benzene, propyl-	16	T J N	ug/L		5.25	103-65-1	07/12/19 14:17	07/18/19 20:16	1
Benzene, 1-ethyl-2-methyl-	34	T J N	ug/L		5.28	611-14-3	07/12/19 14:17	07/18/19 20:16	1
Benzene, 1,3,5-trimethyl-	15	T J N	ug/L		5.30	108-67-8	07/12/19 14:17	07/18/19 20:16	1
Benzene, 1-ethyl-4-methyl-	19	T J N	ug/L		5.39	622-96-8	07/12/19 14:17	07/18/19 20:16	1
n-Decane	7.3	J	ug/L		5.45	124-18-5	07/12/19 14:17	07/18/19 20:16	1
Benzaldehyde	17	*	ug/L		5.47	100-52-7	07/12/19 14:17	07/18/19 20:16	1
Benzene, 1,2,3-trimethyl-	26	T J N	ug/L		5.63	526-73-8	07/12/19 14:17	07/18/19 20:16	1
Indane	15	T J N	ug/L		5.72	496-11-7	07/12/19 14:17	07/18/19 20:16	1
Unknown	6.8	T J	ug/L		5.74		07/12/19 14:17	07/18/19 20:16	1
Benzene, 1-methyl-3-propyl-	13	T J N	ug/L		5.75	1074-43-7	07/12/19 14:17	07/18/19 20:16	1
Benzene, 1-methyl-2-(1-methylethyl)-	9.3	T J N	ug/L		5.89	527-84-4	07/12/19 14:17	07/18/19 20:16	1
Benzene, 1-methyl-4-(1-methylethyl)-	15	T J N	ug/L		5.92	99-87-6	07/12/19 14:17	07/18/19 20:16	1
Unknown	6.3	T J	ug/L		6.02		07/12/19 14:17	07/18/19 20:16	1
Benzene, 1,2,4,5-tetramethyl-	11	T J N	ug/L		6.09	95-93-2	07/12/19 14:17	07/18/19 20:16	1
3-Phenylbut-1-ene	10	T J N	ug/L		6.20	934-10-1	07/12/19 14:17	07/18/19 20:16	1
1-Phenyl-1-butene	19	T J N	ug/L		6.24	824-90-8	07/12/19 14:17	07/18/19 20:16	1
Naphthalene	14		ug/L		6.44	91-20-3	07/12/19 14:17	07/18/19 20:16	1
2-Methylnaphthalene	7.2	J	ug/L		6.89	91-57-6	07/12/19 14:17	07/18/19 20:16	1
4-chloro-2-methylaniline	16		ug/L		6.89	95-69-2	07/12/19 14:17	07/18/19 20:16	1
2,3-Dinitrotoluene	14		ug/L		7.62	602-01-7	07/12/19 14:17	07/18/19 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	75		34 - 120	07/12/19 14:17	07/18/19 20:16	1
2-Fluorophenol	50		10 - 120	07/12/19 14:17	07/18/19 20:16	1
Nitrobenzene-d5	89		27 - 120	07/12/19 14:17	07/18/19 20:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019
Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	79		10 - 120	07/12/19 14:17	07/18/19 20:16	1
Terphenyl-d14	74		53 - 125	07/12/19 14:17	07/18/19 20:16	1
2,4,6-Tribromophenol	104		15 - 135	07/12/19 14:17	07/18/19 20:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		2500	1000	ug/L			07/13/19 18:14	100
Acrolein	ND		2000	1000	ug/L			07/13/19 18:14	100
Acrylonitrile	ND		1000	280	ug/L			07/13/19 18:14	100
Benzene	**13000**	J	100	38	ug/L			07/13/19 18:14	100
Bromobenzene	ND		100	54	ug/L			07/13/19 18:14	100
Bromochloromethane	ND		100	52	ug/L			07/13/19 18:14	100
Bromodichloromethane	ND		100	50	ug/L			07/13/19 18:14	100
Bromoform	ND		500	71	ug/L			07/13/19 18:14	100
Bromomethane	ND	*	100	98	ug/L			07/13/19 18:14	100
2-Butanone (MEK)	ND		2500	260	ug/L			07/13/19 18:14	100
Carbon disulfide	ND		100	50	ug/L			07/13/19 18:14	100
Carbon tetrachloride	ND		100	50	ug/L			07/13/19 18:14	100
Chlorobenzene	ND		100	50	ug/L			07/13/19 18:14	100
Chloroethane	ND		100	76	ug/L			07/13/19 18:14	100
2-Chloroethyl vinyl ether	ND	*	500	200	ug/L			07/13/19 18:14	100
Chloroform	ND		100	60	ug/L			07/13/19 18:14	100
1-Chlorohexane	ND	*	100	70	ug/L			07/13/19 18:14	100
Chloromethane	ND		100	83	ug/L			07/13/19 18:14	100
cis-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
cis-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 18:14	100
Dibromochloromethane	ND		100	50	ug/L			07/13/19 18:14	100
1,2-Dibromo-3-Chloropropane	ND		500	150	ug/L			07/13/19 18:14	100
1,2-Dichlorobenzene	ND		100	50	ug/L			07/13/19 18:14	100
1,3-Dichlorobenzene	ND		100	54	ug/L			07/13/19 18:14	100
1,4-Dichlorobenzene	ND		100	64	ug/L			07/13/19 18:14	100
Dichlorodifluoromethane	ND		100	85	ug/L			07/13/19 18:14	100
1,1-Dichloroethane	ND		100	50	ug/L			07/13/19 18:14	100
1,2-Dichloroethane	ND	*	100	50	ug/L			07/13/19 18:14	100
1,1-Dichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
1,2-Dichloropropane	ND		100	50	ug/L			07/13/19 18:14	100
1,3-Dichloropropane	ND		100	50	ug/L			07/13/19 18:14	100
2,2-Dichloropropane	ND		100	50	ug/L			07/13/19 18:14	100
1,1-Dichloropropene	ND		100	50	ug/L			07/13/19 18:14	100
Ethylbenzene	**130**		100	50	ug/L			07/13/19 18:14	100
Ethylene Dibromide	ND		100	50	ug/L			07/13/19 18:14	100
Ethyl methacrylate	ND		100	60	ug/L			07/13/19 18:14	100
Hexachlorobutadiene	ND		500	90	ug/L			07/13/19 18:14	100
2-Hexanone	ND		2500	310	ug/L			07/13/19 18:14	100
Isopropylbenzene	ND		100	53	ug/L			07/13/19 18:14	100
Methylene bromide	ND		500	59	ug/L			07/13/19 18:14	100
Methylene Chloride	ND		500	300	ug/L			07/13/19 18:14	100
4-Methyl-2-pentanone (MIBK)	ND		2500	180	ug/L			07/13/19 18:14	100
Methyl tert-butyl ether	ND		100	74	ug/L			07/13/19 18:14	100
m-Xylene & p-Xylene	**240**	J	500	160	ug/L			07/13/19 18:14	100
Naphthalene	ND		100	100	ug/L			07/13/19 18:14	100
n-Butylbenzene	ND		100	76	ug/L			07/13/19 18:14	100
N-Propylbenzene	ND		100	69	ug/L			07/13/19 18:14	100
o-Chlorotoluene	ND		100	57	ug/L			07/13/19 18:14	100
o-Xylene	**90**	J	500	60	ug/L			07/13/19 18:14	100

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		100	56	ug/L			07/13/19 18:14	100
p-Isopropyltoluene	ND		100	71	ug/L			07/13/19 18:14	100
sec-Butylbenzene	ND		100	70	ug/L			07/13/19 18:14	100
Styrene	ND		100	100	ug/L			07/13/19 18:14	100
tert-Butylbenzene	ND		100	63	ug/L			07/13/19 18:14	100
1,1,1,2-Tetrachloroethane	ND		100	52	ug/L			07/13/19 18:14	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/L			07/13/19 18:14	100
Tetrachloroethene	ND		100	58	ug/L			07/13/19 18:14	100
Toluene	**100**		100	41	ug/L			07/13/19 18:14	100
trans-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
trans-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 18:14	100
1,2,3-Trichlorobenzene	ND		100	70	ug/L			07/13/19 18:14	100
1,2,4-Trichlorobenzene	ND		100	82	ug/L			07/13/19 18:14	100
1,1,1-Trichloroethane	ND		100	50	ug/L			07/13/19 18:14	100
1,1,2-Trichloroethane	ND		500	50	ug/L			07/13/19 18:14	100
Trichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
Trichlorofluoromethane	ND	*	100	52	ug/L			07/13/19 18:14	100
1,2,3-Trichloropropane	ND		500	84	ug/L			07/13/19 18:14	100
1,2,4-Trimethylbenzene	**94**	**J**	100	82	ug/L			07/13/19 18:14	100
1,3,5-Trimethylbenzene	ND		100	56	ug/L			07/13/19 18:14	100
Vinyl acetate	ND		2500	200	ug/L			07/13/19 18:14	100
Vinyl chloride	ND		100	50	ug/L			07/13/19 18:14	100
Xylenes, Total	**330**	**J**	1000	160	ug/L			07/13/19 18:14	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 18:14*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/13/19 18:14*	*100*
Dibromofluoromethane	*111*		*81 - 121*		*07/13/19 18:14*	*100*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 18:14*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[a]anthracene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[a]pyrene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[b]fluoranthene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Chrysene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 14:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
1-Methylnaphthalene	**2.8**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
2-Methylnaphthalene	**4.6**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*15 - 122*	*07/12/19 14:17*	*07/18/19 14:33*	*1*
Nitrobenzene-d5	*86*		*19 - 130*	*07/12/19 14:17*	*07/18/19 14:33*	*1*
Terphenyl-d14	*100*		*33 - 138*	*07/12/19 14:17*	*07/18/19 14:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/12/19 14:17	07/18/19 20:38	1
Benzoic acid	ND	*	30	7.4	ug/L		07/12/19 14:17	07/18/19 20:38	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:38	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/12/19 14:17	07/18/19 20:38	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/12/19 14:17	07/18/19 20:38	1
Bis(2-ethylhexyl) phthalate	**9.5**	**J**	10	5.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/12/19 14:17	07/18/19 20:38	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Chloroaniline	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Dibenzofuran	ND		10	0.53	ug/L		07/12/19 14:17	07/18/19 20:38	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Diethyl phthalate	ND		10	0.71	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/12/19 14:17	07/18/19 20:38	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 20:38	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dinitrophenol	ND	*	30	3.5	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/12/19 14:17	07/18/19 20:38	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 20:38	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
Hexachloroethane	ND		10	4.3	ug/L		07/12/19 14:17	07/18/19 20:38	1
Indene	ND	*	10	1.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Isophorone	ND		10	0.58	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:38	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 20:38	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.56	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Nitrophenol	ND		10	0.66	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 20:38	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/12/19 14:17	07/18/19 20:38	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
Phenol	**65**		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
Pyridine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 20:38	1
Quinoline	ND		10	6.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 20:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*24*	*T J N*	*ug/L*		*3.89*	*108-88-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2-Butanone, 4-hydroxy-	*27*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Unknown	*67*	*T J*	*ug/L*		*4.48*		*07/12/19 14:17*	*07/18/19 20:38*	*1*
Unknown	*5.9*	*T J*	*ug/L*		*5.09*		*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, propyl-	*12*	*T J N*	*ug/L*		*5.25*	*103-65-1*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-3-methyl-	*29*	*T J N*	*ug/L*		*5.28*	*620-14-4*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-2-methyl-	*20*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-2-methyl-	*15*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1,2,3-trimethyl-	*58*	*T J N*	*ug/L*		*5.47*	*526-73-8*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1,2,3-trimethyl-	*20*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Indane	*12*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-methyl-3-propyl-	*6.7*	*T J N*	*ug/L*		*5.75*	*1074-43-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*18*	*T J N*	*ug/L*		*5.78*	*934-74-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*4.7*	*T J N*	*ug/L*		*5.89*	*535-77-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*8.6*	*T J N*	*ug/L*		*5.92*	*527-84-4*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*4.8*	*T J N*	*ug/L*		*6.02*	*934-80-5*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1,2,4,5-tetramethyl-	*7.1*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethenyl-4-ethyl-	*6.6*	*T J N*	*ug/L*		*6.20*	*3454-07-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Naphthalene	*9.8*	*J*	*ug/L*		*6.44*	*91-20-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Sulfolane	*4.5*	*J **	*ug/L*		*6.45*	*126-33-0*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Caprolactam	*4.4*	*J **	*ug/L*		*6.67*	*105-60-2*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2-Methylnaphthalene	*4.6*	*J*	*ug/L*		*6.89*	*91-57-6*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Unknown	*5.2*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 20:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*34 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Nitrobenzene-d5	*93*		*27 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Phenol-d5	*79*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Terphenyl-d14	*86*		*53 - 125*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2,4,6-Tribromophenol	*122*		*15 - 135*	*07/12/19 14:17*	*07/18/19 20:38*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019

Date Collected: 07/10/19 12:10
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 15:21	1
Acrolein	ND		20	10	ug/L			07/13/19 15:21	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 15:21	1
Benzene	**25**		1.0	0.38	ug/L			07/13/19 15:21	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 15:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 15:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 15:21	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 15:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 15:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 15:21	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 15:21	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 15:21	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 15:21	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 15:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 15:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 15:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 15:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 15:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 15:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 15:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 15:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 15:21	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 15:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 15:21	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 15:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 15:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 15:21	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 15:21	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 15:21	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 15:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 15:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 15:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 15:21	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 15:21	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019
Date Collected: 07/10/19 12:10
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 15:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 15:21	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 15:21	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 15:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 15:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 15:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 15:21	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 15:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 15:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 15:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 15:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 15:21	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 15:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 15:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 15:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 15:21	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 15:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 15:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*120*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 15:21*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 15:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/13/19 15:21*	*1*
Dibromofluoromethane	*114*		*81 - 121*		*07/13/19 15:21*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 15:21*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 14:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
2-Methylnaphthalene	**0.063**	**J**	0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019

Date Collected: 07/10/19 12:10
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*15 - 122*	*07/12/19 14:17*	*07/18/19 14:50*	*1*
Nitrobenzene-d5	*90*		*19 - 130*	*07/12/19 14:17*	*07/18/19 14:50*	*1*
Terphenyl-d14	*119*		*33 - 138*	*07/12/19 14:17*	*07/18/19 14:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
Benzenethiol	ND	*	10	1.7	ug/L		07/12/19 14:17	07/18/19 20:59	1
Benzoic acid	ND	*	30	7.4	ug/L		07/12/19 14:17	07/18/19 20:59	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:59	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/12/19 14:17	07/18/19 20:59	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/12/19 14:17	07/18/19 20:59	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 20:59	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:59	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:59	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 20:59	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 20:59	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dinitrophenol	ND	*	30	3.4	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:59	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 20:59	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 20:59	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 20:59	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
Indene	ND	*	10	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019

Date Collected: 07/10/19 12:10
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 20:59	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 20:59	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:59	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 20:59	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 20:59	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:59	1
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*46*	*T J*	*ug/L*		*4.06*		*07/12/19 14:17*	*07/18/19 20:59*	*1*
Sulfolane	*1.3*	*J **	*ug/L*		*6.45*	*126-33-0*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Phenyl ether	*4.9*	*J*	*ug/L*		*7.11*	*101-84-8*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
2,3-Dinitrotoluene	*14*		*ug/L*		*7.62*	*602-01-7*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Unknown	*5.3*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 20:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
2-Fluorophenol	*62*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Nitrobenzene-d5	*95*		*27 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Phenol-d5	*85*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Terphenyl-d14	*91*		*53 - 125*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
2,4,6-Tribromophenol	*110*		*15 - 135*	*07/12/19 14:17*	*07/18/19 20:59*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Date Collected: 07/10/19 12:40
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 14:57	1
Acrolein	ND		20	10	ug/L			07/13/19 14:57	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 14:57	1
Benzene	ND		1.0	0.38	ug/L			07/13/19 14:57	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 14:57	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 14:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 14:57	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 14:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 14:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 14:57	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 14:57	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 14:57	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 14:57	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 14:57	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:57	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 14:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 14:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 14:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 14:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 14:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 14:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 14:57	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 14:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 14:57	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 14:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 14:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 14:57	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 14:57	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 14:57	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 14:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 14:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 14:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 14:57	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 14:57	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Date Collected: 07/10/19 12:40
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 14:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 14:57	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 14:57	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 14:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 14:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 14:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 14:57	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 14:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 14:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 14:57	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 14:57	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 14:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 14:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 14:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 14:57	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 14:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 14:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*26*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 14:57*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 14:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 14:57*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/13/19 14:57*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/13/19 14:57*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Chrysene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 15:07	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Date Collected: 07/10/19 12:40
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*15 - 122*	*07/12/19 14:17*	*07/18/19 15:07*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/12/19 14:17*	*07/18/19 15:07*	*1*
Terphenyl-d14	*129*		*33 - 138*	*07/12/19 14:17*	*07/18/19 15:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.8	3.7	ug/L		07/12/19 14:17	07/18/19 21:20	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/12/19 14:17	07/18/19 21:20	1
Benzoic acid	ND	*	29	7.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/12/19 14:17	07/18/19 21:20	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/12/19 14:17	07/18/19 21:20	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/12/19 14:17	07/18/19 21:20	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/12/19 14:17	07/18/19 21:20	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/12/19 14:17	07/18/19 21:20	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/12/19 14:17	07/18/19 21:20	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/12/19 14:17	07/18/19 21:20	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/12/19 14:17	07/18/19 21:20	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dinitrophenol	ND	*	29	3.3	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/12/19 14:17	07/18/19 21:20	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/12/19 14:17	07/18/19 21:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/12/19 14:17	07/18/19 21:20	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/12/19 14:17	07/18/19 21:20	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/12/19 14:17	07/18/19 21:20	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/12/19 14:17	07/18/19 21:20	1
Indene	ND	*	9.8	0.98	ug/L		07/12/19 14:17	07/18/19 21:20	1
Isophorone	ND		9.8	0.56	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/12/19 14:17	07/18/19 21:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/12/19 14:17	07/18/19 21:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Date Collected: 07/10/19 12:40
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/12/19 14:17	07/18/19 21:20	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/12/19 14:17	07/18/19 21:20	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/12/19 14:17	07/18/19 21:20	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/12/19 14:17	07/18/19 21:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 21:20	1
Phenol	ND		9.8	2.5	ug/L		07/12/19 14:17	07/18/19 21:20	1
Pyridine	ND		9.8	3.1	ug/L		07/12/19 14:17	07/18/19 21:20	1
Quinoline	ND		9.8	5.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/12/19 14:17	07/18/19 21:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Unknown	*16*	*T J*	*ug/L*		*4.48*		*07/12/19 14:17*	*07/18/19 21:20*	*1*
Benzaldehyde	*1.9*	*J **	*ug/L*		*5.30*	*100-52-7*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
p-Phenylene diamine	*60*	***	*ug/L*		*6.43*	*106-50-3*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Phenyl ether	*4.1*	*J*	*ug/L*		*7.11*	*101-84-8*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
2,3-Dinitrotoluene	*14*		*ug/L*		*7.62*	*602-01-7*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
o-Phenylphenol	*0.56*	*J*	*ug/L*		*7.69*	*90-43-7*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Unknown	*5.7*	*T J*	*ug/L*		*10.20*		*07/12/19 14:17*	*07/18/19 21:20*	*1*
Hexanedioic acid, bis(2-ethylhexyl) ester	*12*	*T J N*	*ug/L*		*10.51*	*103-23-1*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Unknown	*26*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 21:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*34 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
2-Fluorophenol	*48*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Nitrobenzene-d5	*87*		*27 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Phenol-d5	*72*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Terphenyl-d14	*96*		*53 - 125*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
2,4,6-Tribromophenol	*91*		*15 - 135*	*07/12/19 14:17*	*07/18/19 21:20*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 14:32	1
Acrolein	ND		20	10	ug/L			07/13/19 14:32	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 14:32	1
Benzene	**1.8**		1.0	0.38	ug/L			07/13/19 14:32	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 14:32	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 14:32	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 14:32	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 14:32	1
2-Butanone (MEK)	**9.5**	**J**	25	2.6	ug/L			07/13/19 14:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 14:32	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 14:32	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 14:32	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 14:32	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 14:32	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:32	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 14:32	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 14:32	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 14:32	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 14:32	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 14:32	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 14:32	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 14:32	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 14:32	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 14:32	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 14:32	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 14:32	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 14:32	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 14:32	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 14:32	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 14:32	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 14:32	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 14:32	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 14:32	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 14:32	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 14:32	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 14:32	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 14:32	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 14:32	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 14:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 14:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 14:32	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 14:32	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 14:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 14:32	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 14:32	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 14:32	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 14:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 14:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 14:32	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 14:32	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 14:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*83*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 14:32*	*1*
1-Methylnaphthalene	*5.3*		*ug/L*		*11.07*	*90-12-0*		*07/13/19 14:32*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 14:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*78 - 118*		*07/13/19 14:32*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*07/13/19 14:32*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 14:32*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 15:24	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*15 - 122*	*07/12/19 14:17*	*07/18/19 15:24*	*1*
Nitrobenzene-d5	*106*		*19 - 130*	*07/12/19 14:17*	*07/18/19 15:24*	*1*
Terphenyl-d14	*125*		*33 - 138*	*07/12/19 14:17*	*07/18/19 15:24*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/12/19 14:17	07/18/19 21:41	1
Benzoic acid	ND	*	30	7.3	ug/L		07/12/19 14:17	07/18/19 21:41	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 21:41	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/12/19 14:17	07/18/19 21:41	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/12/19 14:17	07/18/19 21:41	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 21:41	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 21:41	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 21:41	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 21:41	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 21:41	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dinitrophenol	ND	*	30	3.4	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 21:41	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 21:41	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 21:41	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 21:41	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 21:41	1
Indene	ND	*	10	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 21:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 21:41	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 21:41	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 21:41	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 21:41	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 21:41	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 21:41	1
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 21:41	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 21:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
p-Phenylene diamine	*62*	*	*ug/L*		*6.43*	*106-50-3*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Phenyl ether	*4.7*	*J*	*ug/L*		*7.11*	*101-84-8*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
2,3-Dinitrotoluene	*14*		*ug/L*		*7.62*	*602-01-7*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Unknown	*5.4*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 21:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*34 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
2-Fluorophenol	*63*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Nitrobenzene-d5	*99*		*27 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Phenol-d5	*83*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Terphenyl-d14	*102*		*53 - 125*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
2,4,6-Tribromophenol	*98*		*15 - 135*	*07/12/19 14:17*	*07/18/19 21:41*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 14:08	1
Acrolein	ND		20	10	ug/L			07/13/19 14:08	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 14:08	1
Benzene	**18**		1.0	0.38	ug/L			07/13/19 14:08	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 14:08	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 14:08	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 14:08	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 14:08	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 14:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 14:08	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 14:08	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 14:08	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 14:08	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 14:08	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:08	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 14:08	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 14:08	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 14:08	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 14:08	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 14:08	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Ethylbenzene	**1.8**		1.0	0.50	ug/L			07/13/19 14:08	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 14:08	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 14:08	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 14:08	1
Isopropylbenzene	**31**		1.0	0.53	ug/L			07/13/19 14:08	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 14:08	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 14:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 14:08	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 14:08	1
m-Xylene & p-Xylene	**3.6**	**J**	5.0	1.6	ug/L			07/13/19 14:08	1
Naphthalene	**1.0**		1.0	1.0	ug/L			07/13/19 14:08	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 14:08	1
N-Propylbenzene	**5.5**		1.0	0.69	ug/L			07/13/19 14:08	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 14:08	1
o-Xylene	**1.8**	**J**	5.0	0.60	ug/L			07/13/19 14:08	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 14:08	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 14:08	1
sec-Butylbenzene	**10**		1.0	0.70	ug/L			07/13/19 14:08	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 14:08	1
tert-Butylbenzene	**8.0**		1.0	0.63	ug/L			07/13/19 14:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 14:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 14:08	1
Toluene	**0.93**	**J**	1.0	0.41	ug/L			07/13/19 14:08	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 14:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 14:08	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 14:08	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 14:08	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 14:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 14:08	1
1,3,5-Trimethylbenzene	**0.83**	**J**	1.0	0.56	ug/L			07/13/19 14:08	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 14:08	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Xylenes, Total	**5.4**	**J**	10	1.6	ug/L			07/13/19 14:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*51*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 14:08*	*1*
Pentane, 2,3-dimethyl-	*42*	*T J N*	*ug/L*		*3.57*	*565-59-3*		*07/13/19 14:08*	*1*
Isooctane	*20*		*ug/L*		*3.78*	*540-84-1*		*07/13/19 14:08*	*1*
Pentane, 2,3,4-trimethyl-	*13*	*T J N*	*ug/L*		*4.53*	*565-75-3*		*07/13/19 14:08*	*1*
3-Ethyltoluene	*2.0*		*ug/L*		*7.16*	*620-14-4*		*07/13/19 14:08*	*1*
Benzene, 1-ethyl-3-methyl-	*5.6*	*T J N*	*ug/L*		*7.53*	*620-14-4*		*07/13/19 14:08*	*1*
1,2,3-Trimethylbenzene	*1.0*	*J*	*ug/L*		*7.88*	*526-73-8*		*07/13/19 14:08*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*5.9*	*T J N*	*ug/L*		*7.96*	*527-84-4*		*07/13/19 14:08*	*1*
p-Diethylbenzene	*6.6*		*ug/L*		*8.10*	*105-05-5*		*07/13/19 14:08*	*1*
o-diethylbenzene	*7.8*		*ug/L*		*8.20*	*135-01-3*		*07/13/19 14:08*	*1*
1H-Indene, 2,3-dihydro-1,1-dimethyl-	*6.4*	*T J N*	*ug/L*		*8.66*	*4912-92-9*		*07/13/19 14:08*	*1*
Benzene, 1,2,3,4-tetramethyl-	*8.7*	*T J N*	*ug/L*		*8.74*	*488-23-3*		*07/13/19 14:08*	*1*
Benzene, 1-methyl-2-(1-methyl-2-propenyl)-	*6.3*	*T J N*	*ug/L*		*8.98*	*97664-19-2*		*07/13/19 14:08*	*1*
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	*8.4*	*T J N*	*ug/L*		*9.83*	*3877-19-8*		*07/13/19 14:08*	*1*
Benzene, (2-methyl-1-butenyl)-	*9.5*	*T J N*	*ug/L*		*9.93*	*56253-64-6*		*07/13/19 14:08*	*1*
1-Methylnaphthalene	*12*		*ug/L*		*11.07*	*90-12-0*		*07/13/19 14:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 14:08*	*1*
Dibromofluoromethane	*114*		*81 - 121*		*07/13/19 14:08*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 14:08*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**8.2**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Anthracene	**3.0**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[a]anthracene	**2.3**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[a]pyrene	**2.7**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[b]fluoranthene	**1.1**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[g,h,i]perylene	**0.56**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Chrysene	**4.7**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Dibenz(a,h)anthracene	**0.40**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Fluoranthene	**1.3**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Fluorene	**9.7**		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 15:42	1
Indeno[1,2,3-cd]pyrene	**0.31**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
1-Methylnaphthalene	**18**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
2-Methylnaphthalene	**0.95**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Phenanthrene	**0.65**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Pyrene	**9.4**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/12/19 14:17*	*07/18/19 15:42*	*1*
Nitrobenzene-d5	*115*		*19 - 130*	*07/12/19 14:17*	*07/18/19 15:42*	*1*
Terphenyl-d14	*91*		*33 - 138*	*07/12/19 14:17*	*07/18/19 15:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/12/19 14:17	07/18/19 22:02	1
Benzoic acid	ND	*	31	7.4	ug/L		07/12/19 14:17	07/18/19 22:02	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 22:02	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/12/19 14:17	07/18/19 22:02	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/12/19 14:17	07/18/19 22:02	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/12/19 14:17	07/18/19 22:02	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Chloroaniline	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
Dibenzofuran	**3.7**	J	10	0.53	ug/L		07/12/19 14:17	07/18/19 22:02	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
Diethyl phthalate	ND		10	0.71	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/12/19 14:17	07/18/19 22:02	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 22:02	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4-Dinitrophenol	ND	*	31	3.5	ug/L		07/12/19 14:17	07/18/19 22:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/12/19 14:17	07/18/19 22:02	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 22:02	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
Hexachloroethane	ND		10	4.3	ug/L		07/12/19 14:17	07/18/19 22:02	1
Indene	ND	*	10	1.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Isophorone	ND		10	0.58	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 22:02	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 22:02	1
Nitrobenzene	ND		10	0.56	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Nitrophenol	ND		10	0.66	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 22:02	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/12/19 14:17	07/18/19 22:02	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
Pyridine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 22:02	1
Quinoline	ND		10	6.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 22:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*16*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Unknown	*18*	*T J*	*ug/L*		*4.10*		*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzaldehyde	*13*	*	*ug/L*		*5.06*	*100-52-7*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzene, (1-methylpropyl)-	*18*	*T J N*	*ug/L*		*5.56*	*135-98-8*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzene, 1,4-diethyl-	*12*	*T J N*	*ug/L*		*5.78*	*105-05-5*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
1-Methylnaphthalene	*14*		*ug/L*		*6.96*	*90-12-0*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
4-chloro-2-methylaniline	*28*		*ug/L*		*6.96*	*95-69-2*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 2,3-dimethyl-	*10*	*T J N*	*ug/L*		*7.36*	*581-40-8*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 1,7-dimethyl-	*15*	*T J N*	*ug/L*		*7.45*	*575-37-1*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 2-(1-methylethyl)-	*8.5*	*T J N*	*ug/L*		*7.67*	*2027-17-0*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Fluorene	*8.3*	*J*	*ug/L*		*8.01*	*86-73-7*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Unknown	*9.3*	*T J*	*ug/L*		*8.82*		*07/12/19 14:17*	*07/18/19 22:02*	*1*
Dibenzothiophene, 4-methyl-	*17*	*T J N*	*ug/L*		*9.09*	*7372-88-5*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Methylcarbazole	*20*	*T J N*	*ug/L*		*9.37*	*27323-29-1*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Phenanthrene, 3,6-dimethyl-	*15*	*T J N*	*ug/L*		*9.53*	*1576-67-6*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Phenanthrene, 1,7-dimethyl-	*9.1*	*T J N*	*ug/L*		*9.58*	*483-87-4*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Phenanthrene, 2,5-dimethyl-	*31*	*T J N*	*ug/L*		*9.63*	*3674-66-6*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Unknown	*13*	*T J*	*ug/L*		*9.71*		*07/12/19 14:17*	*07/18/19 22:02*	*1*
1-Piperidineacetonitrile, .alpha.-(2-phenylethenyl)-	*9.0*	*T J N*	*ug/L*		*9.74*	*22915-20-4*	*07/12/19 14:17*	*07/18/19 22:02*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Pyrene	8.5	J	ug/L		10.01	129-00-0	07/12/19 14:17	07/18/19 22:02	1
Unknown	13	T J	ug/L		10.03		07/12/19 14:17	07/18/19 22:02	1
Pyrene, 1-methyl-	12	T J N	ug/L		10.52	2381-21-7	07/12/19 14:17	07/18/19 22:02	1
Unknown	9.3	T J	ug/L		10.90		07/12/19 14:17	07/18/19 22:02	1
7,12-Dimethylbenz(a)anthracene	13	*	ug/L		12.10	57-97-6	07/12/19 14:17	07/18/19 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		34 - 120	07/12/19 14:17	07/18/19 22:02	1
2-Fluorophenol	57		10 - 120	07/12/19 14:17	07/18/19 22:02	1
Nitrobenzene-d5	92		27 - 120	07/12/19 14:17	07/18/19 22:02	1
Phenol-d5	82		10 - 120	07/12/19 14:17	07/18/19 22:02	1
Terphenyl-d14	80		53 - 125	07/12/19 14:17	07/18/19 22:02	1
2,4,6-Tribromophenol	125		15 - 135	07/12/19 14:17	07/18/19 22:02	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172948-1	TB-PW-071019-B	109	112	106
400-172948-2	PD-9-GWP-54-071019	109	110	108
400-172948-3	PD-9-GWP-60-071019	104	115	103
400-172948-4	PD-9-GWP-70-071019	106	116	103
400-172948-5	PD-9-GWP-70-071019-DUP	105	111	106
400-172948-6	PD-9-GWP-80-071019	110	114	106
400-172948-7	PD-9-GWP-80-071019-EB	109	113	103
400-172948-8	PD-2-SB-071019-EB	112	112	106
400-172948-9	PD-11-GWP-35-071019	109	114	106
LCS 400-447839/1002	Lab Control Sample	106	118	103
LCS 400-447926/1002	Lab Control Sample	107	112	103
MB 400-447839/4	Method Blank	104	115	101
MB 400-447926/4	Method Blank	105	113	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172948-2	PD-9-GWP-54-071019	121 X	53	0 X	276 X	107	208 X
400-172948-3	PD-9-GWP-60-071019	80	64	97	85	85	109
400-172948-4	PD-9-GWP-70-071019	75	50	89	79	74	104
400-172948-5	PD-9-GWP-70-071019-DUP	84	53	93	79	86	122
400-172948-6	PD-9-GWP-80-071019	80	62	95	85	91	110
400-172948-7	PD-9-GWP-80-071019-EB	71	48	87	72	96	91
400-172948-8	PD-2-SB-071019-EB	84	63	99	83	102	98
400-172948-9	PD-11-GWP-35-071019	78	57	92	82	80	125
LCS 400-447763/20-A	Lab Control Sample	79	50	100	81	96	57
LCS 400-447763/2-A	Lab Control Sample	83	75	109	98	98	101
LCSD 400-447763/21-A	Lab Control Sample Dup	80	10	101	16	94	18
LCSD 400-447763/3-A	Lab Control Sample Dup	81	72	103	93	96	95
MB 400-447763/1-A	Method Blank	101	86	121 X	108	123	101

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (15-122)	NBZ (19-130)	TPHL (33-138)
400-172948-2	PD-9-GWP-54-071019			79
400-172948-2	PD-9-GWP-54-071019	72		
400-172948-2 - DL2	PD-9-GWP-54-071019		219 X	
400-172948-3	PD-9-GWP-60-071019	93	84	100
400-172948-4	PD-9-GWP-70-071019	99	94	92
400-172948-5	PD-9-GWP-70-071019-DUP	97	86	100
400-172948-6	PD-9-GWP-80-071019	99	90	119
400-172948-7	PD-9-GWP-80-071019-EB	94	91	129
400-172948-8	PD-2-SB-071019-EB	108	106	125
400-172948-9	PD-11-GWP-35-071019	92	115	91
LCS 400-447763/2-A	Lab Control Sample	77	60	83
LCSD 400-447763/3-A	Lab Control Sample Dup	77	62	81
MB 400-447763/1-A	Method Blank	113	89	155 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: TB-PW-071019-B
Date Collected: 07/10/19 00:00
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 13:44	WPD	TAL PEN

Client Sample ID: PD-9-GWP-54-071019
Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	5 mL	5 mL	447839	07/13/19 17:48	WPD	TAL PEN
Total/NA	Prep	3520C			1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		5			448709	07/19/19 22:06	VC1	TAL PEN
Total/NA	Prep	3520C			1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 13:42	S1S	TAL PEN
Total/NA	Prep	3520C			1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 14:37	KJA	TAL PEN
Total/NA	Prep	3520C	DL2		1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL	DL2	50			449887	07/29/19 16:45	KJA	TAL PEN

Client Sample ID: PD-9-GWP-60-071019
Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	447926	07/14/19 11:49	WPD	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 19:55	VC1	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 13:59	S1S	TAL PEN

Client Sample ID: PD-9-GWP-70-071019
Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	447839	07/13/19 17:22	WPD	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 20:16	VC1	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 14:16	S1S	TAL PEN

Client Sample ID: PD-9-GWP-70-071019-DUP
Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	5 mL	5 mL	447839	07/13/19 18:14	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			984 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 20:38	VC1	TAL PEN
Total/NA	Prep	3520C			984 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 14:33	S1S	TAL PEN

Client Sample ID: PD-9-GWP-80-071019

Date Collected: 07/10/19 12:10
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 15:21	WPD	TAL PEN
Total/NA	Prep	3520C			993 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 20:59	VC1	TAL PEN
Total/NA	Prep	3520C			993 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 14:50	S1S	TAL PEN

Client Sample ID: PD-9-GWP-80-071019-EB

Date Collected: 07/10/19 12:40
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 14:57	WPD	TAL PEN
Total/NA	Prep	3520C			1020.2 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 21:20	VC1	TAL PEN
Total/NA	Prep	3520C			1020.2 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 15:07	S1S	TAL PEN

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 14:32	WPD	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 21:41	VC1	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 15:24	S1S	TAL PEN

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 14:08	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			982.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 22:02	VC1	TAL PEN
Total/NA	Prep	3520C			982.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 15:42	S1S	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447763/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 16:43	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 12:50	S1S	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447839/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 08:01	WPD	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447926/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447763/20-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:44	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 17:47	VC1	TAL PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 17:04	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			448495	07/18/19 13:07	S1S	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447839/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 07:13	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447926/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447763/21-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:44	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 18:08	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 17:26	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			448495	07/18/19 13:24	S1S	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

GC/MS VOA

Analysis Batch: 447839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-1	TB-PW-071019-B	Total/NA	Water	8260B	
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8260B	
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	8260B	
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	8260B	
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	8260B	
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	8260B	
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	8260B	
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	8260B	
MB 400-447839/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447839/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 447763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	3520C	
400-172948-2 - DL2	PD-9-GWP-54-071019	Total/NA	Water	3520C	
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	3520C	
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	3520C	
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	3520C	
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	3520C	
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	3520C	
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	3520C	
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	3520C	
MB 400-447763/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-447763/20-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-447763/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-447763/21-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-447763/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8270D LL	447763
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	8270D LL	447763
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	8270D LL	447763
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	8270D LL	447763
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	8270D LL	447763
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	8270D LL	447763
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	8270D LL	447763
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	8270D LL	447763
MB 400-447763/1-A	Method Blank	Total/NA	Water	8270D LL	447763
LCS 400-447763/2-A	Lab Control Sample	Total/NA	Water	8270D LL	447763
LCSD 400-447763/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	447763

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

GC/MS Semi VOA

Analysis Batch: 448576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	8270D	447763
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	8270D	447763
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	8270D	447763
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	8270D	447763
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	8270D	447763
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	8270D	447763
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	8270D	447763
MB 400-447763/1-A	Method Blank	Total/NA	Water	8270D	447763
LCS 400-447763/20-A	Lab Control Sample	Total/NA	Water	8270D	447763
LCS 400-447763/2-A	Lab Control Sample	Total/NA	Water	8270D	447763
LCSD 400-447763/21-A	Lab Control Sample Dup	Total/NA	Water	8270D	447763
LCSD 400-447763/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	447763

Analysis Batch: 448709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8270D	447763

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8270D LL	447763
400-172948-2 - DL2	PD-9-GWP-54-071019	Total/NA	Water	8270D LL	447763

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447839/4
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 08:01	1
Acrolein	ND		20	10	ug/L			07/13/19 08:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 08:01	1
Benzene	ND		1.0	0.38	ug/L			07/13/19 08:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 08:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 08:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 08:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/13/19 08:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 08:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 08:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/13/19 08:01	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 08:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/13/19 08:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 08:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 08:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 08:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 08:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 08:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 08:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 08:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 08:01	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 08:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 08:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 08:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 08:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 08:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 08:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 08:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 08:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 08:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 08:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 08:01	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447839/4
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 08:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 08:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 08:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 08:01	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 08:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 08:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 08:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 08:01	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 08:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 08:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 08:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 08:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 08:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/13/19 08:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 08:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 08:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 08:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 08:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 08:01	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 08:01*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*07/13/19 08:01*	*1*
Dibromofluoromethane	*115*		*81 - 121*		*07/13/19 08:01*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/13/19 08:01*	*1*

Lab Sample ID: LCS 400-447839/1002
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	220		ug/L		110	43 - 160
Acrolein	250	387		ug/L		155	38 - 160
Acrylonitrile	500	686		ug/L		137	64 - 142
Benzene	50.0	46.1		ug/L		92	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	58.8		ug/L		118	70 - 130
Bromodichloromethane	50.0	57.5		ug/L		115	67 - 133
Bromoform	50.0	58.7		ug/L		117	57 - 140
Bromomethane	25.0	45.1	*	ug/L		180	10 - 160
2-Butanone (MEK)	200	146		ug/L		73	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447839/1002
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	45.1		ug/L		90	61 - 137
Carbon tetrachloride	50.0	64.7		ug/L		129	61 - 137
Chlorobenzene	50.0	51.9		ug/L		104	70 - 130
Chloroethane	25.0	33.4		ug/L		134	55 - 141
2-Chloroethyl vinyl ether	25.0	68.6	*	ug/L		275	10 - 160
Chloroform	50.0	58.3		ug/L		117	69 - 130
1-Chlorohexane	50.0	65.5	*	ug/L		131	69 - 130
Chloromethane	25.0	29.1		ug/L		116	58 - 137
cis-1,2-Dichloroethene	50.0	63.9		ug/L		128	68 - 130
cis-1,3-Dichloropropene	50.0	54.5		ug/L		109	69 - 132
Dibromochloromethane	50.0	61.2		ug/L		122	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	48.8		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	49.7		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 130
Dichlorodifluoromethane	25.0	22.1		ug/L		89	41 - 146
1,1-Dichloroethane	50.0	62.3		ug/L		125	70 - 130
1,2-Dichloroethane	50.0	72.7	*	ug/L		145	69 - 130
1,1-Dichloroethene	50.0	51.0		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	51.1		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	62.5		ug/L		125	52 - 135
1,1-Dichloropropene	50.0	56.2		ug/L		112	70 - 130
Ethylbenzene	50.0	50.9		ug/L		102	70 - 130
Ethylene Dibromide	50.0	51.1		ug/L		102	70 - 130
Ethyl methacrylate	50.0	46.3		ug/L		93	68 - 130
Hexachlorobutadiene	50.0	50.9		ug/L		102	53 - 140
2-Hexanone	200	220		ug/L		110	65 - 137
Isopropylbenzene	50.0	52.3		ug/L		105	70 - 130
Methylene bromide	50.0	51.0		ug/L		102	70 - 130
Methylene Chloride	50.0	49.1		ug/L		98	66 - 135
4-Methyl-2-pentanone (MIBK)	200	247		ug/L		124	69 - 138
Methyl tert-butyl ether	50.0	57.3		ug/L		115	66 - 130
m-Xylene & p-Xylene	50.0	51.5		ug/L		103	70 - 130
Naphthalene	50.0	48.1		ug/L		96	47 - 149
n-Butylbenzene	50.0	53.1		ug/L		106	67 - 130
N-Propylbenzene	50.0	51.3		ug/L		103	70 - 130
o-Chlorotoluene	50.0	53.8		ug/L		108	70 - 130
o-Xylene	50.0	52.2		ug/L		104	70 - 130
p-Chlorotoluene	50.0	54.1		ug/L		108	70 - 130
p-Isopropyltoluene	50.0	54.6		ug/L		109	65 - 130
sec-Butylbenzene	50.0	52.6		ug/L		105	66 - 130
Styrene	50.0	45.6		ug/L		91	70 - 130
tert-Butylbenzene	50.0	56.4		ug/L		113	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.3		ug/L		93	70 - 131
Tetrachloroethene	50.0	51.7		ug/L		103	65 - 130
Toluene	50.0	47.1		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	51.8		ug/L		104	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447839/1002
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.1		ug/L		118	63 - 130
1,2,3-Trichlorobenzene	50.0	46.2		ug/L		92	60 - 138
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	60 - 140
1,1,1-Trichloroethane	50.0	64.1		ug/L		128	68 - 130
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	70 - 130
Trichloroethene	50.0	49.9		ug/L		100	70 - 130
Trichlorofluoromethane	25.0	35.2	*	ug/L		141	65 - 138
1,2,3-Trichloropropane	50.0	59.7		ug/L		119	70 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/L		109	70 - 130
1,3,5-Trimethylbenzene	50.0	55.0		ug/L		110	69 - 130
Vinyl acetate	50.0	55.9		ug/L		112	26 - 160
Vinyl chloride	25.0	28.9		ug/L		116	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*78 - 118*
Dibromofluoromethane	*118*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/14/19 09:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118		07/14/19 09:00	1
Dibromofluoromethane	113		81 - 121		07/14/19 09:00	1
Toluene-d8 (Surr)	103		80 - 120		07/14/19 09:00	1

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
Benzenethiol	ND		10	1.7	ug/L		07/12/19 14:17	07/18/19 16:43	1
Benzoic acid	ND		30	7.3	ug/L		07/12/19 14:17	07/18/19 16:43	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 16:43	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/12/19 14:17	07/18/19 16:43	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/12/19 14:17	07/18/19 16:43	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 16:43	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 16:43	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 16:43	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 16:43	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 16:43	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 16:43	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 16:43	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 16:43	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 16:43	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 16:43	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 16:43	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 16:43	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 16:43	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 16:43	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 16:43	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 16:43	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexadecane	*1.73*	*J*	*ug/L*		*7.84*	*544-76-3*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/12/19 14:17*	*07/18/19 16:43*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*101*		*34 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
2-Fluorophenol	*86*		*10 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Nitrobenzene-d5	*121*	*X*	*27 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Phenol-d5	*108*		*10 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Terphenyl-d14	*123*		*53 - 125*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
2,4,6-Tribromophenol	*101*		*15 - 135*	*07/12/19 14:17*	*07/18/19 16:43*	*1*

Lab Sample ID: LCS 400-447763/20-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*79*		*34 - 120*
2-Fluorophenol	*50*		*10 - 120*
Nitrobenzene-d5	*100*		*27 - 120*
Phenol-d5	*81*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*57*		*15 - 135*

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	23.1		ug/L		77	29 - 120
Benzyl alcohol	30.0	30.2		ug/L		101	19 - 125
Bis(2-chloroethoxy)methane	30.0	25.0		ug/L		83	45 - 120
Bis(2-chloroethyl)ether	30.0	21.3		ug/L		71	48 - 120
bis (2-chloroisopropyl) ether	30.0	25.8		ug/L		86	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	28.7		ug/L		96	48 - 150
4-Bromophenyl phenyl ether	30.0	26.1		ug/L		87	55 - 122
Butyl benzyl phthalate	30.0	27.1		ug/L		90	46 - 145
4-Chloroaniline	30.0	21.6		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	32.8		ug/L		109	39 - 140
2-Chloronaphthalene	30.0	26.3		ug/L		88	52 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	30.0	27.7		ug/L		92	34 - 120
4-Chlorophenyl phenyl ether	30.0	25.9		ug/L		86	58 - 124
Dibenz[a,h]acridine	30.0	20.8		ug/L		69	46 - 149
Dibenzofuran	30.0	26.8		ug/L		89	58 - 123
3,3'-Dichlorobenzidine	40.0	47.3		ug/L		118	39 - 135
2,4-Dichlorophenol	30.0	30.7		ug/L		102	39 - 128
Diethyl phthalate	30.0	29.5		ug/L		98	44 - 146
2,4-Dimethylphenol	30.0	28.0		ug/L		93	44 - 120
Dimethyl phthalate	30.0	28.1		ug/L		94	50 - 131
Di-n-butyl phthalate	30.0	30.4		ug/L		101	55 - 131
4,6-Dinitro-ortho-cresol	60.0	76.7		ug/L		128	10 - 150
2,4-Dinitrotoluene	30.0	30.2		ug/L		101	58 - 140
2,6-Dinitrotoluene	30.0	29.2		ug/L		97	57 - 130
Di-n-octyl phthalate	30.0	28.6		ug/L		95	50 - 150
1,4-Dioxane	30.0	17.6		ug/L		59	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	26.8		ug/L		89	47 - 123
Hexachlorobenzene	30.0	26.8		ug/L		89	52 - 131
Hexachlorocyclopentadiene	30.0	19.9	J	ug/L		66	10 - 129
Hexachloroethane	30.0	20.7		ug/L		69	41 - 120
Isophorone	30.0	27.1		ug/L		90	49 - 120
2-Methylphenol	30.0	28.7		ug/L		96	39 - 123
3 & 4 Methylphenol	30.0	26.9		ug/L		90	38 - 121
2-Nitroaniline	30.0	33.7		ug/L		112	47 - 150
3-Nitroaniline	30.0	29.9		ug/L		100	34 - 132
4-Nitroaniline	30.0	33.1		ug/L		110	41 - 135
Nitrobenzene	30.0	28.0		ug/L		93	47 - 120
2-Nitrophenol	30.0	30.0		ug/L		100	28 - 136
4-Nitrophenol	60.0	70.0		ug/L		117	10 - 150
N-Nitrosodimethylamine	30.0	32.9		ug/L		110	22 - 148
N-Nitrosodi-n-propylamine	30.0	26.6		ug/L		89	44 - 120
N-Nitrosodiphenylamine	29.8	27.0		ug/L		91	56 - 120
Pentachlorophenol	60.0	67.9		ug/L		113	15 - 141
Phenol	30.0	26.5		ug/L		88	33 - 120
Pyridine	60.0	29.3		ug/L		49	26 - 120
Quinoline	30.0	27.6		ug/L		92	51 - 129
2,4,5-Trichlorophenol	30.0	30.9		ug/L		103	38 - 147
2,4,6-Trichlorophenol	30.0	30.2		ug/L		101	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*34 - 120*
2-Fluorophenol	*75*		*10 - 120*
Nitrobenzene-d5	*109*		*27 - 120*
Phenol-d5	*98*		*10 - 120*
Terphenyl-d14	*98*		*53 - 125*
2,4,6-Tribromophenol	*101*		*15 - 135*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447763/21-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*34 - 120*
2-Fluorophenol	*10*		*10 - 120*
Nitrobenzene-d5	*101*		*27 - 120*
Phenol-d5	*16*		*10 - 120*
Terphenyl-d14	*94*		*53 - 125*
2,4,6-Tribromophenol	*18*		*15 - 135*

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	16.3	*	ug/L		54	29 - 120	34	30
Benzoic acid	117	249	*	ug/L		214	10 - 150	200	30
Benzyl alcohol	30.0	29.4		ug/L		98	19 - 125	3	30
Bis(2-chloroethoxy)methane	30.0	24.2		ug/L		81	45 - 120	4	30
Bis(2-chloroethyl)ether	30.0	21.2		ug/L		71	48 - 120	1	30
bis (2-chloroisopropyl) ether	30.0	26.1		ug/L		87	30 - 125	1	30
Bis(2-ethylhexyl) phthalate	30.0	29.8		ug/L		99	48 - 150	4	30
4-Bromophenyl phenyl ether	30.0	26.8		ug/L		89	55 - 122	3	30
Butyl benzyl phthalate	30.0	27.7		ug/L		92	46 - 145	2	30
4-Chloroaniline	30.0	16.7		ug/L		56	30 - 120	26	30
4-Chloro-3-methylphenol	30.0	32.7		ug/L		109	39 - 140	0	30
2-Chloronaphthalene	30.0	26.3		ug/L		88	52 - 120	0	30
2-Chlorophenol	30.0	27.1		ug/L		90	34 - 120	2	30
4-Chlorophenyl phenyl ether	30.0	26.6		ug/L		89	58 - 124	2	30
Dibenz[a,h]acridine	30.0	22.2		ug/L		74	46 - 149	7	30
Dibenzofuran	30.0	27.0		ug/L		90	58 - 123	1	30
3,3'-Dichlorobenzidine	40.0	43.0		ug/L		107	39 - 135	10	30
2,4-Dichlorophenol	30.0	30.5		ug/L		102	39 - 128	1	30
Diethyl phthalate	30.0	29.6		ug/L		99	44 - 146	0	30
2,4-Dimethylphenol	30.0	27.9		ug/L		93	44 - 120	1	30
Dimethyl phthalate	30.0	28.5		ug/L		95	50 - 131	2	30
Di-n-butyl phthalate	30.0	31.8		ug/L		106	55 - 131	5	30
4,6-Dinitro-ortho-cresol	60.0	79.3		ug/L		132	10 - 150	3	30
2,4-Dinitrophenol	60.0	98.3	*	ug/L		164	10 - 150	4	30
2,4-Dinitrotoluene	30.0	30.8		ug/L		103	58 - 140	2	30
2,6-Dinitrotoluene	30.0	29.5		ug/L		98	57 - 130	1	30
Di-n-octyl phthalate	30.0	29.3		ug/L		98	50 - 150	2	30
1,4-Dioxane	30.0	14.1		ug/L		47	25 - 120	22	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.6		ug/L		92	47 - 123	3	30
Hexachlorobenzene	30.0	29.7		ug/L		99	52 - 131	10	30
Hexachlorocyclopentadiene	30.0	19.0	J	ug/L		63	10 - 129	5	30
Hexachloroethane	30.0	20.3		ug/L		68	41 - 120	2	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene	30.0	44.4	*	ug/L		148	47 - 120	200	30
Isophorone	30.0	27.1		ug/L		90	49 - 120	0	30
2-Methylphenol	30.0	29.1		ug/L		97	39 - 123	2	30
3 & 4 Methylphenol	30.0	26.6		ug/L		89	38 - 121	1	30
2-Nitroaniline	30.0	34.0		ug/L		113	47 - 150	1	30
3-Nitroaniline	30.0	25.6		ug/L		85	34 - 132	16	30
4-Nitroaniline	30.0	30.3		ug/L		101	41 - 135	9	30
Nitrobenzene	30.0	27.6		ug/L		92	47 - 120	1	30
2-Nitrophenol	30.0	29.6		ug/L		99	28 - 136	1	30
4-Nitrophenol	60.0	68.3	*	ug/L		114	10 - 150	187	30
N-Nitrosodimethylamine	30.0	34.9		ug/L		116	22 - 148	6	30
N-Nitrosodi-n-propylamine	30.0	26.5		ug/L		88	44 - 120	0	30
N-Nitrosodiphenylamine	29.8	27.5		ug/L		92	56 - 120	2	30
Pentachlorophenol	60.0	70.8		ug/L		118	15 - 141	4	30
Phenol	30.0	28.0		ug/L		93	33 - 120	6	30
Pyridine	60.0	26.9		ug/L		45	26 - 120	9	30
Quinoline	30.0	27.5		ug/L		92	51 - 129	0	30
2,4,5-Trichlorophenol	30.0	30.8		ug/L		103	38 - 147	0	30
2,4,6-Trichlorophenol	30.0	30.3		ug/L		101	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*34 - 120*
2-Fluorophenol	*72*		*10 - 120*
Nitrobenzene-d5	*103*		*27 - 120*
Phenol-d5	*93*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*95*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*113*		*15 - 122*	*07/12/19 14:17*	*07/18/19 12:50*	*1*
Nitrobenzene-d5	*89*		*19 - 130*	*07/12/19 14:17*	*07/18/19 12:50*	*1*
Terphenyl-d14	*155*	*X*	*33 - 138*	*07/12/19 14:17*	*07/18/19 12:50*	*1*

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	26.1		ug/L		87	41 - 120
Acenaphthylene	30.0	24.4		ug/L		81	44 - 120
Anthracene	30.0	24.6		ug/L		82	49 - 120
Benzo[a]anthracene	30.0	22.0		ug/L		73	61 - 135
Benzo[a]pyrene	30.0	24.2		ug/L		81	52 - 120
Benzo[b]fluoranthene	30.0	26.6		ug/L		89	53 - 134
Benzo[g,h,i]perylene	30.0	16.5		ug/L		55	47 - 133
Benzo[k]fluoranthene	30.0	30.2		ug/L		101	57 - 134
Chrysene	30.0	23.1		ug/L		77	55 - 122
Dibenz(a,h)anthracene	30.0	18.4		ug/L		61	48 - 146
Fluoranthene	30.0	22.6		ug/L		75	54 - 128
Fluorene	30.0	26.5		ug/L		88	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	18.1		ug/L		60	43 - 142
1-Methylnaphthalene	30.0	23.0		ug/L		77	41 - 120
2-Methylnaphthalene	30.0	21.9		ug/L		73	32 - 124
Phenanthrene	30.0	23.4		ug/L		78	48 - 120
Pyrene	30.0	21.8		ug/L		73	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*60*		*19 - 130*
Terphenyl-d14	*83*		*33 - 138*

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	27.0		ug/L		90	41 - 120	3	56
Acenaphthylene	30.0	25.9		ug/L		86	44 - 120	6	56
Anthracene	30.0	26.1		ug/L		87	49 - 120	6	51
Benzo[a]anthracene	30.0	23.6		ug/L		79	61 - 135	7	49
Benzo[a]pyrene	30.0	26.3		ug/L		88	52 - 120	8	50
Benzo[b]fluoranthene	30.0	29.1		ug/L		97	53 - 134	9	54

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			30.0	16.9		ug/L		56	47 - 133	2	50
Benzo[k]fluoranthene			30.0	32.3		ug/L		108	57 - 134	7	52
Chrysene			30.0	24.7		ug/L		82	55 - 122	6	50
Dibenz(a,h)anthracene			30.0	19.6		ug/L		65	48 - 146	6	50
Fluoranthene			30.0	24.3		ug/L		81	54 - 128	7	52
Fluorene			30.0	28.4		ug/L		95	45 - 125	7	56
Indeno[1,2,3-cd]pyrene			30.0	18.3		ug/L		61	43 - 142	1	51
1-Methylnaphthalene			30.0	19.5		ug/L		65	41 - 120	17	55
2-Methylnaphthalene			30.0	21.1		ug/L		70	32 - 124	4	57
Phenanthrene			30.0	24.9		ug/L		83	48 - 120	6	56
Pyrene			30.0	23.3		ug/L		78	48 - 132	7	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*62*		*19 - 130*
Terphenyl-d14	*81*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/10/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur | LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 SIM PAH

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

400-172948 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071019-B	7/10/2019	0:00	Water	2					2		x	
	PD-9-GWP-54-071019	7/10/2019	9:05	Water	2			2		4	x	x	x
	PD-9-GWP-60-071019	7/10/2019	10:05	Water	2			2		4	x	x	x
	PD-9-GWP-70-071019	7/10/2019	11:05	Water	2			2		4	x	x	x
	PD-9-GWP-70-071019-DUP	7/10/2019	11:05	Water	2			2		4	x	x	x
	PD-9-GWP-80-071019	7/10/2019	12:10	Water	2			2		4	x	x	x
	PD-9-GWP-80-071019-EB	7/10/2019	12:40	Water	2			2		4	x	x	x
	PD-2-SB-071019-EB	7/10/2019	13:35	Water	2			2		4	x	x	x
	PD-11-GWP-35-071019	7/10/2019	16:08	Water	2			2		4	x	x	x

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Paul LaFleur	FED Ex 4759 5526 5941	7/10/2019	17:15
		07·11·19	939

Version: 10May17

CS: 1013817, 1013816
CS: 1003227, 1003226

4.3°C
2.3°C IR7 IR7

Page 71 of 73

7/30/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172948-1

Login Number: 172948
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3°C IR-7, 2.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-172948-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 3:15:28 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-172948-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-172948-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 7-30-19.

Receipt
The samples were received on 7/11/2019 9:39 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.3º C and 4.3º C.

Receipt Exceptions

One of two vials for the following sample was received broken: PD-2-SB-071019-EB (400-172948-8). Analysis is not impacted.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-9-GWP-54-071019 (400-172948-2), PD-9-GWP-60-071019 (400-172948-3), PD-9-GWP-70-071019 (400-172948-4) and PD-9-GWP-70-071019-DUP (400-172948-5). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447839 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrolein, Bromomethane and Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071019-B (400-172948-1), PD-9-GWP-54-071019 (400-172948-2), PD-9-GWP-60-071019 (400-172948-3), PD-9-GWP-70-071019 (400-172948-4), PD-9-GWP-70-071019-DUP (400-172948-5), PD-9-GWP-80-071019 (400-172948-6), PD-9-GWP-80-071019-EB (400-172948-7), PD-2-SB-071019-EB (400-172948-8) and PD-11-GWP-35-071019 (400-172948-9). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: Sample PD-9-GWP-70-071019-DUP (400-172948-5) is logged in as a duplicate of sample PD-9-GWP-70-071019 (400-172948-4) . The samples were analyzed at different dilutions and the screening data agrees with the analytical data.

Method(s) 8260B: Sample PD-2-SB-071019-EB (400-172948-8) contains 2-Butanone (MEK) above the method detection limit (MDL) and Benzene above the reporting limit (RL). Reanalysis was performed with concurring results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate

Job ID: 400-172948-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

compounds outside limits: (MB 400-447763/1-A). These results have been reported and qualified.

Method(s) 8270D LL: Surrogate recovery for the following sample was outside control limits: PD-9-GWP-54-071019 (400-172948-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The following sample was diluted due to the nature of the sample matrix: PD-9-GWP-54-071019 (400-172948-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene and Fluorene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448515 recovered above the upper control limit for 4-Chloro-3-methylphenol, 4-Bromophenyl phenyl ether, Aniline and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448515 recovered above the upper control limit for Indene and Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448515 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: PD-9-GWP-54-071019 (400-172948-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-9-GWP-54-071019 (400-172948-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered above the upper control limit for 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-447763 and analytical batch 400-448576 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448576 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-447763/1-A). These results have been reported and qualified.

Job ID: 400-172948-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS and LCSD associated with preparation batch 400-447763 and analytical batch 400-448576: 2,4-Dinitrophenol, Indene and Benzoic acid. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-447763 and analytical batch 400-448576 recovered outside control limits for the following analytes: Aniline, Indene and Benzoic acid.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-172948-1	TB-PW-071019-B	Water	07/10/19 00:00	07/11/19 09:39	
400-172948-2	PD-9-GWP-54-071019	Water	07/10/19 09:05	07/11/19 09:39	
400-172948-3	PD-9-GWP-60-071019	Water	07/10/19 10:05	07/11/19 09:39	
400-172948-4	PD-9-GWP-70-071019	Water	07/10/19 11:05	07/11/19 09:39	
400-172948-5	PD-9-GWP-70-071019-DUP	Water	07/10/19 11:05	07/11/19 09:39	
400-172948-6	PD-9-GWP-80-071019	Water	07/10/19 12:10	07/11/19 09:39	
400-172948-7	PD-9-GWP-80-071019-EB	Water	07/10/19 12:40	07/11/19 09:39	
400-172948-8	PD-2-SB-071019-EB	Water	07/10/19 13:35	07/11/19 09:39	
400-172948-9	PD-11-GWP-35-071019	Water	07/10/19 16:08	07/11/19 09:39	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: TB-PW-071019-B — Lab Sample ID: 400-172948-1

No Detections.

Client Sample ID: PD-9-GWP-54-071019 — Lab Sample ID: 400-172948-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	20000		100	38	ug/L	100		8260B	Total/NA
Ethylbenzene	3500		100	50	ug/L	100		8260B	Total/NA
Isopropylbenzene	110		100	53	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	7200		500	160	ug/L	100		8260B	Total/NA
Naphthalene	240		100	100	ug/L	100		8260B	Total/NA
N-Propylbenzene	270		100	69	ug/L	100		8260B	Total/NA
o-Xylene	2200		500	60	ug/L	100		8260B	Total/NA
Toluene	2200		100	41	ug/L	100		8260B	Total/NA
1,2,4-Trimethylbenzene	1700		100	82	ug/L	100		8260B	Total/NA
1,3,5-Trimethylbenzene	480		100	56	ug/L	100		8260B	Total/NA
Xylenes, Total	9500		1000	160	ug/L	100		8260B	Total/NA
Benzo[a]anthracene	0.14	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.11	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Phenanthrene	4.7		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.53		0.19	0.019	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL2	240		9.7	0.97	ug/L	50		8270D LL	Total/NA
2-Methylnaphthalene - DL2	520		9.7	0.97	ug/L	50		8270D LL	Total/NA

Client Sample ID: PD-9-GWP-60-071019 — Lab Sample ID: 400-172948-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	890		5.0	1.9	ug/L	5		8260B	Total/NA
Ethylbenzene	9.6		5.0	2.5	ug/L	5		8260B	Total/NA
m-Xylene & p-Xylene	21	J	25	8.0	ug/L	5		8260B	Total/NA
o-Xylene	7.6	J	25	3.0	ug/L	5		8260B	Total/NA
Toluene	11		5.0	2.1	ug/L	5		8260B	Total/NA
1,2,4-Trimethylbenzene	11		5.0	4.1	ug/L	5		8260B	Total/NA
1,3,5-Trimethylbenzene	3.5	J	5.0	2.8	ug/L	5		8260B	Total/NA
Xylenes, Total	28	J	50	8.0	ug/L	5		8260B	Total/NA
1-Methylnaphthalene	0.56		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.0		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol	13		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-70-071019 — Lab Sample ID: 400-172948-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3100		20	7.6	ug/L	20		8260B	Total/NA
Ethylbenzene	98		20	10	ug/L	20		8260B	Total/NA
m-Xylene & p-Xylene	190		100	32	ug/L	20		8260B	Total/NA
N-Propylbenzene	18	J	20	14	ug/L	20		8260B	Total/NA
o-Xylene	77	J	100	12	ug/L	20		8260B	Total/NA
Toluene	68		20	8.2	ug/L	20		8260B	Total/NA
1,2,4-Trimethylbenzene	88		20	16	ug/L	20		8260B	Total/NA
1,3,5-Trimethylbenzene	26		20	11	ug/L	20		8260B	Total/NA
Xylenes, Total	270		200	32	ug/L	20		8260B	Total/NA
1-Methylnaphthalene	4.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	8.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.091	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	5.9	J	10	5.0	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019 (Continued) — Lab Sample ID: 400-172948-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	36		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-70-071019-DUP — Lab Sample ID: 400-172948-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13000		100	38	ug/L	100		8260B	Total/NA
Ethylbenzene	130		100	50	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	240	J	500	160	ug/L	100		8260B	Total/NA
o-Xylene	90	J	500	60	ug/L	100		8260B	Total/NA
Toluene	100		100	41	ug/L	100		8260B	Total/NA
1,2,4-Trimethylbenzene	94	J	100	82	ug/L	100		8260B	Total/NA
Xylenes, Total	330	J	1000	160	ug/L	100		8260B	Total/NA
1-Methylnaphthalene	2.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	4.6		0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	9.5	J	10	5.1	ug/L	1		8270D	Total/NA
Phenol	65		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-9-GWP-80-071019 — Lab Sample ID: 400-172948-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	25		1.0	0.38	ug/L	1		8260B	Total/NA
2-Methylnaphthalene	0.063	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-9-GWP-80-071019-EB — Lab Sample ID: 400-172948-7

No Detections.

Client Sample ID: PD-2-SB-071019-EB — Lab Sample ID: 400-172948-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	9.5	J	25	2.6	ug/L	1		8260B	Total/NA

Client Sample ID: PD-11-GWP-35-071019 — Lab Sample ID: 400-172948-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	18		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	1.8		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	31		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	3.6	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.0		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	5.5		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	1.8	J	5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	10		1.0	0.70	ug/L	1		8260B	Total/NA
tert-Butylbenzene	8.0		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	0.93	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.83	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	5.4	J	10	1.6	ug/L	1		8260B	Total/NA
Acenaphthene	8.2		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	3.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	2.3		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	2.7		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	1.1		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.56		0.20	0.041	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019 (Continued)

Lab Sample ID: 400-172948-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	4.7		0.20	0.041	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.40		0.20	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	1.3		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	9.7		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.31		0.20	0.041	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	18		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.95		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.65		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	9.4		0.20	0.020	ug/L	1		8270D LL	Total/NA
Dibenzofuran	3.7	J	10	0.53	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: TB-PW-071019-B
Lab Sample ID: 400-172948-1
Date Collected: 07/10/19 00:00
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 13:44	1
Acrolein	ND		20	10	ug/L			07/13/19 13:44	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 13:44	1
Benzene	ND		1.0	0.38	ug/L			07/13/19 13:44	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 13:44	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 13:44	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 13:44	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 13:44	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 13:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 13:44	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 13:44	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 13:44	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 13:44	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 13:44	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 13:44	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 13:44	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 13:44	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 13:44	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 13:44	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 13:44	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 13:44	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 13:44	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 13:44	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 13:44	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 13:44	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 13:44	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 13:44	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 13:44	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 13:44	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 13:44	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 13:44	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 13:44	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 13:44	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 13:44	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: TB-PW-071019-B
Date Collected: 07/10/19 00:00
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 13:44	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 13:44	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 13:44	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 13:44	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 13:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 13:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 13:44	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 13:44	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 13:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 13:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 13:44	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 13:44	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 13:44	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 13:44	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 13:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 13:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 13:44	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 13:44	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 13:44	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 13:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 13:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 13:44*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*07/13/19 13:44*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 13:44*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		2500	1000	ug/L			07/13/19 17:48	100
Acrolein	ND		2000	1000	ug/L			07/13/19 17:48	100
Acrylonitrile	ND		1000	280	ug/L			07/13/19 17:48	100
Benzene	**20000**		100	38	ug/L			07/13/19 17:48	100
Bromobenzene	ND		100	54	ug/L			07/13/19 17:48	100
Bromochloromethane	ND		100	52	ug/L			07/13/19 17:48	100
Bromodichloromethane	ND		100	50	ug/L			07/13/19 17:48	100
Bromoform	ND		500	71	ug/L			07/13/19 17:48	100
Bromomethane	ND	*	100	98	ug/L			07/13/19 17:48	100
2-Butanone (MEK)	ND		2500	260	ug/L			07/13/19 17:48	100
Carbon disulfide	ND		100	50	ug/L			07/13/19 17:48	100
Carbon tetrachloride	ND		100	50	ug/L			07/13/19 17:48	100
Chlorobenzene	ND		100	50	ug/L			07/13/19 17:48	100
Chloroethane	ND		100	76	ug/L			07/13/19 17:48	100
2-Chloroethyl vinyl ether	ND	*	500	200	ug/L			07/13/19 17:48	100
Chloroform	ND		100	60	ug/L			07/13/19 17:48	100
1-Chlorohexane	ND	*	100	70	ug/L			07/13/19 17:48	100
Chloromethane	ND		100	83	ug/L			07/13/19 17:48	100
cis-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
cis-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 17:48	100
Dibromochloromethane	ND		100	50	ug/L			07/13/19 17:48	100
1,2-Dibromo-3-Chloropropane	ND		500	150	ug/L			07/13/19 17:48	100
1,2-Dichlorobenzene	ND		100	50	ug/L			07/13/19 17:48	100
1,3-Dichlorobenzene	ND		100	54	ug/L			07/13/19 17:48	100
1,4-Dichlorobenzene	ND		100	64	ug/L			07/13/19 17:48	100
Dichlorodifluoromethane	ND		100	85	ug/L			07/13/19 17:48	100
1,1-Dichloroethane	ND		100	50	ug/L			07/13/19 17:48	100
1,2-Dichloroethane	ND	*	100	50	ug/L			07/13/19 17:48	100
1,1-Dichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
1,2-Dichloropropane	ND		100	50	ug/L			07/13/19 17:48	100
1,3-Dichloropropane	ND		100	50	ug/L			07/13/19 17:48	100
2,2-Dichloropropane	ND		100	50	ug/L			07/13/19 17:48	100
1,1-Dichloropropene	ND		100	50	ug/L			07/13/19 17:48	100
Ethylbenzene	**3500**		100	50	ug/L			07/13/19 17:48	100
Ethylene Dibromide	ND		100	50	ug/L			07/13/19 17:48	100
Ethyl methacrylate	ND		100	60	ug/L			07/13/19 17:48	100
Hexachlorobutadiene	ND		500	90	ug/L			07/13/19 17:48	100
2-Hexanone	ND		2500	310	ug/L			07/13/19 17:48	100
Isopropylbenzene	**110**		100	53	ug/L			07/13/19 17:48	100
Methylene bromide	ND		500	59	ug/L			07/13/19 17:48	100
Methylene Chloride	ND		500	300	ug/L			07/13/19 17:48	100
4-Methyl-2-pentanone (MIBK)	ND		2500	180	ug/L			07/13/19 17:48	100
Methyl tert-butyl ether	ND		100	74	ug/L			07/13/19 17:48	100
m-Xylene & p-Xylene	**7200**		500	160	ug/L			07/13/19 17:48	100
Naphthalene	**240**		100	100	ug/L			07/13/19 17:48	100
n-Butylbenzene	ND		100	76	ug/L			07/13/19 17:48	100
N-Propylbenzene	**270**		100	69	ug/L			07/13/19 17:48	100
o-Chlorotoluene	ND		100	57	ug/L			07/13/19 17:48	100
o-Xylene	**2200**		500	60	ug/L			07/13/19 17:48	100

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		100	56	ug/L			07/13/19 17:48	100
p-Isopropyltoluene	ND		100	71	ug/L			07/13/19 17:48	100
sec-Butylbenzene	ND		100	70	ug/L			07/13/19 17:48	100
Styrene	ND		100	100	ug/L			07/13/19 17:48	100
tert-Butylbenzene	ND		100	63	ug/L			07/13/19 17:48	100
1,1,1,2-Tetrachloroethane	ND		100	52	ug/L			07/13/19 17:48	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/L			07/13/19 17:48	100
Tetrachloroethene	ND		100	58	ug/L			07/13/19 17:48	100
Toluene	**2200**		100	41	ug/L			07/13/19 17:48	100
trans-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
trans-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 17:48	100
1,2,3-Trichlorobenzene	ND		100	70	ug/L			07/13/19 17:48	100
1,2,4-Trichlorobenzene	ND		100	82	ug/L			07/13/19 17:48	100
1,1,1-Trichloroethane	ND		100	50	ug/L			07/13/19 17:48	100
1,1,2-Trichloroethane	ND		500	50	ug/L			07/13/19 17:48	100
Trichloroethene	ND		100	50	ug/L			07/13/19 17:48	100
Trichlorofluoromethane	ND	*	100	52	ug/L			07/13/19 17:48	100
1,2,3-Trichloropropane	ND		500	84	ug/L			07/13/19 17:48	100
1,2,4-Trimethylbenzene	**1700**		100	82	ug/L			07/13/19 17:48	100
1,3,5-Trimethylbenzene	**480**		100	56	ug/L			07/13/19 17:48	100
Vinyl acetate	ND		2500	200	ug/L			07/13/19 17:48	100
Vinyl chloride	ND		100	50	ug/L			07/13/19 17:48	100
Xylenes, Total	**9500**		1000	160	ug/L			07/13/19 17:48	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2900*	*T J*	*ug/L*		*1.46*			*07/13/19 17:48*	*100*
Butane, 2-methyl-	*3000*	*T J N*	*ug/L*		*1.78*	*78-78-4*		*07/13/19 17:48*	*100*
Pentane	*3900*	*T J N*	*ug/L*		*1.94*	*109-66-0*		*07/13/19 17:48*	*100*
2-Methyl-1-butene	*1000*	*T J N*	*ug/L*		*2.02*	*563-46-2*		*07/13/19 17:48*	*100*
Cyclopropane, 1,2-dimethyl-, cis-	*3200*	*T J N*	*ug/L*		*2.12*	*930-18-7*		*07/13/19 17:48*	*100*
Unknown	*1800*	*T J*	*ug/L*		*2.53*			*07/13/19 17:48*	*100*
Pentane, 3-methyl-	*920*	*T J N*	*ug/L*		*2.63*	*96-14-0*		*07/13/19 17:48*	*100*
Hexane	*1400*		*ug/L*		*2.79*	*110-54-3*		*07/13/19 17:48*	*100*
2-Butene, 2,3-dimethyl-	*630*	*T J N*	*ug/L*		*2.91*	*563-79-1*		*07/13/19 17:48*	*100*
Unknown	*590*	*T J*	*ug/L*		*3.05*			*07/13/19 17:48*	*100*
Cyclohexane	*2800*	*T J N*	*ug/L*		*3.16*	*110-82-7*		*07/13/19 17:48*	*100*
Cyclopentene, 1-methyl-	*990*	*T J N*	*ug/L*		*3.44*	*693-89-0*		*07/13/19 17:48*	*100*
Cyclohexane	*1500*		*ug/L*		*3.57*	*110-82-7*		*07/13/19 17:48*	*100*
n-Heptane	*310*		*ug/L*		*3.89*	*142-82-5*		*07/13/19 17:48*	*100*
Methylcyclohexane	*490*		*ug/L*		*4.28*	*108-87-2*		*07/13/19 17:48*	*100*
3-Ethyltoluene	*1300*		*ug/L*		*7.16*	*620-14-4*		*07/13/19 17:48*	*100*
2-Ethyltoluene	*390*		*ug/L*		*7.39*	*611-14-3*		*07/13/19 17:48*	*100*
1,2,3-Trimethylbenzene	*490*	*J*	*ug/L*		*7.88*	*526-73-8*		*07/13/19 17:48*	*100*
1,3-Diethylbenzene	*160*	*J*	*ug/L*		*8.05*	*141-93-5*		*07/13/19 17:48*	*100*
p-Diethylbenzene	*110*	*J*	*ug/L*		*8.09*	*105-05-5*		*07/13/19 17:48*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 17:48*	*100*
Dibromofluoromethane	*110*		*81 - 121*		*07/13/19 17:48*	*100*
Toluene-d8 (Surr)	*108*		*80 - 120*		*07/13/19 17:48*	*100*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.97	0.097	ug/L		07/12/19 14:17	07/29/19 14:37	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/12/19 14:17	07/29/19 14:37	5
Anthracene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[a]anthracene	**0.14**	**J**	0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Chrysene	**0.11**	**J**	0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Fluoranthene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1
Fluorene	ND		0.97	0.10	ug/L		07/12/19 14:17	07/29/19 14:37	5
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:42	1
Phenanthrene	**4.7**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1
Pyrene	**0.53**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*15 - 122*	*07/12/19 14:17*	*07/29/19 14:37*	*5*
Terphenyl-d14	*79*		*33 - 138*	*07/12/19 14:17*	*07/18/19 13:42*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**240**		9.7	0.97	ug/L		07/12/19 14:17	07/29/19 16:45	50
2-Methylnaphthalene	**520**		9.7	0.97	ug/L		07/12/19 14:17	07/29/19 16:45	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*219*	*X*	*19 - 130*	*07/12/19 14:17*	*07/29/19 16:45*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	49	18	ug/L		07/12/19 14:17	07/19/19 22:06	5
Benzenethiol	ND		49	8.3	ug/L		07/12/19 14:17	07/19/19 22:06	5
Benzoic acid	ND	*	150	36	ug/L		07/12/19 14:17	07/19/19 22:06	5
Benzyl alcohol	ND		49	9.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
Bis(2-chloroethoxy)methane	ND		49	3.4	ug/L		07/12/19 14:17	07/19/19 22:06	5
Bis(2-chloroethyl)ether	ND		49	3.6	ug/L		07/12/19 14:17	07/19/19 22:06	5
bis (2-chloroisopropyl) ether	ND		49	3.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Bis(2-ethylhexyl) phthalate	ND		49	24	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Bromophenyl phenyl ether	ND		49	1.6	ug/L		07/12/19 14:17	07/19/19 22:06	5
Butyl benzyl phthalate	ND		49	3.4	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Chloroaniline	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Chloro-3-methylphenol	ND		49	18	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Chloronaphthalene	ND		49	2.5	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Chlorophenol	ND		49	11	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Chlorophenyl phenyl ether	ND		49	9.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
Dibenz[a,h]acridine	ND		49	15	ug/L		07/12/19 14:17	07/19/19 22:06	5
Dibenzofuran	ND		49	2.5	ug/L		07/12/19 14:17	07/19/19 22:06	5
3,3'-Dichlorobenzidine	ND		49	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4-Dichlorophenol	ND		49	15	ug/L		07/12/19 14:17	07/19/19 22:06	5
Diethyl phthalate	ND		49	3.4	ug/L		07/12/19 14:17	07/19/19 22:06	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-54-071019

Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
Dimethyl phthalate	ND		49	2.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Di-n-butyl phthalate	ND		49	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
4,6-Dinitro-ortho-cresol	ND		49	9.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4-Dinitrophenol	ND	*	150	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4-Dinitrotoluene	ND		49	9.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,6-Dinitrotoluene	ND		49	9.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
Di-n-octyl phthalate	ND		49	2.1	ug/L		07/12/19 14:17	07/19/19 22:06	5
1,4-Dioxane	ND		49	4.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		49	4.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Hexachlorobenzene	ND		49	1.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
Hexachlorocyclopentadiene	ND		97	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
Hexachloroethane	ND		49	20	ug/L		07/12/19 14:17	07/19/19 22:06	5
Indene	ND	*	49	4.9	ug/L		07/12/19 14:17	07/19/19 22:06	5
Isophorone	ND		49	2.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Methylphenol	ND		49	8.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
3 & 4 Methylphenol	ND		97	5.1	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Nitroaniline	ND		49	11	ug/L		07/12/19 14:17	07/19/19 22:06	5
3-Nitroaniline	ND		49	8.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Nitroaniline	ND		49	12	ug/L		07/12/19 14:17	07/19/19 22:06	5
Nitrobenzene	ND		49	2.7	ug/L		07/12/19 14:17	07/19/19 22:06	5
2-Nitrophenol	ND		49	3.2	ug/L		07/12/19 14:17	07/19/19 22:06	5
4-Nitrophenol	ND		49	10	ug/L		07/12/19 14:17	07/19/19 22:06	5
N-Nitrosodimethylamine	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5
N-Nitrosodi-n-propylamine	ND		49	16	ug/L		07/12/19 14:17	07/19/19 22:06	5
N-Nitrosodiphenylamine	ND		49	2.3	ug/L		07/12/19 14:17	07/19/19 22:06	5
Pentachlorophenol	ND		97	8.8	ug/L		07/12/19 14:17	07/19/19 22:06	5
Phenol	ND		49	13	ug/L		07/12/19 14:17	07/19/19 22:06	5
Pyridine	ND		49	16	ug/L		07/12/19 14:17	07/19/19 22:06	5
Quinoline	ND		49	29	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4,5-Trichlorophenol	ND		49	18	ug/L		07/12/19 14:17	07/19/19 22:06	5
2,4,6-Trichlorophenol	ND		49	17	ug/L		07/12/19 14:17	07/19/19 22:06	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*2000*	*T J N*	*ug/L*		*3.71*	*108-88-3*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*1100*	*T J*	*ug/L*		*3.74*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Octane	*2000*	*T J N*	*ug/L*		*3.99*	*111-65-9*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,3-dimethyl-	*3400*	*T J N*	*ug/L*		*4.58*	*108-38-3*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
p-Xylene	*2800*	*T J N*	*ug/L*		*4.74*	*106-42-3*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*1300*	*T J*	*ug/L*		*4.93*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Unknown	*1100*	*T J*	*ug/L*		*4.99*		*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,3,5-trimethyl-	*2600*	*T J N*	*ug/L*		*5.21*	*108-67-8*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,2,3-trimethyl-	*1800*	*T J N*	*ug/L*		*5.26*	*526-73-8*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Decane	*2100*	*T J N*	*ug/L*		*5.34*	*124-18-5*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1,3,5-trimethyl-	*2500*	*T J N*	*ug/L*		*5.50*	*108-67-8*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Indane	*1700*	*T J N*	*ug/L*		*5.59*	*496-11-7*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1-methyl-3-propyl-	*1200*	*T J N*	*ug/L*		*5.62*	*1074-43-7*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1-ethyl-3,5-dimethyl-	*2300*	*T J N*	*ug/L*		*5.66*	*934-74-7*	*07/12/19 14:17*	*07/19/19 22:06*	*5*
Benzene, 1-methyl-2-(1-methylethyl)-	*1100*	*T J N*	*ug/L*		*5.76*	*527-84-4*	*07/12/19 14:17*	*07/19/19 22:06*	*5*

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-54-071019
Lab Sample ID: 400-172948-2
Date Collected: 07/10/19 09:05
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 2-ethyl-1,4-dimethyl-	1800	T J N	ug/L		5.80	1758-88-9	07/12/19 14:17	07/19/19 22:06	5
Indan, 1-methyl-	1100	T J N	ug/L		5.83	767-58-8	07/12/19 14:17	07/19/19 22:06	5
Benzene, 4-ethyl-1,2-dimethyl-	990	T J N	ug/L		5.89	934-80-5	07/12/19 14:17	07/19/19 22:06	5
Benzene, 1,2,4,5-tetramethyl-	1400	T J N	ug/L		5.95	95-93-2	07/12/19 14:17	07/19/19 22:06	5
Benzene, 1,2,4,5-tetramethyl-	1600	T J N	ug/L		5.96	95-93-2	07/12/19 14:17	07/19/19 22:06	5
Benzene, 1-methyl-4-(2-propenyl)-	2700	T J N	ug/L		6.12	3333-13-9	07/12/19 14:17	07/19/19 22:06	5
Unknown	960	T J	ug/L		6.15		07/12/19 14:17	07/19/19 22:06	5
Dodecane	1800	T J N	ug/L		6.23	112-40-3	07/12/19 14:17	07/19/19 22:06	5
Tridecane	1400	T J N	ug/L		6.62	629-50-5	07/12/19 14:17	07/19/19 22:06	5
Naphthalene, 2-methyl-	1700	T J N	ug/L		6.75	91-57-6	07/12/19 14:17	07/19/19 22:06	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	121	X	34 - 120	07/12/19 14:17	07/19/19 22:06	5
2-Fluorophenol	53		10 - 120	07/12/19 14:17	07/19/19 22:06	5
Nitrobenzene-d5	0	X	27 - 120	07/12/19 14:17	07/19/19 22:06	5
Phenol-d5	276	X	10 - 120	07/12/19 14:17	07/19/19 22:06	5
Terphenyl-d14	107		53 - 125	07/12/19 14:17	07/19/19 22:06	5
2,4,6-Tribromophenol	208	X	15 - 135	07/12/19 14:17	07/19/19 22:06	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Lab Sample ID: 400-172948-3

Date Collected: 07/10/19 10:05

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			07/14/19 11:49	5
Acrolein	ND		100	50	ug/L			07/14/19 11:49	5
Acrylonitrile	ND	*	50	14	ug/L			07/14/19 11:49	5
Benzene	**890**		5.0	1.9	ug/L			07/14/19 11:49	5
Bromobenzene	ND		5.0	2.7	ug/L			07/14/19 11:49	5
Bromochloromethane	ND		5.0	2.6	ug/L			07/14/19 11:49	5
Bromodichloromethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Bromoform	ND		25	3.6	ug/L			07/14/19 11:49	5
Bromomethane	ND		5.0	4.9	ug/L			07/14/19 11:49	5
2-Butanone (MEK)	ND		130	13	ug/L			07/14/19 11:49	5
Carbon disulfide	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Carbon tetrachloride	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Chlorobenzene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Chloroethane	ND		5.0	3.8	ug/L			07/14/19 11:49	5
2-Chloroethyl vinyl ether	ND	*	25	10	ug/L			07/14/19 11:49	5
Chloroform	ND		5.0	3.0	ug/L			07/14/19 11:49	5
1-Chlorohexane	ND	*	5.0	3.5	ug/L			07/14/19 11:49	5
Chloromethane	ND		5.0	4.2	ug/L			07/14/19 11:49	5
cis-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			07/14/19 11:49	5
Dibromochloromethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,2-Dibromo-3-Chloropropane	ND		25	7.5	ug/L			07/14/19 11:49	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			07/14/19 11:49	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			07/14/19 11:49	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			07/14/19 11:49	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,2-Dichloroethane	ND	*	5.0	2.5	ug/L			07/14/19 11:49	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Ethylbenzene	**9.6**		5.0	2.5	ug/L			07/14/19 11:49	5
Ethylene Dibromide	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			07/14/19 11:49	5
Hexachlorobutadiene	ND		25	4.5	ug/L			07/14/19 11:49	5
2-Hexanone	ND		130	16	ug/L			07/14/19 11:49	5
Isopropylbenzene	ND		5.0	2.7	ug/L			07/14/19 11:49	5
Methylene bromide	ND		25	3.0	ug/L			07/14/19 11:49	5
Methylene Chloride	ND		25	15	ug/L			07/14/19 11:49	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			07/14/19 11:49	5
Methyl tert-butyl ether	ND		5.0	3.7	ug/L			07/14/19 11:49	5
m-Xylene & p-Xylene	**21**	**J**	25	8.0	ug/L			07/14/19 11:49	5
Naphthalene	ND		5.0	5.0	ug/L			07/14/19 11:49	5
n-Butylbenzene	ND		5.0	3.8	ug/L			07/14/19 11:49	5
N-Propylbenzene	ND		5.0	3.5	ug/L			07/14/19 11:49	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			07/14/19 11:49	5
o-Xylene	**7.6**	**J**	25	3.0	ug/L			07/14/19 11:49	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Lab Sample ID: 400-172948-3

Date Collected: 07/10/19 10:05
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5.0	2.8	ug/L			07/14/19 11:49	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			07/14/19 11:49	5
sec-Butylbenzene	ND		5.0	3.5	ug/L			07/14/19 11:49	5
Styrene	ND		5.0	5.0	ug/L			07/14/19 11:49	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			07/14/19 11:49	5
1,1,1,2-Tetrachloroethane	ND		5.0	2.6	ug/L			07/14/19 11:49	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Tetrachloroethene	ND		5.0	2.9	ug/L			07/14/19 11:49	5
Toluene	**11**		5.0	2.1	ug/L			07/14/19 11:49	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
trans-1,3-Dichloropropene	ND		25	2.5	ug/L			07/14/19 11:49	5
1,2,3-Trichlorobenzene	ND		5.0	3.5	ug/L			07/14/19 11:49	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			07/14/19 11:49	5
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			07/14/19 11:49	5
1,1,2-Trichloroethane	ND		25	2.5	ug/L			07/14/19 11:49	5
Trichloroethene	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			07/14/19 11:49	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			07/14/19 11:49	5
1,2,4-Trimethylbenzene	**11**		5.0	4.1	ug/L			07/14/19 11:49	5
1,3,5-Trimethylbenzene	**3.5**	**J**	5.0	2.8	ug/L			07/14/19 11:49	5
Vinyl acetate	ND		130	10	ug/L			07/14/19 11:49	5
Vinyl chloride	ND		5.0	2.5	ug/L			07/14/19 11:49	5
Xylenes, Total	**28**	**J**	50	8.0	ug/L			07/14/19 11:49	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*220*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/14/19 11:49*	*5*
Hexane	*6.9*		*ug/L*		*2.79*	*110-54-3*		*07/14/19 11:49*	*5*
Cyclohexane	*5.7*		*ug/L*		*3.57*	*110-82-7*		*07/14/19 11:49*	*5*
Methylcyclohexane	*4.0*	*J*	*ug/L*		*4.28*	*108-87-2*		*07/14/19 11:49*	*5*
3-Ethyltoluene	*6.2*		*ug/L*		*7.16*	*620-14-4*		*07/14/19 11:49*	*5*
1-Methylnaphthalene	*25*		*ug/L*		*11.07*	*90-12-0*		*07/14/19 11:49*	*5*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 11:49*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*07/14/19 11:49*	*5*
Dibromofluoromethane	*115*		*81 - 121*		*07/14/19 11:49*	*5*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 11:49*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Anthracene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Chrysene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Fluorene	ND		0.19	0.020	ug/L		07/12/19 14:17	07/18/19 13:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/12/19 14:17	07/18/19 13:59	1
1-Methylnaphthalene	**0.56**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
2-Methylnaphthalene	**1.0**		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1
Pyrene	ND		0.19	0.019	ug/L		07/12/19 14:17	07/18/19 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*15 - 122*	*07/12/19 14:17*	*07/18/19 13:59*	*1*
Nitrobenzene-d5	*84*		*19 - 130*	*07/12/19 14:17*	*07/18/19 13:59*	*1*
Terphenyl-d14	*100*		*33 - 138*	*07/12/19 14:17*	*07/18/19 13:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
Benzoic acid	ND		29	7.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/12/19 14:17	07/18/19 19:55	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/12/19 14:17	07/18/19 19:55	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/12/19 14:17	07/18/19 19:55	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/12/19 14:17	07/18/19 19:55	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/12/19 14:17	07/18/19 19:55	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/12/19 14:17	07/18/19 19:55	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/12/19 14:17	07/18/19 19:55	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/12/19 14:17	07/18/19 19:55	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/12/19 14:17	07/18/19 19:55	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/12/19 14:17	07/18/19 19:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/12/19 14:17	07/18/19 19:55	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/12/19 14:17	07/18/19 19:55	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/12/19 14:17	07/18/19 19:55	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
Indene	ND		9.7	0.97	ug/L		07/12/19 14:17	07/18/19 19:55	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-60-071019

Lab Sample ID: 400-172948-3

Date Collected: 07/10/19 10:05

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.7	0.55	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/12/19 14:17	07/18/19 19:55	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/12/19 14:17	07/18/19 19:55	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/12/19 14:17	07/18/19 19:55	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/12/19 14:17	07/18/19 19:55	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/12/19 14:17	07/18/19 19:55	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/12/19 14:17	07/18/19 19:55	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/12/19 14:17	07/18/19 19:55	1
Pentachlorophenol	ND		19	1.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
Phenol	**13**		9.7	2.5	ug/L		07/12/19 14:17	07/18/19 19:55	1
Pyridine	ND		9.7	3.1	ug/L		07/12/19 14:17	07/18/19 19:55	1
Quinoline	ND		9.7	5.8	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/12/19 14:17	07/18/19 19:55	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/12/19 14:17	07/18/19 19:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*3.9*	*T J N*	*ug/L*		*3.89*	*108-88-3*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Ethylbenzene	*7.6*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
o-Xylene	*7.4*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Benzene, 1-ethyl-2-methyl-	*5.7*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Benzene, 1,2,3-trimethyl-	*15*	*T J N*	*ug/L*		*5.47*	*526-73-8*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Benzene, 1,2,3-trimethyl-	*4.1*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
1-Phenyl-1-butene	*5.1*	*T J N*	*ug/L*		*6.24*	*824-90-8*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*6.45*		*07/12/19 14:17*	*07/18/19 19:55*	*1*
Unknown	*5.8*	*T J*	*ug/L*		*7.17*		*07/12/19 14:17*	*07/18/19 19:55*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*7.34*		*07/12/19 14:17*	*07/18/19 19:55*	*1*
n-Hexadecanoic acid	*14*	*T J N*	*ug/L*		*9.09*	*57-10-3*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
3-Eicosene, (E)-	*4.2*	*T J N*	*ug/L*		*10.89*	*74685-33-9*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Unknown	*4.3*	*T J*	*ug/L*		*11.91*		*07/12/19 14:17*	*07/18/19 19:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
2-Fluorophenol	*64*		*10 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Nitrobenzene-d5	*97*		*27 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Phenol-d5	*85*		*10 - 120*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
Terphenyl-d14	*85*		*53 - 125*	*07/12/19 14:17*	*07/18/19 19:55*	*1*
2,4,6-Tribromophenol	*109*		*15 - 135*	*07/12/19 14:17*	*07/18/19 19:55*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Lab Sample ID: 400-172948-4

Date Collected: 07/10/19 11:05

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	200	ug/L			07/13/19 17:22	20
Acrolein	ND		400	200	ug/L			07/13/19 17:22	20
Acrylonitrile	ND		200	56	ug/L			07/13/19 17:22	20
Benzene	**3100**		20	7.6	ug/L			07/13/19 17:22	20
Bromobenzene	ND		20	11	ug/L			07/13/19 17:22	20
Bromochloromethane	ND		20	10	ug/L			07/13/19 17:22	20
Bromodichloromethane	ND		20	10	ug/L			07/13/19 17:22	20
Bromoform	ND		100	14	ug/L			07/13/19 17:22	20
Bromomethane	ND	*	20	20	ug/L			07/13/19 17:22	20
2-Butanone (MEK)	ND		500	52	ug/L			07/13/19 17:22	20
Carbon disulfide	ND		20	10	ug/L			07/13/19 17:22	20
Carbon tetrachloride	ND		20	10	ug/L			07/13/19 17:22	20
Chlorobenzene	ND		20	10	ug/L			07/13/19 17:22	20
Chloroethane	ND		20	15	ug/L			07/13/19 17:22	20
2-Chloroethyl vinyl ether	ND	*	100	40	ug/L			07/13/19 17:22	20
Chloroform	ND		20	12	ug/L			07/13/19 17:22	20
1-Chlorohexane	ND	*	20	14	ug/L			07/13/19 17:22	20
Chloromethane	ND		20	17	ug/L			07/13/19 17:22	20
cis-1,2-Dichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
cis-1,3-Dichloropropene	ND		100	10	ug/L			07/13/19 17:22	20
Dibromochloromethane	ND		20	10	ug/L			07/13/19 17:22	20
1,2-Dibromo-3-Chloropropane	ND		100	30	ug/L			07/13/19 17:22	20
1,2-Dichlorobenzene	ND		20	10	ug/L			07/13/19 17:22	20
1,3-Dichlorobenzene	ND		20	11	ug/L			07/13/19 17:22	20
1,4-Dichlorobenzene	ND		20	13	ug/L			07/13/19 17:22	20
Dichlorodifluoromethane	ND		20	17	ug/L			07/13/19 17:22	20
1,1-Dichloroethane	ND		20	10	ug/L			07/13/19 17:22	20
1,2-Dichloroethane	ND	*	20	10	ug/L			07/13/19 17:22	20
1,1-Dichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
1,2-Dichloropropane	ND		20	10	ug/L			07/13/19 17:22	20
1,3-Dichloropropane	ND		20	10	ug/L			07/13/19 17:22	20
2,2-Dichloropropane	ND		20	10	ug/L			07/13/19 17:22	20
1,1-Dichloropropene	ND		20	10	ug/L			07/13/19 17:22	20
Ethylbenzene	**98**		20	10	ug/L			07/13/19 17:22	20
Ethylene Dibromide	ND		20	10	ug/L			07/13/19 17:22	20
Ethyl methacrylate	ND		20	12	ug/L			07/13/19 17:22	20
Hexachlorobutadiene	ND		100	18	ug/L			07/13/19 17:22	20
2-Hexanone	ND		500	62	ug/L			07/13/19 17:22	20
Isopropylbenzene	ND		20	11	ug/L			07/13/19 17:22	20
Methylene bromide	ND		100	12	ug/L			07/13/19 17:22	20
Methylene Chloride	ND		100	60	ug/L			07/13/19 17:22	20
4-Methyl-2-pentanone (MIBK)	ND		500	36	ug/L			07/13/19 17:22	20
Methyl tert-butyl ether	ND		20	15	ug/L			07/13/19 17:22	20
m-Xylene & p-Xylene	**190**		100	32	ug/L			07/13/19 17:22	20
Naphthalene	ND		20	20	ug/L			07/13/19 17:22	20
n-Butylbenzene	ND		20	15	ug/L			07/13/19 17:22	20
N-Propylbenzene	**18**	**J**	20	14	ug/L			07/13/19 17:22	20
o-Chlorotoluene	ND		20	11	ug/L			07/13/19 17:22	20
o-Xylene	**77**	**J**	100	12	ug/L			07/13/19 17:22	20

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Lab Sample ID: 400-172948-4

Date Collected: 07/10/19 11:05

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		20	11	ug/L			07/13/19 17:22	20
p-Isopropyltoluene	ND		20	14	ug/L			07/13/19 17:22	20
sec-Butylbenzene	ND		20	14	ug/L			07/13/19 17:22	20
Styrene	ND		20	20	ug/L			07/13/19 17:22	20
tert-Butylbenzene	ND		20	13	ug/L			07/13/19 17:22	20
1,1,1,2-Tetrachloroethane	ND		20	10	ug/L			07/13/19 17:22	20
1,1,2,2-Tetrachloroethane	ND		20	10	ug/L			07/13/19 17:22	20
Tetrachloroethene	ND		20	12	ug/L			07/13/19 17:22	20
Toluene	**68**		20	8.2	ug/L			07/13/19 17:22	20
trans-1,2-Dichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
trans-1,3-Dichloropropene	ND		100	10	ug/L			07/13/19 17:22	20
1,2,3-Trichlorobenzene	ND		20	14	ug/L			07/13/19 17:22	20
1,2,4-Trichlorobenzene	ND		20	16	ug/L			07/13/19 17:22	20
1,1,1-Trichloroethane	ND		20	10	ug/L			07/13/19 17:22	20
1,1,2-Trichloroethane	ND		100	10	ug/L			07/13/19 17:22	20
Trichloroethene	ND		20	10	ug/L			07/13/19 17:22	20
Trichlorofluoromethane	ND	*	20	10	ug/L			07/13/19 17:22	20
1,2,3-Trichloropropane	ND		100	17	ug/L			07/13/19 17:22	20
1,2,4-Trimethylbenzene	**88**		20	16	ug/L			07/13/19 17:22	20
1,3,5-Trimethylbenzene	**26**		20	11	ug/L			07/13/19 17:22	20
Vinyl acetate	ND		500	40	ug/L			07/13/19 17:22	20
Vinyl chloride	ND		20	10	ug/L			07/13/19 17:22	20
Xylenes, Total	**270**		200	32	ug/L			07/13/19 17:22	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*120*	*T J N*	*ug/L*		*1.94*	*109-66-0*		*07/13/19 17:22*	*20*
Hexane	*94*		*ug/L*		*2.79*	*110-54-3*		*07/13/19 17:22*	*20*
Cyclopentane, methyl-	*120*	*T J N*	*ug/L*		*3.16*	*96-37-7*		*07/13/19 17:22*	*20*
Cyclohexane	*67*		*ug/L*		*3.56*	*110-82-7*		*07/13/19 17:22*	*20*
Methylcyclohexane	*55*		*ug/L*		*4.28*	*108-87-2*		*07/13/19 17:22*	*20*
3-Ethyltoluene	*75*		*ug/L*		*7.16*	*620-14-4*		*07/13/19 17:22*	*20*
2-Ethyltoluene	*21*		*ug/L*		*7.39*	*611-14-3*		*07/13/19 17:22*	*20*
1,2,3-Trimethylbenzene	*24*	*J*	*ug/L*		*7.87*	*526-73-8*		*07/13/19 17:22*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*07/13/19 17:22*	*20*
Dibromofluoromethane	*116*		*81 - 121*		*07/13/19 17:22*	*20*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/13/19 17:22*	*20*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019

Lab Sample ID: 400-172948-4

Date Collected: 07/10/19 11:05

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 14:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:16	1
1-Methylnaphthalene	**4.8**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
2-Methylnaphthalene	**8.8**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Phenanthrene	**0.091**	**J**	0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*15 - 122*	*07/12/19 14:17*	*07/18/19 14:16*	*1*
Nitrobenzene-d5	*94*		*19 - 130*	*07/12/19 14:17*	*07/18/19 14:16*	*1*
Terphenyl-d14	*92*		*33 - 138*	*07/12/19 14:17*	*07/18/19 14:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
Benzenethiol	ND	*	10	1.7	ug/L		07/12/19 14:17	07/18/19 20:16	1
Benzoic acid	ND		30	7.3	ug/L		07/12/19 14:17	07/18/19 20:16	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:16	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/12/19 14:17	07/18/19 20:16	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/12/19 14:17	07/18/19 20:16	1
Bis(2-ethylhexyl) phthalate	**5.9**	**J**	10	5.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 20:16	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:16	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:16	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 20:16	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 20:16	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:16	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 20:16	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 20:16	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 20:16	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 20:16	1

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-70-071019
Lab Sample ID: 400-172948-4

Date Collected: 07/10/19 11:05
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:16	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 20:16	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 20:16	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 20:16	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 20:16	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:16	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 20:16	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 20:16	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 20:16	1
Phenol	**36**		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:16	1
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 20:16	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 20:16	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*26*	*T J N*	*ug/L*		*3.88*	*108-88-3*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Ethylbenzene	*55*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
o-Xylene	*66*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Unknown	*9.1*	*T J*	*ug/L*		*5.09*		*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, propyl-	*16*	*T J N*	*ug/L*		*5.25*	*103-65-1*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-ethyl-2-methyl-	*34*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-ethyl-2-methyl-	*15*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-ethyl-2-methyl-	*19*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1,3,5-trimethyl-	*77*	*T J N*	*ug/L*		*5.47*	*108-67-8*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1,2,3-trimethyl-	*26*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Indane	*15*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Unknown	*6.8*	*T J*	*ug/L*		*5.74*		*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-methyl-3-propyl-	*13*	*T J N*	*ug/L*		*5.75*	*1074-43-7*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*29*	*T J N*	*ug/L*		*5.78*	*933-98-2*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*8.2*	*T J N*	*ug/L*		*5.87*	*933-98-2*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*9.3*	*T J N*	*ug/L*		*5.89*	*527-84-4*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1-methyl-4-(1-methylethyl)-	*15*	*T J N*	*ug/L*		*5.92*	*99-87-6*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Unknown	*6.3*	*T J*	*ug/L*		*6.02*		*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, 1,2,4,5-tetramethyl-	*11*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
3-Phenylbut-1-ene	*10*	*T J N*	*ug/L*		*6.20*	*934-10-1*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
1-Phenyl-1-butene	*19*	*T J N*	*ug/L*		*6.24*	*824-90-8*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Benzene, (1-methyl-1-butenyl)-	*11*	*T J N*	*ug/L*		*6.40*	*53172-84-2*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Naphthalene	*23*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Naphthalene, 2-methyl-	*9.1*	*T J N*	*ug/L*		*6.89*	*91-57-6*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
Naphthalene, 1-methyl-	*7.4*	*T J N*	*ug/L*		*6.96*	*90-12-0*	*07/12/19 14:17*	*07/18/19 20:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*34 - 120*	*07/12/19 14:17*	*07/18/19 20:16*	*1*
2-Fluorophenol	*50*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:16*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-70-071019
Lab Sample ID: 400-172948-4
Date Collected: 07/10/19 11:05
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	89		27 - 120	07/12/19 14:17	07/18/19 20:16	1
Phenol-d5	79		10 - 120	07/12/19 14:17	07/18/19 20:16	1
Terphenyl-d14	74		53 - 125	07/12/19 14:17	07/18/19 20:16	1
2,4,6-Tribromophenol	104		15 - 135	07/12/19 14:17	07/18/19 20:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		2500	1000	ug/L			07/13/19 18:14	100
Acrolein	ND		2000	1000	ug/L			07/13/19 18:14	100
Acrylonitrile	ND		1000	280	ug/L			07/13/19 18:14	100
Benzene	**13000**		100	38	ug/L			07/13/19 18:14	100
Bromobenzene	ND		100	54	ug/L			07/13/19 18:14	100
Bromochloromethane	ND		100	52	ug/L			07/13/19 18:14	100
Bromodichloromethane	ND		100	50	ug/L			07/13/19 18:14	100
Bromoform	ND		500	71	ug/L			07/13/19 18:14	100
Bromomethane	ND	*	100	98	ug/L			07/13/19 18:14	100
2-Butanone (MEK)	ND		2500	260	ug/L			07/13/19 18:14	100
Carbon disulfide	ND		100	50	ug/L			07/13/19 18:14	100
Carbon tetrachloride	ND		100	50	ug/L			07/13/19 18:14	100
Chlorobenzene	ND		100	50	ug/L			07/13/19 18:14	100
Chloroethane	ND		100	76	ug/L			07/13/19 18:14	100
2-Chloroethyl vinyl ether	ND	*	500	200	ug/L			07/13/19 18:14	100
Chloroform	ND		100	60	ug/L			07/13/19 18:14	100
1-Chlorohexane	ND	*	100	70	ug/L			07/13/19 18:14	100
Chloromethane	ND		100	83	ug/L			07/13/19 18:14	100
cis-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
cis-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 18:14	100
Dibromochloromethane	ND		100	50	ug/L			07/13/19 18:14	100
1,2-Dibromo-3-Chloropropane	ND		500	150	ug/L			07/13/19 18:14	100
1,2-Dichlorobenzene	ND		100	50	ug/L			07/13/19 18:14	100
1,3-Dichlorobenzene	ND		100	54	ug/L			07/13/19 18:14	100
1,4-Dichlorobenzene	ND		100	64	ug/L			07/13/19 18:14	100
Dichlorodifluoromethane	ND		100	85	ug/L			07/13/19 18:14	100
1,1-Dichloroethane	ND		100	50	ug/L			07/13/19 18:14	100
1,2-Dichloroethane	ND	*	100	50	ug/L			07/13/19 18:14	100
1,1-Dichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
1,2-Dichloropropane	ND		100	50	ug/L			07/13/19 18:14	100
1,3-Dichloropropane	ND		100	50	ug/L			07/13/19 18:14	100
2,2-Dichloropropane	ND		100	50	ug/L			07/13/19 18:14	100
1,1-Dichloropropene	ND		100	50	ug/L			07/13/19 18:14	100
Ethylbenzene	**130**		100	50	ug/L			07/13/19 18:14	100
Ethylene Dibromide	ND		100	50	ug/L			07/13/19 18:14	100
Ethyl methacrylate	ND		100	60	ug/L			07/13/19 18:14	100
Hexachlorobutadiene	ND		500	90	ug/L			07/13/19 18:14	100
2-Hexanone	ND		2500	310	ug/L			07/13/19 18:14	100
Isopropylbenzene	ND		100	53	ug/L			07/13/19 18:14	100
Methylene bromide	ND		500	59	ug/L			07/13/19 18:14	100
Methylene Chloride	ND		500	300	ug/L			07/13/19 18:14	100
4-Methyl-2-pentanone (MIBK)	ND		2500	180	ug/L			07/13/19 18:14	100
Methyl tert-butyl ether	ND		100	74	ug/L			07/13/19 18:14	100
m-Xylene & p-Xylene	**240**	**J**	500	160	ug/L			07/13/19 18:14	100
Naphthalene	ND		100	100	ug/L			07/13/19 18:14	100
n-Butylbenzene	ND		100	76	ug/L			07/13/19 18:14	100
N-Propylbenzene	ND		100	69	ug/L			07/13/19 18:14	100
o-Chlorotoluene	ND		100	57	ug/L			07/13/19 18:14	100
o-Xylene	**90**	**J**	500	60	ug/L			07/13/19 18:14	100

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		100	56	ug/L			07/13/19 18:14	100
p-Isopropyltoluene	ND		100	71	ug/L			07/13/19 18:14	100
sec-Butylbenzene	ND		100	70	ug/L			07/13/19 18:14	100
Styrene	ND		100	100	ug/L			07/13/19 18:14	100
tert-Butylbenzene	ND		100	63	ug/L			07/13/19 18:14	100
1,1,1,2-Tetrachloroethane	ND		100	52	ug/L			07/13/19 18:14	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/L			07/13/19 18:14	100
Tetrachloroethene	ND		100	58	ug/L			07/13/19 18:14	100
Toluene	**100**		100	41	ug/L			07/13/19 18:14	100
trans-1,2-Dichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
trans-1,3-Dichloropropene	ND		500	50	ug/L			07/13/19 18:14	100
1,2,3-Trichlorobenzene	ND		100	70	ug/L			07/13/19 18:14	100
1,2,4-Trichlorobenzene	ND		100	82	ug/L			07/13/19 18:14	100
1,1,1-Trichloroethane	ND		100	50	ug/L			07/13/19 18:14	100
1,1,2-Trichloroethane	ND		500	50	ug/L			07/13/19 18:14	100
Trichloroethene	ND		100	50	ug/L			07/13/19 18:14	100
Trichlorofluoromethane	ND	*	100	52	ug/L			07/13/19 18:14	100
1,2,3-Trichloropropane	ND		500	84	ug/L			07/13/19 18:14	100
1,2,4-Trimethylbenzene	**94**	**J**	100	82	ug/L			07/13/19 18:14	100
1,3,5-Trimethylbenzene	ND		100	56	ug/L			07/13/19 18:14	100
Vinyl acetate	ND		2500	200	ug/L			07/13/19 18:14	100
Vinyl chloride	ND		100	50	ug/L			07/13/19 18:14	100
Xylenes, Total	**330**	**J**	1000	160	ug/L			07/13/19 18:14	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 18:14*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/13/19 18:14*	*100*
Dibromofluoromethane	*111*		*81 - 121*		*07/13/19 18:14*	*100*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 18:14*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[a]anthracene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[a]pyrene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[b]fluoranthene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Chrysene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 14:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 14:33	1
1-Methylnaphthalene	**2.8**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
2-Methylnaphthalene	**4.6**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Lab Sample ID: 400-172948-5

Date Collected: 07/10/19 11:05
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*15 - 122*	*07/12/19 14:17*	*07/18/19 14:33*	*1*
Nitrobenzene-d5	*86*		*19 - 130*	*07/12/19 14:17*	*07/18/19 14:33*	*1*
Terphenyl-d14	*100*		*33 - 138*	*07/12/19 14:17*	*07/18/19 14:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
Benzenethiol	ND	*	10	1.7	ug/L		07/12/19 14:17	07/18/19 20:38	1
Benzoic acid	ND		30	7.4	ug/L		07/12/19 14:17	07/18/19 20:38	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:38	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/12/19 14:17	07/18/19 20:38	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/12/19 14:17	07/18/19 20:38	1
Bis(2-ethylhexyl) phthalate	**9.5**	**J**	10	5.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/12/19 14:17	07/18/19 20:38	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Chloroaniline	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Dibenzofuran	ND		10	0.53	ug/L		07/12/19 14:17	07/18/19 20:38	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Diethyl phthalate	ND		10	0.71	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/12/19 14:17	07/18/19 20:38	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 20:38	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dinitrophenol	ND		30	3.5	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:38	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/12/19 14:17	07/18/19 20:38	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 20:38	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
Hexachloroethane	ND		10	4.3	ug/L		07/12/19 14:17	07/18/19 20:38	1
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:38	1
Isophorone	ND		10	0.58	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:38	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 20:38	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-70-071019-DUP

Lab Sample ID: 400-172948-5

Date Collected: 07/10/19 11:05
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.56	ug/L		07/12/19 14:17	07/18/19 20:38	1
2-Nitrophenol	ND		10	0.66	ug/L		07/12/19 14:17	07/18/19 20:38	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 20:38	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/12/19 14:17	07/18/19 20:38	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
Phenol	**65**		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:38	1
Pyridine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 20:38	1
Quinoline	ND		10	6.1	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:38	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 20:38	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*24*	*T J N*	*ug/L*		*3.89*	*108-88-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2-Butanone, 4-hydroxy-	*27*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Ethylbenzene	*51*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
o-Xylene	*47*	*T J N*	*ug/L*		*4.88*	*95-47-6*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Unknown	*5.9*	*T J*	*ug/L*		*5.09*		*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, propyl-	*12*	*T J N*	*ug/L*		*5.25*	*103-65-1*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-3-methyl-	*29*	*T J N*	*ug/L*		*5.28*	*620-14-4*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-2-methyl-	*20*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-2-methyl-	*15*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1,2,3-trimethyl-	*58*	*T J N*	*ug/L*		*5.47*	*526-73-8*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1,2,3-trimethyl-	*20*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Indane	*12*	*T J N*	*ug/L*		*5.72*	*496-11-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-methyl-3-propyl-	*6.7*	*T J N*	*ug/L*		*5.75*	*1074-43-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*18*	*T J N*	*ug/L*		*5.78*	*934-74-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*8.6*	*T J N*	*ug/L*		*5.92*	*527-84-4*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*4.8*	*T J N*	*ug/L*		*6.02*	*934-80-5*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1,2,4,5-tetramethyl-	*7.1*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, 1-ethenyl-4-ethyl-	*6.6*	*T J N*	*ug/L*		*6.20*	*3454-07-7*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
1-Phenyl-1-butene	*12*	*T J N*	*ug/L*		*6.25*	*824-90-8*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Benzene, (1-methyl-1-butenyl)-	*6.0*	*T J N*	*ug/L*		*6.40*	*53172-84-2*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Naphthalene	*14*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Naphthalene, 1-methyl-	*5.2*	*T J N*	*ug/L*		*6.89*	*90-12-0*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
n-Hexadecanoic acid	*9.9*	*T J N*	*ug/L*		*9.09*	*57-10-3*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Unknown	*5.2*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 20:38*	*1*
Unknown	*5.9*	*T J*	*ug/L*		*11.91*		*07/12/19 14:17*	*07/18/19 20:38*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*34 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Nitrobenzene-d5	*93*		*27 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Phenol-d5	*79*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
Terphenyl-d14	*86*		*53 - 125*	*07/12/19 14:17*	*07/18/19 20:38*	*1*
2,4,6-Tribromophenol	*122*		*15 - 135*	*07/12/19 14:17*	*07/18/19 20:38*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-80-071019
Lab Sample ID: 400-172948-6

Date Collected: 07/10/19 12:10
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 15:21	1
Acrolein	ND		20	10	ug/L			07/13/19 15:21	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 15:21	1
Benzene	**25**		1.0	0.38	ug/L			07/13/19 15:21	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 15:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 15:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 15:21	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 15:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 15:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 15:21	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 15:21	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 15:21	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 15:21	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 15:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 15:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 15:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 15:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 15:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 15:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 15:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 15:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 15:21	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 15:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 15:21	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 15:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 15:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 15:21	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 15:21	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 15:21	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 15:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 15:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 15:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 15:21	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 15:21	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019

Lab Sample ID: 400-172948-6

Date Collected: 07/10/19 12:10

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 15:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 15:21	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 15:21	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 15:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 15:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 15:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 15:21	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 15:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 15:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 15:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 15:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 15:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 15:21	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 15:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 15:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 15:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 15:21	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 15:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 15:21	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 15:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*120*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 15:21*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 15:21*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/13/19 15:21*	*1*
Dibromofluoromethane	*114*		*81 - 121*		*07/13/19 15:21*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 15:21*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 14:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 14:50	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
2-Methylnaphthalene	**0.063**	**J**	0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019

Lab Sample ID: 400-172948-6

Date Collected: 07/10/19 12:10

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*15 - 122*	*07/12/19 14:17*	*07/18/19 14:50*	*1*
Nitrobenzene-d5	*90*		*19 - 130*	*07/12/19 14:17*	*07/18/19 14:50*	*1*
Terphenyl-d14	*119*		*33 - 138*	*07/12/19 14:17*	*07/18/19 14:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
Benzenethiol	ND	*	10	1.7	ug/L		07/12/19 14:17	07/18/19 20:59	1
Benzoic acid	ND		30	7.4	ug/L		07/12/19 14:17	07/18/19 20:59	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:59	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/12/19 14:17	07/18/19 20:59	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/12/19 14:17	07/18/19 20:59	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 20:59	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 20:59	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:59	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 20:59	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 20:59	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 20:59	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 20:59	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 20:59	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 20:59	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 20:59	1

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-9-GWP-80-071019
Lab Sample ID: 400-172948-6
Date Collected: 07/10/19 12:10
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 20:59	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 20:59	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 20:59	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 20:59	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:59	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 20:59	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 20:59	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 20:59	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 20:59	1
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 20:59	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 20:59	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 20:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*46*	*T J*	*ug/L*		*4.06*		*07/12/19 14:17*	*07/18/19 20:59*	*1*
1-Docosene	*4.4*	*T J N*	*ug/L*		*10.88*	*1599-67-3*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Unknown	*5.3*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 20:59*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*11.91*		*07/12/19 14:17*	*07/18/19 20:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
2-Fluorophenol	*62*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Nitrobenzene-d5	*95*		*27 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Phenol-d5	*85*		*10 - 120*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
Terphenyl-d14	*91*		*53 - 125*	*07/12/19 14:17*	*07/18/19 20:59*	*1*
2,4,6-Tribromophenol	*110*		*15 - 135*	*07/12/19 14:17*	*07/18/19 20:59*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Date Collected: 07/10/19 12:40
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 14:57	1
Acrolein	ND		20	10	ug/L			07/13/19 14:57	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 14:57	1
Benzene	ND		1.0	0.38	ug/L			07/13/19 14:57	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 14:57	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 14:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 14:57	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 14:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 14:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 14:57	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 14:57	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 14:57	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 14:57	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 14:57	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:57	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 14:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 14:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 14:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 14:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 14:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 14:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 14:57	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 14:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 14:57	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 14:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 14:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 14:57	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 14:57	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 14:57	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 14:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 14:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 14:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 14:57	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 14:57	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Lab Sample ID: 400-172948-7

Date Collected: 07/10/19 12:40
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 14:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 14:57	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 14:57	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 14:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 14:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 14:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 14:57	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 14:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 14:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 14:57	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:57	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 14:57	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 14:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 14:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 14:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 14:57	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 14:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 14:57	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 14:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*26*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 14:57*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 14:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 14:57*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/13/19 14:57*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/13/19 14:57*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Chrysene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 15:07	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/12/19 14:17	07/18/19 15:07	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Lab Sample ID: 400-172948-7

Date Collected: 07/10/19 12:40

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*15 - 122*	*07/12/19 14:17*	*07/18/19 15:07*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/12/19 14:17*	*07/18/19 15:07*	*1*
Terphenyl-d14	*129*		*33 - 138*	*07/12/19 14:17*	*07/18/19 15:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/12/19 14:17	07/18/19 21:20	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/12/19 14:17	07/18/19 21:20	1
Benzoic acid	ND		29	7.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/12/19 14:17	07/18/19 21:20	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/12/19 14:17	07/18/19 21:20	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/12/19 14:17	07/18/19 21:20	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/12/19 14:17	07/18/19 21:20	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/12/19 14:17	07/18/19 21:20	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/12/19 14:17	07/18/19 21:20	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/12/19 14:17	07/18/19 21:20	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/12/19 14:17	07/18/19 21:20	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/12/19 14:17	07/18/19 21:20	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/12/19 14:17	07/18/19 21:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/12/19 14:17	07/18/19 21:20	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/12/19 14:17	07/18/19 21:20	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/12/19 14:17	07/18/19 21:20	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/12/19 14:17	07/18/19 21:20	1
Indene	ND		9.8	0.98	ug/L		07/12/19 14:17	07/18/19 21:20	1
Isophorone	ND		9.8	0.56	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/12/19 14:17	07/18/19 21:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/12/19 14:17	07/18/19 21:20	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-9-GWP-80-071019-EB

Lab Sample ID: 400-172948-7

Date Collected: 07/10/19 12:40
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/12/19 14:17	07/18/19 21:20	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/12/19 14:17	07/18/19 21:20	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/12/19 14:17	07/18/19 21:20	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/12/19 14:17	07/18/19 21:20	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/12/19 14:17	07/18/19 21:20	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/12/19 14:17	07/18/19 21:20	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/12/19 14:17	07/18/19 21:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 21:20	1
Phenol	ND		9.8	2.5	ug/L		07/12/19 14:17	07/18/19 21:20	1
Pyridine	ND		9.8	3.1	ug/L		07/12/19 14:17	07/18/19 21:20	1
Quinoline	ND		9.8	5.9	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/12/19 14:17	07/18/19 21:20	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/12/19 14:17	07/18/19 21:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Octadecanoic acid	*8.6*	*T J N*	*ug/L*		*9.76*	*57-11-4*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Unknown	*5.7*	*T J*	*ug/L*		*10.20*		*07/12/19 14:17*	*07/18/19 21:20*	*1*
Hexanedioic acid, bis(2-ethylhexyl) ester	*12*	*T J N*	*ug/L*		*10.51*	*103-23-1*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Unknown	*26*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 21:20*	*1*
Unknown	*13*	*T J*	*ug/L*		*11.91*		*07/12/19 14:17*	*07/18/19 21:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*34 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
2-Fluorophenol	*48*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Nitrobenzene-d5	*87*		*27 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Phenol-d5	*72*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
Terphenyl-d14	*96*		*53 - 125*	*07/12/19 14:17*	*07/18/19 21:20*	*1*
2,4,6-Tribromophenol	*91*		*15 - 135*	*07/12/19 14:17*	*07/18/19 21:20*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 14:32	1
Acrolein	ND		20	10	ug/L			07/13/19 14:32	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 14:32	1
Benzene	**1.8**		1.0	0.38	ug/L			07/13/19 14:32	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 14:32	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 14:32	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 14:32	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 14:32	1
2-Butanone (MEK)	**9.5**	**J**	25	2.6	ug/L			07/13/19 14:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 14:32	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 14:32	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 14:32	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 14:32	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 14:32	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:32	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 14:32	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 14:32	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 14:32	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 14:32	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 14:32	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 14:32	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 14:32	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 14:32	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 14:32	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 14:32	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 14:32	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 14:32	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 14:32	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 14:32	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 14:32	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 14:32	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 14:32	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 14:32	1
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 14:32	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-2-SB-071019-EB

Date Collected: 07/10/19 13:35
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 14:32	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 14:32	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 14:32	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 14:32	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 14:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 14:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 14:32	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 14:32	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 14:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 14:32	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:32	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 14:32	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 14:32	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 14:32	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 14:32	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 14:32	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 14:32	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 14:32	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 14:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*83*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 14:32*	*1*
1-Methylnaphthalene	*5.3*		*ug/L*		*11.07*	*90-12-0*		*07/13/19 14:32*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 14:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*78 - 118*		*07/13/19 14:32*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*07/13/19 14:32*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 14:32*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 15:24	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 15:24	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-SB-071019-EB
Lab Sample ID: 400-172948-8
Date Collected: 07/10/19 13:35
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*15 - 122*	*07/12/19 14:17*	*07/18/19 15:24*	*1*
Nitrobenzene-d5	*106*		*19 - 130*	*07/12/19 14:17*	*07/18/19 15:24*	*1*
Terphenyl-d14	*125*		*33 - 138*	*07/12/19 14:17*	*07/18/19 15:24*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
Benzenethiol	ND	*	10	1.7	ug/L		07/12/19 14:17	07/18/19 21:41	1
Benzoic acid	ND		30	7.3	ug/L		07/12/19 14:17	07/18/19 21:41	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 21:41	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/12/19 14:17	07/18/19 21:41	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/12/19 14:17	07/18/19 21:41	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 21:41	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 21:41	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 21:41	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 21:41	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 21:41	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 21:41	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 21:41	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 21:41	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 21:41	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 21:41	1
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 21:41	1

Client Sample ID: PD-2-SB-071019-EB
Lab Sample ID: 400-172948-8
Date Collected: 07/10/19 13:35
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 21:41	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 21:41	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 21:41	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 21:41	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 21:41	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 21:41	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 21:41	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 21:41	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 21:41	1
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 21:41	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 21:41	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 21:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Unknown	*5.4*	*T J*	*ug/L*		*11.69*		*07/12/19 14:17*	*07/18/19 21:41*	*1*
Unknown	*7.0*	*T J*	*ug/L*		*11.91*		*07/12/19 14:17*	*07/18/19 21:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*34 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
2-Fluorophenol	*63*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Nitrobenzene-d5	*99*		*27 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Phenol-d5	*83*		*10 - 120*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
Terphenyl-d14	*102*		*53 - 125*	*07/12/19 14:17*	*07/18/19 21:41*	*1*
2,4,6-Tribromophenol	*98*		*15 - 135*	*07/12/19 14:17*	*07/18/19 21:41*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 14:08	1
Acrolein	ND		20	10	ug/L			07/13/19 14:08	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 14:08	1
Benzene	**18**		1.0	0.38	ug/L			07/13/19 14:08	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 14:08	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 14:08	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 14:08	1
Bromomethane	ND	*	1.0	0.98	ug/L			07/13/19 14:08	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 14:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 14:08	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/13/19 14:08	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 14:08	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/13/19 14:08	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 14:08	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:08	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 14:08	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 14:08	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 14:08	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 14:08	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/13/19 14:08	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Ethylbenzene	**1.8**		1.0	0.50	ug/L			07/13/19 14:08	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 14:08	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 14:08	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 14:08	1
Isopropylbenzene	**31**		1.0	0.53	ug/L			07/13/19 14:08	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 14:08	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 14:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 14:08	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 14:08	1
m-Xylene & p-Xylene	**3.6**	**J**	5.0	1.6	ug/L			07/13/19 14:08	1
Naphthalene	**1.0**		1.0	1.0	ug/L			07/13/19 14:08	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 14:08	1
N-Propylbenzene	**5.5**		1.0	0.69	ug/L			07/13/19 14:08	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 14:08	1
o-Xylene	**1.8**	**J**	5.0	0.60	ug/L			07/13/19 14:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019

Lab Sample ID: 400-172948-9

Date Collected: 07/10/19 16:08

Matrix: Water

Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 14:08	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 14:08	1
sec-Butylbenzene	**10**		1.0	0.70	ug/L			07/13/19 14:08	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 14:08	1
tert-Butylbenzene	**8.0**		1.0	0.63	ug/L			07/13/19 14:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 14:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 14:08	1
Toluene	**0.93**	**J**	1.0	0.41	ug/L			07/13/19 14:08	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 14:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 14:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 14:08	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 14:08	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 14:08	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Trichlorofluoromethane	ND	*	1.0	0.52	ug/L			07/13/19 14:08	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 14:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 14:08	1
1,3,5-Trimethylbenzene	**0.83**	**J**	1.0	0.56	ug/L			07/13/19 14:08	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 14:08	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 14:08	1
Xylenes, Total	**5.4**	**J**	10	1.6	ug/L			07/13/19 14:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*51*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/13/19 14:08*	*1*
Unknown	*11*	*T J*	*ug/L*		*3.10*			*07/13/19 14:08*	*1*
Pentane, 2,3-dimethyl-	*42*	*T J N*	*ug/L*		*3.57*	*565-59-3*		*07/13/19 14:08*	*1*
Isooctane	*20*		*ug/L*		*3.78*	*540-84-1*		*07/13/19 14:08*	*1*
Unknown	*7.2*	*T J*	*ug/L*		*4.25*			*07/13/19 14:08*	*1*
Pentane, 2,3,4-trimethyl-	*13*	*T J N*	*ug/L*		*4.53*	*565-75-3*		*07/13/19 14:08*	*1*
Unknown	*21*	*T J*	*ug/L*		*4.62*			*07/13/19 14:08*	*1*
3-Ethyltoluene	*2.0*		*ug/L*		*7.16*	*620-14-4*		*07/13/19 14:08*	*1*
Benzene, 1,2,3-trimethyl-	*5.6*	*T J N*	*ug/L*		*7.53*	*526-73-8*		*07/13/19 14:08*	*1*
1,2,3-Trimethylbenzene	*1.0*	*J*	*ug/L*		*7.88*	*526-73-8*		*07/13/19 14:08*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*5.9*	*T J N*	*ug/L*		*7.96*	*527-84-4*		*07/13/19 14:08*	*1*
p-Diethylbenzene	*6.6*		*ug/L*		*8.10*	*105-05-5*		*07/13/19 14:08*	*1*
o-diethylbenzene	*7.8*		*ug/L*		*8.20*	*135-01-3*		*07/13/19 14:08*	*1*
Unknown	*23*	*T J*	*ug/L*		*8.51*			*07/13/19 14:08*	*1*
1H-Indene, 2,3-dihydro-1,1-dimethyl-	*6.4*	*T J N*	*ug/L*		*8.66*	*4912-92-9*		*07/13/19 14:08*	*1*
Benzene, 1,2,3,4-tetramethyl-	*8.7*	*T J N*	*ug/L*		*8.74*	*488-23-3*		*07/13/19 14:08*	*1*
Benzene, 1-methyl-2-(1-methyl-2-propenyl)-	*6.3*	*T J N*	*ug/L*		*8.98*	*97664-19-2*		*07/13/19 14:08*	*1*
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	*8.4*	*T J N*	*ug/L*		*9.83*	*3877-19-8*		*07/13/19 14:08*	*1*
Benzene, (2-methyl-1-butenyl)-	*9.5*	*T J N*	*ug/L*		*9.93*	*56253-64-6*		*07/13/19 14:08*	*1*
1-Methylnaphthalene	*12*		*ug/L*		*11.07*	*90-12-0*		*07/13/19 14:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/13/19 14:08*	*1*

Client Sample ID: PD-11-GWP-35-071019
Lab Sample ID: 400-172948-9
Date Collected: 07/10/19 16:08
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*114*		*81 - 121*		*07/13/19 14:08*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*07/13/19 14:08*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**8.2**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Anthracene	**3.0**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[a]anthracene	**2.3**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[a]pyrene	**2.7**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[b]fluoranthene	**1.1**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[g,h,i]perylene	**0.56**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Chrysene	**4.7**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Dibenz(a,h)anthracene	**0.40**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
Fluoranthene	**1.3**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Fluorene	**9.7**		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 15:42	1
Indeno[1,2,3-cd]pyrene	**0.31**		0.20	0.041	ug/L		07/12/19 14:17	07/18/19 15:42	1
1-Methylnaphthalene	**18**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
2-Methylnaphthalene	**0.95**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Phenanthrene	**0.65**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1
Pyrene	**9.4**		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*92*		*15 - 122*	*07/12/19 14:17*	*07/18/19 15:42*	*1*
Nitrobenzene-d5	*115*		*19 - 130*	*07/12/19 14:17*	*07/18/19 15:42*	*1*
Terphenyl-d14	*91*		*33 - 138*	*07/12/19 14:17*	*07/18/19 15:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
Benzenethiol	ND	*	10	1.7	ug/L		07/12/19 14:17	07/18/19 22:02	1
Benzoic acid	ND		31	7.4	ug/L		07/12/19 14:17	07/18/19 22:02	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 22:02	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/12/19 14:17	07/18/19 22:02	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/12/19 14:17	07/18/19 22:02	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/12/19 14:17	07/18/19 22:02	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Chloroaniline	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
Dibenzofuran	**3.7**	**J**	10	0.53	ug/L		07/12/19 14:17	07/18/19 22:02	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
Diethyl phthalate	ND		10	0.71	ug/L		07/12/19 14:17	07/18/19 22:02	1

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-35-071019
Lab Sample ID: 400-172948-9
Date Collected: 07/10/19 16:08
Matrix: Water
Date Received: 07/11/19 09:39

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/12/19 14:17	07/18/19 22:02	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 22:02	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 22:02	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/12/19 14:17	07/18/19 22:02	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 22:02	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
Hexachloroethane	ND		10	4.3	ug/L		07/12/19 14:17	07/18/19 22:02	1
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 22:02	1
Isophorone	ND		10	0.58	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 22:02	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 22:02	1
Nitrobenzene	ND		10	0.56	ug/L		07/12/19 14:17	07/18/19 22:02	1
2-Nitrophenol	ND		10	0.66	ug/L		07/12/19 14:17	07/18/19 22:02	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 22:02	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/12/19 14:17	07/18/19 22:02	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 22:02	1
Pyridine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 22:02	1
Quinoline	ND		10	6.1	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 22:02	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/12/19 14:17	07/18/19 22:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*16*	*T J N*	*ug/L*		*4.04*	*590-90-9*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Unknown	*18*	*T J*	*ug/L*		*4.10*		*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzene, (1-methylethyl)-	*41*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzene, (1-methylpropyl)-	*18*	*T J N*	*ug/L*		*5.56*	*135-98-8*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzene, 1,4-diethyl-	*12*	*T J N*	*ug/L*		*5.78*	*105-05-5*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Benzene, 1,2-diethyl-	*11*	*T J N*	*ug/L*		*5.80*	*135-01-3*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	*10*	*T J N*	*ug/L*		*6.54*	*3877-19-8*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 2-methyl-	*19*	*T J N*	*ug/L*		*6.96*	*91-57-6*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 1,7-dimethyl-	*15*	*T J N*	*ug/L*		*7.45*	*575-37-1*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 1,3-dimethyl-	*17*	*T J N*	*ug/L*		*7.51*	*575-41-7*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Unknown	*11*	*T J*	*ug/L*		*7.64*		*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 2,3,6-trimethyl-	*10*	*T J N*	*ug/L*		*7.85*	*829-26-5*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Naphthalene, 1,6,7-trimethyl-	*12*	*T J N*	*ug/L*		*7.89*	*2245-38-7*	*07/12/19 14:17*	*07/18/19 22:02*	*1*
Fluorene	*19*	*T J N*	*ug/L*		*8.01*	*86-73-7*	*07/12/19 14:17*	*07/18/19 22:02*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Client Sample ID: PD-11-GWP-35-071019
Date Collected: 07/10/19 16:08
Date Received: 07/11/19 09:39

Lab Sample ID: 400-172948-9
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	23	T J	ug/L		8.07		07/12/19 14:17	07/18/19 22:02	1
9H-Fluorene, 9-methyl-	16	T J N	ug/L		8.45	2523-37-7	07/12/19 14:17	07/18/19 22:02	1
Dibenzothiophene, 3-methyl-	14	T J N	ug/L		9.02	16587-52-3	07/12/19 14:17	07/18/19 22:02	1
Dibenzothiophene, 4-methyl-	17	T J N	ug/L		9.09	7372-88-5	07/12/19 14:17	07/18/19 22:02	1
Methylcarbazole	20	T J N	ug/L		9.37	27323-29-1	07/12/19 14:17	07/18/19 22:02	1
Phenanthrene, 2,5-dimethyl-	15	T J N	ug/L		9.53	3674-66-6	07/12/19 14:17	07/18/19 22:02	1
Phenanthrene, 2,5-dimethyl-	31	T J N	ug/L		9.63	3674-66-6	07/12/19 14:17	07/18/19 22:02	1
Unknown	13	T J	ug/L		9.71		07/12/19 14:17	07/18/19 22:02	1
Unknown	10	T J	ug/L		9.99		07/12/19 14:17	07/18/19 22:02	1
Unknown	13	T J	ug/L		10.03		07/12/19 14:17	07/18/19 22:02	1
Pyrene, 1-methyl-	12	T J N	ug/L		10.52	2381-21-7	07/12/19 14:17	07/18/19 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		34 - 120	07/12/19 14:17	07/18/19 22:02	1
2-Fluorophenol	57		10 - 120	07/12/19 14:17	07/18/19 22:02	1
Nitrobenzene-d5	92		27 - 120	07/12/19 14:17	07/18/19 22:02	1
Phenol-d5	82		10 - 120	07/12/19 14:17	07/18/19 22:02	1
Terphenyl-d14	80		53 - 125	07/12/19 14:17	07/18/19 22:02	1
2,4,6-Tribromophenol	125		15 - 135	07/12/19 14:17	07/18/19 22:02	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-172948-1	TB-PW-071019-B	109	112	106
400-172948-2	PD-9-GWP-54-071019	109	110	108
400-172948-3	PD-9-GWP-60-071019	104	115	103
400-172948-4	PD-9-GWP-70-071019	106	116	103
400-172948-5	PD-9-GWP-70-071019-DUP	105	111	106
400-172948-6	PD-9-GWP-80-071019	110	114	106
400-172948-7	PD-9-GWP-80-071019-EB	109	113	103
400-172948-8	PD-2-SB-071019-EB	112	112	106
400-172948-9	PD-11-GWP-35-071019	109	114	106
LCS 400-447839/1002	Lab Control Sample	106	118	103
LCS 400-447926/1002	Lab Control Sample	107	112	103
MB 400-447839/4	Method Blank	104	115	101
MB 400-447926/4	Method Blank	105	113	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-172948-2	PD-9-GWP-54-071019	121 X	53	0 X	276 X	107	208 X
400-172948-3	PD-9-GWP-60-071019	80	64	97	85	85	109
400-172948-4	PD-9-GWP-70-071019	75	50	89	79	74	104
400-172948-5	PD-9-GWP-70-071019-DUP	84	53	93	79	86	122
400-172948-6	PD-9-GWP-80-071019	80	62	95	85	91	110
400-172948-7	PD-9-GWP-80-071019-EB	71	48	87	72	96	91
400-172948-8	PD-2-SB-071019-EB	84	63	99	83	102	98
400-172948-9	PD-11-GWP-35-071019	78	57	92	82	80	125
LCS 400-447763/20-A	Lab Control Sample	79	50	100	81	96	57
LCS 400-447763/2-A	Lab Control Sample	83	75	109	98	98	101
LCSD 400-447763/21-A	Lab Control Sample Dup	80	10	101	16	94	18
LCSD 400-447763/3-A	Lab Control Sample Dup	81	72	103	93	96	95
MB 400-447763/1-A	Method Blank	101	86	121 X	108	123	101

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-172948-2	PD-9-GWP-54-071019			79
400-172948-2	PD-9-GWP-54-071019	72		
400-172948-2 - DL2	PD-9-GWP-54-071019		219 X	
400-172948-3	PD-9-GWP-60-071019	93	84	100
400-172948-4	PD-9-GWP-70-071019	99	94	92
400-172948-5	PD-9-GWP-70-071019-DUP	97	86	100
400-172948-6	PD-9-GWP-80-071019	99	90	119
400-172948-7	PD-9-GWP-80-071019-EB	94	91	129
400-172948-8	PD-2-SB-071019-EB	108	106	125
400-172948-9	PD-11-GWP-35-071019	92	115	91
LCS 400-447763/2-A	Lab Control Sample	77	60	83
LCSD 400-447763/3-A	Lab Control Sample Dup	77	62	81
MB 400-447763/1-A	Method Blank	113	89	155 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071019-B

Lab Sample ID: 400-172948-1
Matrix: Water
Date Collected: 07/10/19 00:00
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 13:44	WPD	TAL PEN

Client Sample ID: PD-9-GWP-54-071019

Lab Sample ID: 400-172948-2
Matrix: Water
Date Collected: 07/10/19 09:05
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	5 mL	5 mL	447839	07/13/19 17:48	WPD	TAL PEN
Total/NA	Prep	3520C			1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	448709	07/19/19 22:06	VC1	TAL PEN
Total/NA	Prep	3520C			1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 13:42	S1S	TAL PEN
Total/NA	Prep	3520C			1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 14:37	KJA	TAL PEN
Total/NA	Prep	3520C	DL2		1027.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL	DL2	50			449887	07/29/19 16:45	KJA	TAL PEN

Client Sample ID: PD-9-GWP-60-071019

Lab Sample ID: 400-172948-3
Matrix: Water
Date Collected: 07/10/19 10:05
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	447926	07/14/19 11:49	WPD	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 19:55	VC1	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 13:59	S1S	TAL PEN

Client Sample ID: PD-9-GWP-70-071019

Lab Sample ID: 400-172948-4
Matrix: Water
Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	447839	07/13/19 17:22	WPD	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 20:16	VC1	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 14:16	S1S	TAL PEN

Client Sample ID: PD-9-GWP-70-071019-DUP

Lab Sample ID: 400-172948-5
Matrix: Water
Date Collected: 07/10/19 11:05
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	5 mL	5 mL	447839	07/13/19 18:14	WPD	TAL PEN

Client Sample ID: PD-9-GWP-70-071019-DUP — Lab Sample ID: 400-172948-5

Date Collected: 07/10/19 11:05 **Matrix: Water**
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			984 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 20:38	VC1	TAL PEN
Total/NA	Prep	3520C			984 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 14:33	S1S	TAL PEN

Client Sample ID: PD-9-GWP-80-071019 — Lab Sample ID: 400-172948-6

Date Collected: 07/10/19 12:10 **Matrix: Water**
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 15:21	WPD	TAL PEN
Total/NA	Prep	3520C			993 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 20:59	VC1	TAL PEN
Total/NA	Prep	3520C			993 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 14:50	S1S	TAL PEN

Client Sample ID: PD-9-GWP-80-071019-EB — Lab Sample ID: 400-172948-7

Date Collected: 07/10/19 12:40 **Matrix: Water**
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 14:57	WPD	TAL PEN
Total/NA	Prep	3520C			1020.2 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 21:20	VC1	TAL PEN
Total/NA	Prep	3520C			1020.2 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 15:07	S1S	TAL PEN

Client Sample ID: PD-2-SB-071019-EB — Lab Sample ID: 400-172948-8

Date Collected: 07/10/19 13:35 **Matrix: Water**
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 14:32	WPD	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 21:41	VC1	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 15:24	S1S	TAL PEN

Client Sample ID: PD-11-GWP-35-071019 — Lab Sample ID: 400-172948-9

Date Collected: 07/10/19 16:08 **Matrix: Water**
Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 14:08	WPD	TAL PEN

Client Sample ID: PD-11-GWP-35-071019

Lab Sample ID: 400-172948-9

Date Collected: 07/10/19 16:08

Matrix: Water

Date Received: 07/11/19 09:39

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			982.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 22:02	VC1	TAL PEN
Total/NA	Prep	3520C			982.6 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 15:42	S1S	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447763/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 16:43	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			448495	07/18/19 12:50	S1S	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447839/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 08:01	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447926/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-447763/20-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:44	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 17:47	VC1	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-447763/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448576	07/18/19 17:04	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			448495	07/18/19 13:07	S1S	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447839/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447839	07/13/19 07:13	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447926/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447763/21-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:44	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 18:08	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448576	07/18/19 17:26	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	447763	07/12/19 14:17	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			448495	07/18/19 13:24	S1S	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

GC/MS VOA

Analysis Batch: 447839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-1	TB-PW-071019-B	Total/NA	Water	8260B	
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8260B	
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	8260B	
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	8260B	
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	8260B	
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	8260B	
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	8260B	
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	8260B	
MB 400-447839/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447839/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 447763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	3520C	
400-172948-2 - DL2	PD-9-GWP-54-071019	Total/NA	Water	3520C	
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	3520C	
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	3520C	
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	3520C	
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	3520C	
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	3520C	
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	3520C	
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	3520C	
MB 400-447763/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-447763/20-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-447763/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-447763/21-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-447763/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8270D LL	447763
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	8270D LL	447763
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	8270D LL	447763
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	8270D LL	447763
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	8270D LL	447763
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	8270D LL	447763
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	8270D LL	447763
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	8270D LL	447763
MB 400-447763/1-A	Method Blank	Total/NA	Water	8270D LL	447763
LCS 400-447763/2-A	Lab Control Sample	Total/NA	Water	8270D LL	447763
LCSD 400-447763/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	447763

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

GC/MS Semi VOA

Analysis Batch: 448576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-3	PD-9-GWP-60-071019	Total/NA	Water	8270D	447763
400-172948-4	PD-9-GWP-70-071019	Total/NA	Water	8270D	447763
400-172948-5	PD-9-GWP-70-071019-DUP	Total/NA	Water	8270D	447763
400-172948-6	PD-9-GWP-80-071019	Total/NA	Water	8270D	447763
400-172948-7	PD-9-GWP-80-071019-EB	Total/NA	Water	8270D	447763
400-172948-8	PD-2-SB-071019-EB	Total/NA	Water	8270D	447763
400-172948-9	PD-11-GWP-35-071019	Total/NA	Water	8270D	447763
MB 400-447763/1-A	Method Blank	Total/NA	Water	8270D	447763
LCS 400-447763/20-A	Lab Control Sample	Total/NA	Water	8270D	447763
LCS 400-447763/2-A	Lab Control Sample	Total/NA	Water	8270D	447763
LCSD 400-447763/21-A	Lab Control Sample Dup	Total/NA	Water	8270D	447763
LCSD 400-447763/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	447763

Analysis Batch: 448709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8270D	447763

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-172948-2	PD-9-GWP-54-071019	Total/NA	Water	8270D LL	447763
400-172948-2 - DL2	PD-9-GWP-54-071019	Total/NA	Water	8270D LL	447763

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447839/4
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/13/19 08:01	1
Acrolein	ND		20	10	ug/L			07/13/19 08:01	1
Acrylonitrile	ND		10	2.8	ug/L			07/13/19 08:01	1
Benzene	ND		1.0	0.38	ug/L			07/13/19 08:01	1
Bromobenzene	ND		1.0	0.54	ug/L			07/13/19 08:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/13/19 08:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Bromoform	ND		5.0	0.71	ug/L			07/13/19 08:01	1
Bromomethane	ND		1.0	0.98	ug/L			07/13/19 08:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/13/19 08:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Chloroethane	ND		1.0	0.76	ug/L			07/13/19 08:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/13/19 08:01	1
Chloroform	ND		1.0	0.60	ug/L			07/13/19 08:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/13/19 08:01	1
Chloromethane	ND		1.0	0.83	ug/L			07/13/19 08:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 08:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/13/19 08:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/13/19 08:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/13/19 08:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/13/19 08:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/13/19 08:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/13/19 08:01	1
2-Hexanone	ND		25	3.1	ug/L			07/13/19 08:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/13/19 08:01	1
Methylene bromide	ND		5.0	0.59	ug/L			07/13/19 08:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/13/19 08:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/13/19 08:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/13/19 08:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/13/19 08:01	1
Naphthalene	ND		1.0	1.0	ug/L			07/13/19 08:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/13/19 08:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/13/19 08:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/13/19 08:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447839/4
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/13/19 08:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/13/19 08:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/13/19 08:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/13/19 08:01	1
Styrene	ND		1.0	1.0	ug/L			07/13/19 08:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/13/19 08:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/13/19 08:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/13/19 08:01	1
Toluene	ND		1.0	0.41	ug/L			07/13/19 08:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/13/19 08:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/13/19 08:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/13/19 08:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/13/19 08:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/13/19 08:01	1
Trichloroethene	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/13/19 08:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/13/19 08:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/13/19 08:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/13/19 08:01	1
Vinyl acetate	ND		25	2.0	ug/L			07/13/19 08:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/13/19 08:01	1
Xylenes, Total	ND		10	1.6	ug/L			07/13/19 08:01	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*					*07/13/19 08:01*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*104*		*78 - 118*		*07/13/19 08:01*	*1*
Dibromofluoromethane	*115*		*81 - 121*		*07/13/19 08:01*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/13/19 08:01*	*1*

Lab Sample ID: LCS 400-447839/1002
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	220		ug/L		110	43 - 160
Acrolein	250	387		ug/L		155	38 - 160
Acrylonitrile	500	686		ug/L		137	64 - 142
Benzene	50.0	46.1		ug/L		92	70 - 130
Bromobenzene	50.0	48.1		ug/L		96	70 - 132
Bromochloromethane	50.0	58.8		ug/L		118	70 - 130
Bromodichloromethane	50.0	57.5		ug/L		115	67 - 133
Bromoform	50.0	58.7		ug/L		117	57 - 140
Bromomethane	25.0	45.1	*	ug/L		180	10 - 160
2-Butanone (MEK)	200	146		ug/L		73	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447839/1002
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	45.1		ug/L		90	61 - 137
Carbon tetrachloride	50.0	64.7		ug/L		129	61 - 137
Chlorobenzene	50.0	51.9		ug/L		104	70 - 130
Chloroethane	25.0	33.4		ug/L		134	55 - 141
2-Chloroethyl vinyl ether	25.0	68.6	*	ug/L		275	10 - 160
Chloroform	50.0	58.3		ug/L		117	69 - 130
1-Chlorohexane	50.0	65.5	*	ug/L		131	69 - 130
Chloromethane	25.0	29.1		ug/L		116	58 - 137
cis-1,2-Dichloroethene	50.0	63.9		ug/L		128	68 - 130
cis-1,3-Dichloropropene	50.0	54.5		ug/L		109	69 - 132
Dibromochloromethane	50.0	61.2		ug/L		122	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	48.8		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	49.7		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 130
Dichlorodifluoromethane	25.0	22.1		ug/L		89	41 - 146
1,1-Dichloroethane	50.0	62.3		ug/L		125	70 - 130
1,2-Dichloroethane	50.0	72.7	*	ug/L		145	69 - 130
1,1-Dichloroethene	50.0	51.0		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	51.1		ug/L		102	70 - 130
2,2-Dichloropropane	50.0	62.5		ug/L		125	52 - 135
1,1-Dichloropropene	50.0	56.2		ug/L		112	70 - 130
Ethylbenzene	50.0	50.9		ug/L		102	70 - 130
Ethylene Dibromide	50.0	51.1		ug/L		102	70 - 130
Ethyl methacrylate	50.0	46.3		ug/L		93	68 - 130
Hexachlorobutadiene	50.0	50.9		ug/L		102	53 - 140
2-Hexanone	200	220		ug/L		110	65 - 137
Isopropylbenzene	50.0	52.3		ug/L		105	70 - 130
Methylene bromide	50.0	51.0		ug/L		102	70 - 130
Methylene Chloride	50.0	49.1		ug/L		98	66 - 135
4-Methyl-2-pentanone (MIBK)	200	247		ug/L		124	69 - 138
Methyl tert-butyl ether	50.0	57.3		ug/L		115	66 - 130
m-Xylene & p-Xylene	50.0	51.5		ug/L		103	70 - 130
Naphthalene	50.0	48.1		ug/L		96	47 - 149
n-Butylbenzene	50.0	53.1		ug/L		106	67 - 130
N-Propylbenzene	50.0	51.3		ug/L		103	70 - 130
o-Chlorotoluene	50.0	53.8		ug/L		108	70 - 130
o-Xylene	50.0	52.2		ug/L		104	70 - 130
p-Chlorotoluene	50.0	54.1		ug/L		108	70 - 130
p-Isopropyltoluene	50.0	54.6		ug/L		109	65 - 130
sec-Butylbenzene	50.0	52.6		ug/L		105	66 - 130
Styrene	50.0	45.6		ug/L		91	70 - 130
tert-Butylbenzene	50.0	56.4		ug/L		113	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.3		ug/L		93	70 - 131
Tetrachloroethene	50.0	51.7		ug/L		103	65 - 130
Toluene	50.0	47.1		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	51.8		ug/L		104	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447839/1002
Matrix: Water
Analysis Batch: 447839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.1		ug/L		118	63 - 130
1,2,3-Trichlorobenzene	50.0	46.2		ug/L		92	60 - 138
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	60 - 140
1,1,1-Trichloroethane	50.0	64.1		ug/L		128	68 - 130
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	70 - 130
Trichloroethene	50.0	49.9		ug/L		100	70 - 130
Trichlorofluoromethane	25.0	35.2	*	ug/L		141	65 - 138
1,2,3-Trichloropropane	50.0	59.7		ug/L		119	70 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/L		109	70 - 130
1,3,5-Trimethylbenzene	50.0	55.0		ug/L		110	69 - 130
Vinyl acetate	50.0	55.9		ug/L		112	26 - 160
Vinyl chloride	25.0	28.9		ug/L		116	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*78 - 118*
Dibromofluoromethane	*118*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/14/19 09:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118		07/14/19 09:00	1
Dibromofluoromethane	113		81 - 121		07/14/19 09:00	1
Toluene-d8 (Surr)	103		80 - 120		07/14/19 09:00	1

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
Benzenethiol	ND		10	1.7	ug/L		07/12/19 14:17	07/18/19 16:43	1
Benzoic acid	ND		30	7.3	ug/L		07/12/19 14:17	07/18/19 16:43	1
Benzyl alcohol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 16:43	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/12/19 14:17	07/18/19 16:43	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/12/19 14:17	07/18/19 16:43	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/12/19 14:17	07/18/19 16:43	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Chloroaniline	ND		10	3.4	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Chlorophenol	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Dibenzofuran	ND		10	0.52	ug/L		07/12/19 14:17	07/18/19 16:43	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Diethyl phthalate	ND		10	0.70	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 16:43	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/12/19 14:17	07/18/19 16:43	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/12/19 14:17	07/18/19 16:43	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/12/19 14:17	07/18/19 16:43	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/12/19 14:17	07/18/19 16:43	1
1,4-Dioxane	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/12/19 14:17	07/18/19 16:43	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/12/19 14:17	07/18/19 16:43	1
Hexachloroethane	ND		10	4.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
Indene	ND		10	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
Isophorone	ND		10	0.57	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Methylphenol	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Nitroaniline	ND		10	2.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
3-Nitroaniline	ND		10	1.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Nitroaniline	ND		10	2.5	ug/L		07/12/19 14:17	07/18/19 16:43	1
Nitrobenzene	ND		10	0.55	ug/L		07/12/19 14:17	07/18/19 16:43	1
2-Nitrophenol	ND		10	0.65	ug/L		07/12/19 14:17	07/18/19 16:43	1
4-Nitrophenol	ND		10	2.1	ug/L		07/12/19 14:17	07/18/19 16:43	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 16:43	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/12/19 14:17	07/18/19 16:43	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/12/19 14:17	07/18/19 16:43	1
Pentachlorophenol	ND		20	1.8	ug/L		07/12/19 14:17	07/18/19 16:43	1
Phenol	ND		10	2.6	ug/L		07/12/19 14:17	07/18/19 16:43	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/12/19 14:17	07/18/19 16:43	1
Quinoline	ND		10	6.0	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/12/19 14:17	07/18/19 16:43	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/12/19 14:17	07/18/19 16:43	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexadecane	*1.73*	*J*	*ug/L*		*7.84*	*544-76-3*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/12/19 14:17*	*07/18/19 16:43*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*101*		*34 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
2-Fluorophenol	*86*		*10 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Nitrobenzene-d5	*121*	*X*	*27 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Phenol-d5	*108*		*10 - 120*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
Terphenyl-d14	*123*		*53 - 125*	*07/12/19 14:17*	*07/18/19 16:43*	*1*
2,4,6-Tribromophenol	*101*		*15 - 135*	*07/12/19 14:17*	*07/18/19 16:43*	*1*

Lab Sample ID: LCS 400-447763/20-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*79*		*34 - 120*
2-Fluorophenol	*50*		*10 - 120*
Nitrobenzene-d5	*100*		*27 - 120*
Phenol-d5	*81*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*57*		*15 - 135*

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	23.1		ug/L		77	29 - 120
Benzyl alcohol	30.0	30.2		ug/L		101	19 - 125
Bis(2-chloroethoxy)methane	30.0	25.0		ug/L		83	45 - 120
Bis(2-chloroethyl)ether	30.0	21.3		ug/L		71	48 - 120
bis (2-chloroisopropyl) ether	30.0	25.8		ug/L		86	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	28.7		ug/L		96	48 - 150
4-Bromophenyl phenyl ether	30.0	26.1		ug/L		87	55 - 122
Butyl benzyl phthalate	30.0	27.1		ug/L		90	46 - 145
4-Chloroaniline	30.0	21.6		ug/L		72	30 - 120
4-Chloro-3-methylphenol	30.0	32.8		ug/L		109	39 - 140
2-Chloronaphthalene	30.0	26.3		ug/L		88	52 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	30.0	27.7		ug/L		92	34 - 120
4-Chlorophenyl phenyl ether	30.0	25.9		ug/L		86	58 - 124
Dibenz[a,h]acridine	30.0	20.8		ug/L		69	46 - 149
Dibenzofuran	30.0	26.8		ug/L		89	58 - 123
3,3'-Dichlorobenzidine	40.0	47.3		ug/L		118	39 - 135
2,4-Dichlorophenol	30.0	30.7		ug/L		102	39 - 128
Diethyl phthalate	30.0	29.5		ug/L		98	44 - 146
2,4-Dimethylphenol	30.0	28.0		ug/L		93	44 - 120
Dimethyl phthalate	30.0	28.1		ug/L		94	50 - 131
Di-n-butyl phthalate	30.0	30.4		ug/L		101	55 - 131
4,6-Dinitro-ortho-cresol	60.0	76.7		ug/L		128	10 - 150
2,4-Dinitrotoluene	30.0	30.2		ug/L		101	58 - 140
2,6-Dinitrotoluene	30.0	29.2		ug/L		97	57 - 130
Di-n-octyl phthalate	30.0	28.6		ug/L		95	50 - 150
1,4-Dioxane	30.0	17.6		ug/L		59	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	26.8		ug/L		89	47 - 123
Hexachlorobenzene	30.0	26.8		ug/L		89	52 - 131
Hexachlorocyclopentadiene	30.0	19.9	J	ug/L		66	10 - 129
Hexachloroethane	30.0	20.7		ug/L		69	41 - 120
Isophorone	30.0	27.1		ug/L		90	49 - 120
2-Methylphenol	30.0	28.7		ug/L		96	39 - 123
3 & 4 Methylphenol	30.0	26.9		ug/L		90	38 - 121
2-Nitroaniline	30.0	33.7		ug/L		112	47 - 150
3-Nitroaniline	30.0	29.9		ug/L		100	34 - 132
4-Nitroaniline	30.0	33.1		ug/L		110	41 - 135
Nitrobenzene	30.0	28.0		ug/L		93	47 - 120
2-Nitrophenol	30.0	30.0		ug/L		100	28 - 136
4-Nitrophenol	60.0	70.0		ug/L		117	10 - 150
N-Nitrosodimethylamine	30.0	32.9		ug/L		110	22 - 148
N-Nitrosodi-n-propylamine	30.0	26.6		ug/L		89	44 - 120
N-Nitrosodiphenylamine	29.8	27.0		ug/L		91	56 - 120
Pentachlorophenol	60.0	67.9		ug/L		113	15 - 141
Phenol	30.0	26.5		ug/L		88	33 - 120
Pyridine	60.0	29.3		ug/L		49	26 - 120
Quinoline	30.0	27.6		ug/L		92	51 - 129
2,4,5-Trichlorophenol	30.0	30.9		ug/L		103	38 - 147
2,4,6-Trichlorophenol	30.0	30.2		ug/L		101	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*34 - 120*
2-Fluorophenol	*75*		*10 - 120*
Nitrobenzene-d5	*109*		*27 - 120*
Phenol-d5	*98*		*10 - 120*
Terphenyl-d14	*98*		*53 - 125*
2,4,6-Tribromophenol	*101*		*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447763/21-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		3	10 - 120	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*34 - 120*
2-Fluorophenol	*10*		*10 - 120*
Nitrobenzene-d5	*101*		*27 - 120*
Phenol-d5	*16*		*10 - 120*
Terphenyl-d14	*94*		*53 - 125*
2,4,6-Tribromophenol	*18*		*15 - 135*

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	16.3	*	ug/L		54	29 - 120	34	30
Benzoic acid			117	249	*	ug/L		214	10 - 150	200	30
Benzyl alcohol			30.0	29.4		ug/L		98	19 - 125	3	30
Bis(2-chloroethoxy)methane			30.0	24.2		ug/L		81	45 - 120	4	30
Bis(2-chloroethyl)ether			30.0	21.2		ug/L		71	48 - 120	1	30
bis (2-chloroisopropyl) ether			30.0	26.1		ug/L		87	30 - 125	1	30
Bis(2-ethylhexyl) phthalate			30.0	29.8		ug/L		99	48 - 150	4	30
4-Bromophenyl phenyl ether			30.0	26.8		ug/L		89	55 - 122	3	30
Butyl benzyl phthalate			30.0	27.7		ug/L		92	46 - 145	2	30
4-Chloroaniline			30.0	16.7		ug/L		56	30 - 120	26	30
4-Chloro-3-methylphenol			30.0	32.7		ug/L		109	39 - 140	0	30
2-Chloronaphthalene			30.0	26.3		ug/L		88	52 - 120	0	30
2-Chlorophenol			30.0	27.1		ug/L		90	34 - 120	2	30
4-Chlorophenyl phenyl ether			30.0	26.6		ug/L		89	58 - 124	2	30
Dibenz[a,h]acridine			30.0	22.2		ug/L		74	46 - 149	7	30
Dibenzofuran			30.0	27.0		ug/L		90	58 - 123	1	30
3,3'-Dichlorobenzidine			40.0	43.0		ug/L		107	39 - 135	10	30
2,4-Dichlorophenol			30.0	30.5		ug/L		102	39 - 128	1	30
Diethyl phthalate			30.0	29.6		ug/L		99	44 - 146	0	30
2,4-Dimethylphenol			30.0	27.9		ug/L		93	44 - 120	1	30
Dimethyl phthalate			30.0	28.5		ug/L		95	50 - 131	2	30
Di-n-butyl phthalate			30.0	31.8		ug/L		106	55 - 131	5	30
4,6-Dinitro-ortho-cresol			60.0	79.3		ug/L		132	10 - 150	3	30
2,4-Dinitrophenol			60.0	98.3	*	ug/L		164	10 - 150	4	30
2,4-Dinitrotoluene			30.0	30.8		ug/L		103	58 - 140	2	30
2,6-Dinitrotoluene			30.0	29.5		ug/L		98	57 - 130	1	30
Di-n-octyl phthalate			30.0	29.3		ug/L		98	50 - 150	2	30
1,4-Dioxane			30.0	14.1		ug/L		47	25 - 120	22	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	27.6		ug/L		92	47 - 123	3	30
Hexachlorobenzene			30.0	29.7		ug/L		99	52 - 131	10	30
Hexachlorocyclopentadiene			30.0	19.0	J	ug/L		63	10 - 129	5	30
Hexachloroethane			30.0	20.3		ug/L		68	41 - 120	2	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene			30.0	44.4	*	ug/L		148	47 - 120	200	30
Isophorone			30.0	27.1		ug/L		90	49 - 120	0	30
2-Methylphenol			30.0	29.1		ug/L		97	39 - 123	2	30
3 & 4 Methylphenol			30.0	26.6		ug/L		89	38 - 121	1	30
2-Nitroaniline			30.0	34.0		ug/L		113	47 - 150	1	30
3-Nitroaniline			30.0	25.6		ug/L		85	34 - 132	16	30
4-Nitroaniline			30.0	30.3		ug/L		101	41 - 135	9	30
Nitrobenzene			30.0	27.6		ug/L		92	47 - 120	1	30
2-Nitrophenol			30.0	29.6		ug/L		99	28 - 136	1	30
4-Nitrophenol			60.0	68.3	*	ug/L		114	10 - 150	187	30
N-Nitrosodimethylamine			30.0	34.9		ug/L		116	22 - 148	6	30
N-Nitrosodi-n-propylamine			30.0	26.5		ug/L		88	44 - 120	0	30
N-Nitrosodiphenylamine			29.8	27.5		ug/L		92	56 - 120	2	30
Pentachlorophenol			60.0	70.8		ug/L		118	15 - 141	4	30
Phenol			30.0	28.0		ug/L		93	33 - 120	6	30
Pyridine			60.0	26.9		ug/L		45	26 - 120	9	30
Quinoline			30.0	27.5		ug/L		92	51 - 129	0	30
2,4,5-Trichlorophenol			30.0	30.8		ug/L		103	38 - 147	0	30
2,4,6-Trichlorophenol			30.0	30.3		ug/L		101	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*34 - 120*
2-Fluorophenol	*72*		*10 - 120*
Nitrobenzene-d5	*103*		*27 - 120*
Phenol-d5	*93*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*95*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Anthracene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
Fluoranthene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Fluorene	ND		0.20	0.021	ug/L		07/12/19 14:17	07/18/19 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/12/19 14:17	07/18/19 12:50	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-447763/1-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447763

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Phenanthrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/12/19 14:17	07/18/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*113*		*15 - 122*	*07/12/19 14:17*	*07/18/19 12:50*	*1*
Nitrobenzene-d5	*89*		*19 - 130*	*07/12/19 14:17*	*07/18/19 12:50*	*1*
Terphenyl-d14	*155*	*X*	*33 - 138*	*07/12/19 14:17*	*07/18/19 12:50*	*1*

Lab Sample ID: LCS 400-447763/2-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	26.1		ug/L		87	41 - 120
Acenaphthylene	30.0	24.4		ug/L		81	44 - 120
Anthracene	30.0	24.6		ug/L		82	49 - 120
Benzo[a]anthracene	30.0	22.0		ug/L		73	61 - 135
Benzo[a]pyrene	30.0	24.2		ug/L		81	52 - 120
Benzo[b]fluoranthene	30.0	26.6		ug/L		89	53 - 134
Benzo[g,h,i]perylene	30.0	16.5		ug/L		55	47 - 133
Benzo[k]fluoranthene	30.0	30.2		ug/L		101	57 - 134
Chrysene	30.0	23.1		ug/L		77	55 - 122
Dibenz(a,h)anthracene	30.0	18.4		ug/L		61	48 - 146
Fluoranthene	30.0	22.6		ug/L		75	54 - 128
Fluorene	30.0	26.5		ug/L		88	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	18.1		ug/L		60	43 - 142
1-Methylnaphthalene	30.0	23.0		ug/L		77	41 - 120
2-Methylnaphthalene	30.0	21.9		ug/L		73	32 - 124
Phenanthrene	30.0	23.4		ug/L		78	48 - 120
Pyrene	30.0	21.8		ug/L		73	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*60*		*19 - 130*
Terphenyl-d14	*83*		*33 - 138*

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	27.0		ug/L		90	41 - 120	3	56
Acenaphthylene	30.0	25.9		ug/L		86	44 - 120	6	56
Anthracene	30.0	26.1		ug/L		87	49 - 120	6	51
Benzo[a]anthracene	30.0	23.6		ug/L		79	61 - 135	7	49
Benzo[a]pyrene	30.0	26.3		ug/L		88	52 - 120	8	50
Benzo[b]fluoranthene	30.0	29.1		ug/L		97	53 - 134	9	54

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-172948-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-447763/3-A
Matrix: Water
Analysis Batch: 448495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447763

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			30.0	16.9		ug/L		56	47 - 133	2	50
Benzo[k]fluoranthene			30.0	32.3		ug/L		108	57 - 134	7	52
Chrysene			30.0	24.7		ug/L		82	55 - 122	6	50
Dibenz(a,h)anthracene			30.0	19.6		ug/L		65	48 - 146	6	50
Fluoranthene			30.0	24.3		ug/L		81	54 - 128	7	52
Fluorene			30.0	28.4		ug/L		95	45 - 125	7	56
Indeno[1,2,3-cd]pyrene			30.0	18.3		ug/L		61	43 - 142	1	51
1-Methylnaphthalene			30.0	19.5		ug/L		65	41 - 120	17	55
2-Methylnaphthalene			30.0	21.1		ug/L		70	32 - 124	4	57
Phenanthrene			30.0	24.9		ug/L		83	48 - 120	6	56
Pyrene			30.0	23.3		ug/L		78	48 - 132	7	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*62*		*19 - 130*
Terphenyl-d14	*81*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (__Pensacola__)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ BGW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/10/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

400-172948 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071019-B	7/10/2019	0:00	Water	2					2		x	
	PD-9-GWP-54-071019	7/10/2019	9:05	Water	2			2		4	x	x	x
	PD-9-GWP-60-071019	7/10/2019	10:05	Water	2			2		4	x	x	x
	PD-9-GWP-70-071019	7/10/2019	11:05	Water	2			2		4	x	x	x
	PD-9-GWP-70-071019-DUP	7/10/2019	11:05	Water	2			2		4	x	x	x
	PD-9-GWP-80-071019	7/10/2019	12:10	Water	2			2		4	x	x	x
	PD-9-GWP-80-071019-EB	7/10/2019	12:40	Water	2			2		4	x	x	x
	PD-2-SB-071019-EB	7/10/2019	13:35	Water	2			2		4	x	x	x
	PD-11-GWP-35-071019	7/10/2019	16:08	Water	2			2		4	x	x	x

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Paul Lafleur	FED EX 4759 5526 5941	7/10/2019	17:15
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	[signature]	07.11.19	939
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

CS: 1013817, 1013816
CS: 1003227, 1003226

4.3°C
2.3°C IR7 IR7

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-172948-1

Login Number: 172948
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3°C IR-7, 2.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-172948-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173045

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/5/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071119-B	PD-11-GWP-37-071119
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP
PD-11-GWP-50-071119	PD-11-GWP-56-071119
PD-11-GWP-60-071119	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated bis(2-ethylhexyl)phthalate was detected in the method blank. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. VOC and MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria in sample PD-11-GWP-50-071119. SVOC surrogate recoveries were outside evaluation criteria in sample PD-11-GWP-43-071119. Additionally, the RPD between analytical results for PAHs in field duplicate pair PD-11-GWP-43-071119/PD-11-GWP-43-071119-Dup was outside evaluation criteria; therefore, results were qualified as estimated (**J**/**J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, SVOCs were re-extracted 5 days outside of the extraction holding time criteria (7 days) in sample PD-11-GWP-60-07119. Re-extraction was due to surrogate compound recoveries outside evaluation criteria. Professional judgement was used to qualify as estimated (**J/UJ**); however, not reject the out of holding time data. Holding time exceedances were not greater than two times (2X) criteria; data requiring qualification is summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
PD-11-GWP-60-071119-RE	SVOCs	SVOC non-detects	**UJ**

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448199/1-A	SVOCs	bis(2-ethylhexyl) phthalate	13.6 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-447926/1002	VOCs	Acrylonitrile	**153**	NA	64-142
400-447926/1002	VOCs	2-Chloroethyl vinyl ether	**294**	NA	10-160
400-447926/1002	VOCs	1-Chlorohexane	**131**	NA	69-130
400-447926/1002	VOCs	1,2-Dichloroethane	**148**	NA	69-130
400-447978/1002	VOCs	2-Chloroethyl vinyl ether	**3121**	NA	10-160
400-447978/1002	VOCs	1-Chlorohexane	**131**	NA	69-130
400-447978/1002	VOCs	1,2-Dichloroethane	**140**	NA	69-130
400-448199/4-A	SVOCs	3,3'-Dichlorobenzidine	**138**	NA	39-135
400-448199/2-A/3-A	SVOCs	Benzenethiol	**5/4**	24	10-120/30
400-449195/4-A	SVOCs	3,3'-Dichlorobenzidine	**172**	NA	39-135

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-11-GWP-37-071119	SVOCs	Benzenethiol	**UJ**
PD-11-GWP-43-071119	SVOCs	Benzenethiol	**UJ**
PD-11-GWP-43-071119-DUP	SVOCs	Benzenethiol	**UJ**
PD-11-GWP-50-071119	SVOCs	Benzenethiol	**UJ**
PD-11-GWP-56-071119	SVOCs	Benzenethiol	**UJ**
PD-11-GWP-60-071119	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-11-GWP-43-071119	SVOCs	Phenol-d_5	**8**	10-120
PD-11-GWP-43-071119	SVOCs	2,4,6-Tribromophenol	**154**	15-135

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-11-GWP-50-071119 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-11-GWP-50-071119	VOCs	2-Chloroethyl vinyl ether	**214**/**236**	10	10-150/50
PD-11-GWP-50-071119	VOCs	1,2-Dichloroethane	**147**/**153**	4	60-141/30
PD-11-GWP-50-071119	SVOCs	2-Chlorophenol	68/142	**42**	19-130/42
PD-11-GWP-50-071119	SVOCs	3,3'-Dichlorobenzidine	**0**/**0**	**58**	10-172/58
PD-11-GWP-50-071119	SVOCs	2,4-Dichlorophenol	87/35	**86**	16-147/43
PD-11-GWP-50-071119	SVOCs	2,4-Dinitrophenol	**170**/122	33	10-166/36
PD-11-GWP-50-071119	SVOCs	1,4-Dioxane	40/23	**56**	10-130/40
PD-11-GWP-50-071119	SVOCs	2-Methylphenol	71/28	**88**	22-130/47
PD-11-GWP-50-071119	SVOCs	3 & 4 Methylphenol	73/31	**80**	31-130/47
PD-11-GWP-50-071119	SVOCs	2-Nitrophenol	80/**22**	**113**	27-134/43
PD-11-GWP-50-071119	SVOCs	Phenol	80/**-31**	**116**	23-130/52
PD-11-GWP-50-071119	SVOCs	2,4,5-Trichlorophenol	115/65	**56**	43-137/42
PD-11-GWP-50-071119	SVOCs	2,4,6-Trichlorophenol	116/54	**73**	42-135/44

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-11-GWP-50-071119	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-11-GWP-50-071119	SVOCs	2-Chlorophenol	**UJ**
PD-11-GWP-50-071119	SVOCs	2-Nitrophenol	**UJ**
PD-11-GWP-50-071119	SVOCs	Phenol	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP	PAHs	Acenaphthene	**117**	**J/J**
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP	PAHs	Chrysene	**151**	**J/J**
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP	PAHs	Fluorene	**115**	**J/J**
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP-DL	PAHs	1-Methylnaphthalene	**122**	**J/J**
PD-11-GWP-43-071119	PD-11-GWP-43-071119-DUP-DL	PAHs	2-Methylnaphthalene	**125**	**J/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173045-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/5/2019 1:59:27 PM

Leah Klingensmith, Senior Project Manager
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Reviewed
on
8/5/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Job ID: 400-173045-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173045-1

Comments
No additional comments.

Receipt
The samples were received on 7/12/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1° C and 2.0° C.

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): TRIP BLANK (400-173045-8) Only information on container is Trip Blank. Logged in as a trip blank.

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. COC and sample labels don't match. ID's on COC end in 071019, container label end in 071119.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-GWP-37-071119 (400-173045-2), PD-11-GWP-43-071119 (400-173045-3), PD-11-GWP-43-071119-DUP (400-173045-4), PD-11-GWP-50-071119 (400-173045-5) and PD-11-GWP-60-071119 (400-173045-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071119-B (400-173045-1), PD-11-GWP-37-071119 (400-173045-2), PD-11-GWP-43-071119 (400-173045-3), PD-11-GWP-43-071119-DUP (400-173045-4), PD-11-GWP-50-071119 (400-173045-5), PD-11-GWP-56-071119 (400-173045-6) and PD-11-GWP-60-071119 (400-173045-7). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447978 recovered above the upper control limit for 2-Chloroethyl vinyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447978 recovered outside control limits for the following analytes: 1-Chlorohexane, 1,2-Dichloroethane and 2-Chloroethyl vinyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-447978 were outside control limits for 1,2-Dichloroethane and 2-Chloroethyl vinyl ether due to high bias for these analytes on this day of analysis.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Job ID: 400-173045-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-11-GWP-50-071119 (400-173045-5[MS]) and PD-11-GWP-50-071119 (400-173045-5[MSD]). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered above the upper control limit for 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448199 and analytical batch 400-448709 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448199 and analytical batch 400-448709 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448199 and analytical batch 400-448687 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448199 and analytical batch 400-448687 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448199 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). The samples associated with this method blank were either non-detect or less than the reporting limit; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448687 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448687 recovered above the upper control limit for N-Nitrosodimethylamine, 4-Chloro-3-methylphenol and Aniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448687 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-11-GWP-43-071119 (400-173045-3), PD-11-GWP-56-071119 (400-173045-6). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered above the upper control limit for 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 4,6-Dinitro-ortho-cresol and 4-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Job ID: 400-173045-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether, Butyl benzyl phthalate, 4-Bromophenyl phenyl ether, Hexachlorocyclopentadiene and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-449195 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-GWP-43-071119-DUP (400-173045-4). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173045-1	TB-PW-071119-B	Water	07/11/19 00:00	07/12/19 09:19	
400-173045-2	PD-11-GWP-37-071119	Water	07/11/19 09:11	07/12/19 09:19	
400-173045-3	PD-11-GWP-43-071119	Water	07/11/19 10:10	07/12/19 09:19	
400-173045-4	PD-11-GWP-43-071119-DUP	Water	07/11/19 10:10	07/12/19 09:19	
400-173045-5	PD-11-GWP-50-071119	Water	07/11/19 12:35	07/12/19 09:19	
400-173045-6	PD-11-GWP-56-071119	Water	07/11/19 14:35	07/12/19 09:19	
400-173045-7	PD-11-GWP-60-071119	Water	07/11/19 15:35	07/12/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B — Lab Sample ID: 400-173045-1

No Detections.

Client Sample ID: PD-11-GWP-37-071119 — Lab Sample ID: 400-173045-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400		10	3.8	ug/L	10		8260B	Total/NA
Ethylbenzene	290		10	5.0	ug/L	10		8260B	Total/NA
Isopropylbenzene	100		10	5.3	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	240		50	16	ug/L	10		8260B	Total/NA
Naphthalene	90		10	10	ug/L	10		8260B	Total/NA
n-Butylbenzene	17		10	7.6	ug/L	10		8260B	Total/NA
N-Propylbenzene	140		10	6.9	ug/L	10		8260B	Total/NA
o-Xylene	110		50	6.0	ug/L	10		8260B	Total/NA
p-Isopropyltoluene	7.7	J	10	7.1	ug/L	10		8260B	Total/NA
sec-Butylbenzene	19		10	7.0	ug/L	10		8260B	Total/NA
Toluene	6.3	J	10	4.1	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	610		10	8.2	ug/L	10		8260B	Total/NA
1,3,5-Trimethylbenzene	100		10	5.6	ug/L	10		8260B	Total/NA
Xylenes, Total	350		100	16	ug/L	10		8260B	Total/NA
Acenaphthene	6.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	3.8		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	1.1		0.20	0.040	ug/L	1		8270D LL	Total/NA
Chrysene	5.5		0.20	0.040	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	1.1		0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluorene	7.5		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.64		0.20	0.040	ug/L	1		8270D LL	Total/NA
Phenanthrene	18		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	16		0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL	170		5.1	0.51	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene - DL	66		5.1	0.51	ug/L	25		8270D LL	Total/NA
Dibenzofuran	5.3	J	10	0.53	ug/L	1		8270D	Total/NA
Phenol	9.0	J	10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-11-GWP-43-071119 — Lab Sample ID: 400-173045-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2500000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	1.9	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	1.3		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.53		0.20	0.040	ug/L	1		8270D LL	Total/NA
Chrysene	2.1	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.48		0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.68		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	2.3	J	0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.26		0.20	0.040	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	29	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	39	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	12		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	5.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	370		50	13	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP — Lab Sample ID: 400-173045-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2400000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	7.3	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Acenaphthylene	1.2		0.21	0.021	ug/L	1		8270D LL	Total/NA
Anthracene	6.2		0.21	0.021	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	7.7		0.21	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	15	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	3.5		0.21	0.021	ug/L	1		8270D LL	Total/NA
Fluorene	8.5	J	0.21	0.022	ug/L	1		8270D LL	Total/NA
Phenanthrene	29		0.21	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	20		0.21	0.021	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene - DL	12		5.2	1.0	ug/L	25		8270D LL	Total/NA
Benzo[b]fluoranthene - DL	5.2		5.2	1.0	ug/L	25		8270D LL	Total/NA
Dibenz(a,h)anthracene - DL	3.5	J	5.2	1.0	ug/L	25		8270D LL	Total/NA
1-Methylnaphthalene - DL	120	J	5.2	0.52	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene - DL	170	J	5.2	0.52	ug/L	25		8270D LL	Total/NA
Dibenzofuran	6.8	J	10	0.54	ug/L	1		8270D	Total/NA
Phenol - DL	140		52	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-11-GWP-50-071119 — Lab Sample ID: 400-173045-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1900		10	3.8	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	16		10	8.2	ug/L	10		8260B	Total/NA
Acenaphthene	2.5		0.21	0.021	ug/L	1		8270D LL	Total/NA
Anthracene	0.16	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.11	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.097	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	0.19	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.21	0.022	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	1.8		0.21	0.021	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.8		0.21	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.87		0.21	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	0.45		0.21	0.021	ug/L	1		8270D LL	Total/NA
Phenol	22	F2 F1	10	2.7	ug/L	1		8270D	Total/NA

Client Sample ID: PD-11-GWP-56-071119 — Lab Sample ID: 400-173045-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200		5.0	1.9	ug/L	5		8260B	Total/NA
Ethylbenzene	4.9	J	5.0	2.5	ug/L	5		8260B	Total/NA
m-Xylene & p-Xylene	10	J	25	8.0	ug/L	5		8260B	Total/NA
o-Xylene	3.3	J	25	3.0	ug/L	5		8260B	Total/NA
1,2,4-Trimethylbenzene	25		5.0	4.1	ug/L	5		8260B	Total/NA
1,3,5-Trimethylbenzene	7.0		5.0	2.8	ug/L	5		8260B	Total/NA
Xylenes, Total	13	J	50	8.0	ug/L	5		8260B	Total/NA
Acenaphthene	0.36		0.20	0.020	ug/L	1		8270D LL	Total/NA
Acenaphthylene	0.048	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.31		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.29		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.32		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.16	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.12	J	0.20	0.040	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119 (Continued)

Lab Sample ID: 400-173045-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.61		0.20	0.040	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.076	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.058	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	2.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	2.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	1.1		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	12		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-11-GWP-60-071119

Lab Sample ID: 400-173045-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	200000		1000	380	ug/L	1000		8260B	Total/NA
1-Methylnaphthalene	0.85		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.81		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.089	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.061	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate - DL	130	B	50	25	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 14:41	1
Acrolein	ND		20	10	ug/L			07/14/19 14:41	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 14:41	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 14:41	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 14:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 14:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 14:41	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 14:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 14:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 14:41	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 14:41	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 14:41	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 14:41	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 14:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 14:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 14:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 14:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 14:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 14:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 14:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 14:41	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 14:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 14:41	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 14:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 14:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 14:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 14:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 14:41	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 14:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 14:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 14:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 14:41	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 14:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 14:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 14:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 14:41	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 14:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 14:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 14:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 14:41	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 14:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 14:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 14:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 14:41	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 14:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 14:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 14:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 14:41	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 14:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 14:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 14:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/14/19 14:41*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 14:41*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 14:41*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/14/19 15:31	10
Acrolein	ND		200	100	ug/L			07/14/19 15:31	10
Acrylonitrile	ND	*	100	28	ug/L			07/14/19 15:31	10
Benzene	**1400**		10	3.8	ug/L			07/14/19 15:31	10
Bromobenzene	ND		10	5.4	ug/L			07/14/19 15:31	10
Bromochloromethane	ND		10	5.2	ug/L			07/14/19 15:31	10
Bromodichloromethane	ND		10	5.0	ug/L			07/14/19 15:31	10
Bromoform	ND		50	7.1	ug/L			07/14/19 15:31	10
Bromomethane	ND		10	9.8	ug/L			07/14/19 15:31	10
2-Butanone (MEK)	ND		250	26	ug/L			07/14/19 15:31	10
Carbon disulfide	ND		10	5.0	ug/L			07/14/19 15:31	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/14/19 15:31	10
Chlorobenzene	ND		10	5.0	ug/L			07/14/19 15:31	10
Chloroethane	ND		10	7.6	ug/L			07/14/19 15:31	10
2-Chloroethyl vinyl ether	ND	*	50	20	ug/L			07/14/19 15:31	10
Chloroform	ND		10	6.0	ug/L			07/14/19 15:31	10
1-Chlorohexane	ND	*	10	7.0	ug/L			07/14/19 15:31	10
Chloromethane	ND		10	8.3	ug/L			07/14/19 15:31	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:31	10
Dibromochloromethane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/14/19 15:31	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/14/19 15:31	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/14/19 15:31	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/14/19 15:31	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/14/19 15:31	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,2-Dichloroethane	ND	*	10	5.0	ug/L			07/14/19 15:31	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:31	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/14/19 15:31	10
Ethylbenzene	**290**		10	5.0	ug/L			07/14/19 15:31	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/14/19 15:31	10
Ethyl methacrylate	ND		10	6.0	ug/L			07/14/19 15:31	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/14/19 15:31	10
2-Hexanone	ND		250	31	ug/L			07/14/19 15:31	10
Isopropylbenzene	**100**		10	5.3	ug/L			07/14/19 15:31	10
Methylene bromide	ND		50	5.9	ug/L			07/14/19 15:31	10
Methylene Chloride	ND		50	30	ug/L			07/14/19 15:31	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/14/19 15:31	10
Methyl tert-butyl ether	ND		10	7.4	ug/L			07/14/19 15:31	10
m-Xylene & p-Xylene	**240**		50	16	ug/L			07/14/19 15:31	10
Naphthalene	**90**		10	10	ug/L			07/14/19 15:31	10
n-Butylbenzene	**17**		10	7.6	ug/L			07/14/19 15:31	10
N-Propylbenzene	**140**		10	6.9	ug/L			07/14/19 15:31	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/14/19 15:31	10
o-Xylene	**110**		50	6.0	ug/L			07/14/19 15:31	10

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119
Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/14/19 15:31	10
p-Isopropyltoluene	**7.7**	**J**	10	7.1	ug/L			07/14/19 15:31	10
sec-Butylbenzene	**19**		10	7.0	ug/L			07/14/19 15:31	10
Styrene	ND		10	10	ug/L			07/14/19 15:31	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/14/19 15:31	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			07/14/19 15:31	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/14/19 15:31	10
Tetrachloroethene	ND		10	5.8	ug/L			07/14/19 15:31	10
Toluene	**6.3**	**J**	10	4.1	ug/L			07/14/19 15:31	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:31	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/14/19 15:31	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/14/19 15:31	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/14/19 15:31	10
Trichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/14/19 15:31	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/14/19 15:31	10
1,2,4-Trimethylbenzene	**610**		10	8.2	ug/L			07/14/19 15:31	10
1,3,5-Trimethylbenzene	**100**		10	5.6	ug/L			07/14/19 15:31	10
Vinyl acetate	ND		250	20	ug/L			07/14/19 15:31	10
Vinyl chloride	ND		10	5.0	ug/L			07/14/19 15:31	10
Xylenes, Total	**350**		100	16	ug/L			07/14/19 15:31	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isooctane	*38*	*J*	*ug/L*		*3.78*	*540-84-1*		*07/14/19 15:31*	*10*
Methylcyclohexane	*31*		*ug/L*		*4.28*	*108-87-2*		*07/14/19 15:31*	*10*
3-Ethyltoluene	*93*		*ug/L*		*7.16*	*620-14-4*		*07/14/19 15:31*	*10*
2-Ethyltoluene	*88*		*ug/L*		*7.39*	*611-14-3*		*07/14/19 15:31*	*10*
1,2,3-Trimethylbenzene	*150*		*ug/L*		*7.88*	*526-73-8*		*07/14/19 15:31*	*10*
1,3-Diethylbenzene	*18*	*J*	*ug/L*		*8.03*	*141-93-5*		*07/14/19 15:31*	*10*
p-Diethylbenzene	*33*	*J*	*ug/L*		*8.10*	*105-05-5*		*07/14/19 15:31*	*10*
o-diethylbenzene	*11*	*J*	*ug/L*		*8.20*	*135-01-3*		*07/14/19 15:31*	*10*
Benzene, 1-methyl-2-(1-methylethyl)-	*59*	*T J N*	*ug/L*		*8.41*	*527-84-4*		*07/14/19 15:31*	*10*
Naphthalene, 1,2,3,4-tetrahydro-	*59*	*T J N*	*ug/L*		*9.30*	*119-64-2*		*07/14/19 15:31*	*10*
2-Methylnaphthalene	*62*	*J*	*ug/L*		*10.89*	*91-57-6*		*07/14/19 15:31*	*10*
1-Methylnaphthalene	*120*		*ug/L*		*11.07*	*90-12-0*		*07/14/19 15:31*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/14/19 15:31*	*10*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 15:31*	*10*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 15:31*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**6.5**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[a]pyrene	**3.8**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119
Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[g,h,i]perylene	**1.1**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Chrysene	**5.5**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Dibenz(a,h)anthracene	**1.1**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Fluorene	**7.5**		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 14:41	1
Indeno[1,2,3-cd]pyrene	**0.64**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Phenanthrene	**18**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Pyrene	**16**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*15 - 122*	*07/16/19 12:05*	*07/18/19 14:41*	*1*
Nitrobenzene-d5	*64*		*19 - 130*	*07/16/19 12:05*	*07/18/19 14:41*	*1*
Terphenyl-d14	*43*		*33 - 138*	*07/16/19 12:05*	*07/18/19 14:41*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**170**		5.1	0.51	ug/L		07/16/19 12:05	07/24/19 18:52	25
2-Methylnaphthalene	**66**		5.1	0.51	ug/L		07/16/19 12:05	07/24/19 18:52	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/16/19 12:05	07/19/19 17:58	1
Benzoic acid	ND		30	7.4	ug/L		07/16/19 12:05	07/19/19 17:58	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 17:58	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/16/19 12:05	07/19/19 17:58	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/16/19 12:05	07/19/19 17:58	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 17:58	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Dibenzofuran	**5.3**	J	10	0.53	ug/L		07/16/19 12:05	07/19/19 17:58	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Diethyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:58	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/16/19 12:05	07/19/19 17:58	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 17:58	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 17:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 17:58	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 17:58	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 17:58	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Isophorone	ND		10	0.58	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 17:58	1
Nitrobenzene	ND		10	0.56	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Nitrophenol	ND		10	0.66	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:58	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 17:58	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/16/19 12:05	07/19/19 17:58	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
Phenol	**9.0**	**J**	10	2.6	ug/L		07/16/19 12:05	07/19/19 17:58	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
Quinoline	ND		10	6.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*140*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Ethylbenzene	*140*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,3-dimethyl-	*72*	*T J N*	*ug/L*		*4.87*	*108-38-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, (1-methylethyl)-	*77*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, propyl-	*110*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1-ethyl-2-methyl-	*64*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1-ethyl-2-methyl-	*98*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1-ethyl-2-methyl-	*80*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,2,3-trimethyl-	*270*	*T J N*	*ug/L*		*5.47*	*526-73-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,2,3-trimethyl-	*110*	*T J N*	*ug/L*		*5.62*	*526-73-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Indane	*52*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,4-diethyl-	*47*	*T J N*	*ug/L*		*5.78*	*105-05-5*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*77*	*T J N*	*ug/L*		*5.91*	*1758-88-9*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*36*	*T J N*	*ug/L*		*6.31*	*119-64-2*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene	*62*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 1-methyl-	*48*	*T J N*	*ug/L*		*6.88*	*90-12-0*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 2-methyl-	*95*	*T J N*	*ug/L*		*6.96*	*91-57-6*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Hexadecane, 2,6,10,14-tetramethyl-	*31*	*T J N*	*ug/L*		*7.03*	*638-36-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 2,7-dimethyl-	*44*	*T J N*	*ug/L*		*7.31*	*582-16-1*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 2,3-dimethyl-	*55*	*T J N*	*ug/L*		*7.36*	*581-40-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Dibenzothiophene, 4-methyl-	*35*	*T J N*	*ug/L*		*9.08*	*7372-88-5*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Phenanthrene, 1-methyl-	*39*	*T J N*	*ug/L*		*9.15*	*832-69-9*	*07/16/19 12:05*	*07/19/19 17:58*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119
Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Phenanthrene, 2-methyl-	50	T J N	ug/L		9.18	2531-84-2	07/16/19 12:05	07/19/19 17:58	1
Phenanthrene, 2,5-dimethyl-	31	T J N	ug/L		9.53	3674-66-6	07/16/19 12:05	07/19/19 17:58	1
Phenanthrene, 2,5-dimethyl-	64	T J N	ug/L		9.63	3674-66-6	07/16/19 12:05	07/19/19 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		34 - 120	07/16/19 12:05	07/19/19 17:58	1
2-Fluorophenol	45		10 - 120	07/16/19 12:05	07/19/19 17:58	1
Nitrobenzene-d5	91		27 - 120	07/16/19 12:05	07/19/19 17:58	1
Phenol-d5	65		10 - 120	07/16/19 12:05	07/19/19 17:58	1
Terphenyl-d14	53		53 - 125	07/16/19 12:05	07/19/19 17:58	1
2,4,6-Tribromophenol	100		15 - 135	07/16/19 12:05	07/19/19 17:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/14/19 17:11	2500
Acrolein	ND		50000	25000	ug/L			07/14/19 17:11	2500
Acrylonitrile	ND	*	25000	7000	ug/L			07/14/19 17:11	2500
Bromobenzene	ND		2500	1400	ug/L			07/14/19 17:11	2500
Bromochloromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
Bromoform	ND		13000	1800	ug/L			07/14/19 17:11	2500
Bromomethane	ND		2500	2500	ug/L			07/14/19 17:11	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/14/19 17:11	2500
Carbon disulfide	ND		2500	1300	ug/L			07/14/19 17:11	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/14/19 17:11	2500
Chlorobenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Chloroethane	ND		2500	1900	ug/L			07/14/19 17:11	2500
2-Chloroethyl vinyl ether	ND	*	13000	5000	ug/L			07/14/19 17:11	2500
Chloroform	ND		2500	1500	ug/L			07/14/19 17:11	2500
1-Chlorohexane	ND	*	2500	1800	ug/L			07/14/19 17:11	2500
Chloromethane	ND		2500	2100	ug/L			07/14/19 17:11	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:11	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/14/19 17:11	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/14/19 17:11	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/14/19 17:11	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/14/19 17:11	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2-Dichloroethane	ND	*	2500	1300	ug/L			07/14/19 17:11	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:11	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Ethylbenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/14/19 17:11	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/14/19 17:11	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/14/19 17:11	2500
2-Hexanone	ND		63000	7800	ug/L			07/14/19 17:11	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Methylene bromide	ND		13000	1500	ug/L			07/14/19 17:11	2500
Methylene Chloride	ND		13000	7500	ug/L			07/14/19 17:11	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/14/19 17:11	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/14/19 17:11	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/14/19 17:11	2500
Naphthalene	ND		2500	2500	ug/L			07/14/19 17:11	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/14/19 17:11	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/14/19 17:11	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:11	2500
o-Xylene	ND		13000	1500	ug/L			07/14/19 17:11	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:11	2500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/14/19 17:11	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/14/19 17:11	2500
Styrene	ND		2500	2500	ug/L			07/14/19 17:11	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/14/19 17:11	2500
1,1,1,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/14/19 17:11	2500
Toluene	ND		2500	1000	ug/L			07/14/19 17:11	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:11	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/14/19 17:11	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/14/19 17:11	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/14/19 17:11	2500
Trichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/14/19 17:11	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/14/19 17:11	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/14/19 17:11	2500
Vinyl acetate	ND		63000	5000	ug/L			07/14/19 17:11	2500
Vinyl chloride	ND		2500	1300	ug/L			07/14/19 17:11	2500
Xylenes, Total	ND		25000	4000	ug/L			07/14/19 17:11	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 17:11*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 17:11*	*2500*
Dibromofluoromethane	*119*		*81 - 121*		*07/14/19 17:11*	*2500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 17:11*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2500000**		10000	3800	ug/L			07/15/19 10:29	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/15/19 10:29*	*10000*
Dibromofluoromethane	*113*		*81 - 121*		*07/15/19 10:29*	*10000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 10:29*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.9**	J	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[a]pyrene	**1.3**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[g,h,i]perylene	**0.53**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Chrysene	**2.1**	J	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.48		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Fluoranthene	0.68		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Fluorene	2.3	J	0.20	0.021	ug/L		07/16/19 12:05	07/18/19 15:01	1
Indeno[1,2,3-cd]pyrene	0.26		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
1-Methylnaphthalene	29	J	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
2-Methylnaphthalene	39	J	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Phenanthrene	12		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Pyrene	5.5		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*37*		*15 - 122*	*07/16/19 12:05*	*07/18/19 15:01*	*1*
Nitrobenzene-d5	*56*		*19 - 130*	*07/16/19 12:05*	*07/18/19 15:01*	*1*
Terphenyl-d14	*54*		*33 - 138*	*07/16/19 12:05*	*07/18/19 15:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/16/19 12:05	07/19/19 18:20	1
Benzoic acid	ND		30	7.4	ug/L		07/16/19 12:05	07/19/19 18:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:20	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/16/19 12:05	07/19/19 18:20	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/16/19 12:05	07/19/19 18:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 18:20	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:20	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Diethyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:20	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/16/19 12:05	07/19/19 18:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 18:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 18:20	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 18:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 18:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 18:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119
Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Isophorone	ND		10	0.58	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 18:20	1
Nitrobenzene	ND		10	0.56	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Nitrophenol	ND		10	0.66	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 18:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 18:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 18:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 18:20	1
Quinoline	ND		10	6.1	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*100*	*T J N*	*ug/L*		*3.91*	*108-88-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
2-Butanone, 4-hydroxy-	*83*	*T J N*	*ug/L*		*4.07*	*590-90-9*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Ethylbenzene	*130*	*T J N*	*ug/L*		*4.66*	*100-41-4*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1,3-dimethyl-	*140*	*T J N*	*ug/L*		*4.88*	*108-38-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, (1-methylethyl)-	*35*	*T J N*	*ug/L*		*5.07*	*98-82-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1-ethyl-2-methyl-	*110*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1-ethyl-2-methyl-	*55*	*T J N*	*ug/L*		*5.31*	*611-14-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1-ethyl-2-methyl-	*78*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Decane	*39*	*T J N*	*ug/L*		*5.45*	*124-18-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1,2,3-trimethyl-	*130*	*T J N*	*ug/L*		*5.48*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1,2,4-trimethyl-	*120*	*T J N*	*ug/L*		*5.63*	*95-63-6*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Indane	*34*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*47*	*T J N*	*ug/L*		*5.78*	*934-80-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*27*	*T J N*	*ug/L*		*5.92*	*1758-88-9*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*38*	*T J N*	*ug/L*		*6.32*	*119-64-2*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Dodecane	*56*	*T J N*	*ug/L*		*6.35*	*112-40-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Undecane, 2,6-dimethyl-	*42*	*T J N*	*ug/L*		*6.40*	*17301-23-4*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene	*73*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Tridecane	*50*	*T J N*	*ug/L*		*6.74*	*629-50-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2-methyl-	*56*	*T J N*	*ug/L*		*6.89*	*91-57-6*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2-methyl-	*55*	*T J N*	*ug/L*		*6.95*	*91-57-6*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzoic acid, 3,4-dimethyl-	*55*	*T J N*	*ug/L*		*7.18*	*619-04-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2,3-dimethyl-	*29*	*T J N*	*ug/L*		*7.30*	*581-40-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2,3-dimethyl-	*38*	*T J N*	*ug/L*		*7.36*	*581-40-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Pentadecane	*28*	*T J N*	*ug/L*		*7.48*	*629-62-9*	*07/16/19 12:05*	*07/19/19 18:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*34 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Nitrobenzene-d5	*90*		*27 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119
Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	8	X	10 - 120	07/16/19 12:05	07/19/19 18:20	1
Terphenyl-d14	61		53 - 125	07/16/19 12:05	07/19/19 18:20	1
2,4,6-Tribromophenol	99		15 - 135	07/16/19 12:05	07/19/19 18:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	370		50	13	ug/L		07/16/19 12:05	07/22/19 22:48	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/14/19 17:37	2500
Acrolein	ND		50000	25000	ug/L			07/14/19 17:37	2500
Acrylonitrile	ND	*	25000	7000	ug/L			07/14/19 17:37	2500
Bromobenzene	ND		2500	1400	ug/L			07/14/19 17:37	2500
Bromochloromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
Bromoform	ND		13000	1800	ug/L			07/14/19 17:37	2500
Bromomethane	ND		2500	2500	ug/L			07/14/19 17:37	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/14/19 17:37	2500
Carbon disulfide	ND		2500	1300	ug/L			07/14/19 17:37	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/14/19 17:37	2500
Chlorobenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Chloroethane	ND		2500	1900	ug/L			07/14/19 17:37	2500
2-Chloroethyl vinyl ether	ND	*	13000	5000	ug/L			07/14/19 17:37	2500
Chloroform	ND		2500	1500	ug/L			07/14/19 17:37	2500
1-Chlorohexane	ND	*	2500	1800	ug/L			07/14/19 17:37	2500
Chloromethane	ND		2500	2100	ug/L			07/14/19 17:37	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:37	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/14/19 17:37	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/14/19 17:37	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/14/19 17:37	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/14/19 17:37	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2-Dichloroethane	ND	*	2500	1300	ug/L			07/14/19 17:37	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:37	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Ethylbenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/14/19 17:37	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/14/19 17:37	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/14/19 17:37	2500
2-Hexanone	ND		63000	7800	ug/L			07/14/19 17:37	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Methylene bromide	ND		13000	1500	ug/L			07/14/19 17:37	2500
Methylene Chloride	ND		13000	7500	ug/L			07/14/19 17:37	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/14/19 17:37	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/14/19 17:37	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/14/19 17:37	2500
Naphthalene	ND		2500	2500	ug/L			07/14/19 17:37	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/14/19 17:37	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/14/19 17:37	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:37	2500
o-Xylene	ND		13000	1500	ug/L			07/14/19 17:37	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:37	2500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/14/19 17:37	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/14/19 17:37	2500
Styrene	ND		2500	2500	ug/L			07/14/19 17:37	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/14/19 17:37	2500
1,1,1,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/14/19 17:37	2500
Toluene	ND		2500	1000	ug/L			07/14/19 17:37	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:37	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/14/19 17:37	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/14/19 17:37	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/14/19 17:37	2500
Trichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/14/19 17:37	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/14/19 17:37	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/14/19 17:37	2500
Vinyl acetate	ND		63000	5000	ug/L			07/14/19 17:37	2500
Vinyl chloride	ND		2500	1300	ug/L			07/14/19 17:37	2500
Xylenes, Total	ND		25000	4000	ug/L			07/14/19 17:37	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 17:37*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/14/19 17:37*	*2500*
Dibromofluoromethane	*112*		*81 - 121*		*07/14/19 17:37*	*2500*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/14/19 17:37*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2400000**		10000	3800	ug/L			07/15/19 10:53	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/15/19 10:53*	*10000*
Dibromofluoromethane	*115*		*81 - 121*		*07/15/19 10:53*	*10000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 10:53*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**7.3**	J	0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Acenaphthylene	**1.2**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Anthracene	**6.2**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Benzo[a]anthracene	**7.7**		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:19	1
Chrysene	**15**	J	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:19	1
Fluoranthene	**3.5**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Fluorene	**8.5**	J	0.21	0.022	ug/L		07/16/19 12:05	07/18/19 15:19	1
Phenanthrene	**29**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Pyrene	**20**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	29		15 - 122	07/16/19 12:05	07/18/19 15:19	1
Nitrobenzene-d5	60		19 - 130	07/16/19 12:05	07/18/19 15:19	1
Terphenyl-d14	40		33 - 138	07/16/19 12:05	07/18/19 15:19	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	12		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Benzo[b]fluoranthene	5.2		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Benzo[g,h,i]perylene	ND		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Benzo[k]fluoranthene	ND		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Dibenz(a,h)anthracene	3.5	J	5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Indeno[1,2,3-cd]pyrene	ND		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
1-Methylnaphthalene	120	J	5.2	0.52	ug/L		07/16/19 12:05	07/24/19 18:35	25
2-Methylnaphthalene	170	J	5.2	0.52	ug/L		07/16/19 12:05	07/24/19 18:35	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
Benzenethiol	ND	* UJ	10	1.8	ug/L		07/16/19 12:05	07/19/19 16:43	1
Benzoic acid	ND		31	7.5	ug/L		07/16/19 12:05	07/19/19 16:43	1
Benzyl alcohol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Bis(2-chloroethoxy)methane	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 16:43	1
Bis(2-chloroethyl)ether	ND		10	0.76	ug/L		07/16/19 12:05	07/19/19 16:43	1
bis (2-chloroisopropyl) ether	ND		10	0.84	ug/L		07/16/19 12:05	07/19/19 16:43	1
Bis(2-ethylhexyl) phthalate	ND		10	5.2	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/16/19 12:05	07/19/19 16:43	1
Butyl benzyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Chloroaniline	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Chloronaphthalene	ND		10	0.54	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Chlorophenol	ND		10	2.3	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Chlorophenyl phenyl ether	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Dibenzofuran	6.8	J	10	0.54	ug/L		07/16/19 12:05	07/19/19 16:43	1
3,3'-Dichlorobenzidine	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Diethyl phthalate	ND		10	0.72	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 16:43	1
Dimethyl phthalate	ND		10	0.62	ug/L		07/16/19 12:05	07/19/19 16:43	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/16/19 12:05	07/19/19 16:43	1
4,6-Dinitro-ortho-cresol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,6-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/16/19 12:05	07/19/19 16:43	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/16/19 12:05	07/19/19 16:43	1
Hexachlorocyclopentadiene	ND		21	2.7	ug/L		07/16/19 12:05	07/19/19 16:43	1
Hexachloroethane	ND		10	4.3	ug/L		07/16/19 12:05	07/19/19 16:43	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
Isophorone	ND		10	0.59	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Methylphenol	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
3 & 4 Methylphenol	ND		21	1.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Nitroaniline	ND		10	2.3	ug/L		07/16/19 12:05	07/19/19 16:43	1
3-Nitroaniline	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Nitroaniline	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 16:43	1
Nitrobenzene	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Nitrophenol	ND		10	0.67	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Nitrophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 16:43	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 16:43	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 16:43	1
N-Nitrosodiphenylamine	ND		10	0.49	ug/L		07/16/19 12:05	07/19/19 16:43	1
Pentachlorophenol	ND		21	1.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
Pyridine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 16:43	1
Quinoline	ND		10	6.2	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 16:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*77*	*T J N*	*ug/L*		*3.74*	*108-88-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Ethylbenzene	*100*	*T J N*	*ug/L*		*4.51*	*100-41-4*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
p-Xylene	*200*	*T J N*	*ug/L*		*4.58*	*106-42-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
p-Xylene	*110*	*T J N*	*ug/L*		*4.74*	*106-42-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1-ethyl-3-methyl-	*130*	*T J N*	*ug/L*		*5.15*	*620-14-4*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1-ethyl-2-methyl-	*98*	*T J N*	*ug/L*		*5.17*	*611-14-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1-ethyl-4-methyl-	*66*	*T J N*	*ug/L*		*5.26*	*622-96-8*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Decane	*110*	*T J N*	*ug/L*		*5.33*	*124-18-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1,2,3-trimethyl-	*110*	*T J N*	*ug/L*		*5.50*	*526-73-8*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1,4-diethyl-	*78*	*T J N*	*ug/L*		*5.65*	*105-05-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*50*	*T J N*	*ug/L*		*6.18*	*119-64-2*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Dodecane	*140*	*T J N*	*ug/L*		*6.23*	*112-40-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Tridecane	*87*	*T J N*	*ug/L*		*6.63*	*629-50-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Naphthalene, 1-methyl-	*78*	*T J N*	*ug/L*		*6.76*	*90-12-0*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Unknown	*48*	*T J*	*ug/L*		*6.86*		*07/16/19 12:05*	*07/19/19 16:43*	*1*
Naphthalene, 2,6-dimethyl-	*79*	*T J N*	*ug/L*		*7.17*	*581-42-0*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Pentadecane	*75*	*T J N*	*ug/L*		*7.36*	*629-62-9*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Hexadecane	*62*	*T J N*	*ug/L*		*7.70*	*544-76-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Phenanthrene	*57*	*T J N*	*ug/L*		*8.61*	*85-01-8*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Anthracene, 2-methyl-	*51*	*T J N*	*ug/L*		*9.00*	*613-12-7*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
1H-Cyclopropa[l]phenanthrene,1a,9b -dihydro-	*63*	*T J N*	*ug/L*		*9.02*	*949-41-7*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Phenanthrene, 2,5-dimethyl-	*60*	*T J N*	*ug/L*		*9.47*	*3674-66-6*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Phenanthrene, 2,3,5-trimethyl-	*110*	*T J N*	*ug/L*		*9.86*	*3674-73-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Pyrene, 4-methyl-	*78*	*T J N*	*ug/L*		*10.32*	*3353-12-6*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Pyrene, 1-methyl-	*120*	*T J N*	*ug/L*		*10.35*	*2381-21-7*	*07/16/19 12:05*	*07/19/19 16:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*34 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Nitrobenzene-d5	*45*		*27 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*27*		*10 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Terphenyl-d14	*65*		*53 - 125*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
2,4,6-Tribromophenol	*106*		*15 - 135*	*07/16/19 12:05*	*07/19/19 16:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**140**		52	13	ug/L		07/16/19 12:05	07/22/19 23:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*24*		*10 - 120*	*07/16/19 12:05*	*07/22/19 23:09*	*5*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/15/19 08:52	10
Acrolein	ND		200	100	ug/L			07/15/19 08:52	10
Acrylonitrile	ND		100	28	ug/L			07/15/19 08:52	10
Benzene	**1900**		10	3.8	ug/L			07/15/19 08:52	10
Bromobenzene	ND		10	5.4	ug/L			07/15/19 08:52	10
Bromochloromethane	ND		10	5.2	ug/L			07/15/19 08:52	10
Bromodichloromethane	ND		10	5.0	ug/L			07/15/19 08:52	10
Bromoform	ND		50	7.1	ug/L			07/15/19 08:52	10
Bromomethane	ND		10	9.8	ug/L			07/15/19 08:52	10
2-Butanone (MEK)	ND		250	26	ug/L			07/15/19 08:52	10
Carbon disulfide	ND		10	5.0	ug/L			07/15/19 08:52	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/15/19 08:52	10
Chlorobenzene	ND		10	5.0	ug/L			07/15/19 08:52	10
Chloroethane	ND		10	7.6	ug/L			07/15/19 08:52	10
2-Chloroethyl vinyl ether	ND	F1 *	50	20	ug/L			07/15/19 08:52	10
Chloroform	ND		10	6.0	ug/L			07/15/19 08:52	10
1-Chlorohexane	ND	*	10	7.0	ug/L			07/15/19 08:52	10
Chloromethane	ND		10	8.3	ug/L			07/15/19 08:52	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/15/19 08:52	10
Dibromochloromethane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/15/19 08:52	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/15/19 08:52	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/15/19 08:52	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/15/19 08:52	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/15/19 08:52	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,2-Dichloroethane	ND	F1 *	10	5.0	ug/L			07/15/19 08:52	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/15/19 08:52	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/15/19 08:52	10
Ethylbenzene	ND		10	5.0	ug/L			07/15/19 08:52	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/15/19 08:52	10
Ethyl methacrylate	ND		10	6.0	ug/L			07/15/19 08:52	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/15/19 08:52	10
2-Hexanone	ND		250	31	ug/L			07/15/19 08:52	10
Isopropylbenzene	ND		10	5.3	ug/L			07/15/19 08:52	10
Methylene bromide	ND		50	5.9	ug/L			07/15/19 08:52	10
Methylene Chloride	ND		50	30	ug/L			07/15/19 08:52	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/15/19 08:52	10
Methyl tert-butyl ether	ND		10	7.4	ug/L			07/15/19 08:52	10
m-Xylene & p-Xylene	ND		50	16	ug/L			07/15/19 08:52	10
Naphthalene	ND		10	10	ug/L			07/15/19 08:52	10
n-Butylbenzene	ND		10	7.6	ug/L			07/15/19 08:52	10
N-Propylbenzene	ND		10	6.9	ug/L			07/15/19 08:52	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/15/19 08:52	10
o-Xylene	ND		50	6.0	ug/L			07/15/19 08:52	10

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/15/19 08:52	10
p-Isopropyltoluene	ND		10	7.1	ug/L			07/15/19 08:52	10
sec-Butylbenzene	ND		10	7.0	ug/L			07/15/19 08:52	10
Styrene	ND		10	10	ug/L			07/15/19 08:52	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/15/19 08:52	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			07/15/19 08:52	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/15/19 08:52	10
Tetrachloroethene	ND		10	5.8	ug/L			07/15/19 08:52	10
Toluene	ND		10	4.1	ug/L			07/15/19 08:52	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/15/19 08:52	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/15/19 08:52	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/15/19 08:52	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/15/19 08:52	10
Trichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/15/19 08:52	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/15/19 08:52	10
1,2,4-Trimethylbenzene	**16**		10	8.2	ug/L			07/15/19 08:52	10
1,3,5-Trimethylbenzene	ND		10	5.6	ug/L			07/15/19 08:52	10
Vinyl acetate	ND		250	20	ug/L			07/15/19 08:52	10
Vinyl chloride	ND		10	5.0	ug/L			07/15/19 08:52	10
Xylenes, Total	ND		100	16	ug/L			07/15/19 08:52	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*180*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/15/19 08:52*	*10*
Tetrahydrofuran	*41*	*J*	*ug/L*		*3.40*	*109-99-9*		*07/15/19 08:52*	*10*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 08:52*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/15/19 08:52*	*10*
Dibromofluoromethane	*112*		*81 - 121*		*07/15/19 08:52*	*10*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 08:52*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.5**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Acenaphthylene	ND		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Anthracene	**0.16**	**J**	0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[a]anthracene	**0.11**	**J**	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[a]pyrene	**0.097**	**J**	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[b]fluoranthene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[g,h,i]perylene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[k]fluoranthene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Chrysene	**0.19**	**J**	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Dibenz(a,h)anthracene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Fluoranthene	ND		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Fluorene	**0.38**		0.21	0.022	ug/L		07/16/19 12:05	07/18/19 15:38	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
1-Methylnaphthalene	**1.8**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	1.8		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Phenanthrene	0.87		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Pyrene	0.45		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*15 - 122*	*07/16/19 12:05*	*07/18/19 15:38*	*1*
Nitrobenzene-d5	*54*		*19 - 130*	*07/16/19 12:05*	*07/18/19 15:38*	*1*
Terphenyl-d14	*53*		*33 - 138*	*07/16/19 12:05*	*07/18/19 15:38*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
Benzenethiol	ND	* UJ	10	1.8	ug/L		07/16/19 12:05	07/19/19 17:05	1
Benzoic acid	ND		31	7.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
Benzyl alcohol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Bis(2-chloroethoxy)methane	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 17:05	1
Bis(2-chloroethyl)ether	ND		10	0.77	ug/L		07/16/19 12:05	07/19/19 17:05	1
bis (2-chloroisopropyl) ether	ND		10	0.84	ug/L		07/16/19 12:05	07/19/19 17:05	1
Bis(2-ethylhexyl) phthalate	ND		10	5.2	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/16/19 12:05	07/19/19 17:05	1
Butyl benzyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Chloroaniline	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Chloronaphthalene	ND		10	0.54	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Chlorophenol	ND	F2 F1 UJ	10	2.3	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Chlorophenyl phenyl ether	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Dibenzofuran	ND		10	0.54	ug/L		07/16/19 12:05	07/19/19 17:05	1
3,3'-Dichlorobenzidine	ND	F1 UJ	10	2.7	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dichlorophenol	ND	F2	10	3.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Diethyl phthalate	ND		10	0.72	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
Dimethyl phthalate	ND		10	0.62	ug/L		07/16/19 12:05	07/19/19 17:05	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/16/19 12:05	07/19/19 17:05	1
4,6-Dinitro-ortho-cresol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dinitrophenol	ND	F1	31	3.5	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,6-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
Di-n-octyl phthalate	ND		10	0.46	ug/L		07/16/19 12:05	07/19/19 17:05	1
1,4-Dioxane	ND	F2	10	1.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/16/19 12:05	07/19/19 17:05	1
Hexachlorocyclopentadiene	ND		21	2.7	ug/L		07/16/19 12:05	07/19/19 17:05	1
Hexachloroethane	ND		10	4.3	ug/L		07/16/19 12:05	07/19/19 17:05	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
Isophorone	ND		10	0.59	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Methylphenol	ND	F2	10	1.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
3 & 4 Methylphenol	ND	F2	21	1.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Nitroaniline	ND		10	2.3	ug/L		07/16/19 12:05	07/19/19 17:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Nitroaniline	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
Nitrobenzene	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Nitrophenol	ND	F2 F1 UJ	10	0.67	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Nitrophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 17:05	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 17:05	1
N-Nitrosodiphenylamine	ND		10	0.49	ug/L		07/16/19 12:05	07/19/19 17:05	1
Pentachlorophenol	ND		21	1.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
Phenol	**22**	**F2 F1 J**	10	2.7	ug/L		07/16/19 12:05	07/19/19 17:05	1
Pyridine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 17:05	1
Quinoline	ND		10	6.2	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4,5-Trichlorophenol	ND	F2	10	3.8	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4,6-Trichlorophenol	ND	F2	10	3.6	ug/L		07/16/19 12:05	07/19/19 17:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*90*	*T J N*	*ug/L*		*3.88*	*590-90-9*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Benzene, 1,2,3-trimethyl-	*11*	*T J N*	*ug/L*		*5.33*	*526-73-8*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Naphthalene	*1.1*	*J*	*ug/L*		*6.30*	*91-20-3*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
2-Methylnaphthalene	*2.3*	*J*	*ug/L*		*6.74*	*91-57-6*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
1-Methylnaphthalene	*2.6*	*J*	*ug/L*		*6.81*	*90-12-0*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Acenaphthene	*2.6*	*J*	*ug/L*		*7.49*	*83-32-9*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Phenanthrene	*1.1*	*J*	*ug/L*		*8.61*	*85-01-8*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
n-Hexadecanoic acid	*6.5*	*T J N*	*ug/L*		*8.93*	*57-10-3*	*07/16/19 12:05*	*07/19/19 17:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Phenol-d5	*44*		*10 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Terphenyl-d14	*62*		*53 - 125*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
2,4,6-Tribromophenol	*103*		*15 - 135*	*07/16/19 12:05*	*07/19/19 17:05*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119

Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			07/15/19 08:28	5
Acrolein	ND		100	50	ug/L			07/15/19 08:28	5
Acrylonitrile	ND		50	14	ug/L			07/15/19 08:28	5
Benzene	**1200**		5.0	1.9	ug/L			07/15/19 08:28	5
Bromobenzene	ND		5.0	2.7	ug/L			07/15/19 08:28	5
Bromochloromethane	ND		5.0	2.6	ug/L			07/15/19 08:28	5
Bromodichloromethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Bromoform	ND		25	3.6	ug/L			07/15/19 08:28	5
Bromomethane	ND		5.0	4.9	ug/L			07/15/19 08:28	5
2-Butanone (MEK)	ND		130	13	ug/L			07/15/19 08:28	5
Carbon disulfide	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Carbon tetrachloride	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Chlorobenzene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Chloroethane	ND		5.0	3.8	ug/L			07/15/19 08:28	5
2-Chloroethyl vinyl ether	ND	*	25	10	ug/L			07/15/19 08:28	5
Chloroform	ND		5.0	3.0	ug/L			07/15/19 08:28	5
1-Chlorohexane	ND	*	5.0	3.5	ug/L			07/15/19 08:28	5
Chloromethane	ND		5.0	4.2	ug/L			07/15/19 08:28	5
cis-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			07/15/19 08:28	5
Dibromochloromethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,2-Dibromo-3-Chloropropane	ND		25	7.5	ug/L			07/15/19 08:28	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			07/15/19 08:28	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			07/15/19 08:28	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			07/15/19 08:28	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,2-Dichloroethane	ND	*	5.0	2.5	ug/L			07/15/19 08:28	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Ethylbenzene	**4.9**	**J**	5.0	2.5	ug/L			07/15/19 08:28	5
Ethylene Dibromide	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			07/15/19 08:28	5
Hexachlorobutadiene	ND		25	4.5	ug/L			07/15/19 08:28	5
2-Hexanone	ND		130	16	ug/L			07/15/19 08:28	5
Isopropylbenzene	ND		5.0	2.7	ug/L			07/15/19 08:28	5
Methylene bromide	ND		25	3.0	ug/L			07/15/19 08:28	5
Methylene Chloride	ND		25	15	ug/L			07/15/19 08:28	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			07/15/19 08:28	5
Methyl tert-butyl ether	ND		5.0	3.7	ug/L			07/15/19 08:28	5
m-Xylene & p-Xylene	**10**	**J**	25	8.0	ug/L			07/15/19 08:28	5
Naphthalene	ND		5.0	5.0	ug/L			07/15/19 08:28	5
n-Butylbenzene	ND		5.0	3.8	ug/L			07/15/19 08:28	5
N-Propylbenzene	ND		5.0	3.5	ug/L			07/15/19 08:28	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			07/15/19 08:28	5
o-Xylene	**3.3**	**J**	25	3.0	ug/L			07/15/19 08:28	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119

Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5.0	2.8	ug/L			07/15/19 08:28	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			07/15/19 08:28	5
sec-Butylbenzene	ND		5.0	3.5	ug/L			07/15/19 08:28	5
Styrene	ND		5.0	5.0	ug/L			07/15/19 08:28	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			07/15/19 08:28	5
1,1,1,2-Tetrachloroethane	ND		5.0	2.6	ug/L			07/15/19 08:28	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Tetrachloroethene	ND		5.0	2.9	ug/L			07/15/19 08:28	5
Toluene	ND		5.0	2.1	ug/L			07/15/19 08:28	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
trans-1,3-Dichloropropene	ND		25	2.5	ug/L			07/15/19 08:28	5
1,2,3-Trichlorobenzene	ND		5.0	3.5	ug/L			07/15/19 08:28	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			07/15/19 08:28	5
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,1,2-Trichloroethane	ND		25	2.5	ug/L			07/15/19 08:28	5
Trichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			07/15/19 08:28	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			07/15/19 08:28	5
1,2,4-Trimethylbenzene	**25**		5.0	4.1	ug/L			07/15/19 08:28	5
1,3,5-Trimethylbenzene	**7.0**		5.0	2.8	ug/L			07/15/19 08:28	5
Vinyl acetate	ND		130	10	ug/L			07/15/19 08:28	5
Vinyl chloride	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Xylenes, Total	**13**	**J**	50	8.0	ug/L			07/15/19 08:28	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*150*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/15/19 08:28*	*5*
Tetrahydrofuran	*31*		*ug/L*		*3.40*	*109-99-9*		*07/15/19 08:28*	*5*
3-Ethyltoluene	*8.4*		*ug/L*		*7.16*	*620-14-4*		*07/15/19 08:28*	*5*
1,2,3-Trimethylbenzene	*6.6*	*J*	*ug/L*		*7.88*	*526-73-8*		*07/15/19 08:28*	*5*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 08:28*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/15/19 08:28*	*5*
Dibromofluoromethane	*114*		*81 - 121*		*07/15/19 08:28*	*5*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 08:28*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.36**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Acenaphthylene	**0.048**	**J**	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Anthracene	**0.31**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[a]anthracene	**0.29**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[a]pyrene	**0.32**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[b]fluoranthene	**0.16**	**J**	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[g,h,i]perylene	**0.12**	**J**	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Chrysene	**0.61**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Dibenz(a,h)anthracene	**0.076**	**J**	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Fluorene	**0.38**		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 16:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119
Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	0.058	J	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
1-Methylnaphthalene	2.5		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
2-Methylnaphthalene	2.5		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Phenanthrene	1.8		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Pyrene	1.1		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	88		15 - 122	07/16/19 12:05	07/18/19 16:34	1
Nitrobenzene-d5	82		19 - 130	07/16/19 12:05	07/18/19 16:34	1
Terphenyl-d14	79		33 - 138	07/16/19 12:05	07/18/19 16:34	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/16/19 12:05	07/19/19 18:10	1
Benzoic acid	ND		30	7.3	ug/L		07/16/19 12:05	07/19/19 18:10	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:10	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/16/19 12:05	07/19/19 18:10	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/16/19 12:05	07/19/19 18:10	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 18:10	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:10	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Diethyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:10	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/16/19 12:05	07/19/19 18:10	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 18:10	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:10	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 18:10	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 18:10	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 18:10	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Isophorone	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119
Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 18:10	1
Nitrobenzene	ND		10	0.55	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Nitrophenol	ND		10	0.65	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 18:10	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:10	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 18:10	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 18:10	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
Phenol	**12**		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:10	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
Quinoline	ND		10	6.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*280*	*T J N*	*ug/L*		*3.92*	*590-90-9*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Benzene, 1-ethyl-3-methyl-	*4.8*	*T J N*	*ug/L*		*5.14*	*620-14-4*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Benzene, 1,2,3-trimethyl-	*19*	*T J N*	*ug/L*		*5.33*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Benzene, 1,2,3-trimethyl-	*5.4*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Naphthalene, 2-methyl-	*4.4*	*T J N*	*ug/L*		*6.74*	*91-57-6*	*07/16/19 12:05*	*07/19/19 18:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*34 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
2-Fluorophenol	*13*		*10 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Phenol-d5	*38*		*10 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Terphenyl-d14	*79*		*53 - 125*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
2,4,6-Tribromophenol	*154*	*X*	*15 - 135*	*07/16/19 12:05*	*07/19/19 18:10*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119

Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/14/19 15:55	500
Acrolein	ND		10000	5000	ug/L			07/14/19 15:55	500
Acrylonitrile	ND	*	5000	1400	ug/L			07/14/19 15:55	500
Bromobenzene	ND		500	270	ug/L			07/14/19 15:55	500
Bromochloromethane	ND		500	260	ug/L			07/14/19 15:55	500
Bromodichloromethane	ND		500	250	ug/L			07/14/19 15:55	500
Bromoform	ND		2500	360	ug/L			07/14/19 15:55	500
Bromomethane	ND		500	490	ug/L			07/14/19 15:55	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/14/19 15:55	500
Carbon disulfide	ND		500	250	ug/L			07/14/19 15:55	500
Carbon tetrachloride	ND		500	250	ug/L			07/14/19 15:55	500
Chlorobenzene	ND		500	250	ug/L			07/14/19 15:55	500
Chloroethane	ND		500	380	ug/L			07/14/19 15:55	500
2-Chloroethyl vinyl ether	ND	*	2500	1000	ug/L			07/14/19 15:55	500
Chloroform	ND		500	300	ug/L			07/14/19 15:55	500
1-Chlorohexane	ND	*	500	350	ug/L			07/14/19 15:55	500
Chloromethane	ND		500	420	ug/L			07/14/19 15:55	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/14/19 15:55	500
Dibromochloromethane	ND		500	250	ug/L			07/14/19 15:55	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/14/19 15:55	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/14/19 15:55	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/14/19 15:55	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/14/19 15:55	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/14/19 15:55	500
1,1-Dichloroethane	ND		500	250	ug/L			07/14/19 15:55	500
1,2-Dichloroethane	ND	*	500	250	ug/L			07/14/19 15:55	500
1,1-Dichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
1,2-Dichloropropane	ND		500	250	ug/L			07/14/19 15:55	500
1,3-Dichloropropane	ND		500	250	ug/L			07/14/19 15:55	500
2,2-Dichloropropane	ND		500	250	ug/L			07/14/19 15:55	500
1,1-Dichloropropene	ND		500	250	ug/L			07/14/19 15:55	500
Ethylbenzene	ND		500	250	ug/L			07/14/19 15:55	500
Ethylene Dibromide	ND		500	250	ug/L			07/14/19 15:55	500
Ethyl methacrylate	ND		500	300	ug/L			07/14/19 15:55	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/14/19 15:55	500
2-Hexanone	ND		13000	1600	ug/L			07/14/19 15:55	500
Isopropylbenzene	ND		500	270	ug/L			07/14/19 15:55	500
Methylene bromide	ND		2500	300	ug/L			07/14/19 15:55	500
Methylene Chloride	ND		2500	1500	ug/L			07/14/19 15:55	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/14/19 15:55	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/14/19 15:55	500
m-Xylene & p-Xylene	ND		2500	800	ug/L			07/14/19 15:55	500
Naphthalene	ND		500	500	ug/L			07/14/19 15:55	500
n-Butylbenzene	ND		500	380	ug/L			07/14/19 15:55	500
N-Propylbenzene	ND		500	350	ug/L			07/14/19 15:55	500
o-Chlorotoluene	ND		500	290	ug/L			07/14/19 15:55	500
o-Xylene	ND		2500	300	ug/L			07/14/19 15:55	500
p-Chlorotoluene	ND		500	280	ug/L			07/14/19 15:55	500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119

Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		500	360	ug/L			07/14/19 15:55	500
sec-Butylbenzene	ND		500	350	ug/L			07/14/19 15:55	500
Styrene	ND		500	500	ug/L			07/14/19 15:55	500
tert-Butylbenzene	ND		500	320	ug/L			07/14/19 15:55	500
1,1,1,2-Tetrachloroethane	ND		500	260	ug/L			07/14/19 15:55	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/14/19 15:55	500
Tetrachloroethene	ND		500	290	ug/L			07/14/19 15:55	500
Toluene	ND		500	210	ug/L			07/14/19 15:55	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/14/19 15:55	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/14/19 15:55	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/14/19 15:55	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/14/19 15:55	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/14/19 15:55	500
Trichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
Trichlorofluoromethane	ND		500	260	ug/L			07/14/19 15:55	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/14/19 15:55	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			07/14/19 15:55	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			07/14/19 15:55	500
Vinyl acetate	ND		13000	1000	ug/L			07/14/19 15:55	500
Vinyl chloride	ND		500	250	ug/L			07/14/19 15:55	500
Xylenes, Total	ND		5000	800	ug/L			07/14/19 15:55	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1-Methylnaphthalene	*2400*	*J*	*ug/L*		*11.07*	*90-12-0*		*07/14/19 15:55*	*500*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 15:55*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/14/19 15:55*	*500*
Dibromofluoromethane	*117*		*81 - 121*		*07/14/19 15:55*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/14/19 15:55*	*500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**200000**		1000	380	ug/L			07/15/19 09:16	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/15/19 09:16*	*1000*
Dibromofluoromethane	*111*		*81 - 121*		*07/15/19 09:16*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/15/19 09:16*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119

Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Fluorene	ND		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 16:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
1-Methylnaphthalene	**0.85**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
2-Methylnaphthalene	**0.81**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Phenanthrene	**0.089**	**J**	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Pyrene	**0.061**	**J**	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*15 - 122*	*07/16/19 12:05*	*07/18/19 16:51*	*1*
Nitrobenzene-d5	*42*		*19 - 130*	*07/16/19 12:05*	*07/18/19 16:51*	*1*
Terphenyl-d14	*38*		*33 - 138*	*07/16/19 12:05*	*07/18/19 16:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
Benzenethiol	ND	* U5	10	1.7	ug/L		07/16/19 12:05	07/19/19 18:31	1
Benzoic acid	ND		30	7.3	ug/L		07/16/19 12:05	07/19/19 18:31	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:31	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/16/19 12:05	07/19/19 18:31	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 18:31	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:31	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Diethyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:31	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/16/19 12:05	07/19/19 18:31	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 18:31	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:31	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 18:31	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 18:31	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 18:31	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 18:31	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119
Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Isophorone	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:31	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 18:31	1
Nitrobenzene	ND		10	0.55	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Nitrophenol	ND		10	0.65	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 18:31	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:31	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 18:31	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 18:31	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
Phenol	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:31	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 18:31	1
Quinoline	ND		10	6.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*8.0*	*T J N*	*ug/L*		*4.50*	*100-41-4*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
o-Xylene	*4.2*	*T J N*	*ug/L*		*4.72*	*95-47-6*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, (1-methylethyl)-	*5.0*	*T J N*	*ug/L*		*4.92*	*98-82-8*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, propyl-	*9.4*	*T J N*	*ug/L*		*5.10*	*103-65-1*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, 1-ethyl-4-methyl-	*9.1*	*T J N*	*ug/L*		*5.25*	*622-96-8*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, 1,2,3-trimethyl-	*4.2*	*T J N*	*ug/L*		*5.33*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Indane	*18*	*T J N*	*ug/L*		*5.57*	*496-11-7*	*07/16/19 12:05*	*07/19/19 18:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*34 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
2-Fluorophenol	*0.01*	*X*	*10 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Nitrobenzene-d5	*36*		*27 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Phenol-d5	*0.1*	*X*	*10 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Terphenyl-d14	*35*	*X*	*53 - 125*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*	*07/16/19 12:05*	*07/19/19 18:31*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	**130**	**B**	50	25	ug/L		07/16/19 12:05	07/22/19 18:09	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.8	3.7	ug/L		07/23/19 15:09	07/24/19 22:20	1
Benzoic acid	ND	H	29	7.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.67	ug/L		07/23/19 15:09	07/24/19 22:20	1
Bis(2-chloroethyl)ether	ND	H	9.8	0.72	ug/L		07/23/19 15:09	07/24/19 22:20	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/23/19 15:09	07/24/19 22:20	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/23/19 15:09	07/24/19 22:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119
Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/23/19 15:09	07/24/19 22:20	1
Butyl benzyl phthalate	ND	H	9.8	0.67	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Chlorophenol	ND	H	9.8	2.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/23/19 15:09	07/24/19 22:20	1
3,3'-Dichlorobenzidine	ND	H *	9.8	2.5	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
Diethyl phthalate	ND	H	9.8	0.68	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dimethylphenol	ND	H	9.8	3.4	ug/L		07/23/19 15:09	07/24/19 22:20	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/23/19 15:09	07/24/19 22:20	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/23/19 15:09	07/24/19 22:20	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
Di-n-octyl phthalate	ND	H	9.8	0.43	ug/L		07/23/19 15:09	07/24/19 22:20	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/23/19 15:09	07/24/19 22:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/23/19 15:09	07/24/19 22:20	1
Hexachlorobenzene	ND	H	9.8	0.24	ug/L		07/23/19 15:09	07/24/19 22:20	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/23/19 15:09	07/24/19 22:20	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
Indene	ND	H	9.8	0.98	ug/L		07/23/19 15:09	07/24/19 22:20	1
Isophorone	ND	H	9.8	0.56	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Methylphenol	ND	H	9.8	1.8	ug/L		07/23/19 15:09	07/24/19 22:20	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Nitroaniline	ND	H	9.8	2.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/23/19 15:09	07/24/19 22:20	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Nitrophenol	ND	H	9.8	0.64	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Nitrophenol	ND	H	9.8	2.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/23/19 15:09	07/24/19 22:20	1
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/23/19 15:09	07/24/19 22:20	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/23/19 15:09	07/24/19 22:20	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/23/19 15:09	07/24/19 22:20	1
Phenol	ND	H	9.8	2.5	ug/L		07/23/19 15:09	07/24/19 22:20	1
Pyridine	ND	H	9.8	3.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
Quinoline	ND	H	9.8	5.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/23/19 15:09	07/24/19 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*34 - 120*	*07/23/19 15:09*	*07/24/19 22:20*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/23/19 15:09*	*07/24/19 22:20*	*1*
Nitrobenzene-d5	*62*		*27 - 120*	*07/23/19 15:09*	*07/24/19 22:20*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119
Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	52		10 - 120	07/23/19 15:09	07/24/19 22:20	1
Terphenyl-d14	53		53 - 125	07/23/19 15:09	07/24/19 22:20	1
2,4,6-Tribromophenol	122		15 - 135	07/23/19 15:09	07/24/19 22:20	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173045-1	TB-PW-071119-B	109	113	104
400-173045-2	PD-11-GWP-37-071119	108	113	104
400-173045-3	PD-11-GWP-43-071119	105	119	103
400-173045-3 - DL	PD-11-GWP-43-071119	105	113	103
400-173045-4	PD-11-GWP-43-071119-DUP	107	112	101
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	107	115	103
400-173045-5	PD-11-GWP-50-071119	108	112	103
400-173045-5 MS	PD-11-GWP-50-071119	106	113	104
400-173045-5 MSD	PD-11-GWP-50-071119	106	113	102
400-173045-6	PD-11-GWP-56-071119	108	114	103
400-173045-7	PD-11-GWP-60-071119	108	117	102
400-173045-7 - DL	PD-11-GWP-60-071119	107	111	102
LCS 400-447926/1002	Lab Control Sample	107	112	103
LCS 400-447978/1002	Lab Control Sample	105	113	102
MB 400-447926/4	Method Blank	105	113	103
MB 400-447978/4	Method Blank	107	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173045-2	PD-11-GWP-37-071119	68	45	91	65	53	100
400-173045-3	PD-11-GWP-43-071119	60	35	90	8 X	61	99
400-173045-4	PD-11-GWP-43-071119-DUP	66		45	27	65	106
400-173045-4 - DL	PD-11-GWP-43-071119-DUP		24				
400-173045-5	PD-11-GWP-50-071119	69	34	54	44	62	103
400-173045-5 MS	PD-11-GWP-50-071119	99	37	69	58	55	164 X
400-173045-5 MSD	PD-11-GWP-50-071119	82	2 X	67	15	53	106
400-173045-6	PD-11-GWP-56-071119	97	13	70	38	79	154 X
400-173045-7	PD-11-GWP-60-071119	63	0.01 X	36	0.1 X	35 X	0 X
400-173045-7 - RERA	PD-11-GWP-60-071119	79	34	62	52	53	122
LCS 400-448199/2-A	Lab Control Sample	67	38	91	68	84	47
LCS 400-448199/4-A	Lab Control Sample	68	62	97	76	82	78
LCS 400-449195/4-A	Lab Control Sample	66	29	51	48	76	117
LCSD 400-448199/3-A	Lab Control Sample Dup	68	34	91	68	86	45
LCSD 400-449195/5-A	Lab Control Sample Dup	60	24	46	43	68	101
MB 400-448199/1-A	Method Blank	73	39	96	71	92	65
MB 400-449195/1-A	Method Blank	64	15	52	37	76	93

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173045-2	PD-11-GWP-37-071119	54	64	43
400-173045-3	PD-11-GWP-43-071119	37	56	54
400-173045-4	PD-11-GWP-43-071119-DUP	29	60	40
400-173045-5	PD-11-GWP-50-071119	57	54	53
400-173045-5 MS	PD-11-GWP-50-071119	89	96	46
400-173045-5 MSD	PD-11-GWP-50-071119	82	89	47
400-173045-6	PD-11-GWP-56-071119	88	82	79
400-173045-7	PD-11-GWP-60-071119	69	42	38
LCS 400-448199/4-A	Lab Control Sample	88	88	99
MB 400-448199/1-A	Method Blank	72	70	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 14:41	WPD	TAL PEN

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447926	07/14/19 15:31	WPD	TAL PEN
Total/NA	Prep	3520C			989.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448687	07/19/19 17:58	VC1	TAL PEN
Total/NA	Prep	3520C			989.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 14:41	KJA	TAL PEN
Total/NA	Prep	3520C	DL		989.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			449423	07/24/19 18:52	PP1	TAL PEN

Client Sample ID: PD-11-GWP-43-071119

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	447926	07/14/19 17:11	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	447978	07/15/19 10:29	WPD	TAL PEN
Total/NA	Prep	3520C	DL		990.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			448987	07/22/19 22:48	VC1	TAL PEN
Total/NA	Prep	3520C			990.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448687	07/19/19 18:20	VC1	TAL PEN
Total/NA	Prep	3520C			990.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 15:01	KJA	TAL PEN

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	447926	07/14/19 17:37	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	447978	07/15/19 10:53	WPD	TAL PEN
Total/NA	Prep	3520C			968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 16:43	VC1	TAL PEN
Total/NA	Prep	3520C	DL		968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			448987	07/22/19 23:09	VC1	TAL PEN
Total/NA	Prep	3520C			968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 15:19	KJA	TAL PEN
Total/NA	Prep	3520C	DL		968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			449423	07/24/19 18:35	PP1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447978	07/15/19 08:52	WPD	TAL PEN
Total/NA	Prep	3520C			966.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 17:05	VC1	TAL PEN
Total/NA	Prep	3520C			966.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 15:38	KJA	TAL PEN

Client Sample ID: PD-11-GWP-56-071119

Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	447978	07/15/19 08:28	WPD	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 18:10	VC1	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 16:34	KJA	TAL PEN

Client Sample ID: PD-11-GWP-60-071119

Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	447926	07/14/19 15:55	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	1000	5 mL	5 mL	447978	07/15/19 09:16	WPD	TAL PEN
Total/NA	Prep	3520C			994.2 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 18:31	VC1	TAL PEN
Total/NA	Prep	3520C	DL		994.2 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			448987	07/22/19 18:09	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1023.6 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	449369	07/24/19 22:20	VC1	TAL PEN
Total/NA	Prep	3520C			994.2 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 16:51	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447926/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-447978/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 07:39	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448199/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 13:42	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 14:09	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449195/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 20:33	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447926/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-447978/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 06:51	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448199/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 14:03	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 14:46	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			448502	07/18/19 14:25	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449195/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 21:37	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448199/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 14:25	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449195/5-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 21:58	VC1	TAL PEN

Client Sample ID: PD-11-GWP-50-071119
Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447978	07/15/19 11:17	WPD	TAL PEN
Total/NA	Prep	3520C			982.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 17:27	VC1	TAL PEN
Total/NA	Prep	3520C			982.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			448502	07/18/19 15:57	KJA	TAL PEN

Client Sample ID: PD-11-GWP-50-071119
Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447978	07/15/19 11:42	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5 MSD

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			985 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 17:48	VC1	TAL PEN
Total/NA	Prep	3520C			985 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			448502	07/18/19 16:16	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

GC/MS VOA

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-1	TB-PW-071119-B	Total/NA	Water	8260B	
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	8260B	
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	8260B	
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	8260B	
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-3 - DL	PD-11-GWP-43-071119	Total/NA	Water	8260B	
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	8260B	
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	8260B	
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	8260B	
400-173045-7 - DL	PD-11-GWP-60-071119	Total/NA	Water	8260B	
MB 400-447978/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447978/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	8260B	
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2 - DL	PD-11-GWP-37-071119	Total/NA	Water	3520C	
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	3520C	
400-173045-3 - DL	PD-11-GWP-43-071119	Total/NA	Water	3520C	
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	3520C	
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	3520C	
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	3520C	
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	3520C	
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	3520C	
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	3520C	
400-173045-7 - DL	PD-11-GWP-60-071119	Total/NA	Water	3520C	
MB 400-448199/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448199/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448199/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448199/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	3520C	
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	3520C	

Analysis Batch: 448502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	8270D LL	448199
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	8270D LL	448199
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D LL	448199
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	8270D LL	448199
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	8270D LL	448199
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	8270D LL	448199
MB 400-448199/1-A	Method Blank	Total/NA	Water	8270D LL	448199
LCS 400-448199/4-A	Lab Control Sample	Total/NA	Water	8270D LL	448199

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	8270D LL	448199
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	8270D LL	448199

Analysis Batch: 448687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	8270D	448199
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	8270D	448199
MB 400-448199/1-A	Method Blank	Total/NA	Water	8270D	448199
LCS 400-448199/2-A	Lab Control Sample	Total/NA	Water	8270D	448199
LCS 400-448199/4-A	Lab Control Sample	Total/NA	Water	8270D	448199
LCSD 400-448199/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448199

Analysis Batch: 448709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D	448199
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	8270D	448199
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	8270D	448199
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	8270D	448199
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	8270D	448199
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	8270D	448199

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-3 - DL	PD-11-GWP-43-071119	Total/NA	Water	8270D	448199
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D	448199
400-173045-7 - DL	PD-11-GWP-60-071119	Total/NA	Water	8270D	448199

Prep Batch: 449195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-7 - RERA	PD-11-GWP-60-071119	Total/NA	Water	3520C	
MB 400-449195/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449195/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449195/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-7 - RERA	PD-11-GWP-60-071119	Total/NA	Water	8270D	449195
MB 400-449195/1-A	Method Blank	Total/NA	Water	8270D	449195
LCS 400-449195/4-A	Lab Control Sample	Total/NA	Water	8270D	449195
LCSD 400-449195/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	449195

Analysis Batch: 449423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2 - DL	PD-11-GWP-37-071119	Total/NA	Water	8270D LL	448199
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D LL	448199

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 09:00*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:00*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 09:00*	*1*

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764		ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/15/19 07:39	1
Acrolein	ND		20	10	ug/L			07/15/19 07:39	1
Acrylonitrile	ND		10	2.8	ug/L			07/15/19 07:39	1
Benzene	ND		1.0	0.38	ug/L			07/15/19 07:39	1
Bromobenzene	ND		1.0	0.54	ug/L			07/15/19 07:39	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/15/19 07:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Bromoform	ND		5.0	0.71	ug/L			07/15/19 07:39	1
Bromomethane	ND		1.0	0.98	ug/L			07/15/19 07:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/15/19 07:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Chloroethane	ND		1.0	0.76	ug/L			07/15/19 07:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/15/19 07:39	1
Chloroform	ND		1.0	0.60	ug/L			07/15/19 07:39	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/15/19 07:39	1
Chloromethane	ND		1.0	0.83	ug/L			07/15/19 07:39	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/15/19 07:39	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/15/19 07:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/15/19 07:39	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/15/19 07:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/15/19 07:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/15/19 07:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/15/19 07:39	1
2-Hexanone	ND		25	3.1	ug/L			07/15/19 07:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/15/19 07:39	1
Methylene bromide	ND		5.0	0.59	ug/L			07/15/19 07:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/15/19 07:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/15/19 07:39	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/15/19 07:39	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/15/19 07:39	1
Naphthalene	ND		1.0	1.0	ug/L			07/15/19 07:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/15/19 07:39	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/15/19 07:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/15/19 07:39	1
o-Xylene	ND		5.0	0.60	ug/L			07/15/19 07:39	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/15/19 07:39	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/15/19 07:39	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/15/19 07:39	1
Styrene	ND		1.0	1.0	ug/L			07/15/19 07:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/15/19 07:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/15/19 07:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/15/19 07:39	1
Toluene	ND		1.0	0.41	ug/L			07/15/19 07:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/15/19 07:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/15/19 07:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/15/19 07:39	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/15/19 07:39	1
Trichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/15/19 07:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/15/19 07:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/15/19 07:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/15/19 07:39	1
Vinyl acetate	ND		25	2.0	ug/L			07/15/19 07:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Xylenes, Total	ND		10	1.6	ug/L			07/15/19 07:39	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/15/19 07:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/15/19 07:39	1
Dibromofluoromethane	113		81 - 121		07/15/19 07:39	1
Toluene-d8 (Surr)	102		80 - 120		07/15/19 07:39	1

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	223		ug/L		112	43 - 160
Acrolein	250	334		ug/L		133	38 - 160
Acrylonitrile	500	685		ug/L		137	64 - 142
Benzene	50.0	45.4		ug/L		91	70 - 130
Bromobenzene	50.0	46.5		ug/L		93	70 - 132
Bromochloromethane	50.0	56.3		ug/L		113	70 - 130
Bromodichloromethane	50.0	55.3		ug/L		111	67 - 133
Bromoform	50.0	52.5		ug/L		105	57 - 140
Bromomethane	25.0	34.8		ug/L		139	10 - 160
2-Butanone (MEK)	200	152		ug/L		76	61 - 145
Carbon disulfide	50.0	44.3		ug/L		89	61 - 137
Carbon tetrachloride	50.0	61.3		ug/L		123	61 - 137
Chlorobenzene	50.0	50.6		ug/L		101	70 - 130
Chloroethane	25.0	29.6		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	78.1	*	ug/L		312	10 - 160
Chloroform	50.0	56.6		ug/L		113	69 - 130
1-Chlorohexane	50.0	65.4	*	ug/L		131	69 - 130
Chloromethane	25.0	26.3		ug/L		105	58 - 137
cis-1,2-Dichloroethene	50.0	63.3		ug/L		127	68 - 130
cis-1,3-Dichloropropene	50.0	53.4		ug/L		107	69 - 132
Dibromochloromethane	50.0	56.2		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	48.4		ug/L		97	54 - 135
1,2-Dichlorobenzene	50.0	48.4		ug/L		97	67 - 130
1,3-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130
1,4-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	18.6		ug/L		75	41 - 146
1,1-Dichloroethane	50.0	61.6		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	70.2	*	ug/L		140	69 - 130
1,1-Dichloroethene	50.0	50.2		ug/L		100	63 - 134
1,2-Dichloropropane	50.0	55.5		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	49.5		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	60.2		ug/L		120	52 - 135
1,1-Dichloropropene	50.0	55.8		ug/L		112	70 - 130
Ethylbenzene	50.0	49.9		ug/L		100	70 - 130
Ethylene Dibromide	50.0	49.9		ug/L		100	70 - 130
Ethyl methacrylate	50.0	46.7		ug/L		93	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	49.3		ug/L		99	53 - 140
2-Hexanone	200	218		ug/L		109	65 - 137
Isopropylbenzene	50.0	52.6		ug/L		105	70 - 130
Methylene bromide	50.0	50.8		ug/L		102	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	247		ug/L		123	69 - 138
Methyl tert-butyl ether	50.0	55.6		ug/L		111	66 - 130
m-Xylene & p-Xylene	50.0	49.9		ug/L		100	70 - 130
Naphthalene	50.0	47.6		ug/L		95	47 - 149
n-Butylbenzene	50.0	52.0		ug/L		104	67 - 130
N-Propylbenzene	50.0	50.5		ug/L		101	70 - 130
o-Chlorotoluene	50.0	52.7		ug/L		105	70 - 130
o-Xylene	50.0	51.5		ug/L		103	70 - 130
p-Chlorotoluene	50.0	53.2		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	54.2		ug/L		108	65 - 130
sec-Butylbenzene	50.0	51.5		ug/L		103	66 - 130
Styrene	50.0	45.0		ug/L		90	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	51.4		ug/L		103	67 - 131
1,1,2,2-Tetrachloroethane	50.0	45.2		ug/L		90	70 - 131
Tetrachloroethene	50.0	50.5		ug/L		101	65 - 130
Toluene	50.0	45.9		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	49.4		ug/L		99	70 - 130
trans-1,3-Dichloropropene	50.0	54.5		ug/L		109	63 - 130
1,2,3-Trichlorobenzene	50.0	44.6		ug/L		89	60 - 138
1,2,4-Trichlorobenzene	50.0	44.4		ug/L		89	60 - 140
1,1,1-Trichloroethane	50.0	59.6		ug/L		119	68 - 130
1,1,2-Trichloroethane	50.0	44.9		ug/L		90	70 - 130
Trichloroethene	50.0	50.1		ug/L		100	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		116	65 - 138
1,2,3-Trichloropropane	50.0	55.1		ug/L		110	70 - 130
1,2,4-Trimethylbenzene	50.0	53.1		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	55.0		ug/L		110	69 - 130
Vinyl acetate	50.0	49.1		ug/L		98	26 - 160
Vinyl chloride	25.0	24.3		ug/L		97	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		2000	1990		ug/L		99	43 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		2500	3310		ug/L		132	38 - 150
Acrylonitrile	ND		5000	6630		ug/L		133	62 - 149
Benzene	1900		500	2260		ug/L		76	56 - 142
Bromobenzene	ND		500	426		ug/L		85	59 - 136
Bromochloromethane	ND		500	566		ug/L		113	64 - 140
Bromodichloromethane	ND		500	525		ug/L		105	59 - 143
Bromoform	ND		500	480		ug/L		96	50 - 140
Bromomethane	ND		250	313		ug/L		125	10 - 150
2-Butanone (MEK)	ND		2000	1380		ug/L		69	55 - 150
Carbon disulfide	ND		500	425		ug/L		85	48 - 150
Carbon tetrachloride	ND		500	577		ug/L		115	55 - 145
Chlorobenzene	ND		500	462		ug/L		92	64 - 130
Chloroethane	ND		250	308		ug/L		123	50 - 150
2-Chloroethyl vinyl ether	ND	F1 *	250	534	F1	ug/L		214	10 - 150
Chloroform	ND		500	551		ug/L		110	60 - 141
1-Chlorohexane	ND	*	500	574		ug/L		115	56 - 136
Chloromethane	ND		250	276		ug/L		110	49 - 148
cis-1,2-Dichloroethene	ND		500	610		ug/L		122	59 - 143
cis-1,3-Dichloropropene	ND		500	508		ug/L		102	57 - 140
Dibromochloromethane	ND		500	533		ug/L		107	56 - 143
1,2-Dibromo-3-Chloropropane	ND		500	429		ug/L		86	45 - 135
1,2-Dichlorobenzene	ND		500	428		ug/L		86	52 - 137
1,3-Dichlorobenzene	ND		500	413		ug/L		83	54 - 135
1,4-Dichlorobenzene	ND		500	411		ug/L		82	53 - 135
Dichlorodifluoromethane	ND		250	184		ug/L		74	16 - 150
1,1-Dichloroethane	ND		500	592		ug/L		118	61 - 144
1,2-Dichloroethane	ND	F1 *	500	735	F1	ug/L		147	60 - 141
1,1-Dichloroethene	ND		500	493		ug/L		99	54 - 147
1,2-Dichloropropane	ND		500	534		ug/L		107	66 - 137
1,3-Dichloropropane	ND		500	487		ug/L		97	66 - 133
2,2-Dichloropropane	ND		500	563		ug/L		113	42 - 144
1,1-Dichloropropene	ND		500	534		ug/L		107	65 - 136
Ethylbenzene	ND		500	456		ug/L		91	58 - 131
Ethylene Dibromide	ND		500	472		ug/L		94	64 - 132
Ethyl methacrylate	ND		500	429		ug/L		86	64 - 130
Hexachlorobutadiene	ND		500	422		ug/L		84	31 - 149
2-Hexanone	ND		2000	1960		ug/L		98	65 - 140
Isopropylbenzene	ND		500	466		ug/L		93	56 - 133
Methylene bromide	ND		500	491		ug/L		98	63 - 138
Methylene Chloride	ND		500	482		ug/L		96	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		2000	2310		ug/L		115	63 - 146
Methyl tert-butyl ether	ND		500	541		ug/L		108	59 - 137
m-Xylene & p-Xylene	ND		500	466		ug/L		93	57 - 130
Naphthalene	ND		500	410		ug/L		82	25 - 150
n-Butylbenzene	ND		500	436		ug/L		87	41 - 142
N-Propylbenzene	ND		500	446		ug/L		89	51 - 138
o-Chlorotoluene	ND		500	476		ug/L		95	53 - 134
o-Xylene	ND		500	469		ug/L		94	61 - 130
p-Chlorotoluene	ND		500	473		ug/L		95	54 - 133

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		500	458		ug/L		92	48 - 139
sec-Butylbenzene	ND		500	452		ug/L		90	50 - 138
Styrene	ND		500	412		ug/L		82	58 - 131
tert-Butylbenzene	ND		500	490		ug/L		98	54 - 146
1,1,1,2-Tetrachloroethane	ND		500	475		ug/L		95	59 - 137
1,1,2,2-Tetrachloroethane	ND		500	431		ug/L		86	66 - 135
Tetrachloroethene	ND		500	461		ug/L		92	52 - 133
Toluene	ND		500	434		ug/L		87	65 - 130
trans-1,2-Dichloroethene	ND		500	492		ug/L		98	61 - 143
trans-1,3-Dichloropropene	ND		500	515		ug/L		103	53 - 133
1,2,3-Trichlorobenzene	ND		500	377		ug/L		75	43 - 145
1,2,4-Trichlorobenzene	ND		500	378		ug/L		76	39 - 148
1,1,1-Trichloroethane	ND		500	581		ug/L		116	57 - 142
1,1,2-Trichloroethane	ND		500	440		ug/L		88	66 - 131
Trichloroethene	ND		500	480		ug/L		96	64 - 136
Trichlorofluoromethane	ND		250	301		ug/L		120	54 - 150
1,2,3-Trichloropropane	ND		500	533		ug/L		107	65 - 133
1,2,4-Trimethylbenzene	16		500	489		ug/L		95	50 - 139
1,3,5-Trimethylbenzene	ND		500	488		ug/L		98	52 - 135
Vinyl acetate	ND		500	500		ug/L		100	26 - 150
Vinyl chloride	ND		250	257		ug/L		103	46 - 150
Xylenes, Total	ND		1000	935		ug/L		93	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		2000	1940		ug/L		97	43 - 150	2	30
Acrolein	ND		2500	3240		ug/L		129	38 - 150	2	31
Acrylonitrile	ND		5000	6900		ug/L		138	62 - 149	4	30
Benzene	1900		500	2260		ug/L		75	56 - 142	0	30
Bromobenzene	ND		500	441		ug/L		88	59 - 136	3	30
Bromochloromethane	ND		500	579		ug/L		116	64 - 140	2	30
Bromodichloromethane	ND		500	546		ug/L		109	59 - 143	4	30
Bromoform	ND		500	510		ug/L		102	50 - 140	6	30
Bromomethane	ND		250	345		ug/L		138	10 - 150	10	50
2-Butanone (MEK)	ND		2000	1450		ug/L		72	55 - 150	5	30
Carbon disulfide	ND		500	453		ug/L		91	48 - 150	6	30
Carbon tetrachloride	ND		500	621		ug/L		124	55 - 145	7	30
Chlorobenzene	ND		500	484		ug/L		97	64 - 130	5	30
Chloroethane	ND		250	306		ug/L		122	50 - 150	1	30
2-Chloroethyl vinyl ether	ND	F1 *	250	590	F1	ug/L		236	10 - 150	10	50

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		500	575		ug/L		115	60 - 141	4	30
1-Chlorohexane	ND	*	500	622		ug/L		124	56 - 136	8	30
Chloromethane	ND		250	275		ug/L		110	49 - 148	0	31
cis-1,2-Dichloroethene	ND		500	639		ug/L		128	59 - 143	5	30
cis-1,3-Dichloropropene	ND		500	551		ug/L		110	57 - 140	8	30
Dibromochloromethane	ND		500	557		ug/L		111	56 - 143	5	30
1,2-Dibromo-3-Chloropropane	ND		500	457		ug/L		91	45 - 135	7	30
1,2-Dichlorobenzene	ND		500	432		ug/L		86	52 - 137	1	30
1,3-Dichlorobenzene	ND		500	403		ug/L		81	54 - 135	3	30
1,4-Dichlorobenzene	ND		500	408		ug/L		82	53 - 135	1	30
Dichlorodifluoromethane	ND		250	193		ug/L		77	16 - 150	5	31
1,1-Dichloroethane	ND		500	642		ug/L		128	61 - 144	8	30
1,2-Dichloroethane	ND	F1 *	500	764	F1	ug/L		153	60 - 141	4	30
1,1-Dichloroethene	ND		500	526		ug/L		105	54 - 147	7	30
1,2-Dichloropropane	ND		500	568		ug/L		114	66 - 137	6	30
1,3-Dichloropropane	ND		500	506		ug/L		101	66 - 133	4	30
2,2-Dichloropropane	ND		500	608		ug/L		122	42 - 144	8	31
1,1-Dichloropropene	ND		500	568		ug/L		114	65 - 136	6	30
Ethylbenzene	ND		500	473		ug/L		95	58 - 131	4	30
Ethylene Dibromide	ND		500	500		ug/L		100	64 - 132	6	30
Ethyl methacrylate	ND		500	458		ug/L		92	64 - 130	6	30
Hexachlorobutadiene	ND		500	389		ug/L		78	31 - 149	8	36
2-Hexanone	ND		2000	2020		ug/L		101	65 - 140	3	30
Isopropylbenzene	ND		500	468		ug/L		94	56 - 133	0	30
Methylene bromide	ND		500	511		ug/L		102	63 - 138	4	30
Methylene Chloride	ND		500	506		ug/L		101	60 - 146	5	32
4-Methyl-2-pentanone (MIBK)	ND		2000	2400		ug/L		120	63 - 146	4	30
Methyl tert-butyl ether	ND		500	578		ug/L		116	59 - 137	7	30
m-Xylene & p-Xylene	ND		500	471		ug/L		94	57 - 130	1	30
Naphthalene	ND		500	476		ug/L		95	25 - 150	15	30
n-Butylbenzene	ND		500	410		ug/L		82	41 - 142	6	31
N-Propylbenzene	ND		500	447		ug/L		89	51 - 138	0	30
o-Chlorotoluene	ND		500	462		ug/L		92	53 - 134	3	30
o-Xylene	ND		500	481		ug/L		96	61 - 130	3	30
p-Chlorotoluene	ND		500	465		ug/L		93	54 - 133	2	30
p-Isopropyltoluene	ND		500	449		ug/L		90	48 - 139	2	30
sec-Butylbenzene	ND		500	439		ug/L		88	50 - 138	3	30
Styrene	ND		500	412		ug/L		82	58 - 131	0	30
tert-Butylbenzene	ND		500	487		ug/L		97	54 - 146	1	30
1,1,1,2-Tetrachloroethane	ND		500	498		ug/L		100	59 - 137	5	30
1,1,2,2-Tetrachloroethane	ND		500	450		ug/L		90	66 - 135	4	30
Tetrachloroethene	ND		500	480		ug/L		96	52 - 133	4	30
Toluene	ND		500	450		ug/L		90	65 - 130	4	30
trans-1,2-Dichloroethene	ND		500	513		ug/L		103	61 - 143	4	30
trans-1,3-Dichloropropene	ND		500	545		ug/L		109	53 - 133	6	30
1,2,3-Trichlorobenzene	ND		500	395		ug/L		79	43 - 145	5	30
1,2,4-Trichlorobenzene	ND		500	369		ug/L		74	39 - 148	2	30
1,1,1-Trichloroethane	ND		500	635		ug/L		127	57 - 142	9	30
1,1,2-Trichloroethane	ND		500	462		ug/L		92	66 - 131	5	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		500	495		ug/L		99	64 - 136	3	30
Trichlorofluoromethane	ND		250	314		ug/L		126	54 - 150	4	30
1,2,3-Trichloropropane	ND		500	579		ug/L		116	65 - 133	8	30
1,2,4-Trimethylbenzene	16		500	470		ug/L		91	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		500	484		ug/L		97	52 - 135	1	30
Vinyl acetate	ND		500	499		ug/L		100	26 - 150	0	33
Vinyl chloride	ND		250	254		ug/L		102	46 - 150	1	30
Xylenes, Total	ND		1000	952		ug/L		95	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
Benzenethiol	ND		10	1.7	ug/L		07/16/19 12:05	07/19/19 13:42	1
Benzoic acid	ND		30	7.3	ug/L		07/16/19 12:05	07/19/19 13:42	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 13:42	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/16/19 12:05	07/19/19 13:42	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/16/19 12:05	07/19/19 13:42	1
Bis(2-ethylhexyl) phthalate	13.6		10	5.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 13:42	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 13:42	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Diethyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 13:42	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/16/19 12:05	07/19/19 13:42	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 13:42	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 13:42	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 13:42	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 13:42	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 13:42	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Isophorone	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 13:42	1
Nitrobenzene	ND		10	0.55	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Nitrophenol	ND		10	0.65	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 13:42	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 13:42	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 13:42	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 13:42	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
Phenol	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 13:42	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
Quinoline	ND		10	6.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 13:42	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/16/19 12:05*	*07/19/19 13:42*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*34 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
2-Fluorophenol	*39*		*10 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
Nitrobenzene-d5	*96*		*27 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
Phenol-d5	*71*		*10 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
Terphenyl-d14	*92*		*53 - 125*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/16/19 12:05*	*07/19/19 13:42*	*1*

Lab Sample ID: LCS 400-448199/2-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*34 - 120*
2-Fluorophenol	*38*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448199/2-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	68		10 - 120
Terphenyl-d14	84		53 - 125
2,4,6-Tribromophenol	47		15 - 135

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	33.0		ug/L		110	29 - 120
Benzoic acid	117	45.3		ug/L		39	10 - 150
Benzyl alcohol	30.0	28.7		ug/L		96	19 - 125
Bis(2-chloroethoxy)methane	30.0	24.6		ug/L		82	45 - 120
Bis(2-chloroethyl)ether	30.0	20.8		ug/L		69	48 - 120
bis (2-chloroisopropyl) ether	30.0	26.6		ug/L		89	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	37.7		ug/L		126	48 - 150
4-Bromophenyl phenyl ether	30.0	24.6		ug/L		82	55 - 122
Butyl benzyl phthalate	30.0	26.2		ug/L		87	46 - 145
4-Chloroaniline	30.0	28.4		ug/L		95	30 - 120
4-Chloro-3-methylphenol	30.0	30.2		ug/L		101	39 - 140
2-Chloronaphthalene	30.0	24.1		ug/L		80	52 - 120
2-Chlorophenol	30.0	26.3		ug/L		88	34 - 120
4-Chlorophenyl phenyl ether	30.0	24.3		ug/L		81	58 - 124
Dibenz[a,h]acridine	30.0	16.6		ug/L		55	46 - 149
Dibenzofuran	30.0	24.9		ug/L		83	58 - 123
3,3'-Dichlorobenzidine	40.0	55.0	*	ug/L		138	39 - 135
2,4-Dichlorophenol	30.0	29.1		ug/L		97	39 - 128
Diethyl phthalate	30.0	28.4		ug/L		95	44 - 146
2,4-Dimethylphenol	30.0	27.5		ug/L		92	44 - 120
Dimethyl phthalate	30.0	26.9		ug/L		90	50 - 131
Di-n-butyl phthalate	30.0	29.4		ug/L		98	55 - 131
4,6-Dinitro-ortho-cresol	60.0	67.8		ug/L		113	10 - 150
2,4-Dinitrophenol	60.0	76.7		ug/L		128	10 - 150
2,4-Dinitrotoluene	30.0	28.3		ug/L		94	58 - 140
2,6-Dinitrotoluene	30.0	27.8		ug/L		93	57 - 130
Di-n-octyl phthalate	30.0	27.7		ug/L		92	50 - 150
1,4-Dioxane	30.0	18.6		ug/L		62	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	28.0		ug/L		93	47 - 123
Hexachlorobenzene	30.0	24.9		ug/L		83	52 - 131
Hexachlorocyclopentadiene	30.0	10.1	J	ug/L		34	10 - 129
Hexachloroethane	30.0	17.2		ug/L		57	41 - 120
Indene	30.0	22.5		ug/L		75	47 - 120
Isophorone	30.0	27.5		ug/L		92	49 - 120
2-Methylphenol	30.0	28.5		ug/L		95	39 - 123
3 & 4 Methylphenol	30.0	26.2		ug/L		87	38 - 121
2-Nitroaniline	30.0	33.4		ug/L		111	47 - 150
3-Nitroaniline	30.0	33.4		ug/L		111	34 - 132
4-Nitroaniline	30.0	34.3		ug/L		114	41 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	30.0	27.9		ug/L		93	47 - 120
2-Nitrophenol	30.0	28.5		ug/L		95	28 - 136
4-Nitrophenol	60.0	56.5		ug/L		94	10 - 150
N-Nitrosodimethylamine	30.0	32.3		ug/L		108	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	27.4		ug/L		92	56 - 120
Pentachlorophenol	60.0	54.8		ug/L		91	15 - 141
Phenol	30.0	22.2		ug/L		74	33 - 120
Pyridine	60.0	47.1		ug/L		78	26 - 120
Quinoline	30.0	27.2		ug/L		91	51 - 129
2,4,5-Trichlorophenol	30.0	27.8		ug/L		93	38 - 147
2,4,6-Trichlorophenol	30.0	27.9		ug/L		93	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*34 - 120*
2-Fluorophenol	*62*		*10 - 120*
Nitrobenzene-d5	*97*		*27 - 120*
Phenol-d5	*76*		*10 - 120*
Terphenyl-d14	*82*		*53 - 125*
2,4,6-Tribromophenol	*78*		*15 - 135*

Lab Sample ID: LCSD 400-448199/3-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*34 - 120*
2-Fluorophenol	*34*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*86*		*53 - 125*
2,4,6-Tribromophenol	*45*		*15 - 135*

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		30.5	19.4		ug/L		64	10 - 143
Benzoic acid	ND		119	101		ug/L		85	10 - 134
Benzyl alcohol	ND		30.5	25.4		ug/L		83	10 - 154
Bis(2-chloroethoxy)methane	ND		30.5	21.7		ug/L		71	14 - 147
Bis(2-chloroethyl)ether	ND		30.5	21.5		ug/L		70	28 - 130
bis (2-chloroisopropyl) ether	ND		30.5	19.1		ug/L		63	10 - 141
Bis(2-ethylhexyl) phthalate	ND		30.5	18.0		ug/L		59	43 - 160

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND		30.5	34.1		ug/L		112	26 - 159
Butyl benzyl phthalate	ND		30.5	19.7		ug/L		64	43 - 151
4-Chloroaniline	ND		30.5	11.0		ug/L		36	10 - 152
4-Chloro-3-methylphenol	ND		30.5	26.2		ug/L		86	17 - 156
2-Chloronaphthalene	ND		30.5	28.3		ug/L		93	10 - 155
2-Chlorophenol	ND	F2 F1	30.5	20.7		ug/L		68	19 - 130
4-Chlorophenyl phenyl ether	ND		30.5	31.8		ug/L		104	25 - 161
Dibenz[a,h]acridine	ND		30.5	27.3		ug/L		89	42 - 147
Dibenzofuran	ND		30.5	28.6		ug/L		94	18 - 157
3,3'-Dichlorobenzidine	ND	F1	40.7	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND	F2	30.5	26.6		ug/L		87	16 - 147
Diethyl phthalate	ND		30.5	27.0		ug/L		89	23 - 160
2,4-Dimethylphenol	ND		30.5	25.9		ug/L		85	25 - 146
Dimethyl phthalate	ND		30.5	28.4		ug/L		93	11 - 158
Di-n-butyl phthalate	ND		30.5	25.7		ug/L		84	28 - 162
4,6-Dinitro-ortho-cresol	ND		61.1	75.8		ug/L		124	10 - 168
2,4-Dinitrophenol	ND	F1	61.1	104	F1	ug/L		170	10 - 166
2,4-Dinitrotoluene	ND		30.5	32.0		ug/L		105	26 - 158
2,6-Dinitrotoluene	ND		30.5	30.5		ug/L		100	19 - 157
Di-n-octyl phthalate	ND		30.5	21.0		ug/L		69	42 - 150
1,4-Dioxane	ND	F2	30.5	12.3		ug/L		40	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.5	18.5		ug/L		60	19 - 162
Hexachlorobenzene	ND		30.5	33.2		ug/L		109	45 - 145
Hexachlorocyclopentadiene	ND		30.5	19.0	J	ug/L		62	10 - 151
Hexachloroethane	ND		30.5	20.6		ug/L		67	29 - 130
Indene	ND		30.5	21.7		ug/L		71	22 - 130
Isophorone	ND		30.5	22.2		ug/L		73	24 - 144
2-Methylphenol	ND	F2	30.5	21.8		ug/L		71	22 - 130
3 & 4 Methylphenol	ND	F2	30.5	22.2		ug/L		73	31 - 130
2-Nitroaniline	ND		30.5	21.9		ug/L		72	10 - 162
3-Nitroaniline	ND		30.5	15.8		ug/L		52	10 - 163
4-Nitroaniline	ND		30.5	28.0		ug/L		92	10 - 162
Nitrobenzene	ND		30.5	22.2		ug/L		73	34 - 135
2-Nitrophenol	ND	F2 F1	30.5	24.6		ug/L		80	27 - 134
4-Nitrophenol	ND		61.1	46.3		ug/L		76	10 - 175
N-Nitrosodimethylamine	ND		30.5	23.8		ug/L		78	10 - 139
N-Nitrosodi-n-propylamine	ND		30.5	24.5		ug/L		80	13 - 147
N-Nitrosodiphenylamine	ND		30.3	21.7		ug/L		72	31 - 150
Pentachlorophenol	ND		61.1	89.6		ug/L		147	10 - 180
Phenol	22	F2 F1	30.5	46.3		ug/L		80	23 - 130
Pyridine	ND		61.1	40.9		ug/L		67	10 - 130
Quinoline	ND		30.5	25.0		ug/L		82	10 - 180
2,4,5-Trichlorophenol	ND	F2	30.5	35.1		ug/L		115	43 - 137
2,4,6-Trichlorophenol	ND	F2	30.5	35.3		ug/L		116	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*34 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	37		10 - 120
Nitrobenzene-d5	69		27 - 120
Phenol-d5	58		10 - 120
Terphenyl-d14	55		53 - 125
2,4,6-Tribromophenol	164	X	15 - 135

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		30.5	17.1		ug/L		56	10 - 143	12	63
Benzoic acid	ND		118	66.8		ug/L		56	10 - 134	40	49
Benzyl alcohol	ND		30.5	22.4		ug/L		73	10 - 154	13	37
Bis(2-chloroethoxy)methane	ND		30.5	19.7		ug/L		65	14 - 147	9	70
Bis(2-chloroethyl)ether	ND		30.5	19.4		ug/L		64	28 - 130	10	42
bis (2-chloroisopropyl) ether	ND		30.5	17.3		ug/L		57	10 - 141	10	41
Bis(2-ethylhexyl) phthalate	ND		30.5	17.1		ug/L		56	43 - 160	5	35
4-Bromophenyl phenyl ether	ND		30.5	30.6		ug/L		100	26 - 159	11	30
Butyl benzyl phthalate	ND		30.5	17.8		ug/L		59	43 - 151	10	32
4-Chloroaniline	ND		30.5	11.3		ug/L		37	10 - 152	3	94
4-Chloro-3-methylphenol	ND		30.5	18.0		ug/L		59	17 - 156	37	40
2-Chloronaphthalene	ND		30.5	25.6		ug/L		84	10 - 155	10	29
2-Chlorophenol	ND	F2 F1	30.5	3.52	J F1 F2	ug/L		12	19 - 130	142	42
4-Chlorophenyl phenyl ether	ND		30.5	28.8		ug/L		95	25 - 161	10	27
Dibenz[a,h]acridine	ND		30.5	19.3		ug/L		64	42 - 147	34	40
Dibenzofuran	ND		30.5	27.1		ug/L		89	18 - 157	6	29
3,3'-Dichlorobenzidine	ND	F1	40.6	ND	F1	ug/L		0	10 - 172	NC	58
2,4-Dichlorophenol	ND	F2	30.5	10.6	F2	ug/L		35	16 - 147	86	43
Diethyl phthalate	ND		30.5	27.3		ug/L		90	23 - 160	1	40
2,4-Dimethylphenol	ND		30.5	17.8		ug/L		58	25 - 146	37	47
Dimethyl phthalate	ND		30.5	26.9		ug/L		88	11 - 158	5	36
Di-n-butyl phthalate	ND		30.5	23.6		ug/L		78	28 - 162	8	32
4,6-Dinitro-ortho-cresol	ND		60.9	55.7		ug/L		91	10 - 168	31	42
2,4-Dinitrophenol	ND	F1	60.9	74.4		ug/L		122	10 - 166	33	36
2,4-Dinitrotoluene	ND		30.5	30.2		ug/L		99	26 - 158	6	28
2,6-Dinitrotoluene	ND		30.5	29.2		ug/L		96	19 - 157	5	28
Di-n-octyl phthalate	ND		30.5	19.4		ug/L		64	42 - 150	8	35
1,4-Dioxane	ND	F2	30.5	6.93	J F2	ug/L		23	10 - 130	56	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.5	20.4		ug/L		67	19 - 162	10	40
Hexachlorobenzene	ND		30.5	29.2		ug/L		96	45 - 145	13	33
Hexachlorocyclopentadiene	ND		30.5	11.7	J	ug/L		38	10 - 151	47	50
Hexachloroethane	ND		30.5	18.5		ug/L		61	29 - 130	11	41
Indene	ND		30.5	19.6		ug/L		64	22 - 130	10	40
Isophorone	ND		30.5	20.6		ug/L		68	24 - 144	7	33
2-Methylphenol	ND	F2	30.5	8.50	J F2	ug/L		28	22 - 130	88	47
3 & 4 Methylphenol	ND	F2	30.5	9.47	J F2	ug/L		31	31 - 130	80	47
2-Nitroaniline	ND		30.5	22.4		ug/L		74	10 - 162	2	33

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3-Nitroaniline	ND		30.5	16.4		ug/L		54	10 - 163	4	39
4-Nitroaniline	ND		30.5	29.8		ug/L		98	10 - 162	6	50
Nitrobenzene	ND		30.5	20.5		ug/L		67	34 - 135	8	35
2-Nitrophenol	ND	F2 F1	30.5	6.82	J F1 F2	ug/L		22	27 - 134	113	43
4-Nitrophenol	ND		60.9	44.5		ug/L		73	10 - 175	4	82
N-Nitrosodimethylamine	ND		30.5	20.2		ug/L		66	10 - 139	16	62
N-Nitrosodi-n-propylamine	ND		30.5	21.8		ug/L		72	13 - 147	12	36
N-Nitrosodiphenylamine	ND		30.2	22.3		ug/L		74	31 - 150	3	34
Pentachlorophenol	ND		60.9	70.5		ug/L		116	10 - 180	24	42
Phenol	22	F2 F1	30.5	12.3	F1 F2	ug/L		-31	23 - 130	116	52
Pyridine	ND		60.9	32.0		ug/L		53	10 - 130	25	55
Quinoline	ND		30.5	23.1		ug/L		76	10 - 180	8	40
2,4,5-Trichlorophenol	ND	F2	30.5	19.8	F2	ug/L		65	43 - 137	56	42
2,4,6-Trichlorophenol	ND	F2	30.5	16.3	F2	ug/L		54	42 - 135	73	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*82*		*34 - 120*
2-Fluorophenol	*2*	*X*	*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*15*		*10 - 120*
Terphenyl-d14	*53*		*53 - 125*
2,4,6-Tribromophenol	*106*		*15 - 135*

Lab Sample ID: MB 400-449195/1-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
Benzoic acid	ND		30	7.3	ug/L		07/23/19 15:09	07/24/19 20:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/23/19 15:09	07/24/19 20:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/23/19 15:09	07/24/19 20:33	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/23/19 15:09	07/24/19 20:33	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/23/19 15:09	07/24/19 20:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Chloroaniline	ND		10	3.4	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Chlorophenol	ND		10	2.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Dibenzofuran	ND		10	0.52	ug/L		07/23/19 15:09	07/24/19 20:33	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Diethyl phthalate	ND		10	0.70	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/23/19 15:09	07/24/19 20:33	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449195/1-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		10	0.60	ug/L		07/23/19 15:09	07/24/19 20:33	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/23/19 15:09	07/24/19 20:33	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/23/19 15:09	07/24/19 20:33	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/23/19 15:09	07/24/19 20:33	1
1,4-Dioxane	ND		10	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/23/19 15:09	07/24/19 20:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/23/19 15:09	07/24/19 20:33	1
Hexachloroethane	ND		10	4.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
Indene	ND		10	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Isophorone	ND		10	0.57	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Nitroaniline	ND		10	2.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
3-Nitroaniline	ND		10	1.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Nitroaniline	ND		10	2.5	ug/L		07/23/19 15:09	07/24/19 20:33	1
Nitrobenzene	ND		10	0.55	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Nitrophenol	ND		10	0.65	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Nitrophenol	ND		10	2.1	ug/L		07/23/19 15:09	07/24/19 20:33	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/23/19 15:09	07/24/19 20:33	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/23/19 15:09	07/24/19 20:33	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/23/19 15:09	07/24/19 20:33	1
Pentachlorophenol	ND		20	1.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
Phenol	ND		10	2.6	ug/L		07/23/19 15:09	07/24/19 20:33	1
Pyridine	ND		10	3.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
Quinoline	ND		10	6.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/23/19 15:09	07/24/19 20:33	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*				*07/23/19 15:09*	*07/24/19 20:33*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*64*		*34 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
2-Fluorophenol	*15*		*10 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
Nitrobenzene-d5	*52*		*27 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
Phenol-d5	*37*		*10 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
Terphenyl-d14	*76*		*53 - 125*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
2,4,6-Tribromophenol	*93*		*15 - 135*	*07/23/19 15:09*	*07/24/19 20:33*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449195/4-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449195

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	18.3		ug/L		61	29 - 120
Benzoic acid	117	49.8		ug/L		43	10 - 150
Benzyl alcohol	30.0	21.7		ug/L		72	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.9		ug/L		60	45 - 120
Bis(2-chloroethyl)ether	30.0	16.6		ug/L		55	48 - 120
bis (2-chloroisopropyl) ether	30.0	15.7		ug/L		52	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	19.6		ug/L		65	48 - 150
4-Bromophenyl phenyl ether	30.0	33.2		ug/L		111	55 - 122
Butyl benzyl phthalate	30.0	18.3		ug/L		61	46 - 145
4-Chloroaniline	30.0	15.1		ug/L		50	30 - 120
4-Chloro-3-methylphenol	30.0	23.4		ug/L		78	39 - 140
2-Chloronaphthalene	30.0	23.0		ug/L		77	52 - 120
2-Chlorophenol	30.0	18.6		ug/L		62	34 - 120
4-Chlorophenyl phenyl ether	30.0	29.0		ug/L		97	58 - 124
Dibenz[a,h]acridine	30.0	25.9		ug/L		86	46 - 149
Dibenzofuran	30.0	24.8		ug/L		83	58 - 123
3,3'-Dichlorobenzidine	60.0	103	E *	ug/L		172	39 - 135
2,4-Dichlorophenol	30.0	24.4		ug/L		81	39 - 128
Diethyl phthalate	30.0	24.9		ug/L		83	44 - 146
2,4-Dimethylphenol	30.0	22.9		ug/L		76	44 - 120
Dimethyl phthalate	30.0	24.8		ug/L		83	50 - 131
Di-n-butyl phthalate	30.0	23.9		ug/L		80	55 - 131
4,6-Dinitro-ortho-cresol	60.0	50.4		ug/L		84	10 - 150
2,4-Dinitrophenol	60.0	62.5		ug/L		104	10 - 150
2,4-Dinitrotoluene	30.0	27.0		ug/L		90	58 - 140
2,6-Dinitrotoluene	30.0	26.4		ug/L		88	57 - 130
Di-n-octyl phthalate	30.0	23.1		ug/L		77	50 - 150
1,4-Dioxane	30.0	13.0		ug/L		43	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	18.5		ug/L		62	47 - 123
Hexachlorobenzene	30.0	37.3		ug/L		124	52 - 131
Hexachlorocyclopentadiene	30.0	10.9	J	ug/L		36	10 - 129
Hexachloroethane	30.0	14.7		ug/L		49	41 - 120
Indene	30.0	15.6		ug/L		52	47 - 120
Isophorone	30.0	17.9		ug/L		60	49 - 120
2-Methylphenol	30.0	20.5		ug/L		68	39 - 123
3 & 4 Methylphenol	30.0	21.2		ug/L		71	38 - 121
2-Nitroaniline	30.0	21.3		ug/L		71	47 - 150
3-Nitroaniline	30.0	23.4		ug/L		78	34 - 132
4-Nitroaniline	30.0	32.4		ug/L		108	41 - 135
Nitrobenzene	30.0	18.8		ug/L		63	47 - 120
2-Nitrophenol	30.0	21.9		ug/L		73	28 - 136
4-Nitrophenol	60.0	51.2		ug/L		85	10 - 150
N-Nitrosodimethylamine	30.0	22.9		ug/L		76	22 - 148
N-Nitrosodi-n-propylamine	30.0	21.6		ug/L		72	44 - 120
N-Nitrosodiphenylamine	29.8	25.5		ug/L		86	56 - 120
Pentachlorophenol	60.0	69.0		ug/L		115	15 - 141
Phenol	30.0	16.4		ug/L		55	33 - 120
Pyridine	60.0	28.5		ug/L		48	26 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449195/4-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449195

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	30.0	21.4		ug/L		71	51 - 129
2,4,5-Trichlorophenol	30.0	27.1		ug/L		90	38 - 147
2,4,6-Trichlorophenol	30.0	27.4		ug/L		91	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*29*		*10 - 120*
Nitrobenzene-d5	*51*		*27 - 120*
Phenol-d5	*48*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*117*		*15 - 135*

Lab Sample ID: LCSD 400-449195/5-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449195

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	18.3		ug/L		61	29 - 120	0	30
Benzoic acid	117	49.8		ug/L		43	10 - 150	0	30
Benzyl alcohol	30.0	19.8		ug/L		66	19 - 125	9	30
Bis(2-chloroethoxy)methane	30.0	17.0		ug/L		57	45 - 120	5	30
Bis(2-chloroethyl)ether	30.0	15.2		ug/L		51	48 - 120	9	30
bis (2-chloroisopropyl) ether	30.0	14.8		ug/L		49	30 - 125	6	30
Bis(2-ethylhexyl) phthalate	30.0	18.1		ug/L		60	48 - 150	8	30
4-Bromophenyl phenyl ether	30.0	30.1		ug/L		100	55 - 122	10	30
Butyl benzyl phthalate	30.0	17.1		ug/L		57	46 - 145	7	30
4-Chloroaniline	30.0	14.2		ug/L		47	30 - 120	6	30
4-Chloro-3-methylphenol	30.0	21.5		ug/L		72	39 - 140	8	30
2-Chloronaphthalene	30.0	22.0		ug/L		73	52 - 120	5	30
2-Chlorophenol	30.0	16.8		ug/L		56	34 - 120	10	30
4-Chlorophenyl phenyl ether	30.0	27.0		ug/L		90	58 - 124	7	30
Dibenz[a,h]acridine	30.0	24.1		ug/L		80	46 - 149	7	30
Dibenzofuran	30.0	23.7		ug/L		79	58 - 123	5	30
3,3'-Dichlorobenzidine	60.0	94.3		ug/L		157	39 - 135	9	30
2,4-Dichlorophenol	30.0	21.8		ug/L		73	39 - 128	11	30
Diethyl phthalate	30.0	24.2		ug/L		81	44 - 146	3	30
2,4-Dimethylphenol	30.0	20.0		ug/L		67	44 - 120	13	30
Dimethyl phthalate	30.0	23.4		ug/L		78	50 - 131	6	30
Di-n-butyl phthalate	30.0	22.3		ug/L		74	55 - 131	7	30
4,6-Dinitro-ortho-cresol	60.0	48.6		ug/L		81	10 - 150	4	30
2,4-Dinitrophenol	60.0	59.6		ug/L		99	10 - 150	5	30
2,4-Dinitrotoluene	30.0	25.8		ug/L		86	58 - 140	5	30
2,6-Dinitrotoluene	30.0	24.7		ug/L		82	57 - 130	7	30
Di-n-octyl phthalate	30.0	21.7		ug/L		72	50 - 150	6	30
1,4-Dioxane	30.0	12.3		ug/L		41	25 - 120	6	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	17.5		ug/L		58	47 - 123	6	30
Hexachlorobenzene	30.0	34.1		ug/L		114	52 - 131	9	30
Hexachlorocyclopentadiene	30.0	12.4	J	ug/L		41	10 - 129	13	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449195/5-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449195

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	30.0	16.0		ug/L		53	41 - 120	8	30
Indene	30.0	15.3		ug/L		51	47 - 120	2	30
Isophorone	30.0	16.7		ug/L		56	49 - 120	7	30
2-Methylphenol	30.0	18.4		ug/L		61	39 - 123	10	30
3 & 4 Methylphenol	30.0	19.0	J	ug/L		63	38 - 121	11	30
2-Nitroaniline	30.0	20.1		ug/L		67	47 - 150	6	30
3-Nitroaniline	30.0	21.9		ug/L		73	34 - 132	6	30
4-Nitroaniline	30.0	31.6		ug/L		105	41 - 135	3	30
Nitrobenzene	30.0	17.1		ug/L		57	47 - 120	9	30
2-Nitrophenol	30.0	18.7		ug/L		62	28 - 136	16	30
4-Nitrophenol	60.0	45.9		ug/L		76	10 - 150	11	30
N-Nitrosodimethylamine	30.0	22.3		ug/L		74	22 - 148	3	30
N-Nitrosodi-n-propylamine	30.0	20.0		ug/L		67	44 - 120	7	30
N-Nitrosodiphenylamine	29.8	23.1		ug/L		77	56 - 120	10	30
Pentachlorophenol	60.0	62.7		ug/L		104	15 - 141	10	30
Phenol	30.0	14.8		ug/L		49	33 - 120	10	30
Pyridine	60.0	27.3		ug/L		46	26 - 120	4	30
Quinoline	30.0	19.5		ug/L		65	51 - 129	9	30
2,4,5-Trichlorophenol	30.0	24.6		ug/L		82	38 - 147	10	30
2,4,6-Trichlorophenol	30.0	24.6		ug/L		82	36 - 139	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*24*		*10 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d5	*43*		*10 - 120*
Terphenyl-d14	*68*		*53 - 125*
2,4,6-Tribromophenol	*101*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Chrysene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Fluorene	ND		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 14:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Phenanthrene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Pyrene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*15 - 122*	*07/16/19 12:05*	*07/18/19 14:09*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/16/19 12:05*	*07/18/19 14:09*	*1*
Terphenyl-d14	*89*		*33 - 138*	*07/16/19 12:05*	*07/18/19 14:09*	*1*

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water
Analysis Batch: 448502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	30.3		ug/L		101	41 - 120
Acenaphthylene	30.0	30.5		ug/L		102	44 - 120
Anthracene	30.0	30.4		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	28.5		ug/L		95	61 - 135
Benzo[a]pyrene	30.0	29.4		ug/L		98	52 - 120
Benzo[b]fluoranthene	30.0	31.1		ug/L		104	53 - 134
Benzo[g,h,i]perylene	30.0	32.2		ug/L		107	47 - 133
Benzo[k]fluoranthene	30.0	29.2		ug/L		97	57 - 134
Chrysene	30.0	29.3		ug/L		98	55 - 122
Dibenz(a,h)anthracene	30.0	33.4		ug/L		111	48 - 146
Fluoranthene	30.0	31.5		ug/L		105	54 - 128
Fluorene	30.0	32.5		ug/L		108	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	32.7		ug/L		109	43 - 142
1-Methylnaphthalene	30.0	24.7		ug/L		82	41 - 120
2-Methylnaphthalene	30.0	24.1		ug/L		80	32 - 124
Phenanthrene	30.0	31.0		ug/L		103	48 - 120
Pyrene	30.0	29.0		ug/L		97	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*15 - 122*
Nitrobenzene-d5	*88*		*19 - 130*
Terphenyl-d14	*99*		*33 - 138*

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448502

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2.5		30.5	33.7		ug/L		102	35 - 113
Acenaphthylene	ND		30.5	29.2		ug/L		96	41 - 118
Anthracene	0.16	J	30.5	27.9		ug/L		91	45 - 122
Benzo[a]anthracene	0.11	J	30.5	23.7		ug/L		77	55 - 133
Benzo[a]pyrene	0.097	J	30.5	21.6		ug/L		71	50 - 108

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448502

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	ND		30.5	23.3		ug/L		76	50 - 128
Benzo[g,h,i]perylene	ND		30.5	21.7		ug/L		71	46 - 133
Benzo[k]fluoranthene	ND		30.5	22.4		ug/L		73	52 - 128
Chrysene	0.19	J	30.5	23.8		ug/L		77	52 - 116
Dibenz(a,h)anthracene	ND		30.5	24.4		ug/L		80	52 - 143
Fluoranthene	ND		30.5	27.1		ug/L		89	32 - 150
Fluorene	0.38		30.5	31.8		ug/L		103	15 - 150
Indeno[1,2,3-cd]pyrene	ND		30.5	23.2		ug/L		76	41 - 141
1-Methylnaphthalene	1.8		30.5	29.3		ug/L		90	10 - 150
2-Methylnaphthalene	1.8		30.5	29.1		ug/L		90	10 - 150
Phenanthrene	0.87		30.5	30.0		ug/L		96	36 - 125
Pyrene	0.45		30.5	28.4		ug/L		91	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*89*		*15 - 122*
Nitrobenzene-d5	*96*		*19 - 130*
Terphenyl-d14	*46*		*33 - 138*

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 448502

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	2.5		30.5	31.8		ug/L		96	35 - 113	6	49
Acenaphthylene	ND		30.5	27.7		ug/L		91	41 - 118	5	48
Anthracene	0.16	J	30.5	25.6		ug/L		83	45 - 122	9	56
Benzo[a]anthracene	0.11	J	30.5	21.6		ug/L		71	55 - 133	9	57
Benzo[a]pyrene	0.097	J	30.5	20.4		ug/L		67	50 - 108	6	59
Benzo[b]fluoranthene	ND		30.5	22.1		ug/L		72	50 - 128	5	62
Benzo[g,h,i]perylene	ND		30.5	19.5		ug/L		64	46 - 133	11	58
Benzo[k]fluoranthene	ND		30.5	21.0		ug/L		69	52 - 128	6	58
Chrysene	0.19	J	30.5	22.0		ug/L		72	52 - 116	8	59
Dibenz(a,h)anthracene	ND		30.5	22.2		ug/L		73	52 - 143	9	60
Fluoranthene	ND		30.5	24.5		ug/L		80	32 - 150	10	59
Fluorene	0.38		30.5	29.5		ug/L		96	15 - 150	8	49
Indeno[1,2,3-cd]pyrene	ND		30.5	20.9		ug/L		69	41 - 141	10	58
1-Methylnaphthalene	1.8		30.5	27.2		ug/L		83	10 - 150	7	66
2-Methylnaphthalene	1.8		30.5	27.4		ug/L		84	10 - 150	6	66
Phenanthrene	0.87		30.5	27.7		ug/L		88	36 - 125	8	69
Pyrene	0.45		30.5	25.5		ug/L		82	41 - 127	11	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*82*		*15 - 122*
Nitrobenzene-d5	*89*		*19 - 130*
Terphenyl-d14	*47*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (___Pensacola_____)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/11/2019
PO #	GSAP Project ID	PAGE 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY	AECOM
LOG CODE	
ADDRESS	100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to)	Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE	314-429-0100
FAX	314-429-0462
Bill To Contact E-MAIL	elizabeth.kunkel@aecom.com
TURNAROUND TIME (CALENDAR DAYS)	☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT	☐ UST AGENCY:
DELIVERABLES:	☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C°	Cooler #1 / Cooler #2 / Cooler #3

State	IL
AECOM Project / Task Number:	PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location)	Elizabeth Kunkel
PHONE NO	3144290100
E-MAIL	elizabeth.kunkel@aecom.com
AECOM Other ID	
SAMPLER NAME(S) (Print)	Paul LeFleur
LAB USE ONLY	

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com, james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

400-173045 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-071119-B	7/11/2019	0:00	Water	2					2		x		
	PD-11-GWP-37-071019	7/11/2019	9:11	Water	2			2		4	x	x	x	
	PD-11-GWP-43-071019	7/11/2019	10:10	Water	2			2		4	x	x	x	
	PD-11-GWP-43-071019-DUP	7/11/2019	10:10	Water	2			2		4	x	x	x	
	PD-11-GWP-50-071019-MS	7/11/2019	12:35	Water	2			2		4	x	x	x	
	PD-11-GWP-50-071019-MSD	7/11/2019	12:35	Water	2			2		4	x	x	x	
	PD-11-GWP-50-071019	7/11/2019	12:35	Water	2			2		4	x	x	x	
	PD-11-GWP-56-071019	7/11/2019	14:35	Water	2			2		4	x	x	x	
	PD-11-GWP-60-071019	7/11/2019	15:35	Water	2			2		4	x	x	x	

Relinquished by (Signature)	Received by (Signature)	Date	Time
Paul LaFleur	Fedex: (4931 8205 7504), (4931 8205 7515), (4931 8203 6208) - 1011657, 1011656, 1011663, 1011662, 1011661, 1011660	7/11/2019	17:30
	Doug Qualls	07.12.19	919

Version 10May17

2.0°C IR8 1.1°C IR7

8/5/2019

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173045-1

Login Number: 173045
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1011663,1011662,1011661,1011660
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0°C IR-8, 1.1°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173045-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 3:50:47 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173045-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173045-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 8-5-19.

Receipt
The samples were received on 7/12/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.1º C and 2.0º C.

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): TRIP BLANK (400-173045-8) Only information on container is Trip Blank. Logged in as a trip blank.

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. COC and sample labels don't match. ID's on COC end in 071019, container label end in 071119.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-429944 was outside method criteria for the following analyte: Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-GWP-37-071119 (400-173045-2), PD-11-GWP-43-071119 (400-173045-3), PD-11-GWP-43-071119-DUP (400-173045-4), PD-11-GWP-50-071119 (400-173045-5) and PD-11-GWP-60-071119 (400-173045-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447926 recovered above the upper control limit for 2-Chloroethyl vinyl ether, Acrylonitrile and Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071119-B (400-173045-1), PD-11-GWP-37-071119 (400-173045-2), PD-11-GWP-43-071119 (400-173045-3), PD-11-GWP-43-071119-DUP (400-173045-4), PD-11-GWP-50-071119 (400-173045-5), PD-11-GWP-56-071119 (400-173045-6) and PD-11-GWP-60-071119 (400-173045-7). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447926 recovered outside control limits for the following analytes: 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Acrylonitrile and 1-Chlorohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-447978 recovered above the upper control limit for 2-Chloroethyl vinyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-447978 recovered outside control limits for the following analytes: 1-Chlorohexane, 1,2-Dichloroethane and 2-Chloroethyl vinyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-447978 were outside control limits for 1,2-Dichloroethane and 2-Chloroethyl vinyl ether due to high bias for these analytes on this day of analysis.

Job ID: 400-173045-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-11-GWP-50-071119 (400-173045-5[MS]) and PD-11-GWP-50-071119 (400-173045-5[MSD]). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448709 recovered above the upper control limit for 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448199 and analytical batch 400-448709 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-448199 and analytical batch 400-448709 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448199 and analytical batch 400-448687 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448199 and analytical batch 400-448687 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448199 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). The samples associated with this method blank were either non-detect or less than the reporting limit; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448687 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448687 recovered above the upper control limit for N-Nitrosodimethylamine, 4-Chloro-3-methylphenol and Aniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448687 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-11-GWP-43-071119 (400-173045-3), PD-11-GWP-56-071119 (400-173045-6). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered above the upper control limit

Job ID: 400-173045-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

for 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 4,6-Dinitro-ortho-cresol and 4-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether, Butyl benzyl phthalate, 4-Bromophenyl phenyl ether, Hexachlorocyclopentadiene and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-449195 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-GWP-43-071119-DUP (400-173045-4). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173045-1	TB-PW-071119-B	Water	07/11/19 00:00	07/12/19 09:19	
400-173045-2	PD-11-GWP-37-071119	Water	07/11/19 09:11	07/12/19 09:19	
400-173045-3	PD-11-GWP-43-071119	Water	07/11/19 10:10	07/12/19 09:19	
400-173045-4	PD-11-GWP-43-071119-DUP	Water	07/11/19 10:10	07/12/19 09:19	
400-173045-5	PD-11-GWP-50-071119	Water	07/11/19 12:35	07/12/19 09:19	
400-173045-6	PD-11-GWP-56-071119	Water	07/11/19 14:35	07/12/19 09:19	
400-173045-7	PD-11-GWP-60-071119	Water	07/11/19 15:35	07/12/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B — Lab Sample ID: 400-173045-1

No Detections.

Client Sample ID: PD-11-GWP-37-071119 — Lab Sample ID: 400-173045-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400		10	3.8	ug/L	10		8260B	Total/NA
Ethylbenzene	290		10	5.0	ug/L	10		8260B	Total/NA
Isopropylbenzene	100		10	5.3	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	240		50	16	ug/L	10		8260B	Total/NA
Naphthalene	90		10	10	ug/L	10		8260B	Total/NA
n-Butylbenzene	17		10	7.6	ug/L	10		8260B	Total/NA
N-Propylbenzene	140		10	6.9	ug/L	10		8260B	Total/NA
o-Xylene	110		50	6.0	ug/L	10		8260B	Total/NA
p-Isopropyltoluene	7.7	J	10	7.1	ug/L	10		8260B	Total/NA
sec-Butylbenzene	19		10	7.0	ug/L	10		8260B	Total/NA
Toluene	6.3	J	10	4.1	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	610		10	8.2	ug/L	10		8260B	Total/NA
1,3,5-Trimethylbenzene	100		10	5.6	ug/L	10		8260B	Total/NA
Xylenes, Total	350		100	16	ug/L	10		8260B	Total/NA
Acenaphthene	6.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	3.8		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	1.1		0.20	0.040	ug/L	1		8270D LL	Total/NA
Chrysene	5.5		0.20	0.040	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	1.1		0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluorene	7.5		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.64		0.20	0.040	ug/L	1		8270D LL	Total/NA
Phenanthrene	18		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	16		0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL	170		5.1	0.51	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene - DL	66		5.1	0.51	ug/L	25		8270D LL	Total/NA
Dibenzofuran	5.3	J	10	0.53	ug/L	1		8270D	Total/NA
Phenol	9.0	J	10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-11-GWP-43-071119 — Lab Sample ID: 400-173045-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2500000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	1.9		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	1.3		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.53		0.20	0.040	ug/L	1		8270D LL	Total/NA
Chrysene	2.1		0.20	0.040	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.48		0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.68		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	2.3		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.26		0.20	0.040	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	29		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	39		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	12		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	5.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	370		50	13	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP — Lab Sample ID: 400-173045-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2400000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	7.3		0.21	0.021	ug/L	1		8270D LL	Total/NA
Acenaphthylene	1.2		0.21	0.021	ug/L	1		8270D LL	Total/NA
Anthracene	6.2		0.21	0.021	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	7.7		0.21	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	15		0.21	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	3.5		0.21	0.021	ug/L	1		8270D LL	Total/NA
Fluorene	8.5		0.21	0.022	ug/L	1		8270D LL	Total/NA
Phenanthrene	29		0.21	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	20		0.21	0.021	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene - DL	12		5.2	1.0	ug/L	25		8270D LL	Total/NA
Benzo[b]fluoranthene - DL	5.2		5.2	1.0	ug/L	25		8270D LL	Total/NA
Dibenz(a,h)anthracene - DL	3.5	J	5.2	1.0	ug/L	25		8270D LL	Total/NA
1-Methylnaphthalene - DL	120		5.2	0.52	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene - DL	170		5.2	0.52	ug/L	25		8270D LL	Total/NA
Dibenzofuran	6.8	J	10	0.54	ug/L	1		8270D	Total/NA
Phenol - DL	140		52	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-11-GWP-50-071119 — Lab Sample ID: 400-173045-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1900		10	3.8	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	16		10	8.2	ug/L	10		8260B	Total/NA
Acenaphthene	2.5		0.21	0.021	ug/L	1		8270D LL	Total/NA
Anthracene	0.16	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.11	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.097	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	0.19	J	0.21	0.041	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.21	0.022	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	1.8		0.21	0.021	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.8		0.21	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.87		0.21	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	0.45		0.21	0.021	ug/L	1		8270D LL	Total/NA
Phenol	22	F2 F1	10	2.7	ug/L	1		8270D	Total/NA

Client Sample ID: PD-11-GWP-56-071119 — Lab Sample ID: 400-173045-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200		5.0	1.9	ug/L	5		8260B	Total/NA
Ethylbenzene	4.9	J	5.0	2.5	ug/L	5		8260B	Total/NA
m-Xylene & p-Xylene	10	J	25	8.0	ug/L	5		8260B	Total/NA
o-Xylene	3.3	J	25	3.0	ug/L	5		8260B	Total/NA
1,2,4-Trimethylbenzene	25		5.0	4.1	ug/L	5		8260B	Total/NA
1,3,5-Trimethylbenzene	7.0		5.0	2.8	ug/L	5		8260B	Total/NA
Xylenes, Total	13	J	50	8.0	ug/L	5		8260B	Total/NA
Acenaphthene	0.36		0.20	0.020	ug/L	1		8270D LL	Total/NA
Acenaphthylene	0.048	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.31		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.29		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.32		0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.16	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.12	J	0.20	0.040	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119 (Continued)

Lab Sample ID: 400-173045-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.61		0.20	0.040	ug/L	1		8270D LL	Total/NA
Dibenz(a,h)anthracene	0.076	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.20	0.021	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.058	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	2.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	2.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	1.1		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	12		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-11-GWP-60-071119

Lab Sample ID: 400-173045-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	200000		1000	380	ug/L	1000		8260B	Total/NA
1-Methylnaphthalene	0.85		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.81		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.089	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.061	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate - DL	130	B	50	25	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B

Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 14:41	1
Acrolein	ND		20	10	ug/L			07/14/19 14:41	1
Acrylonitrile	ND	*	10	2.8	ug/L			07/14/19 14:41	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 14:41	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 14:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 14:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 14:41	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 14:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 14:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 14:41	1
2-Chloroethyl vinyl ether	ND	*	5.0	2.0	ug/L			07/14/19 14:41	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 14:41	1
1-Chlorohexane	ND	*	1.0	0.70	ug/L			07/14/19 14:41	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 14:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 14:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 14:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 14:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 14:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			07/14/19 14:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 14:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 14:41	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 14:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 14:41	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 14:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 14:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 14:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 14:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 14:41	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 14:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 14:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 14:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 14:41	1
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 14:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: TB-PW-071119-B
Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 14:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 14:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 14:41	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 14:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 14:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 14:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 14:41	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 14:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 14:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 14:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 14:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 14:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 14:41	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 14:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 14:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 14:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 14:41	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 14:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 14:41	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 14:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 14:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/14/19 14:41*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 14:41*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 14:41*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/14/19 15:31	10
Acrolein	ND		200	100	ug/L			07/14/19 15:31	10
Acrylonitrile	ND	*	100	28	ug/L			07/14/19 15:31	10
Benzene	**1400**		10	3.8	ug/L			07/14/19 15:31	10
Bromobenzene	ND		10	5.4	ug/L			07/14/19 15:31	10
Bromochloromethane	ND		10	5.2	ug/L			07/14/19 15:31	10
Bromodichloromethane	ND		10	5.0	ug/L			07/14/19 15:31	10
Bromoform	ND		50	7.1	ug/L			07/14/19 15:31	10
Bromomethane	ND		10	9.8	ug/L			07/14/19 15:31	10
2-Butanone (MEK)	ND		250	26	ug/L			07/14/19 15:31	10
Carbon disulfide	ND		10	5.0	ug/L			07/14/19 15:31	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/14/19 15:31	10
Chlorobenzene	ND		10	5.0	ug/L			07/14/19 15:31	10
Chloroethane	ND		10	7.6	ug/L			07/14/19 15:31	10
2-Chloroethyl vinyl ether	ND	*	50	20	ug/L			07/14/19 15:31	10
Chloroform	ND		10	6.0	ug/L			07/14/19 15:31	10
1-Chlorohexane	ND	*	10	7.0	ug/L			07/14/19 15:31	10
Chloromethane	ND		10	8.3	ug/L			07/14/19 15:31	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:31	10
Dibromochloromethane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/14/19 15:31	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/14/19 15:31	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/14/19 15:31	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/14/19 15:31	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/14/19 15:31	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,2-Dichloroethane	ND	*	10	5.0	ug/L			07/14/19 15:31	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:31	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/14/19 15:31	10
Ethylbenzene	**290**		10	5.0	ug/L			07/14/19 15:31	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/14/19 15:31	10
Ethyl methacrylate	ND		10	6.0	ug/L			07/14/19 15:31	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/14/19 15:31	10
2-Hexanone	ND		250	31	ug/L			07/14/19 15:31	10
Isopropylbenzene	**100**		10	5.3	ug/L			07/14/19 15:31	10
Methylene bromide	ND		50	5.9	ug/L			07/14/19 15:31	10
Methylene Chloride	ND		50	30	ug/L			07/14/19 15:31	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/14/19 15:31	10
Methyl tert-butyl ether	ND		10	7.4	ug/L			07/14/19 15:31	10
m-Xylene & p-Xylene	**240**		50	16	ug/L			07/14/19 15:31	10
Naphthalene	**90**		10	10	ug/L			07/14/19 15:31	10
n-Butylbenzene	**17**		10	7.6	ug/L			07/14/19 15:31	10
N-Propylbenzene	**140**		10	6.9	ug/L			07/14/19 15:31	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/14/19 15:31	10
o-Xylene	**110**		50	6.0	ug/L			07/14/19 15:31	10

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/14/19 15:31	10
p-Isopropyltoluene	**7.7**	**J**	10	7.1	ug/L			07/14/19 15:31	10
sec-Butylbenzene	**19**		10	7.0	ug/L			07/14/19 15:31	10
Styrene	ND		10	10	ug/L			07/14/19 15:31	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/14/19 15:31	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			07/14/19 15:31	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/14/19 15:31	10
Tetrachloroethene	ND		10	5.8	ug/L			07/14/19 15:31	10
Toluene	**6.3**	**J**	10	4.1	ug/L			07/14/19 15:31	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/14/19 15:31	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/14/19 15:31	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/14/19 15:31	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/14/19 15:31	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/14/19 15:31	10
Trichloroethene	ND		10	5.0	ug/L			07/14/19 15:31	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/14/19 15:31	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/14/19 15:31	10
1,2,4-Trimethylbenzene	**610**		10	8.2	ug/L			07/14/19 15:31	10
1,3,5-Trimethylbenzene	**100**		10	5.6	ug/L			07/14/19 15:31	10
Vinyl acetate	ND		250	20	ug/L			07/14/19 15:31	10
Vinyl chloride	ND		10	5.0	ug/L			07/14/19 15:31	10
Xylenes, Total	**350**		100	16	ug/L			07/14/19 15:31	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*110*	*T J*	*ug/L*		*3.57*			*07/14/19 15:31*	*10*
Isooctane	*38*	*J*	*ug/L*		*3.78*	*540-84-1*		*07/14/19 15:31*	*10*
Methylcyclohexane	*31*		*ug/L*		*4.28*	*108-87-2*		*07/14/19 15:31*	*10*
Unknown	*53*	*T J*	*ug/L*		*4.62*			*07/14/19 15:31*	*10*
3-Ethyltoluene	*93*		*ug/L*		*7.16*	*620-14-4*		*07/14/19 15:31*	*10*
2-Ethyltoluene	*88*		*ug/L*		*7.39*	*611-14-3*		*07/14/19 15:31*	*10*
1,2,3-Trimethylbenzene	*150*		*ug/L*		*7.88*	*526-73-8*		*07/14/19 15:31*	*10*
1,3-Diethylbenzene	*18*	*J*	*ug/L*		*8.03*	*141-93-5*		*07/14/19 15:31*	*10*
p-Diethylbenzene	*33*	*J*	*ug/L*		*8.10*	*105-05-5*		*07/14/19 15:31*	*10*
o-diethylbenzene	*11*	*J*	*ug/L*		*8.20*	*135-01-3*		*07/14/19 15:31*	*10*
Benzene, 1-methyl-2-(1-methylethyl)-	*59*	*T J N*	*ug/L*		*8.41*	*527-84-4*		*07/14/19 15:31*	*10*
Unknown	*87*	*T J*	*ug/L*		*8.52*			*07/14/19 15:31*	*10*
Unknown	*53*	*T J*	*ug/L*		*9.14*			*07/14/19 15:31*	*10*
Naphthalene, 1,2,3,4-tetrahydro-	*59*	*T J N*	*ug/L*		*9.30*	*119-64-2*		*07/14/19 15:31*	*10*
2-Methylnaphthalene	*62*	*J*	*ug/L*		*10.89*	*91-57-6*		*07/14/19 15:31*	*10*
1-Methylnaphthalene	*120*		*ug/L*		*11.07*	*90-12-0*		*07/14/19 15:31*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/14/19 15:31*	*10*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 15:31*	*10*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/14/19 15:31*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**6.5**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[a]pyrene	**3.8**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[g,h,i]perylene	**1.1**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Chrysene	**5.5**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Dibenz(a,h)anthracene	**1.1**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Fluorene	**7.5**		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 14:41	1
Indeno[1,2,3-cd]pyrene	**0.64**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:41	1
Phenanthrene	**18**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1
Pyrene	**16**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*15 - 122*	*07/16/19 12:05*	*07/18/19 14:41*	*1*
Nitrobenzene-d5	*64*		*19 - 130*	*07/16/19 12:05*	*07/18/19 14:41*	*1*
Terphenyl-d14	*43*		*33 - 138*	*07/16/19 12:05*	*07/18/19 14:41*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**170**		5.1	0.51	ug/L		07/16/19 12:05	07/24/19 18:52	25
2-Methylnaphthalene	**66**		5.1	0.51	ug/L		07/16/19 12:05	07/24/19 18:52	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
Benzenethiol	ND	*	10	1.7	ug/L		07/16/19 12:05	07/19/19 17:58	1
Benzoic acid	ND		30	7.4	ug/L		07/16/19 12:05	07/19/19 17:58	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 17:58	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/16/19 12:05	07/19/19 17:58	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/16/19 12:05	07/19/19 17:58	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 17:58	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Dibenzofuran	**5.3**	**J**	10	0.53	ug/L		07/16/19 12:05	07/19/19 17:58	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Diethyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:58	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/16/19 12:05	07/19/19 17:58	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 17:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-37-071119

Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 17:58	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 17:58	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 17:58	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 17:58	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:58	1
Isophorone	ND		10	0.58	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 17:58	1
Nitrobenzene	ND		10	0.56	ug/L		07/16/19 12:05	07/19/19 17:58	1
2-Nitrophenol	ND		10	0.66	ug/L		07/16/19 12:05	07/19/19 17:58	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:58	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 17:58	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/16/19 12:05	07/19/19 17:58	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 17:58	1
Phenol	**9.0**	**J**	10	2.6	ug/L		07/16/19 12:05	07/19/19 17:58	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 17:58	1
Quinoline	ND		10	6.1	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 17:58	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*140*	*T J N*	*ug/L*		*4.06*	*590-90-9*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Ethylbenzene	*140*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,3-dimethyl-	*72*	*T J N*	*ug/L*		*4.87*	*108-38-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, (1-methylethyl)-	*77*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, propyl-	*110*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1-ethyl-2-methyl-	*64*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1-ethyl-2-methyl-	*98*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1-ethyl-2-methyl-	*80*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,2,3-trimethyl-	*270*	*T J N*	*ug/L*		*5.47*	*526-73-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,2,3-trimethyl-	*110*	*T J N*	*ug/L*		*5.62*	*526-73-8*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Indane	*52*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 1,4-diethyl-	*47*	*T J N*	*ug/L*		*5.78*	*105-05-5*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*77*	*T J N*	*ug/L*		*5.91*	*1758-88-9*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Unknown	*37*	*T J*	*ug/L*		*6.24*		*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*36*	*T J N*	*ug/L*		*6.31*	*119-64-2*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Unknown	*36*	*T J*	*ug/L*		*6.40*		*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene	*62*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/16/19 12:05*	*07/19/19 17:58*	*1*
Naphthalene, 1-methyl-	*48*	*T J N*	*ug/L*		*6.88*	*90-12-0*	*07/16/19 12:05*	*07/19/19 17:58*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-37-071119
Lab Sample ID: 400-173045-2
Date Collected: 07/11/19 09:11
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Naphthalene, 2-methyl-	95	T J N	ug/L		6.96	91-57-6	07/16/19 12:05	07/19/19 17:58	1
Naphthalene, 2,7-dimethyl-	44	T J N	ug/L		7.31	582-16-1	07/16/19 12:05	07/19/19 17:58	1
Naphthalene, 2,3-dimethyl-	55	T J N	ug/L		7.36	581-40-8	07/16/19 12:05	07/19/19 17:58	1
Dibenzothiophene, 4-methyl-	35	T J N	ug/L		9.08	7372-88-5	07/16/19 12:05	07/19/19 17:58	1
Phenanthrene, 1-methyl-	39	T J N	ug/L		9.15	832-69-9	07/16/19 12:05	07/19/19 17:58	1
Phenanthrene, 2-methyl-	50	T J N	ug/L		9.18	2531-84-2	07/16/19 12:05	07/19/19 17:58	1
Phenanthrene, 2,5-dimethyl-	64	T J N	ug/L		9.63	3674-66-6	07/16/19 12:05	07/19/19 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		34 - 120	07/16/19 12:05	07/19/19 17:58	1
2-Fluorophenol	45		10 - 120	07/16/19 12:05	07/19/19 17:58	1
Nitrobenzene-d5	91		27 - 120	07/16/19 12:05	07/19/19 17:58	1
Phenol-d5	65		10 - 120	07/16/19 12:05	07/19/19 17:58	1
Terphenyl-d14	53		53 - 125	07/16/19 12:05	07/19/19 17:58	1
2,4,6-Tribromophenol	100		15 - 135	07/16/19 12:05	07/19/19 17:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/14/19 17:11	2500
Acrolein	ND		50000	25000	ug/L			07/14/19 17:11	2500
Acrylonitrile	ND	*	25000	7000	ug/L			07/14/19 17:11	2500
Bromobenzene	ND		2500	1400	ug/L			07/14/19 17:11	2500
Bromochloromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
Bromoform	ND		13000	1800	ug/L			07/14/19 17:11	2500
Bromomethane	ND		2500	2500	ug/L			07/14/19 17:11	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/14/19 17:11	2500
Carbon disulfide	ND		2500	1300	ug/L			07/14/19 17:11	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/14/19 17:11	2500
Chlorobenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Chloroethane	ND		2500	1900	ug/L			07/14/19 17:11	2500
2-Chloroethyl vinyl ether	ND	*	13000	5000	ug/L			07/14/19 17:11	2500
Chloroform	ND		2500	1500	ug/L			07/14/19 17:11	2500
1-Chlorohexane	ND	*	2500	1800	ug/L			07/14/19 17:11	2500
Chloromethane	ND		2500	2100	ug/L			07/14/19 17:11	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:11	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/14/19 17:11	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/14/19 17:11	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/14/19 17:11	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/14/19 17:11	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2-Dichloroethane	ND	*	2500	1300	ug/L			07/14/19 17:11	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:11	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Ethylbenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/14/19 17:11	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/14/19 17:11	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/14/19 17:11	2500
2-Hexanone	ND		63000	7800	ug/L			07/14/19 17:11	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Methylene bromide	ND		13000	1500	ug/L			07/14/19 17:11	2500
Methylene Chloride	ND		13000	7500	ug/L			07/14/19 17:11	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/14/19 17:11	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/14/19 17:11	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/14/19 17:11	2500
Naphthalene	ND		2500	2500	ug/L			07/14/19 17:11	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/14/19 17:11	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/14/19 17:11	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:11	2500
o-Xylene	ND		13000	1500	ug/L			07/14/19 17:11	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:11	2500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119
Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/14/19 17:11	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/14/19 17:11	2500
Styrene	ND		2500	2500	ug/L			07/14/19 17:11	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/14/19 17:11	2500
1,1,1,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/14/19 17:11	2500
Toluene	ND		2500	1000	ug/L			07/14/19 17:11	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:11	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/14/19 17:11	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/14/19 17:11	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/14/19 17:11	2500
Trichloroethene	ND		2500	1300	ug/L			07/14/19 17:11	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/14/19 17:11	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/14/19 17:11	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/14/19 17:11	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/14/19 17:11	2500
Vinyl acetate	ND		63000	5000	ug/L			07/14/19 17:11	2500
Vinyl chloride	ND		2500	1300	ug/L			07/14/19 17:11	2500
Xylenes, Total	ND		25000	4000	ug/L			07/14/19 17:11	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 17:11*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 17:11*	*2500*
Dibromofluoromethane	*119*		*81 - 121*		*07/14/19 17:11*	*2500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 17:11*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2500000**		10000	3800	ug/L			07/15/19 10:29	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/15/19 10:29*	*10000*
Dibromofluoromethane	*113*		*81 - 121*		*07/15/19 10:29*	*10000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 10:29*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.9**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[a]pyrene	**1.3**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[g,h,i]perylene	**0.53**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Chrysene	**2.1**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-43-071119
Lab Sample ID: 400-173045-3

Date Collected: 07/11/19 10:10
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.48		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
Fluoranthene	0.68		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Fluorene	2.3		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 15:01	1
Indeno[1,2,3-cd]pyrene	0.26		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 15:01	1
1-Methylnaphthalene	29		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
2-Methylnaphthalene	39		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Phenanthrene	12		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1
Pyrene	5.5		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*37*		*15 - 122*	*07/16/19 12:05*	*07/18/19 15:01*	*1*
Nitrobenzene-d5	*56*		*19 - 130*	*07/16/19 12:05*	*07/18/19 15:01*	*1*
Terphenyl-d14	*54*		*33 - 138*	*07/16/19 12:05*	*07/18/19 15:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
Benzenethiol	ND	*	10	1.7	ug/L		07/16/19 12:05	07/19/19 18:20	1
Benzoic acid	ND		30	7.4	ug/L		07/16/19 12:05	07/19/19 18:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:20	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/16/19 12:05	07/19/19 18:20	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/16/19 12:05	07/19/19 18:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 18:20	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:20	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Diethyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:20	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/16/19 12:05	07/19/19 18:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 18:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 18:20	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 18:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 18:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 18:20	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
Isophorone	ND		10	0.58	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 18:20	1
Nitrobenzene	ND		10	0.56	ug/L		07/16/19 12:05	07/19/19 18:20	1
2-Nitrophenol	ND		10	0.66	ug/L		07/16/19 12:05	07/19/19 18:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 18:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 18:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 18:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 18:20	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 18:20	1
Quinoline	ND		10	6.1	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 18:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*50*	*T J*	*ug/L*		*3.15*		*07/16/19 12:05*	*07/19/19 18:20*	*1*
Toluene	*100*	*T J N*	*ug/L*		*3.91*	*108-88-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
2-Butanone, 4-hydroxy-	*83*	*T J N*	*ug/L*		*4.07*	*590-90-9*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Ethylbenzene	*130*	*T J N*	*ug/L*		*4.66*	*100-41-4*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1,3-dimethyl-	*140*	*T J N*	*ug/L*		*4.88*	*108-38-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, (1-methylethyl)-	*35*	*T J N*	*ug/L*		*5.07*	*98-82-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1-ethyl-2-methyl-	*110*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1-ethyl-2-methyl-	*55*	*T J N*	*ug/L*		*5.31*	*611-14-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1-ethyl-2-methyl-	*78*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Decane	*39*	*T J N*	*ug/L*		*5.45*	*124-18-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1,2,3-trimethyl-	*130*	*T J N*	*ug/L*		*5.48*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 1,2,4-trimethyl-	*120*	*T J N*	*ug/L*		*5.63*	*95-63-6*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*47*	*T J N*	*ug/L*		*5.78*	*934-80-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Unknown	*45*	*T J*	*ug/L*		*6.20*		*07/16/19 12:05*	*07/19/19 18:20*	*1*
Unknown	*53*	*T J*	*ug/L*		*6.24*		*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*38*	*T J N*	*ug/L*		*6.32*	*119-64-2*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Dodecane	*56*	*T J N*	*ug/L*		*6.35*	*112-40-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Undecane, 2,6-dimethyl-	*42*	*T J N*	*ug/L*		*6.40*	*17301-23-4*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene	*73*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Unknown	*55*	*T J*	*ug/L*		*6.64*		*07/16/19 12:05*	*07/19/19 18:20*	*1*
Tridecane	*50*	*T J N*	*ug/L*		*6.74*	*629-50-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2-methyl-	*56*	*T J N*	*ug/L*		*6.89*	*91-57-6*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2-methyl-	*55*	*T J N*	*ug/L*		*6.95*	*91-57-6*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Benzoic acid, 3,4-dimethyl-	*55*	*T J N*	*ug/L*		*7.18*	*619-04-5*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Naphthalene, 2,3-dimethyl-	*38*	*T J N*	*ug/L*		*7.36*	*581-40-8*	*07/16/19 12:05*	*07/19/19 18:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*34 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Nitrobenzene-d5	*90*		*27 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-43-071119
Lab Sample ID: 400-173045-3
Date Collected: 07/11/19 10:10
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*8*	*X*	*10 - 120*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
Terphenyl-d14	*61*		*53 - 125*	*07/16/19 12:05*	*07/19/19 18:20*	*1*
2,4,6-Tribromophenol	*99*		*15 - 135*	*07/16/19 12:05*	*07/19/19 18:20*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**370**		50	13	ug/L		07/16/19 12:05	07/22/19 22:48	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/14/19 17:37	2500
Acrolein	ND		50000	25000	ug/L			07/14/19 17:37	2500
Acrylonitrile	ND	*	25000	7000	ug/L			07/14/19 17:37	2500
Bromobenzene	ND		2500	1400	ug/L			07/14/19 17:37	2500
Bromochloromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
Bromoform	ND		13000	1800	ug/L			07/14/19 17:37	2500
Bromomethane	ND		2500	2500	ug/L			07/14/19 17:37	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/14/19 17:37	2500
Carbon disulfide	ND		2500	1300	ug/L			07/14/19 17:37	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/14/19 17:37	2500
Chlorobenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Chloroethane	ND		2500	1900	ug/L			07/14/19 17:37	2500
2-Chloroethyl vinyl ether	ND	*	13000	5000	ug/L			07/14/19 17:37	2500
Chloroform	ND		2500	1500	ug/L			07/14/19 17:37	2500
1-Chlorohexane	ND	*	2500	1800	ug/L			07/14/19 17:37	2500
Chloromethane	ND		2500	2100	ug/L			07/14/19 17:37	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:37	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/14/19 17:37	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/14/19 17:37	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/14/19 17:37	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/14/19 17:37	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2-Dichloroethane	ND	*	2500	1300	ug/L			07/14/19 17:37	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:37	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Ethylbenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/14/19 17:37	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/14/19 17:37	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/14/19 17:37	2500
2-Hexanone	ND		63000	7800	ug/L			07/14/19 17:37	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Methylene bromide	ND		13000	1500	ug/L			07/14/19 17:37	2500
Methylene Chloride	ND		13000	7500	ug/L			07/14/19 17:37	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/14/19 17:37	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/14/19 17:37	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/14/19 17:37	2500
Naphthalene	ND		2500	2500	ug/L			07/14/19 17:37	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/14/19 17:37	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/14/19 17:37	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:37	2500
o-Xylene	ND		13000	1500	ug/L			07/14/19 17:37	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/14/19 17:37	2500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/14/19 17:37	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/14/19 17:37	2500
Styrene	ND		2500	2500	ug/L			07/14/19 17:37	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/14/19 17:37	2500
1,1,1,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/14/19 17:37	2500
Toluene	ND		2500	1000	ug/L			07/14/19 17:37	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/14/19 17:37	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/14/19 17:37	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/14/19 17:37	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/14/19 17:37	2500
Trichloroethene	ND		2500	1300	ug/L			07/14/19 17:37	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/14/19 17:37	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/14/19 17:37	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/14/19 17:37	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/14/19 17:37	2500
Vinyl acetate	ND		63000	5000	ug/L			07/14/19 17:37	2500
Vinyl chloride	ND		2500	1300	ug/L			07/14/19 17:37	2500
Xylenes, Total	ND		25000	4000	ug/L			07/14/19 17:37	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 17:37*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/14/19 17:37*	*2500*
Dibromofluoromethane	*112*		*81 - 121*		*07/14/19 17:37*	*2500*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/14/19 17:37*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2400000**		10000	3800	ug/L			07/15/19 10:53	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/15/19 10:53*	*10000*
Dibromofluoromethane	*115*		*81 - 121*		*07/15/19 10:53*	*10000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 10:53*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**7.3**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Acenaphthylene	**1.2**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Anthracene	**6.2**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Benzo[a]anthracene	**7.7**		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:19	1
Chrysene	**15**		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:19	1
Fluoranthene	**3.5**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Fluorene	**8.5**		0.21	0.022	ug/L		07/16/19 12:05	07/18/19 15:19	1
Phenanthrene	**29**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1
Pyrene	**20**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:19	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	29		15 - 122	07/16/19 12:05	07/18/19 15:19	1
Nitrobenzene-d5	60		19 - 130	07/16/19 12:05	07/18/19 15:19	1
Terphenyl-d14	40		33 - 138	07/16/19 12:05	07/18/19 15:19	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**12**		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Benzo[b]fluoranthene	**5.2**		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Benzo[g,h,i]perylene	ND		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Benzo[k]fluoranthene	ND		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Dibenz(a,h)anthracene	**3.5**	**J**	5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
Indeno[1,2,3-cd]pyrene	ND		5.2	1.0	ug/L		07/16/19 12:05	07/24/19 18:35	25
1-Methylnaphthalene	**120**		5.2	0.52	ug/L		07/16/19 12:05	07/24/19 18:35	25
2-Methylnaphthalene	**170**		5.2	0.52	ug/L		07/16/19 12:05	07/24/19 18:35	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
Benzenethiol	ND	*	10	1.8	ug/L		07/16/19 12:05	07/19/19 16:43	1
Benzoic acid	ND		31	7.5	ug/L		07/16/19 12:05	07/19/19 16:43	1
Benzyl alcohol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Bis(2-chloroethoxy)methane	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 16:43	1
Bis(2-chloroethyl)ether	ND		10	0.76	ug/L		07/16/19 12:05	07/19/19 16:43	1
bis (2-chloroisopropyl) ether	ND		10	0.84	ug/L		07/16/19 12:05	07/19/19 16:43	1
Bis(2-ethylhexyl) phthalate	ND		10	5.2	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/16/19 12:05	07/19/19 16:43	1
Butyl benzyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Chloroaniline	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Chloronaphthalene	ND		10	0.54	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Chlorophenol	ND		10	2.3	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Chlorophenyl phenyl ether	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Dibenzofuran	**6.8**	**J**	10	0.54	ug/L		07/16/19 12:05	07/19/19 16:43	1
3,3'-Dichlorobenzidine	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
Diethyl phthalate	ND		10	0.72	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 16:43	1
Dimethyl phthalate	ND		10	0.62	ug/L		07/16/19 12:05	07/19/19 16:43	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/16/19 12:05	07/19/19 16:43	1
4,6-Dinitro-ortho-cresol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,6-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/16/19 12:05	07/19/19 16:43	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/16/19 12:05	07/19/19 16:43	1
Hexachlorocyclopentadiene	ND		21	2.7	ug/L		07/16/19 12:05	07/19/19 16:43	1
Hexachloroethane	ND		10	4.3	ug/L		07/16/19 12:05	07/19/19 16:43	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 16:43	1
Isophorone	ND		10	0.59	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Methylphenol	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
3 & 4 Methylphenol	ND		21	1.1	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Nitroaniline	ND		10	2.3	ug/L		07/16/19 12:05	07/19/19 16:43	1
3-Nitroaniline	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Nitroaniline	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 16:43	1
Nitrobenzene	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 16:43	1
2-Nitrophenol	ND		10	0.67	ug/L		07/16/19 12:05	07/19/19 16:43	1
4-Nitrophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 16:43	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 16:43	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 16:43	1
N-Nitrosodiphenylamine	ND		10	0.49	ug/L		07/16/19 12:05	07/19/19 16:43	1
Pentachlorophenol	ND		21	1.9	ug/L		07/16/19 12:05	07/19/19 16:43	1
Pyridine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 16:43	1
Quinoline	ND		10	6.2	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 16:43	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 16:43	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*77*	*T J N*	*ug/L*		*3.74*	*108-88-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Ethylbenzene	*100*	*T J N*	*ug/L*		*4.51*	*100-41-4*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
p-Xylene	*200*	*T J N*	*ug/L*		*4.58*	*106-42-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
p-Xylene	*110*	*T J N*	*ug/L*		*4.74*	*106-42-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1-ethyl-3-methyl-	*130*	*T J N*	*ug/L*		*5.15*	*620-14-4*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1-ethyl-2-methyl-	*98*	*T J N*	*ug/L*		*5.17*	*611-14-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1,2,3-trimethyl-	*66*	*T J N*	*ug/L*		*5.26*	*526-73-8*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Decane	*110*	*T J N*	*ug/L*		*5.33*	*124-18-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1,2,3-trimethyl-	*110*	*T J N*	*ug/L*		*5.50*	*526-73-8*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Benzene, 1,4-diethyl-	*78*	*T J N*	*ug/L*		*5.65*	*105-05-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Unknown	*82*	*T J*	*ug/L*		*6.11*		*07/16/19 12:05*	*07/19/19 16:43*	*1*
Dodecane	*140*	*T J N*	*ug/L*		*6.23*	*112-40-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Unknown	*74*	*T J*	*ug/L*		*6.52*		*07/16/19 12:05*	*07/19/19 16:43*	*1*
Tridecane	*87*	*T J N*	*ug/L*		*6.63*	*629-50-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Naphthalene, 1-methyl-	*78*	*T J N*	*ug/L*		*6.76*	*90-12-0*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Unknown	*74*	*T J*	*ug/L*		*6.91*		*07/16/19 12:05*	*07/19/19 16:43*	*1*
Naphthalene, 2,6-dimethyl-	*79*	*T J N*	*ug/L*		*7.17*	*581-42-0*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Pentadecane	*75*	*T J N*	*ug/L*		*7.36*	*629-62-9*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Hexadecane	*62*	*T J N*	*ug/L*		*7.70*	*544-76-3*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Anthracene, 2-methyl-	*63*	*T J N*	*ug/L*		*9.02*	*613-12-7*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Phenanthrene, 2,5-dimethyl-	*60*	*T J N*	*ug/L*		*9.47*	*3674-66-6*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Unknown	*150*	*T J*	*ug/L*		*9.83*		*07/16/19 12:05*	*07/19/19 16:43*	*1*
Phenanthrene, 2,3,5-trimethyl-	*110*	*T J N*	*ug/L*		*9.86*	*3674-73-5*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Pyrene, 4-methyl-	*78*	*T J N*	*ug/L*		*10.32*	*3353-12-6*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Pyrene, 1-methyl-	*120*	*T J N*	*ug/L*		*10.35*	*2381-21-7*	*07/16/19 12:05*	*07/19/19 16:43*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*34 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Nitrobenzene-d5	*45*		*27 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-43-071119-DUP

Lab Sample ID: 400-173045-4

Date Collected: 07/11/19 10:10
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*27*		*10 - 120*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
Terphenyl-d14	*65*		*53 - 125*	*07/16/19 12:05*	*07/19/19 16:43*	*1*
2,4,6-Tribromophenol	*106*		*15 - 135*	*07/16/19 12:05*	*07/19/19 16:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**140**		52	13	ug/L		07/16/19 12:05	07/22/19 23:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*24*		*10 - 120*	*07/16/19 12:05*	*07/22/19 23:09*	*5*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/15/19 08:52	10
Acrolein	ND		200	100	ug/L			07/15/19 08:52	10
Acrylonitrile	ND		100	28	ug/L			07/15/19 08:52	10
Benzene	**1900**		10	3.8	ug/L			07/15/19 08:52	10
Bromobenzene	ND		10	5.4	ug/L			07/15/19 08:52	10
Bromochloromethane	ND		10	5.2	ug/L			07/15/19 08:52	10
Bromodichloromethane	ND		10	5.0	ug/L			07/15/19 08:52	10
Bromoform	ND		50	7.1	ug/L			07/15/19 08:52	10
Bromomethane	ND		10	9.8	ug/L			07/15/19 08:52	10
2-Butanone (MEK)	ND		250	26	ug/L			07/15/19 08:52	10
Carbon disulfide	ND		10	5.0	ug/L			07/15/19 08:52	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/15/19 08:52	10
Chlorobenzene	ND		10	5.0	ug/L			07/15/19 08:52	10
Chloroethane	ND		10	7.6	ug/L			07/15/19 08:52	10
2-Chloroethyl vinyl ether	ND	F1 *	50	20	ug/L			07/15/19 08:52	10
Chloroform	ND		10	6.0	ug/L			07/15/19 08:52	10
1-Chlorohexane	ND	*	10	7.0	ug/L			07/15/19 08:52	10
Chloromethane	ND		10	8.3	ug/L			07/15/19 08:52	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/15/19 08:52	10
Dibromochloromethane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/15/19 08:52	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/15/19 08:52	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/15/19 08:52	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/15/19 08:52	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/15/19 08:52	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,2-Dichloroethane	ND	F1 *	10	5.0	ug/L			07/15/19 08:52	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/15/19 08:52	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/15/19 08:52	10
Ethylbenzene	ND		10	5.0	ug/L			07/15/19 08:52	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/15/19 08:52	10
Ethyl methacrylate	ND		10	6.0	ug/L			07/15/19 08:52	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/15/19 08:52	10
2-Hexanone	ND		250	31	ug/L			07/15/19 08:52	10
Isopropylbenzene	ND		10	5.3	ug/L			07/15/19 08:52	10
Methylene bromide	ND		50	5.9	ug/L			07/15/19 08:52	10
Methylene Chloride	ND		50	30	ug/L			07/15/19 08:52	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/15/19 08:52	10
Methyl tert-butyl ether	ND		10	7.4	ug/L			07/15/19 08:52	10
m-Xylene & p-Xylene	ND		50	16	ug/L			07/15/19 08:52	10
Naphthalene	ND		10	10	ug/L			07/15/19 08:52	10
n-Butylbenzene	ND		10	7.6	ug/L			07/15/19 08:52	10
N-Propylbenzene	ND		10	6.9	ug/L			07/15/19 08:52	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/15/19 08:52	10
o-Xylene	ND		50	6.0	ug/L			07/15/19 08:52	10

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-50-071119

Lab Sample ID: 400-173045-5

Date Collected: 07/11/19 12:35

Matrix: Water

Date Received: 07/12/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/15/19 08:52	10
p-Isopropyltoluene	ND		10	7.1	ug/L			07/15/19 08:52	10
sec-Butylbenzene	ND		10	7.0	ug/L			07/15/19 08:52	10
Styrene	ND		10	10	ug/L			07/15/19 08:52	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/15/19 08:52	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			07/15/19 08:52	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/15/19 08:52	10
Tetrachloroethene	ND		10	5.8	ug/L			07/15/19 08:52	10
Toluene	ND		10	4.1	ug/L			07/15/19 08:52	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/15/19 08:52	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/15/19 08:52	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/15/19 08:52	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/15/19 08:52	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/15/19 08:52	10
Trichloroethene	ND		10	5.0	ug/L			07/15/19 08:52	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/15/19 08:52	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/15/19 08:52	10
1,2,4-Trimethylbenzene	**16**		10	8.2	ug/L			07/15/19 08:52	10
1,3,5-Trimethylbenzene	ND		10	5.6	ug/L			07/15/19 08:52	10
Vinyl acetate	ND		250	20	ug/L			07/15/19 08:52	10
Vinyl chloride	ND		10	5.0	ug/L			07/15/19 08:52	10
Xylenes, Total	ND		100	16	ug/L			07/15/19 08:52	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*180*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/15/19 08:52*	*10*
Tetrahydrofuran	*41*	*J*	*ug/L*		*3.40*	*109-99-9*		*07/15/19 08:52*	*10*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 08:52*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/15/19 08:52*	*10*
Dibromofluoromethane	*112*		*81 - 121*		*07/15/19 08:52*	*10*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 08:52*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.5**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Acenaphthylene	ND		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Anthracene	**0.16**	**J**	0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[a]anthracene	**0.11**	**J**	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[a]pyrene	**0.097**	**J**	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[b]fluoranthene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[g,h,i]perylene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Benzo[k]fluoranthene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Chrysene	**0.19**	**J**	0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Dibenz(a,h)anthracene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
Fluoranthene	ND		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Fluorene	**0.38**		0.21	0.022	ug/L		07/16/19 12:05	07/18/19 15:38	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.041	ug/L		07/16/19 12:05	07/18/19 15:38	1
1-Methylnaphthalene	**1.8**		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-50-071119
Lab Sample ID: 400-173045-5
Date Collected: 07/11/19 12:35
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	1.8		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Phenanthrene	0.87		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1
Pyrene	0.45		0.21	0.021	ug/L		07/16/19 12:05	07/18/19 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*15 - 122*	*07/16/19 12:05*	*07/18/19 15:38*	*1*
Nitrobenzene-d5	*54*		*19 - 130*	*07/16/19 12:05*	*07/18/19 15:38*	*1*
Terphenyl-d14	*53*		*33 - 138*	*07/16/19 12:05*	*07/18/19 15:38*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
Benzenethiol	ND	*	10	1.8	ug/L		07/16/19 12:05	07/19/19 17:05	1
Benzoic acid	ND		31	7.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
Benzyl alcohol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Bis(2-chloroethoxy)methane	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 17:05	1
Bis(2-chloroethyl)ether	ND		10	0.77	ug/L		07/16/19 12:05	07/19/19 17:05	1
bis (2-chloroisopropyl) ether	ND		10	0.84	ug/L		07/16/19 12:05	07/19/19 17:05	1
Bis(2-ethylhexyl) phthalate	ND		10	5.2	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/16/19 12:05	07/19/19 17:05	1
Butyl benzyl phthalate	ND		10	0.71	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Chloroaniline	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Chloronaphthalene	ND		10	0.54	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Chlorophenol	ND	F2 F1	10	2.3	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Chlorophenyl phenyl ether	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Dibenzofuran	ND		10	0.54	ug/L		07/16/19 12:05	07/19/19 17:05	1
3,3'-Dichlorobenzidine	ND	F1	10	2.7	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dichlorophenol	ND	F2	10	3.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
Diethyl phthalate	ND		10	0.72	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
Dimethyl phthalate	ND		10	0.62	ug/L		07/16/19 12:05	07/19/19 17:05	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/16/19 12:05	07/19/19 17:05	1
4,6-Dinitro-ortho-cresol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dinitrophenol	ND	F1	31	3.5	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,6-Dinitrotoluene	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
Di-n-octyl phthalate	ND		10	0.46	ug/L		07/16/19 12:05	07/19/19 17:05	1
1,4-Dioxane	ND	F2	10	1.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/16/19 12:05	07/19/19 17:05	1
Hexachlorocyclopentadiene	ND		21	2.7	ug/L		07/16/19 12:05	07/19/19 17:05	1
Hexachloroethane	ND		10	4.3	ug/L		07/16/19 12:05	07/19/19 17:05	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 17:05	1
Isophorone	ND		10	0.59	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Methylphenol	ND	F2	10	1.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
3 & 4 Methylphenol	ND	F2	21	1.1	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Nitroaniline	ND		10	2.3	ug/L		07/16/19 12:05	07/19/19 17:05	1

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-50-071119
Lab Sample ID: 400-173045-5
Date Collected: 07/11/19 12:35
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Nitroaniline	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
Nitrobenzene	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 17:05	1
2-Nitrophenol	ND	F2 F1	10	0.67	ug/L		07/16/19 12:05	07/19/19 17:05	1
4-Nitrophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 17:05	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/16/19 12:05	07/19/19 17:05	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 17:05	1
N-Nitrosodiphenylamine	ND		10	0.49	ug/L		07/16/19 12:05	07/19/19 17:05	1
Pentachlorophenol	ND		21	1.9	ug/L		07/16/19 12:05	07/19/19 17:05	1
Phenol	**22**	**F2 F1**	10	2.7	ug/L		07/16/19 12:05	07/19/19 17:05	1
Pyridine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 17:05	1
Quinoline	ND		10	6.2	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4,5-Trichlorophenol	ND	F2	10	3.8	ug/L		07/16/19 12:05	07/19/19 17:05	1
2,4,6-Trichlorophenol	ND	F2	10	3.6	ug/L		07/16/19 12:05	07/19/19 17:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*90*	*T J N*	*ug/L*		*3.88*	*590-90-9*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Benzene, 1,2,3-trimethyl-	*11*	*T J N*	*ug/L*		*5.33*	*526-73-8*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Naphthalene	*1.1*	*J*	*ug/L*		*6.30*	*91-20-3*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
2-Methylnaphthalene	*2.3*	*J*	*ug/L*		*6.74*	*91-57-6*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
1-Methylnaphthalene	*2.6*	*J*	*ug/L*		*6.81*	*90-12-0*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Acenaphthene	*2.6*	*J*	*ug/L*		*7.49*	*83-32-9*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Phenanthrene	*1.1*	*J*	*ug/L*		*8.61*	*85-01-8*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
n-Hexadecanoic acid	*6.5*	*T J N*	*ug/L*		*8.93*	*57-10-3*	*07/16/19 12:05*	*07/19/19 17:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Phenol-d5	*44*		*10 - 120*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
Terphenyl-d14	*62*		*53 - 125*	*07/16/19 12:05*	*07/19/19 17:05*	*1*
2,4,6-Tribromophenol	*103*		*15 - 135*	*07/16/19 12:05*	*07/19/19 17:05*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119

Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			07/15/19 08:28	5
Acrolein	ND		100	50	ug/L			07/15/19 08:28	5
Acrylonitrile	ND		50	14	ug/L			07/15/19 08:28	5
Benzene	**1200**		5.0	1.9	ug/L			07/15/19 08:28	5
Bromobenzene	ND		5.0	2.7	ug/L			07/15/19 08:28	5
Bromochloromethane	ND		5.0	2.6	ug/L			07/15/19 08:28	5
Bromodichloromethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Bromoform	ND		25	3.6	ug/L			07/15/19 08:28	5
Bromomethane	ND		5.0	4.9	ug/L			07/15/19 08:28	5
2-Butanone (MEK)	ND		130	13	ug/L			07/15/19 08:28	5
Carbon disulfide	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Carbon tetrachloride	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Chlorobenzene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Chloroethane	ND		5.0	3.8	ug/L			07/15/19 08:28	5
2-Chloroethyl vinyl ether	ND	*	25	10	ug/L			07/15/19 08:28	5
Chloroform	ND		5.0	3.0	ug/L			07/15/19 08:28	5
1-Chlorohexane	ND	*	5.0	3.5	ug/L			07/15/19 08:28	5
Chloromethane	ND		5.0	4.2	ug/L			07/15/19 08:28	5
cis-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			07/15/19 08:28	5
Dibromochloromethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,2-Dibromo-3-Chloropropane	ND		25	7.5	ug/L			07/15/19 08:28	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			07/15/19 08:28	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			07/15/19 08:28	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			07/15/19 08:28	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,2-Dichloroethane	ND	*	5.0	2.5	ug/L			07/15/19 08:28	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Ethylbenzene	**4.9**	**J**	5.0	2.5	ug/L			07/15/19 08:28	5
Ethylene Dibromide	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			07/15/19 08:28	5
Hexachlorobutadiene	ND		25	4.5	ug/L			07/15/19 08:28	5
2-Hexanone	ND		130	16	ug/L			07/15/19 08:28	5
Isopropylbenzene	ND		5.0	2.7	ug/L			07/15/19 08:28	5
Methylene bromide	ND		25	3.0	ug/L			07/15/19 08:28	5
Methylene Chloride	ND		25	15	ug/L			07/15/19 08:28	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			07/15/19 08:28	5
Methyl tert-butyl ether	ND		5.0	3.7	ug/L			07/15/19 08:28	5
m-Xylene & p-Xylene	**10**	**J**	25	8.0	ug/L			07/15/19 08:28	5
Naphthalene	ND		5.0	5.0	ug/L			07/15/19 08:28	5
n-Butylbenzene	ND		5.0	3.8	ug/L			07/15/19 08:28	5
N-Propylbenzene	ND		5.0	3.5	ug/L			07/15/19 08:28	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			07/15/19 08:28	5
o-Xylene	**3.3**	**J**	25	3.0	ug/L			07/15/19 08:28	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119

Lab Sample ID: 400-173045-6

Date Collected: 07/11/19 14:35

Matrix: Water

Date Received: 07/12/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5.0	2.8	ug/L			07/15/19 08:28	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			07/15/19 08:28	5
sec-Butylbenzene	ND		5.0	3.5	ug/L			07/15/19 08:28	5
Styrene	ND		5.0	5.0	ug/L			07/15/19 08:28	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			07/15/19 08:28	5
1,1,1,2-Tetrachloroethane	ND		5.0	2.6	ug/L			07/15/19 08:28	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Tetrachloroethene	ND		5.0	2.9	ug/L			07/15/19 08:28	5
Toluene	ND		5.0	2.1	ug/L			07/15/19 08:28	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
trans-1,3-Dichloropropene	ND		25	2.5	ug/L			07/15/19 08:28	5
1,2,3-Trichlorobenzene	ND		5.0	3.5	ug/L			07/15/19 08:28	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			07/15/19 08:28	5
1,1,1-Trichloroethane	ND		5.0	2.5	ug/L			07/15/19 08:28	5
1,1,2-Trichloroethane	ND		25	2.5	ug/L			07/15/19 08:28	5
Trichloroethene	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			07/15/19 08:28	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			07/15/19 08:28	5
1,2,4-Trimethylbenzene	**25**		5.0	4.1	ug/L			07/15/19 08:28	5
1,3,5-Trimethylbenzene	**7.0**		5.0	2.8	ug/L			07/15/19 08:28	5
Vinyl acetate	ND		130	10	ug/L			07/15/19 08:28	5
Vinyl chloride	ND		5.0	2.5	ug/L			07/15/19 08:28	5
Xylenes, Total	**13**	**J**	50	8.0	ug/L			07/15/19 08:28	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*150*	*J*	*ug/L*		*2.29*	*67-63-0*		*07/15/19 08:28*	*5*
Tetrahydrofuran	*31*		*ug/L*		*3.40*	*109-99-9*		*07/15/19 08:28*	*5*
3-Ethyltoluene	*8.4*		*ug/L*		*7.16*	*620-14-4*		*07/15/19 08:28*	*5*
1,2,3-Trimethylbenzene	*6.6*	*J*	*ug/L*		*7.88*	*526-73-8*		*07/15/19 08:28*	*5*
Tentatively Identified Compound	*None*		*ug/L*					*07/15/19 08:28*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/15/19 08:28*	*5*
Dibromofluoromethane	*114*		*81 - 121*		*07/15/19 08:28*	*5*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/15/19 08:28*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.36**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Acenaphthylene	**0.048**	**J**	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Anthracene	**0.31**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[a]anthracene	**0.29**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[a]pyrene	**0.32**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[b]fluoranthene	**0.16**	**J**	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[g,h,i]perylene	**0.12**	**J**	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Chrysene	**0.61**		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Dibenz(a,h)anthracene	**0.076**	**J**	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Fluorene	**0.38**		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 16:34	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-56-071119

Date Collected: 07/11/19 14:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	0.058	J	0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:34	1
1-Methylnaphthalene	2.5		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
2-Methylnaphthalene	2.5		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Phenanthrene	1.8		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1
Pyrene	1.1		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*15 - 122*	*07/16/19 12:05*	*07/18/19 16:34*	*1*
Nitrobenzene-d5	*82*		*19 - 130*	*07/16/19 12:05*	*07/18/19 16:34*	*1*
Terphenyl-d14	*79*		*33 - 138*	*07/16/19 12:05*	*07/18/19 16:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
Benzenethiol	ND	*	10	1.7	ug/L		07/16/19 12:05	07/19/19 18:10	1
Benzoic acid	ND		30	7.3	ug/L		07/16/19 12:05	07/19/19 18:10	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:10	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/16/19 12:05	07/19/19 18:10	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/16/19 12:05	07/19/19 18:10	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 18:10	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:10	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Diethyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:10	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/16/19 12:05	07/19/19 18:10	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 18:10	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:10	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 18:10	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 18:10	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 18:10	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
Isophorone	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:10	1

Client Sample ID: PD-11-GWP-56-071119
Lab Sample ID: 400-173045-6
Date Collected: 07/11/19 14:35
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 18:10	1
Nitrobenzene	ND		10	0.55	ug/L		07/16/19 12:05	07/19/19 18:10	1
2-Nitrophenol	ND		10	0.65	ug/L		07/16/19 12:05	07/19/19 18:10	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 18:10	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:10	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 18:10	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 18:10	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 18:10	1
Phenol	**12**		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:10	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 18:10	1
Quinoline	ND		10	6.0	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 18:10	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*280*	*T J N*	*ug/L*		*3.92*	*590-90-9*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Unknown	*4.2*	*T J*	*ug/L*		*3.94*		*07/16/19 12:05*	*07/19/19 18:10*	*1*
Unknown	*8.7*	*T J*	*ug/L*		*4.69*		*07/16/19 12:05*	*07/19/19 18:10*	*1*
Benzene, 1-ethyl-3-methyl-	*4.8*	*T J N*	*ug/L*		*5.14*	*620-14-4*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Benzene, 1,2,3-trimethyl-	*19*	*T J N*	*ug/L*		*5.33*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Benzene, 1,2,3-trimethyl-	*5.4*	*T J N*	*ug/L*		*5.49*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Naphthalene, 2-methyl-	*4.4*	*T J N*	*ug/L*		*6.74*	*91-57-6*	*07/16/19 12:05*	*07/19/19 18:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*34 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
2-Fluorophenol	*13*		*10 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Phenol-d5	*38*		*10 - 120*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
Terphenyl-d14	*79*		*53 - 125*	*07/16/19 12:05*	*07/19/19 18:10*	*1*
2,4,6-Tribromophenol	*154*	*X*	*15 - 135*	*07/16/19 12:05*	*07/19/19 18:10*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119
Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/14/19 15:55	500
Acrolein	ND		10000	5000	ug/L			07/14/19 15:55	500
Acrylonitrile	ND	*	5000	1400	ug/L			07/14/19 15:55	500
Bromobenzene	ND		500	270	ug/L			07/14/19 15:55	500
Bromochloromethane	ND		500	260	ug/L			07/14/19 15:55	500
Bromodichloromethane	ND		500	250	ug/L			07/14/19 15:55	500
Bromoform	ND		2500	360	ug/L			07/14/19 15:55	500
Bromomethane	ND		500	490	ug/L			07/14/19 15:55	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/14/19 15:55	500
Carbon disulfide	ND		500	250	ug/L			07/14/19 15:55	500
Carbon tetrachloride	ND		500	250	ug/L			07/14/19 15:55	500
Chlorobenzene	ND		500	250	ug/L			07/14/19 15:55	500
Chloroethane	ND		500	380	ug/L			07/14/19 15:55	500
2-Chloroethyl vinyl ether	ND	*	2500	1000	ug/L			07/14/19 15:55	500
Chloroform	ND		500	300	ug/L			07/14/19 15:55	500
1-Chlorohexane	ND	*	500	350	ug/L			07/14/19 15:55	500
Chloromethane	ND		500	420	ug/L			07/14/19 15:55	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/14/19 15:55	500
Dibromochloromethane	ND		500	250	ug/L			07/14/19 15:55	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/14/19 15:55	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/14/19 15:55	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/14/19 15:55	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/14/19 15:55	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/14/19 15:55	500
1,1-Dichloroethane	ND		500	250	ug/L			07/14/19 15:55	500
1,2-Dichloroethane	ND	*	500	250	ug/L			07/14/19 15:55	500
1,1-Dichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
1,2-Dichloropropane	ND		500	250	ug/L			07/14/19 15:55	500
1,3-Dichloropropane	ND		500	250	ug/L			07/14/19 15:55	500
2,2-Dichloropropane	ND		500	250	ug/L			07/14/19 15:55	500
1,1-Dichloropropene	ND		500	250	ug/L			07/14/19 15:55	500
Ethylbenzene	ND		500	250	ug/L			07/14/19 15:55	500
Ethylene Dibromide	ND		500	250	ug/L			07/14/19 15:55	500
Ethyl methacrylate	ND		500	300	ug/L			07/14/19 15:55	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/14/19 15:55	500
2-Hexanone	ND		13000	1600	ug/L			07/14/19 15:55	500
Isopropylbenzene	ND		500	270	ug/L			07/14/19 15:55	500
Methylene bromide	ND		2500	300	ug/L			07/14/19 15:55	500
Methylene Chloride	ND		2500	1500	ug/L			07/14/19 15:55	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/14/19 15:55	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/14/19 15:55	500
m-Xylene & p-Xylene	ND		2500	800	ug/L			07/14/19 15:55	500
Naphthalene	ND		500	500	ug/L			07/14/19 15:55	500
n-Butylbenzene	ND		500	380	ug/L			07/14/19 15:55	500
N-Propylbenzene	ND		500	350	ug/L			07/14/19 15:55	500
o-Chlorotoluene	ND		500	290	ug/L			07/14/19 15:55	500
o-Xylene	ND		2500	300	ug/L			07/14/19 15:55	500
p-Chlorotoluene	ND		500	280	ug/L			07/14/19 15:55	500

Client Sample ID: PD-11-GWP-60-071119
Lab Sample ID: 400-173045-7
Date Collected: 07/11/19 15:35
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		500	360	ug/L			07/14/19 15:55	500
sec-Butylbenzene	ND		500	350	ug/L			07/14/19 15:55	500
Styrene	ND		500	500	ug/L			07/14/19 15:55	500
tert-Butylbenzene	ND		500	320	ug/L			07/14/19 15:55	500
1,1,1,2-Tetrachloroethane	ND		500	260	ug/L			07/14/19 15:55	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/14/19 15:55	500
Tetrachloroethene	ND		500	290	ug/L			07/14/19 15:55	500
Toluene	ND		500	210	ug/L			07/14/19 15:55	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/14/19 15:55	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/14/19 15:55	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/14/19 15:55	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/14/19 15:55	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/14/19 15:55	500
Trichloroethene	ND		500	250	ug/L			07/14/19 15:55	500
Trichlorofluoromethane	ND		500	260	ug/L			07/14/19 15:55	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/14/19 15:55	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			07/14/19 15:55	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			07/14/19 15:55	500
Vinyl acetate	ND		13000	1000	ug/L			07/14/19 15:55	500
Vinyl chloride	ND		500	250	ug/L			07/14/19 15:55	500
Xylenes, Total	ND		5000	800	ug/L			07/14/19 15:55	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
1-Methylnaphthalene	*2400*	*J*	*ug/L*		*11.07*	*90-12-0*		*07/14/19 15:55*	*500*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 15:55*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/14/19 15:55*	*500*
Dibromofluoromethane	*117*		*81 - 121*		*07/14/19 15:55*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/14/19 15:55*	*500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**200000**		1000	380	ug/L			07/15/19 09:16	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*07/15/19 09:16*	*1000*
Dibromofluoromethane	*111*		*81 - 121*		*07/15/19 09:16*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/15/19 09:16*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119

Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Fluorene	ND		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 16:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 16:51	1
1-Methylnaphthalene	**0.85**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
2-Methylnaphthalene	**0.81**		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Phenanthrene	**0.089**	**J**	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1
Pyrene	**0.061**	**J**	0.20	0.020	ug/L		07/16/19 12:05	07/18/19 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*15 - 122*	*07/16/19 12:05*	*07/18/19 16:51*	*1*
Nitrobenzene-d5	*42*		*19 - 130*	*07/16/19 12:05*	*07/18/19 16:51*	*1*
Terphenyl-d14	*38*		*33 - 138*	*07/16/19 12:05*	*07/18/19 16:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
Benzenethiol	ND	*	10	1.7	ug/L		07/16/19 12:05	07/19/19 18:31	1
Benzoic acid	ND		30	7.3	ug/L		07/16/19 12:05	07/19/19 18:31	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:31	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/16/19 12:05	07/19/19 18:31	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 18:31	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 18:31	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Diethyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:31	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/16/19 12:05	07/19/19 18:31	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 18:31	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 18:31	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 18:31	1
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 18:31	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 18:31	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 18:31	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119

Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
Isophorone	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 18:31	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 18:31	1
Nitrobenzene	ND		10	0.55	ug/L		07/16/19 12:05	07/19/19 18:31	1
2-Nitrophenol	ND		10	0.65	ug/L		07/16/19 12:05	07/19/19 18:31	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 18:31	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:31	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 18:31	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 18:31	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 18:31	1
Phenol	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 18:31	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 18:31	1
Quinoline	ND		10	6.0	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 18:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 18:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*24*	*T J N*	*ug/L*		*3.86*	*590-90-9*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Ethylbenzene	*8.0*	*T J N*	*ug/L*		*4.50*	*100-41-4*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
o-Xylene	*4.2*	*T J N*	*ug/L*		*4.72*	*95-47-6*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, (1-methylethyl)-	*5.0*	*T J N*	*ug/L*		*4.92*	*98-82-8*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, propyl-	*9.4*	*T J N*	*ug/L*		*5.10*	*103-65-1*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, 1-ethyl-4-methyl-	*9.1*	*T J N*	*ug/L*		*5.25*	*622-96-8*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Benzene, 1,2,3-trimethyl-	*4.2*	*T J N*	*ug/L*		*5.33*	*526-73-8*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Indane	*18*	*T J N*	*ug/L*		*5.57*	*496-11-7*	*07/16/19 12:05*	*07/19/19 18:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*34 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
2-Fluorophenol	*0.01*	*X*	*10 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Nitrobenzene-d5	*36*		*27 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Phenol-d5	*0.1*	*X*	*10 - 120*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
Terphenyl-d14	*35*	*X*	*53 - 125*	*07/16/19 12:05*	*07/19/19 18:31*	*1*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*	*07/16/19 12:05*	*07/19/19 18:31*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	**130**	**B**	50	25	ug/L		07/16/19 12:05	07/22/19 18:09	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.8	3.7	ug/L		07/23/19 15:09	07/24/19 22:20	1
Benzenethiol	ND	H	9.8	1.7	ug/L		07/23/19 15:09	07/24/19 22:20	1
Benzoic acid	ND	H	29	7.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.67	ug/L		07/23/19 15:09	07/24/19 22:20	1
Bis(2-chloroethyl)ether	ND	H	9.8	0.72	ug/L		07/23/19 15:09	07/24/19 22:20	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Client Sample ID: PD-11-GWP-60-071119
Date Collected: 07/11/19 15:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/23/19 15:09	07/24/19 22:20	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/23/19 15:09	07/24/19 22:20	1
Butyl benzyl phthalate	ND	H	9.8	0.67	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Chlorophenol	ND	H	9.8	2.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/23/19 15:09	07/24/19 22:20	1
3,3'-Dichlorobenzidine	ND	H *	9.8	2.5	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
Diethyl phthalate	ND	H	9.8	0.68	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dimethylphenol	ND	H	9.8	3.4	ug/L		07/23/19 15:09	07/24/19 22:20	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/23/19 15:09	07/24/19 22:20	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/23/19 15:09	07/24/19 22:20	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
Di-n-octyl phthalate	ND	H	9.8	0.43	ug/L		07/23/19 15:09	07/24/19 22:20	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/23/19 15:09	07/24/19 22:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/23/19 15:09	07/24/19 22:20	1
Hexachlorobenzene	ND	H	9.8	0.24	ug/L		07/23/19 15:09	07/24/19 22:20	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/23/19 15:09	07/24/19 22:20	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
Indene	ND	H	9.8	0.98	ug/L		07/23/19 15:09	07/24/19 22:20	1
Isophorone	ND	H	9.8	0.56	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Methylphenol	ND	H	9.8	1.8	ug/L		07/23/19 15:09	07/24/19 22:20	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Nitroaniline	ND	H	9.8	2.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/23/19 15:09	07/24/19 22:20	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/23/19 15:09	07/24/19 22:20	1
2-Nitrophenol	ND	H	9.8	0.64	ug/L		07/23/19 15:09	07/24/19 22:20	1
4-Nitrophenol	ND	H	9.8	2.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/23/19 15:09	07/24/19 22:20	1
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/23/19 15:09	07/24/19 22:20	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/23/19 15:09	07/24/19 22:20	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/23/19 15:09	07/24/19 22:20	1
Phenol	ND	H	9.8	2.5	ug/L		07/23/19 15:09	07/24/19 22:20	1
Pyridine	ND	H	9.8	3.1	ug/L		07/23/19 15:09	07/24/19 22:20	1
Quinoline	ND	H	9.8	5.9	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/23/19 15:09	07/24/19 22:20	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/23/19 15:09	07/24/19 22:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*4.0*	*T H J*	*ug/L*		*3.52*		*07/23/19 15:09*	*07/24/19 22:20*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-60-071119
Lab Sample ID: 400-173045-7
Date Collected: 07/11/19 15:35
Matrix: Water
Date Received: 07/12/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
2-Butanone, 4-hydroxy-	160	T H J N	ug/L		3.84	590-90-9	07/23/19 15:09	07/24/19 22:20	1
Ethylbenzene	11	T H J N	ug/L		4.46	100-41-4	07/23/19 15:09	07/24/19 22:20	1
o-Xylene	5.8	T H J N	ug/L		4.68	95-47-6	07/23/19 15:09	07/24/19 22:20	1
Benzene, (1-methylethyl)-	6.4	T H J N	ug/L		4.88	98-82-8	07/23/19 15:09	07/24/19 22:20	1
Benzene, propyl-	13	T H J N	ug/L		5.06	103-65-1	07/23/19 15:09	07/24/19 22:20	1
Benzene, 1-ethyl-2-methyl-	12	T H J N	ug/L		5.21	611-14-3	07/23/19 15:09	07/24/19 22:20	1
Benzene, 1,2,3-trimethyl-	8.7	T H J N	ug/L		5.29	526-73-8	07/23/19 15:09	07/24/19 22:20	1
Benzene, 1,2,3-trimethyl-	5.1	T H J N	ug/L		5.45	526-73-8	07/23/19 15:09	07/24/19 22:20	1
Indane	19	T H J N	ug/L		5.53	496-11-7	07/23/19 15:09	07/24/19 22:20	1
Benzene, 1-ethyl-2,3-dimethyl-	4.6	T H J N	ug/L		5.74	933-98-2	07/23/19 15:09	07/24/19 22:20	1
Unknown	4.0	T H J	ug/L		6.46		07/23/19 15:09	07/24/19 22:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		34 - 120	07/23/19 15:09	07/24/19 22:20	1
2-Fluorophenol	34		10 - 120	07/23/19 15:09	07/24/19 22:20	1
Nitrobenzene-d5	62		27 - 120	07/23/19 15:09	07/24/19 22:20	1
Phenol-d5	52		10 - 120	07/23/19 15:09	07/24/19 22:20	1
Terphenyl-d14	53		53 - 125	07/23/19 15:09	07/24/19 22:20	1
2,4,6-Tribromophenol	122		15 - 135	07/23/19 15:09	07/24/19 22:20	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173045-1	TB-PW-071119-B	109	113	104
400-173045-2	PD-11-GWP-37-071119	108	113	104
400-173045-3	PD-11-GWP-43-071119	105	119	103
400-173045-3 - DL	PD-11-GWP-43-071119	105	113	103
400-173045-4	PD-11-GWP-43-071119-DUP	107	112	101
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	107	115	103
400-173045-5	PD-11-GWP-50-071119	108	112	103
400-173045-5 MS	PD-11-GWP-50-071119	106	113	104
400-173045-5 MSD	PD-11-GWP-50-071119	106	113	102
400-173045-6	PD-11-GWP-56-071119	108	114	103
400-173045-7	PD-11-GWP-60-071119	108	117	102
400-173045-7 - DL	PD-11-GWP-60-071119	107	111	102
LCS 400-447926/1002	Lab Control Sample	107	112	103
LCS 400-447978/1002	Lab Control Sample	105	113	102
MB 400-447926/4	Method Blank	105	113	103
MB 400-447978/4	Method Blank	107	113	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173045-2	PD-11-GWP-37-071119	68	45	91	65	53	100
400-173045-3	PD-11-GWP-43-071119	60	35	90	8 X	61	99
400-173045-4	PD-11-GWP-43-071119-DUP	66	0 X	45	27	65	106
400-173045-4 - DL	PD-11-GWP-43-071119-DUP		24				
400-173045-5	PD-11-GWP-50-071119	69	34	54	44	62	103
400-173045-5 MS	PD-11-GWP-50-071119	99	37	69	58	55	164 X
400-173045-5 MSD	PD-11-GWP-50-071119	82	2 X	67	15	53	106
400-173045-6	PD-11-GWP-56-071119	97	13	70	38	79	154 X
400-173045-7	PD-11-GWP-60-071119	63	0.01 X	36	0.1 X	35 X	0 X
400-173045-7 - RERA	PD-11-GWP-60-071119	79	34	62	52	53	122
LCS 400-448199/2-A	Lab Control Sample	67	38	91	68	84	47
LCS 400-448199/4-A	Lab Control Sample	68	62	97	76	82	78
LCS 400-449195/4-A	Lab Control Sample	66	29	51	48	76	117
LCSD 400-448199/3-A	Lab Control Sample Dup	68	34	91	68	86	45
LCSD 400-449195/5-A	Lab Control Sample Dup	60	24	46	43	68	101
MB 400-448199/1-A	Method Blank	73	39	96	71	92	65
MB 400-449195/1-A	Method Blank	64	15	52	37	76	93

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173045-2	PD-11-GWP-37-071119	54	64	43
400-173045-3	PD-11-GWP-43-071119	37	56	54
400-173045-4	PD-11-GWP-43-071119-DUP	29	60	40
400-173045-5	PD-11-GWP-50-071119	57	54	53
400-173045-5 MS	PD-11-GWP-50-071119	89	96	46
400-173045-5 MSD	PD-11-GWP-50-071119	82	89	47
400-173045-6	PD-11-GWP-56-071119	88	82	79
400-173045-7	PD-11-GWP-60-071119	69	42	38
LCS 400-448199/4-A	Lab Control Sample	88	88	99
MB 400-448199/1-A	Method Blank	72	70	89

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071119-B
Date Collected: 07/11/19 00:00
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 14:41	WPD	TAL PEN

Client Sample ID: PD-11-GWP-37-071119
Date Collected: 07/11/19 09:11
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447926	07/14/19 15:31	WPD	TAL PEN
Total/NA	Prep	3520C			989.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448687	07/19/19 17:58	VC1	TAL PEN
Total/NA	Prep	3520C			989.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 14:41	KJA	TAL PEN
Total/NA	Prep	3520C	DL		989.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			449423	07/24/19 18:52	PP1	TAL PEN

Client Sample ID: PD-11-GWP-43-071119
Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	447926	07/14/19 17:11	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	447978	07/15/19 10:29	WPD	TAL PEN
Total/NA	Prep	3520C	DL		990.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			448987	07/22/19 22:48	VC1	TAL PEN
Total/NA	Prep	3520C			990.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448687	07/19/19 18:20	VC1	TAL PEN
Total/NA	Prep	3520C			990.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 15:01	KJA	TAL PEN

Client Sample ID: PD-11-GWP-43-071119-DUP
Date Collected: 07/11/19 10:10
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	447926	07/14/19 17:37	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	447978	07/15/19 10:53	WPD	TAL PEN
Total/NA	Prep	3520C			968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 16:43	VC1	TAL PEN
Total/NA	Prep	3520C	DL		968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			448987	07/22/19 23:09	VC1	TAL PEN
Total/NA	Prep	3520C			968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 15:19	KJA	TAL PEN
Total/NA	Prep	3520C	DL		968 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			449423	07/24/19 18:35	PP1	TAL PEN

Client Sample ID: PD-11-GWP-50-071119

Lab Sample ID: 400-173045-5

Date Collected: 07/11/19 12:35

Matrix: Water

Date Received: 07/12/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447978	07/15/19 08:52	WPD	TAL PEN
Total/NA	Prep	3520C			966.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 17:05	VC1	TAL PEN
Total/NA	Prep	3520C			966.4 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 15:38	KJA	TAL PEN

Client Sample ID: PD-11-GWP-56-071119

Lab Sample ID: 400-173045-6

Date Collected: 07/11/19 14:35

Matrix: Water

Date Received: 07/12/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	5 mL	5 mL	447978	07/15/19 08:28	WPD	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 18:10	VC1	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 16:34	KJA	TAL PEN

Client Sample ID: PD-11-GWP-60-071119

Lab Sample ID: 400-173045-7

Date Collected: 07/11/19 15:35

Matrix: Water

Date Received: 07/12/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	447926	07/14/19 15:55	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	1000	5 mL	5 mL	447978	07/15/19 09:16	WPD	TAL PEN
Total/NA	Prep	3520C			994.2 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 18:31	VC1	TAL PEN
Total/NA	Prep	3520C	DL		994.2 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			448987	07/22/19 18:09	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1023.6 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	449369	07/24/19 22:20	VC1	TAL PEN
Total/NA	Prep	3520C			994.2 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 16:51	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-447926/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 09:00	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-447978/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 07:39	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448199/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 13:42	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			448502	07/18/19 14:09	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449195/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 20:33	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447926/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447926	07/14/19 08:11	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-447978/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	447978	07/15/19 06:51	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448199/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 14:03	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 14:46	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			448502	07/18/19 14:25	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449195/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 21:37	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448199/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1			448687	07/19/19 14:25	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449195/5-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449195	07/23/19 15:09	BAW	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 21:58	VC1	TAL PEN

Client Sample ID: PD-11-GWP-50-071119
Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447978	07/15/19 11:17	WPD	TAL PEN
Total/NA	Prep	3520C			982.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 17:27	VC1	TAL PEN
Total/NA	Prep	3520C			982.8 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			448502	07/18/19 15:57	KJA	TAL PEN

Client Sample ID: PD-11-GWP-50-071119
Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	447978	07/15/19 11:42	WPD	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-50-071119
Date Collected: 07/11/19 12:35
Date Received: 07/12/19 09:19

Lab Sample ID: 400-173045-5 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			985 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448709	07/19/19 17:48	VC1	TAL PEN
Total/NA	Prep	3520C			985 mL	1.0 mL	448199	07/16/19 12:05	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			448502	07/18/19 16:16	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

GC/MS VOA

Analysis Batch: 447926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-1	TB-PW-071119-B	Total/NA	Water	8260B	
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	8260B	
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	8260B	
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	8260B	
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	8260B	
MB 400-447926/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447926/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 447978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-3 - DL	PD-11-GWP-43-071119	Total/NA	Water	8260B	
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	8260B	
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	8260B	
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	8260B	
400-173045-7 - DL	PD-11-GWP-60-071119	Total/NA	Water	8260B	
MB 400-447978/4	Method Blank	Total/NA	Water	8260B	
LCS 400-447978/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	8260B	
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2 - DL	PD-11-GWP-37-071119	Total/NA	Water	3520C	
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	3520C	
400-173045-3 - DL	PD-11-GWP-43-071119	Total/NA	Water	3520C	
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	3520C	
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	3520C	
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	3520C	
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	3520C	
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	3520C	
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	3520C	
400-173045-7 - DL	PD-11-GWP-60-071119	Total/NA	Water	3520C	
MB 400-448199/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448199/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448199/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448199/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	3520C	
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	3520C	

Analysis Batch: 448502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	8270D LL	448199
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	8270D LL	448199
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D LL	448199
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	8270D LL	448199
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	8270D LL	448199
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	8270D LL	448199
MB 400-448199/1-A	Method Blank	Total/NA	Water	8270D LL	448199
LCS 400-448199/4-A	Lab Control Sample	Total/NA	Water	8270D LL	448199

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	8270D LL	448199
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	8270D LL	448199

Analysis Batch: 448687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2	PD-11-GWP-37-071119	Total/NA	Water	8270D	448199
400-173045-3	PD-11-GWP-43-071119	Total/NA	Water	8270D	448199
MB 400-448199/1-A	Method Blank	Total/NA	Water	8270D	448199
LCS 400-448199/2-A	Lab Control Sample	Total/NA	Water	8270D	448199
LCS 400-448199/4-A	Lab Control Sample	Total/NA	Water	8270D	448199
LCSD 400-448199/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448199

Analysis Batch: 448709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-4	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D	448199
400-173045-5	PD-11-GWP-50-071119	Total/NA	Water	8270D	448199
400-173045-6	PD-11-GWP-56-071119	Total/NA	Water	8270D	448199
400-173045-7	PD-11-GWP-60-071119	Total/NA	Water	8270D	448199
400-173045-5 MS	PD-11-GWP-50-071119	Total/NA	Water	8270D	448199
400-173045-5 MSD	PD-11-GWP-50-071119	Total/NA	Water	8270D	448199

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-3 - DL	PD-11-GWP-43-071119	Total/NA	Water	8270D	448199
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D	448199
400-173045-7 - DL	PD-11-GWP-60-071119	Total/NA	Water	8270D	448199

Prep Batch: 449195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-7 - RERA	PD-11-GWP-60-071119	Total/NA	Water	3520C	
MB 400-449195/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449195/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449195/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-7 - RERA	PD-11-GWP-60-071119	Total/NA	Water	8270D	449195
MB 400-449195/1-A	Method Blank	Total/NA	Water	8270D	449195
LCS 400-449195/4-A	Lab Control Sample	Total/NA	Water	8270D	449195
LCSD 400-449195/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	449195

Analysis Batch: 449423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173045-2 - DL	PD-11-GWP-37-071119	Total/NA	Water	8270D LL	448199
400-173045-4 - DL	PD-11-GWP-43-071119-DUP	Total/NA	Water	8270D LL	448199

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/14/19 09:00	1
Acrolein	ND		20	10	ug/L			07/14/19 09:00	1
Acrylonitrile	ND		10	2.8	ug/L			07/14/19 09:00	1
Benzene	ND		1.0	0.38	ug/L			07/14/19 09:00	1
Bromobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Bromoform	ND		5.0	0.71	ug/L			07/14/19 09:00	1
Bromomethane	ND		1.0	0.98	ug/L			07/14/19 09:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/14/19 09:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Chloroethane	ND		1.0	0.76	ug/L			07/14/19 09:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/14/19 09:00	1
Chloroform	ND		1.0	0.60	ug/L			07/14/19 09:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Chloromethane	ND		1.0	0.83	ug/L			07/14/19 09:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/14/19 09:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/14/19 09:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/14/19 09:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/14/19 09:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/14/19 09:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/14/19 09:00	1
2-Hexanone	ND		25	3.1	ug/L			07/14/19 09:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/14/19 09:00	1
Methylene bromide	ND		5.0	0.59	ug/L			07/14/19 09:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/14/19 09:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/14/19 09:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/14/19 09:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/14/19 09:00	1
Naphthalene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/14/19 09:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/14/19 09:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/14/19 09:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447926/4
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/14/19 09:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/14/19 09:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
Styrene	ND		1.0	1.0	ug/L			07/14/19 09:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/14/19 09:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/14/19 09:00	1
Toluene	ND		1.0	0.41	ug/L			07/14/19 09:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/14/19 09:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/14/19 09:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/14/19 09:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/14/19 09:00	1
Trichloroethene	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/14/19 09:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/14/19 09:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/14/19 09:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/14/19 09:00	1
Vinyl acetate	ND		25	2.0	ug/L			07/14/19 09:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/14/19 09:00	1
Xylenes, Total	ND		10	1.6	ug/L			07/14/19 09:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/14/19 09:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/14/19 09:00*	*1*
Dibromofluoromethane	*113*		*81 - 121*		*07/14/19 09:00*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/14/19 09:00*	*1*

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	240		ug/L		120	43 - 160
Acrolein	250	355		ug/L		142	38 - 160
Acrylonitrile	500	764	*	ug/L		153	64 - 142
Benzene	50.0	47.4		ug/L		95	70 - 130
Bromobenzene	50.0	50.2		ug/L		100	70 - 132
Bromochloromethane	50.0	58.3		ug/L		117	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.5		ug/L		119	57 - 140
Bromomethane	25.0	37.8		ug/L		151	10 - 160
2-Butanone (MEK)	200	164		ug/L		82	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	44.9		ug/L		90	61 - 137
Carbon tetrachloride	50.0	61.7		ug/L		123	61 - 137
Chlorobenzene	50.0	52.2		ug/L		104	70 - 130
Chloroethane	25.0	29.4		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	73.6	*	ug/L		294	10 - 160
Chloroform	50.0	57.6		ug/L		115	69 - 130
1-Chlorohexane	50.0	65.7	*	ug/L		131	69 - 130
Chloromethane	25.0	26.6		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	64.8		ug/L		130	68 - 130
cis-1,3-Dichloropropene	50.0	54.9		ug/L		110	69 - 132
Dibromochloromethane	50.0	60.6		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	54 - 135
1,2-Dichlorobenzene	50.0	49.6		ug/L		99	67 - 130
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	18.5		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	61.3		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	74.0	*	ug/L		148	69 - 130
1,1-Dichloroethene	50.0	51.8		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	60.6		ug/L		121	52 - 135
1,1-Dichloropropene	50.0	57.1		ug/L		114	70 - 130
Ethylbenzene	50.0	51.7		ug/L		103	70 - 130
Ethylene Dibromide	50.0	55.0		ug/L		110	70 - 130
Ethyl methacrylate	50.0	49.9		ug/L		100	68 - 130
Hexachlorobutadiene	50.0	51.0		ug/L		102	53 - 140
2-Hexanone	200	249		ug/L		125	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	52.1		ug/L		104	70 - 130
Methylene Chloride	50.0	49.4		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	270		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	59.7		ug/L		119	66 - 130
m-Xylene & p-Xylene	50.0	52.2		ug/L		104	70 - 130
Naphthalene	50.0	51.7		ug/L		103	47 - 149
n-Butylbenzene	50.0	54.2		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	53.6		ug/L		107	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	53.4		ug/L		107	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.3		ug/L		99	70 - 131
Tetrachloroethene	50.0	53.0		ug/L		106	65 - 130
Toluene	50.0	47.5		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447926/1002
Matrix: Water
Analysis Batch: 447926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	59.3		ug/L		119	63 - 130
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	47.3		ug/L		95	60 - 140
1,1,1-Trichloroethane	50.0	61.8		ug/L		124	68 - 130
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
Trichloroethene	50.0	51.1		ug/L		102	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	62.5		ug/L		125	70 - 130
1,2,4-Trimethylbenzene	50.0	53.5		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	57.2		ug/L		114	69 - 130
Vinyl acetate	50.0	49.5		ug/L		99	26 - 160
Vinyl chloride	25.0	24.5		ug/L		98	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*112*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/15/19 07:39	1
Acrolein	ND		20	10	ug/L			07/15/19 07:39	1
Acrylonitrile	ND		10	2.8	ug/L			07/15/19 07:39	1
Benzene	ND		1.0	0.38	ug/L			07/15/19 07:39	1
Bromobenzene	ND		1.0	0.54	ug/L			07/15/19 07:39	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/15/19 07:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Bromoform	ND		5.0	0.71	ug/L			07/15/19 07:39	1
Bromomethane	ND		1.0	0.98	ug/L			07/15/19 07:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/15/19 07:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Chloroethane	ND		1.0	0.76	ug/L			07/15/19 07:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/15/19 07:39	1
Chloroform	ND		1.0	0.60	ug/L			07/15/19 07:39	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/15/19 07:39	1
Chloromethane	ND		1.0	0.83	ug/L			07/15/19 07:39	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/15/19 07:39	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/15/19 07:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/15/19 07:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/15/19 07:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/15/19 07:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/15/19 07:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/15/19 07:39	1
2-Hexanone	ND		25	3.1	ug/L			07/15/19 07:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/15/19 07:39	1
Methylene bromide	ND		5.0	0.59	ug/L			07/15/19 07:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/15/19 07:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/15/19 07:39	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/15/19 07:39	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/15/19 07:39	1
Naphthalene	ND		1.0	1.0	ug/L			07/15/19 07:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/15/19 07:39	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/15/19 07:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/15/19 07:39	1
o-Xylene	ND		5.0	0.60	ug/L			07/15/19 07:39	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/15/19 07:39	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/15/19 07:39	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/15/19 07:39	1
Styrene	ND		1.0	1.0	ug/L			07/15/19 07:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/15/19 07:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/15/19 07:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/15/19 07:39	1
Toluene	ND		1.0	0.41	ug/L			07/15/19 07:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/15/19 07:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/15/19 07:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/15/19 07:39	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/15/19 07:39	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/15/19 07:39	1
Trichloroethene	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/15/19 07:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/15/19 07:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/15/19 07:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/15/19 07:39	1
Vinyl acetate	ND		25	2.0	ug/L			07/15/19 07:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/15/19 07:39	1
Xylenes, Total	ND		10	1.6	ug/L			07/15/19 07:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-447978/4
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/15/19 07:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		07/15/19 07:39	1
Dibromofluoromethane	113		81 - 121		07/15/19 07:39	1
Toluene-d8 (Surr)	102		80 - 120		07/15/19 07:39	1

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	223		ug/L		112	43 - 160
Acrolein	250	334		ug/L		133	38 - 160
Acrylonitrile	500	685		ug/L		137	64 - 142
Benzene	50.0	45.4		ug/L		91	70 - 130
Bromobenzene	50.0	46.5		ug/L		93	70 - 132
Bromochloromethane	50.0	56.3		ug/L		113	70 - 130
Bromodichloromethane	50.0	55.3		ug/L		111	67 - 133
Bromoform	50.0	52.5		ug/L		105	57 - 140
Bromomethane	25.0	34.8		ug/L		139	10 - 160
2-Butanone (MEK)	200	152		ug/L		76	61 - 145
Carbon disulfide	50.0	44.3		ug/L		89	61 - 137
Carbon tetrachloride	50.0	61.3		ug/L		123	61 - 137
Chlorobenzene	50.0	50.6		ug/L		101	70 - 130
Chloroethane	25.0	29.6		ug/L		118	55 - 141
2-Chloroethyl vinyl ether	25.0	78.1	*	ug/L		312	10 - 160
Chloroform	50.0	56.6		ug/L		113	69 - 130
1-Chlorohexane	50.0	65.4	*	ug/L		131	69 - 130
Chloromethane	25.0	26.3		ug/L		105	58 - 137
cis-1,2-Dichloroethene	50.0	63.3		ug/L		127	68 - 130
cis-1,3-Dichloropropene	50.0	53.4		ug/L		107	69 - 132
Dibromochloromethane	50.0	56.2		ug/L		112	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	48.4		ug/L		97	54 - 135
1,2-Dichlorobenzene	50.0	48.4		ug/L		97	67 - 130
1,3-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130
1,4-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130
Dichlorodifluoromethane	25.0	18.6		ug/L		75	41 - 146
1,1-Dichloroethane	50.0	61.6		ug/L		123	70 - 130
1,2-Dichloroethane	50.0	70.2	*	ug/L		140	69 - 130
1,1-Dichloroethene	50.0	50.2		ug/L		100	63 - 134
1,2-Dichloropropane	50.0	55.5		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	49.5		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	60.2		ug/L		120	52 - 135
1,1-Dichloropropene	50.0	55.8		ug/L		112	70 - 130
Ethylbenzene	50.0	49.9		ug/L		100	70 - 130
Ethylene Dibromide	50.0	49.9		ug/L		100	70 - 130
Ethyl methacrylate	50.0	46.7		ug/L		93	68 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-447978/1002
Matrix: Water
Analysis Batch: 447978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	49.3		ug/L		99	53 - 140
2-Hexanone	200	218		ug/L		109	65 - 137
Isopropylbenzene	50.0	52.6		ug/L		105	70 - 130
Methylene bromide	50.0	50.8		ug/L		102	70 - 130
Methylene Chloride	50.0	48.6		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	247		ug/L		123	69 - 138
Methyl tert-butyl ether	50.0	55.6		ug/L		111	66 - 130
m-Xylene & p-Xylene	50.0	49.9		ug/L		100	70 - 130
Naphthalene	50.0	47.6		ug/L		95	47 - 149
n-Butylbenzene	50.0	52.0		ug/L		104	67 - 130
N-Propylbenzene	50.0	50.5		ug/L		101	70 - 130
o-Chlorotoluene	50.0	52.7		ug/L		105	70 - 130
o-Xylene	50.0	51.5		ug/L		103	70 - 130
p-Chlorotoluene	50.0	53.2		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	54.2		ug/L		108	65 - 130
sec-Butylbenzene	50.0	51.5		ug/L		103	66 - 130
Styrene	50.0	45.0		ug/L		90	70 - 130
tert-Butylbenzene	50.0	57.1		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	51.4		ug/L		103	67 - 131
1,1,2,2-Tetrachloroethane	50.0	45.2		ug/L		90	70 - 131
Tetrachloroethene	50.0	50.5		ug/L		101	65 - 130
Toluene	50.0	45.9		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	49.4		ug/L		99	70 - 130
trans-1,3-Dichloropropene	50.0	54.5		ug/L		109	63 - 130
1,2,3-Trichlorobenzene	50.0	44.6		ug/L		89	60 - 138
1,2,4-Trichlorobenzene	50.0	44.4		ug/L		89	60 - 140
1,1,1-Trichloroethane	50.0	59.6		ug/L		119	68 - 130
1,1,2-Trichloroethane	50.0	44.9		ug/L		90	70 - 130
Trichloroethene	50.0	50.1		ug/L		100	70 - 130
Trichlorofluoromethane	25.0	29.1		ug/L		116	65 - 138
1,2,3-Trichloropropane	50.0	55.1		ug/L		110	70 - 130
1,2,4-Trimethylbenzene	50.0	53.1		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	55.0		ug/L		110	69 - 130
Vinyl acetate	50.0	49.1		ug/L		98	26 - 160
Vinyl chloride	25.0	24.3		ug/L		97	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		2000	1990		ug/L		99	43 - 150

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		2500	3310		ug/L		132	38 - 150
Acrylonitrile	ND		5000	6630		ug/L		133	62 - 149
Benzene	1900		500	2260		ug/L		76	56 - 142
Bromobenzene	ND		500	426		ug/L		85	59 - 136
Bromochloromethane	ND		500	566		ug/L		113	64 - 140
Bromodichloromethane	ND		500	525		ug/L		105	59 - 143
Bromoform	ND		500	480		ug/L		96	50 - 140
Bromomethane	ND		250	313		ug/L		125	10 - 150
2-Butanone (MEK)	ND		2000	1380		ug/L		69	55 - 150
Carbon disulfide	ND		500	425		ug/L		85	48 - 150
Carbon tetrachloride	ND		500	577		ug/L		115	55 - 145
Chlorobenzene	ND		500	462		ug/L		92	64 - 130
Chloroethane	ND		250	308		ug/L		123	50 - 150
2-Chloroethyl vinyl ether	ND	F1 *	250	534	F1	ug/L		214	10 - 150
Chloroform	ND		500	551		ug/L		110	60 - 141
1-Chlorohexane	ND	*	500	574		ug/L		115	56 - 136
Chloromethane	ND		250	276		ug/L		110	49 - 148
cis-1,2-Dichloroethene	ND		500	610		ug/L		122	59 - 143
cis-1,3-Dichloropropene	ND		500	508		ug/L		102	57 - 140
Dibromochloromethane	ND		500	533		ug/L		107	56 - 143
1,2-Dibromo-3-Chloropropane	ND		500	429		ug/L		86	45 - 135
1,2-Dichlorobenzene	ND		500	428		ug/L		86	52 - 137
1,3-Dichlorobenzene	ND		500	413		ug/L		83	54 - 135
1,4-Dichlorobenzene	ND		500	411		ug/L		82	53 - 135
Dichlorodifluoromethane	ND		250	184		ug/L		74	16 - 150
1,1-Dichloroethane	ND		500	592		ug/L		118	61 - 144
1,2-Dichloroethane	ND	F1 *	500	735	F1	ug/L		147	60 - 141
1,1-Dichloroethene	ND		500	493		ug/L		99	54 - 147
1,2-Dichloropropane	ND		500	534		ug/L		107	66 - 137
1,3-Dichloropropane	ND		500	487		ug/L		97	66 - 133
2,2-Dichloropropane	ND		500	563		ug/L		113	42 - 144
1,1-Dichloropropene	ND		500	534		ug/L		107	65 - 136
Ethylbenzene	ND		500	456		ug/L		91	58 - 131
Ethylene Dibromide	ND		500	472		ug/L		94	64 - 132
Ethyl methacrylate	ND		500	429		ug/L		86	64 - 130
Hexachlorobutadiene	ND		500	422		ug/L		84	31 - 149
2-Hexanone	ND		2000	1960		ug/L		98	65 - 140
Isopropylbenzene	ND		500	466		ug/L		93	56 - 133
Methylene bromide	ND		500	491		ug/L		98	63 - 138
Methylene Chloride	ND		500	482		ug/L		96	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		2000	2310		ug/L		115	63 - 146
Methyl tert-butyl ether	ND		500	541		ug/L		108	59 - 137
m-Xylene & p-Xylene	ND		500	466		ug/L		93	57 - 130
Naphthalene	ND		500	410		ug/L		82	25 - 150
n-Butylbenzene	ND		500	436		ug/L		87	41 - 142
N-Propylbenzene	ND		500	446		ug/L		89	51 - 138
o-Chlorotoluene	ND		500	476		ug/L		95	53 - 134
o-Xylene	ND		500	469		ug/L		94	61 - 130
p-Chlorotoluene	ND		500	473		ug/L		95	54 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		500	458		ug/L		92	48 - 139
sec-Butylbenzene	ND		500	452		ug/L		90	50 - 138
Styrene	ND		500	412		ug/L		82	58 - 131
tert-Butylbenzene	ND		500	490		ug/L		98	54 - 146
1,1,1,2-Tetrachloroethane	ND		500	475		ug/L		95	59 - 137
1,1,2,2-Tetrachloroethane	ND		500	431		ug/L		86	66 - 135
Tetrachloroethene	ND		500	461		ug/L		92	52 - 133
Toluene	ND		500	434		ug/L		87	65 - 130
trans-1,2-Dichloroethene	ND		500	492		ug/L		98	61 - 143
trans-1,3-Dichloropropene	ND		500	515		ug/L		103	53 - 133
1,2,3-Trichlorobenzene	ND		500	377		ug/L		75	43 - 145
1,2,4-Trichlorobenzene	ND		500	378		ug/L		76	39 - 148
1,1,1-Trichloroethane	ND		500	581		ug/L		116	57 - 142
1,1,2-Trichloroethane	ND		500	440		ug/L		88	66 - 131
Trichloroethene	ND		500	480		ug/L		96	64 - 136
Trichlorofluoromethane	ND		250	301		ug/L		120	54 - 150
1,2,3-Trichloropropane	ND		500	533		ug/L		107	65 - 133
1,2,4-Trimethylbenzene	16		500	489		ug/L		95	50 - 139
1,3,5-Trimethylbenzene	ND		500	488		ug/L		98	52 - 135
Vinyl acetate	ND		500	500		ug/L		100	26 - 150
Vinyl chloride	ND		250	257		ug/L		103	46 - 150
Xylenes, Total	ND		1000	935		ug/L		93	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		2000	1940		ug/L		97	43 - 150	2	30
Acrolein	ND		2500	3240		ug/L		129	38 - 150	2	31
Acrylonitrile	ND		5000	6900		ug/L		138	62 - 149	4	30
Benzene	1900		500	2260		ug/L		75	56 - 142	0	30
Bromobenzene	ND		500	441		ug/L		88	59 - 136	3	30
Bromochloromethane	ND		500	579		ug/L		116	64 - 140	2	30
Bromodichloromethane	ND		500	546		ug/L		109	59 - 143	4	30
Bromoform	ND		500	510		ug/L		102	50 - 140	6	30
Bromomethane	ND		250	345		ug/L		138	10 - 150	10	50
2-Butanone (MEK)	ND		2000	1450		ug/L		72	55 - 150	5	30
Carbon disulfide	ND		500	453		ug/L		91	48 - 150	6	30
Carbon tetrachloride	ND		500	621		ug/L		124	55 - 145	7	30
Chlorobenzene	ND		500	484		ug/L		97	64 - 130	5	30
Chloroethane	ND		250	306		ug/L		122	50 - 150	1	30
2-Chloroethyl vinyl ether	ND	F1 *	250	590	F1	ug/L		236	10 - 150	10	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		500	575		ug/L		115	60 - 141	4	30
1-Chlorohexane	ND	*	500	622		ug/L		124	56 - 136	8	30
Chloromethane	ND		250	275		ug/L		110	49 - 148	0	31
cis-1,2-Dichloroethene	ND		500	639		ug/L		128	59 - 143	5	30
cis-1,3-Dichloropropene	ND		500	551		ug/L		110	57 - 140	8	30
Dibromochloromethane	ND		500	557		ug/L		111	56 - 143	5	30
1,2-Dibromo-3-Chloropropane	ND		500	457		ug/L		91	45 - 135	7	30
1,2-Dichlorobenzene	ND		500	432		ug/L		86	52 - 137	1	30
1,3-Dichlorobenzene	ND		500	403		ug/L		81	54 - 135	3	30
1,4-Dichlorobenzene	ND		500	408		ug/L		82	53 - 135	1	30
Dichlorodifluoromethane	ND		250	193		ug/L		77	16 - 150	5	31
1,1-Dichloroethane	ND		500	642		ug/L		128	61 - 144	8	30
1,2-Dichloroethane	ND	F1 *	500	764	F1	ug/L		153	60 - 141	4	30
1,1-Dichloroethene	ND		500	526		ug/L		105	54 - 147	7	30
1,2-Dichloropropane	ND		500	568		ug/L		114	66 - 137	6	30
1,3-Dichloropropane	ND		500	506		ug/L		101	66 - 133	4	30
2,2-Dichloropropane	ND		500	608		ug/L		122	42 - 144	8	31
1,1-Dichloropropene	ND		500	568		ug/L		114	65 - 136	6	30
Ethylbenzene	ND		500	473		ug/L		95	58 - 131	4	30
Ethylene Dibromide	ND		500	500		ug/L		100	64 - 132	6	30
Ethyl methacrylate	ND		500	458		ug/L		92	64 - 130	6	30
Hexachlorobutadiene	ND		500	389		ug/L		78	31 - 149	8	36
2-Hexanone	ND		2000	2020		ug/L		101	65 - 140	3	30
Isopropylbenzene	ND		500	468		ug/L		94	56 - 133	0	30
Methylene bromide	ND		500	511		ug/L		102	63 - 138	4	30
Methylene Chloride	ND		500	506		ug/L		101	60 - 146	5	32
4-Methyl-2-pentanone (MIBK)	ND		2000	2400		ug/L		120	63 - 146	4	30
Methyl tert-butyl ether	ND		500	578		ug/L		116	59 - 137	7	30
m-Xylene & p-Xylene	ND		500	471		ug/L		94	57 - 130	1	30
Naphthalene	ND		500	476		ug/L		95	25 - 150	15	30
n-Butylbenzene	ND		500	410		ug/L		82	41 - 142	6	31
N-Propylbenzene	ND		500	447		ug/L		89	51 - 138	0	30
o-Chlorotoluene	ND		500	462		ug/L		92	53 - 134	3	30
o-Xylene	ND		500	481		ug/L		96	61 - 130	3	30
p-Chlorotoluene	ND		500	465		ug/L		93	54 - 133	2	30
p-Isopropyltoluene	ND		500	449		ug/L		90	48 - 139	2	30
sec-Butylbenzene	ND		500	439		ug/L		88	50 - 138	3	30
Styrene	ND		500	412		ug/L		82	58 - 131	0	30
tert-Butylbenzene	ND		500	487		ug/L		97	54 - 146	1	30
1,1,1,2-Tetrachloroethane	ND		500	498		ug/L		100	59 - 137	5	30
1,1,2,2-Tetrachloroethane	ND		500	450		ug/L		90	66 - 135	4	30
Tetrachloroethene	ND		500	480		ug/L		96	52 - 133	4	30
Toluene	ND		500	450		ug/L		90	65 - 130	4	30
trans-1,2-Dichloroethene	ND		500	513		ug/L		103	61 - 143	4	30
trans-1,3-Dichloropropene	ND		500	545		ug/L		109	53 - 133	6	30
1,2,3-Trichlorobenzene	ND		500	395		ug/L		79	43 - 145	5	30
1,2,4-Trichlorobenzene	ND		500	369		ug/L		74	39 - 148	2	30
1,1,1-Trichloroethane	ND		500	635		ug/L		127	57 - 142	9	30
1,1,2-Trichloroethane	ND		500	462		ug/L		92	66 - 131	5	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 447978

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		500	495		ug/L		99	64 - 136	3	30
Trichlorofluoromethane	ND		250	314		ug/L		126	54 - 150	4	30
1,2,3-Trichloropropane	ND		500	579		ug/L		116	65 - 133	8	30
1,2,4-Trimethylbenzene	16		500	470		ug/L		91	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		500	484		ug/L		97	52 - 135	1	30
Vinyl acetate	ND		500	499		ug/L		100	26 - 150	0	33
Vinyl chloride	ND		250	254		ug/L		102	46 - 150	1	30
Xylenes, Total	ND		1000	952		ug/L		95	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*106*		*78 - 118*
Dibromofluoromethane	*113*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
Benzenethiol	ND		10	1.7	ug/L		07/16/19 12:05	07/19/19 13:42	1
Benzoic acid	ND		30	7.3	ug/L		07/16/19 12:05	07/19/19 13:42	1
Benzyl alcohol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 13:42	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/16/19 12:05	07/19/19 13:42	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/16/19 12:05	07/19/19 13:42	1
Bis(2-ethylhexyl) phthalate	13.6		10	5.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/16/19 12:05	07/19/19 13:42	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Chloroaniline	ND		10	3.4	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Chlorophenol	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Dibenzofuran	ND		10	0.52	ug/L		07/16/19 12:05	07/19/19 13:42	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Diethyl phthalate	ND		10	0.70	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 13:42	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/16/19 12:05	07/19/19 13:42	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/16/19 12:05	07/19/19 13:42	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/16/19 12:05	07/19/19 13:42	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/16/19 12:05	07/19/19 13:42	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/16/19 12:05	07/19/19 13:42	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/16/19 12:05	07/19/19 13:42	1
Hexachloroethane	ND		10	4.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
Indene	ND		10	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
Isophorone	ND		10	0.57	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Methylphenol	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Nitroaniline	ND		10	2.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
3-Nitroaniline	ND		10	1.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Nitroaniline	ND		10	2.5	ug/L		07/16/19 12:05	07/19/19 13:42	1
Nitrobenzene	ND		10	0.55	ug/L		07/16/19 12:05	07/19/19 13:42	1
2-Nitrophenol	ND		10	0.65	ug/L		07/16/19 12:05	07/19/19 13:42	1
4-Nitrophenol	ND		10	2.1	ug/L		07/16/19 12:05	07/19/19 13:42	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 13:42	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/16/19 12:05	07/19/19 13:42	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/16/19 12:05	07/19/19 13:42	1
Pentachlorophenol	ND		20	1.8	ug/L		07/16/19 12:05	07/19/19 13:42	1
Phenol	ND		10	2.6	ug/L		07/16/19 12:05	07/19/19 13:42	1
Pyridine	ND		10	3.2	ug/L		07/16/19 12:05	07/19/19 13:42	1
Quinoline	ND		10	6.0	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/16/19 12:05	07/19/19 13:42	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/16/19 12:05	07/19/19 13:42	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/16/19 12:05*	*07/19/19 13:42*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*34 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
2-Fluorophenol	*39*		*10 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
Nitrobenzene-d5	*96*		*27 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
Phenol-d5	*71*		*10 - 120*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
Terphenyl-d14	*92*		*53 - 125*	*07/16/19 12:05*	*07/19/19 13:42*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/16/19 12:05*	*07/19/19 13:42*	*1*

Lab Sample ID: LCS 400-448199/2-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzenethiol			30.0	ND	*	ug/L		5	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*34 - 120*
2-Fluorophenol	*38*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448199/2-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*84*		*53 - 125*
2,4,6-Tribromophenol	*47*		*15 - 135*

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	33.0		ug/L		110	29 - 120
Benzoic acid	117	45.3		ug/L		39	10 - 150
Benzyl alcohol	30.0	28.7		ug/L		96	19 - 125
Bis(2-chloroethoxy)methane	30.0	24.6		ug/L		82	45 - 120
Bis(2-chloroethyl)ether	30.0	20.8		ug/L		69	48 - 120
bis (2-chloroisopropyl) ether	30.0	26.6		ug/L		89	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	37.7		ug/L		126	48 - 150
4-Bromophenyl phenyl ether	30.0	24.6		ug/L		82	55 - 122
Butyl benzyl phthalate	30.0	26.2		ug/L		87	46 - 145
4-Chloroaniline	30.0	28.4		ug/L		95	30 - 120
4-Chloro-3-methylphenol	30.0	30.2		ug/L		101	39 - 140
2-Chloronaphthalene	30.0	24.1		ug/L		80	52 - 120
2-Chlorophenol	30.0	26.3		ug/L		88	34 - 120
4-Chlorophenyl phenyl ether	30.0	24.3		ug/L		81	58 - 124
Dibenz[a,h]acridine	30.0	16.6		ug/L		55	46 - 149
Dibenzofuran	30.0	24.9		ug/L		83	58 - 123
3,3'-Dichlorobenzidine	40.0	55.0	*	ug/L		138	39 - 135
2,4-Dichlorophenol	30.0	29.1		ug/L		97	39 - 128
Diethyl phthalate	30.0	28.4		ug/L		95	44 - 146
2,4-Dimethylphenol	30.0	27.5		ug/L		92	44 - 120
Dimethyl phthalate	30.0	26.9		ug/L		90	50 - 131
Di-n-butyl phthalate	30.0	29.4		ug/L		98	55 - 131
4,6-Dinitro-ortho-cresol	60.0	67.8		ug/L		113	10 - 150
2,4-Dinitrophenol	60.0	76.7		ug/L		128	10 - 150
2,4-Dinitrotoluene	30.0	28.3		ug/L		94	58 - 140
2,6-Dinitrotoluene	30.0	27.8		ug/L		93	57 - 130
Di-n-octyl phthalate	30.0	27.7		ug/L		92	50 - 150
1,4-Dioxane	30.0	18.6		ug/L		62	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	28.0		ug/L		93	47 - 123
Hexachlorobenzene	30.0	24.9		ug/L		83	52 - 131
Hexachlorocyclopentadiene	30.0	10.1	J	ug/L		34	10 - 129
Hexachloroethane	30.0	17.2		ug/L		57	41 - 120
Indene	30.0	22.5		ug/L		75	47 - 120
Isophorone	30.0	27.5		ug/L		92	49 - 120
2-Methylphenol	30.0	28.5		ug/L		95	39 - 123
3 & 4 Methylphenol	30.0	26.2		ug/L		87	38 - 121
2-Nitroaniline	30.0	33.4		ug/L		111	47 - 150
3-Nitroaniline	30.0	33.4		ug/L		111	34 - 132
4-Nitroaniline	30.0	34.3		ug/L		114	41 - 135

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	30.0	27.9		ug/L		93	47 - 120
2-Nitrophenol	30.0	28.5		ug/L		95	28 - 136
4-Nitrophenol	60.0	56.5		ug/L		94	10 - 150
N-Nitrosodimethylamine	30.0	32.3		ug/L		108	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	27.4		ug/L		92	56 - 120
Pentachlorophenol	60.0	54.8		ug/L		91	15 - 141
Phenol	30.0	22.2		ug/L		74	33 - 120
Pyridine	60.0	47.1		ug/L		78	26 - 120
Quinoline	30.0	27.2		ug/L		91	51 - 129
2,4,5-Trichlorophenol	30.0	27.8		ug/L		93	38 - 147
2,4,6-Trichlorophenol	30.0	27.9		ug/L		93	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*34 - 120*
2-Fluorophenol	*62*		*10 - 120*
Nitrobenzene-d5	*97*		*27 - 120*
Phenol-d5	*76*		*10 - 120*
Terphenyl-d14	*82*		*53 - 125*
2,4,6-Tribromophenol	*78*		*15 - 135*

Lab Sample ID: LCSD 400-448199/3-A
Matrix: Water
Analysis Batch: 448687

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*34 - 120*
2-Fluorophenol	*34*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*86*		*53 - 125*
2,4,6-Tribromophenol	*45*		*15 - 135*

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		30.5	19.4		ug/L		64	10 - 143
Benzoic acid	ND		119	101		ug/L		85	10 - 134
Benzyl alcohol	ND		30.5	25.4		ug/L		83	10 - 154
Bis(2-chloroethoxy)methane	ND		30.5	21.7		ug/L		71	14 - 147
Bis(2-chloroethyl)ether	ND		30.5	21.5		ug/L		70	28 - 130
bis (2-chloroisopropyl) ether	ND		30.5	19.1		ug/L		63	10 - 141
Bis(2-ethylhexyl) phthalate	ND		30.5	18.0		ug/L		59	43 - 160

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND		30.5	34.1		ug/L		112	26 - 159
Butyl benzyl phthalate	ND		30.5	19.7		ug/L		64	43 - 151
4-Chloroaniline	ND		30.5	11.0		ug/L		36	10 - 152
4-Chloro-3-methylphenol	ND		30.5	26.2		ug/L		86	17 - 156
2-Chloronaphthalene	ND		30.5	28.3		ug/L		93	10 - 155
2-Chlorophenol	ND	F2 F1	30.5	20.7		ug/L		68	19 - 130
4-Chlorophenyl phenyl ether	ND		30.5	31.8		ug/L		104	25 - 161
Dibenz[a,h]acridine	ND		30.5	27.3		ug/L		89	42 - 147
Dibenzofuran	ND		30.5	28.6		ug/L		94	18 - 157
3,3'-Dichlorobenzidine	ND	F1	40.7	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND	F2	30.5	26.6		ug/L		87	16 - 147
Diethyl phthalate	ND		30.5	27.0		ug/L		89	23 - 160
2,4-Dimethylphenol	ND		30.5	25.9		ug/L		85	25 - 146
Dimethyl phthalate	ND		30.5	28.4		ug/L		93	11 - 158
Di-n-butyl phthalate	ND		30.5	25.7		ug/L		84	28 - 162
4,6-Dinitro-ortho-cresol	ND		61.1	75.8		ug/L		124	10 - 168
2,4-Dinitrophenol	ND	F1	61.1	104	F1	ug/L		170	10 - 166
2,4-Dinitrotoluene	ND		30.5	32.0		ug/L		105	26 - 158
2,6-Dinitrotoluene	ND		30.5	30.5		ug/L		100	19 - 157
Di-n-octyl phthalate	ND		30.5	21.0		ug/L		69	42 - 150
1,4-Dioxane	ND	F2	30.5	12.3		ug/L		40	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.5	18.5		ug/L		60	19 - 162
Hexachlorobenzene	ND		30.5	33.2		ug/L		109	45 - 145
Hexachlorocyclopentadiene	ND		30.5	19.0	J	ug/L		62	10 - 151
Hexachloroethane	ND		30.5	20.6		ug/L		67	29 - 130
Indene	ND		30.5	21.7		ug/L		71	22 - 130
Isophorone	ND		30.5	22.2		ug/L		73	24 - 144
2-Methylphenol	ND	F2	30.5	21.8		ug/L		71	22 - 130
3 & 4 Methylphenol	ND	F2	30.5	22.2		ug/L		73	31 - 130
2-Nitroaniline	ND		30.5	21.9		ug/L		72	10 - 162
3-Nitroaniline	ND		30.5	15.8		ug/L		52	10 - 163
4-Nitroaniline	ND		30.5	28.0		ug/L		92	10 - 162
Nitrobenzene	ND		30.5	22.2		ug/L		73	34 - 135
2-Nitrophenol	ND	F2 F1	30.5	24.6		ug/L		80	27 - 134
4-Nitrophenol	ND		61.1	46.3		ug/L		76	10 - 175
N-Nitrosodimethylamine	ND		30.5	23.8		ug/L		78	10 - 139
N-Nitrosodi-n-propylamine	ND		30.5	24.5		ug/L		80	13 - 147
N-Nitrosodiphenylamine	ND		30.3	21.7		ug/L		72	31 - 150
Pentachlorophenol	ND		61.1	89.6		ug/L		147	10 - 180
Phenol	22	F2 F1	30.5	46.3		ug/L		80	23 - 130
Pyridine	ND		61.1	40.9		ug/L		67	10 - 130
Quinoline	ND		30.5	25.0		ug/L		82	10 - 180
2,4,5-Trichlorophenol	ND	F2	30.5	35.1		ug/L		115	43 - 137
2,4,6-Trichlorophenol	ND	F2	30.5	35.3		ug/L		116	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*99*		*34 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*69*		*27 - 120*
Phenol-d5	*58*		*10 - 120*
Terphenyl-d14	*55*		*53 - 125*
2,4,6-Tribromophenol	*164*	*X*	*15 - 135*

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		30.5	17.1		ug/L		56	10 - 143	12	63
Benzoic acid	ND		118	66.8		ug/L		56	10 - 134	40	49
Benzyl alcohol	ND		30.5	22.4		ug/L		73	10 - 154	13	37
Bis(2-chloroethoxy)methane	ND		30.5	19.7		ug/L		65	14 - 147	9	70
Bis(2-chloroethyl)ether	ND		30.5	19.4		ug/L		64	28 - 130	10	42
bis (2-chloroisopropyl) ether	ND		30.5	17.3		ug/L		57	10 - 141	10	41
Bis(2-ethylhexyl) phthalate	ND		30.5	17.1		ug/L		56	43 - 160	5	35
4-Bromophenyl phenyl ether	ND		30.5	30.6		ug/L		100	26 - 159	11	30
Butyl benzyl phthalate	ND		30.5	17.8		ug/L		59	43 - 151	10	32
4-Chloroaniline	ND		30.5	11.3		ug/L		37	10 - 152	3	94
4-Chloro-3-methylphenol	ND		30.5	18.0		ug/L		59	17 - 156	37	40
2-Chloronaphthalene	ND		30.5	25.6		ug/L		84	10 - 155	10	29
2-Chlorophenol	ND	F2 F1	30.5	3.52	J F1 F2	ug/L		12	19 - 130	142	42
4-Chlorophenyl phenyl ether	ND		30.5	28.8		ug/L		95	25 - 161	10	27
Dibenz[a,h]acridine	ND		30.5	19.3		ug/L		64	42 - 147	34	40
Dibenzofuran	ND		30.5	27.1		ug/L		89	18 - 157	6	29
3,3'-Dichlorobenzidine	ND	F1	40.6	ND	F1	ug/L		0	10 - 172	NC	58
2,4-Dichlorophenol	ND	F2	30.5	10.6	F2	ug/L		35	16 - 147	86	43
Diethyl phthalate	ND		30.5	27.3		ug/L		90	23 - 160	1	40
2,4-Dimethylphenol	ND		30.5	17.8		ug/L		58	25 - 146	37	47
Dimethyl phthalate	ND		30.5	26.9		ug/L		88	11 - 158	5	36
Di-n-butyl phthalate	ND		30.5	23.6		ug/L		78	28 - 162	8	32
4,6-Dinitro-ortho-cresol	ND		60.9	55.7		ug/L		91	10 - 168	31	42
2,4-Dinitrophenol	ND	F1	60.9	74.4		ug/L		122	10 - 166	33	36
2,4-Dinitrotoluene	ND		30.5	30.2		ug/L		99	26 - 158	6	28
2,6-Dinitrotoluene	ND		30.5	29.2		ug/L		96	19 - 157	5	28
Di-n-octyl phthalate	ND		30.5	19.4		ug/L		64	42 - 150	8	35
1,4-Dioxane	ND	F2	30.5	6.93	J F2	ug/L		23	10 - 130	56	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.5	20.4		ug/L		67	19 - 162	10	40
Hexachlorobenzene	ND		30.5	29.2		ug/L		96	45 - 145	13	33
Hexachlorocyclopentadiene	ND		30.5	11.7	J	ug/L		38	10 - 151	47	50
Hexachloroethane	ND		30.5	18.5		ug/L		61	29 - 130	11	41
Indene	ND		30.5	19.6		ug/L		64	22 - 130	10	40
Isophorone	ND		30.5	20.6		ug/L		68	24 - 144	7	33
2-Methylphenol	ND	F2	30.5	8.50	J F2	ug/L		28	22 - 130	88	47
3 & 4 Methylphenol	ND	F2	30.5	9.47	J F2	ug/L		31	31 - 130	80	47
2-Nitroaniline	ND		30.5	22.4		ug/L		74	10 - 162	2	33

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 448709

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3-Nitroaniline	ND		30.5	16.4		ug/L		54	10 - 163	4	39
4-Nitroaniline	ND		30.5	29.8		ug/L		98	10 - 162	6	50
Nitrobenzene	ND		30.5	20.5		ug/L		67	34 - 135	8	35
2-Nitrophenol	ND	F2 F1	30.5	6.82	J F1 F2	ug/L		22	27 - 134	113	43
4-Nitrophenol	ND		60.9	44.5		ug/L		73	10 - 175	4	82
N-Nitrosodimethylamine	ND		30.5	20.2		ug/L		66	10 - 139	16	62
N-Nitrosodi-n-propylamine	ND		30.5	21.8		ug/L		72	13 - 147	12	36
N-Nitrosodiphenylamine	ND		30.2	22.3		ug/L		74	31 - 150	3	34
Pentachlorophenol	ND		60.9	70.5		ug/L		116	10 - 180	24	42
Phenol	22	F2 F1	30.5	12.3	F1 F2	ug/L		-31	23 - 130	116	52
Pyridine	ND		60.9	32.0		ug/L		53	10 - 130	25	55
Quinoline	ND		30.5	23.1		ug/L		76	10 - 180	8	40
2,4,5-Trichlorophenol	ND	F2	30.5	19.8	F2	ug/L		65	43 - 137	56	42
2,4,6-Trichlorophenol	ND	F2	30.5	16.3	F2	ug/L		54	42 - 135	73	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*82*		*34 - 120*
2-Fluorophenol	*2*	*X*	*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*15*		*10 - 120*
Terphenyl-d14	*53*		*53 - 125*
2,4,6-Tribromophenol	*106*		*15 - 135*

Lab Sample ID: MB 400-449195/1-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
Benzoic acid	ND		30	7.3	ug/L		07/23/19 15:09	07/24/19 20:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/23/19 15:09	07/24/19 20:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/23/19 15:09	07/24/19 20:33	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/23/19 15:09	07/24/19 20:33	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/23/19 15:09	07/24/19 20:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Chloroaniline	ND		10	3.4	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Chlorophenol	ND		10	2.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Dibenzofuran	ND		10	0.52	ug/L		07/23/19 15:09	07/24/19 20:33	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Diethyl phthalate	ND		10	0.70	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/23/19 15:09	07/24/19 20:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449195/1-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449195

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		10	0.60	ug/L		07/23/19 15:09	07/24/19 20:33	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/23/19 15:09	07/24/19 20:33	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/23/19 15:09	07/24/19 20:33	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/23/19 15:09	07/24/19 20:33	1
1,4-Dioxane	ND		10	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/23/19 15:09	07/24/19 20:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/23/19 15:09	07/24/19 20:33	1
Hexachloroethane	ND		10	4.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
Indene	ND		10	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
Isophorone	ND		10	0.57	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Nitroaniline	ND		10	2.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
3-Nitroaniline	ND		10	1.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Nitroaniline	ND		10	2.5	ug/L		07/23/19 15:09	07/24/19 20:33	1
Nitrobenzene	ND		10	0.55	ug/L		07/23/19 15:09	07/24/19 20:33	1
2-Nitrophenol	ND		10	0.65	ug/L		07/23/19 15:09	07/24/19 20:33	1
4-Nitrophenol	ND		10	2.1	ug/L		07/23/19 15:09	07/24/19 20:33	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/23/19 15:09	07/24/19 20:33	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/23/19 15:09	07/24/19 20:33	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/23/19 15:09	07/24/19 20:33	1
Pentachlorophenol	ND		20	1.8	ug/L		07/23/19 15:09	07/24/19 20:33	1
Phenol	ND		10	2.6	ug/L		07/23/19 15:09	07/24/19 20:33	1
Pyridine	ND		10	3.2	ug/L		07/23/19 15:09	07/24/19 20:33	1
Quinoline	ND		10	6.0	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/23/19 15:09	07/24/19 20:33	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/23/19 15:09	07/24/19 20:33	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/23/19 15:09*	*07/24/19 20:33*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*34 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
2-Fluorophenol	*15*		*10 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
Nitrobenzene-d5	*52*		*27 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
Phenol-d5	*37*		*10 - 120*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
Terphenyl-d14	*76*		*53 - 125*	*07/23/19 15:09*	*07/24/19 20:33*	*1*
2,4,6-Tribromophenol	*93*		*15 - 135*	*07/23/19 15:09*	*07/24/19 20:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449195/4-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449195

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	18.3		ug/L		61	29 - 120
Benzoic acid	117	49.8		ug/L		43	10 - 150
Benzyl alcohol	30.0	21.7		ug/L		72	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.9		ug/L		60	45 - 120
Bis(2-chloroethyl)ether	30.0	16.6		ug/L		55	48 - 120
bis (2-chloroisopropyl) ether	30.0	15.7		ug/L		52	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	19.6		ug/L		65	48 - 150
4-Bromophenyl phenyl ether	30.0	33.2		ug/L		111	55 - 122
Butyl benzyl phthalate	30.0	18.3		ug/L		61	46 - 145
4-Chloroaniline	30.0	15.1		ug/L		50	30 - 120
4-Chloro-3-methylphenol	30.0	23.4		ug/L		78	39 - 140
2-Chloronaphthalene	30.0	23.0		ug/L		77	52 - 120
2-Chlorophenol	30.0	18.6		ug/L		62	34 - 120
4-Chlorophenyl phenyl ether	30.0	29.0		ug/L		97	58 - 124
Dibenz[a,h]acridine	30.0	25.9		ug/L		86	46 - 149
Dibenzofuran	30.0	24.8		ug/L		83	58 - 123
3,3'-Dichlorobenzidine	60.0	103	E *	ug/L		172	39 - 135
2,4-Dichlorophenol	30.0	24.4		ug/L		81	39 - 128
Diethyl phthalate	30.0	24.9		ug/L		83	44 - 146
2,4-Dimethylphenol	30.0	22.9		ug/L		76	44 - 120
Dimethyl phthalate	30.0	24.8		ug/L		83	50 - 131
Di-n-butyl phthalate	30.0	23.9		ug/L		80	55 - 131
4,6-Dinitro-ortho-cresol	60.0	50.4		ug/L		84	10 - 150
2,4-Dinitrophenol	60.0	62.5		ug/L		104	10 - 150
2,4-Dinitrotoluene	30.0	27.0		ug/L		90	58 - 140
2,6-Dinitrotoluene	30.0	26.4		ug/L		88	57 - 130
Di-n-octyl phthalate	30.0	23.1		ug/L		77	50 - 150
1,4-Dioxane	30.0	13.0		ug/L		43	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	18.5		ug/L		62	47 - 123
Hexachlorobenzene	30.0	37.3		ug/L		124	52 - 131
Hexachlorocyclopentadiene	30.0	10.9	J	ug/L		36	10 - 129
Hexachloroethane	30.0	14.7		ug/L		49	41 - 120
Indene	30.0	15.6		ug/L		52	47 - 120
Isophorone	30.0	17.9		ug/L		60	49 - 120
2-Methylphenol	30.0	20.5		ug/L		68	39 - 123
3 & 4 Methylphenol	30.0	21.2		ug/L		71	38 - 121
2-Nitroaniline	30.0	21.3		ug/L		71	47 - 150
3-Nitroaniline	30.0	23.4		ug/L		78	34 - 132
4-Nitroaniline	30.0	32.4		ug/L		108	41 - 135
Nitrobenzene	30.0	18.8		ug/L		63	47 - 120
2-Nitrophenol	30.0	21.9		ug/L		73	28 - 136
4-Nitrophenol	60.0	51.2		ug/L		85	10 - 150
N-Nitrosodimethylamine	30.0	22.9		ug/L		76	22 - 148
N-Nitrosodi-n-propylamine	30.0	21.6		ug/L		72	44 - 120
N-Nitrosodiphenylamine	29.8	25.5		ug/L		86	56 - 120
Pentachlorophenol	60.0	69.0		ug/L		115	15 - 141
Phenol	30.0	16.4		ug/L		55	33 - 120
Pyridine	60.0	28.5		ug/L		48	26 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449195/4-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449195

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Quinoline			30.0	21.4		ug/L		71	51 - 129		
2,4,5-Trichlorophenol			30.0	27.1		ug/L		90	38 - 147		
2,4,6-Trichlorophenol			30.0	27.4		ug/L		91	36 - 139		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*66*		*34 - 120*
2-Fluorophenol	*29*		*10 - 120*
Nitrobenzene-d5	*51*		*27 - 120*
Phenol-d5	*48*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*117*		*15 - 135*

Lab Sample ID: LCSD 400-449195/5-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449195

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	18.3		ug/L		61	29 - 120	0	30
Benzoic acid			117	49.8		ug/L		43	10 - 150	0	30
Benzyl alcohol			30.0	19.8		ug/L		66	19 - 125	9	30
Bis(2-chloroethoxy)methane			30.0	17.0		ug/L		57	45 - 120	5	30
Bis(2-chloroethyl)ether			30.0	15.2		ug/L		51	48 - 120	9	30
bis (2-chloroisopropyl) ether			30.0	14.8		ug/L		49	30 - 125	6	30
Bis(2-ethylhexyl) phthalate			30.0	18.1		ug/L		60	48 - 150	8	30
4-Bromophenyl phenyl ether			30.0	30.1		ug/L		100	55 - 122	10	30
Butyl benzyl phthalate			30.0	17.1		ug/L		57	46 - 145	7	30
4-Chloroaniline			30.0	14.2		ug/L		47	30 - 120	6	30
4-Chloro-3-methylphenol			30.0	21.5		ug/L		72	39 - 140	8	30
2-Chloronaphthalene			30.0	22.0		ug/L		73	52 - 120	5	30
2-Chlorophenol			30.0	16.8		ug/L		56	34 - 120	10	30
4-Chlorophenyl phenyl ether			30.0	27.0		ug/L		90	58 - 124	7	30
Dibenz[a,h]acridine			30.0	24.1		ug/L		80	46 - 149	7	30
Dibenzofuran			30.0	23.7		ug/L		79	58 - 123	5	30
3,3'-Dichlorobenzidine			60.0	94.3		ug/L		157	39 - 135	9	30
2,4-Dichlorophenol			30.0	21.8		ug/L		73	39 - 128	11	30
Diethyl phthalate			30.0	24.2		ug/L		81	44 - 146	3	30
2,4-Dimethylphenol			30.0	20.0		ug/L		67	44 - 120	13	30
Dimethyl phthalate			30.0	23.4		ug/L		78	50 - 131	6	30
Di-n-butyl phthalate			30.0	22.3		ug/L		74	55 - 131	7	30
4,6-Dinitro-ortho-cresol			60.0	48.6		ug/L		81	10 - 150	4	30
2,4-Dinitrophenol			60.0	59.6		ug/L		99	10 - 150	5	30
2,4-Dinitrotoluene			30.0	25.8		ug/L		86	58 - 140	5	30
2,6-Dinitrotoluene			30.0	24.7		ug/L		82	57 - 130	7	30
Di-n-octyl phthalate			30.0	21.7		ug/L		72	50 - 150	6	30
1,4-Dioxane			30.0	12.3		ug/L		41	25 - 120	6	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	17.5		ug/L		58	47 - 123	6	30
Hexachlorobenzene			30.0	34.1		ug/L		114	52 - 131	9	30
Hexachlorocyclopentadiene			30.0	12.4	J	ug/L		41	10 - 129	13	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449195/5-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449195

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane			30.0	16.0		ug/L		53	41 - 120	8	30
Indene			30.0	15.3		ug/L		51	47 - 120	2	30
Isophorone			30.0	16.7		ug/L		56	49 - 120	7	30
2-Methylphenol			30.0	18.4		ug/L		61	39 - 123	10	30
3 & 4 Methylphenol			30.0	19.0	J	ug/L		63	38 - 121	11	30
2-Nitroaniline			30.0	20.1		ug/L		67	47 - 150	6	30
3-Nitroaniline			30.0	21.9		ug/L		73	34 - 132	6	30
4-Nitroaniline			30.0	31.6		ug/L		105	41 - 135	3	30
Nitrobenzene			30.0	17.1		ug/L		57	47 - 120	9	30
2-Nitrophenol			30.0	18.7		ug/L		62	28 - 136	16	30
4-Nitrophenol			60.0	45.9		ug/L		76	10 - 150	11	30
N-Nitrosodimethylamine			30.0	22.3		ug/L		74	22 - 148	3	30
N-Nitrosodi-n-propylamine			30.0	20.0		ug/L		67	44 - 120	7	30
N-Nitrosodiphenylamine			29.8	23.1		ug/L		77	56 - 120	10	30
Pentachlorophenol			60.0	62.7		ug/L		104	15 - 141	10	30
Phenol			30.0	14.8		ug/L		49	33 - 120	10	30
Pyridine			60.0	27.3		ug/L		46	26 - 120	4	30
Quinoline			30.0	19.5		ug/L		65	51 - 129	9	30
2,4,5-Trichlorophenol			30.0	24.6		ug/L		82	38 - 147	10	30
2,4,6-Trichlorophenol			30.0	24.6		ug/L		82	36 - 139	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*24*		*10 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d5	*43*		*10 - 120*
Terphenyl-d14	*68*		*53 - 125*
2,4,6-Tribromophenol	*101*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Anthracene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Chrysene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1
Fluoranthene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Fluorene	ND		0.20	0.021	ug/L		07/16/19 12:05	07/18/19 14:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/16/19 12:05	07/18/19 14:09	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448199/1-A
Matrix: Water
Analysis Batch: 448502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Phenanthrene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1
Pyrene	ND		0.20	0.020	ug/L		07/16/19 12:05	07/18/19 14:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*15 - 122*	*07/16/19 12:05*	*07/18/19 14:09*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/16/19 12:05*	*07/18/19 14:09*	*1*
Terphenyl-d14	*89*		*33 - 138*	*07/16/19 12:05*	*07/18/19 14:09*	*1*

Lab Sample ID: LCS 400-448199/4-A
Matrix: Water
Analysis Batch: 448502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	30.3		ug/L		101	41 - 120
Acenaphthylene	30.0	30.5		ug/L		102	44 - 120
Anthracene	30.0	30.4		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	28.5		ug/L		95	61 - 135
Benzo[a]pyrene	30.0	29.4		ug/L		98	52 - 120
Benzo[b]fluoranthene	30.0	31.1		ug/L		104	53 - 134
Benzo[g,h,i]perylene	30.0	32.2		ug/L		107	47 - 133
Benzo[k]fluoranthene	30.0	29.2		ug/L		97	57 - 134
Chrysene	30.0	29.3		ug/L		98	55 - 122
Dibenz(a,h)anthracene	30.0	33.4		ug/L		111	48 - 146
Fluoranthene	30.0	31.5		ug/L		105	54 - 128
Fluorene	30.0	32.5		ug/L		108	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	32.7		ug/L		109	43 - 142
1-Methylnaphthalene	30.0	24.7		ug/L		82	41 - 120
2-Methylnaphthalene	30.0	24.1		ug/L		80	32 - 124
Phenanthrene	30.0	31.0		ug/L		103	48 - 120
Pyrene	30.0	29.0		ug/L		97	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*15 - 122*
Nitrobenzene-d5	*88*		*19 - 130*
Terphenyl-d14	*99*		*33 - 138*

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448502

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2.5		30.5	33.7		ug/L		102	35 - 113
Acenaphthylene	ND		30.5	29.2		ug/L		96	41 - 118
Anthracene	0.16	J	30.5	27.9		ug/L		91	45 - 122
Benzo[a]anthracene	0.11	J	30.5	23.7		ug/L		77	55 - 133
Benzo[a]pyrene	0.097	J	30.5	21.6		ug/L		71	50 - 108

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173045-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173045-5 MS
Matrix: Water
Analysis Batch: 448502

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	ND		30.5	23.3		ug/L		76	50 - 128
Benzo[g,h,i]perylene	ND		30.5	21.7		ug/L		71	46 - 133
Benzo[k]fluoranthene	ND		30.5	22.4		ug/L		73	52 - 128
Chrysene	0.19	J	30.5	23.8		ug/L		77	52 - 116
Dibenz(a,h)anthracene	ND		30.5	24.4		ug/L		80	52 - 143
Fluoranthene	ND		30.5	27.1		ug/L		89	32 - 150
Fluorene	0.38		30.5	31.8		ug/L		103	15 - 150
Indeno[1,2,3-cd]pyrene	ND		30.5	23.2		ug/L		76	41 - 141
1-Methylnaphthalene	1.8		30.5	29.3		ug/L		90	10 - 150
2-Methylnaphthalene	1.8		30.5	29.1		ug/L		90	10 - 150
Phenanthrene	0.87		30.5	30.0		ug/L		96	36 - 125
Pyrene	0.45		30.5	28.4		ug/L		91	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*89*		*15 - 122*
Nitrobenzene-d5	*96*		*19 - 130*
Terphenyl-d14	*46*		*33 - 138*

Lab Sample ID: 400-173045-5 MSD
Matrix: Water
Analysis Batch: 448502

Client Sample ID: PD-11-GWP-50-071119
Prep Type: Total/NA
Prep Batch: 448199

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	2.5		30.5	31.8		ug/L		96	35 - 113	6	49
Acenaphthylene	ND		30.5	27.7		ug/L		91	41 - 118	5	48
Anthracene	0.16	J	30.5	25.6		ug/L		83	45 - 122	9	56
Benzo[a]anthracene	0.11	J	30.5	21.6		ug/L		71	55 - 133	9	57
Benzo[a]pyrene	0.097	J	30.5	20.4		ug/L		67	50 - 108	6	59
Benzo[b]fluoranthene	ND		30.5	22.1		ug/L		72	50 - 128	5	62
Benzo[g,h,i]perylene	ND		30.5	19.5		ug/L		64	46 - 133	11	58
Benzo[k]fluoranthene	ND		30.5	21.0		ug/L		69	52 - 128	6	58
Chrysene	0.19	J	30.5	22.0		ug/L		72	52 - 116	8	59
Dibenz(a,h)anthracene	ND		30.5	22.2		ug/L		73	52 - 143	9	60
Fluoranthene	ND		30.5	24.5		ug/L		80	32 - 150	10	59
Fluorene	0.38		30.5	29.5		ug/L		96	15 - 150	8	49
Indeno[1,2,3-cd]pyrene	ND		30.5	20.9		ug/L		69	41 - 141	10	58
1-Methylnaphthalene	1.8		30.5	27.2		ug/L		83	10 - 150	7	66
2-Methylnaphthalene	1.8		30.5	27.4		ug/L		84	10 - 150	6	66
Phenanthrene	0.87		30.5	27.7		ug/L		88	36 - 125	8	69
Pyrene	0.45		30.5	25.5		ug/L		82	41 - 127	11	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*82*		*15 - 122*
Nitrobenzene-d5	*89*		*19 - 130*
Terphenyl-d14	*47*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/11/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

400-173045 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071119-B	7/11/2019	0:00	Water	2					2		x	
	PD-11-GWP-37-071019	7/11/2019	9:11	Water	2			2		4	x	x	x
	PD-11-GWP-43-071019	7/11/2019	10:10	Water	2			2		4	x	x	x
	PD-11-GWP-43-071019-DUP	7/11/2019	10:10	Water	2			2		4	x	x	x
	PD-11-GWP-50-071019-MS	7/11/2019	12:35	Water	2			2		4	x	x	x
	PD-11-GWP-50-071019-MSD	7/11/2019	12:35	Water	2			2		4	x	x	x
	PD-11-GWP-50-071019	7/11/2019	12:35	Water	2			2		4	x	x	x
	PD-11-GWP-56-071019	7/11/2019	14:35	Water	2			2		4	x	x	x
	PD-11-GWP-60-071019	7/11/2019	15:35	Water	2			2		4	x	x	x

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Paul LaFleur	Fedex: (4931 8205 7504), (4931 8205 7515), (4931 8203 6208) - 1011657, 1011656, 1011663, 1011662, 1011661, 1011660	7/11/2019	17:30
		07-12-19	919

Version: 10May17

2.0°C IR8 1.1°C IR7

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173045-1

Login Number: 173045
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1011663,1011662,1011661,1011660
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0°C IR-8, 1.1°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173045-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173138

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/13/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071219-B	PD-11-GWP-66.7-071219
PD-12-GWP-45-071219	PD-12-GWP-50-071219
PD-12-GWP-55-071219	PD-12-GWP-60-071219

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated PAH samples were extracted outside holding time criteria. The SVOC compound bis(2-ethylhexyl) phthalate was detected in the method blank. VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. The SVOC surrogate terphenyl-d_5 was outside evaluation criteria in sample PD-11-GWP-66.7-071219. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, SVOC and PAH samples were re-extracted 5 days outside of the extraction holding time criteria (7 days). Re-extraction was due to surrogate compound recoveries outside evaluation criteria. Professional judgement was used to qualify as estimated (**J/UJ**); however, not reject the out of holding time data. Holding time exceedances were not greater than two times (2X) criteria; data requiring qualification is summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
PD-11-GWP-66.7-071219-RE	SVOC	SVOC Detects	**J**
PD-11-GWP-66.7-071219-RE	SVOC	SVOC Non-detects	**UJ**
PD-12-GWP-45-071219-RE	SVOC	SVOC Detects	**J**
PD-12-GWP-45-071219-RE	SVOC	SVOC Non-detects	**UJ**

Sample ID	Parameter	Analyte	Qualification
PD-12-GWP-50-071219-RE	SVOC	SVOC Detects	**J**
PD-12-GWP-50-071219-RE	SVOC	SVOC Non-detects	**UJ**
PD-12-GWP-55-071219-RE	SVOC	SVOC Detects	**J**
PD-12-GWP-55-071219-RE	SVOC	SVOC Non-detects	**UJ**
PD-12-GWP-60-071219-RE	SVOC	SVOC Detects	**J**
PD-12-GWP-60-071219-RE	SVOC	SVOC Non-detects	**UJ**
PD-11-GWP-66.7-071219-RE	PAHs	PAH Detects	**J**
PD-11-GWP-66.7-071219-RE	PAHs	PAH Non-detects	**UJ**
PD-12-GWP-45-071219-RE	PAHs	PAH Detects	**J**
PD-12-GWP-45-071219-RE	PAHs	PAH Non-detects	**UJ**
PD-12-GWP-50-071219-RE	PAHs	PAH Detects	**J**
PD-12-GWP-50-071219-RE	PAHs	PAH Non-detects	**UJ**
PD-12-GWP-55-071219-RE	PAHs	PAH Detects	**J**
PD-12-GWP-55-071219-RE	PAHs	PAH Non-detects	**UJ**
PD-12-GWP-60-071219-RE	PAHs	PAH Detects	**J**
PD-12-GWP-60-071219-RE	PAHs	PAH Non-detects	**UJ**

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448434/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	13.0 μg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448481/1002	VOCs	1,1,1,2-Tetrachloroethane	**133**	NA	67-131
400-448434/22-A/4-A/5-A	SVOCs	Benzenethiol	**3**/50	**178**	10-120/30
400-448434/2-A/3-A	SVOCs	3,3'-Dichlorobenzidine	133/**145**	9	39-135/30

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-11-GWP-66.7-071219	SVOCs	Benzenethiol	**UJ**
PD-12-GWP-45-071219	SVOCs	Benzenethiol	**UJ**
PD-12-GWP-50-071219	SVOCs	Benzenethiol	**UJ**
PD-12-GWP-55-071219	SVOCs	Benzenethiol	**UJ**
PD-12-GWP-60-071219	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-11-GWP-66.7-071219-RE	SVOCs	Terphenyl-d_{14}	**43**	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173138-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
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Attn: Elizabeth Kunkel

Authorized for release by:
8/13/2019 9:20:29 AM

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Reviewed on 8/13/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173138-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173138-1

Comments
No additional comments.

Receipt
The samples were received on 7/13/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.5° C and 3.0° C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448481 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071219-B (400-173138-1), PD-12-GWP-45-071219 (400-173138-3) and PD-12-GWP-55-071219 (400-173138-5). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-448481 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-GWP-66.7-071219 (400-173138-2), PD-12-GWP-50-071219 (400-173138-4) and PD-12-GWP-55-071219 (400-173138-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered above the upper control limit for Hexachlorobenzene, 4-Chlorophenyl phenyl ether and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered outside acceptance criteria, low biased, for Aniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448434 and 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered above the upper control limit for 2,4-Dinitrophenol, Hexachlorobenzene, 4-Bromophenyl phenyl ether and 2,4-Dinitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448434 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). The samples associated with this method blank were either non-detect or less than the reporting limit.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered outside acceptance criteria,

Job ID: 400-173138-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

low biased, for bis (2-chloroisopropyl) ether, Phenol, Butyl benzyl phthalate, Pyridine, 1,4-Dioxane and 1,2-Diphenylhydrazine (as Azobenzene). A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Surrogate compounds were inadvertently omitted during the extraction process for the following samples: PD-11-GWP-66.7-071219 (400-173138-2), PD-12-GWP-45-071219 (400-173138-3), PD-12-GWP-50-071219 (400-173138-4), PD-12-GWP-55-071219 (400-173138-5), PD-12-GWP-60-071219 (400-173138-6). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-11-GWP-66.7-071219 (400-173138-2). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Indene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, N-Nitrosodi-n-propylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Diethyl phthalate, Hexachlorocyclopentadiene, Dibenzofuran, Dimethyl phthalate, 2-Chloronaphthalene, 4-Chlorophenyl phenyl ether and 2,4-Dinitrotoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Surrogate compounds were inadvertently omitted during the extraction process for the following samples: PD-11-GWP-66.7-071219 (400-173138-2), PD-12-GWP-45-071219 (400-173138-3), PD-12-GWP-50-071219 (400-173138-4), PD-12-GWP-55-071219 (400-173138-5) and PD-12-GWP-60-071219 (400-173138-6). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-449437 and analytical batch 400-450489 contained Fluoranthene and Pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-12-GWP-55-071219 (400-173138-5). These results have been reported and qualified.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-12-GWP-45-071219 (400-173138-3) and PD-12-GWP-50-071219 (400-173138-4), PD-12-GWP-55-071219 (400-173138-5). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: Two of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-12-GWP-60-071219 (400-173138-6). Re-analysis at dilution to mitigate this interference would serve only to

Job ID: 400-173138-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

Method(s) 8270D LL: One of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-12-GWP-45-071219 (400-173138-3). Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173138-1	TB-PW-071219-B	Water	07/12/19 00:00	07/13/19 09:09	
400-173138-2	PD-11-GWP-66.7-071219	Water	07/12/19 08:45	07/13/19 09:09	
400-173138-3	PD-12-GWP-45-071219	Water	07/12/19 10:15	07/13/19 09:09	
400-173138-4	PD-12-GWP-50-071219	Water	07/12/19 11:10	07/13/19 09:09	
400-173138-5	PD-12-GWP-55-071219	Water	07/12/19 13:10	07/13/19 09:09	
400-173138-6	PD-12-GWP-60-071219	Water	07/12/19 14:25	07/13/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: TB-PW-071219-B — Lab Sample ID: 400-173138-1

No Detections.

Client Sample ID: PD-11-GWP-66.7-071219 — Lab Sample ID: 400-173138-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.71	J	1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	0.79	J	1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.66	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.6		1.0	0.82	ug/L	1		8260B	Total/NA
Xylenes, Total	1.7	J	10	1.6	ug/L	1		8260B	Total/NA
Benzene - DL	290		2.0	0.76	ug/L	2		8260B	Total/NA
Acenaphthene	0.57		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.27		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.41		0.20	0.039	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.21		0.20	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.71	J	0.98	0.20	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.18	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.66		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	2.7		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.81		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	2.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	1.3		0.98	0.098	ug/L	5		8270D LL	Total/NA
Acenaphthene - RE	0.40	H J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene - RE	0.10	J H B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene - RE	0.43	H J J	0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - RE	1.7	H J J J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene - RE	0.56	H J J J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene - RE	1.2	H J J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene - RE	0.78	H B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	4.1	J J	9.8	2.5	ug/L	1		8270D	Total/NA
Phenol - RE	4.0	J H	9.8	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-45-071219 — Lab Sample ID: 400-173138-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	260	J	500	210	ug/L	500		8260B	Total/NA
Benzene - DL	460000		5000	1900	ug/L	5000		8260B	Total/NA
Acenaphthene	0.40		0.19	0.019	ug/L	1		8270D LL	Total/NA
Acenaphthene	0.79	J H J	1.2	0.12	ug/L	6		8270D LL	Total/NA
Fluorene	0.57		0.19	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.81	J H J	1.2	0.12	ug/L	6		8270D LL	Total/NA
1-Methylnaphthalene	20		0.19	0.019	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	19	H J	1.2	0.12	ug/L	6		8270D LL	Total/NA
2-Methylnaphthalene	2.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.1	H J	1.2	0.12	ug/L	6		8270D LL	Total/NA
Phenanthrene	0.31		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.57	J H J	1.2	0.12	ug/L	6		8270D LL	Total/NA
Pyrene	0.35	J H J	1.2	0.12	ug/L	6		8270D LL	Total/NA
Dibenzofuran	0.55	J J	9.7	0.51	ug/L	1		8270D	Total/NA
Phenol	71		9.7	2.5	ug/L	1		8270D	Total/NA
Phenol - RE	410	H J	99	26	ug/L	10		8270D	Total/NA
Dibenzofuran - RERA	1.0	J H J	9.9	0.51	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219 — Lab Sample ID: 400-173138-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	25000		100	38	ug/L	100		8260B	Total/NA
Anthracene	0.19	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.12	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	1.0		0.97	0.097	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	1.1	H J	0.99	0.099	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	0.44	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	0.51	J H J	0.99	0.099	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.58	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.55	J H J	0.99	0.099	ug/L	5		8270D LL	Total/NA
Pyrene	0.29	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Pyrene	0.23	J H J	0.99	0.099	ug/L	5		8270D LL	Total/NA
Phenol	59		9.7	2.5	ug/L	1		8270D	Total/NA
Phenol - RE	110	H	50	13	ug/L	5		8270D	Total/NA
Bis(2-ethylhexyl) phthalate - RERA	7.5	J H J	9.9	5.0	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-55-071219 — Lab Sample ID: 400-173138-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	3000		500	250	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	7300		2500	800	ug/L	500		8260B	Total/NA
o-Xylene	2700		2500	300	ug/L	500		8260B	Total/NA
Toluene	2300		500	210	ug/L	500		8260B	Total/NA
1,2,4-Trimethylbenzene	1200		500	410	ug/L	500		8260B	Total/NA
1,3,5-Trimethylbenzene	440	J	500	280	ug/L	500		8260B	Total/NA
Xylenes, Total	10000		5000	800	ug/L	500		8260B	Total/NA
Benzene - DL	330000		2000	760	ug/L	2000		8260B	Total/NA
Anthracene	1.1		0.98	0.098	ug/L	5		8270D LL	Total/NA
Anthracene	1.2	H J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.23	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.24	J H J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Fluorene	4.1		0.98	0.10	ug/L	5		8270D LL	Total/NA
Fluorene	2.8	H J	1.0	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	150		0.98	0.098	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	130	H J	1.0	0.10	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	250		4.9	0.49	ug/L	25		8270D LL	Total/NA
Phenanthrene	4.7		0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenanthrene	4.5	H J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene	0.44	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Pyrene	0.39	J H J	1.0	0.10	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	200	H	5.0	0.50	ug/L	25		8270D LL	Total/NA
Phenol - RE	63	H	10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-60-071219 — Lab Sample ID: 400-173138-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	150		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	12		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	22		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	76		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	13		1.0	1.0	ug/L	1		8260B	Total/NA
n-Butylbenzene	2.3		1.0	0.76	ug/L	1		8260B	Total/NA
N-Propylbenzene	37		1.0	0.69	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219 (Continued)

Lab Sample ID: 400-173138-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
o-Xylene	10		5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.4		1.0	0.70	ug/L	1		8260B	Total/NA
Toluene	5.4		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	18		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	9.6		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	86		10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	7.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	8.5	H J	0.98	0.098	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	9.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	10	H J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.15	J H J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenol	6.3	J	9.8	2.5	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate - RE	0.72	J H J	9.8	0.43	ug/L	1		8270D	Total/NA
Phenol - RE	6.6	J H J	9.8	2.5	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: TB-PW-071219-B

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 09:25	1
Acrolein	ND		20	10	ug/L			07/18/19 09:25	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 09:25	1
Benzene	ND		1.0	0.38	ug/L			07/18/19 09:25	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 09:25	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 09:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 09:25	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 09:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 09:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 09:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 09:25	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 09:25	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 09:25	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 09:25	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:25	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 09:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 09:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 09:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 09:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 09:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 09:25	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 09:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/18/19 09:25	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 09:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 09:25	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/18/19 09:25	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/18/19 09:25	1
Naphthalene	ND		1.0	1.0	ug/L			07/18/19 09:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/18/19 09:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/18/19 09:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 09:25	1
o-Xylene	ND		5.0	0.60	ug/L			07/18/19 09:25	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 09:25	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: TB-PW-071219-B
Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 09:25	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/18/19 09:25	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 09:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 09:25	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/18/19 09:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 09:25	1
Toluene	ND		1.0	0.41	ug/L			07/18/19 09:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 09:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 09:25	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 09:25	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 09:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 09:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/18/19 09:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/18/19 09:25	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 09:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Xylenes, Total	ND		10	1.6	ug/L			07/18/19 09:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*63*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/18/19 09:25*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 09:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 09:25*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/18/19 09:25*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/18/19 09:25*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 08:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 08:51*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/19/19 08:51*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/19/19 08:51*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219
Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 09:49	1
Acrolein	ND		20	10	ug/L			07/18/19 09:49	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 09:49	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 09:49	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 09:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 09:49	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 09:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 09:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 09:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 09:49	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 09:49	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 09:49	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 09:49	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:49	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 09:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 09:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 09:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 09:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Ethylbenzene	**0.71**	**J**	1.0	0.50	ug/L			07/18/19 09:49	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 09:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 09:49	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 09:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/18/19 09:49	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 09:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 09:49	1
Methyl tert-butyl ether	**0.79**	**J**	1.0	0.74	ug/L			07/18/19 09:49	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/18/19 09:49	1
Naphthalene	ND		1.0	1.0	ug/L			07/18/19 09:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/18/19 09:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/18/19 09:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 09:49	1
o-Xylene	ND		5.0	0.60	ug/L			07/18/19 09:49	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 09:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 09:49	1

Client Sample ID: PD-11-GWP-66.7-071219 **Lab Sample ID: 400-173138-2**
Date Collected: 07/12/19 08:45 **Matrix: Water**
Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/18/19 09:49	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 09:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 09:49	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/18/19 09:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 09:49	1
Toluene	**0.66**	**J**	1.0	0.41	ug/L			07/18/19 09:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 09:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 09:49	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 09:49	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 09:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 09:49	1
1,2,4-Trimethylbenzene	**1.6**		1.0	0.82	ug/L			07/18/19 09:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/18/19 09:49	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 09:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Xylenes, Total	**1.7**	**J**	10	1.6	ug/L			07/18/19 09:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*140*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/18/19 09:49*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 09:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/18/19 09:49*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/18/19 09:49*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/18/19 09:49*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**290**		2.0	0.76	ug/L			07/19/19 11:20	2
Methylene Chloride	ND		10	6.0	ug/L			07/19/19 11:20	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/19/19 11:20*	*2*
Dibromofluoromethane	*99*		*81 - 121*		*07/19/19 11:20*	*2*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/19/19 11:20*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.57**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Anthracene	**0.27**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:22	5
Benzo[a]pyrene	**0.41**		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[b]fluoranthene	**0.21**		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	**0.71**	**J**	0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:22	5
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Fluoranthene	**0.18**	**J**	0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Fluorene	**0.66**		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 16:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
1-Methylnaphthalene	**2.7**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
2-Methylnaphthalene	**0.81**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Phenanthrene	**2.0**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Pyrene	**1.3**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*07/31/19 16:52*	*1*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*07/31/19 16:52*	*1*
Terphenyl-d14	*0*	*X*	*33 - 138*	*07/17/19 14:25*	*08/02/19 21:22*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.40**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Acenaphthylene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Anthracene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[a]anthracene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[a]pyrene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[b]fluoranthene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[g,h,i]perylene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[k]fluoranthene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Chrysene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Dibenz(a,h)anthracene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Fluoranthene	**0.10**	**J H B**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Fluorene	**0.43**	**H**	0.20	0.021	ug/L		07/24/19 21:29	08/01/19 17:27	1
Indeno[1,2,3-cd]pyrene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
1-Methylnaphthalene	**1.7**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
2-Methylnaphthalene	**0.56**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Phenanthrene	**1.2**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Pyrene	**0.78**	**H B**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*15 - 122*	*07/24/19 21:29*	*08/01/19 17:27*	*1*
Nitrobenzene-d5	*99*		*19 - 130*	*07/24/19 21:29*	*08/01/19 17:27*	*1*
Terphenyl-d14	*89*		*33 - 138*	*07/24/19 21:29*	*08/01/19 17:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 19:35	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/17/19 14:25	07/22/19 19:35	1
Benzoic acid	ND		29	7.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 19:35	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/17/19 14:25	07/22/19 19:35	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 19:35	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 19:35	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 19:35	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 19:35	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 19:35	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 19:35	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 19:35	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 19:35	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 19:35	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 19:35	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/17/19 14:25	07/22/19 19:35	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 19:35	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 19:35	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 19:35	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 19:35	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 19:35	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 19:35	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 19:35	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 19:35	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 19:35	1
Phenol	**4.1**	**J**	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 19:35	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 19:35	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 19:35	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Naphthalene, 1,3-dimethyl-	*4.8*	*T J N*	*ug/L*		*7.19*	*575-41-7*	*07/17/19 14:25*	*07/22/19 19:35*	*1*
n-Hexadecanoic acid	*4.5*	*T J N*	*ug/L*		*8.91*	*57-10-3*	*07/17/19 14:25*	*07/22/19 19:35*	*1*
Benzo[a]pyrene	*0.87*	*J*	*ug/L*		*12.30*	*50-32-8*	*07/17/19 14:25*	*07/22/19 19:35*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	X	34 - 120	07/17/19 14:25	07/22/19 19:35	1
2-Fluorophenol	0	X	10 - 120	07/17/19 14:25	07/22/19 19:35	1
Nitrobenzene-d5	0.1	X	27 - 120	07/17/19 14:25	07/22/19 19:35	1
Phenol-d5	0.04	X	10 - 120	07/17/19 14:25	07/22/19 19:35	1
Terphenyl-d14	0.07	X	53 - 125	07/17/19 14:25	07/22/19 19:35	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 19:35	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.8	3.7	ug/L		07/24/19 21:29	07/30/19 23:28	1
Benzenethiol	ND	H *	9.8	1.7	ug/L		07/24/19 21:29	07/30/19 23:28	1
Benzoic acid	ND	H	29	7.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	07/30/19 23:28	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.68	ug/L		07/24/19 21:29	07/30/19 23:28	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/24/19 21:29	07/30/19 23:28	1
Butyl benzyl phthalate	ND	H	9.8	0.68	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Chlorophenol	ND	H	9.8	2.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
3,3'-Dichlorobenzidine	ND	H	9.8	2.5	ug/L		07/24/19 21:29	07/30/19 23:28	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/24/19 21:29	07/30/19 23:28	1
Diethyl phthalate	ND	H	9.8	0.69	ug/L		07/24/19 21:29	07/30/19 23:28	1
2,4-Dimethylphenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	07/30/19 23:28	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/24/19 21:29	07/30/19 23:28	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	07/30/19 23:28	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/24/19 21:29	07/30/19 23:28	1
Di-n-octyl phthalate	ND	H	9.8	0.43	ug/L		07/24/19 21:29	07/30/19 23:28	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/24/19 21:29	07/30/19 23:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/24/19 21:29	07/30/19 23:28	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/24/19 21:29	07/30/19 23:28	1
Indene	ND	H	9.8	0.98	ug/L		07/24/19 21:29	07/30/19 23:28	1
Isophorone	ND	H	9.8	0.56	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Methylphenol	ND	H	9.8	1.8	ug/L		07/24/19 21:29	07/30/19 23:28	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Nitroaniline	ND	H	9.8	2.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/24/19 21:29	07/30/19 23:28	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Nitrophenol	ND	H	9.8	0.64	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Nitrophenol	ND	H	9.8	2.1	ug/L		07/24/19 21:29	07/30/19 23:28	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/24/19 21:29	07/30/19 23:28	1
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/24/19 21:29	07/30/19 23:28	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	07/30/19 23:28	1
Phenol	**4.0**	**J H**	9.8	2.5	ug/L		07/24/19 21:29	07/30/19 23:28	1
Pyridine	ND	H	9.8	3.1	ug/L		07/24/19 21:29	07/30/19 23:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	44		34 - 120	07/24/19 21:29	07/30/19 23:28	1
2-Fluorophenol	47		10 - 120	07/24/19 21:29	07/30/19 23:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78*		*27 - 120*	*07/24/19 21:29*	*07/30/19 23:28*	*1*
Phenol-d5	*65*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:28*	*1*
Terphenyl-d14	*43*	*X*	*53 - 125*	*07/24/19 21:29*	*07/30/19 23:28*	*1*
2,4,6-Tribromophenol	*42*		*15 - 135*	*07/24/19 21:29*	*07/30/19 23:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	H	9.8	0.73	ug/L		07/24/19 21:29	08/01/19 23:04	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/24/19 21:29	08/01/19 23:04	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/24/19 21:29	08/01/19 23:04	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/01/19 23:04	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/01/19 23:04	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/01/19 23:04	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
Hexachlorobenzene	ND	H	9.8	0.25	ug/L		07/24/19 21:29	08/01/19 23:04	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/24/19 21:29	08/01/19 23:04	1
Quinoline	ND	H	9.8	5.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/01/19 23:04	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/18/19 11:03	500
Acrolein	ND		10000	5000	ug/L			07/18/19 11:03	500
Acrylonitrile	ND		5000	1400	ug/L			07/18/19 11:03	500
Bromobenzene	ND		500	270	ug/L			07/18/19 11:03	500
Bromochloromethane	ND		500	260	ug/L			07/18/19 11:03	500
Bromodichloromethane	ND		500	250	ug/L			07/18/19 11:03	500
Bromoform	ND		2500	360	ug/L			07/18/19 11:03	500
Bromomethane	ND		500	490	ug/L			07/18/19 11:03	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/18/19 11:03	500
Carbon disulfide	ND		500	250	ug/L			07/18/19 11:03	500
Carbon tetrachloride	ND		500	250	ug/L			07/18/19 11:03	500
Chlorobenzene	ND		500	250	ug/L			07/18/19 11:03	500
Chloroethane	ND		500	380	ug/L			07/18/19 11:03	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			07/18/19 11:03	500
Chloroform	ND		500	300	ug/L			07/18/19 11:03	500
1-Chlorohexane	ND		500	350	ug/L			07/18/19 11:03	500
Chloromethane	ND		500	420	ug/L			07/18/19 11:03	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:03	500
Dibromochloromethane	ND		500	250	ug/L			07/18/19 11:03	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/18/19 11:03	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/18/19 11:03	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/18/19 11:03	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/18/19 11:03	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/18/19 11:03	500
1,1-Dichloroethane	ND		500	250	ug/L			07/18/19 11:03	500
1,2-Dichloroethane	ND		500	250	ug/L			07/18/19 11:03	500
1,1-Dichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
1,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:03	500
1,3-Dichloropropane	ND		500	250	ug/L			07/18/19 11:03	500
2,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:03	500
1,1-Dichloropropene	ND		500	250	ug/L			07/18/19 11:03	500
Ethylbenzene	ND		500	250	ug/L			07/18/19 11:03	500
Ethylene Dibromide	ND		500	250	ug/L			07/18/19 11:03	500
Ethyl methacrylate	ND		500	300	ug/L			07/18/19 11:03	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/18/19 11:03	500
2-Hexanone	ND		13000	1600	ug/L			07/18/19 11:03	500
Isopropylbenzene	ND		500	270	ug/L			07/18/19 11:03	500
Methylene bromide	ND		2500	300	ug/L			07/18/19 11:03	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/18/19 11:03	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/18/19 11:03	500
m-Xylene & p-Xylene	ND		2500	800	ug/L			07/18/19 11:03	500
Naphthalene	ND		500	500	ug/L			07/18/19 11:03	500
n-Butylbenzene	ND		500	380	ug/L			07/18/19 11:03	500
N-Propylbenzene	ND		500	350	ug/L			07/18/19 11:03	500
o-Chlorotoluene	ND		500	290	ug/L			07/18/19 11:03	500
o-Xylene	ND		2500	300	ug/L			07/18/19 11:03	500
p-Chlorotoluene	ND		500	280	ug/L			07/18/19 11:03	500
p-Isopropyltoluene	ND		500	360	ug/L			07/18/19 11:03	500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		500	350	ug/L			07/18/19 11:03	500
Styrene	ND		500	500	ug/L			07/18/19 11:03	500
tert-Butylbenzene	ND		500	320	ug/L			07/18/19 11:03	500
1,1,1,2-Tetrachloroethane	ND	*	500	260	ug/L			07/18/19 11:03	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/18/19 11:03	500
Tetrachloroethene	ND		500	290	ug/L			07/18/19 11:03	500
Toluene	**260**	**J**	500	210	ug/L			07/18/19 11:03	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:03	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/18/19 11:03	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/18/19 11:03	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/18/19 11:03	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/18/19 11:03	500
Trichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
Trichlorofluoromethane	ND		500	260	ug/L			07/18/19 11:03	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/18/19 11:03	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			07/18/19 11:03	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			07/18/19 11:03	500
Vinyl acetate	ND		13000	1000	ug/L			07/18/19 11:03	500
Vinyl chloride	ND		500	250	ug/L			07/18/19 11:03	500
Xylenes, Total	ND		5000	800	ug/L			07/18/19 11:03	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 11:03*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 11:03*	*500*
Dibromofluoromethane	*96*		*81 - 121*		*07/18/19 11:03*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/18/19 11:03*	*500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**460000**		5000	1900	ug/L			07/18/19 17:51	5000
Methylene Chloride	ND		25000	15000	ug/L			07/18/19 17:51	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/18/19 17:51*	*5000*
Dibromofluoromethane	*98*		*81 - 121*		*07/18/19 17:51*	*5000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/18/19 17:51*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.40**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Acenaphthene	**0.79**	**J H** UJ	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Acenaphthylene	ND		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Acenaphthylene	ND	H UJ	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Anthracene	ND		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Anthracene	ND	H UJ	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[a]anthracene	ND	*	0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[a]anthracene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[b]fluoranthene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[g,h,i]perylene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[k]fluoranthene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Chrysene	ND	*	0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Chrysene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Dibenz(a,h)anthracene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Fluoranthene	ND		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Fluoranthene	ND	H UJ	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Fluorene	**0.57**		0.19	0.020	ug/L		07/17/19 14:25	07/31/19 17:11	1
Fluorene	**0.81**	**J H** J	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Indeno[1,2,3-cd]pyrene	ND	H UJ	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
1-Methylnaphthalene	**20**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
1-Methylnaphthalene	**19**	**H** J	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
2-Methylnaphthalene	**2.1**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
2-Methylnaphthalene	**3.1**	**H** J	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Phenanthrene	**0.31**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Phenanthrene	**0.57**	**J H** J	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Pyrene	ND	*	0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Pyrene	**0.35**	**J H** J	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*07/31/19 17:11*	*1*
2-Fluorobiphenyl	*80*		*15 - 122*	*07/24/19 21:29*	*08/05/19 15:46*	*6*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*07/31/19 17:11*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/24/19 21:29*	*08/05/19 15:46*	*6*
Terphenyl-d14	*0*	*X **	*33 - 138*	*07/17/19 14:25*	*07/31/19 17:11*	*1*
Terphenyl-d14	*84*		*33 - 138*	*07/24/19 21:29*	*08/05/19 15:46*	*6*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
Benzenethiol	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 19:57	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/17/19 14:25	07/22/19 19:57	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/17/19 14:25	07/22/19 19:57	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/17/19 14:25	07/22/19 19:57	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 19:57	1

Client: AECOM Technical Services Inc. Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-45-071219 **Lab Sample ID: 400-173138-3**
Date Collected: 07/12/19 10:15 **Matrix: Water**
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Dibenzofuran	**0.55**	**J**	9.7	0.51	ug/L		07/17/19 14:25	07/22/19 19:57	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/17/19 14:25	07/22/19 19:57	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/17/19 14:25	07/22/19 19:57	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/17/19 14:25	07/22/19 19:57	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 19:57	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 19:57	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/17/19 14:25	07/22/19 19:57	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/17/19 14:25	07/22/19 19:57	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
Indene	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 19:57	1
Isophorone	ND		9.7	0.55	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/17/19 14:25	07/22/19 19:57	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/17/19 14:25	07/22/19 19:57	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/17/19 14:25	07/22/19 19:57	1
Pentachlorophenol	ND		19	1.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
Phenol	**71**		9.7	2.5	ug/L		07/17/19 14:25	07/22/19 19:57	1
Pyridine	ND		9.7	3.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
Quinoline	ND		9.7	5.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 19:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*90*	*T J N*	*ug/L*		*3.69*	*108-88-3*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
Cyclopentanol, 1-methyl-	*17*	*T J N*	*ug/L*		*3.92*	*1462-03-9*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
1,3-Dimethylcyclopentanol	*4.5*	*T J N*	*ug/L*		*4.34*	*19550-46-0*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
Ethylbenzene	*140*	*T J N*	*ug/L*		*4.48*	*100-41-4*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
Benzene, 1,3-dimethyl-	*53*	*T J N*	*ug/L*		*4.71*	*108-38-3*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
1-Methylcyclohexanol	*5.1*	*T J N*	*ug/L*		*4.74*	*590-67-0*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
Benzene, (1-methylethyl)-	*8.1*	*T J N*	*ug/L*		*4.90*	*98-82-8*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
Benzene, propyl-	*7.7*	*T J N*	*ug/L*		*5.08*	*103-65-1*	*07/17/19 14:25*	*07/22/19 19:57*	*1*
Benzene, 1-ethyl-2-methyl-	*8.5*	*T J N*	*ug/L*		*5.23*	*611-14-3*	*07/17/19 14:25*	*07/22/19 19:57*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1-ethyl-3-methyl-	5.8	T J N	ug/L		5.31	620-14-4	07/17/19 14:25	07/22/19 19:57	1
Benzene, (1-methylpropyl)-	5.4	T J N	ug/L		5.40	135-98-8	07/17/19 14:25	07/22/19 19:57	1
Benzene, 1,2,3-trimethyl-	6.9	T J N	ug/L		5.47	526-73-8	07/17/19 14:25	07/22/19 19:57	1
Indane	62	T J N	ug/L		5.55	496-11-7	07/17/19 14:25	07/22/19 19:57	1
Benzene, 1,3-diethyl-	18	T J N	ug/L		5.62	141-93-5	07/17/19 14:25	07/22/19 19:57	1
Indan, 1-methyl-	8.8	T J N	ug/L		5.80	767-58-8	07/17/19 14:25	07/22/19 19:57	1
Benzene, 1,2,4,5-tetramethyl-	9.3	T J N	ug/L		5.92	95-93-2	07/17/19 14:25	07/22/19 19:57	1
Benzene, 1,2,4,5-tetramethyl-	5.6	T J N	ug/L		5.93	95-93-2	07/17/19 14:25	07/22/19 19:57	1
Benzene, 2-ethenyl-1,4-dimethyl-	4.7	T J N	ug/L		6.04	2039-89-6	07/17/19 14:25	07/22/19 19:57	1
Benzene, 1,2,4,5-tetramethyl-	22	T J N	ug/L		6.09	95-93-2	07/17/19 14:25	07/22/19 19:57	1
Naphthalene	11	T J N	ug/L		6.28	91-20-3	07/17/19 14:25	07/22/19 19:57	1
Naphthalene, 1-methyl-	16	T J N	ug/L		6.79	90-12-0	07/17/19 14:25	07/22/19 19:57	1
Naphthalene, 2,3-dimethyl-	4.5	T J N	ug/L		7.19	581-40-8	07/17/19 14:25	07/22/19 19:57	1
n-Hexadecanoic acid	7.2	T J N	ug/L		8.91	57-10-3	07/17/19 14:25	07/22/19 19:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	X	34 - 120	07/17/19 14:25	07/22/19 19:57	1
2-Fluorophenol	3	X	10 - 120	07/17/19 14:25	07/22/19 19:57	1
Nitrobenzene-d5	1	X	27 - 120	07/17/19 14:25	07/22/19 19:57	1
Phenol-d5	0.1	X	10 - 120	07/17/19 14:25	07/22/19 19:57	1
Terphenyl-d14	0.2	X	53 - 125	07/17/19 14:25	07/22/19 19:57	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 19:57	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	410	H J	99	26	ug/L		07/24/19 21:29	08/02/19 19:24	10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H UJ	9.9	3.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
Benzenethiol	ND	H	9.9	1.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
Benzoic acid	ND	H	30	7.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
Benzyl alcohol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Bis(2-chloroethoxy)methane	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:33	1
Bis(2-chloroethyl)ether	ND	H	9.9	0.73	ug/L		07/24/19 21:29	08/03/19 11:33	1
bis (2-chloroisopropyl) ether	ND	H	9.9	0.80	ug/L		07/24/19 21:29	08/03/19 11:33	1
Bis(2-ethylhexyl) phthalate	ND	H	9.9	4.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Bromophenyl phenyl ether	ND	H	9.9	0.32	ug/L		07/24/19 21:29	08/03/19 11:33	1
Butyl benzyl phthalate	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Chloroaniline	ND	H	9.9	3.4	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Chloro-3-methylphenol	ND	H	9.9	3.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Chloronaphthalene	ND	H	9.9	0.51	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Chlorophenol	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Chlorophenyl phenyl ether	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Dibenz[a,h]acridine	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Dibenzofuran	1.0	J H	9.9	0.51	ug/L		07/24/19 21:29	08/03/19 11:33	1
3,3'-Dichlorobenzidine	ND	H UJ	9.9	2.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dichlorophenol	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Diethyl phthalate	ND	H	9.9	0.69	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dimethylphenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND	H	9.9	0.59	ug/L		07/24/19 21:29	08/03/19 11:33	1
Di-n-butyl phthalate	ND	H	9.9	2.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
4,6-Dinitro-ortho-cresol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dinitrophenol	ND	H	30	3.4	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,6-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
Di-n-octyl phthalate	ND	H	9.9	0.43	ug/L		07/24/19 21:29	08/03/19 11:33	1
1,4-Dioxane	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:33	1
Hexachlorobenzene	ND	H	9.9	0.25	ug/L		07/24/19 21:29	08/03/19 11:33	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
Hexachloroethane	ND	H	9.9	4.1	ug/L		07/24/19 21:29	08/03/19 11:33	1
Indene	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:33	1
Isophorone	ND	H	9.9	0.56	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Methylphenol	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:33	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Nitroaniline	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
3-Nitroaniline	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Nitroaniline	ND	H	9.9	2.4	ug/L		07/24/19 21:29	08/03/19 11:33	1
Nitrobenzene	ND	H	9.9	0.54	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Nitrophenol	ND	H	9.9	0.64	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Nitrophenol	ND	H	9.9	2.1	ug/L		07/24/19 21:29	08/03/19 11:33	1
N-Nitrosodimethylamine	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:33	1
N-Nitrosodi-n-propylamine	ND	H	9.9	3.3	ug/L		07/24/19 21:29	08/03/19 11:33	1
N-Nitrosodiphenylamine	ND	H	9.9	0.46	ug/L		07/24/19 21:29	08/03/19 11:33	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 11:33	1
Pyridine	ND	H	9.9	3.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
Quinoline	ND	H	9.9	5.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4,5-Trichlorophenol	ND	H	9.9	3.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4,6-Trichlorophenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*113*		*34 - 120*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
2-Fluorophenol	*69*		*10 - 120*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
Nitrobenzene-d5	*95*		*27 - 120*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
Phenol-d5	*82*		*10 - 120*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
Terphenyl-d14	*102*		*53 - 125*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
2,4,6-Tribromophenol	*123*		*15 - 135*	*07/24/19 21:29*	*08/03/19 11:33*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	500	ug/L			07/18/19 10:38	50
Acrolein	ND		1000	500	ug/L			07/18/19 10:38	50
Acrylonitrile	ND		500	140	ug/L			07/18/19 10:38	50
Bromobenzene	ND		50	27	ug/L			07/18/19 10:38	50
Bromochloromethane	ND		50	26	ug/L			07/18/19 10:38	50
Bromodichloromethane	ND		50	25	ug/L			07/18/19 10:38	50
Bromoform	ND		250	36	ug/L			07/18/19 10:38	50
Bromomethane	ND		50	49	ug/L			07/18/19 10:38	50
2-Butanone (MEK)	ND		1300	130	ug/L			07/18/19 10:38	50
Carbon disulfide	ND		50	25	ug/L			07/18/19 10:38	50
Carbon tetrachloride	ND		50	25	ug/L			07/18/19 10:38	50
Chlorobenzene	ND		50	25	ug/L			07/18/19 10:38	50
Chloroethane	ND		50	38	ug/L			07/18/19 10:38	50
2-Chloroethyl vinyl ether	ND		250	100	ug/L			07/18/19 10:38	50
Chloroform	ND		50	30	ug/L			07/18/19 10:38	50
1-Chlorohexane	ND		50	35	ug/L			07/18/19 10:38	50
Chloromethane	ND		50	42	ug/L			07/18/19 10:38	50
cis-1,2-Dichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
cis-1,3-Dichloropropene	ND		250	25	ug/L			07/18/19 10:38	50
Dibromochloromethane	ND		50	25	ug/L			07/18/19 10:38	50
1,2-Dibromo-3-Chloropropane	ND		250	75	ug/L			07/18/19 10:38	50
1,2-Dichlorobenzene	ND		50	25	ug/L			07/18/19 10:38	50
1,3-Dichlorobenzene	ND		50	27	ug/L			07/18/19 10:38	50
1,4-Dichlorobenzene	ND		50	32	ug/L			07/18/19 10:38	50
Dichlorodifluoromethane	ND		50	43	ug/L			07/18/19 10:38	50
1,1-Dichloroethane	ND		50	25	ug/L			07/18/19 10:38	50
1,2-Dichloroethane	ND		50	25	ug/L			07/18/19 10:38	50
1,1-Dichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
1,2-Dichloropropane	ND		50	25	ug/L			07/18/19 10:38	50
1,3-Dichloropropane	ND		50	25	ug/L			07/18/19 10:38	50
2,2-Dichloropropane	ND		50	25	ug/L			07/18/19 10:38	50
1,1-Dichloropropene	ND		50	25	ug/L			07/18/19 10:38	50
Ethylbenzene	ND		50	25	ug/L			07/18/19 10:38	50
Ethylene Dibromide	ND		50	25	ug/L			07/18/19 10:38	50
Ethyl methacrylate	ND		50	30	ug/L			07/18/19 10:38	50
Hexachlorobutadiene	ND		250	45	ug/L			07/18/19 10:38	50
2-Hexanone	ND		1300	160	ug/L			07/18/19 10:38	50
Isopropylbenzene	ND		50	27	ug/L			07/18/19 10:38	50
Methylene bromide	ND		250	30	ug/L			07/18/19 10:38	50
4-Methyl-2-pentanone (MIBK)	ND		1300	90	ug/L			07/18/19 10:38	50
Methyl tert-butyl ether	ND		50	37	ug/L			07/18/19 10:38	50
m-Xylene & p-Xylene	ND		250	80	ug/L			07/18/19 10:38	50
Naphthalene	ND		50	50	ug/L			07/18/19 10:38	50
n-Butylbenzene	ND		50	38	ug/L			07/18/19 10:38	50
N-Propylbenzene	ND		50	35	ug/L			07/18/19 10:38	50
o-Chlorotoluene	ND		50	29	ug/L			07/18/19 10:38	50
o-Xylene	ND		250	30	ug/L			07/18/19 10:38	50
p-Chlorotoluene	ND		50	28	ug/L			07/18/19 10:38	50
p-Isopropyltoluene	ND		50	36	ug/L			07/18/19 10:38	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		50	35	ug/L			07/18/19 10:38	50
Styrene	ND		50	50	ug/L			07/18/19 10:38	50
tert-Butylbenzene	ND		50	32	ug/L			07/18/19 10:38	50
1,1,1,2-Tetrachloroethane	ND	*	50	26	ug/L			07/18/19 10:38	50
1,1,2,2-Tetrachloroethane	ND		50	25	ug/L			07/18/19 10:38	50
Tetrachloroethene	ND		50	29	ug/L			07/18/19 10:38	50
Toluene	ND		50	21	ug/L			07/18/19 10:38	50
trans-1,2-Dichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
trans-1,3-Dichloropropene	ND		250	25	ug/L			07/18/19 10:38	50
1,2,3-Trichlorobenzene	ND		50	35	ug/L			07/18/19 10:38	50
1,2,4-Trichlorobenzene	ND		50	41	ug/L			07/18/19 10:38	50
1,1,1-Trichloroethane	ND		50	25	ug/L			07/18/19 10:38	50
1,1,2-Trichloroethane	ND		250	25	ug/L			07/18/19 10:38	50
Trichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
Trichlorofluoromethane	ND		50	26	ug/L			07/18/19 10:38	50
1,2,3-Trichloropropane	ND		250	42	ug/L			07/18/19 10:38	50
1,2,4-Trimethylbenzene	ND		50	41	ug/L			07/18/19 10:38	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			07/18/19 10:38	50
Vinyl acetate	ND		1300	100	ug/L			07/18/19 10:38	50
Vinyl chloride	ND		50	25	ug/L			07/18/19 10:38	50
Xylenes, Total	ND		500	80	ug/L			07/18/19 10:38	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*350*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/18/19 10:38*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 10:38*	*50*
Dibromofluoromethane	*97*		*81 - 121*		*07/18/19 10:38*	*50*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/18/19 10:38*	*50*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**25000**		100	38	ug/L			07/19/19 11:45	100
Methylene Chloride	ND		500	300	ug/L			07/19/19 11:45	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 11:45*	*100*
Dibromofluoromethane	*98*		*81 - 121*		*07/19/19 11:45*	*100*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/19/19 11:45*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Acenaphthene	ND	H UJ	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Acenaphthylene	ND	H UJ	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Anthracene	**0.19**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Anthracene	ND	H UJ	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[a]anthracene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[a]anthracene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[a]pyrene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5

Client: AECOM Technical Services Inc. Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-50-071219 **Lab Sample ID: 400-173138-4**
Date Collected: 07/12/19 11:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[b]fluoranthene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[b]fluoranthene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[g,h,i]perylene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[g,h,i]perylene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[k]fluoranthene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[k]fluoranthene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Chrysene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Chrysene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Dibenz(a,h)anthracene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Dibenz(a,h)anthracene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Fluoranthene	**0.12**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Fluoranthene	ND	H UJ	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Fluorene	ND		0.97	0.10	ug/L		07/17/19 14:25	08/02/19 21:38	5
Fluorene	ND	H UJ	0.99	0.10	ug/L		07/24/19 21:29	08/05/19 16:04	5
Indeno[1,2,3-cd]pyrene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Indeno[1,2,3-cd]pyrene	ND	H UJ	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
1-Methylnaphthalene	**1.0**		0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
1-Methylnaphthalene	**1.1**	**H J**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
2-Methylnaphthalene	**0.44**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
2-Methylnaphthalene	**0.51**	**J H J**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Phenanthrene	**0.58**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Phenanthrene	**0.55**	**J H J**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Pyrene	**0.29**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Pyrene	**0.23**	**J H J**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*08/02/19 21:38*	*5*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/24/19 21:29*	*08/05/19 16:04*	*5*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*08/02/19 21:38*	*5*
Nitrobenzene-d5	*75*		*19 - 130*	*07/24/19 21:29*	*08/05/19 16:04*	*5*
Terphenyl-d14	*0.8*	*X*	*33 - 138*	*07/17/19 14:25*	*08/02/19 21:38*	*5*
Terphenyl-d14	*60*		*33 - 138*	*07/24/19 21:29*	*08/05/19 16:04*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 20:18	1
Benzenethiol	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 20:18	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 20:18	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/17/19 14:25	07/22/19 20:18	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/17/19 14:25	07/22/19 20:18	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/17/19 14:25	07/22/19 20:18	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 20:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/17/19 14:25	07/22/19 20:18	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/17/19 14:25	07/22/19 20:18	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/17/19 14:25	07/22/19 20:18	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/17/19 14:25	07/22/19 20:18	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 20:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 20:18	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/17/19 14:25	07/22/19 20:18	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/17/19 14:25	07/22/19 20:18	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
Indene	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 20:18	1
Isophorone	ND		9.7	0.55	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/17/19 14:25	07/22/19 20:18	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/17/19 14:25	07/22/19 20:18	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/17/19 14:25	07/22/19 20:18	1
Pentachlorophenol	ND		19	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
Phenol	**59**		9.7	2.5	ug/L		07/17/19 14:25	07/22/19 20:18	1
Pyridine	ND		9.7	3.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
Quinoline	ND		9.7	5.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 20:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclopentanol, 1-methyl-	*6.1*	*T J N*	*ug/L*		*3.91*	*1462-03-9*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
1,3-Dimethylcyclopentanol	*4.0*	*T J N*	*ug/L*		*4.33*	*19550-46-0*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
Ethylbenzene	*4.9*	*T J N*	*ug/L*		*4.47*	*100-41-4*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
Benzene, 1-ethyl-2-methyl-	*4.4*	*T J N*	*ug/L*		*5.23*	*611-14-3*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
Indane	*19*	*T J N*	*ug/L*		*5.55*	*496-11-7*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
2-Cyclopenten-1-one, 2,3,4-trimethyl-	*4.3*	*T J N*	*ug/L*		*5.63*	*28790-86-5*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*5.4*	*T J N*	*ug/L*		*5.76*	*2870-04-4*	*07/17/19 14:25*	*07/22/19 20:18*	*1*
n-Hexadecanoic acid	*8.6*	*T J N*	*ug/L*		*8.91*	*57-10-3*	*07/17/19 14:25*	*07/22/19 20:18*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0.007	X	34 - 120	07/17/19 14:25	07/22/19 20:18	1
2-Fluorophenol	0.1	X	10 - 120	07/17/19 14:25	07/22/19 20:18	1
Nitrobenzene-d5	2	X	27 - 120	07/17/19 14:25	07/22/19 20:18	1
Phenol-d5	0.5	X	10 - 120	07/17/19 14:25	07/22/19 20:18	1
Terphenyl-d14	0	X	53 - 125	07/17/19 14:25	07/22/19 20:18	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 20:18	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**110**	**H**	50	13	ug/L		07/24/19 21:29	08/02/19 19:49	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.9	3.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
Benzenethiol	ND	H	9.9	1.7	ug/L		07/24/19 21:29	08/03/19 11:58	1
Benzoic acid	ND	H	30	7.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
Benzyl alcohol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Bis(2-chloroethoxy)methane	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:58	1
Bis(2-chloroethyl)ether	ND	H	9.9	0.73	ug/L		07/24/19 21:29	08/03/19 11:58	1
bis (2-chloroisopropyl) ether	ND	H	9.9	0.80	ug/L		07/24/19 21:29	08/03/19 11:58	1
Bis(2-ethylhexyl) phthalate	**7.5**	**J H**	9.9	5.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Bromophenyl phenyl ether	ND	H	9.9	0.32	ug/L		07/24/19 21:29	08/03/19 11:58	1
Butyl benzyl phthalate	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Chloroaniline	ND	H	9.9	3.4	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Chloro-3-methylphenol	ND	H	9.9	3.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Chloronaphthalene	ND	H	9.9	0.52	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Chlorophenol	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Chlorophenyl phenyl ether	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Dibenz[a,h]acridine	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Dibenzofuran	ND	H	9.9	0.52	ug/L		07/24/19 21:29	08/03/19 11:58	1
3,3'-Dichlorobenzidine	ND	H	9.9	2.6	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dichlorophenol	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Diethyl phthalate	ND	H	9.9	0.69	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dimethylphenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:58	1
Dimethyl phthalate	ND	H	9.9	0.59	ug/L		07/24/19 21:29	08/03/19 11:58	1
Di-n-butyl phthalate	ND	H	9.9	2.7	ug/L		07/24/19 21:29	08/03/19 11:58	1
4,6-Dinitro-ortho-cresol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dinitrophenol	ND	H	30	3.4	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,6-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:58	1
Di-n-octyl phthalate	ND	H	9.9	0.44	ug/L		07/24/19 21:29	08/03/19 11:58	1
1,4-Dioxane	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:58	1
Hexachlorobenzene	ND	H	9.9	0.25	ug/L		07/24/19 21:29	08/03/19 11:58	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/03/19 11:58	1
Hexachloroethane	ND	H	9.9	4.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
Indene	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:58	1
Isophorone	ND	H	9.9	0.56	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Methylphenol	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 11:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
3-Nitroaniline	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Nitroaniline	ND	H	9.9	2.5	ug/L		07/24/19 21:29	08/03/19 11:58	1
Nitrobenzene	ND	H	9.9	0.54	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Nitrophenol	ND	H	9.9	0.64	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Nitrophenol	ND	H	9.9	2.1	ug/L		07/24/19 21:29	08/03/19 11:58	1
N-Nitrosodimethylamine	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:58	1
N-Nitrosodi-n-propylamine	ND	H	9.9	3.3	ug/L		07/24/19 21:29	08/03/19 11:58	1
N-Nitrosodiphenylamine	ND	H	9.9	0.47	ug/L		07/24/19 21:29	08/03/19 11:58	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
Pyridine	ND	H	9.9	3.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
Quinoline	ND	H	9.9	5.9	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4,5-Trichlorophenol	ND	H	9.9	3.7	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4,6-Trichlorophenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*99*		*34 - 120*	*07/24/19 21:29*	*08/03/19 11:58*	*1*
2-Fluorophenol	*33*		*10 - 120*	*07/24/19 21:29*	*08/03/19 11:58*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*08/03/19 11:58*	*1*
Phenol-d5	*63*		*10 - 120*	*07/24/19 21:29*	*08/03/19 11:58*	*1*
Terphenyl-d14	*71*		*53 - 125*	*07/24/19 21:29*	*08/03/19 11:58*	*1*
2,4,6-Tribromophenol	*78*		*15 - 135*	*07/24/19 21:29*	*08/03/19 11:58*	*1*

Client: AECOM Technical Services Inc. Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-55-071219 **Lab Sample ID: 400-173138-5**
Date Collected: 07/12/19 13:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/18/19 11:28	500
Acrolein	ND		10000	5000	ug/L			07/18/19 11:28	500
Acrylonitrile	ND		5000	1400	ug/L			07/18/19 11:28	500
Bromobenzene	ND		500	270	ug/L			07/18/19 11:28	500
Bromochloromethane	ND		500	260	ug/L			07/18/19 11:28	500
Bromodichloromethane	ND		500	250	ug/L			07/18/19 11:28	500
Bromoform	ND		2500	360	ug/L			07/18/19 11:28	500
Bromomethane	ND		500	490	ug/L			07/18/19 11:28	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/18/19 11:28	500
Carbon disulfide	ND		500	250	ug/L			07/18/19 11:28	500
Carbon tetrachloride	ND		500	250	ug/L			07/18/19 11:28	500
Chlorobenzene	ND		500	250	ug/L			07/18/19 11:28	500
Chloroethane	ND		500	380	ug/L			07/18/19 11:28	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			07/18/19 11:28	500
Chloroform	ND		500	300	ug/L			07/18/19 11:28	500
1-Chlorohexane	ND		500	350	ug/L			07/18/19 11:28	500
Chloromethane	ND		500	420	ug/L			07/18/19 11:28	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:28	500
Dibromochloromethane	ND		500	250	ug/L			07/18/19 11:28	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/18/19 11:28	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/18/19 11:28	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/18/19 11:28	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/18/19 11:28	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/18/19 11:28	500
1,1-Dichloroethane	ND		500	250	ug/L			07/18/19 11:28	500
1,2-Dichloroethane	ND		500	250	ug/L			07/18/19 11:28	500
1,1-Dichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
1,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:28	500
1,3-Dichloropropane	ND		500	250	ug/L			07/18/19 11:28	500
2,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:28	500
1,1-Dichloropropene	ND		500	250	ug/L			07/18/19 11:28	500
Ethylbenzene	**3000**		500	250	ug/L			07/18/19 11:28	500
Ethylene Dibromide	ND		500	250	ug/L			07/18/19 11:28	500
Ethyl methacrylate	ND		500	300	ug/L			07/18/19 11:28	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/18/19 11:28	500
2-Hexanone	ND		13000	1600	ug/L			07/18/19 11:28	500
Isopropylbenzene	ND		500	270	ug/L			07/18/19 11:28	500
Methylene bromide	ND		2500	300	ug/L			07/18/19 11:28	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/18/19 11:28	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/18/19 11:28	500
m-Xylene & p-Xylene	**7300**		2500	800	ug/L			07/18/19 11:28	500
Naphthalene	ND		500	500	ug/L			07/18/19 11:28	500
n-Butylbenzene	ND		500	380	ug/L			07/18/19 11:28	500
N-Propylbenzene	ND		500	350	ug/L			07/18/19 11:28	500
o-Chlorotoluene	ND		500	290	ug/L			07/18/19 11:28	500
o-Xylene	**2700**		2500	300	ug/L			07/18/19 11:28	500
p-Chlorotoluene	ND		500	280	ug/L			07/18/19 11:28	500
p-Isopropyltoluene	ND		500	360	ug/L			07/18/19 11:28	500

Client Sample ID: PD-12-GWP-55-071219 **Lab Sample ID: 400-173138-5**
Date Collected: 07/12/19 13:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		500	350	ug/L			07/18/19 11:28	500
Styrene	ND		500	500	ug/L			07/18/19 11:28	500
tert-Butylbenzene	ND		500	320	ug/L			07/18/19 11:28	500
1,1,1,2-Tetrachloroethane	ND	*	500	260	ug/L			07/18/19 11:28	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/18/19 11:28	500
Tetrachloroethene	ND		500	290	ug/L			07/18/19 11:28	500
Toluene	**2300**		500	210	ug/L			07/18/19 11:28	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:28	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/18/19 11:28	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/18/19 11:28	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/18/19 11:28	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/18/19 11:28	500
Trichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
Trichlorofluoromethane	ND		500	260	ug/L			07/18/19 11:28	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/18/19 11:28	500
1,2,4-Trimethylbenzene	**1200**		500	410	ug/L			07/18/19 11:28	500
1,3,5-Trimethylbenzene	**440**	**J**	500	280	ug/L			07/18/19 11:28	500
Vinyl acetate	ND		13000	1000	ug/L			07/18/19 11:28	500
Vinyl chloride	ND		500	250	ug/L			07/18/19 11:28	500
Xylenes, Total	**10000**		5000	800	ug/L			07/18/19 11:28	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*3500*	*T J N*	*ug/L*		*2.73*	*109-66-0*		*07/18/19 11:28*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/18/19 11:28*	*500*
Dibromofluoromethane	*97*		*81 - 121*		*07/18/19 11:28*	*500*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/18/19 11:28*	*500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**330000**		2000	760	ug/L			07/19/19 12:11	2000
Methylene Chloride	ND		10000	6000	ug/L			07/19/19 12:11	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 12:11*	*2000*
Dibromofluoromethane	*97*		*81 - 121*		*07/19/19 12:11*	*2000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 12:11*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Acenaphthene	ND	H UJ	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Acenaphthylene	ND		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Acenaphthylene	ND	H UJ	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Anthracene	**1.1**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Anthracene	**1.2**	**H J**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[a]anthracene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[a]pyrene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219

Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[b]fluoranthene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[b]fluoranthene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[g,h,i]perylene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[g,h,i]perylene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[k]fluoranthene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[k]fluoranthene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Chrysene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Chrysene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Dibenz(a,h)anthracene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Dibenz(a,h)anthracene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Fluoranthene	**0.23**	**J**	0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Fluoranthene	**0.24**	**J H** J	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Fluorene	**4.1**		0.98	0.10	ug/L		07/17/19 14:25	08/02/19 21:54	5
Fluorene	**2.8**	**H** J	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Indeno[1,2,3-cd]pyrene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Indeno[1,2,3-cd]pyrene	ND	H UJ	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
1-Methylnaphthalene	**150**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
1-Methylnaphthalene	**130**	**H** J	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
2-Methylnaphthalene	**250**		4.9	0.49	ug/L		07/17/19 14:25	08/05/19 16:38	25
Phenanthrene	**4.7**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Phenanthrene	**4.5**	**H** J	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Pyrene	**0.44**	**J** J	0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Pyrene	**0.39**	**J H** J	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*1*	*X*	*15 - 122*	*07/17/19 14:25*	*08/02/19 21:54*	*5*
2-Fluorobiphenyl	*68*		*15 - 122*	*07/24/19 21:29*	*08/02/19 22:59*	*5*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*08/02/19 21:54*	*5*
Terphenyl-d14	*0*	*X*	*33 - 138*	*07/17/19 14:25*	*08/02/19 21:54*	*5*
Terphenyl-d14	*44*		*33 - 138*	*07/24/19 21:29*	*08/02/19 22:59*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**200**	**H** J	5.0	0.50	ug/L		07/24/19 21:29	08/05/19 16:21	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*65*		*19 - 130*	*07/24/19 21:29*	*08/05/19 16:21*	*25*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 20:40	1
Benzenethiol	ND		9.8	1.7	ug/L		07/17/19 14:25	07/22/19 20:40	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 20:40	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/17/19 14:25	07/22/19 20:40	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 20:40	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 20:40	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219
Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 20:40	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 20:40	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 20:40	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 20:40	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 20:40	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 20:40	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/17/19 14:25	07/22/19 20:40	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 20:40	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 20:40	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 20:40	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 20:40	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 20:40	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 20:40	1
Phenol	ND		9.8	2.5	ug/L		07/17/19 14:25	07/22/19 20:40	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 20:40	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane, methyl-	*50*	*T J N*	*ug/L*		*3.25*	*108-87-2*	*07/17/19 14:25*	*07/22/19 20:40*	*1*
Heptane, 2-methyl-	*69*	*T J N*	*ug/L*		*3.65*	*592-27-8*	*07/17/19 14:25*	*07/22/19 20:40*	*1*
Toluene	*340*	*T J N*	*ug/L*		*3.71*	*108-88-3*	*07/17/19 14:25*	*07/22/19 20:40*	*1*
Octane	*150*	*T J N*	*ug/L*		*3.97*	*111-65-9*	*07/17/19 14:25*	*07/22/19 20:40*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219

Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Ethylbenzene	360	T J N	ug/L		4.50	100-41-4	07/17/19 14:25	07/22/19 20:40	1
3,4-Dimethylthiophene	40	T J N	ug/L		4.64	632-15-5	07/17/19 14:25	07/22/19 20:40	1
Benzene, 1,3-dimethyl-	390	T J N	ug/L		4.74	108-38-3	07/17/19 14:25	07/22/19 20:40	1
Benzene, (1-methylethyl)-	100	T J N	ug/L		4.92	98-82-8	07/17/19 14:25	07/22/19 20:40	1
Benzene, 1-ethyl-4-methyl-	160	T J N	ug/L		5.26	622-96-8	07/17/19 14:25	07/22/19 20:40	1
Benzene, 1,2,3-trimethyl-	280	T J N	ug/L		5.33	526-73-8	07/17/19 14:25	07/22/19 20:40	1
Benzene, 1,2,3-trimethyl-	160	T J N	ug/L		5.49	526-73-8	07/17/19 14:25	07/22/19 20:40	1
Indane	160	T J N	ug/L		5.58	496-11-7	07/17/19 14:25	07/22/19 20:40	1
Decane, 3-methyl-	49	T J N	ug/L		5.67	13151-34-3	07/17/19 14:25	07/22/19 20:40	1
Benzene, 1-methyl-4-propyl-	54	T J N	ug/L		5.69	1074-55-1	07/17/19 14:25	07/22/19 20:40	1
Benzene, 4-ethyl-1,2-dimethyl-	37	T J N	ug/L		5.74	934-80-5	07/17/19 14:25	07/22/19 20:40	1
Benzene, 2-ethyl-1,4-dimethyl-	84	T J N	ug/L		5.79	1758-88-9	07/17/19 14:25	07/22/19 20:40	1
Benzene, 1-methyl-4-(2-propenyl)-	83	T J N	ug/L		6.10	3333-13-9	07/17/19 14:25	07/22/19 20:40	1
Dodecane	170	T J N	ug/L		6.23	112-40-3	07/17/19 14:25	07/22/19 20:40	1
Tetradecane	120	T J N	ug/L		6.61	629-59-4	07/17/19 14:25	07/22/19 20:40	1
Naphthalene, 2-methyl-	140	T J N	ug/L		6.74	91-57-6	07/17/19 14:25	07/22/19 20:40	1
Tridecane, 2-methyl-	60	T J N	ug/L		6.84	1560-96-9	07/17/19 14:25	07/22/19 20:40	1
Pentadecane	85	T J N	ug/L		7.33	629-62-9	07/17/19 14:25	07/22/19 20:40	1
Hexadecane	64	T J N	ug/L		7.69	544-76-3	07/17/19 14:25	07/22/19 20:40	1
Heptadecane	59	T J N	ug/L		8.03	629-78-7	07/17/19 14:25	07/22/19 20:40	1
Octadecane	29	T J N	ug/L		8.37	593-45-3	07/17/19 14:25	07/22/19 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	2	X	34 - 120	07/17/19 14:25	07/22/19 20:40	1
2-Fluorophenol	0	X	10 - 120	07/17/19 14:25	07/22/19 20:40	1
Nitrobenzene-d5	0	X	27 - 120	07/17/19 14:25	07/22/19 20:40	1
Phenol-d5	0.5	X	10 - 120	07/17/19 14:25	07/22/19 20:40	1
Terphenyl-d14	0.03	X	53 - 125	07/17/19 14:25	07/22/19 20:40	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 20:40	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	10	3.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
Benzenethiol	ND	H	10	1.7	ug/L		07/24/19 21:29	08/03/19 12:23	1
Benzoic acid	ND	H	30	7.3	ug/L		07/24/19 21:29	08/03/19 12:23	1
Benzyl alcohol	ND	H	10	2.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Bis(2-chloroethoxy)methane	ND	H	10	0.69	ug/L		07/24/19 21:29	08/03/19 12:23	1
Bis(2-chloroethyl)ether	ND	H	10	0.74	ug/L		07/24/19 21:29	08/03/19 12:23	1
bis (2-chloroisopropyl) ether	ND	H	10	0.81	ug/L		07/24/19 21:29	08/03/19 12:23	1
Bis(2-ethylhexyl) phthalate	ND	H	10	5.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Bromophenyl phenyl ether	ND	H	10	0.32	ug/L		07/24/19 21:29	08/03/19 12:23	1
Butyl benzyl phthalate	ND	H	10	0.69	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Chloroaniline	ND	H	10	3.4	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Chloro-3-methylphenol	ND	H	10	3.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Chloronaphthalene	ND	H	10	0.52	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Chlorophenol	ND	H	10	2.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Chlorophenyl phenyl ether	ND	H	10	2.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Dibenz[a,h]acridine	ND	H	10	3.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Dibenzofuran	ND	H	10	0.52	ug/L		07/24/19 21:29	08/03/19 12:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219

Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND	H	10	2.6	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dichlorophenol	ND	H	10	3.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Diethyl phthalate	ND	H	10	0.70	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dimethylphenol	ND	H	10	3.5	ug/L		07/24/19 21:29	08/03/19 12:23	1
Dimethyl phthalate	ND	H	10	0.60	ug/L		07/24/19 21:29	08/03/19 12:23	1
Di-n-butyl phthalate	ND	H	10	2.7	ug/L		07/24/19 21:29	08/03/19 12:23	1
4,6-Dinitro-ortho-cresol	ND	H	10	2.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dinitrophenol	ND	H	30	3.4	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,6-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/03/19 12:23	1
Di-n-octyl phthalate	ND	H	10	0.44	ug/L		07/24/19 21:29	08/03/19 12:23	1
1,4-Dioxane	ND	H	10	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	10	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Hexachlorobenzene	ND	H	10	0.25	ug/L		07/24/19 21:29	08/03/19 12:23	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/03/19 12:23	1
Hexachloroethane	ND	H	10	4.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
Indene	ND	H	10	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Isophorone	ND	H	10	0.57	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Methylphenol	ND	H	10	1.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Nitroaniline	ND	H	10	2.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
3-Nitroaniline	ND	H	10	1.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Nitroaniline	ND	H	10	2.5	ug/L		07/24/19 21:29	08/03/19 12:23	1
Nitrobenzene	ND	H	10	0.55	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Nitrophenol	ND	H	10	0.65	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Nitrophenol	ND	H	10	2.1	ug/L		07/24/19 21:29	08/03/19 12:23	1
N-Nitrosodimethylamine	ND	H	10	3.5	ug/L		07/24/19 21:29	08/03/19 12:23	1
N-Nitrosodi-n-propylamine	ND	H	10	3.3	ug/L		07/24/19 21:29	08/03/19 12:23	1
N-Nitrosodiphenylamine	ND	H	10	0.47	ug/L		07/24/19 21:29	08/03/19 12:23	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
Phenol	**63**	**H**	10	2.6	ug/L		07/24/19 21:29	08/03/19 12:23	1
Pyridine	ND	H	10	3.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
Quinoline	ND	H	10	6.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4,5-Trichlorophenol	ND	H	10	3.7	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4,6-Trichlorophenol	ND	H	10	3.5	ug/L		07/24/19 21:29	08/03/19 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*34 - 120*	*07/24/19 21:29*	*08/03/19 12:23*	*1*
2-Fluorophenol	*9*	*X*	*10 - 120*	*07/24/19 21:29*	*08/03/19 12:23*	*1*
Nitrobenzene-d5	*96*		*27 - 120*	*07/24/19 21:29*	*08/03/19 12:23*	*1*
Phenol-d5	*64*		*10 - 120*	*07/24/19 21:29*	*08/03/19 12:23*	*1*
Terphenyl-d14	*41*	*X*	*53 - 125*	*07/24/19 21:29*	*08/03/19 12:23*	*1*
2,4,6-Tribromophenol	*74*		*15 - 135*	*07/24/19 21:29*	*08/03/19 12:23*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 16:04	1
Acrolein	ND		20	10	ug/L			07/18/19 16:04	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 16:04	1
Benzene	**150**		1.0	0.38	ug/L			07/18/19 16:04	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 16:04	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 16:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 16:04	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 16:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 16:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 16:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 16:04	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 16:04	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 16:04	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 16:04	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 16:04	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 16:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 16:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 16:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 16:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Ethylbenzene	**12**		1.0	0.50	ug/L			07/18/19 16:04	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 16:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 16:04	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 16:04	1
Isopropylbenzene	**22**		1.0	0.53	ug/L			07/18/19 16:04	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 16:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 16:04	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/18/19 16:04	1
m-Xylene & p-Xylene	**76**		5.0	1.6	ug/L			07/18/19 16:04	1
Naphthalene	**13**		1.0	1.0	ug/L			07/18/19 16:04	1
n-Butylbenzene	**2.3**		1.0	0.76	ug/L			07/18/19 16:04	1
N-Propylbenzene	**37**		1.0	0.69	ug/L			07/18/19 16:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 16:04	1
o-Xylene	**10**		5.0	0.60	ug/L			07/18/19 16:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 16:04	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 16:04	1
sec-Butylbenzene	**1.4**		1.0	0.70	ug/L			07/18/19 16:04	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 16:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 16:04	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/18/19 16:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 16:04	1
Toluene	**5.4**		1.0	0.41	ug/L			07/18/19 16:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 16:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 16:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 16:04	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 16:04	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 16:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 16:04	1
1,2,4-Trimethylbenzene	**18**		1.0	0.82	ug/L			07/18/19 16:04	1
1,3,5-Trimethylbenzene	**9.6**		1.0	0.56	ug/L			07/18/19 16:04	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 16:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Xylenes, Total	**86**		10	1.6	ug/L			07/18/19 16:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*290*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/18/19 16:04*	*1*
Pentane	*92*	*T J N*	*ug/L*		*2.72*	*109-66-0*		*07/18/19 16:04*	*1*
Cyclopropane, 1,2-dimethyl-, cis-	*68*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/18/19 16:04*	*1*
Butane, 2,2-dimethyl-	*25*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/18/19 16:04*	*1*
2-Methyl-2-propanol	*1100*		*ug/L*		*3.39*	*75-65-0*		*07/18/19 16:04*	*1*
Pentane, 3-methyl-	*110*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/18/19 16:04*	*1*
2-Pentene, 4-methyl-	*61*	*T J N*	*ug/L*		*3.83*	*4461-48-7*		*07/18/19 16:04*	*1*
2-Pentene, 3-methyl-, (Z)-	*32*	*T J N*	*ug/L*		*3.89*	*922-62-3*		*07/18/19 16:04*	*1*
2-Pentene, 3-methyl-	*51*	*T J N*	*ug/L*		*3.99*	*922-61-2*		*07/18/19 16:04*	*1*
Cyclopentane, methyl-	*230*	*T J N*	*ug/L*		*4.12*	*96-37-7*		*07/18/19 16:04*	*1*
Cyclohexane	*310*	*T J N*	*ug/L*		*4.54*	*110-82-7*		*07/18/19 16:04*	*1*
t-Amyl alcohol	*110*		*ug/L*		*4.66*	*75-85-4*		*07/18/19 16:04*	*1*
3,5-Dimethylcyclopentene	*26*	*T J N*	*ug/L*		*5.14*	*7459-71-4*		*07/18/19 16:04*	*1*
Methylcyclohexane	*41*		*ug/L*		*5.27*	*108-87-2*		*07/18/19 16:04*	*1*
Cyclohexene, 4-methyl-	*26*	*T J N*	*ug/L*		*5.51*	*591-47-9*		*07/18/19 16:04*	*1*
Cyclobutane, (1-methylethylidene)-	*44*	*T J N*	*ug/L*		*5.60*	*1528-22-9*		*07/18/19 16:04*	*1*
Cyclohexene, 1-methyl-	*50*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/18/19 16:04*	*1*
Cyclopentene, 1,2,3-trimethyl-	*12*	*T J N*	*ug/L*		*6.23*	*473-91-6*		*07/18/19 16:04*	*1*
3-Ethyltoluene	*15*		*ug/L*		*8.07*	*620-14-4*		*07/18/19 16:04*	*1*
2-Ethyltoluene	*21*		*ug/L*		*8.30*	*611-14-3*		*07/18/19 16:04*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*16*	*T J N*	*ug/L*		*9.29*	*934-80-5*		*07/18/19 16:04*	*1*
Indan, 1-methyl-	*36*	*T J N*	*ug/L*		*9.42*	*767-58-8*		*07/18/19 16:04*	*1*
Benzene, 1-ethenyl-4-ethyl-	*14*	*T J N*	*ug/L*		*9.98*	*3454-07-7*		*07/18/19 16:04*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*29*	*T J N*	*ug/L*		*10.13*	*2039-89-6*		*07/18/19 16:04*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/18/19 16:04*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/18/19 16:04*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/18/19 16:04*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 10:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/19/19 10:55*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/19/19 10:55*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/19/19 10:55*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Acenaphthene	ND	H UJ	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Acenaphthylene	ND	H UJ	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Anthracene	ND	H UJ	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[a]anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[a]anthracene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[a]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[a]pyrene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[b]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[b]fluoranthene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[g,h,i]perylene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[g,h,i]perylene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[k]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[k]fluoranthene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Chrysene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Chrysene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Dibenz(a,h)anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Dibenz(a,h)anthracene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Fluoranthene	ND	H UJ	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Fluorene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Fluorene	ND	H UJ	0.98	0.10	ug/L		07/24/19 21:29	08/02/19 20:34	5
Indeno[1,2,3-cd]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Indeno[1,2,3-cd]pyrene	ND	H UJ	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
1-Methylnaphthalene	**7.5**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
1-Methylnaphthalene	**8.5**	**H** J	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
2-Methylnaphthalene	**9.0**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
2-Methylnaphthalene	**10**	**H** J	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Phenanthrene	**0.15**	**J H** J	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Pyrene	ND	*	0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Pyrene	ND	H UJ	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	X	15 - 122	07/17/19 14:25	07/31/19 18:06	1
2-Fluorobiphenyl	86		15 - 122	07/24/19 21:29	08/02/19 20:34	5
Nitrobenzene-d5	0	X	19 - 130	07/17/19 14:25	07/31/19 18:06	1
Nitrobenzene-d5	68		19 - 130	07/24/19 21:29	08/02/19 20:34	5
Terphenyl-d14	0	X *	33 - 138	07/17/19 14:25	07/31/19 18:06	1
Terphenyl-d14	58		33 - 138	07/24/19 21:29	08/02/19 20:34	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:01	1
Benzenethiol	ND		9.8	1.7	ug/L		07/17/19 14:25	07/22/19 21:01	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 21:01	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/17/19 14:25	07/22/19 21:01	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 21:01	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 21:01	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:01	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:01	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 21:01	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 21:01	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 21:01	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:01	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/17/19 14:25	07/22/19 21:01	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 21:01	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:01	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:01	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 21:01	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Nitrophenol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:01	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 21:01	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 21:01	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 21:01	1
Phenol	**6.3**	**J**	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:01	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:01	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*5.1*	*T J N*	*ug/L*		*3.68*	*108-88-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Cyclohexene, 1-methyl-	*9.0*	*T J N*	*ug/L*		*3.71*	*591-49-1*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Cyclopentanol, 1-methyl-	*13*	*T J N*	*ug/L*		*3.91*	*1462-03-9*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
1,3-Dimethylcyclopentanol	*8.7*	*T J N*	*ug/L*		*4.34*	*19550-46-0*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Ethylbenzene	*20*	*T J N*	*ug/L*		*4.47*	*100-41-4*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
p-Xylene	*19*	*T J N*	*ug/L*		*4.70*	*106-42-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
1-Methylcyclohexanol	*7.9*	*T J N*	*ug/L*		*4.74*	*590-67-0*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, (1-methylethyl)-	*28*	*T J N*	*ug/L*		*4.90*	*98-82-8*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, propyl-	*40*	*T J N*	*ug/L*		*5.08*	*103-65-1*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1-ethyl-2-methyl-	*11*	*T J N*	*ug/L*		*5.12*	*611-14-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1-ethyl-3-methyl-	*8.9*	*T J N*	*ug/L*		*5.14*	*620-14-4*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1,3,5-trimethyl-	*10*	*T J N*	*ug/L*		*5.17*	*108-67-8*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1,2,4-trimethyl-	*20*	*T J N*	*ug/L*		*5.31*	*95-63-6*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1,2,4-trimethyl-	*16*	*T J N*	*ug/L*		*5.47*	*95-63-6*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Indane	*99*	*T J N*	*ug/L*		*5.55*	*496-11-7*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1,2-diethyl-	*12*	*T J N*	*ug/L*		*5.62*	*135-01-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*25*	*T J N*	*ug/L*		*5.76*	*1758-88-9*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Indan, 1-methyl-	*26*	*T J N*	*ug/L*		*5.80*	*767-58-8*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1,2,4,5-tetramethyl-	*11*	*T J N*	*ug/L*		*5.92*	*95-93-2*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 1-ethenyl-4-ethyl-	*15*	*T J N*	*ug/L*		*6.04*	*3454-07-7*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*27*	*T J N*	*ug/L*		*6.09*	*2039-89-6*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
.alpha.,.beta.,.beta.-Trimethylstyrene	*5.4*	*T J N*	*ug/L*		*6.25*	*769-57-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
1H-Indene, 1-methylene-	*12*	*T J N*	*ug/L*		*6.28*	*2471-84-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Naphthalene, 1-methyl-	*9.2*	*T J N*	*ug/L*		*6.73*	*90-12-0*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
n-Hexadecanoic acid	*9.9*	*T J N*	*ug/L*		*8.92*	*57-10-3*	*07/17/19 14:25*	*07/22/19 21:01*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0.005*	*X*	*34 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
2-Fluorophenol	*0.4*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Nitrobenzene-d5	*0.2*	*X*	*27 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Phenol-d5	*0.3*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Terphenyl-d14	*0.08*	*X*	*53 - 125*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*	*07/17/19 14:25*	*07/22/19 21:01*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.8	3.7	ug/L		07/24/19 21:29	08/03/19 12:48	1
Benzenethiol	ND	H	9.8	1.7	ug/L		07/24/19 21:29	08/03/19 12:48	1
Benzoic acid	ND	H	29	7.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.67	ug/L		07/24/19 21:29	08/03/19 12:48	1
Bis(2-chloroethyl)ether	ND	H	9.8	0.72	ug/L		07/24/19 21:29	08/03/19 12:48	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/24/19 21:29	08/03/19 12:48	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/24/19 21:29	08/03/19 12:48	1
Butyl benzyl phthalate	ND	H	9.8	0.67	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Chlorophenol	ND	H	9.8	2.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/03/19 12:48	1
3,3'-Dichlorobenzidine	ND	H	9.8	2.5	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
Diethyl phthalate	ND	H	9.8	0.68	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dimethylphenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/03/19 12:48	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/24/19 21:29	08/03/19 12:48	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/24/19 21:29	08/03/19 12:48	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
Di-n-octyl phthalate	**0.72**	**J H**	9.8	0.43	ug/L		07/24/19 21:29	08/03/19 12:48	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/24/19 21:29	08/03/19 12:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/24/19 21:29	08/03/19 12:48	1
Hexachlorobenzene	ND	H	9.8	0.24	ug/L		07/24/19 21:29	08/03/19 12:48	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/24/19 21:29	08/03/19 12:48	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
Indene	ND	H	9.8	0.98	ug/L		07/24/19 21:29	08/03/19 12:48	1
Isophorone	ND	H	9.8	0.56	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Methylphenol	ND	H	9.8	1.8	ug/L		07/24/19 21:29	08/03/19 12:48	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Nitroaniline	ND	H	9.8	2.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/24/19 21:29	08/03/19 12:48	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Nitrophenol	ND	H	9.8	0.63	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Nitrophenol	ND	H	9.8	2.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/03/19 12:48	1
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/24/19 21:29	08/03/19 12:48	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/24/19 21:29	08/03/19 12:48	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 12:48	1
Phenol	**6.6**	**J H**	9.8	2.5	ug/L		07/24/19 21:29	08/03/19 12:48	1
Pyridine	ND	H	9.8	3.1	ug/L		07/24/19 21:29	08/03/19 12:48	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Quinoline	ND	H	9.8	5.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/03/19 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*34 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
2-Fluorophenol	*55*		*10 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Nitrobenzene-d5	*76*		*27 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Phenol-d5	*68*		*10 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Terphenyl-d14	*60*		*53 - 125*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
2,4,6-Tribromophenol	*85*		*15 - 135*	*07/24/19 21:29*	*08/03/19 12:48*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-173138-1	TB-PW-071219-B	100	99	102
400-173138-1 - RA	TB-PW-071219-B	99	101	100
400-173138-2	PD-11-GWP-66.7-071219	99	99	102
400-173138-2 - DL	PD-11-GWP-66.7-071219	100	99	100
400-173138-3	PD-12-GWP-45-071219	100	96	102
400-173138-3 - DL	PD-12-GWP-45-071219	99	98	100
400-173138-4	PD-12-GWP-50-071219	100	97	101
400-173138-4 - DL	PD-12-GWP-50-071219	99	98	99
400-173138-5	PD-12-GWP-55-071219	101	97	101
400-173138-5 - DL	PD-12-GWP-55-071219	99	97	101
400-173138-6	PD-12-GWP-60-071219	103	98	103
400-173138-6 - RA	PD-12-GWP-60-071219	102	99	103
LCS 400-448481/1002	Lab Control Sample	97	101	99
LCS 400-448660/1002	Lab Control Sample	95	99	98
MB 400-448481/4	Method Blank	100	100	101
MB 400-448660/4	Method Blank	99	100	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-173138-2	PD-11-GWP-66.7-071219	0 X	0 X	0.1 X	0.04 X	0.07 X	0 X
400-173138-2 - RE	PD-11-GWP-66.7-071219	44	47	78	65	43 X	42
400-173138-3	PD-12-GWP-45-071219	0 X	3 X	1 X	0.1 X	0.2 X	0 X
400-173138-3 - RERA	PD-12-GWP-45-071219	113	69	95	82	102	123
400-173138-4	PD-12-GWP-50-071219	0.007 X	0.1 X	2 X	0.5 X	0 X	0 X
400-173138-4 - RERA	PD-12-GWP-50-071219	99	33	82	63	71	78
400-173138-5	PD-12-GWP-55-071219	2 X	0 X	0 X	0.5 X	0.03 X	0 X
400-173138-5 - RE	PD-12-GWP-55-071219	63	9 X	96	64	41 X	74
400-173138-6	PD-12-GWP-60-071219	0.005 X	0.4 X	0.2 X	0.3 X	0.08 X	0 X
400-173138-6 - RE	PD-12-GWP-60-071219	91	55	76	68	60	85
LCS 400-448434/22-A	Lab Control Sample	67	44	56	47	80	79
LCS 400-448434/2-A	Lab Control Sample	76	39	59	51	89	123
LCS 400-449437/2-A	Lab Control Sample	100	74	100	95	115	112
LCS 400-449437/4-A	Lab Control Sample	45	40	79	60	66	25
LCSD 400-448434/23-A	Lab Control Sample Dup	58	38	58	52	77	84
LCSD 400-448434/3-A	Lab Control Sample Dup	72	37	65	50	84	105
LCSD 400-449437/3-A	Lab Control Sample Dup	100	79	99	92	107	107
LCSD 400-449437/5-A	Lab Control Sample Dup	44	45	81	67	67	34
MB 400-448434/1-A	Method Blank	68	42	61	52	63	90
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173138-2	PD-11-GWP-66.7-071219	0 X	0 X	
400-173138-2 - RE	PD-11-GWP-66.7-071219	95	99	89
400-173138-2	PD-11-GWP-66.7-071219			0 X
400-173138-3	PD-12-GWP-45-071219	0 X	0 X	0 X *
400-173138-3	PD-12-GWP-45-071219	80	70	84
400-173138-4	PD-12-GWP-50-071219	0 X	0 X	0.8 X
400-173138-4	PD-12-GWP-50-071219	77	75	60
400-173138-5	PD-12-GWP-55-071219	1 X	0 X	0 X
400-173138-5	PD-12-GWP-55-071219	68		44
400-173138-5 - DL	PD-12-GWP-55-071219		65	
400-173138-6	PD-12-GWP-60-071219	0 X	0 X	0 X *
400-173138-6	PD-12-GWP-60-071219	86	68	58
LCS 400-448434/2-A	Lab Control Sample	73	75	104
LCS 400-449437/2-A	Lab Control Sample	84	83	93
LCSD 400-448434/3-A	Lab Control Sample Dup	77	75	86
LCSD 400-449437/3-A	Lab Control Sample Dup	83	86	84
MB 400-448434/1-A	Method Blank	108	102	120
MB 400-449437/1-A	Method Blank	73	95	111

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071219-B

Lab Sample ID: 400-173138-1

Date Collected: 07/12/19 00:00

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 09:25	WPD	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	448660	07/19/19 08:51	WPD	TAL PEN

Client Sample ID: PD-11-GWP-66.7-071219

Lab Sample ID: 400-173138-2

Date Collected: 07/12/19 08:45

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 09:49	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2	5 mL	5 mL	448660	07/19/19 11:20	WPD	TAL PEN
Total/NA	Prep	3520C			1019.8 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 19:35	VC1	TAL PEN
Total/NA	Prep	3520C	RE		1020 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	1	0.4 mL	1.0 mL	450063	07/30/19 23:28	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1020 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450467	08/01/19 23:04	VC1	TAL PEN
Total/NA	Prep	3520C	RE		1020 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL	RE	1			450489	08/01/19 17:27	KJA	TAL PEN
Total/NA	Prep	3520C			1019.8 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 16:52	KJA	TAL PEN
Total/NA	Prep	3520C			1019.8 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 21:22	KJA	TAL PEN

Client Sample ID: PD-12-GWP-45-071219

Lab Sample ID: 400-173138-3

Date Collected: 07/12/19 10:15

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	448481	07/18/19 11:03	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	448481	07/18/19 17:51	WPD	TAL PEN
Total/NA	Prep	3520C	RE		1014.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	10			450683	08/02/19 19:24	VC1	TAL PEN
Total/NA	Prep	3520C			1029.2 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 19:57	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1014.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1			450762	08/03/19 11:33	VC1	TAL PEN
Total/NA	Prep	3520C			1029.2 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 17:11	KJA	TAL PEN
Total/NA	Prep	3520C			1014.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		6			450940	08/05/19 15:46	KJA	TAL PEN

Client Sample ID: PD-12-GWP-50-071219 — Lab Sample ID: 400-173138-4

Date Collected: 07/12/19 11:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	5 mL	5 mL	448481	07/18/19 10:38	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	100	5 mL	5 mL	448660	07/19/19 11:45	WPD	TAL PEN
Total/NA	Prep	3520C	RE		1009.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	5			450683	08/02/19 19:49	VC1	TAL PEN
Total/NA	Prep	3520C			1027.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 20:18	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1009.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1			450762	08/03/19 11:58	VC1	TAL PEN
Total/NA	Prep	3520C			1027.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 21:38	KJA	TAL PEN
Total/NA	Prep	3520C			1009.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450940	08/05/19 16:04	KJA	TAL PEN

Client Sample ID: PD-12-GWP-55-071219 — Lab Sample ID: 400-173138-5

Date Collected: 07/12/19 13:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	448481	07/18/19 11:28	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	448660	07/19/19 12:11	WPD	TAL PEN
Total/NA	Prep	3520C			1024 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 20:40	VC1	TAL PEN
Total/NA	Prep	3520C	RE		1002 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	1			450762	08/03/19 12:23	VC1	TAL PEN
Total/NA	Prep	3520C			1024 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 21:54	KJA	TAL PEN
Total/NA	Prep	3520C			1002 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 22:59	KJA	TAL PEN
Total/NA	Prep	3520C	DL		1002 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			450940	08/05/19 16:21	KJA	TAL PEN
Total/NA	Prep	3520C			1024 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		25			450940	08/05/19 16:38	KJA	TAL PEN

Client Sample ID: PD-12-GWP-60-071219 — Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 16:04	WPD	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	448660	07/19/19 10:55	WPD	TAL PEN
Total/NA	Prep	3520C			1024.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 21:01	VC1	TAL PEN
Total/NA	Prep	3520C	RE		1023.8 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	1			450762	08/03/19 12:48	VC1	TAL PEN

Client Sample ID: PD-12-GWP-60-071219

Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1024.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 18:06	KJA	TAL PEN
Total/NA	Prep	3520C			1023.8 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 20:34	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448434/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:11	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 12:39	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448481/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 08:34	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448660/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448660	07/19/19 08:27	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449437/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 20:36	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			450489	08/01/19 15:26	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448434/22-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:52	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:33	S1S	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448434/2-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:16	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 12:56	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448481/1002

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 07:45	WPD	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-448660/1002

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448660	07/19/19 07:36	WPD	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449437/2-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 10:44	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450489	08/01/19 15:44	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449437/4-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:04	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-448434/23-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:52	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:54	S1S	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-448434/3-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:37	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 13:15	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-449437/3-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 11:08	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450489	08/01/19 16:01	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-449437/5-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:25	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

GC/MS VOA

Analysis Batch: 448481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-1	TB-PW-071219-B	Total/NA	Water	8260B	
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8260B	
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8260B	
400-173138-3 - DL	PD-12-GWP-45-071219	Total/NA	Water	8260B	
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8260B	
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8260B	
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8260B	
MB 400-448481/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448481/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-1 - RA	TB-PW-071219-B	Total/NA	Water	8260B	
400-173138-2 - DL	PD-11-GWP-66.7-071219	Total/NA	Water	8260B	
400-173138-4 - DL	PD-12-GWP-50-071219	Total/NA	Water	8260B	
400-173138-5 - DL	PD-12-GWP-55-071219	Total/NA	Water	8260B	
400-173138-6 - RA	PD-12-GWP-60-071219	Total/NA	Water	8260B	
MB 400-448660/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448660/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	3520C	
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	3520C	
MB 400-448434/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448434/22-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448434/23-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D	448434
LCS 400-448434/22-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCSD 400-448434/23-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8270D	448434
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D	448434
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D	448434
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D	448434
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D	448434

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

GC/MS Semi VOA

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RE	PD-11-GWP-66.7-071219	Total/NA	Water	3520C	
400-173138-2 - RERA	PD-11-GWP-66.7-071219	Total/NA	Water	3520C	
400-173138-3 - RE	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-3 - RERA	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-4 - RE	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-4 - RERA	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-5 - DL	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-5 - RE	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	3520C	
400-173138-6 - RE	PD-12-GWP-60-071219	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RE	PD-11-GWP-66.7-071219	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

Analysis Batch: 450159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8270D LL	448434
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D LL	448434
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D LL	448434
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D LL	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	448434

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RERA	PD-11-GWP-66.7-071219	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437

Analysis Batch: 450489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RE	PD-11-GWP-66.7-071219	Total/NA	Water	8270D LL	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D LL	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449437

Analysis Batch: 450683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3 - RE	PD-12-GWP-45-071219	Total/NA	Water	8270D	449437
400-173138-4 - RE	PD-12-GWP-50-071219	Total/NA	Water	8270D	449437

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

GC/MS Semi VOA

Analysis Batch: 450731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8270D LL	448434
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D LL	448434
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	448434
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	449437
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D LL	449437

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3 - RERA	PD-12-GWP-45-071219	Total/NA	Water	8270D	449437
400-173138-4 - RERA	PD-12-GWP-50-071219	Total/NA	Water	8270D	449437
400-173138-5 - RE	PD-12-GWP-55-071219	Total/NA	Water	8270D	449437
400-173138-6 - RE	PD-12-GWP-60-071219	Total/NA	Water	8270D	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D LL	449437
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D LL	449437
400-173138-5 - DL	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	449437
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	448434

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448481/4
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 08:34	1
Acrolein	ND		20	10	ug/L			07/18/19 08:34	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 08:34	1
Benzene	ND		1.0	0.38	ug/L			07/18/19 08:34	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 08:34	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 08:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 08:34	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 08:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 08:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 08:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 08:34	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 08:34	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 08:34	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 08:34	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 08:34	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 08:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 08:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 08:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 08:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 08:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 08:34	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 08:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/18/19 08:34	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 08:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/18/19 08:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 08:34	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/18/19 08:34	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/18/19 08:34	1
Naphthalene	ND		1.0	1.0	ug/L			07/18/19 08:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/18/19 08:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/18/19 08:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 08:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448481/4
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/18/19 08:34	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 08:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 08:34	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/18/19 08:34	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 08:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 08:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/18/19 08:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 08:34	1
Toluene	ND		1.0	0.41	ug/L			07/18/19 08:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 08:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 08:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 08:34	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 08:34	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 08:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 08:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/18/19 08:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/18/19 08:34	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 08:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Xylenes, Total	ND		10	1.6	ug/L			07/18/19 08:34	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 08:34*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 08:34*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/18/19 08:34*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/18/19 08:34*	*1*

Lab Sample ID: LCS 400-448481/1002
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	264		ug/L		132	43 - 160
Acrolein	500	641		ug/L		128	38 - 160
Acrylonitrile	500	574		ug/L		115	64 - 142
Benzene	50.0	55.5		ug/L		111	70 - 130
Bromobenzene	50.0	52.7		ug/L		105	70 - 132
Bromochloromethane	50.0	56.8		ug/L		114	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.9		ug/L		120	57 - 140
Bromomethane	50.0	41.5		ug/L		83	10 - 160
2-Butanone (MEK)	200	242		ug/L		121	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448481/1002
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.4		ug/L		109	61 - 137
Carbon tetrachloride	50.0	62.7		ug/L		125	61 - 137
Chlorobenzene	50.0	55.1		ug/L		110	70 - 130
Chloroethane	50.0	52.3		ug/L		105	55 - 141
2-Chloroethyl vinyl ether	50.0	50.2		ug/L		100	10 - 160
Chloroform	50.0	55.8		ug/L		112	69 - 130
1-Chlorohexane	50.0	59.2		ug/L		118	69 - 130
Chloromethane	50.0	48.1		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	58.3		ug/L		117	68 - 130
cis-1,3-Dichloropropene	50.0	59.4		ug/L		119	69 - 132
Dibromochloromethane	50.0	60.7		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	53.5		ug/L		107	54 - 135
1,2-Dichlorobenzene	50.0	56.4		ug/L		113	67 - 130
1,3-Dichlorobenzene	50.0	56.5		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	55.3		ug/L		111	70 - 130
Dichlorodifluoromethane	50.0	30.2		ug/L		60	41 - 146
1,1-Dichloroethane	50.0	58.9		ug/L		118	70 - 130
1,2-Dichloroethane	50.0	56.6		ug/L		113	69 - 130
1,1-Dichloroethene	50.0	50.4		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	58.1		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	55.8		ug/L		112	70 - 130
2,2-Dichloropropane	50.0	57.5		ug/L		115	52 - 135
1,1-Dichloropropene	50.0	55.7		ug/L		111	70 - 130
Ethylbenzene	50.0	56.6		ug/L		113	70 - 130
Ethylene Dibromide	50.0	53.6		ug/L		107	70 - 130
Ethyl methacrylate	50.0	59.0		ug/L		118	68 - 130
Hexachlorobutadiene	50.0	50.9		ug/L		102	53 - 140
2-Hexanone	200	270		ug/L		135	65 - 137
Isopropylbenzene	50.0	54.0		ug/L		108	70 - 130
Methylene bromide	50.0	50.9		ug/L		102	70 - 130
Methylene Chloride	50.0	55.2		ug/L		110	66 - 135
4-Methyl-2-pentanone (MIBK)	200	240		ug/L		120	69 - 138
Methyl tert-butyl ether	50.0	49.8		ug/L		100	66 - 130
m-Xylene & p-Xylene	50.0	55.6		ug/L		111	70 - 130
Naphthalene	50.0	49.6		ug/L		99	47 - 149
n-Butylbenzene	50.0	56.6		ug/L		113	67 - 130
N-Propylbenzene	50.0	57.0		ug/L		114	70 - 130
o-Chlorotoluene	50.0	55.8		ug/L		112	70 - 130
o-Xylene	50.0	55.4		ug/L		111	70 - 130
p-Chlorotoluene	50.0	55.6		ug/L		111	70 - 130
p-Isopropyltoluene	50.0	56.6		ug/L		113	65 - 130
sec-Butylbenzene	50.0	54.5		ug/L		109	66 - 130
Styrene	50.0	52.7		ug/L		105	70 - 130
tert-Butylbenzene	50.0	53.7		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.4	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.5		ug/L		107	70 - 131
Tetrachloroethene	50.0	55.1		ug/L		110	65 - 130
Toluene	50.0	55.3		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448481/1002
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	61.9		ug/L		124	63 - 130
1,2,3-Trichlorobenzene	50.0	50.8		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	50.6		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	56.3		ug/L		113	68 - 130
1,1,2-Trichloroethane	50.0	55.9		ug/L		112	70 - 130
Trichloroethene	50.0	55.1		ug/L		110	70 - 130
Trichlorofluoromethane	50.0	46.4		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	51.2		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.5		ug/L		109	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	48.0		ug/L		96	59 - 136
Xylenes, Total	100	111		ug/L		111	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 400-448660/4
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 08:27	1
Acrolein	ND		20	10	ug/L			07/19/19 08:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 08:27	1
Benzene	ND		1.0	0.38	ug/L			07/19/19 08:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 08:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 08:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 08:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 08:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 08:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 08:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 08:27	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 08:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 08:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 08:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 08:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 08:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 08:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448660/4
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 08:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 08:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 08:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 08:27	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 08:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 08:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 08:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 08:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 08:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/19/19 08:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 08:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 08:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 08:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 08:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 08:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 08:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 08:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 08:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 08:27	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 08:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 08:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 08:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 08:27	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 08:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 08:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 08:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 08:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 08:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 08:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 08:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 08:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 08:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 08:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 08:27	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448660/4
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/19/19 08:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		07/19/19 08:27	1
Dibromofluoromethane	100		81 - 121		07/19/19 08:27	1
Toluene-d8 (Surr)	100		80 - 120		07/19/19 08:27	1

Lab Sample ID: LCS 400-448660/1002
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	54.5		ug/L		109	70 - 130
Methylene Chloride	50.0	54.5		ug/L		109	66 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		78 - 118
Dibromofluoromethane	99		81 - 121
Toluene-d8 (Surr)	98		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzenethiol	ND		10	1.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzoic acid	ND		30	7.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzyl alcohol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/17/19 14:25	07/20/19 19:11	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-ethylhexyl) phthalate	13.0		10	5.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/17/19 14:25	07/20/19 19:11	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloroaniline	ND		10	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chlorophenol	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenzofuran	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Diethyl phthalate	ND		10	0.70	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		10	0.60	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,4-Dioxane	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachloroethane	ND		10	4.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Indene	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Isophorone	ND		10	0.57	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Methylphenol	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitroaniline	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
3-Nitroaniline	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitroaniline	ND		10	2.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
Nitrobenzene	ND		10	0.55	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitrophenol	ND		10	0.65	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitrophenol	ND		10	2.1	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/17/19 14:25	07/20/19 19:11	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Phenol	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
Pyridine	ND		10	3.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Quinoline	ND		10	6.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*				*07/17/19 14:25*	*07/20/19 19:11*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*68*		*34 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2-Fluorophenol	*42*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Nitrobenzene-d5	*61*		*27 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Phenol-d5	*52*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2,4,6-Tribromophenol	*90*		*15 - 135*	*07/17/19 14:25*	*07/20/19 19:11*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448434/22-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		1	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*56*		*27 - 120*
Phenol-d5	*47*		*10 - 120*
Terphenyl-d14	*80*		*53 - 125*
2,4,6-Tribromophenol	*79*		*15 - 135*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	17.9		ug/L		60	29 - 120
Benzoic acid	117	47.4		ug/L		41	10 - 150
Benzyl alcohol	30.0	20.2		ug/L		67	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.0		ug/L		57	45 - 120
Bis(2-chloroethyl)ether	30.0	15.9		ug/L		53	48 - 120
bis (2-chloroisopropyl) ether	30.0	14.7		ug/L		49	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	19.4		ug/L		65	48 - 150
4-Bromophenyl phenyl ether	30.0	28.3		ug/L		94	55 - 122
Butyl benzyl phthalate	30.0	18.6		ug/L		62	46 - 145
4-Chloroaniline	30.0	14.3		ug/L		48	30 - 120
4-Chloro-3-methylphenol	30.0	21.5		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	22.4		ug/L		75	52 - 120
2-Chlorophenol	30.0	18.3		ug/L		61	34 - 120
4-Chlorophenyl phenyl ether	30.0	26.7		ug/L		89	58 - 124
Dibenz[a,h]acridine	30.0	23.7		ug/L		79	46 - 149
Dibenzofuran	30.0	24.3		ug/L		81	58 - 123
3,3'-Dichlorobenzidine	40.0	53.3		ug/L		133	39 - 135
2,4-Dichlorophenol	30.0	22.6		ug/L		75	39 - 128
Diethyl phthalate	30.0	24.3		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	20.6		ug/L		69	44 - 120
Dimethyl phthalate	30.0	23.6		ug/L		79	50 - 131
Di-n-butyl phthalate	30.0	23.1		ug/L		77	55 - 131
4,6-Dinitro-ortho-cresol	60.0	52.0		ug/L		87	10 - 150
2,4-Dinitrophenol	60.0	67.2		ug/L		112	10 - 150
2,4-Dinitrotoluene	30.0	25.9		ug/L		86	58 - 140
2,6-Dinitrotoluene	30.0	25.2		ug/L		84	57 - 130
Di-n-octyl phthalate	30.0	22.1		ug/L		74	50 - 150
1,4-Dioxane	30.0	10.7		ug/L		36	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	17.7		ug/L		59	47 - 123
Hexachlorobenzene	30.0	32.6		ug/L		109	52 - 131
Hexachlorocyclopentadiene	30.0	11.7	J	ug/L		39	10 - 129
Hexachloroethane	30.0	14.3		ug/L		48	41 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Indene	30.0	18.9		ug/L		63	47 - 120
Isophorone	30.0	17.8		ug/L		59	49 - 120
2-Methylphenol	30.0	18.1		ug/L		60	39 - 123
3 & 4 Methylphenol	30.0	18.4	J	ug/L		61	38 - 121
2-Nitroaniline	30.0	20.0		ug/L		67	47 - 150
3-Nitroaniline	30.0	22.7		ug/L		76	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	18.6		ug/L		62	47 - 120
2-Nitrophenol	30.0	20.6		ug/L		69	28 - 136
4-Nitrophenol	60.0	42.3		ug/L		71	10 - 150
N-Nitrosodimethylamine	30.0	23.6		ug/L		79	22 - 148
N-Nitrosodi-n-propylamine	30.0	19.4		ug/L		65	44 - 120
N-Nitrosodiphenylamine	29.8	22.9		ug/L		77	56 - 120
Pentachlorophenol	60.0	58.6		ug/L		98	15 - 141
Phenol	30.0	15.2		ug/L		51	33 - 120
Pyridine	60.0	29.7		ug/L		49	26 - 120
Quinoline	30.0	21.4		ug/L		71	51 - 129
2,4,5-Trichlorophenol	30.0	25.5		ug/L		85	38 - 147
2,4,6-Trichlorophenol	30.0	25.2		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*34 - 120*
2-Fluorophenol	*39*		*10 - 120*
Nitrobenzene-d5	*59*		*27 - 120*
Phenol-d5	*51*		*10 - 120*
Terphenyl-d14	*89*		*53 - 125*
2,4,6-Tribromophenol	*123*		*15 - 135*

Lab Sample ID: LCSD 400-448434/23-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		2	10 - 120	24	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*34 - 120*
2-Fluorophenol	*38*		*10 - 120*
Nitrobenzene-d5	*58*		*27 - 120*
Phenol-d5	*52*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*84*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	18.4		ug/L		61	29 - 120	3	30
Benzoic acid	117	35.8		ug/L		31	10 - 150	28	30
Benzyl alcohol	30.0	22.2		ug/L		74	19 - 125	10	30
Bis(2-chloroethoxy)methane	30.0	18.0		ug/L		60	45 - 120	5	30
Bis(2-chloroethyl)ether	30.0	17.1		ug/L		57	48 - 120	7	30
bis (2-chloroisopropyl) ether	30.0	16.5		ug/L		55	30 - 125	12	30
Bis(2-ethylhexyl) phthalate	30.0	20.0		ug/L		67	48 - 150	3	30
4-Bromophenyl phenyl ether	30.0	29.1		ug/L		97	55 - 122	3	30
Butyl benzyl phthalate	30.0	18.9		ug/L		63	46 - 145	2	30
4-Chloroaniline	30.0	15.1		ug/L		50	30 - 120	5	30
4-Chloro-3-methylphenol	30.0	22.4		ug/L		75	39 - 140	4	30
2-Chloronaphthalene	30.0	22.8		ug/L		76	52 - 120	2	30
2-Chlorophenol	30.0	18.7		ug/L		62	34 - 120	3	30
4-Chlorophenyl phenyl ether	30.0	27.1		ug/L		90	58 - 124	1	30
Dibenz[a,h]acridine	30.0	24.4		ug/L		81	46 - 149	3	30
Dibenzofuran	30.0	24.7		ug/L		82	58 - 123	2	30
3,3'-Dichlorobenzidine	40.0	58.2	*	ug/L		145	39 - 135	9	30
2,4-Dichlorophenol	30.0	23.0		ug/L		77	39 - 128	2	30
Diethyl phthalate	30.0	25.6		ug/L		85	44 - 146	5	30
2,4-Dimethylphenol	30.0	22.4		ug/L		75	44 - 120	8	30
Dimethyl phthalate	30.0	24.2		ug/L		81	50 - 131	2	30
Di-n-butyl phthalate	30.0	24.0		ug/L		80	55 - 131	4	30
4,6-Dinitro-ortho-cresol	60.0	55.3		ug/L		92	10 - 150	6	30
2,4-Dinitrophenol	60.0	70.9		ug/L		118	10 - 150	5	30
2,4-Dinitrotoluene	30.0	25.9		ug/L		86	58 - 140	0	30
2,6-Dinitrotoluene	30.0	25.6		ug/L		85	57 - 130	2	30
Di-n-octyl phthalate	30.0	23.0		ug/L		77	50 - 150	4	30
1,4-Dioxane	30.0	11.2		ug/L		37	25 - 120	4	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.1		ug/L		67	47 - 123	13	30
Hexachlorobenzene	30.0	33.4		ug/L		111	52 - 131	2	30
Hexachlorocyclopentadiene	30.0	10.4	J	ug/L		35	10 - 129	12	30
Hexachloroethane	30.0	13.9		ug/L		46	41 - 120	2	30
Indene	30.0	16.9		ug/L		56	47 - 120	11	30
Isophorone	30.0	19.1		ug/L		64	49 - 120	7	30
2-Methylphenol	30.0	19.4		ug/L		65	39 - 123	7	30
3 & 4 Methylphenol	30.0	20.2		ug/L		67	38 - 121	10	30
2-Nitroaniline	30.0	22.5		ug/L		75	47 - 150	12	30
3-Nitroaniline	30.0	24.5		ug/L		82	34 - 132	8	30
4-Nitroaniline	30.0	33.7		ug/L		112	41 - 135	12	30
Nitrobenzene	30.0	19.6		ug/L		65	47 - 120	5	30
2-Nitrophenol	30.0	20.9		ug/L		70	28 - 136	2	30
4-Nitrophenol	60.0	47.0		ug/L		78	10 - 150	10	30
N-Nitrosodimethylamine	30.0	24.2		ug/L		81	22 - 148	3	30
N-Nitrosodi-n-propylamine	30.0	21.9		ug/L		73	44 - 120	12	30
N-Nitrosodiphenylamine	29.8	23.2		ug/L		78	56 - 120	1	30
Pentachlorophenol	60.0	58.2		ug/L		97	15 - 141	1	30
Phenol	30.0	15.3		ug/L		51	33 - 120	1	30
Pyridine	60.0	32.4		ug/L		54	26 - 120	9	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	22.8		ug/L		76	51 - 129	6	30
2,4,5-Trichlorophenol			30.0	24.5		ug/L		82	38 - 147	4	30
2,4,6-Trichlorophenol			30.0	26.0		ug/L		87	36 - 139	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*65*		*27 - 120*
Phenol-d5	*50*		*10 - 120*
Terphenyl-d14	*84*		*53 - 125*
2,4,6-Tribromophenol	*105*		*15 - 135*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 21:29	07/30/19 21:00	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
Indene	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Isophorone	ND		10	0.57	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 21:29	07/30/19 21:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Phenol	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pyridine	ND		10	3.2	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*07/30/19 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Phenol-d5	*70*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2,4,6-Tribromophenol	*35*		*15 - 135*	*07/24/19 21:29*	*07/30/19 21:00*	*1*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 21:29	08/01/19 20:36	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 21:29	08/01/19 20:36	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 21:29	08/01/19 20:36	1
Quinoline	ND		10	6.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 21:29	08/01/19 20:36	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*08/01/19 20:36*	*1*

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	29.3		ug/L		98	29 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	117	97.7		ug/L		84	10 - 150
Benzyl alcohol	30.0	31.4		ug/L		105	19 - 125
Bis(2-chloroethoxy)methane	30.0	29.9		ug/L		100	45 - 120
Bis(2-chloroethyl)ether	30.0	31.5		ug/L		105	48 - 120
bis (2-chloroisopropyl) ether	30.0	29.8		ug/L		99	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	29.8		ug/L		99	48 - 150
4-Bromophenyl phenyl ether	30.0	30.5		ug/L		102	55 - 122
Butyl benzyl phthalate	30.0	32.3		ug/L		108	46 - 145
4-Chloroaniline	30.0	26.7		ug/L		89	30 - 120
4-Chloro-3-methylphenol	30.0	31.2		ug/L		104	39 - 140
2-Chloronaphthalene	30.0	31.2		ug/L		104	52 - 120
2-Chlorophenol	30.0	28.0		ug/L		93	34 - 120
4-Chlorophenyl phenyl ether	30.0	31.7		ug/L		106	58 - 124
Dibenz[a,h]acridine	30.0	29.5		ug/L		98	46 - 149
Dibenzofuran	30.0	32.1		ug/L		107	58 - 123
3,3'-Dichlorobenzidine	40.0	53.6		ug/L		134	39 - 135
2,4-Dichlorophenol	30.0	30.4		ug/L		101	39 - 128
Diethyl phthalate	30.0	34.4		ug/L		115	44 - 146
2,4-Dimethylphenol	30.0	30.3		ug/L		101	44 - 120
Dimethyl phthalate	30.0	32.5		ug/L		108	50 - 131
Di-n-butyl phthalate	30.0	34.0		ug/L		113	55 - 131
4,6-Dinitro-ortho-cresol	60.0	64.8		ug/L		108	10 - 150
2,4-Dinitrophenol	60.0	67.6		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	37.0		ug/L		123	58 - 140
2,6-Dinitrotoluene	30.0	32.0		ug/L		107	57 - 130
Di-n-octyl phthalate	30.0	30.0	B	ug/L		100	50 - 150
1,4-Dioxane	30.0	20.4		ug/L		68	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	29.8		ug/L		99	47 - 123
Hexachlorobenzene	30.0	30.8		ug/L		103	52 - 131
Hexachlorocyclopentadiene	30.0	13.0	J	ug/L		43	10 - 129
Hexachloroethane	30.0	20.6		ug/L		69	41 - 120
Indene	30.0	28.1		ug/L		94	47 - 120
Isophorone	30.0	30.2		ug/L		101	49 - 120
2-Methylphenol	30.0	31.0		ug/L		103	39 - 123
3 & 4 Methylphenol	30.0	31.2		ug/L		104	38 - 121
2-Nitroaniline	30.0	30.3		ug/L		101	47 - 150
3-Nitroaniline	30.0	28.5		ug/L		95	34 - 132
4-Nitroaniline	30.0	35.2		ug/L		117	41 - 135
Nitrobenzene	30.0	28.0		ug/L		93	47 - 120
2-Nitrophenol	30.0	30.0		ug/L		100	28 - 136
4-Nitrophenol	60.0	63.5		ug/L		106	10 - 150
N-Nitrosodimethylamine	30.0	29.2		ug/L		97	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.7		ug/L		109	44 - 120
N-Nitrosodiphenylamine	29.8	31.0		ug/L		104	56 - 120
Pentachlorophenol	60.0	66.2		ug/L		110	15 - 141
Phenol	30.0	28.4		ug/L		95	33 - 120
Pyridine	60.0	51.7		ug/L		86	26 - 120
Quinoline	30.0	35.2		ug/L		117	51 - 129

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	30.0	33.4		ug/L		111	38 - 147
2,4,6-Trichlorophenol	30.0	32.9		ug/L		110	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*74*		*10 - 120*
Nitrobenzene-d5	*100*		*27 - 120*
Phenol-d5	*95*		*10 - 120*
Terphenyl-d14	*115*		*53 - 125*
2,4,6-Tribromophenol	*112*		*15 - 135*

Lab Sample ID: LCS 400-449437/4-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*45*		*34 - 120*
2-Fluorophenol	*40*		*10 - 120*
Nitrobenzene-d5	*79*		*27 - 120*
Phenol-d5	*60*		*10 - 120*
Terphenyl-d14	*66*		*53 - 125*
2,4,6-Tribromophenol	*25*		*15 - 135*

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	24.8		ug/L		83	29 - 120	17	30
Benzoic acid	117	92.4		ug/L		79	10 - 150	6	30
Benzyl alcohol	30.0	31.2		ug/L		104	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	29.8		ug/L		99	45 - 120	0	30
Bis(2-chloroethyl)ether	30.0	28.4		ug/L		95	48 - 120	10	30
bis (2-chloroisopropyl) ether	30.0	29.3		ug/L		98	30 - 125	2	30
Bis(2-ethylhexyl) phthalate	30.0	30.2		ug/L		101	48 - 150	1	30
4-Bromophenyl phenyl ether	30.0	29.6		ug/L		99	55 - 122	3	30
Butyl benzyl phthalate	30.0	32.0		ug/L		107	46 - 145	1	30
4-Chloroaniline	30.0	25.5		ug/L		85	30 - 120	4	30
4-Chloro-3-methylphenol	30.0	30.4		ug/L		101	39 - 140	3	30
2-Chloronaphthalene	30.0	31.1		ug/L		104	52 - 120	0	30
2-Chlorophenol	30.0	29.1		ug/L		97	34 - 120	4	30
4-Chlorophenyl phenyl ether	30.0	32.3		ug/L		108	58 - 124	2	30
Dibenz[a,h]acridine	30.0	32.1		ug/L		107	46 - 149	9	30
Dibenzofuran	30.0	32.0		ug/L		107	58 - 123	0	30
3,3'-Dichlorobenzidine	40.0	51.6		ug/L		129	39 - 135	4	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dichlorophenol	30.0	29.5		ug/L		98	39 - 128	3	30
Diethyl phthalate	30.0	34.3		ug/L		114	44 - 146	0	30
2,4-Dimethylphenol	30.0	29.8		ug/L		99	44 - 120	2	30
Dimethyl phthalate	30.0	32.0		ug/L		107	50 - 131	2	30
Di-n-butyl phthalate	30.0	34.3		ug/L		114	55 - 131	1	30
4,6-Dinitro-ortho-cresol	60.0	69.4		ug/L		116	10 - 150	7	30
2,4-Dinitrophenol	60.0	71.6		ug/L		119	10 - 150	6	30
2,4-Dinitrotoluene	30.0	36.9		ug/L		123	58 - 140	0	30
2,6-Dinitrotoluene	30.0	31.8		ug/L		106	57 - 130	1	30
Di-n-octyl phthalate	30.0	30.6	B	ug/L		102	50 - 150	2	30
1,4-Dioxane	30.0	20.6		ug/L		69	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	29.2		ug/L		97	47 - 123	2	30
Hexachlorobenzene	30.0	31.7		ug/L		106	52 - 131	3	30
Hexachlorocyclopentadiene	30.0	12.9	J	ug/L		43	10 - 129	1	30
Hexachloroethane	30.0	21.4		ug/L		71	41 - 120	4	30
Indene	30.0	28.2		ug/L		94	47 - 120	0	30
Isophorone	30.0	29.7		ug/L		99	49 - 120	2	30
2-Methylphenol	30.0	30.5		ug/L		102	39 - 123	1	30
3 & 4 Methylphenol	30.0	31.0		ug/L		103	38 - 121	1	30
2-Nitroaniline	30.0	30.2		ug/L		101	47 - 150	0	30
3-Nitroaniline	30.0	28.3		ug/L		94	34 - 132	0	30
4-Nitroaniline	30.0	36.3		ug/L		121	41 - 135	3	30
Nitrobenzene	30.0	27.8		ug/L		93	47 - 120	1	30
2-Nitrophenol	30.0	30.2		ug/L		101	28 - 136	1	30
4-Nitrophenol	60.0	62.1		ug/L		104	10 - 150	2	30
N-Nitrosodimethylamine	30.0	28.2		ug/L		94	22 - 148	4	30
N-Nitrosodi-n-propylamine	30.0	32.8		ug/L		109	44 - 120	0	30
N-Nitrosodiphenylamine	29.8	30.3		ug/L		102	56 - 120	2	30
Pentachlorophenol	60.0	66.0		ug/L		110	15 - 141	0	30
Phenol	30.0	27.6		ug/L		92	33 - 120	3	30
Pyridine	60.0	49.8		ug/L		83	26 - 120	4	30
Quinoline	30.0	34.0		ug/L		113	51 - 129	3	30
2,4,5-Trichlorophenol	30.0	32.7		ug/L		109	38 - 147	2	30
2,4,6-Trichlorophenol	30.0	32.9		ug/L		110	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*79*		*10 - 120*
Nitrobenzene-d5	*99*		*27 - 120*
Phenol-d5	*92*		*10 - 120*
Terphenyl-d14	*107*		*53 - 125*
2,4,6-Tribromophenol	*107*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/5-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	14.9	*	ug/L		50	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*
2-Fluorophenol	*45*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*67*		*53 - 125*
2,4,6-Tribromophenol	*34*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Chrysene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluorene	ND		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 12:39	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Pyrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*15 - 122*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Nitrobenzene-d5	*102*		*19 - 130*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Terphenyl-d14	*120*		*33 - 138*	*07/17/19 14:25*	*07/31/19 12:39*	*1*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.6		ug/L		82	41 - 120
Acenaphthylene	30.0	25.7		ug/L		86	44 - 120
Anthracene	30.0	27.0		ug/L		90	49 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	24.5		ug/L		82	52 - 120
Benzo[b]fluoranthene	30.0	26.5		ug/L		88	53 - 134
Benzo[g,h,i]perylene	30.0	21.3		ug/L		71	47 - 133
Benzo[k]fluoranthene	30.0	22.2		ug/L		74	57 - 134
Chrysene	30.0	25.9		ug/L		86	55 - 122
Dibenz(a,h)anthracene	30.0	20.4		ug/L		68	48 - 146
Fluoranthene	30.0	28.8		ug/L		96	54 - 128
Fluorene	30.0	27.8		ug/L		93	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	21.8		ug/L		73	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	20.1		ug/L		67	32 - 124
Phenanthrene	30.0	27.4		ug/L		91	48 - 120
Pyrene	30.0	31.6		ug/L		105	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*73*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*104*		*33 - 138*

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	27.3		ug/L		91	41 - 120	10	56
Acenaphthylene	30.0	27.8		ug/L		93	44 - 120	8	56
Anthracene	30.0	27.3		ug/L		91	49 - 120	1	51
Benzo[a]anthracene	30.0	26.4		ug/L		88	61 - 135	4	49
Benzo[a]pyrene	30.0	26.3		ug/L		88	52 - 120	7	50
Benzo[b]fluoranthene	30.0	29.1		ug/L		97	53 - 134	9	54
Benzo[g,h,i]perylene	30.0	24.0		ug/L		80	47 - 133	12	50
Benzo[k]fluoranthene	30.0	25.6		ug/L		85	57 - 134	14	52
Chrysene	30.0	26.8		ug/L		89	55 - 122	4	50
Dibenz(a,h)anthracene	30.0	21.7		ug/L		72	48 - 146	6	50
Fluoranthene	30.0	30.1		ug/L		100	54 - 128	5	52
Fluorene	30.0	30.7		ug/L		102	45 - 125	10	56
Indeno[1,2,3-cd]pyrene	30.0	23.3		ug/L		78	43 - 142	7	51
1-Methylnaphthalene	30.0	21.2		ug/L		71	41 - 120	7	55
2-Methylnaphthalene	30.0	21.2		ug/L		71	32 - 124	5	57
Phenanthrene	30.0	28.7		ug/L		96	48 - 120	5	56
Pyrene	30.0	28.7		ug/L		96	48 - 132	9	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Fluoranthene	0.0465	J	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 21:29	08/01/19 15:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Pyrene	0.0411	J	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*15 - 122*	*07/24/19 21:29*	*08/01/19 15:26*	*1*
Nitrobenzene-d5	*95*		*19 - 130*	*07/24/19 21:29*	*08/01/19 15:26*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/24/19 21:29*	*08/01/19 15:26*	*1*

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	28.4		ug/L		95	41 - 120
Acenaphthylene	30.0	28.0		ug/L		93	44 - 120
Anthracene	30.0	25.9		ug/L		86	49 - 120
Benzo[a]anthracene	30.0	26.4		ug/L		88	61 - 135
Benzo[a]pyrene	30.0	28.0		ug/L		93	52 - 120
Benzo[b]fluoranthene	30.0	31.3		ug/L		104	53 - 134
Benzo[g,h,i]perylene	30.0	23.7		ug/L		79	47 - 133
Benzo[k]fluoranthene	30.0	27.9		ug/L		93	57 - 134
Chrysene	30.0	26.8		ug/L		89	55 - 122
Dibenz(a,h)anthracene	30.0	22.9		ug/L		76	48 - 146
Fluoranthene	30.0	29.5		ug/L		98	54 - 128
Fluorene	30.0	29.7		ug/L		99	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	23.5		ug/L		78	43 - 142
1-Methylnaphthalene	30.0	24.4		ug/L		81	41 - 120
2-Methylnaphthalene	30.0	23.7		ug/L		79	32 - 124
Phenanthrene	30.0	26.1		ug/L		87	48 - 120
Pyrene	30.0	33.9		ug/L		113	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	83		19 - 130
Terphenyl-d14	93		33 - 138

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	29.2		ug/L		97	41 - 120	3	56
Acenaphthylene			30.0	28.6		ug/L		95	44 - 120	2	56
Anthracene			30.0	27.0		ug/L		90	49 - 120	4	51
Benzo[a]anthracene			30.0	26.9		ug/L		90	61 - 135	2	49
Benzo[a]pyrene			30.0	29.4		ug/L		98	52 - 120	5	50
Benzo[b]fluoranthene			30.0	30.5		ug/L		102	53 - 134	3	54
Benzo[g,h,i]perylene			30.0	25.8		ug/L		86	47 - 133	8	50
Benzo[k]fluoranthene			30.0	29.5		ug/L		98	57 - 134	6	52
Chrysene			30.0	27.3		ug/L		91	55 - 122	2	50
Dibenz(a,h)anthracene			30.0	26.7		ug/L		89	48 - 146	15	50
Fluoranthene			30.0	29.1		ug/L		97	54 - 128	1	52
Fluorene			30.0	31.2		ug/L		104	45 - 125	5	56
Indeno[1,2,3-cd]pyrene			30.0	27.0		ug/L		90	43 - 142	14	51
1-Methylnaphthalene			30.0	23.9		ug/L		80	41 - 120	2	55
2-Methylnaphthalene			30.0	24.6		ug/L		82	32 - 124	4	57
Phenanthrene			30.0	25.8		ug/L		86	48 - 120	1	56
Pyrene			30.0	30.2		ug/L		101	48 - 132	12	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	83		15 - 122
Nitrobenzene-d5	86		19 - 130
Terphenyl-d14	84		33 - 138

Shell Oil Products US Chain Of Custody Record

400-173138 COC

LAB (LOCATION)
- [ ] ACCUTEST (_____)
- [ ] CALSCIENCE (_____)
- [x] TESTAMERICA (Pensacola)
- [ ] Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- [ ] SGW FDG
- [ ] PIPELINE
- [ ] RETAIL
- [ ] CHEMICALS
- [ ] CONSULTANT
- [ ] LUBES
- [ ] TRANSPORTATION
- [ ] OTHER

Print Bill To Contact Name: James Carrino

PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

CHECK

DATE

PAGE

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford

State: IL

AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel

PHONE NO: 3144290100

E-MAIL: elizabeth.kunkel@aecom.com

AECOM Other ID

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS)
- [x] STANDARD (14 DAY)
- [ ] 5 DAYS
- [ ] 3 DAYS
- [ ] 2 DAYS
- [ ] 24 HOURS
- [ ] RESULTS NEEDED ON WEEKEND

- [ ] LA - RWQCB REPORT FORMAT
- [ ] UST AGENCY:

DELIVERABLES
- [ ] LEVEL 1
- [x] LEVEL 2
- [ ] LEVEL 3
- [x] LEVEL 4
- [x] OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- [x] SHELL CONTRACT RATE APPLIES
- [ ] STATE REIMBURSEMENT RATE APPLIES
- [ ] EDD NOT NEEDED
- [x] RECEIPT VERIFICATION REQUESTED
- [ ] PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
TB-PW-071219-B	7/12/2019	0:00	Water	2					2		x	
PD-11-GWP-66.7-071219	7/12/2019	8:45	Water	2			2		4	x	x	x
PD-12-GWP-45-071219	7/12/2019	10:15	Water	2			2		4	x	x	x
PD-12-GWP-50-071219	7/12/2019	11:10	Water	2			2		4	x	x	x
PD-12-GWP-55-071219	7/12/2019	13:10	Water	2			2		4	x	x	x
PD-12-GWP-60-071219	7/12/2019	14:25	Water	2			2		4	x	x	x

Relinquished by (Signature)	Received by (Signature)	Date	Time
Paul LaFleur	Fedex: 7429 5927 5061; 7429 5927 5072 custody seals: 1003190, 1003191, 1003192, 1003193	7/12/2019	18:00
	2.5C, 3.0C IR8	7/13/19	9:09

Version 10May17

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8/13/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173138-1

Login Number: 173138
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C 3.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Illinois	NELAP		004586	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173138-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 4:18:11 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173138-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173138-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 8-13-19.

Receipt
The samples were received on 7/13/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.5º C and 3.0º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448481 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071219-B (400-173138-1), PD-12-GWP-45-071219 (400-173138-3) and PD-12-GWP-55-071219 (400-173138-5). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-448481 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-11-GWP-66.7-071219 (400-173138-2), PD-12-GWP-50-071219 (400-173138-4) and PD-12-GWP-55-071219 (400-173138-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered above the upper control limit for Hexachlorobenzene, 4-Chlorophenyl phenyl ether and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448987 recovered outside acceptance criteria, low biased, for Aniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448434 and 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-448434 and analytical batch 400-448799 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered above the upper control limit for 2,4-Dinitrophenol, Hexachlorobenzene, 4-Bromophenyl phenyl ether and 2,4-Dinitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448434 contained Bis(2-ethylhexyl) phthalate above the reporting limit (RL). The samples associated with this method blank were either non-detect or less than the reporting limit.

Job ID: 400-173138-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448799 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether, Phenol, Butyl benzyl phthalate, Pyridine, 1,4-Dioxane and 1,2-Diphenylhydrazine (as Azobenzene). A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Surrogate compounds were inadvertently omitted during the extraction process for the following samples: PD-11-GWP-66.7-071219 (400-173138-2), PD-12-GWP-45-071219 (400-173138-3), PD-12-GWP-50-071219 (400-173138-4), PD-12-GWP-55-071219 (400-173138-5), PD-12-GWP-60-071219 (400-173138-6). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-11-GWP-66.7-071219 (400-173138-2). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449437 and analytical batch 400-450063 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Indene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, N-Nitrosodi-n-propylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Diethyl phthalate, Hexachlorocyclopentadiene, Dibenzofuran, Dimethyl phthalate, 2-Chloronaphthalene, 4-Chlorophenyl phenyl ether and 2,4-Dinitrotoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Surrogate compounds were inadvertently omitted during the extraction process for the following samples: PD-11-GWP-66.7-071219 (400-173138-2), PD-12-GWP-45-071219 (400-173138-3), PD-12-GWP-50-071219 (400-173138-4), PD-12-GWP-55-071219 (400-173138-5) and PD-12-GWP-60-071219 (400-173138-6). Re-extraction and/or re-analysis was performed outside of the method defined holding-time. Both sets of data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-449437 and analytical batch 400-450489 contained Fluoranthene and Pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-12-GWP-55-071219 (400-173138-5). These results have been reported and qualified.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-12-GWP-45-071219 (400-173138-3) and PD-12-GWP-50-071219 (400-173138-4), PD-12-GWP-55-071219 (400-173138-5). Elevated reporting limits (RLs) are provided.

Job ID: 400-173138-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D LL: Two of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-12-GWP-60-071219 (400-173138-6). Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

Method(s) 8270D LL: One of six internal standards used to quantify target analytes in the following sample was outside of the control limit due to matrix interference: PD-12-GWP-45-071219 (400-173138-3). Re-analysis at dilution to mitigate this interference would serve only to raise the reporting limit (RL). Since no target analytes associated with the internal standard were detected, the data have been reported and qualified accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173138-1	TB-PW-071219-B	Water	07/12/19 00:00	07/13/19 09:09	
400-173138-2	PD-11-GWP-66.7-071219	Water	07/12/19 08:45	07/13/19 09:09	
400-173138-3	PD-12-GWP-45-071219	Water	07/12/19 10:15	07/13/19 09:09	
400-173138-4	PD-12-GWP-50-071219	Water	07/12/19 11:10	07/13/19 09:09	
400-173138-5	PD-12-GWP-55-071219	Water	07/12/19 13:10	07/13/19 09:09	
400-173138-6	PD-12-GWP-60-071219	Water	07/12/19 14:25	07/13/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: TB-PW-071219-B — Lab Sample ID: 400-173138-1

No Detections.

Client Sample ID: PD-11-GWP-66.7-071219 — Lab Sample ID: 400-173138-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.71	J	1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	0.79	J	1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.66	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.6		1.0	0.82	ug/L	1		8260B	Total/NA
Xylenes, Total	1.7	J	10	1.6	ug/L	1		8260B	Total/NA
Benzene - DL	290		2.0	0.76	ug/L	2		8260B	Total/NA
Acenaphthene	0.57		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.27		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.41		0.20	0.039	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene	0.21		0.20	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.71	J	0.98	0.20	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.18	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.66		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	2.7		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.81		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	2.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	1.3		0.98	0.098	ug/L	5		8270D LL	Total/NA
Acenaphthene - RE	0.40	H	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene - RE	0.10	J H B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene - RE	0.43	H	0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - RE	1.7	H	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene - RE	0.56	H	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene - RE	1.2	H	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene - RE	0.78	H B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	4.1	J	9.8	2.5	ug/L	1		8270D	Total/NA
Phenol - RE	4.0	J H	9.8	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-45-071219 — Lab Sample ID: 400-173138-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	260	J	500	210	ug/L	500		8260B	Total/NA
Benzene - DL	460000		5000	1900	ug/L	5000		8260B	Total/NA
Acenaphthene	0.40		0.19	0.019	ug/L	1		8270D LL	Total/NA
Acenaphthene	0.79	J H	1.2	0.12	ug/L	6		8270D LL	Total/NA
Fluorene	0.57		0.19	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.81	J H	1.2	0.12	ug/L	6		8270D LL	Total/NA
1-Methylnaphthalene	20		0.19	0.019	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	19	H	1.2	0.12	ug/L	6		8270D LL	Total/NA
2-Methylnaphthalene	2.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.1	H	1.2	0.12	ug/L	6		8270D LL	Total/NA
Phenanthrene	0.31		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.57	J H	1.2	0.12	ug/L	6		8270D LL	Total/NA
Pyrene	0.35	J H	1.2	0.12	ug/L	6		8270D LL	Total/NA
Dibenzofuran	0.55	J	9.7	0.51	ug/L	1		8270D	Total/NA
Dibenzofuran	1.0	J H	9.9	0.51	ug/L	1		8270D	Total/NA
Phenol	71		9.7	2.5	ug/L	1		8270D	Total/NA
Phenol	240	E H	9.9	2.6	ug/L	1		8270D	Total/NA
Phenol - RE	410	H	99	26	ug/L	10		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219 — Lab Sample ID: 400-173138-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	25000		100	38	ug/L	100		8260B	Total/NA
Anthracene	0.19	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.12	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	1.0		0.97	0.097	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	1.1	H	0.99	0.099	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	0.44	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	0.51	J H	0.99	0.099	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.58	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.55	J H	0.99	0.099	ug/L	5		8270D LL	Total/NA
Pyrene	0.29	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Pyrene	0.23	J H	0.99	0.099	ug/L	5		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	7.5	J H	9.9	5.0	ug/L	1		8270D	Total/NA
Phenol	59		9.7	2.5	ug/L	1		8270D	Total/NA
Phenol	120	E H	9.9	2.6	ug/L	1		8270D	Total/NA
Phenol - RE	110	H	50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-12-GWP-55-071219 — Lab Sample ID: 400-173138-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	3000		500	250	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	7300		2500	800	ug/L	500		8260B	Total/NA
o-Xylene	2700		2500	300	ug/L	500		8260B	Total/NA
Toluene	2300		500	210	ug/L	500		8260B	Total/NA
1,2,4-Trimethylbenzene	1200		500	410	ug/L	500		8260B	Total/NA
1,3,5-Trimethylbenzene	440	J	500	280	ug/L	500		8260B	Total/NA
Xylenes, Total	10000		5000	800	ug/L	500		8260B	Total/NA
Benzene - DL	330000		2000	760	ug/L	2000		8260B	Total/NA
Anthracene	1.1		0.98	0.098	ug/L	5		8270D LL	Total/NA
Anthracene	1.2	H	1.0	0.10	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.23	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.24	J H	1.0	0.10	ug/L	5		8270D LL	Total/NA
Fluorene	4.1		0.98	0.10	ug/L	5		8270D LL	Total/NA
Fluorene	2.8	H	1.0	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	150		0.98	0.098	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	130	H	1.0	0.10	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	250		4.9	0.49	ug/L	25		8270D LL	Total/NA
Phenanthrene	4.7		0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenanthrene	4.5	H	1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene	0.44	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Pyrene	0.39	J H	1.0	0.10	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	200	H	5.0	0.50	ug/L	25		8270D LL	Total/NA
Phenol	63	H	10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-60-071219 — Lab Sample ID: 400-173138-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	150		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	12		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	22		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	76		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	13		1.0	1.0	ug/L	1		8260B	Total/NA
n-Butylbenzene	2.3		1.0	0.76	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219 (Continued)

Lab Sample ID: 400-173138-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
N-Propylbenzene	37		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	10		5.0	0.60	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.4		1.0	0.70	ug/L	1		8260B	Total/NA
Toluene	5.4		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	18		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	9.6		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	86		10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	7.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	8.5	H	0.98	0.098	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	9.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	10	H	0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.15	J H	0.98	0.098	ug/L	5		8270D LL	Total/NA
Di-n-octyl phthalate	0.72	J H	9.8	0.43	ug/L	1		8270D	Total/NA
Phenol	6.3	J	9.8	2.5	ug/L	1		8270D	Total/NA
Phenol	6.6	J H	9.8	2.5	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: TB-PW-071219-B

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 09:25	1
Acrolein	ND		20	10	ug/L			07/18/19 09:25	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 09:25	1
Benzene	ND		1.0	0.38	ug/L			07/18/19 09:25	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 09:25	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 09:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 09:25	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 09:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 09:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 09:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 09:25	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 09:25	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 09:25	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 09:25	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:25	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 09:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 09:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 09:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 09:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 09:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 09:25	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 09:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/18/19 09:25	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 09:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 09:25	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/18/19 09:25	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/18/19 09:25	1
Naphthalene	ND		1.0	1.0	ug/L			07/18/19 09:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/18/19 09:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/18/19 09:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 09:25	1
o-Xylene	ND		5.0	0.60	ug/L			07/18/19 09:25	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 09:25	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: TB-PW-071219-B

Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 09:25	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/18/19 09:25	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 09:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 09:25	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/18/19 09:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 09:25	1
Toluene	ND		1.0	0.41	ug/L			07/18/19 09:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 09:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 09:25	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:25	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 09:25	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 09:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 09:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/18/19 09:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/18/19 09:25	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 09:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 09:25	1
Xylenes, Total	ND		10	1.6	ug/L			07/18/19 09:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*63*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/18/19 09:25*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 09:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 09:25*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/18/19 09:25*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/18/19 09:25*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 08:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 08:51*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/19/19 08:51*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/19/19 08:51*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 09:49	1
Acrolein	ND		20	10	ug/L			07/18/19 09:49	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 09:49	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 09:49	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 09:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 09:49	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 09:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 09:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 09:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 09:49	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 09:49	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 09:49	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 09:49	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:49	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 09:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 09:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 09:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 09:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Ethylbenzene	**0.71**	**J**	1.0	0.50	ug/L			07/18/19 09:49	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 09:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 09:49	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 09:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/18/19 09:49	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 09:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 09:49	1
Methyl tert-butyl ether	**0.79**	**J**	1.0	0.74	ug/L			07/18/19 09:49	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/18/19 09:49	1
Naphthalene	ND		1.0	1.0	ug/L			07/18/19 09:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/18/19 09:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/18/19 09:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 09:49	1
o-Xylene	ND		5.0	0.60	ug/L			07/18/19 09:49	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 09:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 09:49	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/18/19 09:49	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 09:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 09:49	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/18/19 09:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 09:49	1
Toluene	**0.66**	**J**	1.0	0.41	ug/L			07/18/19 09:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 09:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 09:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 09:49	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 09:49	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 09:49	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 09:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 09:49	1
1,2,4-Trimethylbenzene	**1.6**		1.0	0.82	ug/L			07/18/19 09:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/18/19 09:49	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 09:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 09:49	1
Xylenes, Total	**1.7**	**J**	10	1.6	ug/L			07/18/19 09:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*140*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/18/19 09:49*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 09:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/18/19 09:49*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/18/19 09:49*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/18/19 09:49*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**290**		2.0	0.76	ug/L			07/19/19 11:20	2
Methylene Chloride	ND		10	6.0	ug/L			07/19/19 11:20	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/19/19 11:20*	*2*
Dibromofluoromethane	*99*		*81 - 121*		*07/19/19 11:20*	*2*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/19/19 11:20*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.57**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Anthracene	**0.27**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:22	5
Benzo[a]pyrene	**0.41**		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[b]fluoranthene	**0.21**		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Lab Sample ID: 400-173138-2

Date Collected: 07/12/19 08:45

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	**0.71**	**J**	0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:22	5
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
Fluoranthene	**0.18**	**J**	0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Fluorene	**0.66**		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 16:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/17/19 14:25	07/31/19 16:52	1
1-Methylnaphthalene	**2.7**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
2-Methylnaphthalene	**0.81**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Phenanthrene	**2.0**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 16:52	1
Pyrene	**1.3**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*07/31/19 16:52*	*1*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*07/31/19 16:52*	*1*
Terphenyl-d14	*0*	*X*	*33 - 138*	*07/17/19 14:25*	*08/02/19 21:22*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.40**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Acenaphthylene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Anthracene	ND	H	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[a]anthracene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[a]pyrene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[b]fluoranthene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[g,h,i]perylene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Benzo[k]fluoranthene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Chrysene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Dibenz(a,h)anthracene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
Fluoranthene	**0.10**	**J H B**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Fluorene	**0.43**	**H**	0.20	0.021	ug/L		07/24/19 21:29	08/01/19 17:27	1
Indeno[1,2,3-cd]pyrene	ND	H	0.20	0.039	ug/L		07/24/19 21:29	08/01/19 17:27	1
1-Methylnaphthalene	**1.7**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
2-Methylnaphthalene	**0.56**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Phenanthrene	**1.2**	**H**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1
Pyrene	**0.78**	**H B**	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*15 - 122*	*07/24/19 21:29*	*08/01/19 17:27*	*1*
Nitrobenzene-d5	*99*		*19 - 130*	*07/24/19 21:29*	*08/01/19 17:27*	*1*
Terphenyl-d14	*89*		*33 - 138*	*07/24/19 21:29*	*08/01/19 17:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 19:35	1
Benzenethiol	ND		9.8	1.7	ug/L		07/17/19 14:25	07/22/19 19:35	1
Benzoic acid	ND		29	7.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 19:35	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/17/19 14:25	07/22/19 19:35	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 19:35	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 19:35	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 19:35	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 19:35	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 19:35	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 19:35	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 19:35	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 19:35	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 19:35	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 19:35	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/17/19 14:25	07/22/19 19:35	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 19:35	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 19:35	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 19:35	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 19:35	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 19:35	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 19:35	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/17/19 14:25	07/22/19 19:35	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 19:35	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 19:35	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 19:35	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 19:35	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 19:35	1
Phenol	**4.1**	**J**	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 19:35	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 19:35	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 19:35	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*34 - 120*	*07/17/19 14:25*	*07/22/19 19:35*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 19:35*	*1*
Nitrobenzene-d5	*0.1*	*X*	*27 - 120*	*07/17/19 14:25*	*07/22/19 19:35*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-11-GWP-66.7-071219

Date Collected: 07/12/19 08:45
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	*0.04*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 19:35*	*1*
Terphenyl-d14	*0.07*	*X*	*53 - 125*	*07/17/19 14:25*	*07/22/19 19:35*	*1*
2,4,6-Tribromophenol	*0*	*X*	*15 - 135*	*07/17/19 14:25*	*07/22/19 19:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.8	3.7	ug/L		07/24/19 21:29	07/30/19 23:28	1
Benzenethiol	ND	H *	9.8	1.7	ug/L		07/24/19 21:29	07/30/19 23:28	1
Benzoic acid	ND	H	29	7.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	07/30/19 23:28	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.68	ug/L		07/24/19 21:29	07/30/19 23:28	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/24/19 21:29	07/30/19 23:28	1
Butyl benzyl phthalate	ND	H	9.8	0.68	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Chlorophenol	ND	H	9.8	2.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
3,3'-Dichlorobenzidine	ND	H	9.8	2.5	ug/L		07/24/19 21:29	07/30/19 23:28	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/24/19 21:29	07/30/19 23:28	1
Diethyl phthalate	ND	H	9.8	0.69	ug/L		07/24/19 21:29	07/30/19 23:28	1
2,4-Dimethylphenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	07/30/19 23:28	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/24/19 21:29	07/30/19 23:28	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	07/30/19 23:28	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/24/19 21:29	07/30/19 23:28	1
Di-n-octyl phthalate	ND	H	9.8	0.43	ug/L		07/24/19 21:29	07/30/19 23:28	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/24/19 21:29	07/30/19 23:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/24/19 21:29	07/30/19 23:28	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/24/19 21:29	07/30/19 23:28	1
Indene	ND	H	9.8	0.98	ug/L		07/24/19 21:29	07/30/19 23:28	1
Isophorone	ND	H	9.8	0.56	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Methylphenol	ND	H	9.8	1.8	ug/L		07/24/19 21:29	07/30/19 23:28	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Nitroaniline	ND	H	9.8	2.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/24/19 21:29	07/30/19 23:28	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/24/19 21:29	07/30/19 23:28	1
2-Nitrophenol	ND	H	9.8	0.64	ug/L		07/24/19 21:29	07/30/19 23:28	1
4-Nitrophenol	ND	H	9.8	2.1	ug/L		07/24/19 21:29	07/30/19 23:28	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/24/19 21:29	07/30/19 23:28	1
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/24/19 21:29	07/30/19 23:28	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/24/19 21:29	07/30/19 23:28	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	07/30/19 23:28	1
Phenol	**4.0**	**J H**	9.8	2.5	ug/L		07/24/19 21:29	07/30/19 23:28	1
Pyridine	ND	H	9.8	3.1	ug/L		07/24/19 21:29	07/30/19 23:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*44*		*34 - 120*	*07/24/19 21:29*	*07/30/19 23:28*	*1*
2-Fluorophenol	*47*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:28*	*1*
Nitrobenzene-d5	*78*		*27 - 120*	*07/24/19 21:29*	*07/30/19 23:28*	*1*
Phenol-d5	*65*		*10 - 120*	*07/24/19 21:29*	*07/30/19 23:28*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-11-GWP-66.7-071219
Lab Sample ID: 400-173138-2
Date Collected: 07/12/19 08:45
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	43	X	53 - 125	07/24/19 21:29	07/30/19 23:28	1
2,4,6-Tribromophenol	42		15 - 135	07/24/19 21:29	07/30/19 23:28	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	H	9.8	0.73	ug/L		07/24/19 21:29	08/01/19 23:04	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/24/19 21:29	08/01/19 23:04	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/24/19 21:29	08/01/19 23:04	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/01/19 23:04	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/01/19 23:04	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/01/19 23:04	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
Hexachlorobenzene	ND	H	9.8	0.25	ug/L		07/24/19 21:29	08/01/19 23:04	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/24/19 21:29	08/01/19 23:04	1
Quinoline	ND	H	9.8	5.9	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/24/19 21:29	08/01/19 23:04	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/01/19 23:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None	H	ug/L				07/24/19 21:29	08/01/19 23:04	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/18/19 11:03	500
Acrolein	ND		10000	5000	ug/L			07/18/19 11:03	500
Acrylonitrile	ND		5000	1400	ug/L			07/18/19 11:03	500
Bromobenzene	ND		500	270	ug/L			07/18/19 11:03	500
Bromochloromethane	ND		500	260	ug/L			07/18/19 11:03	500
Bromodichloromethane	ND		500	250	ug/L			07/18/19 11:03	500
Bromoform	ND		2500	360	ug/L			07/18/19 11:03	500
Bromomethane	ND		500	490	ug/L			07/18/19 11:03	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/18/19 11:03	500
Carbon disulfide	ND		500	250	ug/L			07/18/19 11:03	500
Carbon tetrachloride	ND		500	250	ug/L			07/18/19 11:03	500
Chlorobenzene	ND		500	250	ug/L			07/18/19 11:03	500
Chloroethane	ND		500	380	ug/L			07/18/19 11:03	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			07/18/19 11:03	500
Chloroform	ND		500	300	ug/L			07/18/19 11:03	500
1-Chlorohexane	ND		500	350	ug/L			07/18/19 11:03	500
Chloromethane	ND		500	420	ug/L			07/18/19 11:03	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:03	500
Dibromochloromethane	ND		500	250	ug/L			07/18/19 11:03	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/18/19 11:03	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/18/19 11:03	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/18/19 11:03	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/18/19 11:03	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/18/19 11:03	500
1,1-Dichloroethane	ND		500	250	ug/L			07/18/19 11:03	500
1,2-Dichloroethane	ND		500	250	ug/L			07/18/19 11:03	500
1,1-Dichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
1,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:03	500
1,3-Dichloropropane	ND		500	250	ug/L			07/18/19 11:03	500
2,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:03	500
1,1-Dichloropropene	ND		500	250	ug/L			07/18/19 11:03	500
Ethylbenzene	ND		500	250	ug/L			07/18/19 11:03	500
Ethylene Dibromide	ND		500	250	ug/L			07/18/19 11:03	500
Ethyl methacrylate	ND		500	300	ug/L			07/18/19 11:03	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/18/19 11:03	500
2-Hexanone	ND		13000	1600	ug/L			07/18/19 11:03	500
Isopropylbenzene	ND		500	270	ug/L			07/18/19 11:03	500
Methylene bromide	ND		2500	300	ug/L			07/18/19 11:03	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/18/19 11:03	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/18/19 11:03	500
m-Xylene & p-Xylene	ND		2500	800	ug/L			07/18/19 11:03	500
Naphthalene	ND		500	500	ug/L			07/18/19 11:03	500
n-Butylbenzene	ND		500	380	ug/L			07/18/19 11:03	500
N-Propylbenzene	ND		500	350	ug/L			07/18/19 11:03	500
o-Chlorotoluene	ND		500	290	ug/L			07/18/19 11:03	500
o-Xylene	ND		2500	300	ug/L			07/18/19 11:03	500
p-Chlorotoluene	ND		500	280	ug/L			07/18/19 11:03	500
p-Isopropyltoluene	ND		500	360	ug/L			07/18/19 11:03	500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Lab Sample ID: 400-173138-3

Date Collected: 07/12/19 10:15

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		500	350	ug/L			07/18/19 11:03	500
Styrene	ND		500	500	ug/L			07/18/19 11:03	500
tert-Butylbenzene	ND		500	320	ug/L			07/18/19 11:03	500
1,1,1,2-Tetrachloroethane	ND	*	500	260	ug/L			07/18/19 11:03	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/18/19 11:03	500
Tetrachloroethene	ND		500	290	ug/L			07/18/19 11:03	500
Toluene	**260**	**J**	500	210	ug/L			07/18/19 11:03	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:03	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/18/19 11:03	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/18/19 11:03	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/18/19 11:03	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/18/19 11:03	500
Trichloroethene	ND		500	250	ug/L			07/18/19 11:03	500
Trichlorofluoromethane	ND		500	260	ug/L			07/18/19 11:03	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/18/19 11:03	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			07/18/19 11:03	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			07/18/19 11:03	500
Vinyl acetate	ND		13000	1000	ug/L			07/18/19 11:03	500
Vinyl chloride	ND		500	250	ug/L			07/18/19 11:03	500
Xylenes, Total	ND		5000	800	ug/L			07/18/19 11:03	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 11:03*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 11:03*	*500*
Dibromofluoromethane	*96*		*81 - 121*		*07/18/19 11:03*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/18/19 11:03*	*500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**460000**		5000	1900	ug/L			07/18/19 17:51	5000
Methylene Chloride	ND		25000	15000	ug/L			07/18/19 17:51	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/18/19 17:51*	*5000*
Dibromofluoromethane	*98*		*81 - 121*		*07/18/19 17:51*	*5000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/18/19 17:51*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.40**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Acenaphthene	**0.79**	**J H**	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Acenaphthylene	ND		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Acenaphthylene	ND	H	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Anthracene	ND		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Anthracene	ND	H	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[a]anthracene	ND	*	0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[a]anthracene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[b]fluoranthene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[g,h,i]perylene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Benzo[k]fluoranthene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Chrysene	ND	*	0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Chrysene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Dibenz(a,h)anthracene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
Fluoranthene	ND		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Fluoranthene	ND	H	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Fluorene	**0.57**		0.19	0.020	ug/L		07/17/19 14:25	07/31/19 17:11	1
Fluorene	**0.81**	**J H**	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/17/19 14:25	07/31/19 17:11	1
Indeno[1,2,3-cd]pyrene	ND	H	1.2	0.24	ug/L		07/24/19 21:29	08/05/19 15:46	6
1-Methylnaphthalene	**20**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
1-Methylnaphthalene	**19**	**H**	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
2-Methylnaphthalene	**2.1**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
2-Methylnaphthalene	**3.1**	**H**	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Phenanthrene	**0.31**		0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Phenanthrene	**0.57**	**J H**	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6
Pyrene	ND	*	0.19	0.019	ug/L		07/17/19 14:25	07/31/19 17:11	1
Pyrene	**0.35**	**J H**	1.2	0.12	ug/L		07/24/19 21:29	08/05/19 15:46	6

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*07/31/19 17:11*	*1*
2-Fluorobiphenyl	*80*		*15 - 122*	*07/24/19 21:29*	*08/05/19 15:46*	*6*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*07/31/19 17:11*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/24/19 21:29*	*08/05/19 15:46*	*6*
Terphenyl-d14	*0*	*X **	*33 - 138*	*07/17/19 14:25*	*07/31/19 17:11*	*1*
Terphenyl-d14	*84*		*33 - 138*	*07/24/19 21:29*	*08/05/19 15:46*	*6*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
Aniline	ND	H	9.9	3.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
Benzenethiol	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
Benzenethiol	ND	H	9.9	1.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
Benzoic acid	ND	H	30	7.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Benzyl alcohol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 19:57	1
Bis(2-chloroethoxy)methane	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:33	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/17/19 14:25	07/22/19 19:57	1
Bis(2-chloroethyl)ether	ND	H	9.9	0.73	ug/L		07/24/19 21:29	08/03/19 11:33	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/17/19 14:25	07/22/19 19:57	1
bis (2-chloroisopropyl) ether	ND	H	9.9	0.80	ug/L		07/24/19 21:29	08/03/19 11:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-45-071219
Lab Sample ID: 400-173138-3
Date Collected: 07/12/19 10:15
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Bis(2-ethylhexyl) phthalate	ND	H	9.9	4.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Bromophenyl phenyl ether	ND	H	9.9	0.32	ug/L		07/24/19 21:29	08/03/19 11:33	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 19:57	1
Butyl benzyl phthalate	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Chloroaniline	ND	H	9.9	3.4	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Chloro-3-methylphenol	ND	H	9.9	3.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Chloronaphthalene	ND	H	9.9	0.51	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Chlorophenol	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Chlorophenyl phenyl ether	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
Dibenz[a,h]acridine	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Dibenzofuran	**0.55**	**J**	9.7	0.51	ug/L		07/17/19 14:25	07/22/19 19:57	1
Dibenzofuran	**1.0**	**J H**	9.9	0.51	ug/L		07/24/19 21:29	08/03/19 11:33	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/17/19 14:25	07/22/19 19:57	1
3,3'-Dichlorobenzidine	ND	H	9.9	2.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dichlorophenol	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/17/19 14:25	07/22/19 19:57	1
Diethyl phthalate	ND	H	9.9	0.69	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dimethylphenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:33	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/17/19 14:25	07/22/19 19:57	1
Dimethyl phthalate	ND	H	9.9	0.59	ug/L		07/24/19 21:29	08/03/19 11:33	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/17/19 14:25	07/22/19 19:57	1
Di-n-butyl phthalate	ND	H	9.9	2.7	ug/L		07/24/19 21:29	08/03/19 11:33	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 19:57	1
4,6-Dinitro-ortho-cresol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dinitrophenol	ND	H	30	3.4	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,6-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/17/19 14:25	07/22/19 19:57	1
Di-n-octyl phthalate	ND	H	9.9	0.43	ug/L		07/24/19 21:29	08/03/19 11:33	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 19:57	1
1,4-Dioxane	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 19:57	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:33	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/17/19 14:25	07/22/19 19:57	1
Hexachlorobenzene	ND	H	9.9	0.25	ug/L		07/24/19 21:29	08/03/19 11:33	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-45-071219

Date Collected: 07/12/19 10:15
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/17/19 14:25	07/22/19 19:57	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
Hexachloroethane	ND	H	9.9	4.1	ug/L		07/24/19 21:29	08/03/19 11:33	1
Indene	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 19:57	1
Indene	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:33	1
Isophorone	ND		9.7	0.55	ug/L		07/17/19 14:25	07/22/19 19:57	1
Isophorone	ND	H	9.9	0.56	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Methylphenol	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:33	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/17/19 14:25	07/22/19 19:57	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Nitroaniline	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 19:57	1
3-Nitroaniline	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Nitroaniline	ND	H	9.9	2.4	ug/L		07/24/19 21:29	08/03/19 11:33	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/17/19 14:25	07/22/19 19:57	1
Nitrobenzene	ND	H	9.9	0.54	ug/L		07/24/19 21:29	08/03/19 11:33	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/17/19 14:25	07/22/19 19:57	1
2-Nitrophenol	ND	H	9.9	0.64	ug/L		07/24/19 21:29	08/03/19 11:33	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/17/19 14:25	07/22/19 19:57	1
4-Nitrophenol	ND	H	9.9	2.1	ug/L		07/24/19 21:29	08/03/19 11:33	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
N-Nitrosodimethylamine	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:33	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/17/19 14:25	07/22/19 19:57	1
N-Nitrosodi-n-propylamine	ND	H	9.9	3.3	ug/L		07/24/19 21:29	08/03/19 11:33	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/17/19 14:25	07/22/19 19:57	1
N-Nitrosodiphenylamine	ND	H	9.9	0.46	ug/L		07/24/19 21:29	08/03/19 11:33	1
Pentachlorophenol	ND		19	1.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 11:33	1
Phenol	**71**		9.7	2.5	ug/L		07/17/19 14:25	07/22/19 19:57	1
Phenol	**240**	**E H**	9.9	2.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
Pyridine	ND		9.7	3.1	ug/L		07/17/19 14:25	07/22/19 19:57	1
Pyridine	ND	H	9.9	3.2	ug/L		07/24/19 21:29	08/03/19 11:33	1
Quinoline	ND		9.7	5.8	ug/L		07/17/19 14:25	07/22/19 19:57	1
Quinoline	ND	H	9.9	5.9	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4,5-Trichlorophenol	ND	H	9.9	3.6	ug/L		07/24/19 21:29	08/03/19 11:33	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 19:57	1
2,4,6-Trichlorophenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*930*	*T H J N*	*ug/L*		*3.04*	*71-43-2*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
2-Butenedinitrile, (E)-	*320*	*T H J N*	*ug/L*		*3.33*	*764-42-1*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
Unknown	*13*	*T H J*	*ug/L*		*3.78*		*07/24/19 21:29*	*08/03/19 11:33*	*1*
Toluene	*81*	*T H J N*	*ug/L*		*4.11*	*108-88-3*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
2-Butanone, 4-hydroxy-	*48*	*T H J N*	*ug/L*		*4.25*	*590-90-9*	*07/24/19 21:29*	*08/03/19 11:33*	*1*
Unknown	*17*	*T H J*	*ug/L*		*4.31*		*07/24/19 21:29*	*08/03/19 11:33*	*1*

Client Sample ID: PD-12-GWP-45-071219
Lab Sample ID: 400-173138-3
Date Collected: 07/12/19 10:15
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	6.6	T H J	ug/L		4.70		07/24/19 21:29	08/03/19 11:33	1
Ethylbenzene	100	T H J N	ug/L		4.84	100-41-4	07/24/19 21:29	08/03/19 11:33	1
o-Xylene	49	T H J N	ug/L		5.06	95-47-6	07/24/19 21:29	08/03/19 11:33	1
1-Methylcyclohexanol	7.4	T H J N	ug/L		5.08	590-67-0	07/24/19 21:29	08/03/19 11:33	1
p-Benzoquinone	5.9	T H J N	ug/L		5.20	106-51-4	07/24/19 21:29	08/03/19 11:33	1
Benzene, (1-methylethyl)-	7.9	T H J N	ug/L		5.24	98-82-8	07/24/19 21:29	08/03/19 11:33	1
Benzene, propyl-	7.4	T H J N	ug/L		5.42	103-65-1	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1,2,3-trimethyl-	8.6	T H J N	ug/L		5.56	526-73-8	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1,2,3-trimethyl-	9.7	T H J N	ug/L		5.64	526-73-8	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1-methyl-4-propyl-	5.7	T H J N	ug/L		5.73	1074-55-1	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1,2,3-trimethyl-	8.3	T H J N	ug/L		5.80	526-73-8	07/24/19 21:29	08/03/19 11:33	1
Indane	68	T H J N	ug/L		5.89	496-11-7	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1,3-diethyl-	21	T H J N	ug/L		5.95	141-93-5	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1-ethyl-2,3-dimethyl-	28	T H J N	ug/L		6.09	933-98-2	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1,2,4,5-tetramethyl-	9.3	T H J N	ug/L		6.25	95-93-2	07/24/19 21:29	08/03/19 11:33	1
Benzene, 1,2,4,5-tetramethyl-	19	T H J N	ug/L		6.42	95-93-2	07/24/19 21:29	08/03/19 11:33	1
Naphthalene, 2-methyl-	16	T H J N	ug/L		7.15	91-57-6	07/24/19 21:29	08/03/19 11:33	1
Naphthalene, 2,3-dimethyl-	9.0	T H J N	ug/L		7.56	581-40-8	07/24/19 21:29	08/03/19 11:33	1
Naphthalene, 1,4-dimethyl-	6.0	T H J N	ug/L		7.65	571-58-4	07/24/19 21:29	08/03/19 11:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	X	34 - 120	07/17/19 14:25	07/22/19 19:57	1
2-Fluorobiphenyl	113		34 - 120	07/24/19 21:29	08/03/19 11:33	1
2-Fluorophenol	3	X	10 - 120	07/17/19 14:25	07/22/19 19:57	1
2-Fluorophenol	69		10 - 120	07/24/19 21:29	08/03/19 11:33	1
Nitrobenzene-d5	1	X	27 - 120	07/17/19 14:25	07/22/19 19:57	1
Nitrobenzene-d5	95		27 - 120	07/24/19 21:29	08/03/19 11:33	1
Phenol-d5	0.1	X	10 - 120	07/17/19 14:25	07/22/19 19:57	1
Phenol-d5	82		10 - 120	07/24/19 21:29	08/03/19 11:33	1
Terphenyl-d14	0.2	X	53 - 125	07/17/19 14:25	07/22/19 19:57	1
Terphenyl-d14	102		53 - 125	07/24/19 21:29	08/03/19 11:33	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 19:57	1
2,4,6-Tribromophenol	123		15 - 135	07/24/19 21:29	08/03/19 11:33	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	410	H	99	26	ug/L		07/24/19 21:29	08/02/19 19:24	10

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	500	ug/L			07/18/19 10:38	50
Acrolein	ND		1000	500	ug/L			07/18/19 10:38	50
Acrylonitrile	ND		500	140	ug/L			07/18/19 10:38	50
Bromobenzene	ND		50	27	ug/L			07/18/19 10:38	50
Bromochloromethane	ND		50	26	ug/L			07/18/19 10:38	50
Bromodichloromethane	ND		50	25	ug/L			07/18/19 10:38	50
Bromoform	ND		250	36	ug/L			07/18/19 10:38	50
Bromomethane	ND		50	49	ug/L			07/18/19 10:38	50
2-Butanone (MEK)	ND		1300	130	ug/L			07/18/19 10:38	50
Carbon disulfide	ND		50	25	ug/L			07/18/19 10:38	50
Carbon tetrachloride	ND		50	25	ug/L			07/18/19 10:38	50
Chlorobenzene	ND		50	25	ug/L			07/18/19 10:38	50
Chloroethane	ND		50	38	ug/L			07/18/19 10:38	50
2-Chloroethyl vinyl ether	ND		250	100	ug/L			07/18/19 10:38	50
Chloroform	ND		50	30	ug/L			07/18/19 10:38	50
1-Chlorohexane	ND		50	35	ug/L			07/18/19 10:38	50
Chloromethane	ND		50	42	ug/L			07/18/19 10:38	50
cis-1,2-Dichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
cis-1,3-Dichloropropene	ND		250	25	ug/L			07/18/19 10:38	50
Dibromochloromethane	ND		50	25	ug/L			07/18/19 10:38	50
1,2-Dibromo-3-Chloropropane	ND		250	75	ug/L			07/18/19 10:38	50
1,2-Dichlorobenzene	ND		50	25	ug/L			07/18/19 10:38	50
1,3-Dichlorobenzene	ND		50	27	ug/L			07/18/19 10:38	50
1,4-Dichlorobenzene	ND		50	32	ug/L			07/18/19 10:38	50
Dichlorodifluoromethane	ND		50	43	ug/L			07/18/19 10:38	50
1,1-Dichloroethane	ND		50	25	ug/L			07/18/19 10:38	50
1,2-Dichloroethane	ND		50	25	ug/L			07/18/19 10:38	50
1,1-Dichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
1,2-Dichloropropane	ND		50	25	ug/L			07/18/19 10:38	50
1,3-Dichloropropane	ND		50	25	ug/L			07/18/19 10:38	50
2,2-Dichloropropane	ND		50	25	ug/L			07/18/19 10:38	50
1,1-Dichloropropene	ND		50	25	ug/L			07/18/19 10:38	50
Ethylbenzene	ND		50	25	ug/L			07/18/19 10:38	50
Ethylene Dibromide	ND		50	25	ug/L			07/18/19 10:38	50
Ethyl methacrylate	ND		50	30	ug/L			07/18/19 10:38	50
Hexachlorobutadiene	ND		250	45	ug/L			07/18/19 10:38	50
2-Hexanone	ND		1300	160	ug/L			07/18/19 10:38	50
Isopropylbenzene	ND		50	27	ug/L			07/18/19 10:38	50
Methylene bromide	ND		250	30	ug/L			07/18/19 10:38	50
4-Methyl-2-pentanone (MIBK)	ND		1300	90	ug/L			07/18/19 10:38	50
Methyl tert-butyl ether	ND		50	37	ug/L			07/18/19 10:38	50
m-Xylene & p-Xylene	ND		250	80	ug/L			07/18/19 10:38	50
Naphthalene	ND		50	50	ug/L			07/18/19 10:38	50
n-Butylbenzene	ND		50	38	ug/L			07/18/19 10:38	50
N-Propylbenzene	ND		50	35	ug/L			07/18/19 10:38	50
o-Chlorotoluene	ND		50	29	ug/L			07/18/19 10:38	50
o-Xylene	ND		250	30	ug/L			07/18/19 10:38	50
p-Chlorotoluene	ND		50	28	ug/L			07/18/19 10:38	50
p-Isopropyltoluene	ND		50	36	ug/L			07/18/19 10:38	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Lab Sample ID: 400-173138-4

Date Collected: 07/12/19 11:10

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		50	35	ug/L			07/18/19 10:38	50
Styrene	ND		50	50	ug/L			07/18/19 10:38	50
tert-Butylbenzene	ND		50	32	ug/L			07/18/19 10:38	50
1,1,1,2-Tetrachloroethane	ND	*	50	26	ug/L			07/18/19 10:38	50
1,1,2,2-Tetrachloroethane	ND		50	25	ug/L			07/18/19 10:38	50
Tetrachloroethene	ND		50	29	ug/L			07/18/19 10:38	50
Toluene	ND		50	21	ug/L			07/18/19 10:38	50
trans-1,2-Dichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
trans-1,3-Dichloropropene	ND		250	25	ug/L			07/18/19 10:38	50
1,2,3-Trichlorobenzene	ND		50	35	ug/L			07/18/19 10:38	50
1,2,4-Trichlorobenzene	ND		50	41	ug/L			07/18/19 10:38	50
1,1,1-Trichloroethane	ND		50	25	ug/L			07/18/19 10:38	50
1,1,2-Trichloroethane	ND		250	25	ug/L			07/18/19 10:38	50
Trichloroethene	ND		50	25	ug/L			07/18/19 10:38	50
Trichlorofluoromethane	ND		50	26	ug/L			07/18/19 10:38	50
1,2,3-Trichloropropane	ND		250	42	ug/L			07/18/19 10:38	50
1,2,4-Trimethylbenzene	ND		50	41	ug/L			07/18/19 10:38	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			07/18/19 10:38	50
Vinyl acetate	ND		1300	100	ug/L			07/18/19 10:38	50
Vinyl chloride	ND		50	25	ug/L			07/18/19 10:38	50
Xylenes, Total	ND		500	80	ug/L			07/18/19 10:38	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*350*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/18/19 10:38*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 10:38*	*50*
Dibromofluoromethane	*97*		*81 - 121*		*07/18/19 10:38*	*50*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/18/19 10:38*	*50*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**25000**		100	38	ug/L			07/19/19 11:45	100
Methylene Chloride	ND		500	300	ug/L			07/19/19 11:45	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 11:45*	*100*
Dibromofluoromethane	*98*		*81 - 121*		*07/19/19 11:45*	*100*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/19/19 11:45*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Acenaphthene	ND	H	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Acenaphthylene	ND	H	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Anthracene	**0.19**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Anthracene	ND	H	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[a]anthracene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[a]anthracene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[a]pyrene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Lab Sample ID: 400-173138-4

Date Collected: 07/12/19 11:10

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[b]fluoranthene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[b]fluoranthene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[g,h,i]perylene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[g,h,i]perylene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Benzo[k]fluoranthene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Benzo[k]fluoranthene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Chrysene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Chrysene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Dibenz(a,h)anthracene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Dibenz(a,h)anthracene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
Fluoranthene	**0.12**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Fluoranthene	ND	H	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Fluorene	ND		0.97	0.10	ug/L		07/17/19 14:25	08/02/19 21:38	5
Fluorene	ND	H	0.99	0.10	ug/L		07/24/19 21:29	08/05/19 16:04	5
Indeno[1,2,3-cd]pyrene	ND		0.97	0.19	ug/L		07/17/19 14:25	08/02/19 21:38	5
Indeno[1,2,3-cd]pyrene	ND	H	0.99	0.20	ug/L		07/24/19 21:29	08/05/19 16:04	5
1-Methylnaphthalene	**1.0**		0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
1-Methylnaphthalene	**1.1**	**H**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
2-Methylnaphthalene	**0.44**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
2-Methylnaphthalene	**0.51**	**J H**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Phenanthrene	**0.58**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Phenanthrene	**0.55**	**J H**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5
Pyrene	**0.29**	**J**	0.97	0.097	ug/L		07/17/19 14:25	08/02/19 21:38	5
Pyrene	**0.23**	**J H**	0.99	0.099	ug/L		07/24/19 21:29	08/05/19 16:04	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*15 - 122*	*07/17/19 14:25*	*08/02/19 21:38*	*5*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/24/19 21:29*	*08/05/19 16:04*	*5*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*08/02/19 21:38*	*5*
Nitrobenzene-d5	*75*		*19 - 130*	*07/24/19 21:29*	*08/05/19 16:04*	*5*
Terphenyl-d14	*0.8*	*X*	*33 - 138*	*07/17/19 14:25*	*08/02/19 21:38*	*5*
Terphenyl-d14	*60*		*33 - 138*	*07/24/19 21:29*	*08/05/19 16:04*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 20:18	1
Aniline	ND	H	9.9	3.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
Benzenethiol	ND		9.7	1.7	ug/L		07/17/19 14:25	07/22/19 20:18	1
Benzenethiol	ND	H	9.9	1.7	ug/L		07/24/19 21:29	08/03/19 11:58	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
Benzoic acid	ND	H	30	7.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Benzyl alcohol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 20:18	1
Bis(2-chloroethoxy)methane	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:58	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/17/19 14:25	07/22/19 20:18	1
Bis(2-chloroethyl)ether	ND	H	9.9	0.73	ug/L		07/24/19 21:29	08/03/19 11:58	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/17/19 14:25	07/22/19 20:18	1
bis (2-chloroisopropyl) ether	ND	H	9.9	0.80	ug/L		07/24/19 21:29	08/03/19 11:58	1

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-50-071219
Lab Sample ID: 400-173138-4
Date Collected: 07/12/19 11:10
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Bis(2-ethylhexyl) phthalate	**7.5**	**J H**	9.9	5.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Bromophenyl phenyl ether	ND	H	9.9	0.32	ug/L		07/24/19 21:29	08/03/19 11:58	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/17/19 14:25	07/22/19 20:18	1
Butyl benzyl phthalate	ND	H	9.9	0.68	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Chloroaniline	ND	H	9.9	3.4	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Chloro-3-methylphenol	ND	H	9.9	3.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Chloronaphthalene	ND	H	9.9	0.52	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Chlorophenol	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Chlorophenyl phenyl ether	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
Dibenz[a,h]acridine	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/17/19 14:25	07/22/19 20:18	1
Dibenzofuran	ND	H	9.9	0.52	ug/L		07/24/19 21:29	08/03/19 11:58	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/17/19 14:25	07/22/19 20:18	1
3,3'-Dichlorobenzidine	ND	H	9.9	2.6	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dichlorophenol	ND	H	9.9	3.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/17/19 14:25	07/22/19 20:18	1
Diethyl phthalate	ND	H	9.9	0.69	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dimethylphenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:58	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/17/19 14:25	07/22/19 20:18	1
Dimethyl phthalate	ND	H	9.9	0.59	ug/L		07/24/19 21:29	08/03/19 11:58	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/17/19 14:25	07/22/19 20:18	1
Di-n-butyl phthalate	ND	H	9.9	2.7	ug/L		07/24/19 21:29	08/03/19 11:58	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/17/19 14:25	07/22/19 20:18	1
4,6-Dinitro-ortho-cresol	ND	H	9.9	2.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dinitrophenol	ND	H	30	3.4	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,6-Dinitrotoluene	ND	H	9.9	1.9	ug/L		07/24/19 21:29	08/03/19 11:58	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/17/19 14:25	07/22/19 20:18	1
Di-n-octyl phthalate	ND	H	9.9	0.44	ug/L		07/24/19 21:29	08/03/19 11:58	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 20:18	1
1,4-Dioxane	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 20:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:58	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/17/19 14:25	07/22/19 20:18	1
Hexachlorobenzene	ND	H	9.9	0.25	ug/L		07/24/19 21:29	08/03/19 11:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Date Collected: 07/12/19 11:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/17/19 14:25	07/22/19 20:18	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/03/19 11:58	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
Hexachloroethane	ND	H	9.9	4.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
Indene	ND		9.7	0.97	ug/L		07/17/19 14:25	07/22/19 20:18	1
Indene	ND	H	9.9	0.99	ug/L		07/24/19 21:29	08/03/19 11:58	1
Isophorone	ND		9.7	0.55	ug/L		07/17/19 14:25	07/22/19 20:18	1
Isophorone	ND	H	9.9	0.56	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Methylphenol	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/17/19 14:25	07/22/19 20:18	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Nitroaniline	ND	H	9.9	2.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
3-Nitroaniline	ND	H	9.9	1.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Nitroaniline	ND	H	9.9	2.5	ug/L		07/24/19 21:29	08/03/19 11:58	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/17/19 14:25	07/22/19 20:18	1
Nitrobenzene	ND	H	9.9	0.54	ug/L		07/24/19 21:29	08/03/19 11:58	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/17/19 14:25	07/22/19 20:18	1
2-Nitrophenol	ND	H	9.9	0.64	ug/L		07/24/19 21:29	08/03/19 11:58	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/17/19 14:25	07/22/19 20:18	1
4-Nitrophenol	ND	H	9.9	2.1	ug/L		07/24/19 21:29	08/03/19 11:58	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
N-Nitrosodimethylamine	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:58	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/17/19 14:25	07/22/19 20:18	1
N-Nitrosodi-n-propylamine	ND	H	9.9	3.3	ug/L		07/24/19 21:29	08/03/19 11:58	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/17/19 14:25	07/22/19 20:18	1
N-Nitrosodiphenylamine	ND	H	9.9	0.47	ug/L		07/24/19 21:29	08/03/19 11:58	1
Pentachlorophenol	ND		19	1.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 11:58	1
Phenol	**59**		9.7	2.5	ug/L		07/17/19 14:25	07/22/19 20:18	1
Phenol	**120**	**E H**	9.9	2.6	ug/L		07/24/19 21:29	08/03/19 11:58	1
Pyridine	ND		9.7	3.1	ug/L		07/17/19 14:25	07/22/19 20:18	1
Pyridine	ND	H	9.9	3.2	ug/L		07/24/19 21:29	08/03/19 11:58	1
Quinoline	ND		9.7	5.8	ug/L		07/17/19 14:25	07/22/19 20:18	1
Quinoline	ND	H	9.9	5.9	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4,5-Trichlorophenol	ND	H	9.9	3.7	ug/L		07/24/19 21:29	08/03/19 11:58	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/17/19 14:25	07/22/19 20:18	1
2,4,6-Trichlorophenol	ND	H	9.9	3.5	ug/L		07/24/19 21:29	08/03/19 11:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*29*	*T H J*	*ug/L*		*2.93*		*07/24/19 21:29*	*08/03/19 11:58*	*1*
Benzene	*590*	*T H J N*	*ug/L*		*3.11*	*71-43-2*	*07/24/19 21:29*	*08/03/19 11:58*	*1*
Unknown	*37*	*T H J*	*ug/L*		*3.25*		*07/24/19 21:29*	*08/03/19 11:58*	*1*
Unknown	*12*	*T H J*	*ug/L*		*3.77*		*07/24/19 21:29*	*08/03/19 11:58*	*1*
Unknown	*4.8*	*T H J*	*ug/L*		*3.97*		*07/24/19 21:29*	*08/03/19 11:58*	*1*
2-Butanone, 4-hydroxy-	*43*	*T H J N*	*ug/L*		*4.24*	*590-90-9*	*07/24/19 21:29*	*08/03/19 11:58*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-50-071219

Lab Sample ID: 400-173138-4

Date Collected: 07/12/19 11:10

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	12	T H J	ug/L		4.31		07/24/19 21:29	08/03/19 11:58	1
1,3-Dimethylcyclopentanol	7.0	T H J N	ug/L		4.70	19550-46-0	07/24/19 21:29	08/03/19 11:58	1
Unknown	4.2	T H J	ug/L		4.83		07/24/19 21:29	08/03/19 11:58	1
1-Methylcyclohexanol	6.0	T H J N	ug/L		5.08	590-67-0	07/24/19 21:29	08/03/19 11:58	1
Benzene, 1-ethyl-4-methyl-	6.0	T H J N	ug/L		5.56	622-96-8	07/24/19 21:29	08/03/19 11:58	1
Benzene, 1,2,4-trimethyl-	7.5	T H J N	ug/L		5.64	95-63-6	07/24/19 21:29	08/03/19 11:58	1
Indane	20	T H J N	ug/L		5.89	496-11-7	07/24/19 21:29	08/03/19 11:58	1
Unknown	5.6	T H J	ug/L		6.30		07/24/19 21:29	08/03/19 11:58	1
n-Hexadecanoic acid	6.5	T H J N	ug/L		9.32	57-10-3	07/24/19 21:29	08/03/19 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0.007	X	34 - 120	07/17/19 14:25	07/22/19 20:18	1
2-Fluorobiphenyl	99		34 - 120	07/24/19 21:29	08/03/19 11:58	1
2-Fluorophenol	0.1	X	10 - 120	07/17/19 14:25	07/22/19 20:18	1
2-Fluorophenol	33		10 - 120	07/24/19 21:29	08/03/19 11:58	1
Nitrobenzene-d5	2	X	27 - 120	07/17/19 14:25	07/22/19 20:18	1
Nitrobenzene-d5	82		27 - 120	07/24/19 21:29	08/03/19 11:58	1
Phenol-d5	0.5	X	10 - 120	07/17/19 14:25	07/22/19 20:18	1
Phenol-d5	63		10 - 120	07/24/19 21:29	08/03/19 11:58	1
Terphenyl-d14	0	X	53 - 125	07/17/19 14:25	07/22/19 20:18	1
Terphenyl-d14	71		53 - 125	07/24/19 21:29	08/03/19 11:58	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 20:18	1
2,4,6-Tribromophenol	78		15 - 135	07/24/19 21:29	08/03/19 11:58	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**110**	**H**	50	13	ug/L		07/24/19 21:29	08/02/19 19:49	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219

Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/18/19 11:28	500
Acrolein	ND		10000	5000	ug/L			07/18/19 11:28	500
Acrylonitrile	ND		5000	1400	ug/L			07/18/19 11:28	500
Bromobenzene	ND		500	270	ug/L			07/18/19 11:28	500
Bromochloromethane	ND		500	260	ug/L			07/18/19 11:28	500
Bromodichloromethane	ND		500	250	ug/L			07/18/19 11:28	500
Bromoform	ND		2500	360	ug/L			07/18/19 11:28	500
Bromomethane	ND		500	490	ug/L			07/18/19 11:28	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/18/19 11:28	500
Carbon disulfide	ND		500	250	ug/L			07/18/19 11:28	500
Carbon tetrachloride	ND		500	250	ug/L			07/18/19 11:28	500
Chlorobenzene	ND		500	250	ug/L			07/18/19 11:28	500
Chloroethane	ND		500	380	ug/L			07/18/19 11:28	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			07/18/19 11:28	500
Chloroform	ND		500	300	ug/L			07/18/19 11:28	500
1-Chlorohexane	ND		500	350	ug/L			07/18/19 11:28	500
Chloromethane	ND		500	420	ug/L			07/18/19 11:28	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:28	500
Dibromochloromethane	ND		500	250	ug/L			07/18/19 11:28	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/18/19 11:28	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/18/19 11:28	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/18/19 11:28	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/18/19 11:28	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/18/19 11:28	500
1,1-Dichloroethane	ND		500	250	ug/L			07/18/19 11:28	500
1,2-Dichloroethane	ND		500	250	ug/L			07/18/19 11:28	500
1,1-Dichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
1,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:28	500
1,3-Dichloropropane	ND		500	250	ug/L			07/18/19 11:28	500
2,2-Dichloropropane	ND		500	250	ug/L			07/18/19 11:28	500
1,1-Dichloropropene	ND		500	250	ug/L			07/18/19 11:28	500
Ethylbenzene	**3000**		500	250	ug/L			07/18/19 11:28	500
Ethylene Dibromide	ND		500	250	ug/L			07/18/19 11:28	500
Ethyl methacrylate	ND		500	300	ug/L			07/18/19 11:28	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/18/19 11:28	500
2-Hexanone	ND		13000	1600	ug/L			07/18/19 11:28	500
Isopropylbenzene	ND		500	270	ug/L			07/18/19 11:28	500
Methylene bromide	ND		2500	300	ug/L			07/18/19 11:28	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/18/19 11:28	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/18/19 11:28	500
m-Xylene & p-Xylene	**7300**		2500	800	ug/L			07/18/19 11:28	500
Naphthalene	ND		500	500	ug/L			07/18/19 11:28	500
n-Butylbenzene	ND		500	380	ug/L			07/18/19 11:28	500
N-Propylbenzene	ND		500	350	ug/L			07/18/19 11:28	500
o-Chlorotoluene	ND		500	290	ug/L			07/18/19 11:28	500
o-Xylene	**2700**		2500	300	ug/L			07/18/19 11:28	500
p-Chlorotoluene	ND		500	280	ug/L			07/18/19 11:28	500
p-Isopropyltoluene	ND		500	360	ug/L			07/18/19 11:28	500

Client Sample ID: PD-12-GWP-55-071219
Lab Sample ID: 400-173138-5
Date Collected: 07/12/19 13:10
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		500	350	ug/L			07/18/19 11:28	500
Styrene	ND		500	500	ug/L			07/18/19 11:28	500
tert-Butylbenzene	ND		500	320	ug/L			07/18/19 11:28	500
1,1,1,2-Tetrachloroethane	ND	*	500	260	ug/L			07/18/19 11:28	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/18/19 11:28	500
Tetrachloroethene	ND		500	290	ug/L			07/18/19 11:28	500
Toluene	**2300**		500	210	ug/L			07/18/19 11:28	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/18/19 11:28	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/18/19 11:28	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/18/19 11:28	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/18/19 11:28	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/18/19 11:28	500
Trichloroethene	ND		500	250	ug/L			07/18/19 11:28	500
Trichlorofluoromethane	ND		500	260	ug/L			07/18/19 11:28	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/18/19 11:28	500
1,2,4-Trimethylbenzene	**1200**		500	410	ug/L			07/18/19 11:28	500
1,3,5-Trimethylbenzene	**440**	**J**	500	280	ug/L			07/18/19 11:28	500
Vinyl acetate	ND		13000	1000	ug/L			07/18/19 11:28	500
Vinyl chloride	ND		500	250	ug/L			07/18/19 11:28	500
Xylenes, Total	**10000**		5000	800	ug/L			07/18/19 11:28	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*3500*	*T J N*	*ug/L*		*2.73*	*109-66-0*		*07/18/19 11:28*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/18/19 11:28*	*500*
Dibromofluoromethane	*97*		*81 - 121*		*07/18/19 11:28*	*500*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/18/19 11:28*	*500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**330000**		2000	760	ug/L			07/19/19 12:11	2000
Methylene Chloride	ND		10000	6000	ug/L			07/19/19 12:11	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 12:11*	*2000*
Dibromofluoromethane	*97*		*81 - 121*		*07/19/19 12:11*	*2000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 12:11*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Acenaphthene	ND	H	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Acenaphthylene	ND		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Acenaphthylene	ND	H	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Anthracene	**1.1**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Anthracene	**1.2**	**H**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[a]anthracene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[a]pyrene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5

Client Sample ID: PD-12-GWP-55-071219
Lab Sample ID: 400-173138-5
Date Collected: 07/12/19 13:10
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[b]fluoranthene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[b]fluoranthene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[g,h,i]perylene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[g,h,i]perylene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Benzo[k]fluoranthene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Benzo[k]fluoranthene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Chrysene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Chrysene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Dibenz(a,h)anthracene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Dibenz(a,h)anthracene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
Fluoranthene	**0.23**	**J**	0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Fluoranthene	**0.24**	**J H**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Fluorene	**4.1**		0.98	0.10	ug/L		07/17/19 14:25	08/02/19 21:54	5
Fluorene	**2.8**	**H**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Indeno[1,2,3-cd]pyrene	ND		0.98	0.20	ug/L		07/17/19 14:25	08/02/19 21:54	5
Indeno[1,2,3-cd]pyrene	ND	H	1.0	0.20	ug/L		07/24/19 21:29	08/02/19 22:59	5
1-Methylnaphthalene	**150**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
1-Methylnaphthalene	**130**	**H**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
2-Methylnaphthalene	**250**		4.9	0.49	ug/L		07/17/19 14:25	08/05/19 16:38	25
Phenanthrene	**4.7**		0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Phenanthrene	**4.5**	**H**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5
Pyrene	**0.44**	**J**	0.98	0.098	ug/L		07/17/19 14:25	08/02/19 21:54	5
Pyrene	**0.39**	**J H**	1.0	0.10	ug/L		07/24/19 21:29	08/02/19 22:59	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*1*	*X*	*15 - 122*	*07/17/19 14:25*	*08/02/19 21:54*	*5*
2-Fluorobiphenyl	*68*		*15 - 122*	*07/24/19 21:29*	*08/02/19 22:59*	*5*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/17/19 14:25*	*08/02/19 21:54*	*5*
Terphenyl-d14	*0*	*X*	*33 - 138*	*07/17/19 14:25*	*08/02/19 21:54*	*5*
Terphenyl-d14	*44*		*33 - 138*	*07/24/19 21:29*	*08/02/19 22:59*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**200**	**H**	5.0	0.50	ug/L		07/24/19 21:29	08/05/19 16:21	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*65*		*19 - 130*	*07/24/19 21:29*	*08/05/19 16:21*	*25*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 20:40	1
Aniline	ND	H	10	3.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
Benzenethiol	ND		9.8	1.7	ug/L		07/17/19 14:25	07/22/19 20:40	1
Benzenethiol	ND	H	10	1.7	ug/L		07/24/19 21:29	08/03/19 12:23	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
Benzoic acid	ND	H	30	7.3	ug/L		07/24/19 21:29	08/03/19 12:23	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
Benzyl alcohol	ND	H	10	2.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 20:40	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219
Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND	H	10	0.69	ug/L		07/24/19 21:29	08/03/19 12:23	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/17/19 14:25	07/22/19 20:40	1
Bis(2-chloroethyl)ether	ND	H	10	0.74	ug/L		07/24/19 21:29	08/03/19 12:23	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 20:40	1
bis (2-chloroisopropyl) ether	ND	H	10	0.81	ug/L		07/24/19 21:29	08/03/19 12:23	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
Bis(2-ethylhexyl) phthalate	ND	H	10	5.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Bromophenyl phenyl ether	ND	H	10	0.32	ug/L		07/24/19 21:29	08/03/19 12:23	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 20:40	1
Butyl benzyl phthalate	ND	H	10	0.69	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Chloroaniline	ND	H	10	3.4	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Chloro-3-methylphenol	ND	H	10	3.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Chloronaphthalene	ND	H	10	0.52	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Chlorophenol	ND	H	10	2.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Chlorophenyl phenyl ether	ND	H	10	2.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
Dibenz[a,h]acridine	ND	H	10	3.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 20:40	1
Dibenzofuran	ND	H	10	0.52	ug/L		07/24/19 21:29	08/03/19 12:23	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 20:40	1
3,3'-Dichlorobenzidine	ND	H	10	2.6	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dichlorophenol	ND	H	10	3.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 20:40	1
Diethyl phthalate	ND	H	10	0.70	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dimethylphenol	ND	H	10	3.5	ug/L		07/24/19 21:29	08/03/19 12:23	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 20:40	1
Dimethyl phthalate	ND	H	10	0.60	ug/L		07/24/19 21:29	08/03/19 12:23	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 20:40	1
Di-n-butyl phthalate	ND	H	10	2.7	ug/L		07/24/19 21:29	08/03/19 12:23	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
4,6-Dinitro-ortho-cresol	ND	H	10	2.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dinitrophenol	ND	H	30	3.4	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,6-Dinitrotoluene	ND	H	10	1.9	ug/L		07/24/19 21:29	08/03/19 12:23	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 20:40	1
Di-n-octyl phthalate	ND	H	10	0.44	ug/L		07/24/19 21:29	08/03/19 12:23	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 20:40	1
1,4-Dioxane	ND	H	10	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219
Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 20:40	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	10	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/17/19 14:25	07/22/19 20:40	1
Hexachlorobenzene	ND	H	10	0.25	ug/L		07/24/19 21:29	08/03/19 12:23	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 20:40	1
Hexachlorocyclopentadiene	ND	H	20	2.6	ug/L		07/24/19 21:29	08/03/19 12:23	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
Hexachloroethane	ND	H	10	4.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 20:40	1
Indene	ND	H	10	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 20:40	1
Isophorone	ND	H	10	0.57	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Methylphenol	ND	H	10	1.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 20:40	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Nitroaniline	ND	H	10	2.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 20:40	1
3-Nitroaniline	ND	H	10	1.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Nitroaniline	ND	H	10	2.5	ug/L		07/24/19 21:29	08/03/19 12:23	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 20:40	1
Nitrobenzene	ND	H	10	0.55	ug/L		07/24/19 21:29	08/03/19 12:23	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/17/19 14:25	07/22/19 20:40	1
2-Nitrophenol	ND	H	10	0.65	ug/L		07/24/19 21:29	08/03/19 12:23	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
4-Nitrophenol	ND	H	10	2.1	ug/L		07/24/19 21:29	08/03/19 12:23	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
N-Nitrosodimethylamine	ND	H	10	3.5	ug/L		07/24/19 21:29	08/03/19 12:23	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 20:40	1
N-Nitrosodi-n-propylamine	ND	H	10	3.3	ug/L		07/24/19 21:29	08/03/19 12:23	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 20:40	1
N-Nitrosodiphenylamine	ND	H	10	0.47	ug/L		07/24/19 21:29	08/03/19 12:23	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 20:40	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 12:23	1
Phenol	ND		9.8	2.5	ug/L		07/17/19 14:25	07/22/19 20:40	1
Phenol	**63**	**H**	10	2.6	ug/L		07/24/19 21:29	08/03/19 12:23	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 20:40	1
Pyridine	ND	H	10	3.2	ug/L		07/24/19 21:29	08/03/19 12:23	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 20:40	1
Quinoline	ND	H	10	6.0	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4,5-Trichlorophenol	ND	H	10	3.7	ug/L		07/24/19 21:29	08/03/19 12:23	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 20:40	1
2,4,6-Trichlorophenol	ND	H	10	3.5	ug/L		07/24/19 21:29	08/03/19 12:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-55-071219

Date Collected: 07/12/19 13:10
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-5

Matrix: Water

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene	750	T H J N	ug/L		3.02	71-43-2	07/24/19 21:29	08/03/19 12:23	1
Benzene	79	T H J N	ug/L		3.25	71-43-2	07/24/19 21:29	08/03/19 12:23	1
Cyclohexane, methyl-	86	T H J N	ug/L		3.71	108-87-2	07/24/19 21:29	08/03/19 12:23	1
Unknown	32	T H J	ug/L		3.78		07/24/19 21:29	08/03/19 12:23	1
Toluene	220	T H J N	ug/L		4.11	108-88-3	07/24/19 21:29	08/03/19 12:23	1
Unknown	41	T H J	ug/L		4.31		07/24/19 21:29	08/03/19 12:23	1
o-Xylene	110	T H J N	ug/L		5.08	95-47-6	07/24/19 21:29	08/03/19 12:23	1
Benzene, (1-methylethyl)-	68	T H J N	ug/L		5.26	98-82-8	07/24/19 21:29	08/03/19 12:23	1
Unknown	46	T H J	ug/L		5.31		07/24/19 21:29	08/03/19 12:23	1
Unknown	62	T H J	ug/L		5.76		07/24/19 21:29	08/03/19 12:23	1
Benzene, 1,2,4-trimethyl-	82	T H J N	ug/L		5.83	95-63-6	07/24/19 21:29	08/03/19 12:23	1
Indane	66	T H J N	ug/L		5.91	496-11-7	07/24/19 21:29	08/03/19 12:23	1
Benzene, 1-methyl-4-propyl-	52	T H J N	ug/L		6.03	1074-55-1	07/24/19 21:29	08/03/19 12:23	1
Benzene, 1-methyl-4-(1-methylethyl)-	43	T H J N	ug/L		6.22	99-87-6	07/24/19 21:29	08/03/19 12:23	1
Benzene, 1,2,4,5-tetramethyl-	54	T H J N	ug/L		6.27	95-93-2	07/24/19 21:29	08/03/19 12:23	1
Unknown	54	T H J	ug/L		6.34		07/24/19 21:29	08/03/19 12:23	1
Dodecane	88	T H J N	ug/L		6.55	112-40-3	07/24/19 21:29	08/03/19 12:23	1
Unknown	62	T H J	ug/L		6.74		07/24/19 21:29	08/03/19 12:23	1
Unknown	36	T H J	ug/L		6.83		07/24/19 21:29	08/03/19 12:23	1
Naphthalene, 2-methyl-	90	T H J N	ug/L		7.10	91-57-6	07/24/19 21:29	08/03/19 12:23	1
Unknown	31	T H J	ug/L		7.23		07/24/19 21:29	08/03/19 12:23	1
Naphthalene, 1,5-dimethyl-	33	T H J N	ug/L		7.52	571-61-9	07/24/19 21:29	08/03/19 12:23	1
Pentadecane	57	T H J N	ug/L		7.69	629-62-9	07/24/19 21:29	08/03/19 12:23	1
Hexadecane	67	T H J N	ug/L		8.05	544-76-3	07/24/19 21:29	08/03/19 12:23	1
Pentadecane, 2,6,10-trimethyl-	38	T H J N	ug/L		8.22	3892-00-0	07/24/19 21:29	08/03/19 12:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	2	X	34 - 120	07/17/19 14:25	07/22/19 20:40	1
2-Fluorobiphenyl	63		34 - 120	07/24/19 21:29	08/03/19 12:23	1
2-Fluorophenol	0	X	10 - 120	07/17/19 14:25	07/22/19 20:40	1
2-Fluorophenol	9	X	10 - 120	07/24/19 21:29	08/03/19 12:23	1
Nitrobenzene-d5	0	X	27 - 120	07/17/19 14:25	07/22/19 20:40	1
Nitrobenzene-d5	96		27 - 120	07/24/19 21:29	08/03/19 12:23	1
Phenol-d5	0.5	X	10 - 120	07/17/19 14:25	07/22/19 20:40	1
Phenol-d5	64		10 - 120	07/24/19 21:29	08/03/19 12:23	1
Terphenyl-d14	0.03	X	53 - 125	07/17/19 14:25	07/22/19 20:40	1
Terphenyl-d14	41	X	53 - 125	07/24/19 21:29	08/03/19 12:23	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 20:40	1
2,4,6-Tribromophenol	74		15 - 135	07/24/19 21:29	08/03/19 12:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 16:04	1
Acrolein	ND		20	10	ug/L			07/18/19 16:04	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 16:04	1
Benzene	**150**		1.0	0.38	ug/L			07/18/19 16:04	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 16:04	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 16:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 16:04	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 16:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 16:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 16:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 16:04	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 16:04	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 16:04	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 16:04	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 16:04	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 16:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 16:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 16:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 16:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Ethylbenzene	**12**		1.0	0.50	ug/L			07/18/19 16:04	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 16:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 16:04	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 16:04	1
Isopropylbenzene	**22**		1.0	0.53	ug/L			07/18/19 16:04	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 16:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 16:04	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/18/19 16:04	1
m-Xylene & p-Xylene	**76**		5.0	1.6	ug/L			07/18/19 16:04	1
Naphthalene	**13**		1.0	1.0	ug/L			07/18/19 16:04	1
n-Butylbenzene	**2.3**		1.0	0.76	ug/L			07/18/19 16:04	1
N-Propylbenzene	**37**		1.0	0.69	ug/L			07/18/19 16:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 16:04	1
o-Xylene	**10**		5.0	0.60	ug/L			07/18/19 16:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 16:04	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 16:04	1
sec-Butylbenzene	**1.4**		1.0	0.70	ug/L			07/18/19 16:04	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 16:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 16:04	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/18/19 16:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 16:04	1
Toluene	**5.4**		1.0	0.41	ug/L			07/18/19 16:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 16:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 16:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 16:04	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 16:04	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 16:04	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 16:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 16:04	1
1,2,4-Trimethylbenzene	**18**		1.0	0.82	ug/L			07/18/19 16:04	1
1,3,5-Trimethylbenzene	**9.6**		1.0	0.56	ug/L			07/18/19 16:04	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 16:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 16:04	1
Xylenes, Total	**86**		10	1.6	ug/L			07/18/19 16:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*47*	*T J*	*ug/L*		*2.10*			*07/18/19 16:04*	*1*
Butane, 2-methyl-	*290*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/18/19 16:04*	*1*
Pentane	*92*	*T J N*	*ug/L*		*2.72*	*109-66-0*		*07/18/19 16:04*	*1*
Cyclopropane, 1,2-dimethyl-, cis-	*68*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/18/19 16:04*	*1*
Butane, 2,2-dimethyl-	*25*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/18/19 16:04*	*1*
2-Methyl-2-propanol	*1100*		*ug/L*		*3.39*	*75-65-0*		*07/18/19 16:04*	*1*
Pentane, 3-methyl-	*110*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/18/19 16:04*	*1*
2-Pentene, 4-methyl-	*61*	*T J N*	*ug/L*		*3.83*	*4461-48-7*		*07/18/19 16:04*	*1*
2-Pentene, 3-methyl-, (Z)-	*32*	*T J N*	*ug/L*		*3.89*	*922-62-3*		*07/18/19 16:04*	*1*
2-Pentene, 3-methyl-	*51*	*T J N*	*ug/L*		*3.99*	*922-61-2*		*07/18/19 16:04*	*1*
Cyclopentane, methyl-	*230*	*T J N*	*ug/L*		*4.12*	*96-37-7*		*07/18/19 16:04*	*1*
Cyclohexane	*310*	*T J N*	*ug/L*		*4.54*	*110-82-7*		*07/18/19 16:04*	*1*
t-Amyl alcohol	*110*		*ug/L*		*4.66*	*75-85-4*		*07/18/19 16:04*	*1*
Unknown	*57*	*T J*	*ug/L*		*4.97*			*07/18/19 16:04*	*1*
3,5-Dimethylcyclopentene	*26*	*T J N*	*ug/L*		*5.14*	*7459-71-4*		*07/18/19 16:04*	*1*
Methylcyclohexane	*41*		*ug/L*		*5.27*	*108-87-2*		*07/18/19 16:04*	*1*
Cyclohexene, 4-methyl-	*26*	*T J N*	*ug/L*		*5.51*	*591-47-9*		*07/18/19 16:04*	*1*
Cyclobutane, (1-methylethylidene)-	*44*	*T J N*	*ug/L*		*5.60*	*1528-22-9*		*07/18/19 16:04*	*1*
Cyclohexene, 1-methyl-	*50*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/18/19 16:04*	*1*
3-Ethyltoluene	*15*		*ug/L*		*8.07*	*620-14-4*		*07/18/19 16:04*	*1*
2-Ethyltoluene	*21*		*ug/L*		*8.30*	*611-14-3*		*07/18/19 16:04*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*16*	*T J N*	*ug/L*		*9.29*	*934-80-5*		*07/18/19 16:04*	*1*
Indan, 1-methyl-	*36*	*T J N*	*ug/L*		*9.42*	*767-58-8*		*07/18/19 16:04*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*29*	*T J N*	*ug/L*		*10.13*	*2039-89-6*		*07/18/19 16:04*	*1*

Client Sample ID: PD-12-GWP-60-071219
Lab Sample ID: 400-173138-6
Date Collected: 07/12/19 14:25
Matrix: Water
Date Received: 07/13/19 09:09

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/18/19 16:04*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/18/19 16:04*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/18/19 16:04*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 10:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/19/19 10:55*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/19/19 10:55*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/19/19 10:55*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Acenaphthene	ND	H	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Acenaphthylene	ND	H	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Anthracene	ND	H	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[a]anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[a]anthracene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[a]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[a]pyrene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[b]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[b]fluoranthene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[g,h,i]perylene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[g,h,i]perylene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Benzo[k]fluoranthene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Benzo[k]fluoranthene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Chrysene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Chrysene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Dibenz(a,h)anthracene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Dibenz(a,h)anthracene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Fluoranthene	ND	H	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Fluorene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Fluorene	ND	H	0.98	0.10	ug/L		07/24/19 21:29	08/02/19 20:34	5
Indeno[1,2,3-cd]pyrene	ND	*	0.20	0.039	ug/L		07/17/19 14:25	07/31/19 18:06	1
Indeno[1,2,3-cd]pyrene	ND	H	0.98	0.20	ug/L		07/24/19 21:29	08/02/19 20:34	5
1-Methylnaphthalene	**7.5**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
1-Methylnaphthalene	**8.5**	**H**	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
2-Methylnaphthalene	**9.0**		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
2-Methylnaphthalene	**10**	**H**	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Phenanthrene	**0.15**	**J H**	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5
Pyrene	ND	*	0.20	0.020	ug/L		07/17/19 14:25	07/31/19 18:06	1
Pyrene	ND	H	0.98	0.098	ug/L		07/24/19 21:29	08/02/19 20:34	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Date Collected: 07/12/19 14:25
Date Received: 07/13/19 09:09

Lab Sample ID: 400-173138-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	X	15 - 122	07/17/19 14:25	07/31/19 18:06	1
2-Fluorobiphenyl	86		15 - 122	07/24/19 21:29	08/02/19 20:34	5
Nitrobenzene-d5	0	X	19 - 130	07/17/19 14:25	07/31/19 18:06	1
Nitrobenzene-d5	68		19 - 130	07/24/19 21:29	08/02/19 20:34	5
Terphenyl-d14	0	X *	33 - 138	07/17/19 14:25	07/31/19 18:06	1
Terphenyl-d14	58		33 - 138	07/24/19 21:29	08/02/19 20:34	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:01	1
Aniline	ND	H	9.8	3.7	ug/L		07/24/19 21:29	08/03/19 12:48	1
Benzenethiol	ND		9.8	1.7	ug/L		07/17/19 14:25	07/22/19 21:01	1
Benzenethiol	ND	H	9.8	1.7	ug/L		07/24/19 21:29	08/03/19 12:48	1
Benzoic acid	ND		29	7.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
Benzoic acid	ND	H	29	7.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 21:01	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.67	ug/L		07/24/19 21:29	08/03/19 12:48	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/17/19 14:25	07/22/19 21:01	1
Bis(2-chloroethyl)ether	ND	H	9.8	0.72	ug/L		07/24/19 21:29	08/03/19 12:48	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/17/19 14:25	07/22/19 21:01	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/24/19 21:29	08/03/19 12:48	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/24/19 21:29	08/03/19 12:48	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/17/19 14:25	07/22/19 21:01	1
Butyl benzyl phthalate	ND	H	9.8	0.67	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Chlorophenol	ND	H	9.8	2.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/17/19 14:25	07/22/19 21:01	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/24/19 21:29	08/03/19 12:48	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:01	1
3,3'-Dichlorobenzidine	ND	H	9.8	2.5	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/17/19 14:25	07/22/19 21:01	1
Diethyl phthalate	ND	H	9.8	0.68	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/03/19 12:48	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/17/19 14:25	07/22/19 21:01	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/24/19 21:29	08/03/19 12:48	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/17/19 14:25	07/22/19 21:01	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/24/19 21:29	08/03/19 12:48	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/17/19 14:25	07/22/19 21:01	1
Di-n-octyl phthalate	**0.72**	**J H**	9.8	0.43	ug/L		07/24/19 21:29	08/03/19 12:48	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:01	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/24/19 21:29	08/03/19 12:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/24/19 21:29	08/03/19 12:48	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/17/19 14:25	07/22/19 21:01	1
Hexachlorobenzene	ND	H	9.8	0.24	ug/L		07/24/19 21:29	08/03/19 12:48	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/17/19 14:25	07/22/19 21:01	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/24/19 21:29	08/03/19 12:48	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
Indene	ND		9.8	0.98	ug/L		07/17/19 14:25	07/22/19 21:01	1
Indene	ND	H	9.8	0.98	ug/L		07/24/19 21:29	08/03/19 12:48	1
Isophorone	ND		9.8	0.56	ug/L		07/17/19 14:25	07/22/19 21:01	1
Isophorone	ND	H	9.8	0.56	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Methylphenol	ND	H	9.8	1.8	ug/L		07/24/19 21:29	08/03/19 12:48	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
3 & 4 Methylphenol	ND	H	20	1.0	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Nitroaniline	ND	H	9.8	2.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/17/19 14:25	07/22/19 21:01	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/24/19 21:29	08/03/19 12:48	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/17/19 14:25	07/22/19 21:01	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/24/19 21:29	08/03/19 12:48	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/17/19 14:25	07/22/19 21:01	1
2-Nitrophenol	ND	H	9.8	0.63	ug/L		07/24/19 21:29	08/03/19 12:48	1
4-Nitrophenol	ND		9.8	2.0	ug/L		07/17/19 14:25	07/22/19 21:01	1
4-Nitrophenol	ND	H	9.8	2.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:01	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/03/19 12:48	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/17/19 14:25	07/22/19 21:01	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Client Sample ID: PD-12-GWP-60-071219

Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25

Matrix: Water

Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/24/19 21:29	08/03/19 12:48	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/17/19 14:25	07/22/19 21:01	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/24/19 21:29	08/03/19 12:48	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/22/19 21:01	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/24/19 21:29	08/03/19 12:48	1
Phenol	**6.3**	**J**	9.8	2.5	ug/L		07/17/19 14:25	07/22/19 21:01	1
Phenol	**6.6**	**J H**	9.8	2.5	ug/L		07/24/19 21:29	08/03/19 12:48	1
Pyridine	ND		9.8	3.1	ug/L		07/17/19 14:25	07/22/19 21:01	1
Pyridine	ND	H	9.8	3.1	ug/L		07/24/19 21:29	08/03/19 12:48	1
Quinoline	ND		9.8	5.9	ug/L		07/17/19 14:25	07/22/19 21:01	1
Quinoline	ND	H	9.8	5.9	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/24/19 21:29	08/03/19 12:48	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/17/19 14:25	07/22/19 21:01	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/24/19 21:29	08/03/19 12:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*28*	*T H J*	*ug/L*		*2.93*		*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene	*390*	*T H J N*	*ug/L*		*3.11*	*71-43-2*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Unknown	*38*	*T H J*	*ug/L*		*3.24*		*07/24/19 21:29*	*08/03/19 12:48*	*1*
Unknown	*16*	*T H J*	*ug/L*		*3.78*		*07/24/19 21:29*	*08/03/19 12:48*	*1*
Toluene	*8.7*	*T H J N*	*ug/L*		*4.10*	*108-88-3*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
2-Butanone, 4-hydroxy-	*23*	*T H J N*	*ug/L*		*4.24*	*590-90-9*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Unknown	*12*	*T H J*	*ug/L*		*4.31*		*07/24/19 21:29*	*08/03/19 12:48*	*1*
1,3-Dimethylcyclopentanol	*9.6*	*T H J N*	*ug/L*		*4.70*	*19550-46-0*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Ethylbenzene	*18*	*T H J N*	*ug/L*		*4.83*	*100-41-4*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
p-Xylene	*17*	*T H J N*	*ug/L*		*5.05*	*106-42-3*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Unknown	*17*	*T H J*	*ug/L*		*5.10*		*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, (1-methylethyl)-	*26*	*T H J N*	*ug/L*		*5.24*	*98-82-8*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, propyl-	*37*	*T H J N*	*ug/L*		*5.42*	*103-65-1*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1-ethyl-2-methyl-	*13*	*T H J N*	*ug/L*		*5.46*	*611-14-3*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1,2,3-trimethyl-	*8.8*	*T H J N*	*ug/L*		*5.47*	*526-73-8*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1,2,3-trimethyl-	*26*	*T H J N*	*ug/L*		*5.56*	*526-73-8*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1,2,3-trimethyl-	*34*	*T H J N*	*ug/L*		*5.64*	*526-73-8*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1,2,3-trimethyl-	*19*	*T H J N*	*ug/L*		*5.80*	*526-73-8*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Indane	*88*	*T H J N*	*ug/L*		*5.89*	*496-11-7*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1,2,3,4-tetramethyl-	*12*	*T H J N*	*ug/L*		*5.95*	*488-23-3*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*28*	*T H J N*	*ug/L*		*6.10*	*1758-88-9*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 1,2,3,5-tetramethyl-	*13*	*T H J N*	*ug/L*		*6.25*	*527-53-7*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*19*	*T H J N*	*ug/L*		*6.38*	*2039-89-6*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*34*	*T H J N*	*ug/L*		*6.42*	*2039-89-6*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Unknown	*8.5*	*T H J*	*ug/L*		*6.58*		*07/24/19 21:29*	*08/03/19 12:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0.005*	*X*	*34 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
2-Fluorobiphenyl	*91*		*34 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
2-Fluorophenol	*0.4*	*X*	*10 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
2-Fluorophenol	*55*		*10 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*
Nitrobenzene-d5	*0.2*	*X*	*27 - 120*	*07/17/19 14:25*	*07/22/19 21:01*	*1*
Nitrobenzene-d5	*76*		*27 - 120*	*07/24/19 21:29*	*08/03/19 12:48*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-60-071219
Lab Sample ID: 400-173138-6
Date Collected: 07/12/19 14:25
Matrix: Water
Date Received: 07/13/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	0.3	X	10 - 120	07/17/19 14:25	07/22/19 21:01	1
Phenol-d5	68		10 - 120	07/24/19 21:29	08/03/19 12:48	1
Terphenyl-d14	0.08	X	53 - 125	07/17/19 14:25	07/22/19 21:01	1
Terphenyl-d14	60		53 - 125	07/24/19 21:29	08/03/19 12:48	1
2,4,6-Tribromophenol	0	X	15 - 135	07/17/19 14:25	07/22/19 21:01	1
2,4,6-Tribromophenol	85		15 - 135	07/24/19 21:29	08/03/19 12:48	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173138-1	TB-PW-071219-B	100	99	102
400-173138-1 - RA	TB-PW-071219-B	99	101	100
400-173138-2	PD-11-GWP-66.7-071219	99	99	102
400-173138-2 - DL	PD-11-GWP-66.7-071219	100	99	100
400-173138-3	PD-12-GWP-45-071219	100	96	102
400-173138-3 - DL	PD-12-GWP-45-071219	99	98	100
400-173138-4	PD-12-GWP-50-071219	100	97	101
400-173138-4 - DL	PD-12-GWP-50-071219	99	98	99
400-173138-5	PD-12-GWP-55-071219	101	97	101
400-173138-5 - DL	PD-12-GWP-55-071219	99	97	101
400-173138-6	PD-12-GWP-60-071219	103	98	103
400-173138-6 - RA	PD-12-GWP-60-071219	102	99	103
LCS 400-448481/1002	Lab Control Sample	97	101	99
LCS 400-448660/1002	Lab Control Sample	95	99	98
MB 400-448481/4	Method Blank	100	100	101
MB 400-448660/4	Method Blank	99	100	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173138-2	PD-11-GWP-66.7-071219	0 X	0 X	0.1 X	0.04 X	0.07 X	0 X
400-173138-2 - RE	PD-11-GWP-66.7-071219	44	47	78	65	43 X	42
400-173138-3	PD-12-GWP-45-071219	0 X	3 X	1 X	0.1 X	0.2 X	0 X
400-173138-3	PD-12-GWP-45-071219	113	69	95	82	102	123
400-173138-4	PD-12-GWP-50-071219	0.007 X	0.1 X	2 X	0.5 X	0 X	0 X
400-173138-4	PD-12-GWP-50-071219	99	33	82	63	71	78
400-173138-5	PD-12-GWP-55-071219	2 X	0 X	0 X	0.5 X	0.03 X	0 X
400-173138-5	PD-12-GWP-55-071219	63	9 X	96	64	41 X	74
400-173138-6	PD-12-GWP-60-071219	0.005 X	0.4 X	0.2 X	0.3 X	0.08 X	0 X
400-173138-6	PD-12-GWP-60-071219	91	55	76	68	60	85
LCS 400-448434/2-A	Lab Control Sample	76	39	59	51	89	123
LCS 400-449437/2-A	Lab Control Sample	100	74	100	95	115	112
LCS 400-449437/4-A	Lab Control Sample	45	40	79	60	66	25
LCSD 400-448434/3-A	Lab Control Sample Dup	72	37	65	50	84	105
LCSD 400-449437/3-A	Lab Control Sample Dup	100	79	99	92	107	107
LCSD 400-449437/5-A	Lab Control Sample Dup	44	45	81	67	67	34
MB 400-448434/1-A	Method Blank	68	42	61	52	63	90
MB 400-449437/1-A	Method Blank	45	53	82	70	70	35

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173138-2	PD-11-GWP-66.7-071219	0 X	0 X	
400-173138-2 - RE	PD-11-GWP-66.7-071219	95	99	89
400-173138-2	PD-11-GWP-66.7-071219			0 X
400-173138-3	PD-12-GWP-45-071219	0 X	0 X	0 X *
400-173138-3	PD-12-GWP-45-071219	80	70	84
400-173138-4	PD-12-GWP-50-071219	0 X	0 X	0.8 X
400-173138-4	PD-12-GWP-50-071219	77	75	60
400-173138-5	PD-12-GWP-55-071219	1 X	0 X	0 X
400-173138-5	PD-12-GWP-55-071219	68		44
400-173138-5 - DL	PD-12-GWP-55-071219		65	
400-173138-6	PD-12-GWP-60-071219	0 X	0 X	0 X *
400-173138-6	PD-12-GWP-60-071219	86	68	58
LCS 400-448434/2-A	Lab Control Sample	73	75	104
LCS 400-449437/2-A	Lab Control Sample	84	83	93
LCSD 400-448434/3-A	Lab Control Sample Dup	77	75	86
LCSD 400-449437/3-A	Lab Control Sample Dup	83	86	84
MB 400-448434/1-A	Method Blank	108	102	120
MB 400-449437/1-A	Method Blank	73	95	111

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071219-B

Lab Sample ID: 400-173138-1

Date Collected: 07/12/19 00:00

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 09:25	WPD	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	448660	07/19/19 08:51	WPD	TAL PEN

Client Sample ID: PD-11-GWP-66.7-071219

Lab Sample ID: 400-173138-2

Date Collected: 07/12/19 08:45

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 09:49	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2	5 mL	5 mL	448660	07/19/19 11:20	WPD	TAL PEN
Total/NA	Prep	3520C			1019.8 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 19:35	VC1	TAL PEN
Total/NA	Prep	3520C	RE		1020 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	1	0.4 mL	1.0 mL	450063	07/30/19 23:28	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1020 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RERA	1	0.4 mL	1.0 mL	450467	08/01/19 23:04	VC1	TAL PEN
Total/NA	Prep	3520C	RE		1020 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL	RE	1			450489	08/01/19 17:27	KJA	TAL PEN
Total/NA	Prep	3520C			1019.8 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 16:52	KJA	TAL PEN
Total/NA	Prep	3520C			1019.8 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 21:22	KJA	TAL PEN

Client Sample ID: PD-12-GWP-45-071219

Lab Sample ID: 400-173138-3

Date Collected: 07/12/19 10:15

Matrix: Water

Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	448481	07/18/19 11:03	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	448481	07/18/19 17:51	WPD	TAL PEN
Total/NA	Prep	3520C	RE		1014.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	10			450683	08/02/19 19:24	VC1	TAL PEN
Total/NA	Prep	3520C			1029.2 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 19:57	VC1	TAL PEN
Total/NA	Prep	3520C			1014.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450762	08/03/19 11:33	VC1	TAL PEN
Total/NA	Prep	3520C			1029.2 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 17:11	KJA	TAL PEN
Total/NA	Prep	3520C			1014.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		6			450940	08/05/19 15:46	KJA	TAL PEN

Client Sample ID: PD-12-GWP-50-071219 — Lab Sample ID: 400-173138-4

Date Collected: 07/12/19 11:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	5 mL	5 mL	448481	07/18/19 10:38	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	100	5 mL	5 mL	448660	07/19/19 11:45	WPD	TAL PEN
Total/NA	Prep	3520C	RE		1009.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D	RE	5			450683	08/02/19 19:49	VC1	TAL PEN
Total/NA	Prep	3520C			1027.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 20:18	VC1	TAL PEN
Total/NA	Prep	3520C			1009.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450762	08/03/19 11:58	VC1	TAL PEN
Total/NA	Prep	3520C			1027.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 21:38	KJA	TAL PEN
Total/NA	Prep	3520C			1009.4 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450940	08/05/19 16:04	KJA	TAL PEN

Client Sample ID: PD-12-GWP-55-071219 — Lab Sample ID: 400-173138-5

Date Collected: 07/12/19 13:10 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	448481	07/18/19 11:28	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	448660	07/19/19 12:11	WPD	TAL PEN
Total/NA	Prep	3520C			1024 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 20:40	VC1	TAL PEN
Total/NA	Prep	3520C			1002 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450762	08/03/19 12:23	VC1	TAL PEN
Total/NA	Prep	3520C			1024 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 21:54	KJA	TAL PEN
Total/NA	Prep	3520C			1002 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 22:59	KJA	TAL PEN
Total/NA	Prep	3520C	DL		1002 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			450940	08/05/19 16:21	KJA	TAL PEN
Total/NA	Prep	3520C			1024 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		25			450940	08/05/19 16:38	KJA	TAL PEN

Client Sample ID: PD-12-GWP-60-071219 — Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 16:04	WPD	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	448660	07/19/19 10:55	WPD	TAL PEN
Total/NA	Prep	3520C			1024.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448987	07/22/19 21:01	VC1	TAL PEN
Total/NA	Prep	3520C			1023.8 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450762	08/03/19 12:48	VC1	TAL PEN

Client Sample ID: PD-12-GWP-60-071219 Lab Sample ID: 400-173138-6

Date Collected: 07/12/19 14:25 **Matrix: Water**
Date Received: 07/13/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1024.4 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 18:06	KJA	TAL PEN
Total/NA	Prep	3520C			1023.8 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 20:34	KJA	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-448434/1-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 19:11	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450159	07/31/19 12:39	KJA	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-448481/4

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 08:34	WPD	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-448660/4

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448660	07/19/19 08:27	WPD	TAL PEN

Client Sample ID: Method Blank Lab Sample ID: MB 400-449437/1-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 21:00	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/01/19 20:36	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			450489	08/01/19 15:26	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448434/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:16	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 12:56	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448481/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448481	07/18/19 07:45	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448660/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448660	07/19/19 07:36	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449437/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 10:44	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450489	08/01/19 15:44	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449437/4-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:04	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448434/3-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D		1			448799	07/20/19 20:37	S1S	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448434	07/17/19 14:25	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450159	07/31/19 13:15	KJA	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449437/3-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 11:08	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			450489	08/01/19 16:01	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449437/5-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449437	07/24/19 21:29	CGM	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 22:25	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

GC/MS VOA

Analysis Batch: 448481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-1	TB-PW-071219-B	Total/NA	Water	8260B	
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8260B	
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8260B	
400-173138-3 - DL	PD-12-GWP-45-071219	Total/NA	Water	8260B	
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8260B	
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8260B	
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8260B	
MB 400-448481/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448481/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-1 - RA	TB-PW-071219-B	Total/NA	Water	8260B	
400-173138-2 - DL	PD-11-GWP-66.7-071219	Total/NA	Water	8260B	
400-173138-4 - DL	PD-12-GWP-50-071219	Total/NA	Water	8260B	
400-173138-5 - DL	PD-12-GWP-55-071219	Total/NA	Water	8260B	
400-173138-6 - RA	PD-12-GWP-60-071219	Total/NA	Water	8260B	
MB 400-448660/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448660/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	3520C	
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	3520C	
MB 400-448434/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448434

Analysis Batch: 448987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8270D	448434
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D	448434
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D	448434
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D	448434
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D	448434

Prep Batch: 449437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RE	PD-11-GWP-66.7-071219	Total/NA	Water	3520C	
400-173138-2 - RERA	PD-11-GWP-66.7-071219	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

GC/MS Semi VOA (Continued)

Prep Batch: 449437 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3 - RE	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	3520C	
400-173138-4 - RE	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	3520C	
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-5 - DL	PD-12-GWP-55-071219	Total/NA	Water	3520C	
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	3520C	
MB 400-449437/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RE	PD-11-GWP-66.7-071219	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437
LCS 400-449437/4-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

Analysis Batch: 450159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8270D LL	448434
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D LL	448434
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D LL	448434
MB 400-448434/1-A	Method Blank	Total/NA	Water	8270D LL	448434
LCS 400-448434/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448434
LCSD 400-448434/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	448434

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RERA	PD-11-GWP-66.7-071219	Total/NA	Water	8270D	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D	449437

Analysis Batch: 450489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2 - RE	PD-11-GWP-66.7-071219	Total/NA	Water	8270D LL	449437
MB 400-449437/1-A	Method Blank	Total/NA	Water	8270D LL	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449437

Analysis Batch: 450683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3 - RE	PD-12-GWP-45-071219	Total/NA	Water	8270D	449437
400-173138-4 - RE	PD-12-GWP-50-071219	Total/NA	Water	8270D	449437

Analysis Batch: 450731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-2	PD-11-GWP-66.7-071219	Total/NA	Water	8270D LL	448434
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D LL	448434
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	448434

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

GC/MS Semi VOA (Continued)

Analysis Batch: 450731 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	449437
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D LL	449437

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D	449437
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D	449437
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D	449437
400-173138-6	PD-12-GWP-60-071219	Total/NA	Water	8270D	449437
LCS 400-449437/2-A	Lab Control Sample	Total/NA	Water	8270D	449437
LCSD 400-449437/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449437

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173138-3	PD-12-GWP-45-071219	Total/NA	Water	8270D LL	449437
400-173138-4	PD-12-GWP-50-071219	Total/NA	Water	8270D LL	449437
400-173138-5 - DL	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	449437
400-173138-5	PD-12-GWP-55-071219	Total/NA	Water	8270D LL	448434

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448481/4
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/18/19 08:34	1
Acrolein	ND		20	10	ug/L			07/18/19 08:34	1
Acrylonitrile	ND		10	2.8	ug/L			07/18/19 08:34	1
Benzene	ND		1.0	0.38	ug/L			07/18/19 08:34	1
Bromobenzene	ND		1.0	0.54	ug/L			07/18/19 08:34	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/18/19 08:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Bromoform	ND		5.0	0.71	ug/L			07/18/19 08:34	1
Bromomethane	ND		1.0	0.98	ug/L			07/18/19 08:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/18/19 08:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Chloroethane	ND		1.0	0.76	ug/L			07/18/19 08:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/18/19 08:34	1
Chloroform	ND		1.0	0.60	ug/L			07/18/19 08:34	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/18/19 08:34	1
Chloromethane	ND		1.0	0.83	ug/L			07/18/19 08:34	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 08:34	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/18/19 08:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/18/19 08:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/18/19 08:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/18/19 08:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/18/19 08:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/18/19 08:34	1
2-Hexanone	ND		25	3.1	ug/L			07/18/19 08:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/18/19 08:34	1
Methylene bromide	ND		5.0	0.59	ug/L			07/18/19 08:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/18/19 08:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/18/19 08:34	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/18/19 08:34	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/18/19 08:34	1
Naphthalene	ND		1.0	1.0	ug/L			07/18/19 08:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/18/19 08:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/18/19 08:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/18/19 08:34	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448481/4
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/18/19 08:34	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/18/19 08:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/18/19 08:34	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/18/19 08:34	1
Styrene	ND		1.0	1.0	ug/L			07/18/19 08:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/18/19 08:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/18/19 08:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/18/19 08:34	1
Toluene	ND		1.0	0.41	ug/L			07/18/19 08:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/18/19 08:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/18/19 08:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/18/19 08:34	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/18/19 08:34	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/18/19 08:34	1
Trichloroethene	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/18/19 08:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/18/19 08:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/18/19 08:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/18/19 08:34	1
Vinyl acetate	ND		25	2.0	ug/L			07/18/19 08:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/18/19 08:34	1
Xylenes, Total	ND		10	1.6	ug/L			07/18/19 08:34	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/18/19 08:34*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/18/19 08:34*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/18/19 08:34*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/18/19 08:34*	*1*

Lab Sample ID: LCS 400-448481/1002
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	264		ug/L		132	43 - 160
Acrolein	500	641		ug/L		128	38 - 160
Acrylonitrile	500	574		ug/L		115	64 - 142
Benzene	50.0	55.5		ug/L		111	70 - 130
Bromobenzene	50.0	52.7		ug/L		105	70 - 132
Bromochloromethane	50.0	56.8		ug/L		114	70 - 130
Bromodichloromethane	50.0	56.4		ug/L		113	67 - 133
Bromoform	50.0	59.9		ug/L		120	57 - 140
Bromomethane	50.0	41.5		ug/L		83	10 - 160
2-Butanone (MEK)	200	242		ug/L		121	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448481/1002
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.4		ug/L		109	61 - 137
Carbon tetrachloride	50.0	62.7		ug/L		125	61 - 137
Chlorobenzene	50.0	55.1		ug/L		110	70 - 130
Chloroethane	50.0	52.3		ug/L		105	55 - 141
2-Chloroethyl vinyl ether	50.0	50.2		ug/L		100	10 - 160
Chloroform	50.0	55.8		ug/L		112	69 - 130
1-Chlorohexane	50.0	59.2		ug/L		118	69 - 130
Chloromethane	50.0	48.1		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	58.3		ug/L		117	68 - 130
cis-1,3-Dichloropropene	50.0	59.4		ug/L		119	69 - 132
Dibromochloromethane	50.0	60.7		ug/L		121	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	53.5		ug/L		107	54 - 135
1,2-Dichlorobenzene	50.0	56.4		ug/L		113	67 - 130
1,3-Dichlorobenzene	50.0	56.5		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	55.3		ug/L		111	70 - 130
Dichlorodifluoromethane	50.0	30.2		ug/L		60	41 - 146
1,1-Dichloroethane	50.0	58.9		ug/L		118	70 - 130
1,2-Dichloroethane	50.0	56.6		ug/L		113	69 - 130
1,1-Dichloroethene	50.0	50.4		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	58.1		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	55.8		ug/L		112	70 - 130
2,2-Dichloropropane	50.0	57.5		ug/L		115	52 - 135
1,1-Dichloropropene	50.0	55.7		ug/L		111	70 - 130
Ethylbenzene	50.0	56.6		ug/L		113	70 - 130
Ethylene Dibromide	50.0	53.6		ug/L		107	70 - 130
Ethyl methacrylate	50.0	59.0		ug/L		118	68 - 130
Hexachlorobutadiene	50.0	50.9		ug/L		102	53 - 140
2-Hexanone	200	270		ug/L		135	65 - 137
Isopropylbenzene	50.0	54.0		ug/L		108	70 - 130
Methylene bromide	50.0	50.9		ug/L		102	70 - 130
Methylene Chloride	50.0	55.2		ug/L		110	66 - 135
4-Methyl-2-pentanone (MIBK)	200	240		ug/L		120	69 - 138
Methyl tert-butyl ether	50.0	49.8		ug/L		100	66 - 130
m-Xylene & p-Xylene	50.0	55.6		ug/L		111	70 - 130
Naphthalene	50.0	49.6		ug/L		99	47 - 149
n-Butylbenzene	50.0	56.6		ug/L		113	67 - 130
N-Propylbenzene	50.0	57.0		ug/L		114	70 - 130
o-Chlorotoluene	50.0	55.8		ug/L		112	70 - 130
o-Xylene	50.0	55.4		ug/L		111	70 - 130
p-Chlorotoluene	50.0	55.6		ug/L		111	70 - 130
p-Isopropyltoluene	50.0	56.6		ug/L		113	65 - 130
sec-Butylbenzene	50.0	54.5		ug/L		109	66 - 130
Styrene	50.0	52.7		ug/L		105	70 - 130
tert-Butylbenzene	50.0	53.7		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.4	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.5		ug/L		107	70 - 131
Tetrachloroethene	50.0	55.1		ug/L		110	65 - 130
Toluene	50.0	55.3		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448481/1002
Matrix: Water
Analysis Batch: 448481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	61.9		ug/L		124	63 - 130
1,2,3-Trichlorobenzene	50.0	50.8		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	50.6		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	56.3		ug/L		113	68 - 130
1,1,2-Trichloroethane	50.0	55.9		ug/L		112	70 - 130
Trichloroethene	50.0	55.1		ug/L		110	70 - 130
Trichlorofluoromethane	50.0	46.4		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	51.2		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.5		ug/L		109	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	48.0		ug/L		96	59 - 136
Xylenes, Total	100	111		ug/L		111	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: MB 400-448660/4
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 08:27	1
Acrolein	ND		20	10	ug/L			07/19/19 08:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 08:27	1
Benzene	ND		1.0	0.38	ug/L			07/19/19 08:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 08:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 08:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 08:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 08:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 08:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 08:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 08:27	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 08:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 08:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 08:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 08:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 08:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 08:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448660/4
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 08:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 08:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 08:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 08:27	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 08:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 08:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 08:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 08:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 08:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/19/19 08:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 08:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 08:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 08:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 08:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 08:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 08:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 08:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 08:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 08:27	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 08:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 08:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 08:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 08:27	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 08:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 08:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 08:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 08:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 08:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 08:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 08:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 08:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 08:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 08:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 08:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 08:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 08:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448660/4
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/19/19 08:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		07/19/19 08:27	1
Dibromofluoromethane	100		81 - 121		07/19/19 08:27	1
Toluene-d8 (Surr)	100		80 - 120		07/19/19 08:27	1

Lab Sample ID: LCS 400-448660/1002
Matrix: Water
Analysis Batch: 448660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	54.5		ug/L		109	70 - 130		
Methylene Chloride			50.0	54.5		ug/L		109	66 - 135		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		78 - 118
Dibromofluoromethane	99		81 - 121
Toluene-d8 (Surr)	98		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzenethiol	ND		10	1.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzoic acid	ND		30	7.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
Benzyl alcohol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/17/19 14:25	07/20/19 19:11	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/17/19 14:25	07/20/19 19:11	1
Bis(2-ethylhexyl) phthalate	13.0		10	5.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/17/19 14:25	07/20/19 19:11	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloroaniline	ND		10	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Chlorophenol	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Dibenzofuran	ND		10	0.52	ug/L		07/17/19 14:25	07/20/19 19:11	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Diethyl phthalate	ND		10	0.70	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		10	0.60	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/17/19 14:25	07/20/19 19:11	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,4-Dioxane	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
Hexachloroethane	ND		10	4.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Indene	ND		10	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
Isophorone	ND		10	0.57	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Methylphenol	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitroaniline	ND		10	2.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
3-Nitroaniline	ND		10	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitroaniline	ND		10	2.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
Nitrobenzene	ND		10	0.55	ug/L		07/17/19 14:25	07/20/19 19:11	1
2-Nitrophenol	ND		10	0.65	ug/L		07/17/19 14:25	07/20/19 19:11	1
4-Nitrophenol	ND		10	2.1	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/17/19 14:25	07/20/19 19:11	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/17/19 14:25	07/20/19 19:11	1
Pentachlorophenol	ND		20	1.8	ug/L		07/17/19 14:25	07/20/19 19:11	1
Phenol	ND		10	2.6	ug/L		07/17/19 14:25	07/20/19 19:11	1
Pyridine	ND		10	3.2	ug/L		07/17/19 14:25	07/20/19 19:11	1
Quinoline	ND		10	6.0	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/17/19 14:25	07/20/19 19:11	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/17/19 14:25	07/20/19 19:11	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/17/19 14:25*	*07/20/19 19:11*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2-Fluorophenol	*42*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Nitrobenzene-d5	*61*		*27 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Phenol-d5	*52*		*10 - 120*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
Terphenyl-d14	*63*		*53 - 125*	*07/17/19 14:25*	*07/20/19 19:11*	*1*
2,4,6-Tribromophenol	*90*		*15 - 135*	*07/17/19 14:25*	*07/20/19 19:11*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	17.9		ug/L		60	29 - 120
Benzoic acid	117	47.4		ug/L		41	10 - 150
Benzyl alcohol	30.0	20.2		ug/L		67	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.0		ug/L		57	45 - 120
Bis(2-chloroethyl)ether	30.0	15.9		ug/L		53	48 - 120
bis (2-chloroisopropyl) ether	30.0	14.7		ug/L		49	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	19.4		ug/L		65	48 - 150
4-Bromophenyl phenyl ether	30.0	28.3		ug/L		94	55 - 122
Butyl benzyl phthalate	30.0	18.6		ug/L		62	46 - 145
4-Chloroaniline	30.0	14.3		ug/L		48	30 - 120
4-Chloro-3-methylphenol	30.0	21.5		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	22.4		ug/L		75	52 - 120
2-Chlorophenol	30.0	18.3		ug/L		61	34 - 120
4-Chlorophenyl phenyl ether	30.0	26.7		ug/L		89	58 - 124
Dibenz[a,h]acridine	30.0	23.7		ug/L		79	46 - 149
Dibenzofuran	30.0	24.3		ug/L		81	58 - 123
3,3'-Dichlorobenzidine	40.0	53.3		ug/L		133	39 - 135
2,4-Dichlorophenol	30.0	22.6		ug/L		75	39 - 128
Diethyl phthalate	30.0	24.3		ug/L		81	44 - 146
2,4-Dimethylphenol	30.0	20.6		ug/L		69	44 - 120
Dimethyl phthalate	30.0	23.6		ug/L		79	50 - 131
Di-n-butyl phthalate	30.0	23.1		ug/L		77	55 - 131
4,6-Dinitro-ortho-cresol	60.0	52.0		ug/L		87	10 - 150
2,4-Dinitrophenol	60.0	67.2		ug/L		112	10 - 150
2,4-Dinitrotoluene	30.0	25.9		ug/L		86	58 - 140
2,6-Dinitrotoluene	30.0	25.2		ug/L		84	57 - 130
Di-n-octyl phthalate	30.0	22.1		ug/L		74	50 - 150
1,4-Dioxane	30.0	10.7		ug/L		36	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	17.7		ug/L		59	47 - 123
Hexachlorobenzene	30.0	32.6		ug/L		109	52 - 131
Hexachlorocyclopentadiene	30.0	11.7	J	ug/L		39	10 - 129
Hexachloroethane	30.0	14.3		ug/L		48	41 - 120
Indene	30.0	18.9		ug/L		63	47 - 120
Isophorone	30.0	17.8		ug/L		59	49 - 120
2-Methylphenol	30.0	18.1		ug/L		60	39 - 123
3 & 4 Methylphenol	30.0	18.4	J	ug/L		61	38 - 121
2-Nitroaniline	30.0	20.0		ug/L		67	47 - 150
3-Nitroaniline	30.0	22.7		ug/L		76	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	18.6		ug/L		62	47 - 120
2-Nitrophenol	30.0	20.6		ug/L		69	28 - 136
4-Nitrophenol	60.0	42.3		ug/L		71	10 - 150
N-Nitrosodimethylamine	30.0	23.6		ug/L		79	22 - 148
N-Nitrosodi-n-propylamine	30.0	19.4		ug/L		65	44 - 120
N-Nitrosodiphenylamine	29.8	22.9		ug/L		77	56 - 120
Pentachlorophenol	60.0	58.6		ug/L		98	15 - 141
Phenol	30.0	15.2		ug/L		51	33 - 120
Pyridine	60.0	29.7		ug/L		49	26 - 120

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Quinoline			30.0	21.4		ug/L		71	51 - 129		
2,4,5-Trichlorophenol			30.0	25.5		ug/L		85	38 - 147		
2,4,6-Trichlorophenol			30.0	25.2		ug/L		84	36 - 139		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*34 - 120*
2-Fluorophenol	*39*		*10 - 120*
Nitrobenzene-d5	*59*		*27 - 120*
Phenol-d5	*51*		*10 - 120*
Terphenyl-d14	*89*		*53 - 125*
2,4,6-Tribromophenol	*123*		*15 - 135*

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	18.4		ug/L		61	29 - 120	3	30
Benzoic acid			117	35.8		ug/L		31	10 - 150	28	30
Benzyl alcohol			30.0	22.2		ug/L		74	19 - 125	10	30
Bis(2-chloroethoxy)methane			30.0	18.0		ug/L		60	45 - 120	5	30
Bis(2-chloroethyl)ether			30.0	17.1		ug/L		57	48 - 120	7	30
bis (2-chloroisopropyl) ether			30.0	16.5		ug/L		55	30 - 125	12	30
Bis(2-ethylhexyl) phthalate			30.0	20.0		ug/L		67	48 - 150	3	30
4-Bromophenyl phenyl ether			30.0	29.1		ug/L		97	55 - 122	3	30
Butyl benzyl phthalate			30.0	18.9		ug/L		63	46 - 145	2	30
4-Chloroaniline			30.0	15.1		ug/L		50	30 - 120	5	30
4-Chloro-3-methylphenol			30.0	22.4		ug/L		75	39 - 140	4	30
2-Chloronaphthalene			30.0	22.8		ug/L		76	52 - 120	2	30
2-Chlorophenol			30.0	18.7		ug/L		62	34 - 120	3	30
4-Chlorophenyl phenyl ether			30.0	27.1		ug/L		90	58 - 124	1	30
Dibenz[a,h]acridine			30.0	24.4		ug/L		81	46 - 149	3	30
Dibenzofuran			30.0	24.7		ug/L		82	58 - 123	2	30
3,3'-Dichlorobenzidine			40.0	58.2	*	ug/L		145	39 - 135	9	30
2,4-Dichlorophenol			30.0	23.0		ug/L		77	39 - 128	2	30
Diethyl phthalate			30.0	25.6		ug/L		85	44 - 146	5	30
2,4-Dimethylphenol			30.0	22.4		ug/L		75	44 - 120	8	30
Dimethyl phthalate			30.0	24.2		ug/L		81	50 - 131	2	30
Di-n-butyl phthalate			30.0	24.0		ug/L		80	55 - 131	4	30
4,6-Dinitro-ortho-cresol			60.0	55.3		ug/L		92	10 - 150	6	30
2,4-Dinitrophenol			60.0	70.9		ug/L		118	10 - 150	5	30
2,4-Dinitrotoluene			30.0	25.9		ug/L		86	58 - 140	0	30
2,6-Dinitrotoluene			30.0	25.6		ug/L		85	57 - 130	2	30
Di-n-octyl phthalate			30.0	23.0		ug/L		77	50 - 150	4	30
1,4-Dioxane			30.0	11.2		ug/L		37	25 - 120	4	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	20.1		ug/L		67	47 - 123	13	30
Hexachlorobenzene			30.0	33.4		ug/L		111	52 - 131	2	30
Hexachlorocyclopentadiene			30.0	10.4	J	ug/L		35	10 - 129	12	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 448799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane			30.0	13.9		ug/L		46	41 - 120	2	30
Indene			30.0	16.9		ug/L		56	47 - 120	11	30
Isophorone			30.0	19.1		ug/L		64	49 - 120	7	30
2-Methylphenol			30.0	19.4		ug/L		65	39 - 123	7	30
3 & 4 Methylphenol			30.0	20.2		ug/L		67	38 - 121	10	30
2-Nitroaniline			30.0	22.5		ug/L		75	47 - 150	12	30
3-Nitroaniline			30.0	24.5		ug/L		82	34 - 132	8	30
4-Nitroaniline			30.0	33.7		ug/L		112	41 - 135	12	30
Nitrobenzene			30.0	19.6		ug/L		65	47 - 120	5	30
2-Nitrophenol			30.0	20.9		ug/L		70	28 - 136	2	30
4-Nitrophenol			60.0	47.0		ug/L		78	10 - 150	10	30
N-Nitrosodimethylamine			30.0	24.2		ug/L		81	22 - 148	3	30
N-Nitrosodi-n-propylamine			30.0	21.9		ug/L		73	44 - 120	12	30
N-Nitrosodiphenylamine			29.8	23.2		ug/L		78	56 - 120	1	30
Pentachlorophenol			60.0	58.2		ug/L		97	15 - 141	1	30
Phenol			30.0	15.3		ug/L		51	33 - 120	1	30
Pyridine			60.0	32.4		ug/L		54	26 - 120	9	30
Quinoline			30.0	22.8		ug/L		76	51 - 129	6	30
2,4,5-Trichlorophenol			30.0	24.5		ug/L		82	38 - 147	4	30
2,4,6-Trichlorophenol			30.0	26.0		ug/L		87	36 - 139	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*65*		*27 - 120*
Phenol-d5	*50*		*10 - 120*
Terphenyl-d14	*84*		*53 - 125*
2,4,6-Tribromophenol	*105*		*15 - 135*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 21:29	07/30/19 21:00	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 21:29	07/30/19 21:00	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
Indene	ND		10	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
Isophorone	ND		10	0.57	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 21:29	07/30/19 21:00	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 21:29	07/30/19 21:00	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 21:29	07/30/19 21:00	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 21:29	07/30/19 21:00	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 21:29	07/30/19 21:00	1
Phenol	ND		10	2.6	ug/L		07/24/19 21:29	07/30/19 21:00	1
Pyridine	ND		10	3.2	ug/L		07/24/19 21:29	07/30/19 21:00	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*07/30/19 21:00*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Nitrobenzene-d5	*82*		*27 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Phenol-d5	*70*		*10 - 120*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 21:29*	*07/30/19 21:00*	*1*
2,4,6-Tribromophenol	*35*		*15 - 135*	*07/24/19 21:29*	*07/30/19 21:00*	*1*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 21:29	08/01/19 20:36	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 21:29	08/01/19 20:36	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 21:29	08/01/19 20:36	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 21:29	08/01/19 20:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 21:29	08/01/19 20:36	1
Quinoline	ND		10	6.0	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 21:29	08/01/19 20:36	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 21:29	08/01/19 20:36	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 21:29*	*08/01/19 20:36*	*1*

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	29.3		ug/L		98	29 - 120
Benzoic acid	117	97.7		ug/L		84	10 - 150
Benzyl alcohol	30.0	31.4		ug/L		105	19 - 125
Bis(2-chloroethoxy)methane	30.0	29.9		ug/L		100	45 - 120
Bis(2-chloroethyl)ether	30.0	31.5		ug/L		105	48 - 120
bis (2-chloroisopropyl) ether	30.0	29.8		ug/L		99	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	29.8		ug/L		99	48 - 150
4-Bromophenyl phenyl ether	30.0	30.5		ug/L		102	55 - 122
Butyl benzyl phthalate	30.0	32.3		ug/L		108	46 - 145
4-Chloroaniline	30.0	26.7		ug/L		89	30 - 120
4-Chloro-3-methylphenol	30.0	31.2		ug/L		104	39 - 140
2-Chloronaphthalene	30.0	31.2		ug/L		104	52 - 120
2-Chlorophenol	30.0	28.0		ug/L		93	34 - 120
4-Chlorophenyl phenyl ether	30.0	31.7		ug/L		106	58 - 124
Dibenz[a,h]acridine	30.0	29.5		ug/L		98	46 - 149
Dibenzofuran	30.0	32.1		ug/L		107	58 - 123
3,3'-Dichlorobenzidine	40.0	53.6		ug/L		134	39 - 135
2,4-Dichlorophenol	30.0	30.4		ug/L		101	39 - 128
Diethyl phthalate	30.0	34.4		ug/L		115	44 - 146
2,4-Dimethylphenol	30.0	30.3		ug/L		101	44 - 120
Dimethyl phthalate	30.0	32.5		ug/L		108	50 - 131
Di-n-butyl phthalate	30.0	34.0		ug/L		113	55 - 131
4,6-Dinitro-ortho-cresol	60.0	64.8		ug/L		108	10 - 150
2,4-Dinitrophenol	60.0	67.6		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	37.0		ug/L		123	58 - 140
2,6-Dinitrotoluene	30.0	32.0		ug/L		107	57 - 130
Di-n-octyl phthalate	30.0	30.0	B	ug/L		100	50 - 150
1,4-Dioxane	30.0	20.4		ug/L		68	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	29.8		ug/L		99	47 - 123
Hexachlorobenzene	30.0	30.8		ug/L		103	52 - 131
Hexachlorocyclopentadiene	30.0	13.0	J	ug/L		43	10 - 129

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachloroethane	30.0	20.6		ug/L		69	41 - 120
Indene	30.0	28.1		ug/L		94	47 - 120
Isophorone	30.0	30.2		ug/L		101	49 - 120
2-Methylphenol	30.0	31.0		ug/L		103	39 - 123
3 & 4 Methylphenol	30.0	31.2		ug/L		104	38 - 121
2-Nitroaniline	30.0	30.3		ug/L		101	47 - 150
3-Nitroaniline	30.0	28.5		ug/L		95	34 - 132
4-Nitroaniline	30.0	35.2		ug/L		117	41 - 135
Nitrobenzene	30.0	28.0		ug/L		93	47 - 120
2-Nitrophenol	30.0	30.0		ug/L		100	28 - 136
4-Nitrophenol	60.0	63.5		ug/L		106	10 - 150
N-Nitrosodimethylamine	30.0	29.2		ug/L		97	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.7		ug/L		109	44 - 120
N-Nitrosodiphenylamine	29.8	31.0		ug/L		104	56 - 120
Pentachlorophenol	60.0	66.2		ug/L		110	15 - 141
Phenol	30.0	28.4		ug/L		95	33 - 120
Pyridine	60.0	51.7		ug/L		86	26 - 120
Quinoline	30.0	35.2		ug/L		117	51 - 129
2,4,5-Trichlorophenol	30.0	33.4		ug/L		111	38 - 147
2,4,6-Trichlorophenol	30.0	32.9		ug/L		110	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*74*		*10 - 120*
Nitrobenzene-d5	*100*		*27 - 120*
Phenol-d5	*95*		*10 - 120*
Terphenyl-d14	*115*		*53 - 125*
2,4,6-Tribromophenol	*112*		*15 - 135*

Lab Sample ID: LCS 400-449437/4-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*45*		*34 - 120*
2-Fluorophenol	*40*		*10 - 120*
Nitrobenzene-d5	*79*		*27 - 120*
Phenol-d5	*60*		*10 - 120*
Terphenyl-d14	*66*		*53 - 125*
2,4,6-Tribromophenol	*25*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	24.8		ug/L		83	29 - 120	17	30
Benzoic acid			117	92.4		ug/L		79	10 - 150	6	30
Benzyl alcohol			30.0	31.2		ug/L		104	19 - 125	1	30
Bis(2-chloroethoxy)methane			30.0	29.8		ug/L		99	45 - 120	0	30
Bis(2-chloroethyl)ether			30.0	28.4		ug/L		95	48 - 120	10	30
bis (2-chloroisopropyl) ether			30.0	29.3		ug/L		98	30 - 125	2	30
Bis(2-ethylhexyl) phthalate			30.0	30.2		ug/L		101	48 - 150	1	30
4-Bromophenyl phenyl ether			30.0	29.6		ug/L		99	55 - 122	3	30
Butyl benzyl phthalate			30.0	32.0		ug/L		107	46 - 145	1	30
4-Chloroaniline			30.0	25.5		ug/L		85	30 - 120	4	30
4-Chloro-3-methylphenol			30.0	30.4		ug/L		101	39 - 140	3	30
2-Chloronaphthalene			30.0	31.1		ug/L		104	52 - 120	0	30
2-Chlorophenol			30.0	29.1		ug/L		97	34 - 120	4	30
4-Chlorophenyl phenyl ether			30.0	32.3		ug/L		108	58 - 124	2	30
Dibenz[a,h]acridine			30.0	32.1		ug/L		107	46 - 149	9	30
Dibenzofuran			30.0	32.0		ug/L		107	58 - 123	0	30
3,3'-Dichlorobenzidine			40.0	51.6		ug/L		129	39 - 135	4	30
2,4-Dichlorophenol			30.0	29.5		ug/L		98	39 - 128	3	30
Diethyl phthalate			30.0	34.3		ug/L		114	44 - 146	0	30
2,4-Dimethylphenol			30.0	29.8		ug/L		99	44 - 120	2	30
Dimethyl phthalate			30.0	32.0		ug/L		107	50 - 131	2	30
Di-n-butyl phthalate			30.0	34.3		ug/L		114	55 - 131	1	30
4,6-Dinitro-ortho-cresol			60.0	69.4		ug/L		116	10 - 150	7	30
2,4-Dinitrophenol			60.0	71.6		ug/L		119	10 - 150	6	30
2,4-Dinitrotoluene			30.0	36.9		ug/L		123	58 - 140	0	30
2,6-Dinitrotoluene			30.0	31.8		ug/L		106	57 - 130	1	30
Di-n-octyl phthalate			30.0	30.6	B	ug/L		102	50 - 150	2	30
1,4-Dioxane			30.0	20.6		ug/L		69	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	29.2		ug/L		97	47 - 123	2	30
Hexachlorobenzene			30.0	31.7		ug/L		106	52 - 131	3	30
Hexachlorocyclopentadiene			30.0	12.9	J	ug/L		43	10 - 129	1	30
Hexachloroethane			30.0	21.4		ug/L		71	41 - 120	4	30
Indene			30.0	28.2		ug/L		94	47 - 120	0	30
Isophorone			30.0	29.7		ug/L		99	49 - 120	2	30
2-Methylphenol			30.0	30.5		ug/L		102	39 - 123	1	30
3 & 4 Methylphenol			30.0	31.0		ug/L		103	38 - 121	1	30
2-Nitroaniline			30.0	30.2		ug/L		101	47 - 150	0	30
3-Nitroaniline			30.0	28.3		ug/L		94	34 - 132	0	30
4-Nitroaniline			30.0	36.3		ug/L		121	41 - 135	3	30
Nitrobenzene			30.0	27.8		ug/L		93	47 - 120	1	30
2-Nitrophenol			30.0	30.2		ug/L		101	28 - 136	1	30
4-Nitrophenol			60.0	62.1		ug/L		104	10 - 150	2	30
N-Nitrosodimethylamine			30.0	28.2		ug/L		94	22 - 148	4	30
N-Nitrosodi-n-propylamine			30.0	32.8		ug/L		109	44 - 120	0	30
N-Nitrosodiphenylamine			29.8	30.3		ug/L		102	56 - 120	2	30
Pentachlorophenol			60.0	66.0		ug/L		110	15 - 141	0	30
Phenol			30.0	27.6		ug/L		92	33 - 120	3	30
Pyridine			60.0	49.8		ug/L		83	26 - 120	4	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	34.0		ug/L		113	51 - 129	3	30
2,4,5-Trichlorophenol			30.0	32.7		ug/L		109	38 - 147	2	30
2,4,6-Trichlorophenol			30.0	32.9		ug/L		110	36 - 139	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*100*		*34 - 120*
2-Fluorophenol	*79*		*10 - 120*
Nitrobenzene-d5	*99*		*27 - 120*
Phenol-d5	*92*		*10 - 120*
Terphenyl-d14	*107*		*53 - 125*
2,4,6-Tribromophenol	*107*		*15 - 135*

Lab Sample ID: LCSD 400-449437/5-A
Matrix: Water
Analysis Batch: 450063

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	14.9	*	ug/L		50	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*
2-Fluorophenol	*45*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*67*		*53 - 125*
2,4,6-Tribromophenol	*34*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Anthracene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Chrysene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluoranthene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Fluorene	ND		0.20	0.021	ug/L		07/17/19 14:25	07/31/19 12:39	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/17/19 14:25	07/31/19 12:39	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448434/1-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448434

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Phenanthrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1
Pyrene	ND		0.20	0.020	ug/L		07/17/19 14:25	07/31/19 12:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*108*		*15 - 122*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Nitrobenzene-d5	*102*		*19 - 130*	*07/17/19 14:25*	*07/31/19 12:39*	*1*
Terphenyl-d14	*120*		*33 - 138*	*07/17/19 14:25*	*07/31/19 12:39*	*1*

Lab Sample ID: LCS 400-448434/2-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.6		ug/L		82	41 - 120
Acenaphthylene	30.0	25.7		ug/L		86	44 - 120
Anthracene	30.0	27.0		ug/L		90	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	24.5		ug/L		82	52 - 120
Benzo[b]fluoranthene	30.0	26.5		ug/L		88	53 - 134
Benzo[g,h,i]perylene	30.0	21.3		ug/L		71	47 - 133
Benzo[k]fluoranthene	30.0	22.2		ug/L		74	57 - 134
Chrysene	30.0	25.9		ug/L		86	55 - 122
Dibenz(a,h)anthracene	30.0	20.4		ug/L		68	48 - 146
Fluoranthene	30.0	28.8		ug/L		96	54 - 128
Fluorene	30.0	27.8		ug/L		93	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	21.8		ug/L		73	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	20.1		ug/L		67	32 - 124
Phenanthrene	30.0	27.4		ug/L		91	48 - 120
Pyrene	30.0	31.6		ug/L		105	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*73*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*104*		*33 - 138*

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	27.3		ug/L		91	41 - 120	10	56
Acenaphthylene	30.0	27.8		ug/L		93	44 - 120	8	56
Anthracene	30.0	27.3		ug/L		91	49 - 120	1	51
Benzo[a]anthracene	30.0	26.4		ug/L		88	61 - 135	4	49
Benzo[a]pyrene	30.0	26.3		ug/L		88	52 - 120	7	50
Benzo[b]fluoranthene	30.0	29.1		ug/L		97	53 - 134	9	54

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-448434/3-A
Matrix: Water
Analysis Batch: 450159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448434

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			30.0	24.0		ug/L		80	47 - 133	12	50
Benzo[k]fluoranthene			30.0	25.6		ug/L		85	57 - 134	14	52
Chrysene			30.0	26.8		ug/L		89	55 - 122	4	50
Dibenz(a,h)anthracene			30.0	21.7		ug/L		72	48 - 146	6	50
Fluoranthene			30.0	30.1		ug/L		100	54 - 128	5	52
Fluorene			30.0	30.7		ug/L		102	45 - 125	10	56
Indeno[1,2,3-cd]pyrene			30.0	23.3		ug/L		78	43 - 142	7	51
1-Methylnaphthalene			30.0	21.2		ug/L		71	41 - 120	7	55
2-Methylnaphthalene			30.0	21.2		ug/L		71	32 - 124	5	57
Phenanthrene			30.0	28.7		ug/L		96	48 - 120	5	56
Pyrene			30.0	28.7		ug/L		96	48 - 132	9	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*75*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Lab Sample ID: MB 400-449437/1-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
Fluoranthene	0.0465	J	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 21:29	08/01/19 15:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 21:29	08/01/19 15:26	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1
Pyrene	0.0411	J	0.20	0.020	ug/L		07/24/19 21:29	08/01/19 15:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*15 - 122*	*07/24/19 21:29*	*08/01/19 15:26*	*1*
Nitrobenzene-d5	*95*		*19 - 130*	*07/24/19 21:29*	*08/01/19 15:26*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/24/19 21:29*	*08/01/19 15:26*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449437/2-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene			30.0	28.4		ug/L		95	41 - 120		
Acenaphthylene			30.0	28.0		ug/L		93	44 - 120		
Anthracene			30.0	25.9		ug/L		86	49 - 120		
Benzo[a]anthracene			30.0	26.4		ug/L		88	61 - 135		
Benzo[a]pyrene			30.0	28.0		ug/L		93	52 - 120		
Benzo[b]fluoranthene			30.0	31.3		ug/L		104	53 - 134		
Benzo[g,h,i]perylene			30.0	23.7		ug/L		79	47 - 133		
Benzo[k]fluoranthene			30.0	27.9		ug/L		93	57 - 134		
Chrysene			30.0	26.8		ug/L		89	55 - 122		
Dibenz(a,h)anthracene			30.0	22.9		ug/L		76	48 - 146		
Fluoranthene			30.0	29.5		ug/L		98	54 - 128		
Fluorene			30.0	29.7		ug/L		99	45 - 125		
Indeno[1,2,3-cd]pyrene			30.0	23.5		ug/L		78	43 - 142		
1-Methylnaphthalene			30.0	24.4		ug/L		81	41 - 120		
2-Methylnaphthalene			30.0	23.7		ug/L		79	32 - 124		
Phenanthrene			30.0	26.1		ug/L		87	48 - 120		
Pyrene			30.0	33.9		ug/L		113	48 - 132		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*
Nitrobenzene-d5	*83*		*19 - 130*
Terphenyl-d14	*93*		*33 - 138*

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	29.2		ug/L		97	41 - 120	3	56
Acenaphthylene			30.0	28.6		ug/L		95	44 - 120	2	56
Anthracene			30.0	27.0		ug/L		90	49 - 120	4	51
Benzo[a]anthracene			30.0	26.9		ug/L		90	61 - 135	2	49
Benzo[a]pyrene			30.0	29.4		ug/L		98	52 - 120	5	50
Benzo[b]fluoranthene			30.0	30.5		ug/L		102	53 - 134	3	54
Benzo[g,h,i]perylene			30.0	25.8		ug/L		86	47 - 133	8	50
Benzo[k]fluoranthene			30.0	29.5		ug/L		98	57 - 134	6	52
Chrysene			30.0	27.3		ug/L		91	55 - 122	2	50
Dibenz(a,h)anthracene			30.0	26.7		ug/L		89	48 - 146	15	50
Fluoranthene			30.0	29.1		ug/L		97	54 - 128	1	52
Fluorene			30.0	31.2		ug/L		104	45 - 125	5	56
Indeno[1,2,3-cd]pyrene			30.0	27.0		ug/L		90	43 - 142	14	51
1-Methylnaphthalene			30.0	23.9		ug/L		80	41 - 120	2	55
2-Methylnaphthalene			30.0	24.6		ug/L		82	32 - 124	4	57
Phenanthrene			30.0	25.8		ug/L		86	48 - 120	1	56
Pyrene			30.0	30.2		ug/L		101	48 - 132	12	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173138-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449437/3-A
Matrix: Water
Analysis Batch: 450489

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449437

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Nitrobenzene-d5	86		19 - 130
Terphenyl-d14	84		33 - 138

Shell Oil Products US Chain Of Custody Record

400-173138 COC

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER

Print Bill To Contact Name: James Carrino

PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

☐ CHECK

DATE

PAGE

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL

AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
- ☑ STANDARD (14 DAY)
- ☐ 5 DAYS
- ☐ 3 DAYS
- ☐ 2 DAYS
- ☐ 24 HOURS
- ☐ RESULTS NEEDED ON WEEKEND

- ☐ LA - RWQCB REPORT FORMAT
- ☐ UST AGENCY:

DELIVERABLES:
- ☐ LEVEL 1
- ☑ LEVEL 2
- ☐ LEVEL 3
- ☑ LEVEL 4
- ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
TB-PW-071219-B	7/12/2019	0:00	Water	2					2		x	
PD-11-GWP-66.7-071219	7/12/2019	8:45	Water	2			2		4	x	x	x
PD-12-GWP-45-071219	7/12/2019	10:15	Water	2			2		4	x	x	x
PD-12-GWP-50-071219	7/12/2019	11:10	Water	2			2		4	x	x	x
PD-12-GWP-55-071219	7/12/2019	13:10	Water	2			2		4	x	x	x
PD-12-GWP-60-071219	7/12/2019	14:25	Water	2			2		4	x	x	x

Relinquished by: (Signature) Paul LaFleur	Received by: (Signature) Fedex: 7429 5927 5061; 7429 5927 5072 custody seals: 1003190, 1003191, 1003192, 1003193	Date 7/12/2019	Time 18:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature) 2.5C, 3.0C IR8	Date 7/13/19	Time 9:09

Version: 10May17

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173138-1

Login Number: 173138
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C 3.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173138-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173192

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/1/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071519-B	PD-12-GWP-70-071519
PD-12-GWP-73-071519	PD-4-GWP-35-071519
PD-4-GWP-41-071519	PD-4-GWP-43-071519
PD-4-GWP-50-071519	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the compounds methylene chloride and bis(2-ethylhexyl) phthalate were detected in the method blanks. VOC and SVOC MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria. SVOC and PAH surrogate recoveries were outside evaluation criteria in several samples and the method blank. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-448667/28	VOCs	Methylene chloride	5.50 μg/L
MB 400-448615/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	8.53 μg/L

Qualifications due to blank contamination are included in the following table. Analytical

data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-12-GWP-70-071519	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-12-GWP-73-071519	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-4-GWP-35-071519	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**
PD-4-GWP-41-071519	SVOCs	bis(2-ethylhexyl) Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448875/1002	VOCs	Ethyl methacrylate	**133**/NA	NA	68-130
400-448875/1002	VOCs	1,1,1,2-Tetrachloroethane	**138/**NA	NA	67-131
400-448615/2-A/3-A	SVOCs	3,3'-Dichlorobenzidine	**144/138**	4	39-135/30
400-448615/2-A/3-A	SVOCs	Hexachloroethane	41/**40**	4	41-120/30
400-448615/4-A/5-A	SVOCs	Benzenethiol	43/**4**	**165**	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-12-GWP-70-071519	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-12-GWP-70-071519	SVOCs	Hexachloroethane	**UJ**
PD-12-GWP-70-071519	SVOCs	Benzenethiol	**UJ**
PD-12-GWP-73-071519	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-12-GWP-73-071519	SVOCs	Hexachloroethane	**UJ**
PD-12-GWP-73-071519	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-35-071519	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-4-GWP-35-071519	SVOCs	Hexachloroethane	**UJ**
PD-4-GWP-35-071519	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-41-071519	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-4-GWP-41-071519	SVOCs	Hexachloroethane	**UJ**
PD-4-GWP-41-071519	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-43-071519	SVOCs	3,3'-Dichlorobenzidine	**UJ**

Sample ID	Parameter	Analyte	Qualification
PD-4-GWP-43-071519	SVOCs	Hexachloroethane	**UJ**
PD-4-GWP-43-071519	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-50-071519	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-4-GWP-50-071519	SVOCs	Hexachloroethane	**UJ**
PD-4-GWP-50-071519	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-12-GWP-73-071519	PAHs	Terphenyl-d_{14}	**141**	33-138
PD-4-GWP-35-071519	SVOCs	Terphenyl-d_{14}	**37**	53-125
PD-4-GWP-41-071519	SVOCs	Terphenyl-d_{14}	**33**	53-125
PD-4-GWP-43-071519	SVOCs	Terphenyl-d_{14}	**28**	53-125
PD-4-GWP-50-071519	SVOCs	Terphenyl-d_{14}	**34**	53-125
MB 400-448615/1-A	PAHs	2-Fluorobiphenyl	**146**	15-122
MB 400-448615/1-A	PAHs	Terphenyl-d_{14}	**230**	33-138

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. Method blank MB 400-448615//1-A is a quality control sample and did not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173192-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/1/2019 4:54:46 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
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Reviewed on 8/1/2019

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Job ID: 400-173192-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173192-1

Comments
No additional comments.

Receipt
The samples were received on 7/16/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.9° C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448875 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-448875 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448875 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 2-Hexanone and Ethyl methacrylate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-4-GWP-41-071519 (400-173192-5) and PD-4-GWP-50-071519 (400-173192-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071519-B (400-173192-1), PD-12-GWP-70-071519 (400-173192-2), PD-12-GWP-73-071519 (400-173192-3), PD-4-GWP-35-071519 (400-173192-4), PD-4-GWP-41-071519 (400-173192-5) and PD-4-GWP-43-071519 (400-173192-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The method blank for analytical batch 400-448667 contained Methylene Chloride above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448615 and analytical batch 400-448802 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448802 recovered above the upper control limit for N-Nitrosodimethylamine, 4-Nitrophenol, 4-Chloro-3-methylphenol and Aniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448802 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448802 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-448615 and analytical batch 400-449209 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Job ID: 400-173192-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449209 recovered above the upper control limit for 3,3'-Dichlorobenzidine, 4,6-Dinitro-ortho-cresol, 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449209 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, 4-Chlorophenyl phenyl ether, 1,4-Dioxane and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS and LCSD associated with preparation batch 400-448615 and analytical batch 400-449209: Hexachloroethane and 3,3'-Dichlorobenzidine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-4-GWP-41-071519 (400-173192-5). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448615 and analytical batch 400-448802 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D LL: Surrogate recovery for the following sample was outside the upper control limit: (MB 400-448615/1-A). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-12-GWP-73-071519 (400-173192-3). These results have been reported and qualified.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-4-GWP-35-071519 (400-173192-4), PD-4-GWP-41-071519 (400-173192-5), PD-4-GWP-43-071519 (400-173192-6) and PD-4-GWP-50-071519 (400-173192-7). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene, Pyrene and Fluorene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173192-1	TB-PW-071519-B	Water	07/15/19 00:00	07/16/19 09:10	
400-173192-2	PD-12-GWP-70-071519	Water	07/15/19 09:10	07/16/19 09:10	
400-173192-3	PD-12-GWP-73-071519	Water	07/15/19 10:20	07/16/19 09:10	
400-173192-4	PD-4-GWP-35-071519	Water	07/15/19 11:40	07/16/19 09:10	
400-173192-5	PD-4-GWP-41-071519	Water	07/15/19 14:00	07/16/19 09:10	
400-173192-6	PD-4-GWP-43-071519	Water	07/15/19 14:50	07/16/19 09:10	
400-173192-7	PD-4-GWP-50-071519	Water	07/15/19 15:50	07/16/19 09:10	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B — Lab Sample ID: 400-173192-1

No Detections.

Client Sample ID: PD-12-GWP-70-071519 — Lab Sample ID: 400-173192-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.2		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	7.6		1.0	0.74	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.11	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.11	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~33~~	B U	9.8	4.9	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-73-071519 — Lab Sample ID: 400-173192-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.2		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	5.2		1.0	0.74	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.044	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.077	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~13~~	B U	9.8	4.9	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-35-071519 — Lab Sample ID: 400-173192-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.3		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	0.72	J	1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	6.2		1.0	0.74	ug/L	1		8260B	Total/NA
o-Xylene	0.62	J	5.0	0.60	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.0		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	0.72	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.0		1.0	0.82	ug/L	1		8260B	Total/NA
Xylenes, Total	2.0	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.37		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.53		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene - DL	0.13	J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene - DL	0.11	J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	~~10~~	B U	10	5.0	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-41-071519 — Lab Sample ID: 400-173192-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	510		200	100	ug/L	200		8260B	Total/NA
m-Xylene & p-Xylene	790	J	1000	320	ug/L	200		8260B	Total/NA
Naphthalene	220		200	200	ug/L	200		8260B	Total/NA
o-Xylene	300	J	1000	120	ug/L	200		8260B	Total/NA
Toluene	450		200	82	ug/L	200		8260B	Total/NA
Xylenes, Total	1100	J	2000	320	ug/L	200		8260B	Total/NA
Benzene - DL	67000		500	190	ug/L	500		8260B	Total/NA
1-Methylnaphthalene	24		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	9.1		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene - DL	0.24	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Fluoranthene - DL	0.13	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenanthrene - DL	1.2		0.98	0.098	ug/L	5		8270D LL	Total/NA
Pyrene - DL	0.24	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Fluorene - RADL	1.1		0.98	0.10	ug/L	5		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519 (Continued)

Lab Sample ID: 400-173192-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	13	B U	9.8	4.9	ug/L	1		8270D	Total/NA
Indene	4.9	J	9.8	0.98	ug/L	1		8270D	Total/NA
Phenol - DL	170		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-4-GWP-43-071519

Lab Sample ID: 400-173192-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	300		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	150		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	31		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	5.2		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	250		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	48		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	31		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	110		5.0	0.60	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	1.8		1.0	0.71	ug/L	1		8260B	Total/NA
sec-Butylbenzene	2.4		1.0	0.70	ug/L	1		8260B	Total/NA
Toluene	58		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	99		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	30		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	360		10	1.6	ug/L	1		8260B	Total/NA
Fluorene	0.77		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	21		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	20		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene - DL	1.2		1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene - DL	0.18	J	1.0	0.10	ug/L	5		8270D LL	Total/NA

Client Sample ID: PD-4-GWP-50-071519

Lab Sample ID: 400-173192-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2300		10	3.8	ug/L	10		8260B	Total/NA
Ethylbenzene	29		10	5.0	ug/L	10		8260B	Total/NA
Isopropylbenzene	40		10	5.3	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	93		50	16	ug/L	10		8260B	Total/NA
Naphthalene	17		10	10	ug/L	10		8260B	Total/NA
n-Butylbenzene	15		10	7.6	ug/L	10		8260B	Total/NA
N-Propylbenzene	69		10	6.9	ug/L	10		8260B	Total/NA
o-Xylene	26	J	50	6.0	ug/L	10		8260B	Total/NA
sec-Butylbenzene	10		10	7.0	ug/L	10		8260B	Total/NA
Toluene	18		10	4.1	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	17		10	8.2	ug/L	10		8260B	Total/NA
1,3,5-Trimethylbenzene	10		10	5.6	ug/L	10		8260B	Total/NA
Xylenes, Total	120		100	16	ug/L	10		8260B	Total/NA
Fluorene - DL	0.20	J	0.97	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene - DL	34		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	23		0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene - DL	0.24	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenol	18		9.7	2.5	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B

Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 22:59	1
Acrolein	ND		20	10	ug/L			07/19/19 22:59	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 22:59	1
Benzene	ND		1.0	0.38	ug/L			07/19/19 22:59	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 22:59	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 22:59	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 22:59	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 22:59	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 22:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 22:59	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 22:59	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 22:59	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 22:59	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 22:59	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 22:59	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 22:59	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 22:59	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 22:59	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 22:59	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 22:59	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 22:59	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 22:59	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 22:59	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 22:59	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 22:59	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 22:59	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/19/19 22:59	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 22:59	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 22:59	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 22:59	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 22:59	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 22:59	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 22:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B

Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 22:59	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 22:59	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 22:59	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 22:59	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 22:59	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 22:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 22:59	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 22:59	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 22:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 22:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 22:59	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 22:59	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 22:59	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 22:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 22:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 22:59	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 22:59	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 22:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 22:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 22:59*	*1*
Dibromofluoromethane	*90*		*81 - 121*		*07/19/19 22:59*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 22:59*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-70-071519

Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 23:24	1
Acrolein	ND		20	10	ug/L			07/19/19 23:24	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 23:24	1
Benzene	**5.2**		1.0	0.38	ug/L			07/19/19 23:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 23:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 23:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 23:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 23:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 23:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 23:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 23:24	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 23:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 23:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 23:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 23:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 23:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 23:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 23:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 23:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 23:24	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 23:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 23:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 23:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 23:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 23:24	1
Methyl tert-butyl ether	**7.6**		1.0	0.74	ug/L			07/19/19 23:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 23:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 23:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 23:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 23:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 23:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 23:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-70-071519

Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 23:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 23:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 23:24	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 23:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 23:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 23:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 23:24	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 23:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 23:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 23:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 23:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 23:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 23:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 23:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 23:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 23:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 23:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*73*	*J*	*ug/L*		*2.43*	*67-63-0*		*07/19/19 23:24*	*1*
2-Methyl-2-propanol	*170*		*ug/L*		*2.67*	*75-65-0*		*07/19/19 23:24*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 23:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/19/19 23:24*	*1*
Dibromofluoromethane	*88*		*81 - 121*		*07/19/19 23:24*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 23:24*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Anthracene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Chrysene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Fluoranthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Fluorene	ND		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 17:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
1-Methylnaphthalene	**0.11**	**J**	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-70-071519

Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.11	J	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Phenanthrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Pyrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*15 - 122*	*07/18/19 16:34*	*07/23/19 17:16*	*1*
Nitrobenzene-d5	*78*		*19 - 130*	*07/18/19 16:34*	*07/23/19 17:16*	*1*
Terphenyl-d14	*108*		*33 - 138*	*07/18/19 16:34*	*07/23/19 17:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 16:42	1
Benzenethiol	ND *	UJ	9.8	1.7	ug/L		07/18/19 16:34	07/20/19 16:42	1
Benzoic acid	ND		29	7.2	ug/L		07/18/19 16:34	07/20/19 16:42	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 16:42	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/18/19 16:34	07/20/19 16:42	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/18/19 16:34	07/20/19 16:42	1
Bis(2-ethylhexyl) phthalate	~~33~~	B U	9.8	4.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/18/19 16:34	07/20/19 16:42	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 16:42	1
3,3'-Dichlorobenzidine	ND *	UJ	9.8	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 16:42	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/18/19 16:34	07/20/19 16:42	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/18/19 16:34	07/20/19 16:42	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 16:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 16:42	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/18/19 16:34	07/20/19 16:42	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
Hexachloroethane	ND *	UJ	9.8	4.1	ug/L		07/18/19 16:34	07/20/19 16:42	1
Indene	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 16:42	1
Isophorone	ND		9.8	0.56	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 16:42	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 16:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-70-071519
Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/18/19 16:34	07/20/19 16:42	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 16:42	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 16:42	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/18/19 16:34	07/20/19 16:42	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/18/19 16:34	07/20/19 16:42	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 16:42	1
Phenol	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
Pyridine	ND		9.8	3.1	ug/L		07/18/19 16:34	07/20/19 16:42	1
Quinoline	ND		9.8	5.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 16:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*9.8*	*T J N*	*ug/L*		*4.01*	*590-90-9*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Thiophene, tetrahydro-, 1,1-dioxide	*5.9*	*T J N*	*ug/L*		*6.44*	*126-33-0*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
n-Hexadecanoic acid	*13*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/18/19 16:34*	*07/20/19 16:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*34 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Nitrobenzene-d5	*79*		*27 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Phenol-d5	*58*		*10 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
2,4,6-Tribromophenol	*76*		*15 - 135*	*07/18/19 16:34*	*07/20/19 16:42*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-73-071519

Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 23:48	1
Acrolein	ND		20	10	ug/L			07/19/19 23:48	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 23:48	1
Benzene	**1.2**		1.0	0.38	ug/L			07/19/19 23:48	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 23:48	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 23:48	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 23:48	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 23:48	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 23:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 23:48	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 23:48	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 23:48	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 23:48	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 23:48	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:48	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 23:48	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 23:48	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 23:48	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 23:48	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 23:48	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 23:48	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 23:48	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 23:48	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 23:48	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 23:48	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 23:48	1
Methyl tert-butyl ether	**5.2**		1.0	0.74	ug/L			07/19/19 23:48	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 23:48	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 23:48	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 23:48	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 23:48	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 23:48	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 23:48	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-73-071519

Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 23:48	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 23:48	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 23:48	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 23:48	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 23:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 23:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 23:48	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 23:48	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 23:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 23:48	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 23:48	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 23:48	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 23:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 23:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 23:48	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 23:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 23:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*110*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/19/19 23:48*	*1*
2-Methyl-2-propanol	*74*		*ug/L*		*2.67*	*75-65-0*		*07/19/19 23:48*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 23:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 23:48*	*1*
Dibromofluoromethane	*88*		*81 - 121*		*07/19/19 23:48*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/19/19 23:48*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Anthracene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Chrysene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Fluoranthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Fluorene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
1-Methylnaphthalene	**0.044**	**J**	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-73-071519

Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.077	J	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Phenanthrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Pyrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*115*		*15 - 122*	*07/18/19 16:34*	*07/23/19 17:34*	*1*
Nitrobenzene-d5	*92*		*19 - 130*	*07/18/19 16:34*	*07/23/19 17:34*	*1*
Terphenyl-d14	*141*	*X*	*33 - 138*	*07/18/19 16:34*	*07/23/19 17:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:03	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/18/19 16:34	07/20/19 17:03	1
Benzoic acid	ND		29	7.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:03	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/18/19 16:34	07/20/19 17:03	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/18/19 16:34	07/20/19 17:03	1
Bis(2-ethylhexyl) phthalate	~~13~~	B U	9.8	4.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/18/19 16:34	07/20/19 17:03	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:03	1
3,3'-Dichlorobenzidine	ND	* UJ	9.8	2.5	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:03	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/18/19 16:34	07/20/19 17:03	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 17:03	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/18/19 16:34	07/20/19 17:03	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:03	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/18/19 16:34	07/20/19 17:03	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/18/19 16:34	07/20/19 17:03	1
Hexachloroethane	ND	* UJ	9.8	4.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
Indene	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:03	1
Isophorone	ND		9.8	0.56	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:03	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 17:03	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-73-071519
Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/18/19 16:34	07/20/19 17:03	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Nitrophenol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:03	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/18/19 16:34	07/20/19 17:03	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/18/19 16:34	07/20/19 17:03	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 17:03	1
Phenol	ND		9.8	2.5	ug/L		07/18/19 16:34	07/20/19 17:03	1
Pyridine	ND		9.8	3.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
Quinoline	ND		9.8	5.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/18/19 16:34*	*07/20/19 17:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*34 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
Nitrobenzene-d5	*72*		*27 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
Phenol-d5	*45*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
Terphenyl-d14	*53*		*53 - 125*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
2,4,6-Tribromophenol	*50*		*15 - 135*	*07/18/19 16:34*	*07/20/19 17:03*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Date Collected: 07/15/19 11:40
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/20/19 00:12	1
Acrolein	ND		20	10	ug/L			07/20/19 00:12	1
Acrylonitrile	ND		10	2.8	ug/L			07/20/19 00:12	1
Benzene	**6.3**		1.0	0.38	ug/L			07/20/19 00:12	1
Bromobenzene	ND		1.0	0.54	ug/L			07/20/19 00:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/20/19 00:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Bromoform	ND		5.0	0.71	ug/L			07/20/19 00:12	1
Bromomethane	ND		1.0	0.98	ug/L			07/20/19 00:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/20/19 00:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Chloroethane	ND		1.0	0.76	ug/L			07/20/19 00:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/20/19 00:12	1
Chloroform	ND		1.0	0.60	ug/L			07/20/19 00:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/20/19 00:12	1
Chloromethane	ND		1.0	0.83	ug/L			07/20/19 00:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/20/19 00:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/20/19 00:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/20/19 00:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/20/19 00:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/20/19 00:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Ethylbenzene	**0.72**	**J**	1.0	0.50	ug/L			07/20/19 00:12	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/20/19 00:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/20/19 00:12	1
2-Hexanone	ND		25	3.1	ug/L			07/20/19 00:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/20/19 00:12	1
Methylene bromide	ND		5.0	0.59	ug/L			07/20/19 00:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/20/19 00:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/20/19 00:12	1
Methyl tert-butyl ether	**6.2**		1.0	0.74	ug/L			07/20/19 00:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/20/19 00:12	1
Naphthalene	ND		1.0	1.0	ug/L			07/20/19 00:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/20/19 00:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/20/19 00:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/20/19 00:12	1
o-Xylene	**0.62**	**J**	5.0	0.60	ug/L			07/20/19 00:12	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Date Collected: 07/15/19 11:40
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/20/19 00:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/20/19 00:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/20/19 00:12	1
Styrene	ND		1.0	1.0	ug/L			07/20/19 00:12	1
tert-Butylbenzene	**1.0**		1.0	0.63	ug/L			07/20/19 00:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/20/19 00:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/20/19 00:12	1
Toluene	**0.72**	**J**	1.0	0.41	ug/L			07/20/19 00:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/20/19 00:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/20/19 00:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/20/19 00:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/20/19 00:12	1
Trichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/20/19 00:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/20/19 00:12	1
1,2,4-Trimethylbenzene	**1.0**		1.0	0.82	ug/L			07/20/19 00:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/20/19 00:12	1
Vinyl acetate	ND		25	2.0	ug/L			07/20/19 00:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Xylenes, Total	**2.0**	**J**	10	1.6	ug/L			07/20/19 00:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*18*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/20/19 00:12*	*1*
2-Methyl-2-propanol	*750*		*ug/L*		*2.67*	*75-65-0*		*07/20/19 00:12*	*1*
2-Butene, 2,3-dimethyl-	*7.6*	*T J N*	*ug/L*		*3.33*	*563-79-1*		*07/20/19 00:12*	*1*
Cyclohexane	*0.71*	*J*	*ug/L*		*3.72*	*110-82-7*		*07/20/19 00:12*	*1*
Cyclopentane, 1,1-dimethyl-	*5.1*	*T J N*	*ug/L*		*3.83*	*1638-26-2*		*07/20/19 00:12*	*1*
t-Amyl alcohol	*88*		*ug/L*		*3.89*	*75-85-4*		*07/20/19 00:12*	*1*
Isooctane	*2.0*	*J*	*ug/L*		*3.94*	*540-84-1*		*07/20/19 00:12*	*1*
Indane	*28*	*T J N*	*ug/L*		*8.06*	*496-11-7*		*07/20/19 00:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/20/19 00:12*	*1*
Dibromofluoromethane	*88*		*81 - 121*		*07/20/19 00:12*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/20/19 00:12*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Fluorene	ND		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 17:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Date Collected: 07/15/19 11:40
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-4
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.37		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1
2-Methylnaphthalene	0.53		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*15 - 122*	*07/18/19 16:34*	*07/23/19 17:51*	*1*
Nitrobenzene-d5	*82*		*19 - 130*	*07/18/19 16:34*	*07/23/19 17:51*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	0.13	J	1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5
Benzo[a]anthracene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:00	5
Chrysene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:00	5
Fluoranthene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5
Phenanthrene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5
Pyrene	0.11	J	1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*66*		*33 - 138*	*07/18/19 16:34*	*07/29/19 19:00*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/18/19 16:34	07/20/19 17:24	1
Benzoic acid	ND		30	7.4	ug/L		07/18/19 16:34	07/20/19 17:24	1
Benzyl alcohol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 17:24	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/18/19 16:34	07/20/19 17:24	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/18/19 16:34	07/20/19 17:24	1
Bis(2-ethylhexyl) phthalate	~~10~~ B	U	10	5.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/18/19 16:34	07/20/19 17:24	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Chloroaniline	ND		10	3.4	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Chlorophenol	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Dibenzofuran	ND		10	0.53	ug/L		07/18/19 16:34	07/20/19 17:24	1
3,3'-Dichlorobenzidine	ND	* UJ	10	2.6	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Diethyl phthalate	ND		10	0.71	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 17:24	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/18/19 16:34	07/20/19 17:24	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/18/19 16:34	07/20/19 17:24	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 17:24	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/18/19 16:34	07/20/19 17:24	1
1,4-Dioxane	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 17:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Date Collected: 07/15/19 11:40
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/18/19 16:34	07/20/19 17:24	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/20/19 17:24	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
Indene	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Isophorone	ND		10	0.58	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Methylphenol	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Nitroaniline	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
3-Nitroaniline	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Nitroaniline	ND		10	2.5	ug/L		07/18/19 16:34	07/20/19 17:24	1
Nitrobenzene	ND		10	0.56	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Nitrophenol	ND		10	0.66	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Nitrophenol	ND		10	2.1	ug/L		07/18/19 16:34	07/20/19 17:24	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 17:24	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/18/19 16:34	07/20/19 17:24	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/18/19 16:34	07/20/19 17:24	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
Phenol	ND		10	2.6	ug/L		07/18/19 16:34	07/20/19 17:24	1
Pyridine	ND		10	3.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
Quinoline	ND		10	6.1	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 17:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*4.02*	*590-90-9*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Cyclopentanol, 1-methyl-	*4.5*	*T J N*	*ug/L*		*4.10*	*1462-03-9*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
1,3-Dimethylcyclopentanol	*5.7*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
1-Methylcyclohexanol	*5.1*	*T J N*	*ug/L*		*4.90*	*590-67-0*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Indane	*24*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
7-Methylindan-1-one	*12*	*T J N*	*ug/L*		*7.22*	*39627-61-7*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
n-Hexadecanoic acid	*12*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/18/19 16:34*	*07/20/19 17:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*34 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Nitrobenzene-d5	*73*		*27 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Phenol-d5	*55*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Terphenyl-d14	*37*	*X*	*53 - 125*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
2,4,6-Tribromophenol	*75*		*15 - 135*	*07/18/19 16:34*	*07/20/19 17:24*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5000	2000	ug/L			07/21/19 21:27	200
Acrolein	ND		4000	2000	ug/L			07/21/19 21:27	200
Acrylonitrile	ND		2000	560	ug/L			07/21/19 21:27	200
Bromobenzene	ND		200	110	ug/L			07/21/19 21:27	200
Bromochloromethane	ND		200	100	ug/L			07/21/19 21:27	200
Bromodichloromethane	ND		200	100	ug/L			07/21/19 21:27	200
Bromoform	ND		1000	140	ug/L			07/21/19 21:27	200
Bromomethane	ND		200	200	ug/L			07/21/19 21:27	200
2-Butanone (MEK)	ND		5000	520	ug/L			07/21/19 21:27	200
Carbon disulfide	ND		200	100	ug/L			07/21/19 21:27	200
Carbon tetrachloride	ND		200	100	ug/L			07/21/19 21:27	200
Chlorobenzene	ND		200	100	ug/L			07/21/19 21:27	200
Chloroethane	ND		200	150	ug/L			07/21/19 21:27	200
2-Chloroethyl vinyl ether	ND		1000	400	ug/L			07/21/19 21:27	200
Chloroform	ND		200	120	ug/L			07/21/19 21:27	200
1-Chlorohexane	ND		200	140	ug/L			07/21/19 21:27	200
Chloromethane	ND		200	170	ug/L			07/21/19 21:27	200
cis-1,2-Dichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
cis-1,3-Dichloropropene	ND		1000	100	ug/L			07/21/19 21:27	200
Dibromochloromethane	ND		200	100	ug/L			07/21/19 21:27	200
1,2-Dibromo-3-Chloropropane	ND		1000	300	ug/L			07/21/19 21:27	200
1,2-Dichlorobenzene	ND		200	100	ug/L			07/21/19 21:27	200
1,3-Dichlorobenzene	ND		200	110	ug/L			07/21/19 21:27	200
1,4-Dichlorobenzene	ND		200	130	ug/L			07/21/19 21:27	200
Dichlorodifluoromethane	ND		200	170	ug/L			07/21/19 21:27	200
1,1-Dichloroethane	ND		200	100	ug/L			07/21/19 21:27	200
1,2-Dichloroethane	ND		200	100	ug/L			07/21/19 21:27	200
1,1-Dichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
1,2-Dichloropropane	ND		200	100	ug/L			07/21/19 21:27	200
1,3-Dichloropropane	ND		200	100	ug/L			07/21/19 21:27	200
2,2-Dichloropropane	ND		200	100	ug/L			07/21/19 21:27	200
1,1-Dichloropropene	ND		200	100	ug/L			07/21/19 21:27	200
Ethylbenzene	**510**		200	100	ug/L			07/21/19 21:27	200
Ethylene Dibromide	ND		200	100	ug/L			07/21/19 21:27	200
Ethyl methacrylate	ND	*	200	120	ug/L			07/21/19 21:27	200
Hexachlorobutadiene	ND		1000	180	ug/L			07/21/19 21:27	200
2-Hexanone	ND	*	5000	620	ug/L			07/21/19 21:27	200
Isopropylbenzene	ND		200	110	ug/L			07/21/19 21:27	200
Methylene bromide	ND		1000	120	ug/L			07/21/19 21:27	200
Methylene Chloride	ND		1000	600	ug/L			07/21/19 21:27	200
4-Methyl-2-pentanone (MIBK)	ND		5000	360	ug/L			07/21/19 21:27	200
Methyl tert-butyl ether	ND		200	150	ug/L			07/21/19 21:27	200
m-Xylene & p-Xylene	**790**	**J**	1000	320	ug/L			07/21/19 21:27	200
Naphthalene	**220**		200	200	ug/L			07/21/19 21:27	200
n-Butylbenzene	ND		200	150	ug/L			07/21/19 21:27	200
N-Propylbenzene	ND		200	140	ug/L			07/21/19 21:27	200
o-Chlorotoluene	ND		200	110	ug/L			07/21/19 21:27	200
o-Xylene	**300**	**J**	1000	120	ug/L			07/21/19 21:27	200
p-Chlorotoluene	ND		200	110	ug/L			07/21/19 21:27	200

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		200	140	ug/L			07/21/19 21:27	200
sec-Butylbenzene	ND		200	140	ug/L			07/21/19 21:27	200
Styrene	ND		200	200	ug/L			07/21/19 21:27	200
tert-Butylbenzene	ND		200	130	ug/L			07/21/19 21:27	200
1,1,1,2-Tetrachloroethane	ND	*	200	100	ug/L			07/21/19 21:27	200
1,1,2,2-Tetrachloroethane	ND		200	100	ug/L			07/21/19 21:27	200
Tetrachloroethene	ND		200	120	ug/L			07/21/19 21:27	200
Toluene	**450**		200	82	ug/L			07/21/19 21:27	200
trans-1,2-Dichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
trans-1,3-Dichloropropene	ND		1000	100	ug/L			07/21/19 21:27	200
1,2,3-Trichlorobenzene	ND		200	140	ug/L			07/21/19 21:27	200
1,2,4-Trichlorobenzene	ND		200	160	ug/L			07/21/19 21:27	200
1,1,1-Trichloroethane	ND		200	100	ug/L			07/21/19 21:27	200
1,1,2-Trichloroethane	ND		1000	100	ug/L			07/21/19 21:27	200
Trichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
Trichlorofluoromethane	ND		200	100	ug/L			07/21/19 21:27	200
1,2,3-Trichloropropane	ND		1000	170	ug/L			07/21/19 21:27	200
1,2,4-Trimethylbenzene	ND		200	160	ug/L			07/21/19 21:27	200
1,3,5-Trimethylbenzene	ND		200	110	ug/L			07/21/19 21:27	200
Vinyl acetate	ND		5000	400	ug/L			07/21/19 21:27	200
Vinyl chloride	ND		200	100	ug/L			07/21/19 21:27	200
Xylenes, Total	**1100**	**J**	2000	320	ug/L			07/21/19 21:27	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane	*170*	*J*	*ug/L*		*4.55*	*110-82-7*		*07/21/19 21:27*	*200*
Tentatively Identified Compound	*None*		*ug/L*					*07/21/19 21:27*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/21/19 21:27*	*200*
Dibromofluoromethane	*94*		*81 - 121*		*07/21/19 21:27*	*200*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/21/19 21:27*	*200*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**67000**		500	190	ug/L			07/22/19 15:20	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 15:20*	*500*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 15:20*	*500*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 15:20*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
1-Methylnaphthalene	**24**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:10	1
2-Methylnaphthalene	**9.1**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	70		19 - 130	07/18/19 16:34	07/23/19 18:10	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Acenaphthylene	ND		0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Anthracene	**0.24**	**J**	0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/18/19 16:34	07/29/19 19:17	5
Chrysene	ND		0.98	0.20	ug/L		07/18/19 16:34	07/29/19 19:17	5
Fluoranthene	**0.13**	**J**	0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Phenanthrene	**1.2**		0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Pyrene	**0.24**	**J**	0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		15 - 122	07/18/19 16:34	07/29/19 19:17	5
Terphenyl-d14	63		33 - 138	07/18/19 16:34	07/29/19 19:17	5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RADL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**1.1**		0.98	0.10	ug/L		07/18/19 16:34	07/30/19 23:56	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:45	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/18/19 16:34	07/20/19 17:45	1
Benzoic acid	ND		29	7.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:45	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/18/19 16:34	07/20/19 17:45	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/18/19 16:34	07/20/19 17:45	1
Bis(2-ethylhexyl) phthalate	~~13~~	**B** U	9.8	4.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/18/19 16:34	07/20/19 17:45	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:45	1
3,3'-Dichlorobenzidine	ND	* UJ	9.8	2.5	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:45	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/18/19 16:34	07/20/19 17:45	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 17:45	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/18/19 16:34	07/20/19 17:45	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:45	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/18/19 16:34	07/20/19 17:45	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/18/19 16:34	07/20/19 17:45	1
Hexachloroethane	ND	*	9.8	4.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
Indene	**4.9**	**J**	9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:45	1
Isophorone	ND		9.8	0.56	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:45	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 17:45	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/18/19 16:34	07/20/19 17:45	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:45	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/18/19 16:34	07/20/19 17:45	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/18/19 16:34	07/20/19 17:45	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 17:45	1
Pyridine	ND		9.8	3.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
Quinoline	ND		9.8	5.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*98*	*T J N*	*ug/L*		*3.88*	*108-88-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.02*	*590-90-9*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Ethylbenzene	*180*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
p-Xylene	*120*	*T J N*	*ug/L*		*4.87*	*106-42-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, (1-methylethyl)-	*17*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, propyl-	*19*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*18*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*21*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*22*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,3,5-trimethyl-	*68*	*T J N*	*ug/L*		*5.47*	*108-67-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,2,3-trimethyl-	*21*	*T J N*	*ug/L*		*5.62*	*526-73-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Indane	*130*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,4-diethyl-	*15*	*T J N*	*ug/L*		*5.77*	*105-05-5*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*27*	*T J N*	*ug/L*		*5.91*	*535-77-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,2,4,5-tetramethyl-	*18*	*T J N*	*ug/L*		*6.06*	*95-93-2*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethenyl-4-ethyl-	*14*	*T J N*	*ug/L*		*6.19*	*3454-07-7*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*29*	*T J N*	*ug/L*		*6.24*	*934-80-5*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene	*50*	*T J N*	*ug/L*		*6.43*	*91-20-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzo[b]thiophene, 2,3-dihydro-	*11*	*T J N*	*ug/L*		*6.72*	*4565-32-6*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 1-methyl-	*24*	*T J N*	*ug/L*		*6.95*	*90-12-0*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Unknown	*11*	*T J*	*ug/L*		*7.02*		*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 2,6-dimethyl-	*14*	*T J N*	*ug/L*		*7.30*	*581-42-0*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 2,3-dimethyl-	*18*	*T J N*	*ug/L*		*7.35*	*581-40-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 1,6-dimethyl-	*11*	*T J N*	*ug/L*		*7.37*	*575-43-9*	*07/18/19 16:34*	*07/20/19 17:45*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
n-Hexadecanoic acid	13	T J N	ug/L		9.08	57-10-3	07/18/19 16:34	07/20/19 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	07/18/19 16:34	07/20/19 17:45	1
2-Fluorophenol	26		10 - 120	07/18/19 16:34	07/20/19 17:45	1
Nitrobenzene-d5	63		27 - 120	07/18/19 16:34	07/20/19 17:45	1
Phenol-d5	45		10 - 120	07/18/19 16:34	07/20/19 17:45	1
Terphenyl-d14	33	X	53 - 125	07/18/19 16:34	07/20/19 17:45	1
2,4,6-Tribromophenol	76		15 - 135	07/18/19 16:34	07/20/19 17:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	170		49	13	ug/L		07/18/19 16:34	07/24/19 02:58	5

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Toluene	160	T J N	ug/L		3.67	108-88-3	07/18/19 16:34	07/24/19 02:58	5
Ethylbenzene	400	T J N	ug/L		4.47	100-41-4	07/18/19 16:34	07/24/19 02:58	5
o-Xylene	220	T J N	ug/L		4.70	95-47-6	07/18/19 16:34	07/24/19 02:58	5
Benzene, (1-methylethyl)-	20	T J N	ug/L		4.89	98-82-8	07/18/19 16:34	07/24/19 02:58	5
Benzene, propyl-	23	T J N	ug/L		5.08	103-65-1	07/18/19 16:34	07/24/19 02:58	5
Benzene, 1-ethyl-2-methyl-	20	T J N	ug/L		5.11	611-14-3	07/18/19 16:34	07/24/19 02:58	5
Benzene, 1-ethyl-2-methyl-	25	T J N	ug/L		5.13	611-14-3	07/18/19 16:34	07/24/19 02:58	5
Benzene, 1-ethyl-2-methyl-	23	T J N	ug/L		5.22	611-14-3	07/18/19 16:34	07/24/19 02:58	5
Benzene, 1,2,4-trimethyl-	87	T J N	ug/L		5.31	95-63-6	07/18/19 16:34	07/24/19 02:58	5
Benzene, 1-ethyl-3-methyl-	29	T J N	ug/L		5.46	620-14-4	07/18/19 16:34	07/24/19 02:58	5
Indane	230	T J N	ug/L		5.55	496-11-7	07/18/19 16:34	07/24/19 02:58	5
Benzene, 1-ethyl-2,3-dimethyl-	44	T J N	ug/L		5.75	933-98-2	07/18/19 16:34	07/24/19 02:58	5
Benzene, 4-ethyl-1,2-dimethyl-	32	T J N	ug/L		6.08	934-80-5	07/18/19 16:34	07/24/19 02:58	5
Naphthalene, 2-methyl-	20	T J N	ug/L		6.78	91-57-6	07/18/19 16:34	07/24/19 02:58	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519

Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/21/19 18:21	1
Acrolein	ND		20	10	ug/L			07/21/19 18:21	1
Acrylonitrile	ND		10	2.8	ug/L			07/21/19 18:21	1
Benzene	**300**		1.0	0.38	ug/L			07/21/19 18:21	1
Bromobenzene	ND		1.0	0.54	ug/L			07/21/19 18:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/21/19 18:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Bromoform	ND		5.0	0.71	ug/L			07/21/19 18:21	1
Bromomethane	ND		1.0	0.98	ug/L			07/21/19 18:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/21/19 18:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Chloroethane	ND		1.0	0.76	ug/L			07/21/19 18:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/21/19 18:21	1
Chloroform	ND		1.0	0.60	ug/L			07/21/19 18:21	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/21/19 18:21	1
Chloromethane	ND		1.0	0.83	ug/L			07/21/19 18:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 18:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/21/19 18:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/21/19 18:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/21/19 18:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/21/19 18:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Ethylbenzene	**150**		1.0	0.50	ug/L			07/21/19 18:21	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Ethyl methacrylate	ND	*	1.0	0.60	ug/L			07/21/19 18:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/21/19 18:21	1
2-Hexanone	ND	*	25	3.1	ug/L			07/21/19 18:21	1
Isopropylbenzene	**31**		1.0	0.53	ug/L			07/21/19 18:21	1
Methylene bromide	ND		5.0	0.59	ug/L			07/21/19 18:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/21/19 18:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/21/19 18:21	1
Methyl tert-butyl ether	**5.2**		1.0	0.74	ug/L			07/21/19 18:21	1
m-Xylene & p-Xylene	**250**		5.0	1.6	ug/L			07/21/19 18:21	1
Naphthalene	**48**		1.0	1.0	ug/L			07/21/19 18:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/21/19 18:21	1
N-Propylbenzene	**31**		1.0	0.69	ug/L			07/21/19 18:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/21/19 18:21	1
o-Xylene	**110**		5.0	0.60	ug/L			07/21/19 18:21	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519

Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/21/19 18:21	1
p-Isopropyltoluene	**1.8**		1.0	0.71	ug/L			07/21/19 18:21	1
sec-Butylbenzene	**2.4**		1.0	0.70	ug/L			07/21/19 18:21	1
Styrene	ND		1.0	1.0	ug/L			07/21/19 18:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/21/19 18:21	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/21/19 18:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/21/19 18:21	1
Toluene	**58**		1.0	0.41	ug/L			07/21/19 18:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 18:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/21/19 18:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/21/19 18:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/21/19 18:21	1
Trichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/21/19 18:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/21/19 18:21	1
1,2,4-Trimethylbenzene	**99**		1.0	0.82	ug/L			07/21/19 18:21	1
1,3,5-Trimethylbenzene	**30**		1.0	0.56	ug/L			07/21/19 18:21	1
Vinyl acetate	ND		25	2.0	ug/L			07/21/19 18:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Xylenes, Total	**360**		10	1.6	ug/L			07/21/19 18:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*53*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/21/19 18:21*	*1*
Ethanol	*57*	*J*	*ug/L*		*2.77*	*64-17-5*		*07/21/19 18:21*	*1*
Cyclopropane, 1,2-dimethyl-, cis-	*21*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/21/19 18:21*	*1*
Isopropyl alcohol	*190*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/21/19 18:21*	*1*
2-Methyl-2-propanol	*410*		*ug/L*		*3.39*	*75-65-0*		*07/21/19 18:21*	*1*
Hexane	*170*		*ug/L*		*3.70*	*110-54-3*		*07/21/19 18:21*	*1*
2-Pentene, 4-methyl-, (Z)-	*10*	*T J N*	*ug/L*		*3.83*	*691-38-3*		*07/21/19 18:21*	*1*
2-Pentene, 3-methyl-, (Z)-	*11*	*T J N*	*ug/L*		*3.99*	*922-62-3*		*07/21/19 18:21*	*1*
Cyclopentane, methyl-	*53*	*T J N*	*ug/L*		*4.12*	*96-37-7*		*07/21/19 18:21*	*1*
Cyclohexane	*630*	*E*	*ug/L*		*4.54*	*110-82-7*		*07/21/19 18:21*	*1*
t-Amyl alcohol	*100*		*ug/L*		*4.66*	*75-85-4*		*07/21/19 18:21*	*1*
Isooctane	*91*		*ug/L*		*4.76*	*540-84-1*		*07/21/19 18:21*	*1*
n-Heptane	*77*		*ug/L*		*4.85*	*142-82-5*		*07/21/19 18:21*	*1*
Methylcyclohexane	*280*		*ug/L*		*5.27*	*108-87-2*		*07/21/19 18:21*	*1*
Cyclobutane, (1-methylethylidene)-	*17*	*T J N*	*ug/L*		*5.60*	*1528-22-9*		*07/21/19 18:21*	*1*
Cyclohexane, 1,3-dimethyl-, trans-	*21*	*T J N*	*ug/L*		*6.17*	*2207-03-6*		*07/21/19 18:21*	*1*
3-Ethyltoluene	*65*		*ug/L*		*8.07*	*620-14-4*		*07/21/19 18:21*	*1*
2-Ethyltoluene	*50*		*ug/L*		*8.30*	*611-14-3*		*07/21/19 18:21*	*1*
1,2,3-Trimethylbenzene	*56*		*ug/L*		*8.77*	*526-73-8*		*07/21/19 18:21*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*18*	*T J N*	*ug/L*		*9.29*	*934-80-5*		*07/21/19 18:21*	*1*
1-Phenyl-1-butene	*26*	*T J N*	*ug/L*		*9.42*	*824-90-8*		*07/21/19 18:21*	*1*
Indan, 1-methyl-	*14*	*T J N*	*ug/L*		*9.98*	*767-58-8*		*07/21/19 18:21*	*1*
2-Methylnaphthalene	*20*		*ug/L*		*11.72*	*91-57-6*		*07/21/19 18:21*	*1*
1-Methylnaphthalene	*19*		*ug/L*		*11.91*	*90-12-0*		*07/21/19 18:21*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519

Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/21/19 18:21	1
Dibromofluoromethane	95		81 - 121		07/21/19 18:21	1
Toluene-d8 (Surr)	109		80 - 120		07/21/19 18:21	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Fluorene	**0.77**		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 18:29	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
1-Methylnaphthalene	**21**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1
2-Methylnaphthalene	**20**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		15 - 122	07/18/19 16:34	07/23/19 18:29	1
Nitrobenzene-d5	67		19 - 130	07/18/19 16:34	07/23/19 18:29	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5
Benzo[a]anthracene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:33	5
Chrysene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:33	5
Fluoranthene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5
Phenanthrene	**1.2**		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5
Pyrene	**0.18**	**J**	1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	57		33 - 138	07/18/19 16:34	07/29/19 19:33	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/18/19 16:34	07/20/19 18:07	1
Benzoic acid	ND		30	7.4	ug/L		07/18/19 16:34	07/20/19 18:07	1
Benzyl alcohol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 18:07	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/18/19 16:34	07/20/19 18:07	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/18/19 16:34	07/20/19 18:07	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/18/19 16:34	07/20/19 18:07	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Chloroaniline	ND		10	3.4	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Chlorophenol	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 18:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519
Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Dibenzofuran	ND		10	0.52	ug/L		07/18/19 16:34	07/20/19 18:07	1
3,3'-Dichlorobenzidine	ND	* UJ	10	2.6	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Diethyl phthalate	ND		10	0.71	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 18:07	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/18/19 16:34	07/20/19 18:07	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/18/19 16:34	07/20/19 18:07	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 18:07	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/18/19 16:34	07/20/19 18:07	1
1,4-Dioxane	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/18/19 16:34	07/20/19 18:07	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/20/19 18:07	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
Indene	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Isophorone	ND		10	0.57	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Methylphenol	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Nitroaniline	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
3-Nitroaniline	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Nitroaniline	ND		10	2.5	ug/L		07/18/19 16:34	07/20/19 18:07	1
Nitrobenzene	ND		10	0.55	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Nitrophenol	ND		10	0.65	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Nitrophenol	ND		10	2.1	ug/L		07/18/19 16:34	07/20/19 18:07	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 18:07	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/18/19 16:34	07/20/19 18:07	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/18/19 16:34	07/20/19 18:07	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
Phenol	ND		10	2.6	ug/L		07/18/19 16:34	07/20/19 18:07	1
Pyridine	ND		10	3.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
Quinoline	ND		10	6.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 18:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane, methyl-	*16*	*T J N*	*ug/L*		*3.46*	*108-87-2*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Toluene	*17*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
2-Butanone, 4-hydroxy-	*22*	*T J N*	*ug/L*		*4.03*	*590-90-9*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Ethylbenzene	*80*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, 1,3-dimethyl-	*59*	*T J N*	*ug/L*		*4.87*	*108-38-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, (1-methylethyl)-	*25*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, propyl-	*23*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, 1-ethyl-2-methyl-	*25*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, 1-ethyl-2-methyl-	*26*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, 1-ethyl-2-methyl-	*40*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519
Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1,3,5-trimethyl-	70	T J N	ug/L		5.47	108-67-8	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1,2,3-trimethyl-	48	T J N	ug/L		5.62	526-73-8	07/18/19 16:34	07/20/19 18:07	1
Indane	97	T J N	ug/L		5.71	496-11-7	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1,3-diethyl-	13	T J N	ug/L		5.77	141-93-5	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1-ethyl-2,3-dimethyl-	14	T J N	ug/L		5.91	933-98-2	07/18/19 16:34	07/20/19 18:07	1
Benzene, 2-ethenyl-1,4-dimethyl-	10	T J N	ug/L		6.19	2039-89-6	07/18/19 16:34	07/20/19 18:07	1
Benzene, 2-butenyl-	34	T J N	ug/L		6.24	1560-06-1	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 1,2,3,4-tetrahydro-	9.2	T J N	ug/L		6.31	119-64-2	07/18/19 16:34	07/20/19 18:07	1
Undecane, 2,6-dimethyl-	12	T J N	ug/L		6.40	17301-23-4	07/18/19 16:34	07/20/19 18:07	1
Naphthalene	42	T J N	ug/L		6.43	91-20-3	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 2-methyl-	19	T J N	ug/L		6.87	91-57-6	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 1-methyl-	23	T J N	ug/L		6.95	90-12-0	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 2,7-dimethyl-	11	T J N	ug/L		7.30	582-16-1	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 2,3-dimethyl-	12	T J N	ug/L		7.35	581-40-8	07/18/19 16:34	07/20/19 18:07	1
n-Hexadecanoic acid	9.8	T J N	ug/L		9.07	57-10-3	07/18/19 16:34	07/20/19 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	47		34 - 120	07/18/19 16:34	07/20/19 18:07	1
2-Fluorophenol	18		10 - 120	07/18/19 16:34	07/20/19 18:07	1
Nitrobenzene-d5	64		27 - 120	07/18/19 16:34	07/20/19 18:07	1
Phenol-d5	36		10 - 120	07/18/19 16:34	07/20/19 18:07	1
Terphenyl-d14	28	X	53 - 125	07/18/19 16:34	07/20/19 18:07	1
2,4,6-Tribromophenol	61		15 - 135	07/18/19 16:34	07/20/19 18:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519

Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/21/19 19:14	10
Acrolein	ND		200	100	ug/L			07/21/19 19:14	10
Acrylonitrile	ND		100	28	ug/L			07/21/19 19:14	10
Benzene	**2300**		10	3.8	ug/L			07/21/19 19:14	10
Bromobenzene	ND		10	5.4	ug/L			07/21/19 19:14	10
Bromochloromethane	ND		10	5.2	ug/L			07/21/19 19:14	10
Bromodichloromethane	ND		10	5.0	ug/L			07/21/19 19:14	10
Bromoform	ND		50	7.1	ug/L			07/21/19 19:14	10
Bromomethane	ND		10	9.8	ug/L			07/21/19 19:14	10
2-Butanone (MEK)	ND		250	26	ug/L			07/21/19 19:14	10
Carbon disulfide	ND		10	5.0	ug/L			07/21/19 19:14	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/21/19 19:14	10
Chlorobenzene	ND		10	5.0	ug/L			07/21/19 19:14	10
Chloroethane	ND		10	7.6	ug/L			07/21/19 19:14	10
2-Chloroethyl vinyl ether	ND		50	20	ug/L			07/21/19 19:14	10
Chloroform	ND		10	6.0	ug/L			07/21/19 19:14	10
1-Chlorohexane	ND		10	7.0	ug/L			07/21/19 19:14	10
Chloromethane	ND		10	8.3	ug/L			07/21/19 19:14	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/21/19 19:14	10
Dibromochloromethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/21/19 19:14	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/21/19 19:14	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/21/19 19:14	10
1,4-Dichlorobenzene	ND		10	5.4	ug/L			07/21/19 19:14	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/21/19 19:14	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,2-Dichloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/21/19 19:14	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/21/19 19:14	10
Ethylbenzene	**29**		10	5.0	ug/L			07/21/19 19:14	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/21/19 19:14	10
Ethyl methacrylate	ND	*	10	6.0	ug/L			07/21/19 19:14	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/21/19 19:14	10
2-Hexanone	ND	*	250	31	ug/L			07/21/19 19:14	10
Isopropylbenzene	**40**		10	5.3	ug/L			07/21/19 19:14	10
Methylene bromide	ND		50	5.9	ug/L			07/21/19 19:14	10
Methylene Chloride	ND		50	30	ug/L			07/21/19 19:14	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/21/19 19:14	10
Methyl tert-butyl ether	ND		10	7.4	ug/L			07/21/19 19:14	10
m-Xylene & p-Xylene	**93**		50	16	ug/L			07/21/19 19:14	10
Naphthalene	**17**		10	10	ug/L			07/21/19 19:14	10
n-Butylbenzene	**15**		10	7.6	ug/L			07/21/19 19:14	10
N-Propylbenzene	**69**		10	6.9	ug/L			07/21/19 19:14	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/21/19 19:14	10
o-Xylene	**26**	**J**	50	6.0	ug/L			07/21/19 19:14	10

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519

Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/21/19 19:14	10
p-Isopropyltoluene	ND		10	7.1	ug/L			07/21/19 19:14	10
sec-Butylbenzene	**10**		10	7.0	ug/L			07/21/19 19:14	10
Styrene	ND		10	10	ug/L			07/21/19 19:14	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/21/19 19:14	10
1,1,1,2-Tetrachloroethane	ND	*	10	5.2	ug/L			07/21/19 19:14	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
Tetrachloroethene	ND		10	5.8	ug/L			07/21/19 19:14	10
Toluene	**18**		10	4.1	ug/L			07/21/19 19:14	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/21/19 19:14	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/21/19 19:14	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/21/19 19:14	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/21/19 19:14	10
Trichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/21/19 19:14	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/21/19 19:14	10
1,2,4-Trimethylbenzene	**17**		10	8.2	ug/L			07/21/19 19:14	10
1,3,5-Trimethylbenzene	**10**		10	5.6	ug/L			07/21/19 19:14	10
Vinyl acetate	ND		250	20	ug/L			07/21/19 19:14	10
Vinyl chloride	ND		10	5.0	ug/L			07/21/19 19:14	10
Xylenes, Total	**120**		100	16	ug/L			07/21/19 19:14	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*840*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/21/19 19:14*	*10*
Pentane	*290*	*T J N*	*ug/L*		*2.72*	*109-66-0*		*07/21/19 19:14*	*10*
Cyclopropane, 1,2-dimethyl-, cis-	*180*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/21/19 19:14*	*10*
2-Methyl-2-propanol	*690*		*ug/L*		*3.39*	*75-65-0*		*07/21/19 19:14*	*10*
Pentane, 3-methyl-	*440*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/21/19 19:14*	*10*
Hexane	*120*		*ug/L*		*3.70*	*110-54-3*		*07/21/19 19:14*	*10*
2-Pentene, 2-methyl-	*110*	*T J N*	*ug/L*		*3.83*	*625-27-4*		*07/21/19 19:14*	*10*
2-Pentene, 3-methyl-, (Z)-	*56*	*T J N*	*ug/L*		*3.89*	*922-62-3*		*07/21/19 19:14*	*10*
2-Pentene, 3-methyl-	*110*	*T J N*	*ug/L*		*3.99*	*922-61-2*		*07/21/19 19:14*	*10*
Cyclopentane, methyl-	*590*	*T J N*	*ug/L*		*4.12*	*96-37-7*		*07/21/19 19:14*	*10*
Cyclopentene, 1-methyl-	*82*	*T J N*	*ug/L*		*4.41*	*693-89-0*		*07/21/19 19:14*	*10*
Cyclohexane	*320*		*ug/L*		*4.54*	*110-82-7*		*07/21/19 19:14*	*10*
n-Heptane	*53*		*ug/L*		*4.85*	*142-82-5*		*07/21/19 19:14*	*10*
Methylcyclohexane	*260*		*ug/L*		*5.27*	*108-87-2*		*07/21/19 19:14*	*10*
Cyclopentane, ethyl-	*90*	*T J N*	*ug/L*		*5.38*	*1640-89-7*		*07/21/19 19:14*	*10*
Cyclobutane, (1-methylethylidene)-	*220*	*T J N*	*ug/L*		*5.60*	*1528-22-9*		*07/21/19 19:14*	*10*
Cyclohexene, 1-methyl-	*130*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/21/19 19:14*	*10*
2-Ethyltoluene	*29*		*ug/L*		*8.30*	*611-14-3*		*07/21/19 19:14*	*10*
1,3-Diethylbenzene	*34*	*J*	*ug/L*		*8.90*	*141-93-5*		*07/21/19 19:14*	*10*
p-Diethylbenzene	*47*	*J*	*ug/L*		*8.97*	*105-05-5*		*07/21/19 19:14*	*10*
Benzene, 1-methyl-3-(1-methylethyl)-	*100*	*T J N*	*ug/L*		*9.29*	*535-77-3*		*07/21/19 19:14*	*10*
1-Phenyl-1-butene	*110*	*T J N*	*ug/L*		*9.42*	*824-90-8*		*07/21/19 19:14*	*10*
Benzene, 1,2,4,5-tetramethyl-	*56*	*T J N*	*ug/L*		*9.65*	*95-93-2*		*07/21/19 19:14*	*10*
Benzene, 2-ethenyl-1,4-dimethyl-	*140*	*T J N*	*ug/L*		*10.12*	*2039-89-6*		*07/21/19 19:14*	*10*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519

Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/21/19 19:14	10
Dibromofluoromethane	95		81 - 121		07/21/19 19:14	10
Toluene-d8 (Surr)	105		80 - 120		07/21/19 19:14	10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Anthracene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Benzo[a]anthracene	ND		0.97	0.19	ug/L		07/18/19 16:34	07/29/19 19:50	5
Chrysene	ND		0.97	0.19	ug/L		07/18/19 16:34	07/29/19 19:50	5
Fluoranthene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Fluorene	**0.20**	**J**	0.97	0.10	ug/L		07/18/19 16:34	07/29/19 19:50	5
1-Methylnaphthalene	**34**		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
2-Methylnaphthalene	**23**		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Phenanthrene	**0.24**	**J**	0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Pyrene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		15 - 122	07/18/19 16:34	07/29/19 19:50	5
Nitrobenzene-d5	70		19 - 130	07/18/19 16:34	07/29/19 19:50	5
Terphenyl-d14	59		33 - 138	07/18/19 16:34	07/29/19 19:50	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/18/19 16:34	07/20/19 18:28	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/18/19 16:34	07/20/19 18:28	1
Benzoic acid	ND		29	7.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/18/19 16:34	07/20/19 18:28	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/18/19 16:34	07/20/19 18:28	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/18/19 16:34	07/20/19 18:28	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/18/19 16:34	07/20/19 18:28	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/18/19 16:34	07/20/19 18:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519

Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND	* U5	9.7	2.5	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/18/19 16:34	07/20/19 18:28	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/18/19 16:34	07/20/19 18:28	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/18/19 16:34	07/20/19 18:28	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/18/19 16:34	07/20/19 18:28	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/18/19 16:34	07/20/19 18:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/18/19 16:34	07/20/19 18:28	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/18/19 16:34	07/20/19 18:28	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/18/19 16:34	07/20/19 18:28	1
Hexachloroethane	ND	* U5	9.7	4.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
Indene	ND		9.7	0.97	ug/L		07/18/19 16:34	07/20/19 18:28	1
Isophorone	ND		9.7	0.56	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/18/19 16:34	07/20/19 18:28	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/18/19 16:34	07/20/19 18:28	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/18/19 16:34	07/20/19 18:28	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/18/19 16:34	07/20/19 18:28	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/18/19 16:34	07/20/19 18:28	1
Pentachlorophenol	ND		19	1.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
Phenol	**18**		9.7	2.5	ug/L		07/18/19 16:34	07/20/19 18:28	1
Pyridine	ND		9.7	3.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
Quinoline	ND		9.7	5.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/18/19 16:34	07/20/19 18:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane, methyl-	*17*	*T J N*	*ug/L*		*3.46*	*108-87-2*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Unknown	*11*	*T J*	*ug/L*		*3.75*		*07/18/19 16:34*	*07/20/19 18:28*	*1*
Cyclohexene, 1-methyl-	*18*	*T J N*	*ug/L*		*3.90*	*591-49-1*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
1,3-Dimethylcyclopentanol	*12*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Ethylbenzene	*27*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
o-Xylene	*19*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, (1-methylethyl)-	*31*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, propyl-	*44*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, 1-ethyl-2-methyl-	*11*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, 1-ethyl-2-methyl-	*19*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, 1,2,3-trimethyl-	*15*	*T J N*	*ug/L*		*5.46*	*526-73-8*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Indane	*99*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/18/19 16:34*	*07/20/19 18:28*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519
Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, 1,4-diethyl-	47	T J N	ug/L		5.77	105-05-5	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1,4-diethyl-	12	T J N	ug/L		5.79	105-05-5	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1-methyl-4-propyl-	13	T J N	ug/L		5.82	1074-55-1	07/18/19 16:34	07/20/19 18:28	1
Benzene, 2-ethyl-1,4-dimethyl-	70	T J N	ug/L		5.91	1758-88-9	07/18/19 16:34	07/20/19 18:28	1
Benzene, 4-ethyl-1,2-dimethyl-	14	T J N	ug/L		6.01	934-80-5	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1,2,4,5-tetramethyl-	34	T J N	ug/L		6.06	95-93-2	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1,2,3,5-tetramethyl-	13	T J N	ug/L		6.08	527-53-7	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1-ethenyl-4-ethyl-	35	T J N	ug/L		6.19	3454-07-7	07/18/19 16:34	07/20/19 18:28	1
1-Phenyl-1-butene	71	T J N	ug/L		6.24	824-90-8	07/18/19 16:34	07/20/19 18:28	1
Benzene, (1-methyl-1-butenyl)-	24	T J N	ug/L		6.39	53172-84-2	07/18/19 16:34	07/20/19 18:28	1
Naphthalene, 1-methyl-	25	T J N	ug/L		6.88	90-12-0	07/18/19 16:34	07/20/19 18:28	1
Naphthalene, 2-methyl-	31	T J N	ug/L		6.95	91-57-6	07/18/19 16:34	07/20/19 18:28	1
n-Hexadecanoic acid	11	T J N	ug/L		9.08	57-10-3	07/18/19 16:34	07/20/19 18:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		34 - 120	07/18/19 16:34	07/20/19 18:28	1
2-Fluorophenol	43		10 - 120	07/18/19 16:34	07/20/19 18:28	1
Nitrobenzene-d5	71		27 - 120	07/18/19 16:34	07/20/19 18:28	1
Phenol-d5	63		10 - 120	07/18/19 16:34	07/20/19 18:28	1
Terphenyl-d14	34	X	53 - 125	07/18/19 16:34	07/20/19 18:28	1
2,4,6-Tribromophenol	73		15 - 135	07/18/19 16:34	07/20/19 18:28	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173192-1	TB-PW-071519-B	99	90	101
400-173192-2	PD-12-GWP-70-071519	98	88	101
400-173192-3	PD-12-GWP-73-071519	99	88	100
400-173192-4	PD-4-GWP-35-071519	100	88	100
400-173192-5	PD-4-GWP-41-071519	102	94	104
400-173192-5 - DL	PD-4-GWP-41-071519	101	97	104
400-173192-6	PD-4-GWP-43-071519	101	95	109
400-173192-7	PD-4-GWP-50-071519	102	95	105
LCS 400-448667/1003	Lab Control Sample	103	91	100
LCS 400-448875/1002	Lab Control Sample	99	97	102
LCS 400-448915/1002	Lab Control Sample	97	97	103
MB 400-448667/28	Method Blank	87	87	101
MB 400-448875/4	Method Blank	102	97	104
MB 400-448915/4	Method Blank	101	98	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173192-2	PD-12-GWP-70-071519	62	35	79	58	59	76
400-173192-3	PD-12-GWP-73-071519	53	37	72	45	53	50
400-173192-4	PD-4-GWP-35-071519	55	34	73	55	37 X	75
400-173192-5	PD-4-GWP-41-071519	49	26	63	45	33 X	76
400-173192-6	PD-4-GWP-43-071519	47	18	64	36	28 X	61
400-173192-7	PD-4-GWP-50-071519	52	43	71	63	34 X	73
LCS 400-448615/2-A	Lab Control Sample	69	37	52	46	77	106
LCS 400-448615/4-A	Lab Control Sample	44	41	62	44	55	47
LCSD 400-448615/3-A	Lab Control Sample Dup	57	35	46	39	62	90
LCSD 400-448615/5-A	Lab Control Sample Dup	46	41	66	53	58	51
MB 400-448615/1-A	Method Blank	69	35	52	45	73	83

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173192-2	PD-12-GWP-70-071519	97	78	108
400-173192-3	PD-12-GWP-73-071519	115	92	141 X
400-173192-4	PD-4-GWP-35-071519	83	82	
400-173192-4 - DL	PD-4-GWP-35-071519			66
400-173192-5	PD-4-GWP-41-071519		70	
400-173192-5 - DL	PD-4-GWP-41-071519	64		63
400-173192-6	PD-4-GWP-43-071519	81	67	
400-173192-6 - DL	PD-4-GWP-43-071519			57
400-173192-7 - DL	PD-4-GWP-50-071519	77	70	59
LCS 400-448615/2-A	Lab Control Sample	69	74	93
LCSD 400-448615/3-A	Lab Control Sample Dup	65	57	84
MB 400-448615/1-A	Method Blank	146 X	115	230 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B
Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 22:59	RS	TAL PEN

Client Sample ID: PD-12-GWP-70-071519
Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 23:24	RS	TAL PEN
Total/NA	Prep	3520C			1019 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 16:42	VC1	TAL PEN
Total/NA	Prep	3520C			1019 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 17:16	KJA	TAL PEN

Client Sample ID: PD-12-GWP-73-071519
Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 23:48	RS	TAL PEN
Total/NA	Prep	3520C			1025.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 17:03	VC1	TAL PEN
Total/NA	Prep	3520C			1025.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 17:34	KJA	TAL PEN

Client Sample ID: PD-4-GWP-35-071519
Date Collected: 07/15/19 11:40
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/20/19 00:12	RS	TAL PEN
Total/NA	Prep	3520C			990.4 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 17:24	VC1	TAL PEN
Total/NA	Prep	3520C			990.4 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 17:51	KJA	TAL PEN
Total/NA	Prep	3520C	DL		990.4 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:00	KJA	TAL PEN

Client Sample ID: PD-4-GWP-41-071519
Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	5 mL	5 mL	448875	07/21/19 21:27	RS	TAL PEN
Total/NA	Analysis	8260B	DL	500	5 mL	5 mL	448915	07/22/19 15:20	RS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D	DL	5			449209	07/24/19 02:58	VC1	TAL PEN
Total/NA	Prep	3520C			1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 17:45	VC1	TAL PEN
Total/NA	Prep	3520C			1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 18:10	KJA	TAL PEN
Total/NA	Prep	3520C	DL		1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:17	KJA	TAL PEN
Total/NA	Prep	3520C	RADL		1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	RADL	5			450108	07/30/19 23:56	KJA	TAL PEN

Client Sample ID: PD-4-GWP-43-071519

Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448875	07/21/19 18:21	RS	TAL PEN
Total/NA	Prep	3520C			992.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 18:07	VC1	TAL PEN
Total/NA	Prep	3520C			992.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 18:29	KJA	TAL PEN
Total/NA	Prep	3520C	DL		992.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:33	KJA	TAL PEN

Client Sample ID: PD-4-GWP-50-071519

Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	448875	07/21/19 19:14	RS	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 18:28	VC1	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 18:46	KJA	TAL PEN
Total/NA	Prep	3520C	DL		1026.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:50	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448615/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			449209	07/24/19 01:33	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448615/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 16:26	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448667/28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 20:35	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448875/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448875	07/21/19 12:05	RS	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448915/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			449209	07/24/19 01:54	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			449114	07/23/19 16:42	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448615/4-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			448802	07/20/19 15:17	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448667/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 18:41	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448875/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448875	07/21/19 11:03	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448915/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			449209	07/24/19 02:16	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			449114	07/23/19 17:00	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448615/5-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			448802	07/20/19 15:38	VC1	TAL PEN

Laboratory References:
TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

GC/MS VOA

Analysis Batch: 448667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-1	TB-PW-071519-B	Total/NA	Water	8260B	
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	8260B	
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	8260B	
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	8260B	
MB 400-448667/28	Method Blank	Total/NA	Water	8260B	
LCS 400-448667/1003	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	8260B	
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	8260B	
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	8260B	
MB 400-448875/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448875/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	3520C	
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	3520C	
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	3520C	
400-173192-4 - DL	PD-4-GWP-35-071519	Total/NA	Water	3520C	
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	3520C	
400-173192-5 - RADL	PD-4-GWP-41-071519	Total/NA	Water	3520C	
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	3520C	
400-173192-6 - DL	PD-4-GWP-43-071519	Total/NA	Water	3520C	
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	3520C	
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	3520C	
400-173192-7 - DL	PD-4-GWP-50-071519	Total/NA	Water	3520C	
MB 400-448615/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448615/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448615/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448615/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-448615/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	8270D	448615
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	8270D	448615
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	8270D	448615
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	8270D	448615
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	8270D	448615
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	8270D	448615
LCS 400-448615/4-A	Lab Control Sample	Total/NA	Water	8270D	448615

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448802 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-448615/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	448615

Analysis Batch: 449114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	8270D LL	448615
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	8270D LL	448615
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	8270D LL	448615
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	8270D LL	448615
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	8270D LL	448615
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	8270D LL	448615
MB 400-448615/1-A	Method Blank	Total/NA	Water	8270D LL	448615
LCS 400-448615/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448615
LCSD 400-448615/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	448615

Analysis Batch: 449209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	8270D	448615
MB 400-448615/1-A	Method Blank	Total/NA	Water	8270D	448615
LCS 400-448615/2-A	Lab Control Sample	Total/NA	Water	8270D	448615
LCSD 400-448615/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448615

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-4 - DL	PD-4-GWP-35-071519	Total/NA	Water	8270D LL	448615
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	8270D LL	448615
400-173192-6 - DL	PD-4-GWP-43-071519	Total/NA	Water	8270D LL	448615
400-173192-7 - DL	PD-4-GWP-50-071519	Total/NA	Water	8270D LL	448615

Analysis Batch: 450108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5 - RADL	PD-4-GWP-41-071519	Total/NA	Water	8270D LL	448615

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448667/28
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 20:35	1
Acrolein	ND		20	10	ug/L			07/19/19 20:35	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 20:35	1
Benzene	ND		1.0	0.38	ug/L			07/19/19 20:35	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 20:35	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 20:35	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 20:35	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 20:35	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 20:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 20:35	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 20:35	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 20:35	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 20:35	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 20:35	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 20:35	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 20:35	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 20:35	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 20:35	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 20:35	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 20:35	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 20:35	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 20:35	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 20:35	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 20:35	1
Methylene Chloride	5.50		5.0	3.0	ug/L			07/19/19 20:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 20:35	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/19/19 20:35	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 20:35	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 20:35	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 20:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 20:35	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 20:35	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448667/28
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 20:35	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 20:35	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 20:35	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 20:35	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 20:35	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 20:35	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 20:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 20:35	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 20:35	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 20:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 20:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 20:35	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 20:35	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 20:35	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 20:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 20:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 20:35	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 20:35	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 20:35	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/19/19 20:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	87		78 - 118		07/19/19 20:35	1
Dibromofluoromethane	87		81 - 121		07/19/19 20:35	1
Toluene-d8 (Surr)	101		80 - 120		07/19/19 20:35	1

Lab Sample ID: LCS 400-448667/1003
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	186		ug/L		93	43 - 160
Acrolein	500	557		ug/L		111	38 - 160
Acrylonitrile	500	550		ug/L		110	64 - 142
Benzene	50.0	43.1		ug/L		86	70 - 130
Bromobenzene	50.0	45.6		ug/L		91	70 - 132
Bromochloromethane	50.0	46.0		ug/L		92	70 - 130
Bromodichloromethane	50.0	38.3		ug/L		77	67 - 133
Bromoform	50.0	42.9		ug/L		86	57 - 140
Bromomethane	50.0	40.3		ug/L		81	10 - 160
2-Butanone (MEK)	200	166		ug/L		83	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448667/1003
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	39.0		ug/L		78	61 - 137
Carbon tetrachloride	50.0	37.9		ug/L		76	61 - 137
Chlorobenzene	50.0	44.9		ug/L		90	70 - 130
Chloroethane	50.0	48.0		ug/L		96	55 - 141
2-Chloroethyl vinyl ether	50.0	33.9		ug/L		68	10 - 160
Chloroform	50.0	41.4		ug/L		83	69 - 130
1-Chlorohexane	50.0	43.9		ug/L		88	69 - 130
Chloromethane	50.0	53.1		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	42.8		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	42.1		ug/L		84	69 - 132
Dibromochloromethane	50.0	43.1		ug/L		86	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	67 - 130
1,3-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	42.6		ug/L		85	70 - 130
1,2-Dichloroethane	50.0	40.3		ug/L		81	69 - 130
1,1-Dichloroethene	50.0	52.5		ug/L		105	63 - 134
1,2-Dichloropropane	50.0	43.2		ug/L		86	70 - 130
1,3-Dichloropropane	50.0	45.5		ug/L		91	70 - 130
2,2-Dichloropropane	50.0	37.1		ug/L		74	52 - 135
1,1-Dichloropropene	50.0	42.4		ug/L		85	70 - 130
Ethylbenzene	50.0	46.5		ug/L		93	70 - 130
Ethylene Dibromide	50.0	47.7		ug/L		95	70 - 130
Ethyl methacrylate	50.0	48.7		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	37.2		ug/L		74	53 - 140
2-Hexanone	200	158		ug/L		79	65 - 137
Isopropylbenzene	50.0	45.6		ug/L		91	70 - 130
Methylene bromide	50.0	41.5		ug/L		83	70 - 130
Methylene Chloride	50.0	44.7		ug/L		89	66 - 135
4-Methyl-2-pentanone (MIBK)	200	198		ug/L		99	69 - 138
Methyl tert-butyl ether	50.0	41.4		ug/L		83	66 - 130
m-Xylene & p-Xylene	50.0	46.5		ug/L		93	70 - 130
Naphthalene	50.0	52.3		ug/L		105	47 - 149
n-Butylbenzene	50.0	45.8		ug/L		92	67 - 130
N-Propylbenzene	50.0	48.5		ug/L		97	70 - 130
o-Chlorotoluene	50.0	47.9		ug/L		96	70 - 130
o-Xylene	50.0	46.7		ug/L		93	70 - 130
p-Chlorotoluene	50.0	45.8		ug/L		92	70 - 130
p-Isopropyltoluene	50.0	47.7		ug/L		95	65 - 130
sec-Butylbenzene	50.0	46.7		ug/L		93	66 - 130
Styrene	50.0	44.6		ug/L		89	70 - 130
tert-Butylbenzene	50.0	46.3		ug/L		93	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.7		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	51.1		ug/L		102	70 - 131
Tetrachloroethene	50.0	43.6		ug/L		87	65 - 130
Toluene	50.0	46.5		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	47.3		ug/L		95	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448667/1003
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	43.0		ug/L		86	63 - 130
1,2,3-Trichlorobenzene	50.0	42.1		ug/L		84	60 - 138
1,2,4-Trichlorobenzene	50.0	41.2		ug/L		82	60 - 140
1,1,1-Trichloroethane	50.0	40.3		ug/L		81	68 - 130
1,1,2-Trichloroethane	50.0	46.5		ug/L		93	70 - 130
Trichloroethene	50.0	43.3		ug/L		87	70 - 130
Trichlorofluoromethane	50.0	36.5		ug/L		73	65 - 138
1,2,3-Trichloropropane	50.0	52.0		ug/L		104	70 - 130
1,2,4-Trimethylbenzene	50.0	47.4		ug/L		95	70 - 130
1,3,5-Trimethylbenzene	50.0	47.4		ug/L		95	69 - 130
Vinyl acetate	100	96.1		ug/L		96	26 - 160
Vinyl chloride	50.0	53.9		ug/L		108	59 - 136
Xylenes, Total	100	93.2		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*78 - 118*
Dibromofluoromethane	*91*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-448875/4
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/21/19 12:05	1
Acrolein	ND		20	10	ug/L			07/21/19 12:05	1
Acrylonitrile	ND		10	2.8	ug/L			07/21/19 12:05	1
Benzene	ND		1.0	0.38	ug/L			07/21/19 12:05	1
Bromobenzene	ND		1.0	0.54	ug/L			07/21/19 12:05	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/21/19 12:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Bromoform	ND		5.0	0.71	ug/L			07/21/19 12:05	1
Bromomethane	ND		1.0	0.98	ug/L			07/21/19 12:05	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/21/19 12:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Chloroethane	ND		1.0	0.76	ug/L			07/21/19 12:05	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/21/19 12:05	1
Chloroform	ND		1.0	0.60	ug/L			07/21/19 12:05	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/21/19 12:05	1
Chloromethane	ND		1.0	0.83	ug/L			07/21/19 12:05	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 12:05	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/21/19 12:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/21/19 12:05	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448875/4
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/21/19 12:05	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/21/19 12:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/21/19 12:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/21/19 12:05	1
2-Hexanone	ND		25	3.1	ug/L			07/21/19 12:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/21/19 12:05	1
Methylene bromide	ND		5.0	0.59	ug/L			07/21/19 12:05	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/21/19 12:05	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/21/19 12:05	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/21/19 12:05	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/21/19 12:05	1
Naphthalene	ND		1.0	1.0	ug/L			07/21/19 12:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/21/19 12:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/21/19 12:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/21/19 12:05	1
o-Xylene	ND		5.0	0.60	ug/L			07/21/19 12:05	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/21/19 12:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/21/19 12:05	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/21/19 12:05	1
Styrene	ND		1.0	1.0	ug/L			07/21/19 12:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/21/19 12:05	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/21/19 12:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/21/19 12:05	1
Toluene	ND		1.0	0.41	ug/L			07/21/19 12:05	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 12:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/21/19 12:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/21/19 12:05	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/21/19 12:05	1
Trichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/21/19 12:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/21/19 12:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/21/19 12:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/21/19 12:05	1
Vinyl acetate	ND		25	2.0	ug/L			07/21/19 12:05	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Xylenes, Total	ND		10	1.6	ug/L			07/21/19 12:05	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448875/4
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/21/19 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/21/19 12:05	1
Dibromofluoromethane	97		81 - 121		07/21/19 12:05	1
Toluene-d8 (Surr)	104		80 - 120		07/21/19 12:05	1

Lab Sample ID: LCS 400-448875/1002
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	287		ug/L		144	43 - 160
Acrolein	500	651		ug/L		130	38 - 160
Acrylonitrile	500	637		ug/L		127	64 - 142
Benzene	50.0	54.3		ug/L		109	70 - 130
Bromobenzene	50.0	56.3		ug/L		113	70 - 132
Bromochloromethane	50.0	55.9		ug/L		112	70 - 130
Bromodichloromethane	50.0	54.6		ug/L		109	67 - 133
Bromoform	50.0	65.7		ug/L		131	57 - 140
Bromomethane	50.0	35.3		ug/L		71	10 - 160
2-Butanone (MEK)	200	271		ug/L		135	61 - 145
Carbon disulfide	50.0	53.3		ug/L		107	61 - 137
Carbon tetrachloride	50.0	60.1		ug/L		120	61 - 137
Chlorobenzene	50.0	56.9		ug/L		114	70 - 130
Chloroethane	50.0	45.6		ug/L		91	55 - 141
2-Chloroethyl vinyl ether	50.0	50.1		ug/L		100	10 - 160
Chloroform	50.0	54.1		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.4		ug/L		121	69 - 130
Chloromethane	50.0	42.6		ug/L		85	58 - 137
cis-1,2-Dichloroethene	50.0	58.6		ug/L		117	68 - 130
cis-1,3-Dichloropropene	50.0	58.8		ug/L		118	69 - 132
Dibromochloromethane	50.0	62.9		ug/L		126	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	65.2		ug/L		130	54 - 135
1,2-Dichlorobenzene	50.0	59.0		ug/L		118	67 - 130
1,3-Dichlorobenzene	50.0	58.5		ug/L		117	70 - 130
1,4-Dichlorobenzene	50.0	58.4		ug/L		117	70 - 130
Dichlorodifluoromethane	50.0	25.2		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	58.0		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	55.2		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.3		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	58.1		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.6		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	55.9		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	54.7		ug/L		109	70 - 130
Ethylbenzene	50.0	58.0		ug/L		116	70 - 130
Ethylene Dibromide	50.0	57.4		ug/L		115	70 - 130
Ethyl methacrylate	50.0	66.3	*	ug/L		133	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448875/1002
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	53.6		ug/L		107	53 - 140
2-Hexanone	200	317	*	ug/L		158	65 - 137
Isopropylbenzene	50.0	55.2		ug/L		110	70 - 130
Methylene bromide	50.0	51.5		ug/L		103	70 - 130
Methylene Chloride	50.0	53.9		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	269		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	51.6		ug/L		103	66 - 130
m-Xylene & p-Xylene	50.0	57.3		ug/L		115	70 - 130
Naphthalene	50.0	58.0		ug/L		116	47 - 149
n-Butylbenzene	50.0	57.2		ug/L		114	67 - 130
N-Propylbenzene	50.0	59.8		ug/L		120	70 - 130
o-Chlorotoluene	50.0	56.4		ug/L		113	70 - 130
o-Xylene	50.0	56.6		ug/L		113	70 - 130
p-Chlorotoluene	50.0	58.6		ug/L		117	70 - 130
p-Isopropyltoluene	50.0	58.7		ug/L		117	65 - 130
sec-Butylbenzene	50.0	57.1		ug/L		114	66 - 130
Styrene	50.0	53.9		ug/L		108	70 - 130
tert-Butylbenzene	50.0	55.9		ug/L		112	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.8	*	ug/L		138	67 - 131
1,1,2,2-Tetrachloroethane	50.0	60.3		ug/L		121	70 - 131
Tetrachloroethene	50.0	58.3		ug/L		117	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	54.6		ug/L		109	70 - 130
trans-1,3-Dichloropropene	50.0	64.8		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	56.1		ug/L		112	60 - 138
1,2,4-Trichlorobenzene	50.0	54.7		ug/L		109	60 - 140
1,1,1-Trichloroethane	50.0	55.0		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.4		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.1		ug/L		80	65 - 138
1,2,3-Trichloropropane	50.0	58.5		ug/L		117	70 - 130
1,2,4-Trimethylbenzene	50.0	56.6		ug/L		113	70 - 130
1,3,5-Trimethylbenzene	50.0	56.8		ug/L		114	69 - 130
Vinyl acetate	100	109		ug/L		109	26 - 160
Vinyl chloride	50.0	43.7		ug/L		87	59 - 136
Xylenes, Total	100	114		ug/L		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/22/19 10:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/22/19 10:56	1
Dibromofluoromethane	98		81 - 121		07/22/19 10:56	1
Toluene-d8 (Surr)	103		80 - 120		07/22/19 10:56	1

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	54.5		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		78 - 118
Dibromofluoromethane	97		81 - 121
Toluene-d8 (Surr)	103		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
Benzenethiol	ND		10	1.7	ug/L		07/18/19 16:34	07/24/19 01:33	1
Benzoic acid	ND		30	7.3	ug/L		07/18/19 16:34	07/24/19 01:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/18/19 16:34	07/24/19 01:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/18/19 16:34	07/24/19 01:33	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/18/19 16:34	07/24/19 01:33	1
Bis(2-ethylhexyl) phthalate	8.53	J	10	5.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/18/19 16:34	07/24/19 01:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Chloroaniline	ND		10	3.4	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Chlorophenol	ND		10	2.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Dibenzofuran	ND		10	0.52	ug/L		07/18/19 16:34	07/24/19 01:33	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Diethyl phthalate	ND		10	0.70	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/18/19 16:34	07/24/19 01:33	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/18/19 16:34	07/24/19 01:33	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/18/19 16:34	07/24/19 01:33	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/24/19 01:33	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/18/19 16:34	07/24/19 01:33	1
1,4-Dioxane	ND		10	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/18/19 16:34	07/24/19 01:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/24/19 01:33	1
Hexachloroethane	ND		10	4.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
Indene	ND		10	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Isophorone	ND		10	0.57	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Nitroaniline	ND		10	2.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
3-Nitroaniline	ND		10	1.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Nitroaniline	ND		10	2.5	ug/L		07/18/19 16:34	07/24/19 01:33	1
Nitrobenzene	ND		10	0.55	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Nitrophenol	ND		10	0.65	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Nitrophenol	ND		10	2.1	ug/L		07/18/19 16:34	07/24/19 01:33	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/18/19 16:34	07/24/19 01:33	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/18/19 16:34	07/24/19 01:33	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/18/19 16:34	07/24/19 01:33	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
Phenol	ND		10	2.6	ug/L		07/18/19 16:34	07/24/19 01:33	1
Pyridine	ND		10	3.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
Quinoline	ND		10	6.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/18/19 16:34	07/24/19 01:33	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/18/19 16:34*	*07/24/19 01:33*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
Nitrobenzene-d5	*52*		*27 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
Phenol-d5	*45*		*10 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
Terphenyl-d14	*73*		*53 - 125*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
2,4,6-Tribromophenol	*83*		*15 - 135*	*07/18/19 16:34*	*07/24/19 01:33*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	15.5		ug/L		52	29 - 120
Benzoic acid	117	25.0	J	ug/L		21	10 - 150
Benzyl alcohol	30.0	17.3		ug/L		58	19 - 125
Bis(2-chloroethoxy)methane	30.0	15.1		ug/L		50	45 - 120
Bis(2-chloroethyl)ether	30.0	15.0		ug/L		50	48 - 120
bis (2-chloroisopropyl) ether	30.0	13.9		ug/L		46	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	17.8		ug/L		59	48 - 150
4-Bromophenyl phenyl ether	30.0	27.3		ug/L		91	55 - 122
Butyl benzyl phthalate	30.0	15.6		ug/L		52	46 - 145
4-Chloroaniline	30.0	13.5		ug/L		45	30 - 120
4-Chloro-3-methylphenol	30.0	19.8		ug/L		66	39 - 140
2-Chloronaphthalene	30.0	19.6		ug/L		65	52 - 120
2-Chlorophenol	30.0	17.5		ug/L		58	34 - 120
4-Chlorophenyl phenyl ether	30.0	23.9		ug/L		80	58 - 124
Dibenz[a,h]acridine	30.0	22.4		ug/L		75	46 - 149
Dibenzofuran	30.0	21.0		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	57.6	*	ug/L		144	39 - 135
2,4-Dichlorophenol	30.0	20.6		ug/L		69	39 - 128
Diethyl phthalate	30.0	22.5		ug/L		75	44 - 146
2,4-Dimethylphenol	30.0	19.3		ug/L		64	44 - 120
Dimethyl phthalate	30.0	22.2		ug/L		74	50 - 131
Di-n-butyl phthalate	30.0	20.6		ug/L		69	55 - 131
4,6-Dinitro-ortho-cresol	60.0	49.2		ug/L		82	10 - 150
2,4-Dinitrophenol	60.0	60.8		ug/L		101	10 - 150
2,4-Dinitrotoluene	30.0	23.4		ug/L		78	58 - 140
2,6-Dinitrotoluene	30.0	23.2		ug/L		77	57 - 130
Di-n-octyl phthalate	30.0	19.9		ug/L		66	50 - 150
1,4-Dioxane	30.0	11.7		ug/L		39	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	16.0		ug/L		53	47 - 123
Hexachlorobenzene	30.0	29.8		ug/L		99	52 - 131
Hexachlorocyclopentadiene	30.0	8.59	J	ug/L		29	10 - 129
Hexachloroethane	30.0	12.4		ug/L		41	41 - 120
Indene	30.0	16.8		ug/L		56	47 - 120
Isophorone	30.0	16.3		ug/L		54	49 - 120
2-Methylphenol	30.0	17.6		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	17.6	J	ug/L		59	38 - 121
2-Nitroaniline	30.0	18.9		ug/L		63	47 - 150
3-Nitroaniline	30.0	21.4		ug/L		71	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	16.1		ug/L		54	47 - 120
2-Nitrophenol	30.0	18.3		ug/L		61	28 - 136
4-Nitrophenol	60.0	41.0		ug/L		68	10 - 150
N-Nitrosodimethylamine	30.0	21.2		ug/L		71	22 - 148
N-Nitrosodi-n-propylamine	30.0	18.5		ug/L		62	44 - 120
N-Nitrosodiphenylamine	29.8	22.0		ug/L		74	56 - 120
Pentachlorophenol	60.0	51.6		ug/L		86	15 - 141
Phenol	30.0	13.6		ug/L		45	33 - 120
Pyridine	60.0	27.2		ug/L		45	26 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	30.0	18.3		ug/L		61	51 - 129
2,4,5-Trichlorophenol	30.0	23.6		ug/L		79	38 - 147
2,4,6-Trichlorophenol	30.0	23.2		ug/L		77	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*34 - 120*
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*52*		*27 - 120*
Phenol-d5	*46*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*106*		*15 - 135*

Lab Sample ID: LCS 400-448615/4-A
Matrix: Water
Analysis Batch: 448802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	12.9		ug/L		43	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*
2-Fluorophenol	*41*		*10 - 120*
Nitrobenzene-d5	*62*		*27 - 120*
Phenol-d5	*44*		*10 - 120*
Terphenyl-d14	*55*		*53 - 125*
2,4,6-Tribromophenol	*47*		*15 - 135*

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	14.5		ug/L		48	29 - 120	7	30
Benzoic acid	117	25.9	J	ug/L		22	10 - 150	4	30
Benzyl alcohol	30.0	17.2		ug/L		57	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	15.1		ug/L		50	45 - 120	0	30
Bis(2-chloroethyl)ether	30.0	14.4		ug/L		48	48 - 120	4	30
bis (2-chloroisopropyl) ether	30.0	13.3		ug/L		44	30 - 125	4	30
Bis(2-ethylhexyl) phthalate	30.0	19.0		ug/L		63	48 - 150	7	30
4-Bromophenyl phenyl ether	30.0	25.4		ug/L		85	55 - 122	7	30
Butyl benzyl phthalate	30.0	14.4		ug/L		48	46 - 145	8	30
4-Chloroaniline	30.0	13.7		ug/L		46	30 - 120	1	30
4-Chloro-3-methylphenol	30.0	19.2		ug/L		64	39 - 140	3	30
2-Chloronaphthalene	30.0	19.5		ug/L		65	52 - 120	0	30
2-Chlorophenol	30.0	17.2		ug/L		57	34 - 120	2	30
4-Chlorophenyl phenyl ether	30.0	23.4		ug/L		78	58 - 124	2	30
Dibenz[a,h]acridine	30.0	21.4		ug/L		71	46 - 149	5	30
Dibenzofuran	30.0	20.4		ug/L		68	58 - 123	3	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3,3'-Dichlorobenzidine	40.0	55.3	*	ug/L		138	39 - 135	4	30
2,4-Dichlorophenol	30.0	20.4		ug/L		68	39 - 128	1	30
Diethyl phthalate	30.0	21.4		ug/L		71	44 - 146	5	30
2,4-Dimethylphenol	30.0	18.7		ug/L		62	44 - 120	3	30
Dimethyl phthalate	30.0	21.0		ug/L		70	50 - 131	5	30
Di-n-butyl phthalate	30.0	19.7		ug/L		66	55 - 131	4	30
4,6-Dinitro-ortho-cresol	60.0	48.2		ug/L		80	10 - 150	2	30
2,4-Dinitrophenol	60.0	63.6		ug/L		106	10 - 150	5	30
2,4-Dinitrotoluene	30.0	22.3		ug/L		74	58 - 140	5	30
2,6-Dinitrotoluene	30.0	22.5		ug/L		75	57 - 130	3	30
Di-n-octyl phthalate	30.0	18.7		ug/L		62	50 - 150	6	30
1,4-Dioxane	30.0	10.9		ug/L		36	25 - 120	7	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	15.6		ug/L		52	47 - 123	2	30
Hexachlorobenzene	30.0	28.0		ug/L		93	52 - 131	6	30
Hexachlorocyclopentadiene	30.0	8.83	J	ug/L		29	10 - 129	3	30
Hexachloroethane	30.0	11.9	*	ug/L		40	41 - 120	4	30
Indene	30.0	15.9		ug/L		53	47 - 120	5	30
Isophorone	30.0	16.3		ug/L		54	49 - 120	0	30
2-Methylphenol	30.0	16.6		ug/L		55	39 - 123	6	30
3 & 4 Methylphenol	30.0	16.9	J	ug/L		56	38 - 121	4	30
2-Nitroaniline	30.0	18.1		ug/L		60	47 - 150	4	30
3-Nitroaniline	30.0	20.0		ug/L		67	34 - 132	7	30
4-Nitroaniline	30.0	28.3		ug/L		94	41 - 135	5	30
Nitrobenzene	30.0	16.5		ug/L		55	47 - 120	2	30
2-Nitrophenol	30.0	18.2		ug/L		61	28 - 136	0	30
4-Nitrophenol	60.0	40.5		ug/L		67	10 - 150	1	30
N-Nitrosodimethylamine	30.0	18.9		ug/L		63	22 - 148	12	30
N-Nitrosodi-n-propylamine	30.0	17.9		ug/L		60	44 - 120	3	30
N-Nitrosodiphenylamine	29.8	20.6		ug/L		69	56 - 120	6	30
Pentachlorophenol	60.0	49.7		ug/L		83	15 - 141	4	30
Phenol	30.0	13.3		ug/L		44	33 - 120	2	30
Pyridine	60.0	26.4		ug/L		44	26 - 120	3	30
Quinoline	30.0	19.3		ug/L		64	51 - 129	5	30
2,4,5-Trichlorophenol	30.0	22.8		ug/L		76	38 - 147	3	30
2,4,6-Trichlorophenol	30.0	22.2		ug/L		74	36 - 139	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*34 - 120*
2-Fluorophenol	*35*		*10 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d5	*39*		*10 - 120*
Terphenyl-d14	*62*		*53 - 125*
2,4,6-Tribromophenol	*90*		*15 - 135*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448615/5-A
Matrix: Water
Analysis Batch: 448802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		4	10 - 120	165	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*46*		*34 - 120*
2-Fluorophenol	*41*		*10 - 120*
Nitrobenzene-d5	*66*		*27 - 120*
Phenol-d5	*53*		*10 - 120*
Terphenyl-d14	*58*		*53 - 125*
2,4,6-Tribromophenol	*51*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Anthracene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Chrysene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Fluoranthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Fluorene	ND		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 16:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Phenanthrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Pyrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*146*	*X*	*15 - 122*	*07/18/19 16:34*	*07/23/19 16:26*	*1*
Nitrobenzene-d5	*115*		*19 - 130*	*07/18/19 16:34*	*07/23/19 16:26*	*1*
Terphenyl-d14	*230*	*X*	*33 - 138*	*07/18/19 16:34*	*07/23/19 16:26*	*1*

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	25.5		ug/L		85	41 - 120
Acenaphthylene	30.0	24.3		ug/L		81	44 - 120
Anthracene	30.0	24.6		ug/L		82	49 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	30.0	22.1		ug/L		74	61 - 135
Benzo[a]pyrene	30.0	23.6		ug/L		79	52 - 120
Benzo[b]fluoranthene	30.0	24.8		ug/L		83	53 - 134
Benzo[g,h,i]perylene	30.0	16.3		ug/L		54	47 - 133
Benzo[k]fluoranthene	30.0	26.6		ug/L		89	57 - 134
Chrysene	30.0	21.5		ug/L		72	55 - 122
Dibenz(a,h)anthracene	30.0	18.9		ug/L		63	48 - 146
Fluoranthene	30.0	22.2		ug/L		74	54 - 128
Fluorene	30.0	30.9		ug/L		103	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	18.2		ug/L		61	43 - 142
1-Methylnaphthalene	30.0	17.5		ug/L		58	41 - 120
2-Methylnaphthalene	30.0	17.2		ug/L		57	32 - 124
Phenanthrene	30.0	25.4		ug/L		85	48 - 120
Pyrene	30.0	27.6		ug/L		92	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*15 - 122*
Nitrobenzene-d5	*74*		*19 - 130*
Terphenyl-d14	*93*		*33 - 138*

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	29.8		ug/L		99	41 - 120	15	56
Acenaphthylene	30.0	27.5		ug/L		92	44 - 120	12	56
Anthracene	30.0	29.9		ug/L		100	49 - 120	19	51
Benzo[a]anthracene	30.0	26.7		ug/L		89	61 - 135	19	49
Benzo[a]pyrene	30.0	28.0		ug/L		93	52 - 120	17	50
Benzo[b]fluoranthene	30.0	28.7		ug/L		96	53 - 134	15	54
Benzo[g,h,i]perylene	30.0	17.2		ug/L		57	47 - 133	5	50
Benzo[k]fluoranthene	30.0	34.1		ug/L		114	57 - 134	24	52
Chrysene	30.0	26.7		ug/L		89	55 - 122	22	50
Dibenz(a,h)anthracene	30.0	21.3		ug/L		71	48 - 146	12	50
Fluoranthene	30.0	28.6		ug/L		95	54 - 128	25	52
Fluorene	30.0	35.6		ug/L		119	45 - 125	14	56
Indeno[1,2,3-cd]pyrene	30.0	20.3		ug/L		68	43 - 142	11	51
1-Methylnaphthalene	30.0	20.2		ug/L		67	41 - 120	14	55
2-Methylnaphthalene	30.0	20.0		ug/L		67	32 - 124	15	57
Phenanthrene	30.0	30.0		ug/L		100	48 - 120	17	56
Pyrene	30.0	32.6		ug/L		109	48 - 132	17	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*15 - 122*
Nitrobenzene-d5	*57*		*19 - 130*
Terphenyl-d14	*84*		*33 - 138*

LAB (LOCATION)

ACCUTEST (_____)

CALSCIENCE (_____)

TESTAMERICA (__Pensacola__)

Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:		
☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/15/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM

LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☐STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

ELIVERABLES ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) EDD

EMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 SIM PAH

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

00-173192 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071519-B	7/15/2019	0:00	Water	2					2		x	
	PD-12-GWP-70-071519	7/15/2019	9:10	Water	2			2		4	x	x	x
	PD-12-GWP-73-071519	7/15/2019	10:20	Water	2			2		4	x	x	x
	PD-4-GWP-35-071519	7/15/2019	11:40	Water	2			2		4	x	x	x
	PD-4-GWP-41-071519	7/15/2019	14:00	Water	2			2		4	x	x	x
	PD-4-GWP-43-071519	7/15/2019	14:50	Water	2			2		4	x	x	x
	PD-4-GWP-50-071519	7/15/2019	15:50	Water	2			2		4	x	x	x

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Relinquished by (Signature)	Received by (Signature)	Date	Time
	Fedex: 4931 8203 7410, 4931 8203 7421, 4931 8203 9432	7/15/2019	18:00
	29°C, 21°C IR7	07-16-19	910

Custody Seal #S: 1003194, 1003195, 1003196, 1003197

Version 10May17

8/1/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173192-1

Login Number: 173192
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9°C, 2.1°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19 *
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173192-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 5:06:39 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
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LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173192-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173192-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 8-1-19.

Receipt
The samples were received on 7/16/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.9º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448875 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-448875 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448875 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane, 2-Hexanone and Ethyl methacrylate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-4-GWP-41-071519 (400-173192-5) and PD-4-GWP-50-071519 (400-173192-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071519-B (400-173192-1), PD-12-GWP-70-071519 (400-173192-2), PD-12-GWP-73-071519 (400-173192-3), PD-4-GWP-35-071519 (400-173192-4), PD-4-GWP-41-071519 (400-173192-5) and PD-4-GWP-43-071519 (400-173192-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The method blank for analytical batch 400-448667 contained Methylene Chloride above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-448615 and analytical batch 400-448802 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448802 recovered above the upper control limit for N-Nitrosodimethylamine, 4-Nitrophenol, 4-Chloro-3-methylphenol and Aniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448802 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-448802 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 400-173192-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The method blank for preparation batch 400-448615 and analytical batch 400-449209 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449209 recovered above the upper control limit for 3,3'-Dichlorobenzidine, 4,6-Dinitro-ortho-cresol, 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449209 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, 4-Chlorophenyl phenyl ether, 1,4-Dioxane and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS and LCSD associated with preparation batch 400-448615 and analytical batch 400-449209: Hexachloroethane and 3,3'-Dichlorobenzidine. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-4-GWP-41-071519 (400-173192-5). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448615 and analytical batch 400-448802 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D LL: Surrogate recovery for the following sample was outside the upper control limit: (MB 400-448615/1-A). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-12-GWP-73-071519 (400-173192-3). These results have been reported and qualified.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-4-GWP-35-071519 (400-173192-4), PD-4-GWP-41-071519 (400-173192-5), PD-4-GWP-43-071519 (400-173192-6) and PD-4-GWP-50-071519 (400-173192-7). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene, Pyrene and Fluorene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173192-1	TB-PW-071519-B	Water	07/15/19 00:00	07/16/19 09:10	
400-173192-2	PD-12-GWP-70-071519	Water	07/15/19 09:10	07/16/19 09:10	
400-173192-3	PD-12-GWP-73-071519	Water	07/15/19 10:20	07/16/19 09:10	
400-173192-4	PD-4-GWP-35-071519	Water	07/15/19 11:40	07/16/19 09:10	
400-173192-5	PD-4-GWP-41-071519	Water	07/15/19 14:00	07/16/19 09:10	
400-173192-6	PD-4-GWP-43-071519	Water	07/15/19 14:50	07/16/19 09:10	
400-173192-7	PD-4-GWP-50-071519	Water	07/15/19 15:50	07/16/19 09:10	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B — Lab Sample ID: 400-173192-1

No Detections.

Client Sample ID: PD-12-GWP-70-071519 — Lab Sample ID: 400-173192-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	5.2		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	7.6		1.0	0.74	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.11	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.11	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	33	B	9.8	4.9	ug/L	1		8270D	Total/NA

Client Sample ID: PD-12-GWP-73-071519 — Lab Sample ID: 400-173192-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.2		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	5.2		1.0	0.74	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.044	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.077	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	13	B	9.8	4.9	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-35-071519 — Lab Sample ID: 400-173192-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.3		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	0.72	J	1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	6.2		1.0	0.74	ug/L	1		8260B	Total/NA
o-Xylene	0.62	J	5.0	0.60	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.0		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	0.72	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.0		1.0	0.82	ug/L	1		8260B	Total/NA
Xylenes, Total	2.0	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.37		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.53		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene - DL	0.13	J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene - DL	0.11	J	1.0	0.10	ug/L	5		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	10	B	10	5.0	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-41-071519 — Lab Sample ID: 400-173192-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	510		200	100	ug/L	200		8260B	Total/NA
m-Xylene & p-Xylene	790	J	1000	320	ug/L	200		8260B	Total/NA
Naphthalene	220		200	200	ug/L	200		8260B	Total/NA
o-Xylene	300	J	1000	120	ug/L	200		8260B	Total/NA
Toluene	450		200	82	ug/L	200		8260B	Total/NA
Xylenes, Total	1100	J	2000	320	ug/L	200		8260B	Total/NA
Benzene - DL	67000		500	190	ug/L	500		8260B	Total/NA
1-Methylnaphthalene	24		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	9.1		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene - DL	0.24	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Fluoranthene - DL	0.13	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Phenanthrene - DL	1.2		0.98	0.098	ug/L	5		8270D LL	Total/NA
Pyrene - DL	0.24	J	0.98	0.098	ug/L	5		8270D LL	Total/NA
Fluorene - RADL	1.1		0.98	0.10	ug/L	5		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519 (Continued) — Lab Sample ID: 400-173192-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	13	B	9.8	4.9	ug/L	1		8270D	Total/NA
Indene	4.9	J B	9.8	0.98	ug/L	1		8270D	Total/NA
Phenol - DL	170		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-4-GWP-43-071519 — Lab Sample ID: 400-173192-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	300		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	150		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	31		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	5.2		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	250		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	48		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	31		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	110		5.0	0.60	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	1.8		1.0	0.71	ug/L	1		8260B	Total/NA
sec-Butylbenzene	2.4		1.0	0.70	ug/L	1		8260B	Total/NA
Toluene	58		1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	99		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	30		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	360		10	1.6	ug/L	1		8260B	Total/NA
Fluorene	0.77		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	21		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	20		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene - DL	1.2		1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene - DL	0.18	J	1.0	0.10	ug/L	5		8270D LL	Total/NA

Client Sample ID: PD-4-GWP-50-071519 — Lab Sample ID: 400-173192-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2300		10	3.8	ug/L	10		8260B	Total/NA
Ethylbenzene	29		10	5.0	ug/L	10		8260B	Total/NA
Isopropylbenzene	40		10	5.3	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	93		50	16	ug/L	10		8260B	Total/NA
Naphthalene	17		10	10	ug/L	10		8260B	Total/NA
n-Butylbenzene	15		10	7.6	ug/L	10		8260B	Total/NA
N-Propylbenzene	69		10	6.9	ug/L	10		8260B	Total/NA
o-Xylene	26	J	50	6.0	ug/L	10		8260B	Total/NA
sec-Butylbenzene	10		10	7.0	ug/L	10		8260B	Total/NA
Toluene	18		10	4.1	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	17		10	8.2	ug/L	10		8260B	Total/NA
1,3,5-Trimethylbenzene	10		10	5.6	ug/L	10		8260B	Total/NA
Xylenes, Total	120		100	16	ug/L	10		8260B	Total/NA
Fluorene - DL	0.20	J	0.97	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene - DL	34		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	23		0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene - DL	0.24	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenol	18		9.7	2.5	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B

Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 22:59	1
Acrolein	ND		20	10	ug/L			07/19/19 22:59	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 22:59	1
Benzene	ND		1.0	0.38	ug/L			07/19/19 22:59	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 22:59	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 22:59	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 22:59	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 22:59	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 22:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 22:59	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 22:59	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 22:59	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 22:59	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 22:59	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 22:59	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 22:59	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 22:59	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 22:59	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 22:59	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 22:59	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 22:59	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 22:59	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 22:59	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 22:59	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 22:59	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 22:59	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/19/19 22:59	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 22:59	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 22:59	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 22:59	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 22:59	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 22:59	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 22:59	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: TB-PW-071519-B
Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 22:59	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 22:59	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 22:59	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 22:59	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 22:59	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 22:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 22:59	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 22:59	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 22:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 22:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 22:59	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 22:59	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 22:59	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 22:59	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 22:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 22:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 22:59	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 22:59	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 22:59	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 22:59	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 22:59*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 22:59*	*1*
Dibromofluoromethane	*90*		*81 - 121*		*07/19/19 22:59*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 22:59*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-70-071519

Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 23:24	1
Acrolein	ND		20	10	ug/L			07/19/19 23:24	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 23:24	1
Benzene	**5.2**		1.0	0.38	ug/L			07/19/19 23:24	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 23:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 23:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 23:24	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 23:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 23:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 23:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 23:24	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 23:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 23:24	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 23:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 23:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 23:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 23:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 23:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 23:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 23:24	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 23:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 23:24	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 23:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 23:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 23:24	1
Methyl tert-butyl ether	**7.6**		1.0	0.74	ug/L			07/19/19 23:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 23:24	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 23:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 23:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 23:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 23:24	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 23:24	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-70-071519
Lab Sample ID: 400-173192-2
Date Collected: 07/15/19 09:10
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 23:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 23:24	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 23:24	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 23:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 23:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 23:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 23:24	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 23:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 23:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 23:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 23:24	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 23:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 23:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 23:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 23:24	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 23:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 23:24	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 23:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*73*	*J*	*ug/L*		*2.43*	*67-63-0*		*07/19/19 23:24*	*1*
2-Methyl-2-propanol	*170*		*ug/L*		*2.67*	*75-65-0*		*07/19/19 23:24*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 23:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/19/19 23:24*	*1*
Dibromofluoromethane	*88*		*81 - 121*		*07/19/19 23:24*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 23:24*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Anthracene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Chrysene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
Fluoranthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Fluorene	ND		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 17:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:16	1
1-Methylnaphthalene	**0.11**	**J**	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1

Client Sample ID: PD-12-GWP-70-071519
Lab Sample ID: 400-173192-2
Date Collected: 07/15/19 09:10
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**0.11**	**J**	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Phenanthrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1
Pyrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*15 - 122*	*07/18/19 16:34*	*07/23/19 17:16*	*1*
Nitrobenzene-d5	*78*		*19 - 130*	*07/18/19 16:34*	*07/23/19 17:16*	*1*
Terphenyl-d14	*108*		*33 - 138*	*07/18/19 16:34*	*07/23/19 17:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 16:42	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/18/19 16:34	07/20/19 16:42	1
Benzoic acid	ND		29	7.2	ug/L		07/18/19 16:34	07/20/19 16:42	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 16:42	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/18/19 16:34	07/20/19 16:42	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/18/19 16:34	07/20/19 16:42	1
Bis(2-ethylhexyl) phthalate	**33**	**B**	9.8	4.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/18/19 16:34	07/20/19 16:42	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 16:42	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 16:42	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/18/19 16:34	07/20/19 16:42	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/18/19 16:34	07/20/19 16:42	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 16:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 16:42	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/18/19 16:34	07/20/19 16:42	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
Hexachloroethane	ND	*	9.8	4.1	ug/L		07/18/19 16:34	07/20/19 16:42	1
Indene	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 16:42	1
Isophorone	ND		9.8	0.56	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 16:42	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 16:42	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-70-071519
Lab Sample ID: 400-173192-2
Date Collected: 07/15/19 09:10
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/18/19 16:34	07/20/19 16:42	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/18/19 16:34	07/20/19 16:42	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/18/19 16:34	07/20/19 16:42	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 16:42	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 16:42	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/18/19 16:34	07/20/19 16:42	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/18/19 16:34	07/20/19 16:42	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 16:42	1
Phenol	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
Pyridine	ND		9.8	3.1	ug/L		07/18/19 16:34	07/20/19 16:42	1
Quinoline	ND		9.8	5.9	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/18/19 16:34	07/20/19 16:42	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 16:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*9.8*	*T J N*	*ug/L*		*4.01*	*590-90-9*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Thiophene, tetrahydro-, 1,1-dioxide	*5.9*	*T J N*	*ug/L*		*6.44*	*126-33-0*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
n-Hexadecanoic acid	*13*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/18/19 16:34*	*07/20/19 16:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*34 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Nitrobenzene-d5	*79*		*27 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Phenol-d5	*58*		*10 - 120*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/18/19 16:34*	*07/20/19 16:42*	*1*
2,4,6-Tribromophenol	*76*		*15 - 135*	*07/18/19 16:34*	*07/20/19 16:42*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-12-GWP-73-071519

Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 23:48	1
Acrolein	ND		20	10	ug/L			07/19/19 23:48	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 23:48	1
Benzene	**1.2**		1.0	0.38	ug/L			07/19/19 23:48	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 23:48	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 23:48	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 23:48	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 23:48	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 23:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 23:48	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 23:48	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 23:48	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 23:48	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 23:48	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:48	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 23:48	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 23:48	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 23:48	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 23:48	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 23:48	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 23:48	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 23:48	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 23:48	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 23:48	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/19/19 23:48	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 23:48	1
Methyl tert-butyl ether	**5.2**		1.0	0.74	ug/L			07/19/19 23:48	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 23:48	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 23:48	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 23:48	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 23:48	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 23:48	1
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 23:48	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-73-071519
Lab Sample ID: 400-173192-3
Date Collected: 07/15/19 10:20
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 23:48	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 23:48	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 23:48	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 23:48	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 23:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 23:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 23:48	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 23:48	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 23:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 23:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 23:48	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 23:48	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 23:48	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 23:48	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 23:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 23:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 23:48	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 23:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 23:48	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 23:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*110*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/19/19 23:48*	*1*
2-Methyl-2-propanol	*74*		*ug/L*		*2.67*	*75-65-0*		*07/19/19 23:48*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 23:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/19/19 23:48*	*1*
Dibromofluoromethane	*88*		*81 - 121*		*07/19/19 23:48*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/19/19 23:48*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Anthracene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Chrysene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
Fluoranthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Fluorene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 17:34	1
1-Methylnaphthalene	**0.044**	**J**	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-73-071519
Lab Sample ID: 400-173192-3
Date Collected: 07/15/19 10:20
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**0.077**	**J**	0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Phenanthrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1
Pyrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*115*		*15 - 122*	*07/18/19 16:34*	*07/23/19 17:34*	*1*
Nitrobenzene-d5	*92*		*19 - 130*	*07/18/19 16:34*	*07/23/19 17:34*	*1*
Terphenyl-d14	*141*	*X*	*33 - 138*	*07/18/19 16:34*	*07/23/19 17:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:03	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/18/19 16:34	07/20/19 17:03	1
Benzoic acid	ND		29	7.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:03	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/18/19 16:34	07/20/19 17:03	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/18/19 16:34	07/20/19 17:03	1
Bis(2-ethylhexyl) phthalate	**13**	**B**	9.8	4.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/18/19 16:34	07/20/19 17:03	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:03	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:03	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/18/19 16:34	07/20/19 17:03	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 17:03	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/18/19 16:34	07/20/19 17:03	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:03	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/18/19 16:34	07/20/19 17:03	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/18/19 16:34	07/20/19 17:03	1
Hexachloroethane	ND	*	9.8	4.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
Indene	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:03	1
Isophorone	ND		9.8	0.56	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:03	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 17:03	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-12-GWP-73-071519
Lab Sample ID: 400-173192-3
Date Collected: 07/15/19 10:20
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/18/19 16:34	07/20/19 17:03	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/18/19 16:34	07/20/19 17:03	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/18/19 16:34	07/20/19 17:03	1
4-Nitrophenol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:03	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:03	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/18/19 16:34	07/20/19 17:03	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/18/19 16:34	07/20/19 17:03	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 17:03	1
Phenol	ND		9.8	2.5	ug/L		07/18/19 16:34	07/20/19 17:03	1
Pyridine	ND		9.8	3.1	ug/L		07/18/19 16:34	07/20/19 17:03	1
Quinoline	ND		9.8	5.9	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/18/19 16:34	07/20/19 17:03	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/18/19 16:34*	*07/20/19 17:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*34 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
Nitrobenzene-d5	*72*		*27 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
Phenol-d5	*45*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
Terphenyl-d14	*53*		*53 - 125*	*07/18/19 16:34*	*07/20/19 17:03*	*1*
2,4,6-Tribromophenol	*50*		*15 - 135*	*07/18/19 16:34*	*07/20/19 17:03*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Lab Sample ID: 400-173192-4

Date Collected: 07/15/19 11:40

Matrix: Water

Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/20/19 00:12	1
Acrolein	ND		20	10	ug/L			07/20/19 00:12	1
Acrylonitrile	ND		10	2.8	ug/L			07/20/19 00:12	1
Benzene	**6.3**		1.0	0.38	ug/L			07/20/19 00:12	1
Bromobenzene	ND		1.0	0.54	ug/L			07/20/19 00:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/20/19 00:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Bromoform	ND		5.0	0.71	ug/L			07/20/19 00:12	1
Bromomethane	ND		1.0	0.98	ug/L			07/20/19 00:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/20/19 00:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Chloroethane	ND		1.0	0.76	ug/L			07/20/19 00:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/20/19 00:12	1
Chloroform	ND		1.0	0.60	ug/L			07/20/19 00:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/20/19 00:12	1
Chloromethane	ND		1.0	0.83	ug/L			07/20/19 00:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/20/19 00:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/20/19 00:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/20/19 00:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/20/19 00:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/20/19 00:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Ethylbenzene	**0.72**	**J**	1.0	0.50	ug/L			07/20/19 00:12	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/20/19 00:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/20/19 00:12	1
2-Hexanone	ND		25	3.1	ug/L			07/20/19 00:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/20/19 00:12	1
Methylene bromide	ND		5.0	0.59	ug/L			07/20/19 00:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/20/19 00:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/20/19 00:12	1
Methyl tert-butyl ether	**6.2**		1.0	0.74	ug/L			07/20/19 00:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/20/19 00:12	1
Naphthalene	ND		1.0	1.0	ug/L			07/20/19 00:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/20/19 00:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/20/19 00:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/20/19 00:12	1
o-Xylene	**0.62**	**J**	5.0	0.60	ug/L			07/20/19 00:12	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Lab Sample ID: 400-173192-4

Date Collected: 07/15/19 11:40

Matrix: Water

Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/20/19 00:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/20/19 00:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/20/19 00:12	1
Styrene	ND		1.0	1.0	ug/L			07/20/19 00:12	1
tert-Butylbenzene	**1.0**		1.0	0.63	ug/L			07/20/19 00:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/20/19 00:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/20/19 00:12	1
Toluene	**0.72**	**J**	1.0	0.41	ug/L			07/20/19 00:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/20/19 00:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/20/19 00:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/20/19 00:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/20/19 00:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/20/19 00:12	1
Trichloroethene	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/20/19 00:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/20/19 00:12	1
1,2,4-Trimethylbenzene	**1.0**		1.0	0.82	ug/L			07/20/19 00:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/20/19 00:12	1
Vinyl acetate	ND		25	2.0	ug/L			07/20/19 00:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/20/19 00:12	1
Xylenes, Total	**2.0**	**J**	10	1.6	ug/L			07/20/19 00:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*18*	*J*	*ug/L*		*2.42*	*67-63-0*		*07/20/19 00:12*	*1*
2-Methyl-2-propanol	*750*		*ug/L*		*2.67*	*75-65-0*		*07/20/19 00:12*	*1*
2-Butene, 2,3-dimethyl-	*7.6*	*T J N*	*ug/L*		*3.33*	*563-79-1*		*07/20/19 00:12*	*1*
Cyclohexane	*0.71*	*J*	*ug/L*		*3.72*	*110-82-7*		*07/20/19 00:12*	*1*
Cyclopentane, 1,1-dimethyl-	*5.1*	*T J N*	*ug/L*		*3.83*	*1638-26-2*		*07/20/19 00:12*	*1*
t-Amyl alcohol	*88*		*ug/L*		*3.89*	*75-85-4*		*07/20/19 00:12*	*1*
Isooctane	*2.0*	*J*	*ug/L*		*3.94*	*540-84-1*		*07/20/19 00:12*	*1*
Indane	*28*	*T J N*	*ug/L*		*8.06*	*496-11-7*		*07/20/19 00:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/20/19 00:12*	*1*
Dibromofluoromethane	*88*		*81 - 121*		*07/20/19 00:12*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/20/19 00:12*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1
Fluorene	ND		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 17:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 17:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Lab Sample ID: 400-173192-4

Date Collected: 07/15/19 11:40

Matrix: Water

Date Received: 07/16/19 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.37		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1
2-Methylnaphthalene	0.53		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*15 - 122*	*07/18/19 16:34*	*07/23/19 17:51*	*1*
Nitrobenzene-d5	*82*		*19 - 130*	*07/18/19 16:34*	*07/23/19 17:51*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	0.13	J	1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5
Benzo[a]anthracene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:00	5
Chrysene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:00	5
Fluoranthene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5
Phenanthrene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5
Pyrene	0.11	J	1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:00	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*66*		*33 - 138*	*07/18/19 16:34*	*07/29/19 19:00*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
Benzenethiol	ND	*	10	1.7	ug/L		07/18/19 16:34	07/20/19 17:24	1
Benzoic acid	ND		30	7.4	ug/L		07/18/19 16:34	07/20/19 17:24	1
Benzyl alcohol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 17:24	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/18/19 16:34	07/20/19 17:24	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/18/19 16:34	07/20/19 17:24	1
Bis(2-ethylhexyl) phthalate	10	B	10	5.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/18/19 16:34	07/20/19 17:24	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Chloroaniline	ND		10	3.4	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Chlorophenol	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Dibenzofuran	ND		10	0.53	ug/L		07/18/19 16:34	07/20/19 17:24	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Diethyl phthalate	ND		10	0.71	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 17:24	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/18/19 16:34	07/20/19 17:24	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/18/19 16:34	07/20/19 17:24	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 17:24	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/18/19 16:34	07/20/19 17:24	1
1,4-Dioxane	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 17:24	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-35-071519

Lab Sample ID: 400-173192-4

Date Collected: 07/15/19 11:40
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/18/19 16:34	07/20/19 17:24	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/20/19 17:24	1
Hexachloroethane	ND		10	4.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
Indene	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 17:24	1
Isophorone	ND		10	0.58	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Methylphenol	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Nitroaniline	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
3-Nitroaniline	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Nitroaniline	ND		10	2.5	ug/L		07/18/19 16:34	07/20/19 17:24	1
Nitrobenzene	ND		10	0.56	ug/L		07/18/19 16:34	07/20/19 17:24	1
2-Nitrophenol	ND		10	0.66	ug/L		07/18/19 16:34	07/20/19 17:24	1
4-Nitrophenol	ND		10	2.1	ug/L		07/18/19 16:34	07/20/19 17:24	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 17:24	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/18/19 16:34	07/20/19 17:24	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/18/19 16:34	07/20/19 17:24	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 17:24	1
Phenol	ND		10	2.6	ug/L		07/18/19 16:34	07/20/19 17:24	1
Pyridine	ND		10	3.2	ug/L		07/18/19 16:34	07/20/19 17:24	1
Quinoline	ND		10	6.1	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/18/19 16:34	07/20/19 17:24	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 17:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*13*	*T J*	*ug/L*		*3.54*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*4.3*	*T J*	*ug/L*		*3.75*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*4.02*	*590-90-9*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Cyclopentanol, 1-methyl-	*4.5*	*T J N*	*ug/L*		*4.10*	*1462-03-9*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
1,3-Dimethylcyclopentanol	*5.7*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
1-Methylcyclohexanol	*5.1*	*T J N*	*ug/L*		*4.90*	*590-67-0*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*8.4*	*T J*	*ug/L*		*4.91*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
Indane	*24*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*12*	*T J*	*ug/L*		*5.91*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*7.3*	*T J*	*ug/L*		*5.96*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*5.6*	*T J*	*ug/L*		*6.36*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*4.4*	*T J*	*ug/L*		*6.94*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
Unknown	*5.1*	*T J*	*ug/L*		*7.02*		*07/18/19 16:34*	*07/20/19 17:24*	*1*
7-Methylindan-1-one	*12*	*T J N*	*ug/L*		*7.22*	*39627-61-7*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
n-Hexadecanoic acid	*12*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/18/19 16:34*	*07/20/19 17:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*55*		*34 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Nitrobenzene-d5	*73*		*27 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Phenol-d5	*55*		*10 - 120*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
Terphenyl-d14	*37*	*X*	*53 - 125*	*07/18/19 16:34*	*07/20/19 17:24*	*1*
2,4,6-Tribromophenol	*75*		*15 - 135*	*07/18/19 16:34*	*07/20/19 17:24*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519
Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5000	2000	ug/L			07/21/19 21:27	200
Acrolein	ND		4000	2000	ug/L			07/21/19 21:27	200
Acrylonitrile	ND		2000	560	ug/L			07/21/19 21:27	200
Bromobenzene	ND		200	110	ug/L			07/21/19 21:27	200
Bromochloromethane	ND		200	100	ug/L			07/21/19 21:27	200
Bromodichloromethane	ND		200	100	ug/L			07/21/19 21:27	200
Bromoform	ND		1000	140	ug/L			07/21/19 21:27	200
Bromomethane	ND		200	200	ug/L			07/21/19 21:27	200
2-Butanone (MEK)	ND		5000	520	ug/L			07/21/19 21:27	200
Carbon disulfide	ND		200	100	ug/L			07/21/19 21:27	200
Carbon tetrachloride	ND		200	100	ug/L			07/21/19 21:27	200
Chlorobenzene	ND		200	100	ug/L			07/21/19 21:27	200
Chloroethane	ND		200	150	ug/L			07/21/19 21:27	200
2-Chloroethyl vinyl ether	ND		1000	400	ug/L			07/21/19 21:27	200
Chloroform	ND		200	120	ug/L			07/21/19 21:27	200
1-Chlorohexane	ND		200	140	ug/L			07/21/19 21:27	200
Chloromethane	ND		200	170	ug/L			07/21/19 21:27	200
cis-1,2-Dichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
cis-1,3-Dichloropropene	ND		1000	100	ug/L			07/21/19 21:27	200
Dibromochloromethane	ND		200	100	ug/L			07/21/19 21:27	200
1,2-Dibromo-3-Chloropropane	ND		1000	300	ug/L			07/21/19 21:27	200
1,2-Dichlorobenzene	ND		200	100	ug/L			07/21/19 21:27	200
1,3-Dichlorobenzene	ND		200	110	ug/L			07/21/19 21:27	200
1,4-Dichlorobenzene	ND		200	130	ug/L			07/21/19 21:27	200
Dichlorodifluoromethane	ND		200	170	ug/L			07/21/19 21:27	200
1,1-Dichloroethane	ND		200	100	ug/L			07/21/19 21:27	200
1,2-Dichloroethane	ND		200	100	ug/L			07/21/19 21:27	200
1,1-Dichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
1,2-Dichloropropane	ND		200	100	ug/L			07/21/19 21:27	200
1,3-Dichloropropane	ND		200	100	ug/L			07/21/19 21:27	200
2,2-Dichloropropane	ND		200	100	ug/L			07/21/19 21:27	200
1,1-Dichloropropene	ND		200	100	ug/L			07/21/19 21:27	200
Ethylbenzene	**510**		200	100	ug/L			07/21/19 21:27	200
Ethylene Dibromide	ND		200	100	ug/L			07/21/19 21:27	200
Ethyl methacrylate	ND	*	200	120	ug/L			07/21/19 21:27	200
Hexachlorobutadiene	ND		1000	180	ug/L			07/21/19 21:27	200
2-Hexanone	ND	*	5000	620	ug/L			07/21/19 21:27	200
Isopropylbenzene	ND		200	110	ug/L			07/21/19 21:27	200
Methylene bromide	ND		1000	120	ug/L			07/21/19 21:27	200
Methylene Chloride	ND		1000	600	ug/L			07/21/19 21:27	200
4-Methyl-2-pentanone (MIBK)	ND		5000	360	ug/L			07/21/19 21:27	200
Methyl tert-butyl ether	ND		200	150	ug/L			07/21/19 21:27	200
m-Xylene & p-Xylene	**790**	**J**	1000	320	ug/L			07/21/19 21:27	200
Naphthalene	**220**		200	200	ug/L			07/21/19 21:27	200
n-Butylbenzene	ND		200	150	ug/L			07/21/19 21:27	200
N-Propylbenzene	ND		200	140	ug/L			07/21/19 21:27	200
o-Chlorotoluene	ND		200	110	ug/L			07/21/19 21:27	200
o-Xylene	**300**	**J**	1000	120	ug/L			07/21/19 21:27	200
p-Chlorotoluene	ND		200	110	ug/L			07/21/19 21:27	200

Client Sample ID: PD-4-GWP-41-071519
Lab Sample ID: 400-173192-5
Date Collected: 07/15/19 14:00
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		200	140	ug/L			07/21/19 21:27	200
sec-Butylbenzene	ND		200	140	ug/L			07/21/19 21:27	200
Styrene	ND		200	200	ug/L			07/21/19 21:27	200
tert-Butylbenzene	ND		200	130	ug/L			07/21/19 21:27	200
1,1,1,2-Tetrachloroethane	ND	*	200	100	ug/L			07/21/19 21:27	200
1,1,2,2-Tetrachloroethane	ND		200	100	ug/L			07/21/19 21:27	200
Tetrachloroethene	ND		200	120	ug/L			07/21/19 21:27	200
Toluene	**450**		200	82	ug/L			07/21/19 21:27	200
trans-1,2-Dichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
trans-1,3-Dichloropropene	ND		1000	100	ug/L			07/21/19 21:27	200
1,2,3-Trichlorobenzene	ND		200	140	ug/L			07/21/19 21:27	200
1,2,4-Trichlorobenzene	ND		200	160	ug/L			07/21/19 21:27	200
1,1,1-Trichloroethane	ND		200	100	ug/L			07/21/19 21:27	200
1,1,2-Trichloroethane	ND		1000	100	ug/L			07/21/19 21:27	200
Trichloroethene	ND		200	100	ug/L			07/21/19 21:27	200
Trichlorofluoromethane	ND		200	100	ug/L			07/21/19 21:27	200
1,2,3-Trichloropropane	ND		1000	170	ug/L			07/21/19 21:27	200
1,2,4-Trimethylbenzene	ND		200	160	ug/L			07/21/19 21:27	200
1,3,5-Trimethylbenzene	ND		200	110	ug/L			07/21/19 21:27	200
Vinyl acetate	ND		5000	400	ug/L			07/21/19 21:27	200
Vinyl chloride	ND		200	100	ug/L			07/21/19 21:27	200
Xylenes, Total	**1100**	**J**	2000	320	ug/L			07/21/19 21:27	200

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane	*170*	*J*	*ug/L*		*4.55*	*110-82-7*		*07/21/19 21:27*	*200*
Tentatively Identified Compound	*None*		*ug/L*					*07/21/19 21:27*	*200*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/21/19 21:27*	*200*
Dibromofluoromethane	*94*		*81 - 121*		*07/21/19 21:27*	*200*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/21/19 21:27*	*200*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**67000**		500	190	ug/L			07/22/19 15:20	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 15:20*	*500*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 15:20*	*500*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 15:20*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/18/19 16:34	07/23/19 18:10	1
1-Methylnaphthalene	**24**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:10	1
2-Methylnaphthalene	**9.1**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:10	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-41-071519

Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*70*		*19 - 130*	*07/18/19 16:34*	*07/23/19 18:10*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Acenaphthylene	ND		0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Anthracene	**0.24**	**J**	0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/18/19 16:34	07/29/19 19:17	5
Chrysene	ND		0.98	0.20	ug/L		07/18/19 16:34	07/29/19 19:17	5
Fluoranthene	**0.13**	**J**	0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Phenanthrene	**1.2**		0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5
Pyrene	**0.24**	**J**	0.98	0.098	ug/L		07/18/19 16:34	07/29/19 19:17	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*64*		*15 - 122*	*07/18/19 16:34*	*07/29/19 19:17*	*5*
Terphenyl-d14	*63*		*33 - 138*	*07/18/19 16:34*	*07/29/19 19:17*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RADL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**1.1**		0.98	0.10	ug/L		07/18/19 16:34	07/30/19 23:56	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:45	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/18/19 16:34	07/20/19 17:45	1
Benzoic acid	ND		29	7.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:45	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/18/19 16:34	07/20/19 17:45	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/18/19 16:34	07/20/19 17:45	1
Bis(2-ethylhexyl) phthalate	**13**	**B**	9.8	4.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/18/19 16:34	07/20/19 17:45	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/18/19 16:34	07/20/19 17:45	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:45	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/18/19 16:34	07/20/19 17:45	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/18/19 16:34	07/20/19 17:45	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/18/19 16:34	07/20/19 17:45	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-41-071519
Lab Sample ID: 400-173192-5
Date Collected: 07/15/19 14:00
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:45	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/18/19 16:34	07/20/19 17:45	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/18/19 16:34	07/20/19 17:45	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
Indene	**4.9**	**J B**	9.8	0.98	ug/L		07/18/19 16:34	07/20/19 17:45	1
Isophorone	ND		9.8	0.56	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:45	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/18/19 16:34	07/20/19 17:45	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/18/19 16:34	07/20/19 17:45	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/18/19 16:34	07/20/19 17:45	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/18/19 16:34	07/20/19 17:45	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:45	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/18/19 16:34	07/20/19 17:45	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/18/19 16:34	07/20/19 17:45	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 17:45	1
Pyridine	ND		9.8	3.1	ug/L		07/18/19 16:34	07/20/19 17:45	1
Quinoline	ND		9.8	5.9	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/18/19 16:34	07/20/19 17:45	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/18/19 16:34	07/20/19 17:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*98*	*T J N*	*ug/L*		*3.88*	*108-88-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
2-Butanone, 4-hydroxy-	*12*	*T J N*	*ug/L*		*4.02*	*590-90-9*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Ethylbenzene	*180*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
p-Xylene	*120*	*T J N*	*ug/L*		*4.87*	*106-42-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, (1-methylethyl)-	*17*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, propyl-	*19*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*18*	*T J N*	*ug/L*		*5.28*	*611-14-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*21*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethyl-2-methyl-	*22*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,3,5-trimethyl-	*68*	*T J N*	*ug/L*		*5.47*	*108-67-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,2,3-trimethyl-	*21*	*T J N*	*ug/L*		*5.62*	*526-73-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Indane	*130*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,4-diethyl-	*15*	*T J N*	*ug/L*		*5.77*	*105-05-5*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*27*	*T J N*	*ug/L*		*5.91*	*535-77-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1,2,4,5-tetramethyl-	*18*	*T J N*	*ug/L*		*6.06*	*95-93-2*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 1-ethenyl-4-ethyl-	*14*	*T J N*	*ug/L*		*6.19*	*3454-07-7*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*29*	*T J N*	*ug/L*		*6.24*	*934-80-5*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Unknown	*11*	*T J*	*ug/L*		*6.31*		*07/18/19 16:34*	*07/20/19 17:45*	*1*
Unknown	*18*	*T J*	*ug/L*		*6.39*		*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene	*50*	*T J N*	*ug/L*		*6.43*	*91-20-3*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 1-methyl-	*24*	*T J N*	*ug/L*		*6.95*	*90-12-0*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 2,6-dimethyl-	*14*	*T J N*	*ug/L*		*7.30*	*581-42-0*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 2,3-dimethyl-	*18*	*T J N*	*ug/L*		*7.35*	*581-40-8*	*07/18/19 16:34*	*07/20/19 17:45*	*1*
Naphthalene, 1,6-dimethyl-	*11*	*T J N*	*ug/L*		*7.37*	*575-43-9*	*07/18/19 16:34*	*07/20/19 17:45*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-41-071519
Lab Sample ID: 400-173192-5

Date Collected: 07/15/19 14:00
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
n-Hexadecanoic acid	13	T J N	ug/L		9.08	57-10-3	07/18/19 16:34	07/20/19 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	07/18/19 16:34	07/20/19 17:45	1
2-Fluorophenol	26		10 - 120	07/18/19 16:34	07/20/19 17:45	1
Nitrobenzene-d5	63		27 - 120	07/18/19 16:34	07/20/19 17:45	1
Phenol-d5	45		10 - 120	07/18/19 16:34	07/20/19 17:45	1
Terphenyl-d14	33	X	53 - 125	07/18/19 16:34	07/20/19 17:45	1
2,4,6-Tribromophenol	76		15 - 135	07/18/19 16:34	07/20/19 17:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	170		49	13	ug/L		07/18/19 16:34	07/24/19 02:58	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519

Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/21/19 18:21	1
Acrolein	ND		20	10	ug/L			07/21/19 18:21	1
Acrylonitrile	ND		10	2.8	ug/L			07/21/19 18:21	1
Benzene	**300**		1.0	0.38	ug/L			07/21/19 18:21	1
Bromobenzene	ND		1.0	0.54	ug/L			07/21/19 18:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/21/19 18:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Bromoform	ND		5.0	0.71	ug/L			07/21/19 18:21	1
Bromomethane	ND		1.0	0.98	ug/L			07/21/19 18:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/21/19 18:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Chloroethane	ND		1.0	0.76	ug/L			07/21/19 18:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/21/19 18:21	1
Chloroform	ND		1.0	0.60	ug/L			07/21/19 18:21	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/21/19 18:21	1
Chloromethane	ND		1.0	0.83	ug/L			07/21/19 18:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 18:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/21/19 18:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/21/19 18:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/21/19 18:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/21/19 18:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Ethylbenzene	**150**		1.0	0.50	ug/L			07/21/19 18:21	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Ethyl methacrylate	ND	*	1.0	0.60	ug/L			07/21/19 18:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/21/19 18:21	1
2-Hexanone	ND	*	25	3.1	ug/L			07/21/19 18:21	1
Isopropylbenzene	**31**		1.0	0.53	ug/L			07/21/19 18:21	1
Methylene bromide	ND		5.0	0.59	ug/L			07/21/19 18:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/21/19 18:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/21/19 18:21	1
Methyl tert-butyl ether	**5.2**		1.0	0.74	ug/L			07/21/19 18:21	1
m-Xylene & p-Xylene	**250**		5.0	1.6	ug/L			07/21/19 18:21	1
Naphthalene	**48**		1.0	1.0	ug/L			07/21/19 18:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/21/19 18:21	1
N-Propylbenzene	**31**		1.0	0.69	ug/L			07/21/19 18:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/21/19 18:21	1
o-Xylene	**110**		5.0	0.60	ug/L			07/21/19 18:21	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519

Lab Sample ID: 400-173192-6

Date Collected: 07/15/19 14:50

Matrix: Water

Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/21/19 18:21	1
p-Isopropyltoluene	**1.8**		1.0	0.71	ug/L			07/21/19 18:21	1
sec-Butylbenzene	**2.4**		1.0	0.70	ug/L			07/21/19 18:21	1
Styrene	ND		1.0	1.0	ug/L			07/21/19 18:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/21/19 18:21	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/21/19 18:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/21/19 18:21	1
Toluene	**58**		1.0	0.41	ug/L			07/21/19 18:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 18:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/21/19 18:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/21/19 18:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/21/19 18:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/21/19 18:21	1
Trichloroethene	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/21/19 18:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/21/19 18:21	1
1,2,4-Trimethylbenzene	**99**		1.0	0.82	ug/L			07/21/19 18:21	1
1,3,5-Trimethylbenzene	**30**		1.0	0.56	ug/L			07/21/19 18:21	1
Vinyl acetate	ND		25	2.0	ug/L			07/21/19 18:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/21/19 18:21	1
Xylenes, Total	**360**		10	1.6	ug/L			07/21/19 18:21	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*40*	*T J*	*ug/L*		*2.10*			*07/21/19 18:21*	*1*
Butane, 2-methyl-	*53*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/21/19 18:21*	*1*
Ethanol	*57*	*J*	*ug/L*		*2.77*	*64-17-5*		*07/21/19 18:21*	*1*
Cyclopropane, 1,2-dimethyl-, cis-	*21*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/21/19 18:21*	*1*
Isopropyl alcohol	*190*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/21/19 18:21*	*1*
2-Methyl-2-propanol	*410*		*ug/L*		*3.39*	*75-65-0*		*07/21/19 18:21*	*1*
Hexane	*170*		*ug/L*		*3.70*	*110-54-3*		*07/21/19 18:21*	*1*
Cyclopentane, methyl-	*53*	*T J N*	*ug/L*		*4.12*	*96-37-7*		*07/21/19 18:21*	*1*
Cyclohexane	*630*	*E*	*ug/L*		*4.54*	*110-82-7*		*07/21/19 18:21*	*1*
t-Amyl alcohol	*100*		*ug/L*		*4.66*	*75-85-4*		*07/21/19 18:21*	*1*
Isooctane	*91*		*ug/L*		*4.76*	*540-84-1*		*07/21/19 18:21*	*1*
n-Heptane	*77*		*ug/L*		*4.85*	*142-82-5*		*07/21/19 18:21*	*1*
Methylcyclohexane	*280*		*ug/L*		*5.27*	*108-87-2*		*07/21/19 18:21*	*1*
Cyclohexane, 1,3-dimethyl-, trans-	*21*	*T J N*	*ug/L*		*6.17*	*2207-03-6*		*07/21/19 18:21*	*1*
Unknown	*44*	*T J*	*ug/L*		*6.23*			*07/21/19 18:21*	*1*
Unknown	*22*	*T J*	*ug/L*		*6.43*			*07/21/19 18:21*	*1*
Unknown	*23*	*T J*	*ug/L*		*7.58*			*07/21/19 18:21*	*1*
3-Ethyltoluene	*65*		*ug/L*		*8.07*	*620-14-4*		*07/21/19 18:21*	*1*
2-Ethyltoluene	*50*		*ug/L*		*8.30*	*611-14-3*		*07/21/19 18:21*	*1*
1,2,3-Trimethylbenzene	*56*		*ug/L*		*8.77*	*526-73-8*		*07/21/19 18:21*	*1*
Unknown	*26*	*T J*	*ug/L*		*9.42*			*07/21/19 18:21*	*1*
Unknown	*57*	*T J*	*ug/L*		*10.11*			*07/21/19 18:21*	*1*
2-Methylnaphthalene	*20*		*ug/L*		*11.72*	*91-57-6*		*07/21/19 18:21*	*1*
1-Methylnaphthalene	*19*		*ug/L*		*11.91*	*90-12-0*		*07/21/19 18:21*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-43-071519
Date Collected: 07/15/19 14:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-6
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/21/19 18:21	1
Dibromofluoromethane	95		81 - 121		07/21/19 18:21	1
Toluene-d8 (Surr)	109		80 - 120		07/21/19 18:21	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
Fluorene	**0.77**		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 18:29	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 18:29	1
1-Methylnaphthalene	**21**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1
2-Methylnaphthalene	**20**		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		15 - 122	07/18/19 16:34	07/23/19 18:29	1
Nitrobenzene-d5	67		19 - 130	07/18/19 16:34	07/23/19 18:29	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5
Benzo[a]anthracene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:33	5
Chrysene	ND		1.0	0.20	ug/L		07/18/19 16:34	07/29/19 19:33	5
Fluoranthene	ND		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5
Phenanthrene	**1.2**		1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5
Pyrene	**0.18**	**J**	1.0	0.10	ug/L		07/18/19 16:34	07/29/19 19:33	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	57		33 - 138	07/18/19 16:34	07/29/19 19:33	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
Benzenethiol	ND	*	10	1.7	ug/L		07/18/19 16:34	07/20/19 18:07	1
Benzoic acid	ND		30	7.4	ug/L		07/18/19 16:34	07/20/19 18:07	1
Benzyl alcohol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 18:07	1
Bis(2-chloroethyl)ether	ND		10	0.75	ug/L		07/18/19 16:34	07/20/19 18:07	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/18/19 16:34	07/20/19 18:07	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/18/19 16:34	07/20/19 18:07	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Chloroaniline	ND		10	3.4	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Chlorophenol	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 18:07	1

Client Sample ID: PD-4-GWP-43-071519
Lab Sample ID: 400-173192-6
Date Collected: 07/15/19 14:50
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Dibenzofuran	ND		10	0.52	ug/L		07/18/19 16:34	07/20/19 18:07	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Diethyl phthalate	ND		10	0.71	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 18:07	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/18/19 16:34	07/20/19 18:07	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/18/19 16:34	07/20/19 18:07	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/20/19 18:07	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/18/19 16:34	07/20/19 18:07	1
1,4-Dioxane	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/18/19 16:34	07/20/19 18:07	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/20/19 18:07	1
Hexachloroethane	ND		10	4.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
Indene	ND		10	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
Isophorone	ND		10	0.57	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Methylphenol	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Nitroaniline	ND		10	2.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
3-Nitroaniline	ND		10	1.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Nitroaniline	ND		10	2.5	ug/L		07/18/19 16:34	07/20/19 18:07	1
Nitrobenzene	ND		10	0.55	ug/L		07/18/19 16:34	07/20/19 18:07	1
2-Nitrophenol	ND		10	0.65	ug/L		07/18/19 16:34	07/20/19 18:07	1
4-Nitrophenol	ND		10	2.1	ug/L		07/18/19 16:34	07/20/19 18:07	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 18:07	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/18/19 16:34	07/20/19 18:07	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/18/19 16:34	07/20/19 18:07	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/20/19 18:07	1
Phenol	ND		10	2.6	ug/L		07/18/19 16:34	07/20/19 18:07	1
Pyridine	ND		10	3.2	ug/L		07/18/19 16:34	07/20/19 18:07	1
Quinoline	ND		10	6.0	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/18/19 16:34	07/20/19 18:07	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/18/19 16:34	07/20/19 18:07	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane, methyl-	*16*	*T J N*	*ug/L*		*3.46*	*108-87-2*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Unknown	*17*	*T J*	*ug/L*		*3.54*		*07/18/19 16:34*	*07/20/19 18:07*	*1*
Unknown	*13*	*T J*	*ug/L*		*3.75*		*07/18/19 16:34*	*07/20/19 18:07*	*1*
Toluene	*17*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Unknown	*17*	*T J*	*ug/L*		*3.90*		*07/18/19 16:34*	*07/20/19 18:07*	*1*
2-Butanone, 4-hydroxy-	*22*	*T J N*	*ug/L*		*4.03*	*590-90-9*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Ethylbenzene	*80*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Benzene, 1,3-dimethyl-	*59*	*T J N*	*ug/L*		*4.87*	*108-38-3*	*07/18/19 16:34*	*07/20/19 18:07*	*1*
Unknown	*13*	*T J*	*ug/L*		*4.90*		*07/18/19 16:34*	*07/20/19 18:07*	*1*
Unknown	*18*	*T J*	*ug/L*		*4.92*		*07/18/19 16:34*	*07/20/19 18:07*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-43-071519
Lab Sample ID: 400-173192-6
Date Collected: 07/15/19 14:50
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzene, (1-methylethyl)-	25	T J N	ug/L		5.06	98-82-8	07/18/19 16:34	07/20/19 18:07	1
Benzene, propyl-	23	T J N	ug/L		5.24	103-65-1	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1-ethyl-2-methyl-	25	T J N	ug/L		5.28	611-14-3	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1-ethyl-2-methyl-	26	T J N	ug/L		5.30	611-14-3	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1-ethyl-2-methyl-	40	T J N	ug/L		5.38	611-14-3	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1,3,5-trimethyl-	70	T J N	ug/L		5.47	108-67-8	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1,2,3-trimethyl-	48	T J N	ug/L		5.62	526-73-8	07/18/19 16:34	07/20/19 18:07	1
Indane	97	T J N	ug/L		5.71	496-11-7	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1,3-diethyl-	13	T J N	ug/L		5.77	141-93-5	07/18/19 16:34	07/20/19 18:07	1
Benzene, 1-ethyl-2,3-dimethyl-	14	T J N	ug/L		5.91	933-98-2	07/18/19 16:34	07/20/19 18:07	1
Benzene, 2-butenyl-	34	T J N	ug/L		6.24	1560-06-1	07/18/19 16:34	07/20/19 18:07	1
Naphthalene	42	T J N	ug/L		6.43	91-20-3	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 2-methyl-	19	T J N	ug/L		6.87	91-57-6	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 1-methyl-	23	T J N	ug/L		6.95	90-12-0	07/18/19 16:34	07/20/19 18:07	1
Naphthalene, 2,3-dimethyl-	12	T J N	ug/L		7.35	581-40-8	07/18/19 16:34	07/20/19 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	47		34 - 120	07/18/19 16:34	07/20/19 18:07	1
2-Fluorophenol	18		10 - 120	07/18/19 16:34	07/20/19 18:07	1
Nitrobenzene-d5	64		27 - 120	07/18/19 16:34	07/20/19 18:07	1
Phenol-d5	36		10 - 120	07/18/19 16:34	07/20/19 18:07	1
Terphenyl-d14	28	X	53 - 125	07/18/19 16:34	07/20/19 18:07	1
2,4,6-Tribromophenol	61		15 - 135	07/18/19 16:34	07/20/19 18:07	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519

Date Collected: 07/15/19 15:50
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			07/21/19 19:14	10
Acrolein	ND		200	100	ug/L			07/21/19 19:14	10
Acrylonitrile	ND		100	28	ug/L			07/21/19 19:14	10
Benzene	**2300**		10	3.8	ug/L			07/21/19 19:14	10
Bromobenzene	ND		10	5.4	ug/L			07/21/19 19:14	10
Bromochloromethane	ND		10	5.2	ug/L			07/21/19 19:14	10
Bromodichloromethane	ND		10	5.0	ug/L			07/21/19 19:14	10
Bromoform	ND		50	7.1	ug/L			07/21/19 19:14	10
Bromomethane	ND		10	9.8	ug/L			07/21/19 19:14	10
2-Butanone (MEK)	ND		250	26	ug/L			07/21/19 19:14	10
Carbon disulfide	ND		10	5.0	ug/L			07/21/19 19:14	10
Carbon tetrachloride	ND		10	5.0	ug/L			07/21/19 19:14	10
Chlorobenzene	ND		10	5.0	ug/L			07/21/19 19:14	10
Chloroethane	ND		10	7.6	ug/L			07/21/19 19:14	10
2-Chloroethyl vinyl ether	ND		50	20	ug/L			07/21/19 19:14	10
Chloroform	ND		10	6.0	ug/L			07/21/19 19:14	10
1-Chlorohexane	ND		10	7.0	ug/L			07/21/19 19:14	10
Chloromethane	ND		10	8.3	ug/L			07/21/19 19:14	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			07/21/19 19:14	10
Dibromochloromethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,2-Dibromo-3-Chloropropane	ND		50	15	ug/L			07/21/19 19:14	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			07/21/19 19:14	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			07/21/19 19:14	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			07/21/19 19:14	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			07/21/19 19:14	10
1,1-Dichloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,2-Dichloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,1-Dichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
1,2-Dichloropropane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,3-Dichloropropane	ND		10	5.0	ug/L			07/21/19 19:14	10
2,2-Dichloropropane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,1-Dichloropropene	ND		10	5.0	ug/L			07/21/19 19:14	10
Ethylbenzene	**29**		10	5.0	ug/L			07/21/19 19:14	10
Ethylene Dibromide	ND		10	5.0	ug/L			07/21/19 19:14	10
Ethyl methacrylate	ND	*	10	6.0	ug/L			07/21/19 19:14	10
Hexachlorobutadiene	ND		50	9.0	ug/L			07/21/19 19:14	10
2-Hexanone	ND	*	250	31	ug/L			07/21/19 19:14	10
Isopropylbenzene	**40**		10	5.3	ug/L			07/21/19 19:14	10
Methylene bromide	ND		50	5.9	ug/L			07/21/19 19:14	10
Methylene Chloride	ND		50	30	ug/L			07/21/19 19:14	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			07/21/19 19:14	10
Methyl tert-butyl ether	ND		10	7.4	ug/L			07/21/19 19:14	10
m-Xylene & p-Xylene	**93**		50	16	ug/L			07/21/19 19:14	10
Naphthalene	**17**		10	10	ug/L			07/21/19 19:14	10
n-Butylbenzene	**15**		10	7.6	ug/L			07/21/19 19:14	10
N-Propylbenzene	**69**		10	6.9	ug/L			07/21/19 19:14	10
o-Chlorotoluene	ND		10	5.7	ug/L			07/21/19 19:14	10
o-Xylene	**26**	**J**	50	6.0	ug/L			07/21/19 19:14	10

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Client Sample ID: PD-4-GWP-50-071519

Lab Sample ID: 400-173192-7

Date Collected: 07/15/19 15:50

Matrix: Water

Date Received: 07/16/19 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10	5.6	ug/L			07/21/19 19:14	10
p-Isopropyltoluene	ND		10	7.1	ug/L			07/21/19 19:14	10
sec-Butylbenzene	**10**		10	7.0	ug/L			07/21/19 19:14	10
Styrene	ND		10	10	ug/L			07/21/19 19:14	10
tert-Butylbenzene	ND		10	6.3	ug/L			07/21/19 19:14	10
1,1,1,2-Tetrachloroethane	ND	*	10	5.2	ug/L			07/21/19 19:14	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
Tetrachloroethene	ND		10	5.8	ug/L			07/21/19 19:14	10
Toluene	**18**		10	4.1	ug/L			07/21/19 19:14	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			07/21/19 19:14	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			07/21/19 19:14	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			07/21/19 19:14	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			07/21/19 19:14	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			07/21/19 19:14	10
Trichloroethene	ND		10	5.0	ug/L			07/21/19 19:14	10
Trichlorofluoromethane	ND		10	5.2	ug/L			07/21/19 19:14	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			07/21/19 19:14	10
1,2,4-Trimethylbenzene	**17**		10	8.2	ug/L			07/21/19 19:14	10
1,3,5-Trimethylbenzene	**10**		10	5.6	ug/L			07/21/19 19:14	10
Vinyl acetate	ND		250	20	ug/L			07/21/19 19:14	10
Vinyl chloride	ND		10	5.0	ug/L			07/21/19 19:14	10
Xylenes, Total	**120**		100	16	ug/L			07/21/19 19:14	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfur dioxide	*240*	*T J N*	*ug/L*		*1.96*	*7446-09-5*		*07/21/19 19:14*	*10*
Unknown	*440*	*T J*	*ug/L*		*2.10*			*07/21/19 19:14*	*10*
Butane, 2-methyl-	*840*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/21/19 19:14*	*10*
Pentane	*290*	*T J N*	*ug/L*		*2.72*	*109-66-0*		*07/21/19 19:14*	*10*
Cyclopropane, 1,2-dimethyl-, cis-	*180*	*T J N*	*ug/L*		*2.95*	*930-18-7*		*07/21/19 19:14*	*10*
Unknown	*74*	*T J*	*ug/L*		*3.05*			*07/21/19 19:14*	*10*
2-Methyl-2-propanol	*690*		*ug/L*		*3.39*	*75-65-0*		*07/21/19 19:14*	*10*
Pentane, 3-methyl-	*440*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/21/19 19:14*	*10*
Hexane	*120*		*ug/L*		*3.70*	*110-54-3*		*07/21/19 19:14*	*10*
2-Pentene, 2-methyl-	*110*	*T J N*	*ug/L*		*3.83*	*625-27-4*		*07/21/19 19:14*	*10*
2-Pentene, 3-methyl-	*110*	*T J N*	*ug/L*		*3.99*	*922-61-2*		*07/21/19 19:14*	*10*
Cyclopentane, methyl-	*590*	*T J N*	*ug/L*		*4.12*	*96-37-7*		*07/21/19 19:14*	*10*
Cyclopentene, 1-methyl-	*82*	*T J N*	*ug/L*		*4.41*	*693-89-0*		*07/21/19 19:14*	*10*
Cyclohexane	*320*		*ug/L*		*4.54*	*110-82-7*		*07/21/19 19:14*	*10*
Unknown	*68*	*T J*	*ug/L*		*5.14*			*07/21/19 19:14*	*10*
Methylcyclohexane	*260*		*ug/L*		*5.27*	*108-87-2*		*07/21/19 19:14*	*10*
Cyclopentane, ethyl-	*90*	*T J N*	*ug/L*		*5.38*	*1640-89-7*		*07/21/19 19:14*	*10*
Unknown	*85*	*T J*	*ug/L*		*5.51*			*07/21/19 19:14*	*10*
Cyclobutane, (1-methylethylidene)-	*220*	*T J N*	*ug/L*		*5.60*	*1528-22-9*		*07/21/19 19:14*	*10*
Cyclohexene, 1-methyl-	*130*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/21/19 19:14*	*10*
Unknown	*72*	*T J*	*ug/L*		*6.23*			*07/21/19 19:14*	*10*
Benzene, 1-methyl-3-(1-methylethyl)-	*100*	*T J N*	*ug/L*		*9.29*	*535-77-3*		*07/21/19 19:14*	*10*
1-Phenyl-1-butene	*110*	*T J N*	*ug/L*		*9.42*	*824-90-8*		*07/21/19 19:14*	*10*
Benzene, 2-ethenyl-1,4-dimethyl-	*140*	*T J N*	*ug/L*		*10.12*	*2039-89-6*		*07/21/19 19:14*	*10*

Client Sample ID: PD-4-GWP-50-071519
Lab Sample ID: 400-173192-7
Date Collected: 07/15/19 15:50
Matrix: Water
Date Received: 07/16/19 09:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/21/19 19:14*	*10*
Dibromofluoromethane	*95*		*81 - 121*		*07/21/19 19:14*	*10*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/21/19 19:14*	*10*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/18/19 16:34	07/23/19 18:46	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Anthracene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Benzo[a]anthracene	ND		0.97	0.19	ug/L		07/18/19 16:34	07/29/19 19:50	5
Chrysene	ND		0.97	0.19	ug/L		07/18/19 16:34	07/29/19 19:50	5
Fluoranthene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Fluorene	**0.20**	**J**	0.97	0.10	ug/L		07/18/19 16:34	07/29/19 19:50	5
1-Methylnaphthalene	**34**		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
2-Methylnaphthalene	**23**		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Phenanthrene	**0.24**	**J**	0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5
Pyrene	ND		0.97	0.097	ug/L		07/18/19 16:34	07/29/19 19:50	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/18/19 16:34*	*07/29/19 19:50*	*5*
Nitrobenzene-d5	*70*		*19 - 130*	*07/18/19 16:34*	*07/29/19 19:50*	*5*
Terphenyl-d14	*59*		*33 - 138*	*07/18/19 16:34*	*07/29/19 19:50*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/18/19 16:34	07/20/19 18:28	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/18/19 16:34	07/20/19 18:28	1
Benzoic acid	ND		29	7.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/18/19 16:34	07/20/19 18:28	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/18/19 16:34	07/20/19 18:28	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/18/19 16:34	07/20/19 18:28	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/18/19 16:34	07/20/19 18:28	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/18/19 16:34	07/20/19 18:28	1

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-50-071519
Lab Sample ID: 400-173192-7
Date Collected: 07/15/19 15:50
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/18/19 16:34	07/20/19 18:28	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/18/19 16:34	07/20/19 18:28	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/18/19 16:34	07/20/19 18:28	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/18/19 16:34	07/20/19 18:28	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/18/19 16:34	07/20/19 18:28	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/18/19 16:34	07/20/19 18:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/18/19 16:34	07/20/19 18:28	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/18/19 16:34	07/20/19 18:28	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/18/19 16:34	07/20/19 18:28	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
Indene	ND		9.7	0.97	ug/L		07/18/19 16:34	07/20/19 18:28	1
Isophorone	ND		9.7	0.56	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/18/19 16:34	07/20/19 18:28	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/18/19 16:34	07/20/19 18:28	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/18/19 16:34	07/20/19 18:28	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/18/19 16:34	07/20/19 18:28	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/18/19 16:34	07/20/19 18:28	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/18/19 16:34	07/20/19 18:28	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/18/19 16:34	07/20/19 18:28	1
Pentachlorophenol	ND		19	1.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
Phenol	**18**		9.7	2.5	ug/L		07/18/19 16:34	07/20/19 18:28	1
Pyridine	ND		9.7	3.1	ug/L		07/18/19 16:34	07/20/19 18:28	1
Quinoline	ND		9.7	5.8	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/18/19 16:34	07/20/19 18:28	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/18/19 16:34	07/20/19 18:28	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane, methyl-	*17*	*T J N*	*ug/L*		*3.46*	*108-87-2*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Unknown	*18*	*T J*	*ug/L*		*3.54*		*07/18/19 16:34*	*07/20/19 18:28*	*1*
Cyclohexene, 1-methyl-	*18*	*T J N*	*ug/L*		*3.90*	*591-49-1*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Unknown	*13*	*T J*	*ug/L*		*4.10*		*07/18/19 16:34*	*07/20/19 18:28*	*1*
1,3-Dimethylcyclopentanol	*12*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Ethylbenzene	*27*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
o-Xylene	*19*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, (1-methylethyl)-	*31*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, propyl-	*44*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, 1-ethyl-2-methyl-	*19*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Benzene, 1,2,3-trimethyl-	*15*	*T J N*	*ug/L*		*5.46*	*526-73-8*	*07/18/19 16:34*	*07/20/19 18:28*	*1*
Indane	*99*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/18/19 16:34*	*07/20/19 18:28*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-50-071519
Lab Sample ID: 400-173192-7
Date Collected: 07/15/19 15:50
Matrix: Water
Date Received: 07/16/19 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	25	T J	ug/L		5.72		07/18/19 16:34	07/20/19 18:28	1
Benzene, 1,4-diethyl-	47	T J N	ug/L		5.77	105-05-5	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1-methyl-4-propyl-	13	T J N	ug/L		5.82	1074-55-1	07/18/19 16:34	07/20/19 18:28	1
Benzene, 2-ethyl-1,4-dimethyl-	70	T J N	ug/L		5.91	1758-88-9	07/18/19 16:34	07/20/19 18:28	1
Benzene, 4-ethyl-1,2-dimethyl-	14	T J N	ug/L		6.01	934-80-5	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1,2,4,5-tetramethyl-	34	T J N	ug/L		6.06	95-93-2	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1,2,3,5-tetramethyl-	13	T J N	ug/L		6.08	527-53-7	07/18/19 16:34	07/20/19 18:28	1
Benzene, 1-ethenyl-4-ethyl-	35	T J N	ug/L		6.19	3454-07-7	07/18/19 16:34	07/20/19 18:28	1
1-Phenyl-1-butene	71	T J N	ug/L		6.24	824-90-8	07/18/19 16:34	07/20/19 18:28	1
Unknown	14	T J	ug/L		6.30		07/18/19 16:34	07/20/19 18:28	1
Benzene, (1-methyl-1-butenyl)-	24	T J N	ug/L		6.39	53172-84-2	07/18/19 16:34	07/20/19 18:28	1
Naphthalene, 1-methyl-	25	T J N	ug/L		6.88	90-12-0	07/18/19 16:34	07/20/19 18:28	1
Naphthalene, 2-methyl-	31	T J N	ug/L		6.95	91-57-6	07/18/19 16:34	07/20/19 18:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		34 - 120	07/18/19 16:34	07/20/19 18:28	1
2-Fluorophenol	43		10 - 120	07/18/19 16:34	07/20/19 18:28	1
Nitrobenzene-d5	71		27 - 120	07/18/19 16:34	07/20/19 18:28	1
Phenol-d5	63		10 - 120	07/18/19 16:34	07/20/19 18:28	1
Terphenyl-d14	34	X	53 - 125	07/18/19 16:34	07/20/19 18:28	1
2,4,6-Tribromophenol	73		15 - 135	07/18/19 16:34	07/20/19 18:28	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173192-1	TB-PW-071519-B	99	90	101
400-173192-2	PD-12-GWP-70-071519	98	88	101
400-173192-3	PD-12-GWP-73-071519	99	88	100
400-173192-4	PD-4-GWP-35-071519	100	88	100
400-173192-5	PD-4-GWP-41-071519	102	94	104
400-173192-5 - DL	PD-4-GWP-41-071519	101	97	104
400-173192-6	PD-4-GWP-43-071519	101	95	109
400-173192-7	PD-4-GWP-50-071519	102	95	105
LCS 400-448667/1003	Lab Control Sample	103	91	100
LCS 400-448875/1002	Lab Control Sample	99	97	102
LCS 400-448915/1002	Lab Control Sample	97	97	103
MB 400-448667/28	Method Blank	87	87	101
MB 400-448875/4	Method Blank	102	97	104
MB 400-448915/4	Method Blank	101	98	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173192-2	PD-12-GWP-70-071519	62	35	79	58	59	76
400-173192-3	PD-12-GWP-73-071519	53	37	72	45	53	50
400-173192-4	PD-4-GWP-35-071519	55	34	73	55	37 X	75
400-173192-5	PD-4-GWP-41-071519	49	26	63	45	33 X	76
400-173192-6	PD-4-GWP-43-071519	47	18	64	36	28 X	61
400-173192-7	PD-4-GWP-50-071519	52	43	71	63	34 X	73
LCS 400-448615/2-A	Lab Control Sample	69	37	52	46	77	106
LCS 400-448615/4-A	Lab Control Sample	44	41	62	44	55	47
LCSD 400-448615/3-A	Lab Control Sample Dup	57	35	46	39	62	90
LCSD 400-448615/5-A	Lab Control Sample Dup	46	41	66	53	58	51
MB 400-448615/1-A	Method Blank	69	35	52	45	73	83

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173192-2	PD-12-GWP-70-071519	97	78	108
400-173192-3	PD-12-GWP-73-071519	115	92	141 X
400-173192-4	PD-4-GWP-35-071519	83	82	
400-173192-4 - DL	PD-4-GWP-35-071519			66
400-173192-5	PD-4-GWP-41-071519		70	
400-173192-5 - DL	PD-4-GWP-41-071519	64		63
400-173192-6	PD-4-GWP-43-071519	81	67	
400-173192-6 - DL	PD-4-GWP-43-071519			57
400-173192-7 - DL	PD-4-GWP-50-071519	77	70	59
LCS 400-448615/2-A	Lab Control Sample	69	74	93
LCSD 400-448615/3-A	Lab Control Sample Dup	65	57	84
MB 400-448615/1-A	Method Blank	146 X	115	230 X

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071519-B
Date Collected: 07/15/19 00:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 22:59	RS	TAL PEN

Client Sample ID: PD-12-GWP-70-071519
Date Collected: 07/15/19 09:10
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 23:24	RS	TAL PEN
Total/NA	Prep	3520C			1019 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 16:42	VC1	TAL PEN
Total/NA	Prep	3520C			1019 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 17:16	KJA	TAL PEN

Client Sample ID: PD-12-GWP-73-071519
Date Collected: 07/15/19 10:20
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 23:48	RS	TAL PEN
Total/NA	Prep	3520C			1025.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 17:03	VC1	TAL PEN
Total/NA	Prep	3520C			1025.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 17:34	KJA	TAL PEN

Client Sample ID: PD-4-GWP-35-071519
Date Collected: 07/15/19 11:40
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/20/19 00:12	RS	TAL PEN
Total/NA	Prep	3520C			990.4 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 17:24	VC1	TAL PEN
Total/NA	Prep	3520C			990.4 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 17:51	KJA	TAL PEN
Total/NA	Prep	3520C	DL		990.4 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:00	KJA	TAL PEN

Client Sample ID: PD-4-GWP-41-071519
Date Collected: 07/15/19 14:00
Date Received: 07/16/19 09:10

Lab Sample ID: 400-173192-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	5 mL	5 mL	448875	07/21/19 21:27	RS	TAL PEN
Total/NA	Analysis	8260B	DL	500	5 mL	5 mL	448915	07/22/19 15:20	RS	TAL PEN

Client Sample ID: PD-4-GWP-41-071519

Lab Sample ID: 400-173192-5

Date Collected: 07/15/19 14:00

Matrix: Water

Date Received: 07/16/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D	DL	5			449209	07/24/19 02:58	VC1	TAL PEN
Total/NA	Prep	3520C			1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 17:45	VC1	TAL PEN
Total/NA	Prep	3520C			1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 18:10	KJA	TAL PEN
Total/NA	Prep	3520C	DL		1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:17	KJA	TAL PEN
Total/NA	Prep	3520C	RADL		1022.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	RADL	5			450108	07/30/19 23:56	KJA	TAL PEN

Client Sample ID: PD-4-GWP-43-071519

Lab Sample ID: 400-173192-6

Date Collected: 07/15/19 14:50

Matrix: Water

Date Received: 07/16/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448875	07/21/19 18:21	RS	TAL PEN
Total/NA	Prep	3520C			992.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 18:07	VC1	TAL PEN
Total/NA	Prep	3520C			992.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 18:29	KJA	TAL PEN
Total/NA	Prep	3520C	DL		992.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:33	KJA	TAL PEN

Client Sample ID: PD-4-GWP-50-071519

Lab Sample ID: 400-173192-7

Date Collected: 07/15/19 15:50

Matrix: Water

Date Received: 07/16/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	448875	07/21/19 19:14	RS	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	448802	07/20/19 18:28	VC1	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 18:46	KJA	TAL PEN
Total/NA	Prep	3520C	DL		1026.6 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 19:50	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448615/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			449209	07/24/19 01:33	VC1	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448615/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		1			449114	07/23/19 16:26	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448667/28

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 20:35	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448875/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448875	07/21/19 12:05	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-448915/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448615/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			449209	07/24/19 01:54	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			449114	07/23/19 16:42	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448615/4-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			448802	07/20/19 15:17	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448667/1003
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448667	07/19/19 18:41	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448875/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448875	07/21/19 11:03	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448915/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448615/3-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			449209	07/24/19 02:16	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D LL		5			449114	07/23/19 17:00	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448615/5-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448615	07/18/19 16:34	CGM	TAL PEN
Total/NA	Analysis	8270D		1			448802	07/20/19 15:38	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

GC/MS VOA

Analysis Batch: 448667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-1	TB-PW-071519-B	Total/NA	Water	8260B	
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	8260B	
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	8260B	
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	8260B	
MB 400-448667/28	Method Blank	Total/NA	Water	8260B	
LCS 400-448667/1003	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	8260B	
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	8260B	
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	8260B	
MB 400-448875/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448875/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	3520C	
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	3520C	
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	3520C	
400-173192-4 - DL	PD-4-GWP-35-071519	Total/NA	Water	3520C	
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	3520C	
400-173192-5 - RADL	PD-4-GWP-41-071519	Total/NA	Water	3520C	
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	3520C	
400-173192-6 - DL	PD-4-GWP-43-071519	Total/NA	Water	3520C	
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	3520C	
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	3520C	
400-173192-7 - DL	PD-4-GWP-50-071519	Total/NA	Water	3520C	
MB 400-448615/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448615/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448615/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448615/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-448615/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 448802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	8270D	448615
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	8270D	448615
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	8270D	448615
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	8270D	448615
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	8270D	448615
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	8270D	448615
LCS 400-448615/4-A	Lab Control Sample	Total/NA	Water	8270D	448615

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

GC/MS Semi VOA (Continued)

Analysis Batch: 448802 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-448615/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	448615

Analysis Batch: 449114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-2	PD-12-GWP-70-071519	Total/NA	Water	8270D LL	448615
400-173192-3	PD-12-GWP-73-071519	Total/NA	Water	8270D LL	448615
400-173192-4	PD-4-GWP-35-071519	Total/NA	Water	8270D LL	448615
400-173192-5	PD-4-GWP-41-071519	Total/NA	Water	8270D LL	448615
400-173192-6	PD-4-GWP-43-071519	Total/NA	Water	8270D LL	448615
400-173192-7	PD-4-GWP-50-071519	Total/NA	Water	8270D LL	448615
MB 400-448615/1-A	Method Blank	Total/NA	Water	8270D LL	448615
LCS 400-448615/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448615
LCSD 400-448615/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	448615

Analysis Batch: 449209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	8270D	448615
MB 400-448615/1-A	Method Blank	Total/NA	Water	8270D	448615
LCS 400-448615/2-A	Lab Control Sample	Total/NA	Water	8270D	448615
LCSD 400-448615/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	448615

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-4 - DL	PD-4-GWP-35-071519	Total/NA	Water	8270D LL	448615
400-173192-5 - DL	PD-4-GWP-41-071519	Total/NA	Water	8270D LL	448615
400-173192-6 - DL	PD-4-GWP-43-071519	Total/NA	Water	8270D LL	448615
400-173192-7 - DL	PD-4-GWP-50-071519	Total/NA	Water	8270D LL	448615

Analysis Batch: 450108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173192-5 - RADL	PD-4-GWP-41-071519	Total/NA	Water	8270D LL	448615

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448667/28
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/19/19 20:35	1
Acrolein	ND		20	10	ug/L			07/19/19 20:35	1
Acrylonitrile	ND		10	2.8	ug/L			07/19/19 20:35	1
Benzene	ND		1.0	0.38	ug/L			07/19/19 20:35	1
Bromobenzene	ND		1.0	0.54	ug/L			07/19/19 20:35	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/19/19 20:35	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Bromoform	ND		5.0	0.71	ug/L			07/19/19 20:35	1
Bromomethane	ND		1.0	0.98	ug/L			07/19/19 20:35	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/19/19 20:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Chloroethane	ND		1.0	0.76	ug/L			07/19/19 20:35	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/19/19 20:35	1
Chloroform	ND		1.0	0.60	ug/L			07/19/19 20:35	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/19/19 20:35	1
Chloromethane	ND		1.0	0.83	ug/L			07/19/19 20:35	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 20:35	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/19/19 20:35	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/19/19 20:35	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/19/19 20:35	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/19/19 20:35	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/19/19 20:35	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/19/19 20:35	1
2-Hexanone	ND		25	3.1	ug/L			07/19/19 20:35	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/19/19 20:35	1
Methylene bromide	ND		5.0	0.59	ug/L			07/19/19 20:35	1
Methylene Chloride	5.50		5.0	3.0	ug/L			07/19/19 20:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/19/19 20:35	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/19/19 20:35	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/19/19 20:35	1
Naphthalene	ND		1.0	1.0	ug/L			07/19/19 20:35	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/19/19 20:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/19/19 20:35	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/19/19 20:35	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448667/28
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/19/19 20:35	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/19/19 20:35	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/19/19 20:35	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/19/19 20:35	1
Styrene	ND		1.0	1.0	ug/L			07/19/19 20:35	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/19/19 20:35	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/19/19 20:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/19/19 20:35	1
Toluene	ND		1.0	0.41	ug/L			07/19/19 20:35	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/19/19 20:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/19/19 20:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/19/19 20:35	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/19/19 20:35	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/19/19 20:35	1
Trichloroethene	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/19/19 20:35	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/19/19 20:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/19/19 20:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/19/19 20:35	1
Vinyl acetate	ND		25	2.0	ug/L			07/19/19 20:35	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/19/19 20:35	1
Xylenes, Total	ND		10	1.6	ug/L			07/19/19 20:35	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/19/19 20:35*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*87*		*78 - 118*		*07/19/19 20:35*	*1*
Dibromofluoromethane	*87*		*81 - 121*		*07/19/19 20:35*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/19/19 20:35*	*1*

Lab Sample ID: LCS 400-448667/1003
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	186		ug/L		93	43 - 160
Acrolein	500	557		ug/L		111	38 - 160
Acrylonitrile	500	550		ug/L		110	64 - 142
Benzene	50.0	43.1		ug/L		86	70 - 130
Bromobenzene	50.0	45.6		ug/L		91	70 - 132
Bromochloromethane	50.0	46.0		ug/L		92	70 - 130
Bromodichloromethane	50.0	38.3		ug/L		77	67 - 133
Bromoform	50.0	42.9		ug/L		86	57 - 140
Bromomethane	50.0	40.3		ug/L		81	10 - 160
2-Butanone (MEK)	200	166		ug/L		83	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448667/1003
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	39.0		ug/L		78	61 - 137
Carbon tetrachloride	50.0	37.9		ug/L		76	61 - 137
Chlorobenzene	50.0	44.9		ug/L		90	70 - 130
Chloroethane	50.0	48.0		ug/L		96	55 - 141
2-Chloroethyl vinyl ether	50.0	33.9		ug/L		68	10 - 160
Chloroform	50.0	41.4		ug/L		83	69 - 130
1-Chlorohexane	50.0	43.9		ug/L		88	69 - 130
Chloromethane	50.0	53.1		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	42.8		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	42.1		ug/L		84	69 - 132
Dibromochloromethane	50.0	43.1		ug/L		86	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	49.0		ug/L		98	54 - 135
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	67 - 130
1,3-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.7		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	30.3		ug/L		61	41 - 146
1,1-Dichloroethane	50.0	42.6		ug/L		85	70 - 130
1,2-Dichloroethane	50.0	40.3		ug/L		81	69 - 130
1,1-Dichloroethene	50.0	52.5		ug/L		105	63 - 134
1,2-Dichloropropane	50.0	43.2		ug/L		86	70 - 130
1,3-Dichloropropane	50.0	45.5		ug/L		91	70 - 130
2,2-Dichloropropane	50.0	37.1		ug/L		74	52 - 135
1,1-Dichloropropene	50.0	42.4		ug/L		85	70 - 130
Ethylbenzene	50.0	46.5		ug/L		93	70 - 130
Ethylene Dibromide	50.0	47.7		ug/L		95	70 - 130
Ethyl methacrylate	50.0	48.7		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	37.2		ug/L		74	53 - 140
2-Hexanone	200	158		ug/L		79	65 - 137
Isopropylbenzene	50.0	45.6		ug/L		91	70 - 130
Methylene bromide	50.0	41.5		ug/L		83	70 - 130
Methylene Chloride	50.0	44.7		ug/L		89	66 - 135
4-Methyl-2-pentanone (MIBK)	200	198		ug/L		99	69 - 138
Methyl tert-butyl ether	50.0	41.4		ug/L		83	66 - 130
m-Xylene & p-Xylene	50.0	46.5		ug/L		93	70 - 130
Naphthalene	50.0	52.3		ug/L		105	47 - 149
n-Butylbenzene	50.0	45.8		ug/L		92	67 - 130
N-Propylbenzene	50.0	48.5		ug/L		97	70 - 130
o-Chlorotoluene	50.0	47.9		ug/L		96	70 - 130
o-Xylene	50.0	46.7		ug/L		93	70 - 130
p-Chlorotoluene	50.0	45.8		ug/L		92	70 - 130
p-Isopropyltoluene	50.0	47.7		ug/L		95	65 - 130
sec-Butylbenzene	50.0	46.7		ug/L		93	66 - 130
Styrene	50.0	44.6		ug/L		89	70 - 130
tert-Butylbenzene	50.0	46.3		ug/L		93	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.7		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	51.1		ug/L		102	70 - 131
Tetrachloroethene	50.0	43.6		ug/L		87	65 - 130
Toluene	50.0	46.5		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	47.3		ug/L		95	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448667/1003
Matrix: Water
Analysis Batch: 448667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	43.0		ug/L		86	63 - 130
1,2,3-Trichlorobenzene	50.0	42.1		ug/L		84	60 - 138
1,2,4-Trichlorobenzene	50.0	41.2		ug/L		82	60 - 140
1,1,1-Trichloroethane	50.0	40.3		ug/L		81	68 - 130
1,1,2-Trichloroethane	50.0	46.5		ug/L		93	70 - 130
Trichloroethene	50.0	43.3		ug/L		87	70 - 130
Trichlorofluoromethane	50.0	36.5		ug/L		73	65 - 138
1,2,3-Trichloropropane	50.0	52.0		ug/L		104	70 - 130
1,2,4-Trimethylbenzene	50.0	47.4		ug/L		95	70 - 130
1,3,5-Trimethylbenzene	50.0	47.4		ug/L		95	69 - 130
Vinyl acetate	100	96.1		ug/L		96	26 - 160
Vinyl chloride	50.0	53.9		ug/L		108	59 - 136
Xylenes, Total	100	93.2		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*78 - 118*
Dibromofluoromethane	*91*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-448875/4
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/21/19 12:05	1
Acrolein	ND		20	10	ug/L			07/21/19 12:05	1
Acrylonitrile	ND		10	2.8	ug/L			07/21/19 12:05	1
Benzene	ND		1.0	0.38	ug/L			07/21/19 12:05	1
Bromobenzene	ND		1.0	0.54	ug/L			07/21/19 12:05	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/21/19 12:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Bromoform	ND		5.0	0.71	ug/L			07/21/19 12:05	1
Bromomethane	ND		1.0	0.98	ug/L			07/21/19 12:05	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/21/19 12:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Chloroethane	ND		1.0	0.76	ug/L			07/21/19 12:05	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/21/19 12:05	1
Chloroform	ND		1.0	0.60	ug/L			07/21/19 12:05	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/21/19 12:05	1
Chloromethane	ND		1.0	0.83	ug/L			07/21/19 12:05	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 12:05	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/21/19 12:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/21/19 12:05	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448875/4
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/21/19 12:05	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/21/19 12:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/21/19 12:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/21/19 12:05	1
2-Hexanone	ND		25	3.1	ug/L			07/21/19 12:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/21/19 12:05	1
Methylene bromide	ND		5.0	0.59	ug/L			07/21/19 12:05	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/21/19 12:05	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/21/19 12:05	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/21/19 12:05	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/21/19 12:05	1
Naphthalene	ND		1.0	1.0	ug/L			07/21/19 12:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/21/19 12:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/21/19 12:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/21/19 12:05	1
o-Xylene	ND		5.0	0.60	ug/L			07/21/19 12:05	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/21/19 12:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/21/19 12:05	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/21/19 12:05	1
Styrene	ND		1.0	1.0	ug/L			07/21/19 12:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/21/19 12:05	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/21/19 12:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/21/19 12:05	1
Toluene	ND		1.0	0.41	ug/L			07/21/19 12:05	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/21/19 12:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/21/19 12:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/21/19 12:05	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/21/19 12:05	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/21/19 12:05	1
Trichloroethene	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/21/19 12:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/21/19 12:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/21/19 12:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/21/19 12:05	1
Vinyl acetate	ND		25	2.0	ug/L			07/21/19 12:05	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/21/19 12:05	1
Xylenes, Total	ND		10	1.6	ug/L			07/21/19 12:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448875/4
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/21/19 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		07/21/19 12:05	1
Dibromofluoromethane	97		81 - 121		07/21/19 12:05	1
Toluene-d8 (Surr)	104		80 - 120		07/21/19 12:05	1

Lab Sample ID: LCS 400-448875/1002
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	287		ug/L		144	43 - 160
Acrolein	500	651		ug/L		130	38 - 160
Acrylonitrile	500	637		ug/L		127	64 - 142
Benzene	50.0	54.3		ug/L		109	70 - 130
Bromobenzene	50.0	56.3		ug/L		113	70 - 132
Bromochloromethane	50.0	55.9		ug/L		112	70 - 130
Bromodichloromethane	50.0	54.6		ug/L		109	67 - 133
Bromoform	50.0	65.7		ug/L		131	57 - 140
Bromomethane	50.0	35.3		ug/L		71	10 - 160
2-Butanone (MEK)	200	271		ug/L		135	61 - 145
Carbon disulfide	50.0	53.3		ug/L		107	61 - 137
Carbon tetrachloride	50.0	60.1		ug/L		120	61 - 137
Chlorobenzene	50.0	56.9		ug/L		114	70 - 130
Chloroethane	50.0	45.6		ug/L		91	55 - 141
2-Chloroethyl vinyl ether	50.0	50.1		ug/L		100	10 - 160
Chloroform	50.0	54.1		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.4		ug/L		121	69 - 130
Chloromethane	50.0	42.6		ug/L		85	58 - 137
cis-1,2-Dichloroethene	50.0	58.6		ug/L		117	68 - 130
cis-1,3-Dichloropropene	50.0	58.8		ug/L		118	69 - 132
Dibromochloromethane	50.0	62.9		ug/L		126	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	65.2		ug/L		130	54 - 135
1,2-Dichlorobenzene	50.0	59.0		ug/L		118	67 - 130
1,3-Dichlorobenzene	50.0	58.5		ug/L		117	70 - 130
1,4-Dichlorobenzene	50.0	58.4		ug/L		117	70 - 130
Dichlorodifluoromethane	50.0	25.2		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	58.0		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	55.2		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.3		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	58.1		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.6		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	55.9		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	54.7		ug/L		109	70 - 130
Ethylbenzene	50.0	58.0		ug/L		116	70 - 130
Ethylene Dibromide	50.0	57.4		ug/L		115	70 - 130
Ethyl methacrylate	50.0	66.3	*	ug/L		133	68 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448875/1002
Matrix: Water
Analysis Batch: 448875

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	53.6		ug/L		107	53 - 140
2-Hexanone	200	317	*	ug/L		158	65 - 137
Isopropylbenzene	50.0	55.2		ug/L		110	70 - 130
Methylene bromide	50.0	51.5		ug/L		103	70 - 130
Methylene Chloride	50.0	53.9		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	269		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	51.6		ug/L		103	66 - 130
m-Xylene & p-Xylene	50.0	57.3		ug/L		115	70 - 130
Naphthalene	50.0	58.0		ug/L		116	47 - 149
n-Butylbenzene	50.0	57.2		ug/L		114	67 - 130
N-Propylbenzene	50.0	59.8		ug/L		120	70 - 130
o-Chlorotoluene	50.0	56.4		ug/L		113	70 - 130
o-Xylene	50.0	56.6		ug/L		113	70 - 130
p-Chlorotoluene	50.0	58.6		ug/L		117	70 - 130
p-Isopropyltoluene	50.0	58.7		ug/L		117	65 - 130
sec-Butylbenzene	50.0	57.1		ug/L		114	66 - 130
Styrene	50.0	53.9		ug/L		108	70 - 130
tert-Butylbenzene	50.0	55.9		ug/L		112	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.8	*	ug/L		138	67 - 131
1,1,2,2-Tetrachloroethane	50.0	60.3		ug/L		121	70 - 131
Tetrachloroethene	50.0	58.3		ug/L		117	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	54.6		ug/L		109	70 - 130
trans-1,3-Dichloropropene	50.0	64.8		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	56.1		ug/L		112	60 - 138
1,2,4-Trichlorobenzene	50.0	54.7		ug/L		109	60 - 140
1,1,1-Trichloroethane	50.0	55.0		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.4		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.1		ug/L		80	65 - 138
1,2,3-Trichloropropane	50.0	58.5		ug/L		117	70 - 130
1,2,4-Trimethylbenzene	50.0	56.6		ug/L		113	70 - 130
1,3,5-Trimethylbenzene	50.0	56.8		ug/L		114	69 - 130
Vinyl acetate	100	109		ug/L		109	26 - 160
Vinyl chloride	50.0	43.7		ug/L		87	59 - 136
Xylenes, Total	100	114		ug/L		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	54.5		ug/L		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
Benzenethiol	ND		10	1.7	ug/L		07/18/19 16:34	07/24/19 01:33	1
Benzoic acid	ND		30	7.3	ug/L		07/18/19 16:34	07/24/19 01:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/18/19 16:34	07/24/19 01:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/18/19 16:34	07/24/19 01:33	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/18/19 16:34	07/24/19 01:33	1
Bis(2-ethylhexyl) phthalate	8.53	J	10	5.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/18/19 16:34	07/24/19 01:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Chloroaniline	ND		10	3.4	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Chlorophenol	ND		10	2.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Dibenzofuran	ND		10	0.52	ug/L		07/18/19 16:34	07/24/19 01:33	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Diethyl phthalate	ND		10	0.70	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/18/19 16:34	07/24/19 01:33	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/18/19 16:34	07/24/19 01:33	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/18/19 16:34	07/24/19 01:33	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/18/19 16:34	07/24/19 01:33	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/18/19 16:34	07/24/19 01:33	1
1,4-Dioxane	ND		10	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/18/19 16:34	07/24/19 01:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/18/19 16:34	07/24/19 01:33	1
Hexachloroethane	ND		10	4.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
Indene	ND		10	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
Isophorone	ND		10	0.57	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Nitroaniline	ND		10	2.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
3-Nitroaniline	ND		10	1.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Nitroaniline	ND		10	2.5	ug/L		07/18/19 16:34	07/24/19 01:33	1
Nitrobenzene	ND		10	0.55	ug/L		07/18/19 16:34	07/24/19 01:33	1
2-Nitrophenol	ND		10	0.65	ug/L		07/18/19 16:34	07/24/19 01:33	1
4-Nitrophenol	ND		10	2.1	ug/L		07/18/19 16:34	07/24/19 01:33	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/18/19 16:34	07/24/19 01:33	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/18/19 16:34	07/24/19 01:33	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/18/19 16:34	07/24/19 01:33	1
Pentachlorophenol	ND		20	1.8	ug/L		07/18/19 16:34	07/24/19 01:33	1
Phenol	ND		10	2.6	ug/L		07/18/19 16:34	07/24/19 01:33	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/18/19 16:34	07/24/19 01:33	1
Quinoline	ND		10	6.0	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/18/19 16:34	07/24/19 01:33	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/18/19 16:34	07/24/19 01:33	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/18/19 16:34*	*07/24/19 01:33*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
Nitrobenzene-d5	*52*		*27 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
Phenol-d5	*45*		*10 - 120*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
Terphenyl-d14	*73*		*53 - 125*	*07/18/19 16:34*	*07/24/19 01:33*	*1*
2,4,6-Tribromophenol	*83*		*15 - 135*	*07/18/19 16:34*	*07/24/19 01:33*	*1*

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	15.5		ug/L		52	29 - 120
Benzoic acid	117	25.0	J	ug/L		21	10 - 150
Benzyl alcohol	30.0	17.3		ug/L		58	19 - 125
Bis(2-chloroethoxy)methane	30.0	15.1		ug/L		50	45 - 120
Bis(2-chloroethyl)ether	30.0	15.0		ug/L		50	48 - 120
bis (2-chloroisopropyl) ether	30.0	13.9		ug/L		46	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	17.8		ug/L		59	48 - 150
4-Bromophenyl phenyl ether	30.0	27.3		ug/L		91	55 - 122
Butyl benzyl phthalate	30.0	15.6		ug/L		52	46 - 145
4-Chloroaniline	30.0	13.5		ug/L		45	30 - 120
4-Chloro-3-methylphenol	30.0	19.8		ug/L		66	39 - 140
2-Chloronaphthalene	30.0	19.6		ug/L		65	52 - 120
2-Chlorophenol	30.0	17.5		ug/L		58	34 - 120
4-Chlorophenyl phenyl ether	30.0	23.9		ug/L		80	58 - 124
Dibenz[a,h]acridine	30.0	22.4		ug/L		75	46 - 149
Dibenzofuran	30.0	21.0		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	57.6	*	ug/L		144	39 - 135
2,4-Dichlorophenol	30.0	20.6		ug/L		69	39 - 128
Diethyl phthalate	30.0	22.5		ug/L		75	44 - 146
2,4-Dimethylphenol	30.0	19.3		ug/L		64	44 - 120
Dimethyl phthalate	30.0	22.2		ug/L		74	50 - 131
Di-n-butyl phthalate	30.0	20.6		ug/L		69	55 - 131
4,6-Dinitro-ortho-cresol	60.0	49.2		ug/L		82	10 - 150
2,4-Dinitrophenol	60.0	60.8		ug/L		101	10 - 150
2,4-Dinitrotoluene	30.0	23.4		ug/L		78	58 - 140
2,6-Dinitrotoluene	30.0	23.2		ug/L		77	57 - 130
Di-n-octyl phthalate	30.0	19.9		ug/L		66	50 - 150

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	30.0	11.7		ug/L		39	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	16.0		ug/L		53	47 - 123
Hexachlorobenzene	30.0	29.8		ug/L		99	52 - 131
Hexachlorocyclopentadiene	30.0	8.59	J	ug/L		29	10 - 129
Hexachloroethane	30.0	12.4		ug/L		41	41 - 120
Indene	30.0	16.8		ug/L		56	47 - 120
Isophorone	30.0	16.3		ug/L		54	49 - 120
2-Methylphenol	30.0	17.6		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	17.6	J	ug/L		59	38 - 121
2-Nitroaniline	30.0	18.9		ug/L		63	47 - 150
3-Nitroaniline	30.0	21.4		ug/L		71	34 - 132
4-Nitroaniline	30.0	29.8		ug/L		99	41 - 135
Nitrobenzene	30.0	16.1		ug/L		54	47 - 120
2-Nitrophenol	30.0	18.3		ug/L		61	28 - 136
4-Nitrophenol	60.0	41.0		ug/L		68	10 - 150
N-Nitrosodimethylamine	30.0	21.2		ug/L		71	22 - 148
N-Nitrosodi-n-propylamine	30.0	18.5		ug/L		62	44 - 120
N-Nitrosodiphenylamine	29.8	22.0		ug/L		74	56 - 120
Pentachlorophenol	60.0	51.6		ug/L		86	15 - 141
Phenol	30.0	13.6		ug/L		45	33 - 120
Pyridine	60.0	27.2		ug/L		45	26 - 120
Quinoline	30.0	18.3		ug/L		61	51 - 129
2,4,5-Trichlorophenol	30.0	23.6		ug/L		79	38 - 147
2,4,6-Trichlorophenol	30.0	23.2		ug/L		77	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*34 - 120*
2-Fluorophenol	*37*		*10 - 120*
Nitrobenzene-d5	*52*		*27 - 120*
Phenol-d5	*46*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*106*		*15 - 135*

Lab Sample ID: LCS 400-448615/4-A
Matrix: Water
Analysis Batch: 448802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	12.9		ug/L		43	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*44*		*34 - 120*
2-Fluorophenol	*41*		*10 - 120*
Nitrobenzene-d5	*62*		*27 - 120*
Phenol-d5	*44*		*10 - 120*
Terphenyl-d14	*55*		*53 - 125*
2,4,6-Tribromophenol	*47*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	14.5		ug/L		48	29 - 120	7	30
Benzoic acid			117	25.9	J	ug/L		22	10 - 150	4	30
Benzyl alcohol			30.0	17.2		ug/L		57	19 - 125	1	30
Bis(2-chloroethoxy)methane			30.0	15.1		ug/L		50	45 - 120	0	30
Bis(2-chloroethyl)ether			30.0	14.4		ug/L		48	48 - 120	4	30
bis (2-chloroisopropyl) ether			30.0	13.3		ug/L		44	30 - 125	4	30
Bis(2-ethylhexyl) phthalate			30.0	19.0		ug/L		63	48 - 150	7	30
4-Bromophenyl phenyl ether			30.0	25.4		ug/L		85	55 - 122	7	30
Butyl benzyl phthalate			30.0	14.4		ug/L		48	46 - 145	8	30
4-Chloroaniline			30.0	13.7		ug/L		46	30 - 120	1	30
4-Chloro-3-methylphenol			30.0	19.2		ug/L		64	39 - 140	3	30
2-Chloronaphthalene			30.0	19.5		ug/L		65	52 - 120	0	30
2-Chlorophenol			30.0	17.2		ug/L		57	34 - 120	2	30
4-Chlorophenyl phenyl ether			30.0	23.4		ug/L		78	58 - 124	2	30
Dibenz[a,h]acridine			30.0	21.4		ug/L		71	46 - 149	5	30
Dibenzofuran			30.0	20.4		ug/L		68	58 - 123	3	30
3,3'-Dichlorobenzidine			40.0	55.3	*	ug/L		138	39 - 135	4	30
2,4-Dichlorophenol			30.0	20.4		ug/L		68	39 - 128	1	30
Diethyl phthalate			30.0	21.4		ug/L		71	44 - 146	5	30
2,4-Dimethylphenol			30.0	18.7		ug/L		62	44 - 120	3	30
Dimethyl phthalate			30.0	21.0		ug/L		70	50 - 131	5	30
Di-n-butyl phthalate			30.0	19.7		ug/L		66	55 - 131	4	30
4,6-Dinitro-ortho-cresol			60.0	48.2		ug/L		80	10 - 150	2	30
2,4-Dinitrophenol			60.0	63.6		ug/L		106	10 - 150	5	30
2,4-Dinitrotoluene			30.0	22.3		ug/L		74	58 - 140	5	30
2,6-Dinitrotoluene			30.0	22.5		ug/L		75	57 - 130	3	30
Di-n-octyl phthalate			30.0	18.7		ug/L		62	50 - 150	6	30
1,4-Dioxane			30.0	10.9		ug/L		36	25 - 120	7	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	15.6		ug/L		52	47 - 123	2	30
Hexachlorobenzene			30.0	28.0		ug/L		93	52 - 131	6	30
Hexachlorocyclopentadiene			30.0	8.83	J	ug/L		29	10 - 129	3	30
Hexachloroethane			30.0	11.9	*	ug/L		40	41 - 120	4	30
Indene			30.0	15.9		ug/L		53	47 - 120	5	30
Isophorone			30.0	16.3		ug/L		54	49 - 120	0	30
2-Methylphenol			30.0	16.6		ug/L		55	39 - 123	6	30
3 & 4 Methylphenol			30.0	16.9	J	ug/L		56	38 - 121	4	30
2-Nitroaniline			30.0	18.1		ug/L		60	47 - 150	4	30
3-Nitroaniline			30.0	20.0		ug/L		67	34 - 132	7	30
4-Nitroaniline			30.0	28.3		ug/L		94	41 - 135	5	30
Nitrobenzene			30.0	16.5		ug/L		55	47 - 120	2	30
2-Nitrophenol			30.0	18.2		ug/L		61	28 - 136	0	30
4-Nitrophenol			60.0	40.5		ug/L		67	10 - 150	1	30
N-Nitrosodimethylamine			30.0	18.9		ug/L		63	22 - 148	12	30
N-Nitrosodi-n-propylamine			30.0	17.9		ug/L		60	44 - 120	3	30
N-Nitrosodiphenylamine			29.8	20.6		ug/L		69	56 - 120	6	30
Pentachlorophenol			60.0	49.7		ug/L		83	15 - 141	4	30
Phenol			30.0	13.3		ug/L		44	33 - 120	2	30
Pyridine			60.0	26.4		ug/L		44	26 - 120	3	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	19.3		ug/L		64	51 - 129	5	30
2,4,5-Trichlorophenol			30.0	22.8		ug/L		76	38 - 147	3	30
2,4,6-Trichlorophenol			30.0	22.2		ug/L		74	36 - 139	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*34 - 120*
2-Fluorophenol	*35*		*10 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d5	*39*		*10 - 120*
Terphenyl-d14	*62*		*53 - 125*
2,4,6-Tribromophenol	*90*		*15 - 135*

Lab Sample ID: LCSD 400-448615/5-A
Matrix: Water
Analysis Batch: 448802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		4	10 - 120	165	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*46*		*34 - 120*
2-Fluorophenol	*41*		*10 - 120*
Nitrobenzene-d5	*66*		*27 - 120*
Phenol-d5	*53*		*10 - 120*
Terphenyl-d14	*58*		*53 - 125*
2,4,6-Tribromophenol	*51*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Anthracene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Chrysene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
Fluoranthene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Fluorene	ND		0.20	0.021	ug/L		07/18/19 16:34	07/23/19 16:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/18/19 16:34	07/23/19 16:26	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448615/1-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Phenanthrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1
Pyrene	ND		0.20	0.020	ug/L		07/18/19 16:34	07/23/19 16:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*146*	*X*	*15 - 122*	*07/18/19 16:34*	*07/23/19 16:26*	*1*
Nitrobenzene-d5	*115*		*19 - 130*	*07/18/19 16:34*	*07/23/19 16:26*	*1*
Terphenyl-d14	*230*	*X*	*33 - 138*	*07/18/19 16:34*	*07/23/19 16:26*	*1*

Lab Sample ID: LCS 400-448615/2-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	25.5		ug/L		85	41 - 120
Acenaphthylene	30.0	24.3		ug/L		81	44 - 120
Anthracene	30.0	24.6		ug/L		82	49 - 120
Benzo[a]anthracene	30.0	22.1		ug/L		74	61 - 135
Benzo[a]pyrene	30.0	23.6		ug/L		79	52 - 120
Benzo[b]fluoranthene	30.0	24.8		ug/L		83	53 - 134
Benzo[g,h,i]perylene	30.0	16.3		ug/L		54	47 - 133
Benzo[k]fluoranthene	30.0	26.6		ug/L		89	57 - 134
Chrysene	30.0	21.5		ug/L		72	55 - 122
Dibenz(a,h)anthracene	30.0	18.9		ug/L		63	48 - 146
Fluoranthene	30.0	22.2		ug/L		74	54 - 128
Fluorene	30.0	30.9		ug/L		103	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	18.2		ug/L		61	43 - 142
1-Methylnaphthalene	30.0	17.5		ug/L		58	41 - 120
2-Methylnaphthalene	30.0	17.2		ug/L		57	32 - 124
Phenanthrene	30.0	25.4		ug/L		85	48 - 120
Pyrene	30.0	27.6		ug/L		92	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*15 - 122*
Nitrobenzene-d5	*74*		*19 - 130*
Terphenyl-d14	*93*		*33 - 138*

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	29.8		ug/L		99	41 - 120	15	56
Acenaphthylene	30.0	27.5		ug/L		92	44 - 120	12	56
Anthracene	30.0	29.9		ug/L		100	49 - 120	19	51
Benzo[a]anthracene	30.0	26.7		ug/L		89	61 - 135	19	49
Benzo[a]pyrene	30.0	28.0		ug/L		93	52 - 120	17	50
Benzo[b]fluoranthene	30.0	28.7		ug/L		96	53 - 134	15	54

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173192-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-448615/3-A
Matrix: Water
Analysis Batch: 449114

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448615

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			30.0	17.2		ug/L		57	47 - 133	5	50
Benzo[k]fluoranthene			30.0	34.1		ug/L		114	57 - 134	24	52
Chrysene			30.0	26.7		ug/L		89	55 - 122	22	50
Dibenz(a,h)anthracene			30.0	21.3		ug/L		71	48 - 146	12	50
Fluoranthene			30.0	28.6		ug/L		95	54 - 128	25	52
Fluorene			30.0	35.6		ug/L		119	45 - 125	14	56
Indeno[1,2,3-cd]pyrene			30.0	20.3		ug/L		68	43 - 142	11	51
1-Methylnaphthalene			30.0	20.2		ug/L		67	41 - 120	14	55
2-Methylnaphthalene			30.0	20.0		ug/L		67	32 - 124	15	57
Phenanthrene			30.0	30.0		ug/L		100	48 - 120	17	56
Pyrene			30.0	32.6		ug/L		109	48 - 132	17	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*15 - 122*
Nitrobenzene-d5	*57*		*19 - 130*
Terphenyl-d14	*84*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

[ACCUTEST (_____)
[CALSCIENCE (_____)
[TESTAMERICA (___Pensacola_____
[Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/15/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

MPLING COMPANY: AECOM | LOG CODE:

DDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

ROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

ELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Paul LeFleur | LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

] LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

ELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

EMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

00-173192 COC

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071519-B	7/15/2019	0:00	Water	2					2		x	
	PD-12-GWP-70-071519	7/15/2019	9:10	Water	2			2		4	x	x	x
	PD-12-GWP-73-071519	7/15/2019	10:20	Water	2			2		4	x	x	x
	PD-4-GWP-35-071519	7/15/2019	11:40	Water	2			2		4	x	x	x
	PD-4-GWP-41-071519	7/15/2019	14:00	Water	2			2		4	x	x	x
	PD-4-GWP-43-071519	7/15/2019	14:50	Water	2			2		4	x	x	x
	PD-4-GWP-50-071519	7/15/2019	15:50	Water	2			2		4	x	x	x

	Received by: (Signature)	Date	Time
elinquished by: (Signature)	Fedex: 4931 8203 7410, 4931 8203 7421, 4931 8203 7432	7/15/2019	18:00
elinquished by: (Signature)	2.9°C, 2.1°C IR7	07.16.19	910
elinquished by: (Signature)			

custody seal #S: 1003194, 1003195, 1003196, 1003197

Version: 10May17

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10/21/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173192-1

Login Number: 173192
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9°C, 2.1°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173192-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173269

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/6/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071619-B	PD-4-GWP-53-071619
PD-4-GWP-60-071619	PD-4-GWP-70-071619
PD-4-GWP-70-071619-DUP	PD-4-GWP-80-071619

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC and PAH surrogate recoveries were outside evaluation criteria in several samples. MS/MSD recoveries and an MSMSD RPD for 2-chloroethyl vinyl ether and 3,3'-dichlorobenzidine were outside evaluation criteria. Additionally, the difference in analytical results for the SVOC compound bis-(2-ethylhexyl) phthalate was greater than two times (2X) the reporting level in field duplicate pair PD-4-GWP-60-071619/PD-4-GWP-60-071619-Dup; therefore, results were qualified as estimated (**J**/**J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-448915/1002	VOCs	2-Hexanone	**153/**NA	NA	65-137
400-448915/1002	VOCs	1,1,1,2-Tetrachloroethane	**137/**NA	NA	67-131
400-449267/1002	VOCs	2-Hexanone	**144/**NA	NA	65-137
400-449267/1002	VOCs	1,1,1,2-Tetrachloroethane	**133/**NA	NA	67-131
400-448720/2-A	SVOCs	4-Bromophenyl phenyl ether	**135**/NA	NA	55-122
400-448720/2-A	SVOCs	3,3'-Dichlorobenzidine	**223/**NA	NA	39-135
400-448720/2-A	SVOCs	Hexachlorobenzene	**149**/NA	NA	52-131
400-448720/19-A/20-A	SVOCs	Benzenethiol	**6/6**	1	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-4-GWP-53-071619	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-60-071619	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-70-071619	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-70-071619-DUP	SVOCs	Benzenethiol	**UJ**
PD-4-GWP-80-071619	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-4-GWP-53-071619	SVOCs	2-Fluorophenol	**7**	10-120
PD-4-GWP-53-071619	SVOCs	Nitrobenzene-d_5	**11**	27-120
PD-4-GWP-53-071619	SVOCs	Terphenyl-d_{14}	**49**	53-125
PD-4-GWP-70-071619	PAHs	2-Fluorobiphenyl	**135**	15-122
PD-4-GWP-70-071619	PAHs	Terphenyl-d_{14}	**139**	33-138
PD-4-GWP-70-071619	SVOCs	2-Fluorophenol	**9**	10-120
PD-4-GWP-70-071619-DUP	SVOCs	Terphenyl-d_{14}	**50**	53-125
PD-4-GWP-80-071619	SVOCs	2-Fluorophenol	**8**	10-120
LCS 400-448720/2-A	SVOCs	2,4,6-Tribromophenol	**155**	15-135
MB 400-448720/1-A	SVOCs	Terphenyl-d_{14}	**49**	53-125

Analytical data that required qualification based on surrogate recovery outside evaluation criteria are included in the table below. Qualifications due to surrogate recoveries were not required if only one of three base/neutral or acid fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. Method blanks are quality control samples and do not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-4-GWP-53-071619	SVOCs	SVOC detects	**J**
PD-4-GWP-53-071619	SVOCs	SVOC non-detects	**UJ**
PD-4-GWP-70-071619	SVOCs	SVOC detects	**J**
PD-4-GWP-70-071619	SVOCs	SVOC non-detects	**UJ**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-4-GWP-80-071619 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-4-GWP-80-071619	VOCs	2-Chloroethyl vinyl ether	47/**6**	**155**	10-150/50
PD-4-GWP-80-071619	SVOCs	3,3'-Dichlorobenzidine	**0**/**0**	NA	10-172/58

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-4-GWP-80-071619	SVOCs	3,3'-Dichlorobenzidine	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-4-GWP-70-071619	PD-4-GWP-70-071619-DUP

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-4-GWP-70-071619	PD-4-GWP-70-071619-DUP	SVOCs	bis(2-ethylhexyl) Phthalate	**≥2xRL**	**J/UJ**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173269-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/6/2019 4:17:33 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/6/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Job ID: 400-173269-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173269-1

Comments
No additional comments.

Receipt
The samples were received on 7/17/2019 8:58 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.0° C, 1.6° C and 2.1° C.

GC/MS VOA
Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-4-GWP-53-071619 (400-173269-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448915 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448915 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071619-B (400-173269-1), PD-4-GWP-53-071619 (400-173269-2), PD-4-GWP-60-071619 (400-173269-3), PD-4-GWP-70-071619 (400-173269-4), PD-4-GWP-70-071619-DUP (400-173269-5), PD-4-GWP-80-071619 (400-173269-6). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-449267 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-449267 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-449267 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-4-GWP-80-071619 (400-173269-6) and (MB 400-448720/1-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448720 and analytical batch 400-449178 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit for the affected analytes; therefore, the data have been reported.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Job ID: 400-173269-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448720 and analytical batch 400-449178 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-4-GWP-53-071619 (400-173269-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (LCS 400-448720/2-A). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-4-GWP-70-071619 (400-173269-4), PD-4-GWP-70-071619-DUP (400-173269-5). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448720 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Bromophenyl phenyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene, Benzo[g,h,i]perylene, Pyrene and Fluorene. The samples associated with this CCV were below reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: PD-4-GWP-70-071619 (400-173269-4).

Method(s) 8270D LL: Surrogate recovery for the following sample was outside control limits: PD-4-GWP-70-071619 (400-173269-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-4-GWP-53-071619 (400-173269-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173269-1	TB-PW-071619-B	Water	07/16/19 00:00	07/17/19 08:58	
400-173269-2	PD-4-GWP-53-071619	Water	07/16/19 09:25	07/17/19 08:58	
400-173269-3	PD-4-GWP-60-071619	Water	07/16/19 10:30	07/17/19 08:58	
400-173269-4	PD-4-GWP-70-071619	Water	07/16/19 13:15	07/17/19 08:58	
400-173269-5	PD-4-GWP-70-071619-DUP	Water	07/16/19 13:15	07/17/19 08:58	
400-173269-6	PD-4-GWP-80-071619	Water	07/16/19 14:30	07/17/19 08:58	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B — Lab Sample ID: 400-173269-1

No Detections.

Client Sample ID: PD-4-GWP-53-071619 — Lab Sample ID: 400-173269-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	290000		1000	380	ug/L	1000		8260B	Total/NA
Ethylbenzene	640	J	1000	500	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	1000		1000	820	ug/L	1000		8260B	Total/NA
Acenaphthene	0.69	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Anthracene	0.31	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.33	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Fluorene	1.6		0.97	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	110		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	170		0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene	1.2		0.97	0.097	ug/L	5		8270D LL	Total/NA
Dibenzofuran	1.8	J	9.7	0.50	ug/L	1		8270D	Total/NA
Pentachlorophenol	2.5	J	19	1.8	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-60-071619 — Lab Sample ID: 400-173269-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	39		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	2.0		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	1.9		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	7.5		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	2.2	J	5.0	1.6	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.1		1.0	0.69	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.6		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	0.46	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	3.3		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.86	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	2.5	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.76	J	4.9	0.49	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene	1.6	J	4.9	0.49	ug/L	25		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	5.9	J	9.7	4.9	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-70-071619 — Lab Sample ID: 400-173269-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.6		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	1.6		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	6.4		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	2.0	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.1		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.7		1.0	0.69	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	6.4		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.8		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	2.3	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	1.7		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	2.6		0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.040	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	82		9.7	4.9	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP — Lab Sample ID: 400-173269-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.8		1.0	0.38	ug/L	1		8260B	Total/NA
Chloromethane	1.5		1.0	0.83	ug/L	1		8260B	Total/NA
Ethylbenzene	1.4		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	6.5		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.8	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.1		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.6		1.0	0.69	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	6.0		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.7		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	2.1	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	1.1	J	4.8	0.48	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene	1.8	J	4.8	0.48	ug/L	25		8270D LL	Total/NA
Phenanthrene	0.045	J	0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-4-GWP-80-071619 — Lab Sample ID: 400-173269-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.6		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	0.53	J	1.0	0.50	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.032	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.059	J	0.19	0.019	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 13:34	1
Acrolein	ND		20	10	ug/L			07/22/19 13:34	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 13:34	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 13:34	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 13:34	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 13:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 13:34	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 13:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 13:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 13:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 13:34	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 13:34	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 13:34	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 13:34	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 13:34	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 13:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 13:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 13:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 13:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 13:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 13:34	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 13:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 13:34	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 13:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 13:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 13:34	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 13:34	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 13:34	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 13:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 13:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 13:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 13:34	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 13:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 13:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 13:34	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 13:34	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 13:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 13:34	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 13:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 13:34	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 13:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 13:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 13:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 13:34	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 13:34	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 13:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 13:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 13:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 13:34	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 13:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 13:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*8.7*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 13:34*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 13:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 13:34*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 13:34*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 13:34*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/22/19 20:10	1000
Acrolein	ND		20000	10000	ug/L			07/22/19 20:10	1000
Acrylonitrile	ND		10000	2800	ug/L			07/22/19 20:10	1000
Benzene	**290000**		1000	380	ug/L			07/22/19 20:10	1000
Bromobenzene	ND		1000	540	ug/L			07/22/19 20:10	1000
Bromochloromethane	ND		1000	520	ug/L			07/22/19 20:10	1000
Bromodichloromethane	ND		1000	500	ug/L			07/22/19 20:10	1000
Bromoform	ND		5000	710	ug/L			07/22/19 20:10	1000
Bromomethane	ND		1000	980	ug/L			07/22/19 20:10	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/22/19 20:10	1000
Carbon disulfide	ND		1000	500	ug/L			07/22/19 20:10	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/22/19 20:10	1000
Chlorobenzene	ND		1000	500	ug/L			07/22/19 20:10	1000
Chloroethane	ND		1000	760	ug/L			07/22/19 20:10	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/22/19 20:10	1000
Chloroform	ND		1000	600	ug/L			07/22/19 20:10	1000
1-Chlorohexane	ND		1000	700	ug/L			07/22/19 20:10	1000
Chloromethane	ND		1000	830	ug/L			07/22/19 20:10	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/22/19 20:10	1000
Dibromochloromethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/22/19 20:10	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/22/19 20:10	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/22/19 20:10	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/22/19 20:10	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/22/19 20:10	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/22/19 20:10	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/22/19 20:10	1000
Ethylbenzene	**640**	**J**	1000	500	ug/L			07/22/19 20:10	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/22/19 20:10	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/22/19 20:10	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/22/19 20:10	1000
2-Hexanone	ND	*	25000	3100	ug/L			07/22/19 20:10	1000
Isopropylbenzene	ND		1000	530	ug/L			07/22/19 20:10	1000
Methylene bromide	ND		5000	590	ug/L			07/22/19 20:10	1000
Methylene Chloride	ND		5000	3000	ug/L			07/22/19 20:10	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/22/19 20:10	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/22/19 20:10	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			07/22/19 20:10	1000
Naphthalene	ND		1000	1000	ug/L			07/22/19 20:10	1000
n-Butylbenzene	ND		1000	760	ug/L			07/22/19 20:10	1000
N-Propylbenzene	ND		1000	690	ug/L			07/22/19 20:10	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/22/19 20:10	1000
o-Xylene	ND		5000	600	ug/L			07/22/19 20:10	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1000	560	ug/L			07/22/19 20:10	1000
p-Isopropyltoluene	ND		1000	710	ug/L			07/22/19 20:10	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/22/19 20:10	1000
Styrene	ND		1000	1000	ug/L			07/22/19 20:10	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/22/19 20:10	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/22/19 20:10	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
Tetrachloroethene	ND		1000	580	ug/L			07/22/19 20:10	1000
Toluene	ND		1000	410	ug/L			07/22/19 20:10	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/22/19 20:10	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/22/19 20:10	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/22/19 20:10	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/22/19 20:10	1000
Trichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/22/19 20:10	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/22/19 20:10	1000
1,2,4-Trimethylbenzene	**1000**		1000	820	ug/L			07/22/19 20:10	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/22/19 20:10	1000
Vinyl acetate	ND		25000	2000	ug/L			07/22/19 20:10	1000
Vinyl chloride	ND		1000	500	ug/L			07/22/19 20:10	1000
Xylenes, Total	ND		10000	1600	ug/L			07/22/19 20:10	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1000*		*ug/L*		*3.71*	*110-54-3*		*07/22/19 20:10*	*1000*
Cyclohexane	*1100*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 20:10*	*1000*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 20:10*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/22/19 20:10*	*1000*
Dibromofluoromethane	*95*		*81 - 121*		*07/22/19 20:10*	*1000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 20:10*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.69**	**J**	0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Anthracene	**0.31**	**J**	0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[a]anthracene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[a]pyrene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[b]fluoranthene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[g,h,i]perylene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[k]fluoranthene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Chrysene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Dibenz(a,h)anthracene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Fluoranthene	**0.33**	**J**	0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Fluorene	**1.6**		0.97	0.10	ug/L		07/19/19 14:04	08/03/19 13:41	5
Indeno[1,2,3-cd]pyrene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
1-Methylnaphthalene	**110**		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	170		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Phenanthrene	1.2		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Pyrene	ND		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*15 - 122*	*07/19/19 14:04*	*08/03/19 13:41*	*5*
Nitrobenzene-d5	*89*		*19 - 130*	*07/19/19 14:04*	*08/03/19 13:41*	*5*
Terphenyl-d14	*50*		*33 - 138*	*07/19/19 14:04*	*08/03/19 13:41*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 16:03	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:03	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/19/19 14:04	07/23/19 16:03	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 16:03	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 16:03	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Dibenzofuran	1.8	J	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:03	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:03	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 16:03	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 16:03	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 16:03	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:03	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 16:03	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 16:03	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:03	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:03	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 16:03	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 16:03	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:03	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 16:03	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 16:03	1
Pentachlorophenol	2.5	J	19	1.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:03	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Cyclohexane, methyl-	*50*	*T J N*	*ug/L*		*3.46*	*108-87-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Heptane, 2-methyl-	*53*	*T J N*	*ug/L*		*3.82*	*592-27-8*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Octane	*57*	*T J N*	*ug/L*		*4.13*	*111-65-9*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Ethylbenzene	*170*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
p-Xylene	*170*	*T J N*	*ug/L*		*4.72*	*106-42-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, (1-methylethyl)-	*81*	*T J N*	*ug/L*		*5.05*	*98-82-8*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, propyl-	*160*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1-ethyl-2-methyl-	*61*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Decane	*49*	*T J N*	*ug/L*		*5.46*	*124-18-5*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,2,4-trimethyl-	*110*	*T J N*	*ug/L*		*5.62*	*95-63-6*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Indane	*120*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*70*	*T J N*	*ug/L*		*5.77*	*934-74-7*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*52*	*T J N*	*ug/L*		*5.87*	*1758-88-9*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1-ethyl-2,4-dimethyl-	*59*	*T J N*	*ug/L*		*5.89*	*874-41-9*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*130*	*T J N*	*ug/L*		*5.92*	*934-80-5*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, (2-methyl-1-propenyl)-	*78*	*T J N*	*ug/L*		*5.95*	*768-49-0*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,2,4,5-tetramethyl-	*64*	*T J N*	*ug/L*		*6.07*	*95-93-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,2,4,5-tetramethyl-	*100*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,3-diethyl-5-methyl-	*49*	*T J N*	*ug/L*		*6.14*	*2050-24-0*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
1-Phenyl-1-butene	*120*	*T J N*	*ug/L*		*6.20*	*824-90-8*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Dodecane	*89*	*T J N*	*ug/L*		*6.35*	*112-40-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, (1-methyl-1-butenyl)-	*130*	*T J N*	*ug/L*		*6.40*	*53172-84-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Naphthalene	*130*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Naphthalene, 2-methyl-	*110*	*T J N*	*ug/L*		*6.88*	*91-57-6*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Naphthalene, 2-methyl-	*90*	*T J N*	*ug/L*		*6.95*	*91-57-6*	*07/19/19 14:04*	*07/23/19 16:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
2-Fluorophenol	*7*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Nitrobenzene-d5	*11*	*X*	*27 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Phenol-d5	*10*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Terphenyl-d14	*49*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/19/19 14:04*	*07/23/19 16:03*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 17:58	1
Acrolein	ND		20	10	ug/L			07/22/19 17:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 17:58	1
Benzene	**39**		1.0	0.38	ug/L			07/22/19 17:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 17:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 17:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 17:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 17:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 17:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 17:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 17:58	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 17:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 17:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 17:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 17:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 17:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 17:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 17:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 17:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Ethylbenzene	**2.0**		1.0	0.50	ug/L			07/22/19 17:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 17:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 17:58	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 17:58	1
Isopropylbenzene	**1.9**		1.0	0.53	ug/L			07/22/19 17:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 17:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 17:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 17:58	1
Methyl tert-butyl ether	**7.5**		1.0	0.74	ug/L			07/22/19 17:58	1
m-Xylene & p-Xylene	**2.2**	**J**	5.0	1.6	ug/L			07/22/19 17:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 17:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 17:58	1
N-Propylbenzene	**1.1**		1.0	0.69	ug/L			07/22/19 17:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 17:58	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 17:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 17:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 17:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 17:58	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 17:58	1
tert-Butylbenzene	**1.6**		1.0	0.63	ug/L			07/22/19 17:58	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 17:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 17:58	1
Toluene	**0.46**	**J**	1.0	0.41	ug/L			07/22/19 17:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 17:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 17:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 17:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 17:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 17:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 17:58	1
1,2,4-Trimethylbenzene	**3.3**		1.0	0.82	ug/L			07/22/19 17:58	1
1,3,5-Trimethylbenzene	**0.86**	**J**	1.0	0.56	ug/L			07/22/19 17:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 17:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Xylenes, Total	**2.5**	**J**	10	1.6	ug/L			07/22/19 17:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*70*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/22/19 17:58*	*1*
Butane, 2,2-dimethyl-	*30*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/22/19 17:58*	*1*
Isopropyl alcohol	*79*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 17:58*	*1*
2-Methyl-2-propanol	*340*		*ug/L*		*3.39*	*75-65-0*		*07/22/19 17:58*	*1*
Hexane	*5.8*		*ug/L*		*3.70*	*110-54-3*		*07/22/19 17:58*	*1*
Cyclohexane	*12*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 17:58*	*1*
t-Amyl alcohol	*45*		*ug/L*		*4.66*	*75-85-4*		*07/22/19 17:58*	*1*
Isooctane	*1.9*	*J*	*ug/L*		*4.76*	*540-84-1*		*07/22/19 17:58*	*1*
n-Heptane	*3.3*		*ug/L*		*4.85*	*142-82-5*		*07/22/19 17:58*	*1*
Methylcyclohexane	*5.1*		*ug/L*		*5.27*	*108-87-2*		*07/22/19 17:58*	*1*
Cyclohexene, 1-methyl-	*6.1*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/22/19 17:58*	*1*
1,4-Pentadiene, 2,3,3-trimethyl-	*5.9*	*T J N*	*ug/L*		*6.22*	*756-02-5*		*07/22/19 17:58*	*1*
3-Ethyltoluene	*1.1*		*ug/L*		*8.09*	*620-14-4*		*07/22/19 17:58*	*1*
2-Ethyltoluene	*0.91*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/22/19 17:58*	*1*
1,2,3-Trimethylbenzene	*1.1*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/22/19 17:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/22/19 17:58*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 17:58*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 17:58*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/29/19 21:31	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
1-Methylnaphthalene	**0.76**	**J**	4.9	0.49	ug/L		07/19/19 14:04	08/05/19 16:54	25
2-Methylnaphthalene	**1.6**	**J**	4.9	0.49	ug/L		07/19/19 14:04	08/05/19 16:54	25
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*106*		*15 - 122*	*07/19/19 14:04*	*07/29/19 21:31*	*1*
Nitrobenzene-d5	*74*		*19 - 130*	*07/19/19 14:04*	*08/05/19 16:54*	*25*
Terphenyl-d14	*79*		*33 - 138*	*07/19/19 14:04*	*08/05/19 16:54*	*25*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:24	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/19/19 14:04	07/23/19 16:24	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 16:24	1
Bis(2-ethylhexyl) phthalate	**5.9**	**J**	9.7	4.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 16:24	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/19/19 14:04	07/23/19 16:24	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:24	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 16:24	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 16:24	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:24	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 16:24	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:24	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 16:24	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 16:24	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:24	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 16:24	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 16:24	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:24	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 16:24	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 16:24	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 16:24	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:24	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*4.3*	*T J N*	*ug/L*		*4.63*	*100-41-4*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1,2,3-trimethyl-	*11*	*T J N*	*ug/L*		*5.45*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1,2,3-trimethyl-	*4.7*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*6.0*	*T J N*	*ug/L*		*5.76*	*934-80-5*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*4.3*	*T J N*	*ug/L*		*5.90*	*933-98-2*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*5.2*	*T J N*	*ug/L*		*6.23*	*3333-13-9*	*07/19/19 14:04*	*07/23/19 16:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*34 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
2-Fluorophenol	*12*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Nitrobenzene-d5	*66*		*27 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Phenol-d5	*40*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Terphenyl-d14	*56*		*53 - 125*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
2,4,6-Tribromophenol	*63*		*15 - 135*	*07/19/19 14:04*	*07/23/19 16:24*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 18:25	1
Acrolein	ND		20	10	ug/L			07/22/19 18:25	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 18:25	1
Benzene	**7.6**		1.0	0.38	ug/L			07/22/19 18:25	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 18:25	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 18:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 18:25	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 18:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 18:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 18:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 18:25	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 18:25	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 18:25	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 18:25	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:25	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 18:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 18:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 18:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 18:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Ethylbenzene	**1.6**		1.0	0.50	ug/L			07/22/19 18:25	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 18:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 18:25	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 18:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 18:25	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 18:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 18:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 18:25	1
Methyl tert-butyl ether	**6.4**		1.0	0.74	ug/L			07/22/19 18:25	1
m-Xylene & p-Xylene	**2.0**	**J**	5.0	1.6	ug/L			07/22/19 18:25	1
Naphthalene	**1.1**		1.0	1.0	ug/L			07/22/19 18:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 18:25	1
N-Propylbenzene	**1.7**		1.0	0.69	ug/L			07/22/19 18:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 18:25	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 18:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 18:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 18:25	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 18:25	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 18:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 18:25	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 18:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 18:25	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 18:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 18:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 18:25	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 18:25	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 18:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 18:25	1
1,2,4-Trimethylbenzene	**6.4**		1.0	0.82	ug/L			07/22/19 18:25	1
1,3,5-Trimethylbenzene	**1.8**		1.0	0.56	ug/L			07/22/19 18:25	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 18:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Xylenes, Total	**2.3**	**J**	10	1.6	ug/L			07/22/19 18:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*65*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 18:25*	*1*
2-Methyl-2-propanol	*57*		*ug/L*		*3.39*	*75-65-0*		*07/22/19 18:25*	*1*
Hexane	*1.6*		*ug/L*		*3.70*	*110-54-3*		*07/22/19 18:25*	*1*
Cyclohexane	*1.6*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 18:25*	*1*
t-Amyl alcohol	*11*		*ug/L*		*4.65*	*75-85-4*		*07/22/19 18:25*	*1*
n-Heptane	*0.78*	*J*	*ug/L*		*4.85*	*142-82-5*		*07/22/19 18:25*	*1*
Methylcyclohexane	*1.4*		*ug/L*		*5.27*	*108-87-2*		*07/22/19 18:25*	*1*
3-Ethyltoluene	*2.3*		*ug/L*		*8.09*	*620-14-4*		*07/22/19 18:25*	*1*
2-Ethyltoluene	*1.8*		*ug/L*		*8.30*	*611-14-3*		*07/22/19 18:25*	*1*
1,2,3-Trimethylbenzene	*2.3*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/22/19 18:25*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 18:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 18:25*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/22/19 18:25*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 18:25*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/29/19 21:48	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
1-Methylnaphthalene	**1.7**		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 14:15	5
2-Methylnaphthalene	**2.6**		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 14:15	5
Phenanthrene	**0.040**	**J**	0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*135*	*X*	*15 - 122*	*07/19/19 14:04*	*08/03/19 14:15*	*5*
Nitrobenzene-d5	*128*		*19 - 130*	*07/19/19 14:04*	*08/03/19 14:15*	*5*
Terphenyl-d14	*139*	*X*	*33 - 138*	*07/19/19 14:04*	*08/03/19 14:15*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:45	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/19/19 14:04	07/23/19 16:45	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 16:45	1
Bis(2-ethylhexyl) phthalate	**82**		9.7	4.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 16:45	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:45	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:45	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 16:45	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 16:45	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 16:45	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:45	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 16:45	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 16:45	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:45	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 16:45	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 16:45	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:45	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 16:45	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 16:45	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:45	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*380*	*T J N*	*ug/L*		*4.11*	*590-90-9*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1-ethyl-2-methyl-	*4.0*	*T J N*	*ug/L*		*5.37*	*611-14-3*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1,2,3-trimethyl-	*12*	*T J N*	*ug/L*		*5.45*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1,2,3-trimethyl-	*5.3*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*4.2*	*T J N*	*ug/L*		*6.23*	*3333-13-9*	*07/19/19 14:04*	*07/23/19 16:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
2-Fluorophenol	*9*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Nitrobenzene-d5	*79*		*27 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Phenol-d5	*46*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Terphenyl-d14	*67*		*53 - 125*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
2,4,6-Tribromophenol	*75*		*15 - 135*	*07/19/19 14:04*	*07/23/19 16:45*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 18:51	1
Acrolein	ND		20	10	ug/L			07/22/19 18:51	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 18:51	1
Benzene	**7.8**		1.0	0.38	ug/L			07/22/19 18:51	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 18:51	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 18:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 18:51	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 18:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 18:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 18:51	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 18:51	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 18:51	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 18:51	1
Chloromethane	**1.5**		1.0	0.83	ug/L			07/22/19 18:51	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:51	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 18:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 18:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 18:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 18:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Ethylbenzene	**1.4**		1.0	0.50	ug/L			07/22/19 18:51	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 18:51	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 18:51	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 18:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 18:51	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 18:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 18:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 18:51	1
Methyl tert-butyl ether	**6.5**		1.0	0.74	ug/L			07/22/19 18:51	1
m-Xylene & p-Xylene	**1.8**	**J**	5.0	1.6	ug/L			07/22/19 18:51	1
Naphthalene	**1.1**		1.0	1.0	ug/L			07/22/19 18:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 18:51	1
N-Propylbenzene	**1.6**		1.0	0.69	ug/L			07/22/19 18:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 18:51	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 18:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 18:51	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 18:51	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 18:51	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 18:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 18:51	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 18:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 18:51	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 18:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 18:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 18:51	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 18:51	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 18:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 18:51	1
1,2,4-Trimethylbenzene	**6.0**		1.0	0.82	ug/L			07/22/19 18:51	1
1,3,5-Trimethylbenzene	**1.7**		1.0	0.56	ug/L			07/22/19 18:51	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 18:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Xylenes, Total	**2.1**	**J**	10	1.6	ug/L			07/22/19 18:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*86*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 18:51*	*1*
2-Methyl-2-propanol	*65*		*ug/L*		*3.39*	*75-65-0*		*07/22/19 18:51*	*1*
Hexane	*1.4*		*ug/L*		*3.70*	*110-54-3*		*07/22/19 18:51*	*1*
Cyclohexane	*1.4*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 18:51*	*1*
t-Amyl alcohol	*11*		*ug/L*		*4.66*	*75-85-4*		*07/22/19 18:51*	*1*
Methylcyclohexane	*1.2*		*ug/L*		*5.27*	*108-87-2*		*07/22/19 18:51*	*1*
n-Butyl acetate	*1.2*		*ug/L*		*6.45*	*123-86-4*		*07/22/19 18:51*	*1*
3-Ethyltoluene	*2.1*		*ug/L*		*8.09*	*620-14-4*		*07/22/19 18:51*	*1*
2-Ethyltoluene	*1.8*		*ug/L*		*8.30*	*611-14-3*		*07/22/19 18:51*	*1*
1,2,3-Trimethylbenzene	*2.1*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/22/19 18:51*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 18:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/22/19 18:51*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 18:51*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 18:51*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/29/19 22:05	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
1-Methylnaphthalene	**1.1**	**J**	4.8	0.48	ug/L		07/19/19 14:04	08/05/19 17:12	25
2-Methylnaphthalene	**1.8**	**J**	4.8	0.48	ug/L		07/19/19 14:04	08/05/19 17:12	25
Phenanthrene	**0.045**	**J**	0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*15 - 122*	*07/19/19 14:04*	*08/05/19 17:12*	*25*
Nitrobenzene-d5	*65*		*19 - 130*	*07/19/19 14:04*	*08/05/19 17:12*	*25*
Terphenyl-d14	*58*		*33 - 138*	*07/19/19 14:04*	*08/05/19 17:12*	*25*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 17:08	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:08	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/19/19 14:04	07/23/19 17:08	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/19/19 14:04	07/23/19 17:08	1
Bis(2-ethylhexyl) phthalate	ND	UJ	9.7	4.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 17:08	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:08	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:08	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 17:08	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 17:08	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 17:08	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:08	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 17:08	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 17:08	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:08	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 17:08	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 17:08	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:08	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 17:08	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 17:08	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:08	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*110*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1,3,5-trimethyl-	*12*	*T J N*	*ug/L*		*5.45*	*108-67-8*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1,2,3-trimethyl-	*6.4*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1,4-diethyl-	*4.3*	*T J N*	*ug/L*		*5.76*	*105-05-5*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*4.4*	*T J N*	*ug/L*		*6.23*	*3333-13-9*	*07/19/19 14:04*	*07/23/19 17:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*34 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
2-Fluorophenol	*38*		*10 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Phenol-d5	*59*		*10 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Terphenyl-d14	*50*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
2,4,6-Tribromophenol	*69*		*15 - 135*	*07/19/19 14:04*	*07/23/19 17:08*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619

Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 09:58	1
Acrolein	ND		20	10	ug/L			07/24/19 09:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 09:58	1
Benzene	**3.6**		1.0	0.38	ug/L			07/24/19 09:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 09:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 09:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 09:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 09:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 09:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 09:58	1
2-Chloroethyl vinyl ether	ND	F2 F1	5.0	2.0	ug/L			07/24/19 09:58	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 09:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 09:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 09:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 09:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 09:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 09:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 09:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 09:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Ethylbenzene	**0.53**	**J**	1.0	0.50	ug/L			07/24/19 09:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 09:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 09:58	1
2-Hexanone	ND	*	25	3.1	ug/L			07/24/19 09:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 09:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 09:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 09:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 09:58	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 09:58	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 09:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 09:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 09:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 09:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 09:58	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 09:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619

Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 09:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 09:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 09:58	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 09:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 09:58	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/24/19 09:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 09:58	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 09:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 09:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 09:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 09:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 09:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 09:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 09:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 09:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 09:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 09:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 09:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*110*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/24/19 09:58*	*1*
2-Methyl-2-propanol	*190*		*ug/L*		*3.39*	*75-65-0*		*07/24/19 09:58*	*1*
Hexane	*1.0*		*ug/L*		*3.71*	*110-54-3*		*07/24/19 09:58*	*1*
Cyclohexane	*0.67*	*J*	*ug/L*		*4.55*	*110-82-7*		*07/24/19 09:58*	*1*
n-Heptane	*1.5*		*ug/L*		*4.85*	*142-82-5*		*07/24/19 09:58*	*1*
Methylcyclohexane	*0.57*	*J*	*ug/L*		*5.27*	*108-87-2*		*07/24/19 09:58*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 09:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/24/19 09:58*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 09:58*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 09:58*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619
Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	08/05/19 17:28	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
1-Methylnaphthalene	**0.032**	**J**	0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
2-Methylnaphthalene	**0.059**	**J**	0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/19/19 14:04*	*08/05/19 17:28*	*1*
Nitrobenzene-d5	*81*		*19 - 130*	*07/19/19 14:04*	*08/05/19 17:28*	*1*
Terphenyl-d14	*101*		*33 - 138*	*07/19/19 14:04*	*08/05/19 17:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
Benzenethiol	ND	* UJ	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 17:29	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:29	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/19/19 14:04	07/23/19 17:29	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/19/19 14:04	07/23/19 17:29	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 17:29	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:29	1
3,3'-Dichlorobenzidine	ND	F1 * UJ	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:29	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 17:29	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 17:29	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 17:29	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:29	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 17:29	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 17:29	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619
Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 17:29	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 17:29	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:29	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 17:29	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 17:29	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
Phenol	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:29	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfolane	*1.1*	*J*	*ug/L*		*6.44*	*126-33-0*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 17:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
2-Fluorophenol	*8*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Phenol-d5	*36*		*10 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
2,4,6-Tribromophenol	*58*		*15 - 135*	*07/19/19 14:04*	*07/23/19 17:29*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173269-1	TB-PW-071619-B	101	97	104
400-173269-2	PD-4-GWP-53-071619	100	95	103
400-173269-3	PD-4-GWP-60-071619	102	97	103
400-173269-4	PD-4-GWP-70-071619	101	96	103
400-173269-5	PD-4-GWP-70-071619-DUP	103	98	104
400-173269-6	PD-4-GWP-80-071619	103	96	102
400-173269-6 MS	PD-4-GWP-80-071619	100	97	101
400-173269-6 MSD	PD-4-GWP-80-071619	99	97	100
LCS 400-448915/1002	Lab Control Sample	97	97	103
LCS 400-449267/1002	Lab Control Sample	99	95	100
MB 400-448915/4	Method Blank	101	98	103
MB 400-449267/4	Method Blank	101	97	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173269-2	PD-4-GWP-53-071619	59	7 X	11 X	10	49 X	54
400-173269-3	PD-4-GWP-60-071619	51	12	66	40	56	63
400-173269-4	PD-4-GWP-70-071619	59	9 X	79	46	67	75
400-173269-5	PD-4-GWP-70-071619-DUP	53	38	71	59	50 X	69
400-173269-6	PD-4-GWP-80-071619	52	8 X	67	36	59	58
400-173269-6 MS	PD-4-GWP-80-071619	69	19	89	62	66	79
400-173269-6 MSD	PD-4-GWP-80-071619	61	12	77	45	54	67
LCS 400-448720/19-A	Lab Control Sample	55	24	77	54	71	63
LCS 400-448720/2-A	Lab Control Sample	92	11	67	38	114	155 X
LCSD 400-448720/20-A	Lab Control Sample Dup	72	33	91	61	96	72
MB 400-448720/1-A	Method Blank	42	21	59	43	49 X	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173269-2	PD-4-GWP-53-071619	75	89	50

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173269-3	PD-4-GWP-60-071619	106		
400-173269-3	PD-4-GWP-60-071619		74	79
400-173269-4	PD-4-GWP-70-071619	135 X	128	139 X
400-173269-5	PD-4-GWP-70-071619-DUP	60	65	58
400-173269-6	PD-4-GWP-80-071619	87	81	101
400-173269-6 MS	PD-4-GWP-80-071619	101	85	86
400-173269-6 MSD	PD-4-GWP-80-071619	72	58	86
LCS 400-448720/2-A	Lab Control Sample	84	58	127
MB 400-448720/1-A	Method Blank	92	65	
MB 400-448720/1-A	Method Blank			117

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B
Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 13:34	RS	TAL PEN

Client Sample ID: PD-4-GWP-53-071619
Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	448915	07/22/19 20:10	RS	TAL PEN
Total/NA	Prep	3520C			1030.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 16:03	VC1	TAL PEN
Total/NA	Prep	3520C			1030.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 13:41	KJA	TAL PEN

Client Sample ID: PD-4-GWP-60-071619
Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 17:58	RS	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 16:24	VC1	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 21:31	KJA	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		25			450940	08/05/19 16:54	KJA	TAL PEN

Client Sample ID: PD-4-GWP-70-071619
Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 18:25	RS	TAL PEN
Total/NA	Prep	3520C			1030.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 16:45	VC1	TAL PEN
Total/NA	Prep	3520C			1030.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 14:15	KJA	TAL PEN
Total/NA	Prep	3520C			1030.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 21:48	KJA	TAL PEN

Client Sample ID: PD-4-GWP-70-071619-DUP
Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 18:51	RS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1032 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 17:08	VC1	TAL PEN
Total/NA	Prep	3520C			1032 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 22:05	KJA	TAL PEN
Total/NA	Prep	3520C			1032 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		25			450940	08/05/19 17:12	KJA	TAL PEN

Client Sample ID: PD-4-GWP-80-071619

Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 09:58	WPD	TAL PEN
Total/NA	Prep	3520C			1032.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 17:29	VC1	TAL PEN
Total/NA	Prep	3520C			1032.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 17:28	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448720/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 15:20	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:50	KJA	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 20:41	KJA	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-448915/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449267/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 08:41	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:22	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 22:41	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 20:57	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448915/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449267/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 07:52	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:43	VC1	TAL PEN

Client Sample ID: PD-4-GWP-80-071619
Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 12:58	WPD	TAL PEN
Total/NA	Prep	3520C			1033.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 17:50	VC1	TAL PEN
Total/NA	Prep	3520C			1033.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 13:07	KJA	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619

Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6 MSD

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 12:29	WPD	TAL PEN
Total/NA	Prep	3520C			1020.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 18:11	VC1	TAL PEN
Total/NA	Prep	3520C			1020.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450108	07/31/19 00:44	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

GC/MS VOA

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-1	TB-PW-071619-B	Total/NA	Water	8260B	
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	8260B	
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8260B	
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8260B	
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	8260B	
MB 400-449267/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449267/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	8260B	
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	3520C	
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	3520C	
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	3520C	
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	3520C	
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	3520C	
MB 400-448720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	3520C	
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	3520C	

Analysis Batch: 449178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	8270D	448720
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8270D	448720
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8270D	448720
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8270D	448720
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	8270D	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D	448720
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	8270D	448720
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	8270D	448720
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	8270D	448720
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	8270D	448720

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D	448720

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

GC/MS Semi VOA

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8270D LL	448720
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8270D LL	448720
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448720

Analysis Batch: 450108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	8270D LL	448720

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	8270D LL	448720
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	8270D LL	448720

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8270D LL	448720
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8270D LL	448720
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	8270D LL	448720

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	MB *Est. Result*	MB *Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	MB *%Recovery*	MB *Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	294		ug/L		147	43 - 160
Acrolein	500	667		ug/L		133	38 - 160
Acrylonitrile	500	616		ug/L		123	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	54.1		ug/L		108	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.2		ug/L		110	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	34.5		ug/L		69	10 - 160
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.6		ug/L		109	61 - 137
Carbon tetrachloride	50.0	60.5		ug/L		121	61 - 137
Chlorobenzene	50.0	56.6		ug/L		113	70 - 130
Chloroethane	50.0	49.1		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	49.3		ug/L		99	10 - 160
Chloroform	50.0	53.9		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.5		ug/L		121	69 - 130
Chloromethane	50.0	44.1		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	58.1		ug/L		116	68 - 130
cis-1,3-Dichloropropene	50.0	59.7		ug/L		119	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.7		ug/L		123	54 - 135
1,2-Dichlorobenzene	50.0	57.7		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	25.0		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	57.8		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	58.2		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.3		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	56.5		ug/L		113	52 - 135
1,1-Dichloropropene	50.0	55.4		ug/L		111	70 - 130
Ethylbenzene	50.0	58.8		ug/L		118	70 - 130
Ethylene Dibromide	50.0	57.3		ug/L		115	70 - 130
Ethyl methacrylate	50.0	65.1		ug/L		130	68 - 130
Hexachlorobutadiene	50.0	52.0		ug/L		104	53 - 140
2-Hexanone	200	306	*	ug/L		153	65 - 137
Isopropylbenzene	50.0	56.2		ug/L		112	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	259		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	51.0		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	57.9		ug/L		116	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	57.7		ug/L		115	67 - 130
N-Propylbenzene	50.0	58.8		ug/L		118	70 - 130
o-Chlorotoluene	50.0	57.4		ug/L		115	70 - 130
o-Xylene	50.0	57.3		ug/L		115	70 - 130
p-Chlorotoluene	50.0	57.1		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	58.1		ug/L		116	65 - 130
sec-Butylbenzene	50.0	56.2		ug/L		112	66 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
tert-Butylbenzene	50.0	55.7		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.3	*	ug/L		137	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.0		ug/L		116	70 - 131
Tetrachloroethene	50.0	57.4		ug/L		115	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	65.0		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	52.6		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	60 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.9		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	70 - 130
1,2,4-Trimethylbenzene	50.0	55.5		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	55.8		ug/L		112	69 - 130
Vinyl acetate	100	117		ug/L		117	26 - 160
Vinyl chloride	50.0	45.3		ug/L		91	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 08:41	1
Acrolein	ND		20	10	ug/L			07/24/19 08:41	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 08:41	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 08:41	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 08:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 08:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 08:41	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 08:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 08:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 08:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 08:41	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 08:41	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 08:41	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 08:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 08:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 08:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 08:41	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 08:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 08:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 08:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 08:41	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 08:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 08:41	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 08:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 08:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 08:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 08:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 08:41	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 08:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 08:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 08:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 08:41	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 08:41	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 08:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 08:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 08:41	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 08:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 08:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 08:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 08:41	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 08:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 08:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 08:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 08:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 08:41	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 08:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 08:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 08:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 08:41	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 08:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 08:41	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/24/19 08:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/24/19 08:41	1
Dibromofluoromethane	97		81 - 121		07/24/19 08:41	1
Toluene-d8 (Surr)	101		80 - 120		07/24/19 08:41	1

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	274		ug/L		137	43 - 160
Acrolein	500	599		ug/L		120	38 - 160
Acrylonitrile	500	617		ug/L		123	64 - 142
Benzene	50.0	55.5		ug/L		111	70 - 130
Bromobenzene	50.0	54.7		ug/L		109	70 - 132
Bromochloromethane	50.0	56.6		ug/L		113	70 - 130
Bromodichloromethane	50.0	55.3		ug/L		111	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	39.6		ug/L		79	10 - 160
2-Butanone (MEK)	200	254		ug/L		127	61 - 145
Carbon disulfide	50.0	54.5		ug/L		109	61 - 137
Carbon tetrachloride	50.0	59.8		ug/L		120	61 - 137
Chlorobenzene	50.0	56.1		ug/L		112	70 - 130
Chloroethane	50.0	48.7		ug/L		97	55 - 141
2-Chloroethyl vinyl ether	50.0	47.7		ug/L		95	10 - 160
Chloroform	50.0	55.0		ug/L		110	69 - 130
1-Chlorohexane	50.0	59.4		ug/L		119	69 - 130
Chloromethane	50.0	48.3		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	59.2		ug/L		118	68 - 130
cis-1,3-Dichloropropene	50.0	60.3		ug/L		121	69 - 132
Dibromochloromethane	50.0	61.4		ug/L		123	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	58.1		ug/L		116	54 - 135
1,2-Dichlorobenzene	50.0	56.8		ug/L		114	67 - 130
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	55.8		ug/L		112	70 - 130
Dichlorodifluoromethane	50.0	29.9		ug/L		60	41 - 146
1,1-Dichloroethane	50.0	59.7		ug/L		119	70 - 130
1,2-Dichloroethane	50.0	54.6		ug/L		109	69 - 130
1,1-Dichloroethene	50.0	51.3		ug/L		103	63 - 134
1,2-Dichloropropane	50.0	59.7		ug/L		119	70 - 130
1,3-Dichloropropane	50.0	57.9		ug/L		116	70 - 130
2,2-Dichloropropane	50.0	57.1		ug/L		114	52 - 135
1,1-Dichloropropene	50.0	55.5		ug/L		111	70 - 130
Ethylbenzene	50.0	57.3		ug/L		115	70 - 130
Ethylene Dibromide	50.0	56.3		ug/L		113	70 - 130
Ethyl methacrylate	50.0	64.8		ug/L		130	68 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	51.4		ug/L		103	53 - 140
2-Hexanone	200	288	*	ug/L		144	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	51.3		ug/L		103	70 - 130
Methylene Chloride	50.0	55.4		ug/L		111	66 - 135
4-Methyl-2-pentanone (MIBK)	200	255		ug/L		128	69 - 138
Methyl tert-butyl ether	50.0	52.4		ug/L		105	66 - 130
m-Xylene & p-Xylene	50.0	56.5		ug/L		113	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	53.7		ug/L		107	67 - 130
N-Propylbenzene	50.0	58.4		ug/L		117	70 - 130
o-Chlorotoluene	50.0	55.2		ug/L		110	70 - 130
o-Xylene	50.0	55.6		ug/L		111	70 - 130
p-Chlorotoluene	50.0	56.5		ug/L		113	70 - 130
p-Isopropyltoluene	50.0	56.7		ug/L		113	65 - 130
sec-Butylbenzene	50.0	55.1		ug/L		110	66 - 130
Styrene	50.0	53.7		ug/L		107	70 - 130
tert-Butylbenzene	50.0	54.7		ug/L		109	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.6	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.1		ug/L		116	70 - 131
Tetrachloroethene	50.0	56.6		ug/L		113	65 - 130
Toluene	50.0	56.9		ug/L		114	70 - 130
trans-1,2-Dichloroethene	50.0	56.3		ug/L		113	70 - 130
trans-1,3-Dichloropropene	50.0	63.9		ug/L		128	63 - 130
1,2,3-Trichlorobenzene	50.0	53.9		ug/L		108	60 - 138
1,2,4-Trichlorobenzene	50.0	52.4		ug/L		105	60 - 140
1,1,1-Trichloroethane	50.0	54.6		ug/L		109	68 - 130
1,1,2-Trichloroethane	50.0	58.1		ug/L		116	70 - 130
Trichloroethene	50.0	54.9		ug/L		110	70 - 130
Trichlorofluoromethane	50.0	41.1		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	53.4		ug/L		107	70 - 130
1,2,4-Trimethylbenzene	50.0	54.0		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/L		110	69 - 130
Vinyl acetate	100	108		ug/L		108	26 - 160
Vinyl chloride	50.0	48.1		ug/L		96	59 - 136
Xylenes, Total	100	112		ug/L		112	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	101		ug/L		50	43 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		500	598		ug/L		120	38 - 150
Acrylonitrile	ND		500	533		ug/L		107	62 - 149
Benzene	3.6		50.0	57.9		ug/L		108	56 - 142
Bromobenzene	ND		50.0	49.7		ug/L		99	59 - 136
Bromochloromethane	ND		50.0	49.8		ug/L		100	64 - 140
Bromodichloromethane	ND		50.0	48.5		ug/L		97	59 - 143
Bromoform	ND		50.0	53.9		ug/L		108	50 - 140
Bromomethane	ND		50.0	40.8		ug/L		82	10 - 150
2-Butanone (MEK)	ND		200	132		ug/L		66	55 - 150
Carbon disulfide	ND		50.0	48.0		ug/L		96	48 - 150
Carbon tetrachloride	ND		50.0	52.6		ug/L		105	55 - 145
Chlorobenzene	ND		50.0	50.1		ug/L		100	64 - 130
Chloroethane	ND		50.0	50.2		ug/L		100	50 - 150
2-Chloroethyl vinyl ether	ND	F2 F1	50.0	23.3		ug/L		47	10 - 150
Chloroform	ND		50.0	48.4		ug/L		97	60 - 141
1-Chlorohexane	ND		50.0	53.5		ug/L		107	56 - 136
Chloromethane	ND		50.0	50.1		ug/L		100	49 - 148
cis-1,2-Dichloroethene	ND		50.0	52.2		ug/L		104	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.5		ug/L		105	57 - 140
Dibromochloromethane	ND		50.0	52.5		ug/L		105	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	49.8		ug/L		100	45 - 135
1,2-Dichlorobenzene	ND		50.0	52.0		ug/L		104	52 - 137
1,3-Dichlorobenzene	ND		50.0	51.3		ug/L		103	54 - 135
1,4-Dichlorobenzene	ND		50.0	51.3		ug/L		103	53 - 135
Dichlorodifluoromethane	ND		50.0	29.8		ug/L		60	16 - 150
1,1-Dichloroethane	ND		50.0	52.5		ug/L		105	61 - 144
1,2-Dichloroethane	ND		50.0	49.1		ug/L		98	60 - 141
1,1-Dichloroethene	ND		50.0	45.6		ug/L		91	54 - 147
1,2-Dichloropropane	ND		50.0	53.1		ug/L		106	66 - 137
1,3-Dichloropropane	ND		50.0	51.0		ug/L		102	66 - 133
2,2-Dichloropropane	ND		50.0	50.0		ug/L		100	42 - 144
1,1-Dichloropropene	ND		50.0	49.2		ug/L		98	65 - 136
Ethylbenzene	0.53	J	50.0	51.9		ug/L		103	58 - 131
Ethylene Dibromide	ND		50.0	48.9		ug/L		98	64 - 132
Ethyl methacrylate	ND		50.0	55.3		ug/L		111	64 - 130
Hexachlorobutadiene	ND		50.0	47.1		ug/L		94	31 - 149
2-Hexanone	ND	*	200	159		ug/L		79	65 - 140
Isopropylbenzene	ND		50.0	48.8		ug/L		98	56 - 133
Methylene bromide	ND		50.0	44.6		ug/L		89	63 - 138
Methylene Chloride	ND		50.0	49.7		ug/L		99	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	201		ug/L		101	63 - 146
Methyl tert-butyl ether	ND		50.0	45.5		ug/L		91	59 - 137
m-Xylene & p-Xylene	ND		50.0	51.0		ug/L		102	57 - 130
Naphthalene	ND		50.0	49.0		ug/L		98	25 - 150
n-Butylbenzene	ND		50.0	51.4		ug/L		103	41 - 142
N-Propylbenzene	ND		50.0	53.2		ug/L		106	51 - 138
o-Chlorotoluene	ND		50.0	52.1		ug/L		104	53 - 134
o-Xylene	ND		50.0	50.0		ug/L		100	61 - 130
p-Chlorotoluene	ND		50.0	51.5		ug/L		103	54 - 133

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		50.0	52.0		ug/L		104	48 - 139
sec-Butylbenzene	ND		50.0	50.3		ug/L		101	50 - 138
Styrene	ND		50.0	47.0		ug/L		94	58 - 131
tert-Butylbenzene	ND		50.0	49.1		ug/L		98	54 - 146
1,1,1,2-Tetrachloroethane	ND	*	50.0	58.5		ug/L		117	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	50.3		ug/L		101	66 - 135
Tetrachloroethene	ND		50.0	49.3		ug/L		99	52 - 133
Toluene	ND		50.0	50.8		ug/L		102	65 - 130
trans-1,2-Dichloroethene	ND		50.0	49.2		ug/L		98	61 - 143
trans-1,3-Dichloropropene	ND		50.0	55.6		ug/L		111	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	48.9		ug/L		98	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	48.1		ug/L		96	39 - 148
1,1,1-Trichloroethane	ND		50.0	47.8		ug/L		96	57 - 142
1,1,2-Trichloroethane	ND		50.0	50.8		ug/L		102	66 - 131
Trichloroethene	ND		50.0	48.7		ug/L		97	64 - 136
Trichlorofluoromethane	ND		50.0	42.0		ug/L		84	54 - 150
1,2,3-Trichloropropane	ND		50.0	47.5		ug/L		95	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	50.2		ug/L		100	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	50.5		ug/L		101	52 - 135
Vinyl acetate	ND		100	110		ug/L		110	26 - 150
Vinyl chloride	ND		50.0	49.2		ug/L		98	46 - 150
Xylenes, Total	ND		100	101		ug/L		101	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	102		ug/L		51	43 - 150	1	30
Acrolein	ND		500	518		ug/L		104	38 - 150	14	31
Acrylonitrile	ND		500	545		ug/L		109	62 - 149	2	30
Benzene	3.6		50.0	55.6		ug/L		104	56 - 142	4	30
Bromobenzene	ND		50.0	46.8		ug/L		94	59 - 136	6	30
Bromochloromethane	ND		50.0	53.4		ug/L		107	64 - 140	7	30
Bromodichloromethane	ND		50.0	50.6		ug/L		101	59 - 143	4	30
Bromoform	ND		50.0	53.7		ug/L		107	50 - 140	0	30
Bromomethane	ND		50.0	37.9		ug/L		76	10 - 150	7	50
2-Butanone (MEK)	ND		200	135		ug/L		67	55 - 150	2	30
Carbon disulfide	ND		50.0	50.7		ug/L		101	48 - 150	6	30
Carbon tetrachloride	ND		50.0	55.2		ug/L		110	55 - 145	5	30
Chlorobenzene	ND		50.0	48.5		ug/L		97	64 - 130	3	30
Chloroethane	ND		50.0	46.7		ug/L		93	50 - 150	7	30
2-Chloroethyl vinyl ether	ND	F2 F1	50.0	2.98	J F2 F1	ug/L		6	10 - 150	155	50

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		50.0	51.3		ug/L		103	60 - 141	6	30
1-Chlorohexane	ND		50.0	51.8		ug/L		104	56 - 136	3	30
Chloromethane	ND		50.0	45.8		ug/L		92	49 - 148	9	31
cis-1,2-Dichloroethene	ND		50.0	54.6		ug/L		109	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	52.8		ug/L		106	57 - 140	1	30
Dibromochloromethane	ND		50.0	53.5		ug/L		107	56 - 143	2	30
1,2-Dibromo-3-Chloropropane	ND		50.0	50.8		ug/L		102	45 - 135	2	30
1,2-Dichlorobenzene	ND		50.0	47.3		ug/L		95	52 - 137	9	30
1,3-Dichlorobenzene	ND		50.0	46.4		ug/L		93	54 - 135	10	30
1,4-Dichlorobenzene	ND		50.0	45.6		ug/L		91	53 - 135	12	30
Dichlorodifluoromethane	ND		50.0	28.5		ug/L		57	16 - 150	5	31
1,1-Dichloroethane	ND		50.0	55.6		ug/L		111	61 - 144	6	30
1,2-Dichloroethane	ND		50.0	51.0		ug/L		102	60 - 141	4	30
1,1-Dichloroethene	ND		50.0	48.1		ug/L		96	54 - 147	5	30
1,2-Dichloropropane	ND		50.0	55.0		ug/L		110	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	52.2		ug/L		104	66 - 133	2	30
2,2-Dichloropropane	ND		50.0	51.6		ug/L		103	42 - 144	3	31
1,1-Dichloropropene	ND		50.0	50.6		ug/L		101	65 - 136	3	30
Ethylbenzene	0.53	J	50.0	49.5		ug/L		98	58 - 131	5	30
Ethylene Dibromide	ND		50.0	49.2		ug/L		98	64 - 132	1	30
Ethyl methacrylate	ND		50.0	55.9		ug/L		112	64 - 130	1	30
Hexachlorobutadiene	ND		50.0	37.7		ug/L		75	31 - 149	22	36
2-Hexanone	ND	*	200	164		ug/L		82	65 - 140	4	30
Isopropylbenzene	ND		50.0	45.4		ug/L		91	56 - 133	7	30
Methylene bromide	ND		50.0	47.0		ug/L		94	63 - 138	5	30
Methylene Chloride	ND		50.0	51.8		ug/L		104	60 - 146	4	32
4-Methyl-2-pentanone (MIBK)	ND		200	210		ug/L		105	63 - 146	4	30
Methyl tert-butyl ether	ND		50.0	48.2		ug/L		96	59 - 137	6	30
m-Xylene & p-Xylene	ND		50.0	48.0		ug/L		96	57 - 130	6	30
Naphthalene	ND		50.0	45.9		ug/L		92	25 - 150	7	30
n-Butylbenzene	ND		50.0	43.1		ug/L		86	41 - 142	18	31
N-Propylbenzene	ND		50.0	48.7		ug/L		97	51 - 138	9	30
o-Chlorotoluene	ND		50.0	47.7		ug/L		95	53 - 134	9	30
o-Xylene	ND		50.0	47.8		ug/L		96	61 - 130	5	30
p-Chlorotoluene	ND		50.0	46.7		ug/L		93	54 - 133	10	30
p-Isopropyltoluene	ND		50.0	45.2		ug/L		90	48 - 139	14	30
sec-Butylbenzene	ND		50.0	45.6		ug/L		91	50 - 138	10	30
Styrene	ND		50.0	44.6		ug/L		89	58 - 131	5	30
tert-Butylbenzene	ND		50.0	45.6		ug/L		91	54 - 146	7	30
1,1,1,2-Tetrachloroethane	ND	*	50.0	58.7		ug/L		117	59 - 137	0	30
1,1,2,2-Tetrachloroethane	ND		50.0	52.1		ug/L		104	66 - 135	3	30
Tetrachloroethene	ND		50.0	48.0		ug/L		96	52 - 133	3	30
Toluene	ND		50.0	51.3		ug/L		103	65 - 130	1	30
trans-1,2-Dichloroethene	ND		50.0	52.5		ug/L		105	61 - 143	7	30
trans-1,3-Dichloropropene	ND		50.0	54.7		ug/L		109	53 - 133	2	30
1,2,3-Trichlorobenzene	ND		50.0	42.0		ug/L		84	43 - 145	15	30
1,2,4-Trichlorobenzene	ND		50.0	39.9		ug/L		80	39 - 148	19	30
1,1,1-Trichloroethane	ND		50.0	50.9		ug/L		102	57 - 142	6	30
1,1,2-Trichloroethane	ND		50.0	52.4		ug/L		105	66 - 131	3	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		50.0	50.7		ug/L		101	64 - 136	4	30
Trichlorofluoromethane	ND		50.0	38.7		ug/L		77	54 - 150	8	30
1,2,3-Trichloropropane	ND		50.0	48.0		ug/L		96	65 - 133	1	30
1,2,4-Trimethylbenzene	ND		50.0	45.2		ug/L		90	50 - 139	10	30
1,3,5-Trimethylbenzene	ND		50.0	46.3		ug/L		93	52 - 135	9	30
Vinyl acetate	ND		100	95.1		ug/L		95	26 - 150	15	33
Vinyl chloride	ND		50.0	45.5		ug/L		91	46 - 150	8	30
Xylenes, Total	ND		100	95.7		ug/L		96	59 - 130	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzenethiol	ND		10	1.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/19/19 14:04	07/23/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/19/19 14:04	07/23/19 15:20	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Diethyl phthalate	ND		10	0.70	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/19/19 14:04	07/23/19 15:20	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Isophorone	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Nitrobenzene	ND		10	0.55	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitrophenol	ND		10	0.65	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Phenol	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pyridine	ND		10	3.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Quinoline	ND		10	6.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 15:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2-Fluorophenol	*21*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Phenol-d5	*43*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Terphenyl-d14	*49*	X	*53 - 125*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2,4,6-Tribromophenol	*40*		*15 - 135*	*07/19/19 14:04*	*07/23/19 15:20*	*1*

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	1.83	J*	ug/L		6	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*55*		*34 - 120*
2-Fluorophenol	*24*		*10 - 120*
Nitrobenzene-d5	*77*		*27 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	54		10 - 120
Terphenyl-d14	71		53 - 125
2,4,6-Tribromophenol	63		15 - 135

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.5		ug/L		75	29 - 120
Benzoic acid	117	38.8		ug/L		33	10 - 150
Benzyl alcohol	30.0	25.9		ug/L		86	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.1		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	20.1		ug/L		67	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.9		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150
4-Bromophenyl phenyl ether	30.0	40.5	*	ug/L		135	55 - 122
Butyl benzyl phthalate	30.0	23.0		ug/L		77	46 - 145
4-Chloroaniline	30.0	18.0		ug/L		60	30 - 120
4-Chloro-3-methylphenol	30.0	24.6		ug/L		82	39 - 140
2-Chloronaphthalene	30.0	27.8		ug/L		93	52 - 120
2-Chlorophenol	30.0	10.4		ug/L		35	34 - 120
4-Chlorophenyl phenyl ether	30.0	35.3		ug/L		118	58 - 124
Dibenz[a,h]acridine	30.0	32.8		ug/L		109	46 - 149
Dibenzofuran	30.0	31.3		ug/L		104	58 - 123
3,3'-Dichlorobenzidine	40.0	89.1	*	ug/L		223	39 - 135
2,4-Dichlorophenol	30.0	19.6		ug/L		65	39 - 128
Diethyl phthalate	30.0	31.9		ug/L		106	44 - 146
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	32.8		ug/L		109	50 - 131
Di-n-butyl phthalate	30.0	31.6		ug/L		105	55 - 131
4,6-Dinitro-ortho-cresol	60.0	62.0		ug/L		103	10 - 150
2,4-Dinitrophenol	60.0	72.2		ug/L		120	10 - 150
2,4-Dinitrotoluene	30.0	34.9		ug/L		116	58 - 140
2,6-Dinitrotoluene	30.0	34.5		ug/L		115	57 - 130
Di-n-octyl phthalate	30.0	29.2		ug/L		97	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.9		ug/L		83	47 - 123
Hexachlorobenzene	30.0	44.7	*	ug/L		149	52 - 131
Hexachlorocyclopentadiene	30.0	12.2	J	ug/L		41	10 - 129
Hexachloroethane	30.0	17.7		ug/L		59	41 - 120
Indene	30.0	20.4		ug/L		68	47 - 120
Isophorone	30.0	21.9		ug/L		73	49 - 120
2-Methylphenol	30.0	17.8		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	20.0		ug/L		67	38 - 121
2-Nitroaniline	30.0	27.3		ug/L		91	47 - 150
3-Nitroaniline	30.0	30.9		ug/L		103	34 - 132
4-Nitroaniline	30.0	40.4		ug/L		135	41 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	30.0	22.8		ug/L		76	47 - 120
2-Nitrophenol	30.0	14.9		ug/L		50	28 - 136
4-Nitrophenol	60.0	65.7		ug/L		109	10 - 150
N-Nitrosodimethylamine	30.0	26.9		ug/L		90	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120
Pentachlorophenol	60.0	81.0		ug/L		135	15 - 141
Phenol	30.0	11.2		ug/L		37	33 - 120
Pyridine	60.0	33.4		ug/L		56	26 - 120
Quinoline	30.0	28.2		ug/L		94	51 - 129
2,4,5-Trichlorophenol	30.0	28.9		ug/L		96	38 - 147
2,4,6-Trichlorophenol	30.0	27.2		ug/L		91	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*11*		*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*38*		*10 - 120*
Terphenyl-d14	*114*		*53 - 125*
2,4,6-Tribromophenol	*155*	*X*	*15 - 135*

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	1.82	J*	ug/L		6	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*33*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*61*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*72*		*15 - 135*

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.0	22.1		ug/L		76	10 - 143
Benzoic acid	ND		113	117		ug/L		104	10 - 134
Benzyl alcohol	ND		29.0	28.3		ug/L		97	10 - 154
Bis(2-chloroethoxy)methane	ND		29.0	21.1		ug/L		73	14 - 147
Bis(2-chloroethyl)ether	ND		29.0	22.1		ug/L		76	28 - 130
bis (2-chloroisopropyl) ether	ND		29.0	23.5		ug/L		81	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.0	29.4		ug/L		101	43 - 160

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND	*	29.0	23.6		ug/L		81	26 - 159
Butyl benzyl phthalate	ND		29.0	23.4		ug/L		81	43 - 151
4-Chloroaniline	ND		29.0	23.1		ug/L		79	10 - 152
4-Chloro-3-methylphenol	ND		29.0	26.3		ug/L		91	17 - 156
2-Chloronaphthalene	ND		29.0	21.6		ug/L		74	10 - 155
2-Chlorophenol	ND		29.0	16.3		ug/L		56	19 - 130
4-Chlorophenyl phenyl ether	ND		29.0	22.6		ug/L		78	25 - 161
Dibenz[a,h]acridine	ND		29.0	17.3		ug/L		60	42 - 147
Dibenzofuran	ND		29.0	22.2		ug/L		76	18 - 157
3,3'-Dichlorobenzidine	ND	F1 *	38.7	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND		29.0	23.3		ug/L		80	16 - 147
Diethyl phthalate	ND		29.0	26.7		ug/L		92	23 - 160
2,4-Dimethylphenol	ND		29.0	27.3		ug/L		94	25 - 146
Dimethyl phthalate	ND		29.0	24.2		ug/L		83	11 - 158
Di-n-butyl phthalate	ND		29.0	28.0		ug/L		96	28 - 162
4,6-Dinitro-ortho-cresol	ND		58.1	62.8		ug/L		108	10 - 168
2,4-Dinitrophenol	ND		58.1	74.6		ug/L		129	10 - 166
2,4-Dinitrotoluene	ND		29.0	24.1		ug/L		83	26 - 158
2,6-Dinitrotoluene	ND		29.0	23.0		ug/L		79	19 - 157
Di-n-octyl phthalate	ND		29.0	25.7		ug/L		88	42 - 150
1,4-Dioxane	ND		29.0	8.98	J	ug/L		31	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.0	23.9		ug/L		82	19 - 162
Hexachlorobenzene	ND	*	29.0	29.1		ug/L		100	45 - 145
Hexachlorocyclopentadiene	ND		29.0	4.12	J	ug/L		14	10 - 151
Hexachloroethane	ND		29.0	23.3		ug/L		80	29 - 130
Indene	ND		29.0	20.9		ug/L		72	22 - 130
Isophorone	ND		29.0	23.7		ug/L		82	24 - 144
2-Methylphenol	ND		29.0	24.0		ug/L		83	22 - 130
3 & 4 Methylphenol	ND		29.0	23.6		ug/L		81	31 - 130
2-Nitroaniline	ND		29.0	27.9		ug/L		96	10 - 162
3-Nitroaniline	ND		29.0	23.5		ug/L		81	10 - 163
4-Nitroaniline	ND		29.0	25.2		ug/L		87	10 - 162
Nitrobenzene	ND		29.0	24.3		ug/L		84	34 - 135
2-Nitrophenol	ND		29.0	24.0		ug/L		83	27 - 134
4-Nitrophenol	ND		58.1	59.5		ug/L		102	10 - 175
N-Nitrosodimethylamine	ND		29.0	27.6		ug/L		95	10 - 139
N-Nitrosodi-n-propylamine	ND		29.0	24.0		ug/L		83	13 - 147
N-Nitrosodiphenylamine	ND		28.8	19.0		ug/L		66	31 - 150
Pentachlorophenol	ND		58.1	69.9		ug/L		120	10 - 180
Phenol	ND		29.0	16.8		ug/L		58	23 - 130
Pyridine	ND		58.1	35.0		ug/L		60	10 - 130
Quinoline	ND		29.0	22.9		ug/L		79	10 - 180
2,4,5-Trichlorophenol	ND		29.0	24.3		ug/L		84	43 - 137
2,4,6-Trichlorophenol	ND		29.0	23.5		ug/L		81	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*34 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	19		10 - 120
Nitrobenzene-d5	89		27 - 120
Phenol-d5	62		10 - 120
Terphenyl-d14	66		53 - 125
2,4,6-Tribromophenol	79		15 - 135

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		29.4	22.8		ug/L		78	10 - 143	3	63
Benzoic acid	ND		114	101		ug/L		89	10 - 134	15	49
Benzyl alcohol	ND		29.4	24.8		ug/L		84	10 - 154	13	37
Bis(2-chloroethoxy)methane	ND		29.4	18.3		ug/L		62	14 - 147	14	70
Bis(2-chloroethyl)ether	ND		29.4	16.3		ug/L		56	28 - 130	30	42
bis (2-chloroisopropyl) ether	ND		29.4	20.8		ug/L		71	10 - 141	12	41
Bis(2-ethylhexyl) phthalate	ND		29.4	25.1		ug/L		86	43 - 160	15	35
4-Bromophenyl phenyl ether	ND	*	29.4	21.2		ug/L		72	26 - 159	11	30
Butyl benzyl phthalate	ND		29.4	20.5		ug/L		70	43 - 151	13	32
4-Chloroaniline	ND		29.4	17.5		ug/L		60	10 - 152	28	94
4-Chloro-3-methylphenol	ND		29.4	22.5		ug/L		76	17 - 156	16	40
2-Chloronaphthalene	ND		29.4	19.2		ug/L		65	10 - 155	12	29
2-Chlorophenol	ND		29.4	11.4		ug/L		39	19 - 130	35	42
4-Chlorophenyl phenyl ether	ND		29.4	19.9		ug/L		68	25 - 161	12	27
Dibenz[a,h]acridine	ND		29.4	14.2		ug/L		48	42 - 147	19	40
Dibenzofuran	ND		29.4	19.7		ug/L		67	18 - 157	12	29
3,3'-Dichlorobenzidine	ND	F1 *	39.2	ND	F1	ug/L		0	10 - 172	NC	58
2,4-Dichlorophenol	ND		29.4	18.8		ug/L		64	16 - 147	21	43
Diethyl phthalate	ND		29.4	23.1		ug/L		79	23 - 160	14	40
2,4-Dimethylphenol	ND		29.4	24.0		ug/L		82	25 - 146	13	47
Dimethyl phthalate	ND		29.4	21.0		ug/L		71	11 - 158	14	36
Di-n-butyl phthalate	ND		29.4	23.9		ug/L		81	28 - 162	16	32
4,6-Dinitro-ortho-cresol	ND		58.8	54.5		ug/L		93	10 - 168	14	42
2,4-Dinitrophenol	ND		58.8	65.4		ug/L		111	10 - 166	13	36
2,4-Dinitrotoluene	ND		29.4	21.3		ug/L		72	26 - 158	12	28
2,6-Dinitrotoluene	ND		29.4	20.7		ug/L		70	19 - 157	11	28
Di-n-octyl phthalate	ND		29.4	22.3		ug/L		76	42 - 150	14	35
1,4-Dioxane	ND		29.4	8.54	J	ug/L		29	10 - 130	5	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.4	21.0		ug/L		71	19 - 162	13	40
Hexachlorobenzene	ND	*	29.4	25.2		ug/L		86	45 - 145	14	33
Hexachlorocyclopentadiene	ND		29.4	6.06	J	ug/L		21	10 - 151	38	50
Hexachloroethane	ND		29.4	19.4		ug/L		66	29 - 130	18	41
Indene	ND		29.4	18.8		ug/L		64	22 - 130	11	40
Isophorone	ND		29.4	20.9		ug/L		71	24 - 144	12	33
2-Methylphenol	ND		29.4	18.7		ug/L		64	22 - 130	25	47
3 & 4 Methylphenol	ND		29.4	18.8	J	ug/L		64	31 - 130	22	47
2-Nitroaniline	ND		29.4	25.6		ug/L		87	10 - 162	8	33

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3-Nitroaniline	ND		29.4	18.9		ug/L		64	10 - 163	22	39
4-Nitroaniline	ND		29.4	22.7		ug/L		77	10 - 162	10	50
Nitrobenzene	ND		29.4	22.0		ug/L		75	34 - 135	10	35
2-Nitrophenol	ND		29.4	18.8		ug/L		64	27 - 134	25	43
4-Nitrophenol	ND		58.8	53.1		ug/L		90	10 - 175	11	82
N-Nitrosodimethylamine	ND		29.4	28.0		ug/L		95	10 - 139	1	62
N-Nitrosodi-n-propylamine	ND		29.4	22.4		ug/L		76	13 - 147	7	36
N-Nitrosodiphenylamine	ND		29.2	16.4		ug/L		56	31 - 150	15	34
Pentachlorophenol	ND		58.8	60.2		ug/L		102	10 - 180	15	42
Phenol	ND		29.4	12.7		ug/L		43	23 - 130	28	52
Pyridine	ND		58.8	34.1		ug/L		58	10 - 130	3	55
Quinoline	ND		29.4	20.2		ug/L		69	10 - 180	13	40
2,4,5-Trichlorophenol	ND		29.4	20.6		ug/L		70	43 - 137	17	42
2,4,6-Trichlorophenol	ND		29.4	19.1		ug/L		65	42 - 135	21	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*61*		*34 - 120*
2-Fluorophenol	*12*		*10 - 120*
Nitrobenzene-d5	*77*		*27 - 120*
Phenol-d5	*45*		*10 - 120*
Terphenyl-d14	*54*		*53 - 125*
2,4,6-Tribromophenol	*67*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/29/19 20:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/19/19 14:04*	*07/29/19 20:41*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/19/19 14:04*	*07/29/19 20:41*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*117*		*33 - 138*	*07/19/19 14:04*	*08/03/19 12:50*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	29.9		ug/L		100	41 - 120
Acenaphthylene	30.0	27.9		ug/L		93	44 - 120
Anthracene	30.0	30.2		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	27.7		ug/L		92	61 - 135
Benzo[a]pyrene	30.0	28.9		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	30.4		ug/L		101	53 - 134
Benzo[g,h,i]perylene	30.0	28.3		ug/L		94	47 - 133
Benzo[k]fluoranthene	30.0	30.7		ug/L		102	57 - 134
Chrysene	30.0	28.3		ug/L		94	55 - 122
Dibenz(a,h)anthracene	30.0	30.5		ug/L		102	48 - 146
Fluoranthene	30.0	29.1		ug/L		97	54 - 128
Fluorene	30.0	33.8		ug/L		113	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	29.5		ug/L		98	43 - 142
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124
Phenanthrene	30.0	29.6		ug/L		99	48 - 120
Pyrene	30.0	15.5		ug/L		52	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*127*		*33 - 138*

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		29.0	29.4		ug/L		101	35 - 113
Acenaphthylene	ND		29.0	30.0		ug/L		103	41 - 118
Anthracene	ND		29.0	30.5		ug/L		105	45 - 122
Benzo[a]anthracene	ND		29.0	30.4		ug/L		105	55 - 133
Benzo[a]pyrene	ND		29.0	30.1		ug/L		104	50 - 108
Benzo[b]fluoranthene	ND		29.0	33.8		ug/L		116	50 - 128
Benzo[g,h,i]perylene	ND		29.0	30.7		ug/L		106	46 - 133
Benzo[k]fluoranthene	ND		29.0	32.6		ug/L		112	52 - 128

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chrysene	ND		29.0	30.2		ug/L		104	52 - 116
Dibenz(a,h)anthracene	ND		29.0	35.6		ug/L		123	52 - 143
Fluoranthene	ND		29.0	35.6		ug/L		122	32 - 150
Fluorene	ND		29.0	34.1		ug/L		117	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.0	34.2		ug/L		118	41 - 141
1-Methylnaphthalene	0.032	J	29.0	24.8		ug/L		85	10 - 150
2-Methylnaphthalene	0.059	J	29.0	23.9		ug/L		82	10 - 150
Phenanthrene	ND		29.0	33.7		ug/L		116	36 - 125
Pyrene	ND		29.0	27.5		ug/L		95	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*101*		*15 - 122*
Nitrobenzene-d5	*85*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 450108

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		29.4	24.8		ug/L		84	35 - 113	17	49
Acenaphthylene	ND		29.4	23.8		ug/L		81	41 - 118	23	48
Anthracene	ND		29.4	24.3		ug/L		83	45 - 122	23	56
Benzo[a]anthracene	ND		29.4	26.7		ug/L		91	55 - 133	13	57
Benzo[a]pyrene	ND		29.4	24.7		ug/L		84	50 - 108	20	59
Benzo[b]fluoranthene	ND		29.4	28.1		ug/L		96	50 - 128	18	62
Benzo[g,h,i]perylene	ND		29.4	22.8		ug/L		78	46 - 133	29	58
Benzo[k]fluoranthene	ND		29.4	24.3		ug/L		83	52 - 128	29	58
Chrysene	ND		29.4	27.4		ug/L		93	52 - 116	10	59
Dibenz(a,h)anthracene	ND		29.4	24.0		ug/L		82	52 - 143	39	60
Fluoranthene	ND		29.4	25.4		ug/L		86	32 - 150	33	59
Fluorene	ND		29.4	27.8		ug/L		95	15 - 150	20	49
Indeno[1,2,3-cd]pyrene	ND		29.4	25.4		ug/L		86	41 - 141	29	58
1-Methylnaphthalene	0.032	J	29.4	19.8		ug/L		67	10 - 150	22	66
2-Methylnaphthalene	0.059	J	29.4	20.1		ug/L		68	10 - 150	18	66
Phenanthrene	ND		29.4	26.6		ug/L		90	36 - 125	24	69
Pyrene	ND		29.4	34.6		ug/L		118	41 - 127	23	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER

Print Bill To Contact Name: James Carrino

PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Project ID: 25278

GSAP Project ID: USPC/00114/R/02

☐ CHECK IF NO INCIDENT # APPLIES

DATE 7/16/2019

PAGE: 1 of 1

SAMPLING COMPANY: AECOM

LOG CODE:

170 East Rand Avenue, Hartford | State: IL

AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS)
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071619-B	7/16/2019	0:00	Water	2					2		x	
	PD-4-GWP-53-071619	7/16/2019	9:25	Water	2			2		4	x	x	x
	PD-4-GWP-60-071619	7/16/2019	10:30	Water	2			2		4	x	x	x
	PD-4-GWP-70-071619	7/16/2019	13:15	Water	2			2		4	x	x	x
	PD-4-GWP-70-071619-DUP	7/16/2019	13:15	Water	2			2		4	x	x	x
	PD-4-GWP-80-071619	7/16/2019	14:30	Water	2			2		4	x	x	x
	PD-4-GWP-80-071619-MS	7/16/2019	14:30	Water	2			2		4	x	x	x
	PD-4-GWP-80-071619-MSD	7/16/2019	14:30	Water	2			2		4	x	x	x

400-173269 COC

Relinquished by (Signature)	Received by (Signature)	Date	Time
Paul LaFleur AECOM	Fedex 4782 2882 5355; 4782 2882 5366; 4782 2882 5344 custody seals 1013814, 1013815, 1011624, 1011625, 1011528, 1011529	7/16/2019	18:00
	Moore 2.1C, 1.6C, 0.0C	7/17/19	8:58

Version 10May17

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8/6/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173269-1

Login Number: 173269
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C 1.6°C 0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173269-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/21/2019 5:18:04 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173269-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173269-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-6-19.

Receipt
The samples were received on 7/17/2019 8:58 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.0º C, 1.6º C and 2.1º C.

GC/MS VOA
Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-4-GWP-53-071619 (400-173269-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-448915 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-448915 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071619-B (400-173269-1), PD-4-GWP-53-071619 (400-173269-2), PD-4-GWP-60-071619 (400-173269-3), PD-4-GWP-70-071619 (400-173269-4), PD-4-GWP-70-071619-DUP (400-173269-5), PD-4-GWP-80-071619 (400-173269-6). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-449267 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-449267 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-449267 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-4-GWP-80-071619 (400-173269-6) and (MB 400-448720/1-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448720 and analytical batch 400-449178 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were

Job ID: 400-173269-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

either non-detects or less than the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-448720 and analytical batch 400-449178 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-4-GWP-53-071619 (400-173269-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (LCS 400-448720/2-A). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-4-GWP-70-071619 (400-173269-4), PD-4-GWP-70-071619-DUP (400-173269-5). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448720 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Bromophenyl phenyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene, Benzo[g,h,i]perylene, Pyrene and Fluorene. The samples associated with this CCV were below reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: PD-4-GWP-70-071619 (400-173269-4).

Method(s) 8270D LL: Surrogate recovery for the following sample was outside control limits: PD-4-GWP-70-071619 (400-173269-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-4-GWP-53-071619 (400-173269-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173269-1	TB-PW-071619-B	Water	07/16/19 00:00	07/17/19 08:58	
400-173269-2	PD-4-GWP-53-071619	Water	07/16/19 09:25	07/17/19 08:58	
400-173269-3	PD-4-GWP-60-071619	Water	07/16/19 10:30	07/17/19 08:58	
400-173269-4	PD-4-GWP-70-071619	Water	07/16/19 13:15	07/17/19 08:58	
400-173269-5	PD-4-GWP-70-071619-DUP	Water	07/16/19 13:15	07/17/19 08:58	
400-173269-6	PD-4-GWP-80-071619	Water	07/16/19 14:30	07/17/19 08:58	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B — Lab Sample ID: 400-173269-1

No Detections.

Client Sample ID: PD-4-GWP-53-071619 — Lab Sample ID: 400-173269-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	290000		1000	380	ug/L	1000		8260B	Total/NA
Ethylbenzene	640	J	1000	500	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	1000		1000	820	ug/L	1000		8260B	Total/NA
Acenaphthene	0.69	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Anthracene	0.31	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Fluoranthene	0.33	J	0.97	0.097	ug/L	5		8270D LL	Total/NA
Fluorene	1.6		0.97	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene	110		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	170		0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene	1.2		0.97	0.097	ug/L	5		8270D LL	Total/NA
Dibenzofuran	1.8	J *	9.7	0.50	ug/L	1		8270D	Total/NA
Pentachlorophenol	2.5	J	19	1.8	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-60-071619 — Lab Sample ID: 400-173269-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	39		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	2.0		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	1.9		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	7.5		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	2.2	J	5.0	1.6	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.1		1.0	0.69	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.6		1.0	0.63	ug/L	1		8260B	Total/NA
Toluene	0.46	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	3.3		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.86	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	2.5	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.76	J	4.9	0.49	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene	1.6	J	4.9	0.49	ug/L	25		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	5.9	J	9.7	4.9	ug/L	1		8270D	Total/NA

Client Sample ID: PD-4-GWP-70-071619 — Lab Sample ID: 400-173269-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.6		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	1.6		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	6.4		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	2.0	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.1		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.7		1.0	0.69	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	6.4		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.8		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	2.3	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	1.7		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	2.6		0.97	0.097	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.040	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	82		9.7	4.9	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP — Lab Sample ID: 400-173269-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.8		1.0	0.38	ug/L	1		8260B	Total/NA
Chloromethane	1.5		1.0	0.83	ug/L	1		8260B	Total/NA
Ethylbenzene	1.4		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	6.5		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.8	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.1		1.0	1.0	ug/L	1		8260B	Total/NA
N-Propylbenzene	1.6		1.0	0.69	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	6.0		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.7		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	2.1	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	1.1	J	4.8	0.48	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene	1.8	J	4.8	0.48	ug/L	25		8270D LL	Total/NA
Phenanthrene	0.045	J	0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-4-GWP-80-071619 — Lab Sample ID: 400-173269-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	3.6		1.0	0.38	ug/L	1		8260B	Total/NA
Ethylbenzene	0.53	J	1.0	0.50	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.032	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.059	J	0.19	0.019	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 13:34	1
Acrolein	ND		20	10	ug/L			07/22/19 13:34	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 13:34	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 13:34	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 13:34	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 13:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 13:34	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 13:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 13:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 13:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 13:34	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 13:34	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 13:34	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 13:34	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 13:34	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 13:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 13:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 13:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 13:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 13:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 13:34	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 13:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 13:34	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 13:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 13:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 13:34	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 13:34	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 13:34	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 13:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 13:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 13:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 13:34	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 13:34	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: TB-PW-071619-B

Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 13:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 13:34	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 13:34	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 13:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 13:34	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 13:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 13:34	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 13:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 13:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 13:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 13:34	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 13:34	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 13:34	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 13:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 13:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 13:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 13:34	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 13:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 13:34	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 13:34	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*8.7*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 13:34*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 13:34*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 13:34*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 13:34*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 13:34*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/22/19 20:10	1000
Acrolein	ND		20000	10000	ug/L			07/22/19 20:10	1000
Acrylonitrile	ND		10000	2800	ug/L			07/22/19 20:10	1000
Benzene	**290000**		1000	380	ug/L			07/22/19 20:10	1000
Bromobenzene	ND		1000	540	ug/L			07/22/19 20:10	1000
Bromochloromethane	ND		1000	520	ug/L			07/22/19 20:10	1000
Bromodichloromethane	ND		1000	500	ug/L			07/22/19 20:10	1000
Bromoform	ND		5000	710	ug/L			07/22/19 20:10	1000
Bromomethane	ND		1000	980	ug/L			07/22/19 20:10	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/22/19 20:10	1000
Carbon disulfide	ND		1000	500	ug/L			07/22/19 20:10	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/22/19 20:10	1000
Chlorobenzene	ND		1000	500	ug/L			07/22/19 20:10	1000
Chloroethane	ND		1000	760	ug/L			07/22/19 20:10	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/22/19 20:10	1000
Chloroform	ND		1000	600	ug/L			07/22/19 20:10	1000
1-Chlorohexane	ND		1000	700	ug/L			07/22/19 20:10	1000
Chloromethane	ND		1000	830	ug/L			07/22/19 20:10	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/22/19 20:10	1000
Dibromochloromethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/22/19 20:10	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/22/19 20:10	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/22/19 20:10	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/22/19 20:10	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/22/19 20:10	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/22/19 20:10	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/22/19 20:10	1000
Ethylbenzene	**640**	**J**	1000	500	ug/L			07/22/19 20:10	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/22/19 20:10	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/22/19 20:10	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/22/19 20:10	1000
2-Hexanone	ND	*	25000	3100	ug/L			07/22/19 20:10	1000
Isopropylbenzene	ND		1000	530	ug/L			07/22/19 20:10	1000
Methylene bromide	ND		5000	590	ug/L			07/22/19 20:10	1000
Methylene Chloride	ND		5000	3000	ug/L			07/22/19 20:10	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/22/19 20:10	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/22/19 20:10	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			07/22/19 20:10	1000
Naphthalene	ND		1000	1000	ug/L			07/22/19 20:10	1000
n-Butylbenzene	ND		1000	760	ug/L			07/22/19 20:10	1000
N-Propylbenzene	ND		1000	690	ug/L			07/22/19 20:10	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/22/19 20:10	1000
o-Xylene	ND		5000	600	ug/L			07/22/19 20:10	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Lab Sample ID: 400-173269-2

Date Collected: 07/16/19 09:25

Matrix: Water

Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1000	560	ug/L			07/22/19 20:10	1000
p-Isopropyltoluene	ND		1000	710	ug/L			07/22/19 20:10	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/22/19 20:10	1000
Styrene	ND		1000	1000	ug/L			07/22/19 20:10	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/22/19 20:10	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/22/19 20:10	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
Tetrachloroethene	ND		1000	580	ug/L			07/22/19 20:10	1000
Toluene	ND		1000	410	ug/L			07/22/19 20:10	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/22/19 20:10	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/22/19 20:10	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/22/19 20:10	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/22/19 20:10	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/22/19 20:10	1000
Trichloroethene	ND		1000	500	ug/L			07/22/19 20:10	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/22/19 20:10	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/22/19 20:10	1000
1,2,4-Trimethylbenzene	**1000**		1000	820	ug/L			07/22/19 20:10	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/22/19 20:10	1000
Vinyl acetate	ND		25000	2000	ug/L			07/22/19 20:10	1000
Vinyl chloride	ND		1000	500	ug/L			07/22/19 20:10	1000
Xylenes, Total	ND		10000	1600	ug/L			07/22/19 20:10	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1000*		*ug/L*		*3.71*	*110-54-3*		*07/22/19 20:10*	*1000*
Cyclohexane	*1100*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 20:10*	*1000*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 20:10*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/22/19 20:10*	*1000*
Dibromofluoromethane	*95*		*81 - 121*		*07/22/19 20:10*	*1000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 20:10*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.69**	**J**	0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Acenaphthylene	ND		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Anthracene	**0.31**	**J**	0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[a]anthracene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[a]pyrene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[b]fluoranthene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[g,h,i]perylene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Benzo[k]fluoranthene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Chrysene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Dibenz(a,h)anthracene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
Fluoranthene	**0.33**	**J**	0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Fluorene	**1.6**		0.97	0.10	ug/L		07/19/19 14:04	08/03/19 13:41	5
Indeno[1,2,3-cd]pyrene	ND		0.97	0.19	ug/L		07/19/19 14:04	08/03/19 13:41	5
1-Methylnaphthalene	**110**		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-53-071619

Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	170		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Phenanthrene	1.2		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5
Pyrene	ND		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 13:41	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*15 - 122*	*07/19/19 14:04*	*08/03/19 13:41*	*5*
Nitrobenzene-d5	*89*		*19 - 130*	*07/19/19 14:04*	*08/03/19 13:41*	*5*
Terphenyl-d14	*50*		*33 - 138*	*07/19/19 14:04*	*08/03/19 13:41*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 16:03	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:03	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/19/19 14:04	07/23/19 16:03	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 16:03	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/19/19 14:04	07/23/19 16:03	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Chloronaphthalene	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Chlorophenol	ND	*	9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Dibenzofuran	1.8	J *	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:03	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:03	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 16:03	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 16:03	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 16:03	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:03	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/19/19 14:04	07/23/19 16:03	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 16:03	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:03	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:03	1

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-53-071619
Lab Sample ID: 400-173269-2

Date Collected: 07/16/19 09:25
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 16:03	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 16:03	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 16:03	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 16:03	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:03	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 16:03	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 16:03	1
Pentachlorophenol	**2.5**	**J**	19	1.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
Phenol	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:03	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 16:03	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 16:03	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:03	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Heptane, 2-methyl-	*53*	*T J N*	*ug/L*		*3.82*	*592-27-8*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Unknown	*59*	*T J*	*ug/L*		*3.89*		*07/19/19 14:04*	*07/23/19 16:03*	*1*
Octane	*57*	*T J N*	*ug/L*		*4.13*	*111-65-9*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Ethylbenzene	*170*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
p-Xylene	*170*	*T J N*	*ug/L*		*4.72*	*106-42-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, (1-methylethyl)-	*81*	*T J N*	*ug/L*		*5.05*	*98-82-8*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, propyl-	*160*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1-ethyl-2-methyl-	*61*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,2,4-trimethyl-	*110*	*T J N*	*ug/L*		*5.62*	*95-63-6*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Indane	*120*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*70*	*T J N*	*ug/L*		*5.77*	*934-74-7*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*52*	*T J N*	*ug/L*		*5.87*	*1758-88-9*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1-ethyl-2,4-dimethyl-	*59*	*T J N*	*ug/L*		*5.89*	*874-41-9*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*130*	*T J N*	*ug/L*		*5.92*	*934-80-5*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, (2-methyl-1-propenyl)-	*78*	*T J N*	*ug/L*		*5.95*	*768-49-0*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,2,4,5-tetramethyl-	*64*	*T J N*	*ug/L*		*6.07*	*95-93-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, 1,2,4,5-tetramethyl-	*100*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
1-Phenyl-1-butene	*120*	*T J N*	*ug/L*		*6.20*	*824-90-8*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Unknown	*79*	*T J*	*ug/L*		*6.24*		*07/19/19 14:04*	*07/23/19 16:03*	*1*
Unknown	*69*	*T J*	*ug/L*		*6.31*		*07/19/19 14:04*	*07/23/19 16:03*	*1*
Dodecane	*89*	*T J N*	*ug/L*		*6.35*	*112-40-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Benzene, (1-methyl-1-butenyl)-	*130*	*T J N*	*ug/L*		*6.40*	*53172-84-2*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Naphthalene	*130*	*T J N*	*ug/L*		*6.44*	*91-20-3*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Naphthalene, 2-methyl-	*110*	*T J N*	*ug/L*		*6.88*	*91-57-6*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Naphthalene, 2-methyl-	*90*	*T J N*	*ug/L*		*6.95*	*91-57-6*	*07/19/19 14:04*	*07/23/19 16:03*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
2-Fluorophenol	*7*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Nitrobenzene-d5	*11*	*X*	*27 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Phenol-d5	*10*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
Terphenyl-d14	*49*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 16:03*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/19/19 14:04*	*07/23/19 16:03*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Lab Sample ID: 400-173269-3

Date Collected: 07/16/19 10:30
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 17:58	1
Acrolein	ND		20	10	ug/L			07/22/19 17:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 17:58	1
Benzene	**39**		1.0	0.38	ug/L			07/22/19 17:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 17:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 17:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 17:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 17:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 17:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 17:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 17:58	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 17:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 17:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 17:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 17:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 17:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 17:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 17:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 17:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Ethylbenzene	**2.0**		1.0	0.50	ug/L			07/22/19 17:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 17:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 17:58	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 17:58	1
Isopropylbenzene	**1.9**		1.0	0.53	ug/L			07/22/19 17:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 17:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 17:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 17:58	1
Methyl tert-butyl ether	**7.5**		1.0	0.74	ug/L			07/22/19 17:58	1
m-Xylene & p-Xylene	**2.2**	**J**	5.0	1.6	ug/L			07/22/19 17:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 17:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 17:58	1
N-Propylbenzene	**1.1**		1.0	0.69	ug/L			07/22/19 17:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 17:58	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 17:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 17:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 17:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 17:58	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 17:58	1
tert-Butylbenzene	**1.6**		1.0	0.63	ug/L			07/22/19 17:58	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 17:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 17:58	1
Toluene	**0.46**	**J**	1.0	0.41	ug/L			07/22/19 17:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 17:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 17:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 17:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 17:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 17:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 17:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 17:58	1
1,2,4-Trimethylbenzene	**3.3**		1.0	0.82	ug/L			07/22/19 17:58	1
1,3,5-Trimethylbenzene	**0.86**	**J**	1.0	0.56	ug/L			07/22/19 17:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 17:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 17:58	1
Xylenes, Total	**2.5**	**J**	10	1.6	ug/L			07/22/19 17:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*70*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/22/19 17:58*	*1*
Butane, 2,2-dimethyl-	*30*	*T J N*	*ug/L*		*3.05*	*75-83-2*		*07/22/19 17:58*	*1*
Isopropyl alcohol	*79*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 17:58*	*1*
2-Methyl-2-propanol	*340*		*ug/L*		*3.39*	*75-65-0*		*07/22/19 17:58*	*1*
Hexane	*5.8*		*ug/L*		*3.70*	*110-54-3*		*07/22/19 17:58*	*1*
Cyclohexane	*12*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 17:58*	*1*
t-Amyl alcohol	*45*		*ug/L*		*4.66*	*75-85-4*		*07/22/19 17:58*	*1*
Isooctane	*1.9*	*J*	*ug/L*		*4.76*	*540-84-1*		*07/22/19 17:58*	*1*
n-Heptane	*3.3*		*ug/L*		*4.85*	*142-82-5*		*07/22/19 17:58*	*1*
Methylcyclohexane	*5.1*		*ug/L*		*5.27*	*108-87-2*		*07/22/19 17:58*	*1*
Cyclohexene, 1-methyl-	*6.1*	*T J N*	*ug/L*		*5.84*	*591-49-1*		*07/22/19 17:58*	*1*
1,4-Pentadiene, 2,3,3-trimethyl-	*5.9*	*T J N*	*ug/L*		*6.22*	*756-02-5*		*07/22/19 17:58*	*1*
3-Ethyltoluene	*1.1*		*ug/L*		*8.09*	*620-14-4*		*07/22/19 17:58*	*1*
2-Ethyltoluene	*0.91*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/22/19 17:58*	*1*
1,2,3-Trimethylbenzene	*1.1*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/22/19 17:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/22/19 17:58*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/22/19 17:58*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 17:58*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/29/19 21:31	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:31	1
1-Methylnaphthalene	**0.76**	**J**	4.9	0.49	ug/L		07/19/19 14:04	08/05/19 16:54	25
2-Methylnaphthalene	**1.6**	**J**	4.9	0.49	ug/L		07/19/19 14:04	08/05/19 16:54	25
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*106*		*15 - 122*	*07/19/19 14:04*	*07/29/19 21:31*	*1*
Nitrobenzene-d5	*74*		*19 - 130*	*07/19/19 14:04*	*08/05/19 16:54*	*25*
Terphenyl-d14	*79*		*33 - 138*	*07/19/19 14:04*	*08/05/19 16:54*	*25*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:24	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/19/19 14:04	07/23/19 16:24	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 16:24	1
Bis(2-ethylhexyl) phthalate	**5.9**	**J**	9.7	4.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/19/19 14:04	07/23/19 16:24	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Chloronaphthalene	ND	*	9.7	0.51	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Chlorophenol	ND	*	9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Dibenzofuran	ND	*	9.7	0.51	ug/L		07/19/19 14:04	07/23/19 16:24	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:24	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 16:24	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 16:24	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:24	1

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-60-071619
Lab Sample ID: 400-173269-3
Date Collected: 07/16/19 10:30
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 16:24	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:24	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/19/19 14:04	07/23/19 16:24	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 16:24	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:24	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 16:24	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 16:24	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 16:24	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 16:24	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:24	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 16:24	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 16:24	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 16:24	1
Phenol	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:24	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 16:24	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 16:24	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:24	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*4.3*	*T J N*	*ug/L*		*4.63*	*100-41-4*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1,2,3-trimethyl-	*11*	*T J N*	*ug/L*		*5.45*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1,2,3-trimethyl-	*4.7*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*6.0*	*T J N*	*ug/L*		*5.76*	*934-80-5*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*4.3*	*T J N*	*ug/L*		*5.90*	*933-98-2*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Unknown	*4.0*	*T J*	*ug/L*		*6.00*		*07/19/19 14:04*	*07/23/19 16:24*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*5.2*	*T J N*	*ug/L*		*6.23*	*3333-13-9*	*07/19/19 14:04*	*07/23/19 16:24*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*34 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
2-Fluorophenol	*12*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Nitrobenzene-d5	*66*		*27 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Phenol-d5	*40*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
Terphenyl-d14	*56*		*53 - 125*	*07/19/19 14:04*	*07/23/19 16:24*	*1*
2,4,6-Tribromophenol	*63*		*15 - 135*	*07/19/19 14:04*	*07/23/19 16:24*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619

Lab Sample ID: 400-173269-4

Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 18:25	1
Acrolein	ND		20	10	ug/L			07/22/19 18:25	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 18:25	1
Benzene	**7.6**		1.0	0.38	ug/L			07/22/19 18:25	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 18:25	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 18:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 18:25	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 18:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 18:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 18:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 18:25	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 18:25	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 18:25	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 18:25	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:25	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 18:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 18:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 18:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 18:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Ethylbenzene	**1.6**		1.0	0.50	ug/L			07/22/19 18:25	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 18:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 18:25	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 18:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 18:25	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 18:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 18:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 18:25	1
Methyl tert-butyl ether	**6.4**		1.0	0.74	ug/L			07/22/19 18:25	1
m-Xylene & p-Xylene	**2.0**	**J**	5.0	1.6	ug/L			07/22/19 18:25	1
Naphthalene	**1.1**		1.0	1.0	ug/L			07/22/19 18:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 18:25	1
N-Propylbenzene	**1.7**		1.0	0.69	ug/L			07/22/19 18:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 18:25	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 18:25	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619

Lab Sample ID: 400-173269-4

Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 18:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 18:25	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 18:25	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 18:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 18:25	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 18:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 18:25	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 18:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 18:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 18:25	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:25	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 18:25	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 18:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 18:25	1
1,2,4-Trimethylbenzene	**6.4**		1.0	0.82	ug/L			07/22/19 18:25	1
1,3,5-Trimethylbenzene	**1.8**		1.0	0.56	ug/L			07/22/19 18:25	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 18:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 18:25	1
Xylenes, Total	**2.3**	**J**	10	1.6	ug/L			07/22/19 18:25	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*65*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 18:25*	*1*
2-Methyl-2-propanol	*57*		*ug/L*		*3.39*	*75-65-0*		*07/22/19 18:25*	*1*
Hexane	*1.6*		*ug/L*		*3.70*	*110-54-3*		*07/22/19 18:25*	*1*
Cyclohexane	*1.6*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 18:25*	*1*
t-Amyl alcohol	*11*		*ug/L*		*4.65*	*75-85-4*		*07/22/19 18:25*	*1*
n-Heptane	*0.78*	*J*	*ug/L*		*4.85*	*142-82-5*		*07/22/19 18:25*	*1*
Methylcyclohexane	*1.4*		*ug/L*		*5.27*	*108-87-2*		*07/22/19 18:25*	*1*
3-Ethyltoluene	*2.3*		*ug/L*		*8.09*	*620-14-4*		*07/22/19 18:25*	*1*
2-Ethyltoluene	*1.8*		*ug/L*		*8.30*	*611-14-3*		*07/22/19 18:25*	*1*
1,2,3-Trimethylbenzene	*2.3*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/22/19 18:25*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 18:25*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 18:25*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/22/19 18:25*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 18:25*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-70-071619
Lab Sample ID: 400-173269-4

Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/29/19 21:48	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 21:48	1
1-Methylnaphthalene	**1.7**		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 14:15	5
2-Methylnaphthalene	**2.6**		0.97	0.097	ug/L		07/19/19 14:04	08/03/19 14:15	5
Phenanthrene	**0.040**	**J**	0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*135*	*X*	*15 - 122*	*07/19/19 14:04*	*08/03/19 14:15*	*5*
Nitrobenzene-d5	*128*		*19 - 130*	*07/19/19 14:04*	*08/03/19 14:15*	*5*
Terphenyl-d14	*139*	*X*	*33 - 138*	*07/19/19 14:04*	*08/03/19 14:15*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:45	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/19/19 14:04	07/23/19 16:45	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 16:45	1
Bis(2-ethylhexyl) phthalate	**82**		9.7	4.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/19/19 14:04	07/23/19 16:45	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Chloronaphthalene	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Chlorophenol	ND	*	9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Dibenzofuran	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 16:45	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:45	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 16:45	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 16:45	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 16:45	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619
Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/19/19 14:04	07/23/19 16:45	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 16:45	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 16:45	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 16:45	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 16:45	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 16:45	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 16:45	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:45	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 16:45	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 16:45	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
Phenol	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 16:45	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 16:45	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 16:45	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 16:45	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, 1-ethyl-2-methyl-	*4.0*	*T J N*	*ug/L*		*5.37*	*611-14-3*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1,2,3-trimethyl-	*12*	*T J N*	*ug/L*		*5.45*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1,2,3-trimethyl-	*5.3*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*4.2*	*T J N*	*ug/L*		*6.23*	*3333-13-9*	*07/19/19 14:04*	*07/23/19 16:45*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
2-Fluorophenol	*9*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Nitrobenzene-d5	*79*		*27 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Phenol-d5	*46*		*10 - 120*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
Terphenyl-d14	*67*		*53 - 125*	*07/19/19 14:04*	*07/23/19 16:45*	*1*
2,4,6-Tribromophenol	*75*		*15 - 135*	*07/19/19 14:04*	*07/23/19 16:45*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 18:51	1
Acrolein	ND		20	10	ug/L			07/22/19 18:51	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 18:51	1
Benzene	**7.8**		1.0	0.38	ug/L			07/22/19 18:51	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 18:51	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 18:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 18:51	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 18:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 18:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 18:51	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 18:51	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 18:51	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 18:51	1
Chloromethane	**1.5**		1.0	0.83	ug/L			07/22/19 18:51	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:51	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 18:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 18:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 18:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 18:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Ethylbenzene	**1.4**		1.0	0.50	ug/L			07/22/19 18:51	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 18:51	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 18:51	1
2-Hexanone	ND	*	25	3.1	ug/L			07/22/19 18:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 18:51	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 18:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 18:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 18:51	1
Methyl tert-butyl ether	**6.5**		1.0	0.74	ug/L			07/22/19 18:51	1
m-Xylene & p-Xylene	**1.8**	**J**	5.0	1.6	ug/L			07/22/19 18:51	1
Naphthalene	**1.1**		1.0	1.0	ug/L			07/22/19 18:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 18:51	1
N-Propylbenzene	**1.6**		1.0	0.69	ug/L			07/22/19 18:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 18:51	1
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 18:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-70-071619-DUP

Lab Sample ID: 400-173269-5

Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 18:51	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 18:51	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 18:51	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 18:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 18:51	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/22/19 18:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 18:51	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 18:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 18:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 18:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 18:51	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 18:51	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 18:51	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 18:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 18:51	1
1,2,4-Trimethylbenzene	**6.0**		1.0	0.82	ug/L			07/22/19 18:51	1
1,3,5-Trimethylbenzene	**1.7**		1.0	0.56	ug/L			07/22/19 18:51	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 18:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 18:51	1
Xylenes, Total	**2.1**	**J**	10	1.6	ug/L			07/22/19 18:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*86*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/22/19 18:51*	*1*
2-Methyl-2-propanol	*65*		*ug/L*		*3.39*	*75-65-0*		*07/22/19 18:51*	*1*
Hexane	*1.4*		*ug/L*		*3.70*	*110-54-3*		*07/22/19 18:51*	*1*
Cyclohexane	*1.4*		*ug/L*		*4.54*	*110-82-7*		*07/22/19 18:51*	*1*
t-Amyl alcohol	*11*		*ug/L*		*4.66*	*75-85-4*		*07/22/19 18:51*	*1*
Methylcyclohexane	*1.2*		*ug/L*		*5.27*	*108-87-2*		*07/22/19 18:51*	*1*
n-Butyl acetate	*1.2*		*ug/L*		*6.45*	*123-86-4*		*07/22/19 18:51*	*1*
3-Ethyltoluene	*2.1*		*ug/L*		*8.09*	*620-14-4*		*07/22/19 18:51*	*1*
2-Ethyltoluene	*1.8*		*ug/L*		*8.30*	*611-14-3*		*07/22/19 18:51*	*1*
1,2,3-Trimethylbenzene	*2.1*	*J*	*ug/L*		*8.77*	*526-73-8*		*07/22/19 18:51*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 18:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/22/19 18:51*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 18:51*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/22/19 18:51*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-70-071619-DUP
Lab Sample ID: 400-173269-5

Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/29/19 22:05	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/29/19 22:05	1
1-Methylnaphthalene	**1.1**	**J**	4.8	0.48	ug/L		07/19/19 14:04	08/05/19 17:12	25
2-Methylnaphthalene	**1.8**	**J**	4.8	0.48	ug/L		07/19/19 14:04	08/05/19 17:12	25
Phenanthrene	**0.045**	**J**	0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/29/19 22:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*15 - 122*	*07/19/19 14:04*	*08/05/19 17:12*	*25*
Nitrobenzene-d5	*65*		*19 - 130*	*07/19/19 14:04*	*08/05/19 17:12*	*25*
Terphenyl-d14	*58*		*33 - 138*	*07/19/19 14:04*	*08/05/19 17:12*	*25*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 17:08	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:08	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/19/19 14:04	07/23/19 17:08	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/19/19 14:04	07/23/19 17:08	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/19/19 14:04	07/23/19 17:08	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Chloronaphthalene	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Chlorophenol	ND	*	9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Dibenzofuran	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:08	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:08	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 17:08	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 17:08	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 17:08	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:08	1

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-70-071619-DUP
Lab Sample ID: 400-173269-5
Date Collected: 07/16/19 13:15
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/19/19 14:04	07/23/19 17:08	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 17:08	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:08	1
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 17:08	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 17:08	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 17:08	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 17:08	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:08	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 17:08	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 17:08	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
Phenol	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:08	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 17:08	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 17:08	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:08	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene, 1,3,5-trimethyl-	*12*	*T J N*	*ug/L*		*5.45*	*108-67-8*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1,2,3-trimethyl-	*6.4*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1,4-diethyl-	*4.3*	*T J N*	*ug/L*		*5.76*	*105-05-5*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Benzene, 1-methyl-4-(2-propenyl)-	*4.4*	*T J N*	*ug/L*		*6.23*	*3333-13-9*	*07/19/19 14:04*	*07/23/19 17:08*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*34 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
2-Fluorophenol	*38*		*10 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Phenol-d5	*59*		*10 - 120*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
Terphenyl-d14	*50*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 17:08*	*1*
2,4,6-Tribromophenol	*69*		*15 - 135*	*07/19/19 14:04*	*07/23/19 17:08*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619

Lab Sample ID: 400-173269-6

Date Collected: 07/16/19 14:30

Matrix: Water

Date Received: 07/17/19 08:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 09:58	1
Acrolein	ND		20	10	ug/L			07/24/19 09:58	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 09:58	1
Benzene	**3.6**		1.0	0.38	ug/L			07/24/19 09:58	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 09:58	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 09:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 09:58	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 09:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 09:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 09:58	1
2-Chloroethyl vinyl ether	ND	F2 F1	5.0	2.0	ug/L			07/24/19 09:58	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 09:58	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 09:58	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 09:58	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 09:58	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 09:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 09:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 09:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 09:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Ethylbenzene	**0.53**	**J**	1.0	0.50	ug/L			07/24/19 09:58	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 09:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 09:58	1
2-Hexanone	ND	*	25	3.1	ug/L			07/24/19 09:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 09:58	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 09:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 09:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 09:58	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 09:58	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 09:58	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 09:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 09:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 09:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 09:58	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 09:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619

Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 09:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 09:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 09:58	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 09:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 09:58	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/24/19 09:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 09:58	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 09:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 09:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 09:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 09:58	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 09:58	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 09:58	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 09:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 09:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 09:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 09:58	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 09:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 09:58	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 09:58	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*110*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/24/19 09:58*	*1*
2-Methyl-2-propanol	*190*		*ug/L*		*3.39*	*75-65-0*		*07/24/19 09:58*	*1*
Hexane	*1.0*		*ug/L*		*3.71*	*110-54-3*		*07/24/19 09:58*	*1*
Cyclohexane	*0.67*	*J*	*ug/L*		*4.55*	*110-82-7*		*07/24/19 09:58*	*1*
n-Heptane	*1.5*		*ug/L*		*4.85*	*142-82-5*		*07/24/19 09:58*	*1*
Methylcyclohexane	*0.57*	*J*	*ug/L*		*5.27*	*108-87-2*		*07/24/19 09:58*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 09:58*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*07/24/19 09:58*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 09:58*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 09:58*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Client Sample ID: PD-4-GWP-80-071619

Date Collected: 07/16/19 14:30
Date Received: 07/17/19 08:58

Lab Sample ID: 400-173269-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	08/05/19 17:28	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	08/05/19 17:28	1
1-Methylnaphthalene	**0.032**	**J**	0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
2-Methylnaphthalene	**0.059**	**J**	0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	08/05/19 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/19/19 14:04*	*08/05/19 17:28*	*1*
Nitrobenzene-d5	*81*		*19 - 130*	*07/19/19 14:04*	*08/05/19 17:28*	*1*
Terphenyl-d14	*101*		*33 - 138*	*07/19/19 14:04*	*08/05/19 17:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/19/19 14:04	07/23/19 17:29	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:29	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/19/19 14:04	07/23/19 17:29	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/19/19 14:04	07/23/19 17:29	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 17:29	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Chloronaphthalene	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Chlorophenol	ND	*	9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Dibenzofuran	ND	*	9.7	0.50	ug/L		07/19/19 14:04	07/23/19 17:29	1
3,3'-Dichlorobenzidine	ND	F1 *	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:29	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 17:29	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 17:29	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 17:29	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:29	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 17:29	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 17:29	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 17:29	1

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-4-GWP-80-071619
Lab Sample ID: 400-173269-6
Date Collected: 07/16/19 14:30
Matrix: Water
Date Received: 07/17/19 08:58

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	ND		9.7	0.55	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 17:29	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/19/19 14:04	07/23/19 17:29	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 17:29	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 17:29	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:29	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 17:29	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 17:29	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
Phenol	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 17:29	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 17:29	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 17:29	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 17:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Sulfolane	*1.1*	*J*	*ug/L*		*6.44*	*126-33-0*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 17:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
2-Fluorophenol	*8*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Nitrobenzene-d5	*67*		*27 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Phenol-d5	*36*		*10 - 120*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/19/19 14:04*	*07/23/19 17:29*	*1*
2,4,6-Tribromophenol	*58*		*15 - 135*	*07/19/19 14:04*	*07/23/19 17:29*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-173269-1	TB-PW-071619-B	101	97	104
400-173269-2	PD-4-GWP-53-071619	100	95	103
400-173269-3	PD-4-GWP-60-071619	102	97	103
400-173269-4	PD-4-GWP-70-071619	101	96	103
400-173269-5	PD-4-GWP-70-071619-DUP	103	98	104
400-173269-6	PD-4-GWP-80-071619	103	96	102
400-173269-6 MS	PD-4-GWP-80-071619	100	97	101
400-173269-6 MSD	PD-4-GWP-80-071619	99	97	100
LCS 400-448915/1002	Lab Control Sample	97	97	103
LCS 400-449267/1002	Lab Control Sample	99	95	100
MB 400-448915/4	Method Blank	101	98	103
MB 400-449267/4	Method Blank	101	97	101

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-173269-2	PD-4-GWP-53-071619	59	7 X	11 X	10	49 X	54
400-173269-3	PD-4-GWP-60-071619	51	12	66	40	56	63
400-173269-4	PD-4-GWP-70-071619	59	9 X	79	46	67	75
400-173269-5	PD-4-GWP-70-071619-DUP	53	38	71	59	50 X	69
400-173269-6	PD-4-GWP-80-071619	52	8 X	67	36	59	58
400-173269-6 MS	PD-4-GWP-80-071619	69	19	89	62	66	79
400-173269-6 MSD	PD-4-GWP-80-071619	61	12	77	45	54	67
LCS 400-448720/19-A	Lab Control Sample	55	24	77	54	71	63
LCS 400-448720/2-A	Lab Control Sample	92	11	67	38	114	155 X
LCSD 400-448720/20-A	Lab Control Sample Dup	72	33	91	61	96	72
MB 400-448720/1-A	Method Blank	42	21	59	43	49 X	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (15-122)	NBZ (19-130)	TPHL (33-138)
400-173269-2	PD-4-GWP-53-071619	75	89	50

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173269-3	PD-4-GWP-60-071619	106		
400-173269-3	PD-4-GWP-60-071619		74	79
400-173269-4	PD-4-GWP-70-071619	135 X	128	139 X
400-173269-5	PD-4-GWP-70-071619-DUP	60	65	58
400-173269-6	PD-4-GWP-80-071619	87	81	101
400-173269-6 MS	PD-4-GWP-80-071619	101	85	86
400-173269-6 MSD	PD-4-GWP-80-071619	72	58	86
LCS 400-448720/2-A	Lab Control Sample	84	58	127
MB 400-448720/1-A	Method Blank	92	65	
MB 400-448720/1-A	Method Blank			117

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071619-B

Lab Sample ID: 400-173269-1
Matrix: Water
Date Collected: 07/16/19 00:00
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 13:34	RS	TAL PEN

Client Sample ID: PD-4-GWP-53-071619

Lab Sample ID: 400-173269-2
Matrix: Water
Date Collected: 07/16/19 09:25
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	448915	07/22/19 20:10	RS	TAL PEN
Total/NA	Prep	3520C			1030.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 16:03	VC1	TAL PEN
Total/NA	Prep	3520C			1030.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 13:41	KJA	TAL PEN

Client Sample ID: PD-4-GWP-60-071619

Lab Sample ID: 400-173269-3
Matrix: Water
Date Collected: 07/16/19 10:30
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 17:58	RS	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 16:24	VC1	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 21:31	KJA	TAL PEN
Total/NA	Prep	3520C			1028.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		25			450940	08/05/19 16:54	KJA	TAL PEN

Client Sample ID: PD-4-GWP-70-071619

Lab Sample ID: 400-173269-4
Matrix: Water
Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 18:25	RS	TAL PEN
Total/NA	Prep	3520C			1030.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 16:45	VC1	TAL PEN
Total/NA	Prep	3520C			1030.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 14:15	KJA	TAL PEN
Total/NA	Prep	3520C			1030.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 21:48	KJA	TAL PEN

Client Sample ID: PD-4-GWP-70-071619-DUP

Lab Sample ID: 400-173269-5
Matrix: Water
Date Collected: 07/16/19 13:15
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 18:51	RS	TAL PEN

Client Sample ID: PD-4-GWP-70-071619-DUP

Lab Sample ID: 400-173269-5

Date Collected: 07/16/19 13:15

Matrix: Water

Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1032 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 17:08	VC1	TAL PEN
Total/NA	Prep	3520C			1032 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 22:05	KJA	TAL PEN
Total/NA	Prep	3520C			1032 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		25			450940	08/05/19 17:12	KJA	TAL PEN

Client Sample ID: PD-4-GWP-80-071619

Lab Sample ID: 400-173269-6

Date Collected: 07/16/19 14:30

Matrix: Water

Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 09:58	WPD	TAL PEN
Total/NA	Prep	3520C			1032.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 17:29	VC1	TAL PEN
Total/NA	Prep	3520C			1032.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450940	08/05/19 17:28	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448720/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 15:20	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:50	KJA	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 20:41	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448915/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 10:56	RS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449267/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 08:41	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448720/19-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:22	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448720/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 22:41	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 20:57	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-448915/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	448915	07/22/19 09:55	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449267/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 07:52	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-448720/20-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:43	VC1	TAL PEN

Client Sample ID: PD-4-GWP-80-071619
Lab Sample ID: 400-173269-6 MS
Date Collected: 07/16/19 14:30
Matrix: Water
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 12:58	WPD	TAL PEN
Total/NA	Prep	3520C			1033.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 17:50	VC1	TAL PEN
Total/NA	Prep	3520C			1033.2 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 13:07	KJA	TAL PEN

Client Sample ID: PD-4-GWP-80-071619
Lab Sample ID: 400-173269-6 MSD

Date Collected: 07/16/19 14:30
Matrix: Water
Date Received: 07/17/19 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 12:29	WPD	TAL PEN
Total/NA	Prep	3520C			1020.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 18:11	VC1	TAL PEN
Total/NA	Prep	3520C			1020.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450108	07/31/19 00:44	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

GC/MS VOA

Analysis Batch: 448915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-1	TB-PW-071619-B	Total/NA	Water	8260B	
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	8260B	
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8260B	
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8260B	
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8260B	
MB 400-448915/4	Method Blank	Total/NA	Water	8260B	
LCS 400-448915/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	8260B	
MB 400-449267/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449267/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	8260B	
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	3520C	
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	3520C	
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	3520C	
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	3520C	
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	3520C	
MB 400-448720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	3520C	
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	3520C	

Analysis Batch: 449178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	8270D	448720
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8270D	448720
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8270D	448720
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8270D	448720
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	8270D	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D	448720
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	8270D	448720
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	8270D	448720
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	8270D	448720
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	8270D	448720

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D	448720

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

GC/MS Semi VOA

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8270D LL	448720
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8270D LL	448720
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448720

Analysis Batch: 450108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-6 MSD	PD-4-GWP-80-071619	Total/NA	Water	8270D LL	448720

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-2	PD-4-GWP-53-071619	Total/NA	Water	8270D LL	448720
400-173269-4	PD-4-GWP-70-071619	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
400-173269-6 MS	PD-4-GWP-80-071619	Total/NA	Water	8270D LL	448720

Analysis Batch: 450940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173269-3	PD-4-GWP-60-071619	Total/NA	Water	8270D LL	448720
400-173269-5	PD-4-GWP-70-071619-DUP	Total/NA	Water	8270D LL	448720
400-173269-6	PD-4-GWP-80-071619	Total/NA	Water	8270D LL	448720

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/22/19 10:56	1
Acrolein	ND		20	10	ug/L			07/22/19 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			07/22/19 10:56	1
Benzene	ND		1.0	0.38	ug/L			07/22/19 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Bromoform	ND		5.0	0.71	ug/L			07/22/19 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			07/22/19 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/22/19 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Chloroethane	ND		1.0	0.76	ug/L			07/22/19 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/22/19 10:56	1
Chloroform	ND		1.0	0.60	ug/L			07/22/19 10:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Chloromethane	ND		1.0	0.83	ug/L			07/22/19 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/22/19 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/22/19 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/22/19 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/22/19 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/22/19 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/22/19 10:56	1
2-Hexanone	ND		25	3.1	ug/L			07/22/19 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/22/19 10:56	1
Methylene bromide	ND		5.0	0.59	ug/L			07/22/19 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/22/19 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/22/19 10:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/22/19 10:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/22/19 10:56	1
Naphthalene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/22/19 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/22/19 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/22/19 10:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448915/4
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/22/19 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/22/19 10:56	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
Styrene	ND		1.0	1.0	ug/L			07/22/19 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/22/19 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/22/19 10:56	1
Toluene	ND		1.0	0.41	ug/L			07/22/19 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/22/19 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/22/19 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/22/19 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/22/19 10:56	1
Trichloroethene	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/22/19 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/22/19 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/22/19 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/22/19 10:56	1
Vinyl acetate	ND		25	2.0	ug/L			07/22/19 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/22/19 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			07/22/19 10:56	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/22/19 10:56*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/22/19 10:56*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/22/19 10:56*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/22/19 10:56*	*1*

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	294		ug/L		147	43 - 160
Acrolein	500	667		ug/L		133	38 - 160
Acrylonitrile	500	616		ug/L		123	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	54.1		ug/L		108	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.2		ug/L		110	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	34.5		ug/L		69	10 - 160
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	54.6		ug/L		109	61 - 137
Carbon tetrachloride	50.0	60.5		ug/L		121	61 - 137
Chlorobenzene	50.0	56.6		ug/L		113	70 - 130
Chloroethane	50.0	49.1		ug/L		98	55 - 141
2-Chloroethyl vinyl ether	50.0	49.3		ug/L		99	10 - 160
Chloroform	50.0	53.9		ug/L		108	69 - 130
1-Chlorohexane	50.0	60.5		ug/L		121	69 - 130
Chloromethane	50.0	44.1		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	58.1		ug/L		116	68 - 130
cis-1,3-Dichloropropene	50.0	59.7		ug/L		119	69 - 132
Dibromochloromethane	50.0	63.3		ug/L		127	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.7		ug/L		123	54 - 135
1,2-Dichlorobenzene	50.0	57.7		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	58.0		ug/L		116	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	25.0		ug/L		50	41 - 146
1,1-Dichloroethane	50.0	57.8		ug/L		116	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	50.9		ug/L		102	63 - 134
1,2-Dichloropropane	50.0	58.2		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	59.3		ug/L		119	70 - 130
2,2-Dichloropropane	50.0	56.5		ug/L		113	52 - 135
1,1-Dichloropropene	50.0	55.4		ug/L		111	70 - 130
Ethylbenzene	50.0	58.8		ug/L		118	70 - 130
Ethylene Dibromide	50.0	57.3		ug/L		115	70 - 130
Ethyl methacrylate	50.0	65.1		ug/L		130	68 - 130
Hexachlorobutadiene	50.0	52.0		ug/L		104	53 - 140
2-Hexanone	200	306	*	ug/L		153	65 - 137
Isopropylbenzene	50.0	56.2		ug/L		112	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	259		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	51.0		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	57.9		ug/L		116	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	57.7		ug/L		115	67 - 130
N-Propylbenzene	50.0	58.8		ug/L		118	70 - 130
o-Chlorotoluene	50.0	57.4		ug/L		115	70 - 130
o-Xylene	50.0	57.3		ug/L		115	70 - 130
p-Chlorotoluene	50.0	57.1		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	58.1		ug/L		116	65 - 130
sec-Butylbenzene	50.0	56.2		ug/L		112	66 - 130
Styrene	50.0	54.6		ug/L		109	70 - 130
tert-Butylbenzene	50.0	55.7		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	68.3	*	ug/L		137	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.0		ug/L		116	70 - 131
Tetrachloroethene	50.0	57.4		ug/L		115	65 - 130
Toluene	50.0	57.7		ug/L		115	70 - 130
trans-1,2-Dichloroethene	50.0	55.1		ug/L		110	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448915/1002
Matrix: Water
Analysis Batch: 448915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	65.0		ug/L		130	63 - 130
1,2,3-Trichlorobenzene	50.0	52.6		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	60 - 140
1,1,1-Trichloroethane	50.0	55.2		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	58.4		ug/L		117	70 - 130
Trichloroethene	50.0	54.6		ug/L		109	70 - 130
Trichlorofluoromethane	50.0	40.9		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	56.2		ug/L		112	70 - 130
1,2,4-Trimethylbenzene	50.0	55.5		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	55.8		ug/L		112	69 - 130
Vinyl acetate	100	117		ug/L		117	26 - 160
Vinyl chloride	50.0	45.3		ug/L		91	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 08:41	1
Acrolein	ND		20	10	ug/L			07/24/19 08:41	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 08:41	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 08:41	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 08:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 08:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 08:41	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 08:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 08:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 08:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 08:41	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 08:41	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 08:41	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 08:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 08:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 08:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 08:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 08:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 08:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 08:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 08:41	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 08:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 08:41	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 08:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 08:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 08:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 08:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 08:41	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 08:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 08:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 08:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 08:41	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 08:41	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 08:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 08:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 08:41	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 08:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 08:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 08:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 08:41	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 08:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 08:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 08:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 08:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 08:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 08:41	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 08:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 08:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 08:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 08:41	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 08:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 08:41	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 08:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/24/19 08:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/24/19 08:41	1
Dibromofluoromethane	97		81 - 121		07/24/19 08:41	1
Toluene-d8 (Surr)	101		80 - 120		07/24/19 08:41	1

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	274		ug/L		137	43 - 160
Acrolein	500	599		ug/L		120	38 - 160
Acrylonitrile	500	617		ug/L		123	64 - 142
Benzene	50.0	55.5		ug/L		111	70 - 130
Bromobenzene	50.0	54.7		ug/L		109	70 - 132
Bromochloromethane	50.0	56.6		ug/L		113	70 - 130
Bromodichloromethane	50.0	55.3		ug/L		111	67 - 133
Bromoform	50.0	62.8		ug/L		126	57 - 140
Bromomethane	50.0	39.6		ug/L		79	10 - 160
2-Butanone (MEK)	200	254		ug/L		127	61 - 145
Carbon disulfide	50.0	54.5		ug/L		109	61 - 137
Carbon tetrachloride	50.0	59.8		ug/L		120	61 - 137
Chlorobenzene	50.0	56.1		ug/L		112	70 - 130
Chloroethane	50.0	48.7		ug/L		97	55 - 141
2-Chloroethyl vinyl ether	50.0	47.7		ug/L		95	10 - 160
Chloroform	50.0	55.0		ug/L		110	69 - 130
1-Chlorohexane	50.0	59.4		ug/L		119	69 - 130
Chloromethane	50.0	48.3		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	59.2		ug/L		118	68 - 130
cis-1,3-Dichloropropene	50.0	60.3		ug/L		121	69 - 132
Dibromochloromethane	50.0	61.4		ug/L		123	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	58.1		ug/L		116	54 - 135
1,2-Dichlorobenzene	50.0	56.8		ug/L		114	67 - 130
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	55.8		ug/L		112	70 - 130
Dichlorodifluoromethane	50.0	29.9		ug/L		60	41 - 146
1,1-Dichloroethane	50.0	59.7		ug/L		119	70 - 130
1,2-Dichloroethane	50.0	54.6		ug/L		109	69 - 130
1,1-Dichloroethene	50.0	51.3		ug/L		103	63 - 134
1,2-Dichloropropane	50.0	59.7		ug/L		119	70 - 130
1,3-Dichloropropane	50.0	57.9		ug/L		116	70 - 130
2,2-Dichloropropane	50.0	57.1		ug/L		114	52 - 135
1,1-Dichloropropene	50.0	55.5		ug/L		111	70 - 130
Ethylbenzene	50.0	57.3		ug/L		115	70 - 130
Ethylene Dibromide	50.0	56.3		ug/L		113	70 - 130
Ethyl methacrylate	50.0	64.8		ug/L		130	68 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	51.4		ug/L		103	53 - 140
2-Hexanone	200	288	*	ug/L		144	65 - 137
Isopropylbenzene	50.0	54.2		ug/L		108	70 - 130
Methylene bromide	50.0	51.3		ug/L		103	70 - 130
Methylene Chloride	50.0	55.4		ug/L		111	66 - 135
4-Methyl-2-pentanone (MIBK)	200	255		ug/L		128	69 - 138
Methyl tert-butyl ether	50.0	52.4		ug/L		105	66 - 130
m-Xylene & p-Xylene	50.0	56.5		ug/L		113	70 - 130
Naphthalene	50.0	54.9		ug/L		110	47 - 149
n-Butylbenzene	50.0	53.7		ug/L		107	67 - 130
N-Propylbenzene	50.0	58.4		ug/L		117	70 - 130
o-Chlorotoluene	50.0	55.2		ug/L		110	70 - 130
o-Xylene	50.0	55.6		ug/L		111	70 - 130
p-Chlorotoluene	50.0	56.5		ug/L		113	70 - 130
p-Isopropyltoluene	50.0	56.7		ug/L		113	65 - 130
sec-Butylbenzene	50.0	55.1		ug/L		110	66 - 130
Styrene	50.0	53.7		ug/L		107	70 - 130
tert-Butylbenzene	50.0	54.7		ug/L		109	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.6	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.1		ug/L		116	70 - 131
Tetrachloroethene	50.0	56.6		ug/L		113	65 - 130
Toluene	50.0	56.9		ug/L		114	70 - 130
trans-1,2-Dichloroethene	50.0	56.3		ug/L		113	70 - 130
trans-1,3-Dichloropropene	50.0	63.9		ug/L		128	63 - 130
1,2,3-Trichlorobenzene	50.0	53.9		ug/L		108	60 - 138
1,2,4-Trichlorobenzene	50.0	52.4		ug/L		105	60 - 140
1,1,1-Trichloroethane	50.0	54.6		ug/L		109	68 - 130
1,1,2-Trichloroethane	50.0	58.1		ug/L		116	70 - 130
Trichloroethene	50.0	54.9		ug/L		110	70 - 130
Trichlorofluoromethane	50.0	41.1		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	53.4		ug/L		107	70 - 130
1,2,4-Trimethylbenzene	50.0	54.0		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.8		ug/L		110	69 - 130
Vinyl acetate	100	108		ug/L		108	26 - 160
Vinyl chloride	50.0	48.1		ug/L		96	59 - 136
Xylenes, Total	100	112		ug/L		112	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	101		ug/L		50	43 - 150

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		500	598		ug/L		120	38 - 150
Acrylonitrile	ND		500	533		ug/L		107	62 - 149
Benzene	3.6		50.0	57.9		ug/L		108	56 - 142
Bromobenzene	ND		50.0	49.7		ug/L		99	59 - 136
Bromochloromethane	ND		50.0	49.8		ug/L		100	64 - 140
Bromodichloromethane	ND		50.0	48.5		ug/L		97	59 - 143
Bromoform	ND		50.0	53.9		ug/L		108	50 - 140
Bromomethane	ND		50.0	40.8		ug/L		82	10 - 150
2-Butanone (MEK)	ND		200	132		ug/L		66	55 - 150
Carbon disulfide	ND		50.0	48.0		ug/L		96	48 - 150
Carbon tetrachloride	ND		50.0	52.6		ug/L		105	55 - 145
Chlorobenzene	ND		50.0	50.1		ug/L		100	64 - 130
Chloroethane	ND		50.0	50.2		ug/L		100	50 - 150
2-Chloroethyl vinyl ether	ND	F2 F1	50.0	23.3		ug/L		47	10 - 150
Chloroform	ND		50.0	48.4		ug/L		97	60 - 141
1-Chlorohexane	ND		50.0	53.5		ug/L		107	56 - 136
Chloromethane	ND		50.0	50.1		ug/L		100	49 - 148
cis-1,2-Dichloroethene	ND		50.0	52.2		ug/L		104	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.5		ug/L		105	57 - 140
Dibromochloromethane	ND		50.0	52.5		ug/L		105	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	49.8		ug/L		100	45 - 135
1,2-Dichlorobenzene	ND		50.0	52.0		ug/L		104	52 - 137
1,3-Dichlorobenzene	ND		50.0	51.3		ug/L		103	54 - 135
1,4-Dichlorobenzene	ND		50.0	51.3		ug/L		103	53 - 135
Dichlorodifluoromethane	ND		50.0	29.8		ug/L		60	16 - 150
1,1-Dichloroethane	ND		50.0	52.5		ug/L		105	61 - 144
1,2-Dichloroethane	ND		50.0	49.1		ug/L		98	60 - 141
1,1-Dichloroethene	ND		50.0	45.6		ug/L		91	54 - 147
1,2-Dichloropropane	ND		50.0	53.1		ug/L		106	66 - 137
1,3-Dichloropropane	ND		50.0	51.0		ug/L		102	66 - 133
2,2-Dichloropropane	ND		50.0	50.0		ug/L		100	42 - 144
1,1-Dichloropropene	ND		50.0	49.2		ug/L		98	65 - 136
Ethylbenzene	0.53	J	50.0	51.9		ug/L		103	58 - 131
Ethylene Dibromide	ND		50.0	48.9		ug/L		98	64 - 132
Ethyl methacrylate	ND		50.0	55.3		ug/L		111	64 - 130
Hexachlorobutadiene	ND		50.0	47.1		ug/L		94	31 - 149
2-Hexanone	ND	*	200	159		ug/L		79	65 - 140
Isopropylbenzene	ND		50.0	48.8		ug/L		98	56 - 133
Methylene bromide	ND		50.0	44.6		ug/L		89	63 - 138
Methylene Chloride	ND		50.0	49.7		ug/L		99	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	201		ug/L		101	63 - 146
Methyl tert-butyl ether	ND		50.0	45.5		ug/L		91	59 - 137
m-Xylene & p-Xylene	ND		50.0	51.0		ug/L		102	57 - 130
Naphthalene	ND		50.0	49.0		ug/L		98	25 - 150
n-Butylbenzene	ND		50.0	51.4		ug/L		103	41 - 142
N-Propylbenzene	ND		50.0	53.2		ug/L		106	51 - 138
o-Chlorotoluene	ND		50.0	52.1		ug/L		104	53 - 134
o-Xylene	ND		50.0	50.0		ug/L		100	61 - 130
p-Chlorotoluene	ND		50.0	51.5		ug/L		103	54 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		50.0	52.0		ug/L		104	48 - 139
sec-Butylbenzene	ND		50.0	50.3		ug/L		101	50 - 138
Styrene	ND		50.0	47.0		ug/L		94	58 - 131
tert-Butylbenzene	ND		50.0	49.1		ug/L		98	54 - 146
1,1,1,2-Tetrachloroethane	ND	*	50.0	58.5		ug/L		117	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	50.3		ug/L		101	66 - 135
Tetrachloroethene	ND		50.0	49.3		ug/L		99	52 - 133
Toluene	ND		50.0	50.8		ug/L		102	65 - 130
trans-1,2-Dichloroethene	ND		50.0	49.2		ug/L		98	61 - 143
trans-1,3-Dichloropropene	ND		50.0	55.6		ug/L		111	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	48.9		ug/L		98	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	48.1		ug/L		96	39 - 148
1,1,1-Trichloroethane	ND		50.0	47.8		ug/L		96	57 - 142
1,1,2-Trichloroethane	ND		50.0	50.8		ug/L		102	66 - 131
Trichloroethene	ND		50.0	48.7		ug/L		97	64 - 136
Trichlorofluoromethane	ND		50.0	42.0		ug/L		84	54 - 150
1,2,3-Trichloropropane	ND		50.0	47.5		ug/L		95	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	50.2		ug/L		100	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	50.5		ug/L		101	52 - 135
Vinyl acetate	ND		100	110		ug/L		110	26 - 150
Vinyl chloride	ND		50.0	49.2		ug/L		98	46 - 150
Xylenes, Total	ND		100	101		ug/L		101	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	102		ug/L		51	43 - 150	1	30
Acrolein	ND		500	518		ug/L		104	38 - 150	14	31
Acrylonitrile	ND		500	545		ug/L		109	62 - 149	2	30
Benzene	3.6		50.0	55.6		ug/L		104	56 - 142	4	30
Bromobenzene	ND		50.0	46.8		ug/L		94	59 - 136	6	30
Bromochloromethane	ND		50.0	53.4		ug/L		107	64 - 140	7	30
Bromodichloromethane	ND		50.0	50.6		ug/L		101	59 - 143	4	30
Bromoform	ND		50.0	53.7		ug/L		107	50 - 140	0	30
Bromomethane	ND		50.0	37.9		ug/L		76	10 - 150	7	50
2-Butanone (MEK)	ND		200	135		ug/L		67	55 - 150	2	30
Carbon disulfide	ND		50.0	50.7		ug/L		101	48 - 150	6	30
Carbon tetrachloride	ND		50.0	55.2		ug/L		110	55 - 145	5	30
Chlorobenzene	ND		50.0	48.5		ug/L		97	64 - 130	3	30
Chloroethane	ND		50.0	46.7		ug/L		93	50 - 150	7	30
2-Chloroethyl vinyl ether	ND	F2 F1	50.0	2.98	J F2 F1	ug/L		6	10 - 150	155	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		50.0	51.3		ug/L		103	60 - 141	6	30
1-Chlorohexane	ND		50.0	51.8		ug/L		104	56 - 136	3	30
Chloromethane	ND		50.0	45.8		ug/L		92	49 - 148	9	31
cis-1,2-Dichloroethene	ND		50.0	54.6		ug/L		109	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	52.8		ug/L		106	57 - 140	1	30
Dibromochloromethane	ND		50.0	53.5		ug/L		107	56 - 143	2	30
1,2-Dibromo-3-Chloropropane	ND		50.0	50.8		ug/L		102	45 - 135	2	30
1,2-Dichlorobenzene	ND		50.0	47.3		ug/L		95	52 - 137	9	30
1,3-Dichlorobenzene	ND		50.0	46.4		ug/L		93	54 - 135	10	30
1,4-Dichlorobenzene	ND		50.0	45.6		ug/L		91	53 - 135	12	30
Dichlorodifluoromethane	ND		50.0	28.5		ug/L		57	16 - 150	5	31
1,1-Dichloroethane	ND		50.0	55.6		ug/L		111	61 - 144	6	30
1,2-Dichloroethane	ND		50.0	51.0		ug/L		102	60 - 141	4	30
1,1-Dichloroethene	ND		50.0	48.1		ug/L		96	54 - 147	5	30
1,2-Dichloropropane	ND		50.0	55.0		ug/L		110	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	52.2		ug/L		104	66 - 133	2	30
2,2-Dichloropropane	ND		50.0	51.6		ug/L		103	42 - 144	3	31
1,1-Dichloropropene	ND		50.0	50.6		ug/L		101	65 - 136	3	30
Ethylbenzene	0.53	J	50.0	49.5		ug/L		98	58 - 131	5	30
Ethylene Dibromide	ND		50.0	49.2		ug/L		98	64 - 132	1	30
Ethyl methacrylate	ND		50.0	55.9		ug/L		112	64 - 130	1	30
Hexachlorobutadiene	ND		50.0	37.7		ug/L		75	31 - 149	22	36
2-Hexanone	ND	*	200	164		ug/L		82	65 - 140	4	30
Isopropylbenzene	ND		50.0	45.4		ug/L		91	56 - 133	7	30
Methylene bromide	ND		50.0	47.0		ug/L		94	63 - 138	5	30
Methylene Chloride	ND		50.0	51.8		ug/L		104	60 - 146	4	32
4-Methyl-2-pentanone (MIBK)	ND		200	210		ug/L		105	63 - 146	4	30
Methyl tert-butyl ether	ND		50.0	48.2		ug/L		96	59 - 137	6	30
m-Xylene & p-Xylene	ND		50.0	48.0		ug/L		96	57 - 130	6	30
Naphthalene	ND		50.0	45.9		ug/L		92	25 - 150	7	30
n-Butylbenzene	ND		50.0	43.1		ug/L		86	41 - 142	18	31
N-Propylbenzene	ND		50.0	48.7		ug/L		97	51 - 138	9	30
o-Chlorotoluene	ND		50.0	47.7		ug/L		95	53 - 134	9	30
o-Xylene	ND		50.0	47.8		ug/L		96	61 - 130	5	30
p-Chlorotoluene	ND		50.0	46.7		ug/L		93	54 - 133	10	30
p-Isopropyltoluene	ND		50.0	45.2		ug/L		90	48 - 139	14	30
sec-Butylbenzene	ND		50.0	45.6		ug/L		91	50 - 138	10	30
Styrene	ND		50.0	44.6		ug/L		89	58 - 131	5	30
tert-Butylbenzene	ND		50.0	45.6		ug/L		91	54 - 146	7	30
1,1,1,2-Tetrachloroethane	ND	*	50.0	58.7		ug/L		117	59 - 137	0	30
1,1,2,2-Tetrachloroethane	ND		50.0	52.1		ug/L		104	66 - 135	3	30
Tetrachloroethene	ND		50.0	48.0		ug/L		96	52 - 133	3	30
Toluene	ND		50.0	51.3		ug/L		103	65 - 130	1	30
trans-1,2-Dichloroethene	ND		50.0	52.5		ug/L		105	61 - 143	7	30
trans-1,3-Dichloropropene	ND		50.0	54.7		ug/L		109	53 - 133	2	30
1,2,3-Trichlorobenzene	ND		50.0	42.0		ug/L		84	43 - 145	15	30
1,2,4-Trichlorobenzene	ND		50.0	39.9		ug/L		80	39 - 148	19	30
1,1,1-Trichloroethane	ND		50.0	50.9		ug/L		102	57 - 142	6	30
1,1,2-Trichloroethane	ND		50.0	52.4		ug/L		105	66 - 131	3	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449267

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		50.0	50.7		ug/L		101	64 - 136	4	30
Trichlorofluoromethane	ND		50.0	38.7		ug/L		77	54 - 150	8	30
1,2,3-Trichloropropane	ND		50.0	48.0		ug/L		96	65 - 133	1	30
1,2,4-Trimethylbenzene	ND		50.0	45.2		ug/L		90	50 - 139	10	30
1,3,5-Trimethylbenzene	ND		50.0	46.3		ug/L		93	52 - 135	9	30
Vinyl acetate	ND		100	95.1		ug/L		95	26 - 150	15	33
Vinyl chloride	ND		50.0	45.5		ug/L		91	46 - 150	8	30
Xylenes, Total	ND		100	95.7		ug/L		96	59 - 130	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzenethiol	ND		10	1.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/19/19 14:04	07/23/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/19/19 14:04	07/23/19 15:20	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Diethyl phthalate	ND		10	0.70	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/19/19 14:04	07/23/19 15:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Isophorone	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Nitrobenzene	ND		10	0.55	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitrophenol	ND		10	0.65	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Phenol	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pyridine	ND		10	3.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Quinoline	ND		10	6.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 15:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2-Fluorophenol	*21*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Phenol-d5	*43*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Terphenyl-d14	*49*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2,4,6-Tribromophenol	*40*		*15 - 135*	*07/19/19 14:04*	*07/23/19 15:20*	*1*

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzenethiol			30.0	1.83	J *	ug/L		6	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*55*		*34 - 120*
2-Fluorophenol	*24*		*10 - 120*
Nitrobenzene-d5	*77*		*27 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	54		10 - 120
Terphenyl-d14	71		53 - 125
2,4,6-Tribromophenol	63		15 - 135

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.5		ug/L		75	29 - 120
Benzoic acid	117	38.8		ug/L		33	10 - 150
Benzyl alcohol	30.0	25.9		ug/L		86	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.1		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	20.1		ug/L		67	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.9		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150
4-Bromophenyl phenyl ether	30.0	40.5	*	ug/L		135	55 - 122
Butyl benzyl phthalate	30.0	23.0		ug/L		77	46 - 145
4-Chloroaniline	30.0	18.0		ug/L		60	30 - 120
4-Chloro-3-methylphenol	30.0	24.6		ug/L		82	39 - 140
2-Chloronaphthalene	30.0	27.8		ug/L		93	52 - 120
2-Chlorophenol	30.0	10.4		ug/L		35	34 - 120
4-Chlorophenyl phenyl ether	30.0	35.3		ug/L		118	58 - 124
Dibenz[a,h]acridine	30.0	32.8		ug/L		109	46 - 149
Dibenzofuran	30.0	31.3		ug/L		104	58 - 123
3,3'-Dichlorobenzidine	40.0	89.1	*	ug/L		223	39 - 135
2,4-Dichlorophenol	30.0	19.6		ug/L		65	39 - 128
Diethyl phthalate	30.0	31.9		ug/L		106	44 - 146
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	32.8		ug/L		109	50 - 131
Di-n-butyl phthalate	30.0	31.6		ug/L		105	55 - 131
4,6-Dinitro-ortho-cresol	60.0	62.0		ug/L		103	10 - 150
2,4-Dinitrophenol	60.0	72.2		ug/L		120	10 - 150
2,4-Dinitrotoluene	30.0	34.9		ug/L		116	58 - 140
2,6-Dinitrotoluene	30.0	34.5		ug/L		115	57 - 130
Di-n-octyl phthalate	30.0	29.2		ug/L		97	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.9		ug/L		83	47 - 123
Hexachlorobenzene	30.0	44.7	*	ug/L		149	52 - 131
Hexachlorocyclopentadiene	30.0	12.2	J	ug/L		41	10 - 129
Hexachloroethane	30.0	17.7		ug/L		59	41 - 120
Indene	30.0	20.4		ug/L		68	47 - 120
Isophorone	30.0	21.9		ug/L		73	49 - 120
2-Methylphenol	30.0	17.8		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	20.0		ug/L		67	38 - 121
2-Nitroaniline	30.0	27.3		ug/L		91	47 - 150
3-Nitroaniline	30.0	30.9		ug/L		103	34 - 132
4-Nitroaniline	30.0	40.4		ug/L		135	41 - 135

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrobenzene	30.0	22.8		ug/L		76	47 - 120
2-Nitrophenol	30.0	14.9		ug/L		50	28 - 136
4-Nitrophenol	60.0	65.7		ug/L		109	10 - 150
N-Nitrosodimethylamine	30.0	26.9		ug/L		90	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120
Pentachlorophenol	60.0	81.0		ug/L		135	15 - 141
Phenol	30.0	11.2		ug/L		37	33 - 120
Pyridine	60.0	33.4		ug/L		56	26 - 120
Quinoline	30.0	28.2		ug/L		94	51 - 129
2,4,5-Trichlorophenol	30.0	28.9		ug/L		96	38 - 147
2,4,6-Trichlorophenol	30.0	27.2		ug/L		91	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*11*		*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*38*		*10 - 120*
Terphenyl-d14	*114*		*53 - 125*
2,4,6-Tribromophenol	*155*	*X*	*15 - 135*

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	1.82	J *	ug/L		6	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*33*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*61*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*72*		*15 - 135*

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.0	22.1		ug/L		76	10 - 143
Benzoic acid	ND		113	117		ug/L		104	10 - 134
Benzyl alcohol	ND		29.0	28.3		ug/L		97	10 - 154
Bis(2-chloroethoxy)methane	ND		29.0	21.1		ug/L		73	14 - 147
Bis(2-chloroethyl)ether	ND	*	29.0	22.1		ug/L		76	28 - 130
bis (2-chloroisopropyl) ether	ND		29.0	23.5		ug/L		81	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.0	29.4		ug/L		101	43 - 160

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	ND	*	29.0	23.6		ug/L		81	26 - 159
Butyl benzyl phthalate	ND		29.0	23.4		ug/L		81	43 - 151
4-Chloroaniline	ND		29.0	23.1		ug/L		79	10 - 152
4-Chloro-3-methylphenol	ND		29.0	26.3		ug/L		91	17 - 156
2-Chloronaphthalene	ND	*	29.0	21.6		ug/L		74	10 - 155
2-Chlorophenol	ND	*	29.0	16.3		ug/L		56	19 - 130
4-Chlorophenyl phenyl ether	ND	*	29.0	22.6		ug/L		78	25 - 161
Dibenz[a,h]acridine	ND	*	29.0	17.3		ug/L		60	42 - 147
Dibenzofuran	ND	*	29.0	22.2		ug/L		76	18 - 157
3,3'-Dichlorobenzidine	ND	F1 *	38.7	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND		29.0	23.3		ug/L		80	16 - 147
Diethyl phthalate	ND		29.0	26.7		ug/L		92	23 - 160
2,4-Dimethylphenol	ND		29.0	27.3		ug/L		94	25 - 146
Dimethyl phthalate	ND		29.0	24.2		ug/L		83	11 - 158
Di-n-butyl phthalate	ND		29.0	28.0		ug/L		96	28 - 162
4,6-Dinitro-ortho-cresol	ND		58.1	62.8		ug/L		108	10 - 168
2,4-Dinitrophenol	ND		58.1	74.6		ug/L		129	10 - 166
2,4-Dinitrotoluene	ND		29.0	24.1		ug/L		83	26 - 158
2,6-Dinitrotoluene	ND		29.0	23.0		ug/L		79	19 - 157
Di-n-octyl phthalate	ND		29.0	25.7		ug/L		88	42 - 150
1,4-Dioxane	ND		29.0	8.98	J	ug/L		31	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.0	23.9		ug/L		82	19 - 162
Hexachlorobenzene	ND	*	29.0	29.1		ug/L		100	45 - 145
Hexachlorocyclopentadiene	ND		29.0	4.12	J	ug/L		14	10 - 151
Hexachloroethane	ND		29.0	23.3		ug/L		80	29 - 130
Indene	ND		29.0	20.9		ug/L		72	22 - 130
Isophorone	ND		29.0	23.7		ug/L		82	24 - 144
2-Methylphenol	ND		29.0	24.0		ug/L		83	22 - 130
3 & 4 Methylphenol	ND		29.0	23.6		ug/L		81	31 - 130
2-Nitroaniline	ND		29.0	27.9		ug/L		96	10 - 162
3-Nitroaniline	ND		29.0	23.5		ug/L		81	10 - 163
4-Nitroaniline	ND		29.0	25.2		ug/L		87	10 - 162
Nitrobenzene	ND		29.0	24.3		ug/L		84	34 - 135
2-Nitrophenol	ND		29.0	24.0		ug/L		83	27 - 134
4-Nitrophenol	ND		58.1	59.5		ug/L		102	10 - 175
N-Nitrosodimethylamine	ND		29.0	27.6		ug/L		95	10 - 139
N-Nitrosodi-n-propylamine	ND		29.0	24.0		ug/L		83	13 - 147
N-Nitrosodiphenylamine	ND		28.8	19.0		ug/L		66	31 - 150
Pentachlorophenol	ND		58.1	69.9		ug/L		120	10 - 180
Phenol	ND	*	29.0	16.8		ug/L		58	23 - 130
Pyridine	ND		58.1	35.0		ug/L		60	10 - 130
Quinoline	ND		29.0	22.9		ug/L		79	10 - 180
2,4,5-Trichlorophenol	ND		29.0	24.3		ug/L		84	43 - 137
2,4,6-Trichlorophenol	ND		29.0	23.5		ug/L		81	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*34 - 120*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	19		10 - 120
Nitrobenzene-d5	89		27 - 120
Phenol-d5	62		10 - 120
Terphenyl-d14	66		53 - 125
2,4,6-Tribromophenol	79		15 - 135

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		29.4	22.8		ug/L		78	10 - 143	3	63
Benzoic acid	ND		114	101		ug/L		89	10 - 134	15	49
Benzyl alcohol	ND		29.4	24.8		ug/L		84	10 - 154	13	37
Bis(2-chloroethoxy)methane	ND		29.4	18.3		ug/L		62	14 - 147	14	70
Bis(2-chloroethyl)ether	ND	*	29.4	16.3		ug/L		56	28 - 130	30	42
bis (2-chloroisopropyl) ether	ND		29.4	20.8		ug/L		71	10 - 141	12	41
Bis(2-ethylhexyl) phthalate	ND		29.4	25.1		ug/L		86	43 - 160	15	35
4-Bromophenyl phenyl ether	ND	*	29.4	21.2		ug/L		72	26 - 159	11	30
Butyl benzyl phthalate	ND		29.4	20.5		ug/L		70	43 - 151	13	32
4-Chloroaniline	ND		29.4	17.5		ug/L		60	10 - 152	28	94
4-Chloro-3-methylphenol	ND		29.4	22.5		ug/L		76	17 - 156	16	40
2-Chloronaphthalene	ND	*	29.4	19.2		ug/L		65	10 - 155	12	29
2-Chlorophenol	ND	*	29.4	11.4		ug/L		39	19 - 130	35	42
4-Chlorophenyl phenyl ether	ND	*	29.4	19.9		ug/L		68	25 - 161	12	27
Dibenz[a,h]acridine	ND	*	29.4	14.2		ug/L		48	42 - 147	19	40
Dibenzofuran	ND	*	29.4	19.7		ug/L		67	18 - 157	12	29
3,3'-Dichlorobenzidine	ND	F1 *	39.2	ND	F1	ug/L		0	10 - 172	NC	58
2,4-Dichlorophenol	ND		29.4	18.8		ug/L		64	16 - 147	21	43
Diethyl phthalate	ND		29.4	23.1		ug/L		79	23 - 160	14	40
2,4-Dimethylphenol	ND		29.4	24.0		ug/L		82	25 - 146	13	47
Dimethyl phthalate	ND		29.4	21.0		ug/L		71	11 - 158	14	36
Di-n-butyl phthalate	ND		29.4	23.9		ug/L		81	28 - 162	16	32
4,6-Dinitro-ortho-cresol	ND		58.8	54.5		ug/L		93	10 - 168	14	42
2,4-Dinitrophenol	ND		58.8	65.4		ug/L		111	10 - 166	13	36
2,4-Dinitrotoluene	ND		29.4	21.3		ug/L		72	26 - 158	12	28
2,6-Dinitrotoluene	ND		29.4	20.7		ug/L		70	19 - 157	11	28
Di-n-octyl phthalate	ND		29.4	22.3		ug/L		76	42 - 150	14	35
1,4-Dioxane	ND		29.4	8.54	J	ug/L		29	10 - 130	5	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.4	21.0		ug/L		71	19 - 162	13	40
Hexachlorobenzene	ND	*	29.4	25.2		ug/L		86	45 - 145	14	33
Hexachlorocyclopentadiene	ND		29.4	6.06	J	ug/L		21	10 - 151	38	50
Hexachloroethane	ND		29.4	19.4		ug/L		66	29 - 130	18	41
Indene	ND		29.4	18.8		ug/L		64	22 - 130	11	40
Isophorone	ND		29.4	20.9		ug/L		71	24 - 144	12	33
2-Methylphenol	ND		29.4	18.7		ug/L		64	22 - 130	25	47
3 & 4 Methylphenol	ND		29.4	18.8	J	ug/L		64	31 - 130	22	47
2-Nitroaniline	ND		29.4	25.6		ug/L		87	10 - 162	8	33

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 449178

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
3-Nitroaniline	ND		29.4	18.9		ug/L		64	10 - 163	22	39
4-Nitroaniline	ND		29.4	22.7		ug/L		77	10 - 162	10	50
Nitrobenzene	ND		29.4	22.0		ug/L		75	34 - 135	10	35
2-Nitrophenol	ND		29.4	18.8		ug/L		64	27 - 134	25	43
4-Nitrophenol	ND		58.8	53.1		ug/L		90	10 - 175	11	82
N-Nitrosodimethylamine	ND		29.4	28.0		ug/L		95	10 - 139	1	62
N-Nitrosodi-n-propylamine	ND		29.4	22.4		ug/L		76	13 - 147	7	36
N-Nitrosodiphenylamine	ND		29.2	16.4		ug/L		56	31 - 150	15	34
Pentachlorophenol	ND		58.8	60.2		ug/L		102	10 - 180	15	42
Phenol	ND	*	29.4	12.7		ug/L		43	23 - 130	28	52
Pyridine	ND		58.8	34.1		ug/L		58	10 - 130	3	55
Quinoline	ND		29.4	20.2		ug/L		69	10 - 180	13	40
2,4,5-Trichlorophenol	ND		29.4	20.6		ug/L		70	43 - 137	17	42
2,4,6-Trichlorophenol	ND		29.4	19.1		ug/L		65	42 - 135	21	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*61*		*34 - 120*
2-Fluorophenol	*12*		*10 - 120*
Nitrobenzene-d5	*77*		*27 - 120*
Phenol-d5	*45*		*10 - 120*
Terphenyl-d14	*54*		*53 - 125*
2,4,6-Tribromophenol	*67*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/29/19 20:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/29/19 20:41	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*15 - 122*	*07/19/19 14:04*	*07/29/19 20:41*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/19/19 14:04*	*07/29/19 20:41*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*117*		*33 - 138*	*07/19/19 14:04*	*08/03/19 12:50*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	29.9		ug/L		100	41 - 120
Acenaphthylene	30.0	27.9		ug/L		93	44 - 120
Anthracene	30.0	30.2		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	27.7		ug/L		92	61 - 135
Benzo[a]pyrene	30.0	28.9		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	30.4		ug/L		101	53 - 134
Benzo[g,h,i]perylene	30.0	28.3		ug/L		94	47 - 133
Benzo[k]fluoranthene	30.0	30.7		ug/L		102	57 - 134
Chrysene	30.0	28.3		ug/L		94	55 - 122
Dibenz(a,h)anthracene	30.0	30.5		ug/L		102	48 - 146
Fluoranthene	30.0	29.1		ug/L		97	54 - 128
Fluorene	30.0	33.8		ug/L		113	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	29.5		ug/L		98	43 - 142
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124
Phenanthrene	30.0	29.6		ug/L		99	48 - 120
Pyrene	30.0	15.5		ug/L		52	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*127*		*33 - 138*

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		29.0	29.4		ug/L		101	35 - 113
Acenaphthylene	ND		29.0	30.0		ug/L		103	41 - 118
Anthracene	ND		29.0	30.5		ug/L		105	45 - 122
Benzo[a]anthracene	ND		29.0	30.4		ug/L		105	55 - 133
Benzo[a]pyrene	ND		29.0	30.1		ug/L		104	50 - 108
Benzo[b]fluoranthene	ND		29.0	33.8		ug/L		116	50 - 128
Benzo[g,h,i]perylene	ND		29.0	30.7		ug/L		106	46 - 133
Benzo[k]fluoranthene	ND		29.0	32.6		ug/L		112	52 - 128

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173269-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173269-6 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chrysene	ND		29.0	30.2		ug/L		104	52 - 116
Dibenz(a,h)anthracene	ND		29.0	35.6		ug/L		123	52 - 143
Fluoranthene	ND		29.0	35.6		ug/L		122	32 - 150
Fluorene	ND		29.0	34.1		ug/L		117	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.0	34.2		ug/L		118	41 - 141
1-Methylnaphthalene	0.032	J	29.0	24.8		ug/L		85	10 - 150
2-Methylnaphthalene	0.059	J	29.0	23.9		ug/L		82	10 - 150
Phenanthrene	ND		29.0	33.7		ug/L		116	36 - 125
Pyrene	ND		29.0	27.5		ug/L		95	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*101*		*15 - 122*
Nitrobenzene-d5	*85*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Lab Sample ID: 400-173269-6 MSD
Matrix: Water
Analysis Batch: 450108

Client Sample ID: PD-4-GWP-80-071619
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		29.4	24.8		ug/L		84	35 - 113	17	49
Acenaphthylene	ND		29.4	23.8		ug/L		81	41 - 118	23	48
Anthracene	ND		29.4	24.3		ug/L		83	45 - 122	23	56
Benzo[a]anthracene	ND		29.4	26.7		ug/L		91	55 - 133	13	57
Benzo[a]pyrene	ND		29.4	24.7		ug/L		84	50 - 108	20	59
Benzo[b]fluoranthene	ND		29.4	28.1		ug/L		96	50 - 128	18	62
Benzo[g,h,i]perylene	ND		29.4	22.8		ug/L		78	46 - 133	29	58
Benzo[k]fluoranthene	ND		29.4	24.3		ug/L		83	52 - 128	29	58
Chrysene	ND		29.4	27.4		ug/L		93	52 - 116	10	59
Dibenz(a,h)anthracene	ND		29.4	24.0		ug/L		82	52 - 143	39	60
Fluoranthene	ND		29.4	25.4		ug/L		86	32 - 150	33	59
Fluorene	ND		29.4	27.8		ug/L		95	15 - 150	20	49
Indeno[1,2,3-cd]pyrene	ND		29.4	25.4		ug/L		86	41 - 141	29	58
1-Methylnaphthalene	0.032	J	29.4	19.8		ug/L		67	10 - 150	22	66
2-Methylnaphthalene	0.059	J	29.4	20.1		ug/L		68	10 - 150	18	66
Phenanthrene	ND		29.4	26.6		ug/L		90	36 - 125	24	69
Pyrene	ND		29.4	34.6		ug/L		118	41 - 127	23	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*86*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- [ ] ACCUTEST (_____)
- [ ] CALSCIENCE (_____)
- [x] TESTAMERICA (Pensacola)
- [ ] Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- [ ] SGW FDG
- [ ] PIPELINE
- [ ] RETAIL
- [ ] CHEMICALS
- [ ] CONSULTANT
- [ ] LUBES
- [ ] TRANSPORTATION
- [ ] OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	[ ] CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/16/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE	State	AECOM Project / Task Number:
AECOM		170 East Rand Avenue, Hartford	IL / PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO	E-MAIL	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
- [x] STANDARD (14 DAY)
- [ ] 5 DAYS
- [ ] 3 DAYS
- [ ] 2 DAYS
- [ ] 24 HOURS
- [ ] RESULTS NEEDED ON WEEKEND

- [ ] LA - RWQCB REPORT FORMAT
- [ ] UST AGENCY:

DELIVERABLES:
- [ ] LEVEL 1
- [x] LEVEL 2
- [ ] LEVEL 3
- [x] LEVEL 4
- [x] OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°	Cooler #1	Cooler #2	Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- [x] SHELL CONTRACT RATE APPLIES
- [ ] STATE REIMBURSEMENT RATE APPLIES
- [ ] EDD NOT NEEDED
- [x] RECEIPT VERIFICATION REQUESTED
- [ ] PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 / NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-071619-B	7/16/2019	0:00	Water	2					2		x		
	PD-4-GWP-53-071619	7/16/2019	9:25	Water	2			2		4	x	x	x	
	PD-4-GWP-60-071619	7/16/2019	10:30	Water	2			2		4	x	x	x	
	PD-4-GWP-70-071619	7/16/2019	13:15	Water	2			2		4	x	x	x	
	PD-4-GWP-70-071619-DUP	7/16/2019	13:15	Water	2			2		4	x	x	x	
	PD-4-GWP-80-071619	7/16/2019	14:30	Water	2			2		4	x	x	x	
	PD-4-GWP-80-071619-MS	7/16/2019	14:30	Water	2			2		4	x	x	x	
	PD-4-GWP-80-071619-MSD	7/16/2019	14:30	Water	2			2		4	x	x	x	

400-173269 COC

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Paul Lafleur AECOM	Fedex:4782 2882 5355; 4782 2882 5366; 4782 2882 5344 custody seals:1013814, 1013815, 1011624, 1011625, 1011528, 1011529	7/16/2019	18:00
	2.1C, 1.6C, 0.0C JB	7/17/19	8:[illegible]

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

10/21/2019 (Rev. 1)

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173269-1

Login Number: 173269
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C 1.6°C 0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173269-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173355

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/5/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071719-B	PD-14-GWP-40-071719
PD-14-GWP-45-071719	PD-14-GWP-50-071719
PD-14-GWP-50-071719-DUP	PD-14-GWP-53-071719
PD-14-GWP-60-071719	PD-14-GWP-70-071719

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated VOC and SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC surrogates were outside evaluation criteria in several samples. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449079/1002	VOCs	1,1,1,2-Tetrachloroethane	**132**	NA	67-131
400-448720/19-A	SVOCs	Benzenethiol	**6/6**	1	10-120/30
400-448720/2-A	SVOCs	4-Bromophenyl phenyl ether	**135**	NA	55-122
400-448720/2-A	SVOCs	3,3'-Dichlorobenzidine	**223**	NA	39-135
400-448720/2-A	SVOCs	Hexachlorobenzene	**149**	NA	52-131

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-14-GWP-40-071719	SVOCs	Benzenethiol	**UJ**
PD-14-GWP-45-071719	SVOCs	Benzenethiol	**UJ**
PD-14-GWP-50-071719	SVOCs	Benzenethiol	**UJ**
PD-14-GWP-50-071719-DUP	SVOCs	Benzenethiol	**UJ**
PD-14-GWP-53-071719	SVOCs	Benzenethiol	**UJ**
PD-14-GWP-60-071719	SVOCs	Benzenethiol	**UJ**
PD-14-GWP-70-071719	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-14-GWP-40-071719	SVOCs	2-Fluorophenol	**6**	10-120
PD-14-GWP-40-071719-Dup	SVOCs	2-Fluorophenol	**0**	10-120
PD-14-GWP-40-071719-Dup	SVOCs	Terphenyl-d_{14}	**41**	53-125
PD-14-GWP-60-071719	SVOCs	Phenol-d_5	**0.9**	10-120
PD-14-GWP-60-071719	SVOCs	Terphenyl-d_{14}	**49**	53-125
PD-14-GWP-70-071719	SVOCs	2,4,6-Tribromophenol	**178**	15-135
LCS 400-448720/2-A	SVOCs	2,4,6-Tribromophenol	**155**	15-135
MB 400-448720/1-A	SVOCs	Terphenyl-d_{14}	**49**	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested sample PD-14-GWP-70-071719 was spiked and duplicated for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-14-GWP-50-071719	PD-14-GWP-50-071719-DUP

Were field duplicate sample RPDs within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173355-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/5/2019 4:57:02 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Revised on 8/5/2019

LINKS

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Laboratory Job ID: 400-173355-1

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Job ID: 400-173355-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173355-1

Comments
No additional comments.

Receipt
The samples were received on 7/18/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.2° C and 3.3° C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-449079 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-14-GWP-40-071719 (400-173355-2), PD-14-GWP-45-071719 (400-173355-3), PD-14-GWP-50-071719 (400-173355-4), PD-14-GWP-50-071719-DUP (400-173355-5), PD-14-GWP-53-071719 (400-173355-6) and PD-14-GWP-60-071719 (400-173355-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071719-B (400-173355-1), PD-14-GWP-40-071719 (400-173355-2), PD-14-GWP-45-071719 (400-173355-3), PD-14-GWP-50-071719 (400-173355-4), PD-14-GWP-50-071719-DUP (400-173355-5), PD-14-GWP-53-071719 (400-173355-6), PD-14-GWP-60-071719 (400-173355-7) and PD-14-GWP-70-071719 (400-173355-8). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-14-GWP-40-071719 (400-173355-2), PD-14-GWP-70-071719 (400-173355-8), (MB 400-448720/1-A), (LCS 400-448720/2-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448720 and analytical batch 400-449178 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-14-GWP-50-071719-DUP (400-173355-5) and PD-14-GWP-60-071719 (400-173355-7). These results have been reported and qualified.

Method(s) 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-14-GWP-45-071719 (400-173355-3), PD-14-GWP-50-071719 (400-173355-4), PD-14-GWP-50-071719-DUP (400-173355-5) and

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Job ID: 400-173355-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

PD-14-GWP-53-071719 (400-173355-6). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448720 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Bromophenyl phenyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered above the upper control limit for 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 4,6-Dinitro-ortho-cresol, 4-Bromophenyl phenyl ether and 4-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, Butyl benzyl phthalate, Hexachlorocyclopentadiene and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-14-GWP-60-071719 (400-173355-7). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene and Fluorene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: PD-14-GWP-45-071719 (400-173355-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173355-1	TB-PW-071719-B	Water	07/17/19 00:00	07/18/19 09:19	
400-173355-2	PD-14-GWP-40-071719	Water	07/17/19 09:10	07/18/19 09:19	
400-173355-3	PD-14-GWP-45-071719	Water	07/17/19 10:15	07/18/19 09:19	
400-173355-4	PD-14-GWP-50-071719	Water	07/17/19 11:10	07/18/19 09:19	
400-173355-5	PD-14-GWP-50-071719-DUP	Water	07/17/19 11:10	07/18/19 09:19	
400-173355-6	PD-14-GWP-53-071719	Water	07/17/19 13:15	07/18/19 09:19	
400-173355-7	PD-14-GWP-60-071719	Water	07/17/19 14:10	07/18/19 09:19	
400-173355-8	PD-14-GWP-70-071719	Water	07/17/19 15:30	07/18/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B — Lab Sample ID: 400-173355-1

No Detections.

Client Sample ID: PD-14-GWP-40-071719 — Lab Sample ID: 400-173355-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	230000		1000	380	ug/L	1000		8260B	Total/NA
Ethylbenzene	920	J	1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	2900	J	5000	1600	ug/L	1000		8260B	Total/NA
o-Xylene	1200	J	5000	600	ug/L	1000		8260B	Total/NA
Toluene	4400		1000	410	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	940	J	1000	820	ug/L	1000		8260B	Total/NA
Xylenes, Total	4000	J	10000	1600	ug/L	1000		8260B	Total/NA
2-Methylnaphthalene	1.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol	60		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-14-GWP-45-071719 — Lab Sample ID: 400-173355-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2000000		10000	3800	ug/L	10000		8260B	Total/NA
Fluoranthene	0.085	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL	1.5		0.98	0.098	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	1.5		0.98	0.098	ug/L	5		8270D LL	Total/NA
2,4-Dimethylphenol	7.5	J	9.8	3.4	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.2	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	160		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-50-071719 — Lab Sample ID: 400-173355-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2300000		20000	7600	ug/L	20000		8260B	Total/NA
Fluoranthene	0.082	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.55		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.93		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.038	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	230		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-50-071719-DUP — Lab Sample ID: 400-173355-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2900000		20000	7600	ug/L	20000		8260B	Total/NA
Anthracene	0.033	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.15	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.55		0.21	0.021	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.89		0.21	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.34		0.21	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	0.060	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	5.4	J	10	5.2	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.3	J	21	1.1	ug/L	1		8270D	Total/NA
Phenol - DL	170		52	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-53-071719 — Lab Sample ID: 400-173355-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	970000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	11		0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719 (Continued)

Lab Sample ID: 400-173355-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	25		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	310		50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-60-071719

Lab Sample ID: 400-173355-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140000		500	190	ug/L	500		8260B	Total/NA
Ethylbenzene	4200		500	250	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	9300		2500	800	ug/L	500		8260B	Total/NA
o-Xylene	3600		2500	300	ug/L	500		8260B	Total/NA
Toluene	1100		500	210	ug/L	500		8260B	Total/NA
1,2,4-Trimethylbenzene	1300		500	410	ug/L	500		8260B	Total/NA
1,3,5-Trimethylbenzene	430	J	500	280	ug/L	500		8260B	Total/NA
Xylenes, Total	13000		5000	800	ug/L	500		8260B	Total/NA
Anthracene	0.12	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	82	B	0.99	0.099	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	150	B	0.99	0.099	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.81		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.075	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Indene	36		9.9	0.99	ug/L	1		8270D	Total/NA
Phenol	36		9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	10	J	25	10	ug/L	1		8260B	Total/NA
Benzene	130		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.7		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.44	J	1.0	0.41	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B

Date Collected: 07/17/19 00:00
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/23/19 09:02	1
Acrolein	ND		20	10	ug/L			07/23/19 09:02	1
Acrylonitrile	ND		10	2.8	ug/L			07/23/19 09:02	1
Benzene	ND		1.0	0.38	ug/L			07/23/19 09:02	1
Bromobenzene	ND		1.0	0.54	ug/L			07/23/19 09:02	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/23/19 09:02	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Bromoform	ND		5.0	0.71	ug/L			07/23/19 09:02	1
Bromomethane	ND		1.0	0.98	ug/L			07/23/19 09:02	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/23/19 09:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Chloroethane	ND		1.0	0.76	ug/L			07/23/19 09:02	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/23/19 09:02	1
Chloroform	ND		1.0	0.60	ug/L			07/23/19 09:02	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/23/19 09:02	1
Chloromethane	ND		1.0	0.83	ug/L			07/23/19 09:02	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:02	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/23/19 09:02	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/23/19 09:02	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/23/19 09:02	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/23/19 09:02	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/23/19 09:02	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/23/19 09:02	1
2-Hexanone	ND		25	3.1	ug/L			07/23/19 09:02	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/23/19 09:02	1
Methylene bromide	ND		5.0	0.59	ug/L			07/23/19 09:02	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/23/19 09:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/23/19 09:02	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/23/19 09:02	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/23/19 09:02	1
Naphthalene	ND		1.0	1.0	ug/L			07/23/19 09:02	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/23/19 09:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/23/19 09:02	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/23/19 09:02	1
o-Xylene	ND		5.0	0.60	ug/L			07/23/19 09:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B
Date Collected: 07/17/19 00:00
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/23/19 09:02	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/23/19 09:02	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/23/19 09:02	1
Styrene	ND		1.0	1.0	ug/L			07/23/19 09:02	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/23/19 09:02	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/23/19 09:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/23/19 09:02	1
Toluene	ND		1.0	0.41	ug/L			07/23/19 09:02	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/23/19 09:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/23/19 09:02	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/23/19 09:02	1
Trichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/23/19 09:02	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/23/19 09:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/23/19 09:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/23/19 09:02	1
Vinyl acetate	ND		25	2.0	ug/L			07/23/19 09:02	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Xylenes, Total	ND		10	1.6	ug/L			07/23/19 09:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 09:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/23/19 09:02*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/23/19 09:02*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 09:02*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719
Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/23/19 12:47	1000
Acrolein	ND		20000	10000	ug/L			07/23/19 12:47	1000
Acrylonitrile	ND		10000	2800	ug/L			07/23/19 12:47	1000
Benzene	**230000**		1000	380	ug/L			07/23/19 12:47	1000
Bromobenzene	ND		1000	540	ug/L			07/23/19 12:47	1000
Bromochloromethane	ND		1000	520	ug/L			07/23/19 12:47	1000
Bromodichloromethane	ND		1000	500	ug/L			07/23/19 12:47	1000
Bromoform	ND		5000	710	ug/L			07/23/19 12:47	1000
Bromomethane	ND		1000	980	ug/L			07/23/19 12:47	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/23/19 12:47	1000
Carbon disulfide	ND		1000	500	ug/L			07/23/19 12:47	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/23/19 12:47	1000
Chlorobenzene	ND		1000	500	ug/L			07/23/19 12:47	1000
Chloroethane	ND		1000	760	ug/L			07/23/19 12:47	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/23/19 12:47	1000
Chloroform	ND		1000	600	ug/L			07/23/19 12:47	1000
1-Chlorohexane	ND		1000	700	ug/L			07/23/19 12:47	1000
Chloromethane	ND		1000	830	ug/L			07/23/19 12:47	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/23/19 12:47	1000
Dibromochloromethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/23/19 12:47	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/23/19 12:47	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/23/19 12:47	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/23/19 12:47	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/23/19 12:47	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/23/19 12:47	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/23/19 12:47	1000
Ethylbenzene	**920**	**J**	1000	500	ug/L			07/23/19 12:47	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/23/19 12:47	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/23/19 12:47	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/23/19 12:47	1000
2-Hexanone	ND		25000	3100	ug/L			07/23/19 12:47	1000
Isopropylbenzene	ND		1000	530	ug/L			07/23/19 12:47	1000
Methylene bromide	ND		5000	590	ug/L			07/23/19 12:47	1000
Methylene Chloride	ND		5000	3000	ug/L			07/23/19 12:47	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/23/19 12:47	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/23/19 12:47	1000
m-Xylene & p-Xylene	**2900**	**J**	5000	1600	ug/L			07/23/19 12:47	1000
Naphthalene	ND		1000	1000	ug/L			07/23/19 12:47	1000
n-Butylbenzene	ND		1000	760	ug/L			07/23/19 12:47	1000
N-Propylbenzene	ND		1000	690	ug/L			07/23/19 12:47	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/23/19 12:47	1000
o-Xylene	**1200**	**J**	5000	600	ug/L			07/23/19 12:47	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719
Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1000	560	ug/L			07/23/19 12:47	1000
p-Isopropyltoluene	ND		1000	710	ug/L			07/23/19 12:47	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/23/19 12:47	1000
Styrene	ND		1000	1000	ug/L			07/23/19 12:47	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/23/19 12:47	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/23/19 12:47	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
Tetrachloroethene	ND		1000	580	ug/L			07/23/19 12:47	1000
Toluene	**4400**		1000	410	ug/L			07/23/19 12:47	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/23/19 12:47	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/23/19 12:47	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/23/19 12:47	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/23/19 12:47	1000
Trichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/23/19 12:47	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/23/19 12:47	1000
1,2,4-Trimethylbenzene	**940**	**J**	1000	820	ug/L			07/23/19 12:47	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/23/19 12:47	1000
Vinyl acetate	ND		25000	2000	ug/L			07/23/19 12:47	1000
Vinyl chloride	ND		1000	500	ug/L			07/23/19 12:47	1000
Xylenes, Total	**4000**	**J**	10000	1600	ug/L			07/23/19 12:47	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*7900*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/23/19 12:47*	*1000*
Pentane	*5100*	*T J N*	*ug/L*		*2.73*	*109-66-0*		*07/23/19 12:47*	*1000*
Hexane	*1700*		*ug/L*		*3.70*	*110-54-3*		*07/23/19 12:47*	*1000*
Isobutyl alcohol	*50000*		*ug/L*		*4.59*	*78-83-1*		*07/23/19 12:47*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 12:47*	*1000*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 12:47*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 12:47*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/25/19 00:04	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719
Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
2-Methylnaphthalene	**1.2**		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*100*		*15 - 122*	*07/19/19 14:04*	*07/25/19 00:04*	*1*
Nitrobenzene-d5	*94*		*19 - 130*	*07/19/19 14:04*	*07/25/19 00:04*	*1*
Terphenyl-d14	*107*		*33 - 138*	*07/19/19 14:04*	*07/25/19 00:04*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:54	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/19/19 14:04	07/23/19 18:54	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:54	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/19/19 14:04	07/23/19 18:54	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 18:54	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/19/19 14:04	07/23/19 18:54	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/19/19 14:04	07/23/19 18:54	1
3,3'-Dichlorobenzidine	ND	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:54	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 18:54	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 18:54	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 18:54	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:54	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:54	1
Hexachlorobenzene	ND	*	9.7	0.24	ug/L		07/19/19 14:04	07/23/19 18:54	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 18:54	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:54	1
Isophorone	ND		9.7	0.56	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 18:54	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719
Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 18:54	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 18:54	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:54	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 18:54	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 18:54	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
Phenol	**60**		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:54	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*13*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Cyclopentanol, 1-methyl-	*17*	*T J N*	*ug/L*		*4.16*	*1462-03-9*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Ethylbenzene	*27*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
1-Methylcyclohexanol	*6.9*	*T J N*	*ug/L*		*4.89*	*590-67-0*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	*6.1*	*T J N*	*ug/L*		*5.77*	*83321-16-8*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
1,4-Hexadiene, 4-methyl-	*4.2*	*T J N*	*ug/L*		*5.91*	*1116-90-1*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Phenol, 2,6-dimethyl-	*16*	*T J N*	*ug/L*		*6.00*	*576-26-1*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Benzoic acid, 2,4-dimethyl-	*9.0*	*T J N*	*ug/L*		*6.96*	*611-01-8*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
2-Thiophenecarboxylic acid, 5-ethyl-	*15*	*T J N*	*ug/L*		*7.00*	*23229-72-3*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Benzoic acid, 2,6-dimethyl-	*4.2*	*T J N*	*ug/L*		*7.05*	*632-46-2*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
n-Hexadecanoic acid	*14*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/19/19 14:04*	*07/23/19 18:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*34 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
2-Fluorophenol	*6*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Phenol-d5	*37*		*10 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Terphenyl-d14	*62*		*53 - 125*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
2,4,6-Tribromophenol	*79*		*15 - 135*	*07/19/19 14:04*	*07/23/19 18:54*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719
Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/23/19 13:36	2500
Acrolein	ND		50000	25000	ug/L			07/23/19 13:36	2500
Acrylonitrile	ND		25000	7000	ug/L			07/23/19 13:36	2500
Bromobenzene	ND		2500	1400	ug/L			07/23/19 13:36	2500
Bromochloromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
Bromoform	ND		13000	1800	ug/L			07/23/19 13:36	2500
Bromomethane	ND		2500	2500	ug/L			07/23/19 13:36	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/23/19 13:36	2500
Carbon disulfide	ND		2500	1300	ug/L			07/23/19 13:36	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/23/19 13:36	2500
Chlorobenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Chloroethane	ND		2500	1900	ug/L			07/23/19 13:36	2500
2-Chloroethyl vinyl ether	ND		13000	5000	ug/L			07/23/19 13:36	2500
Chloroform	ND		2500	1500	ug/L			07/23/19 13:36	2500
1-Chlorohexane	ND		2500	1800	ug/L			07/23/19 13:36	2500
Chloromethane	ND		2500	2100	ug/L			07/23/19 13:36	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/23/19 13:36	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/23/19 13:36	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/23/19 13:36	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/23/19 13:36	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/23/19 13:36	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2-Dichloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/23/19 13:36	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Ethylbenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/23/19 13:36	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/23/19 13:36	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/23/19 13:36	2500
2-Hexanone	ND		63000	7800	ug/L			07/23/19 13:36	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Methylene bromide	ND		13000	1500	ug/L			07/23/19 13:36	2500
Methylene Chloride	ND		13000	7500	ug/L			07/23/19 13:36	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/23/19 13:36	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/23/19 13:36	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/23/19 13:36	2500
Naphthalene	ND		2500	2500	ug/L			07/23/19 13:36	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/23/19 13:36	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/23/19 13:36	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/23/19 13:36	2500
o-Xylene	ND		13000	1500	ug/L			07/23/19 13:36	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/23/19 13:36	2500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719

Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/23/19 13:36	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/23/19 13:36	2500
Styrene	ND		2500	2500	ug/L			07/23/19 13:36	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/23/19 13:36	2500
1,1,1,2-Tetrachloroethane	ND	*	2500	1300	ug/L			07/23/19 13:36	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/23/19 13:36	2500
Toluene	ND		2500	1000	ug/L			07/23/19 13:36	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/23/19 13:36	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/23/19 13:36	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/23/19 13:36	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/23/19 13:36	2500
Trichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/23/19 13:36	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/23/19 13:36	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/23/19 13:36	2500
Vinyl acetate	ND		63000	5000	ug/L			07/23/19 13:36	2500
Vinyl chloride	ND		2500	1300	ug/L			07/23/19 13:36	2500
Xylenes, Total	ND		25000	4000	ug/L			07/23/19 13:36	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 13:36*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/23/19 13:36*	*2500*
Dibromofluoromethane	*95*		*81 - 121*		*07/23/19 13:36*	*2500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/23/19 13:36*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2000000**		10000	3800	ug/L			07/24/19 10:49	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/24/19 10:49*	*10000*
Dibromofluoromethane	*95*		*81 - 121*		*07/24/19 10:49*	*10000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 10:49*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Fluoranthene	**0.085**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719

Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/25/19 00:23	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*15 - 122*	*07/19/19 14:04*	*07/25/19 00:23*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/19/19 14:04	07/29/19 20:07	5
Chrysene	ND		0.98	0.20	ug/L		07/19/19 14:04	07/29/19 20:07	5
1-Methylnaphthalene	**1.5**		0.98	0.098	ug/L		07/19/19 14:04	07/29/19 20:07	5
2-Methylnaphthalene	**1.5**		0.98	0.098	ug/L		07/19/19 14:04	07/29/19 20:07	5
Pyrene	ND		0.98	0.098	ug/L		07/19/19 14:04	07/29/19 20:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*53*		*19 - 130*	*07/19/19 14:04*	*07/29/19 20:07*	*5*
Terphenyl-d14	*101*		*33 - 138*	*07/19/19 14:04*	*07/29/19 20:07*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:15	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/19/19 14:04	07/23/19 19:15	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/19/19 14:04	07/23/19 19:15	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/19/19 14:04	07/23/19 19:15	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/19/19 14:04	07/23/19 19:15	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Bromophenyl phenyl ether	ND	*	9.8	0.31	ug/L		07/19/19 14:04	07/23/19 19:15	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:15	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.5	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dimethylphenol	**7.5**	**J**	9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:15	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/19/19 14:04	07/23/19 19:15	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/19/19 14:04	07/23/19 19:15	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/19/19 14:04	07/23/19 19:15	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:15	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719
Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:15	1
Hexachlorobenzene	ND	*	9.8	0.24	ug/L		07/19/19 14:04	07/23/19 19:15	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/19/19 14:04	07/23/19 19:15	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
Indene	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:15	1
Isophorone	ND		9.8	0.56	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:15	1
3 & 4 Methylphenol	**1.2**	**J**	20	1.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:15	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/19/19 14:04	07/23/19 19:15	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:15	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/19/19 14:04	07/23/19 19:15	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/19/19 14:04	07/23/19 19:15	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 19:15	1
Pyridine	ND		9.8	3.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
Quinoline	ND		9.8	5.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*130*	*T J N*	*ug/L*		*3.90*	*108-88-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
2-Butanone, 4-hydroxy-	*200*	*T J N*	*ug/L*		*4.09*	*590-90-9*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Cyclopentanol, 1-methyl-	*50*	*T J N*	*ug/L*		*4.12*	*1462-03-9*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
1,3-Dimethylcyclopentanol	*17*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Ethylbenzene	*150*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Unknown	*6.8*	*T J*	*ug/L*		*4.83*		*07/19/19 14:04*	*07/23/19 19:15*	*1*
p-Xylene	*50*	*T J N*	*ug/L*		*4.87*	*106-42-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
1-Methylcyclohexanol	*9.3*	*T J N*	*ug/L*		*4.90*	*590-67-0*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, (1-methylethyl)-	*12*	*T J N*	*ug/L*		*5.05*	*98-82-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, propyl-	*12*	*T J N*	*ug/L*		*5.23*	*103-65-1*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1-ethyl-2-methyl-	*8.9*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1-ethyl-2-methyl-	*19*	*T J N*	*ug/L*		*5.37*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Tricyclo[3.1.0.0(2,4)]hex-3-ene-3-carbonitrile	*10*	*T J N*	*ug/L*		*5.41*	*103495-51-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1,3,5-trimethyl-	*50*	*T J N*	*ug/L*		*5.46*	*108-67-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1,2,3-trimethyl-	*13*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*15*	*T J N*	*ug/L*		*5.66*	*1121-05-7*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Indane	*45*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*13*	*T J N*	*ug/L*		*5.91*	*934-80-5*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Phenol, 2,5-dimethyl-	*8.9*	*T J N*	*ug/L*		*6.00*	*95-87-4*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Phenol, 3-chloro-	*8.0*	*T J N*	*ug/L*		*6.35*	*108-43-0*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Naphthalene	*18*	*T J N*	*ug/L*		*6.42*	*91-20-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzoic acid, 4-methyl-	*8.4*	*T J N*	*ug/L*		*6.66*	*99-94-5*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzoic acid, 2,6-dimethyl-	*12*	*T J N*	*ug/L*		*6.97*	*632-46-2*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzoic acid, 2,5-dimethyl-	*6.9*	*T J N*	*ug/L*		*7.05*	*610-72-0*	*07/19/19 14:04*	*07/23/19 19:15*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719
Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
n-Hexadecanoic acid	12	T J N	ug/L		9.08	57-10-3	07/19/19 14:04	07/23/19 19:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		34 - 120	07/19/19 14:04	07/23/19 19:15	1
2-Fluorophenol	21		10 - 120	07/19/19 14:04	07/23/19 19:15	1
Nitrobenzene-d5	80		27 - 120	07/19/19 14:04	07/23/19 19:15	1
Phenol-d5	57		10 - 120	07/19/19 14:04	07/23/19 19:15	1
Terphenyl-d14	71		53 - 125	07/19/19 14:04	07/23/19 19:15	1
2,4,6-Tribromophenol	109		15 - 135	07/19/19 14:04	07/23/19 19:15	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	160		49	13	ug/L		07/19/19 14:04	07/24/19 23:24	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/23/19 14:00	5000
Acrolein	ND		100000	50000	ug/L			07/23/19 14:00	5000
Acrylonitrile	ND		50000	14000	ug/L			07/23/19 14:00	5000
Bromobenzene	ND		5000	2700	ug/L			07/23/19 14:00	5000
Bromochloromethane	ND		5000	2600	ug/L			07/23/19 14:00	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
Bromoform	ND		25000	3600	ug/L			07/23/19 14:00	5000
Bromomethane	ND		5000	4900	ug/L			07/23/19 14:00	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/23/19 14:00	5000
Carbon disulfide	ND		5000	2500	ug/L			07/23/19 14:00	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/23/19 14:00	5000
Chlorobenzene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Chloroethane	ND		5000	3800	ug/L			07/23/19 14:00	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/23/19 14:00	5000
Chloroform	ND		5000	3000	ug/L			07/23/19 14:00	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/23/19 14:00	5000
Chloromethane	ND		5000	4200	ug/L			07/23/19 14:00	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:00	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/23/19 14:00	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/23/19 14:00	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/23/19 14:00	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/23/19 14:00	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:00	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Ethylbenzene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/23/19 14:00	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/23/19 14:00	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/23/19 14:00	5000
2-Hexanone	ND		130000	16000	ug/L			07/23/19 14:00	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/23/19 14:00	5000
Methylene bromide	ND		25000	3000	ug/L			07/23/19 14:00	5000
Methylene Chloride	ND		25000	15000	ug/L			07/23/19 14:00	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/23/19 14:00	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/23/19 14:00	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/23/19 14:00	5000
Naphthalene	ND		5000	5000	ug/L			07/23/19 14:00	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/23/19 14:00	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/23/19 14:00	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/23/19 14:00	5000
o-Xylene	ND		25000	3000	ug/L			07/23/19 14:00	5000
p-Chlorotoluene	ND		5000	2800	ug/L			07/23/19 14:00	5000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719

Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5000	3600	ug/L			07/23/19 14:00	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/23/19 14:00	5000
Styrene	ND		5000	5000	ug/L			07/23/19 14:00	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/23/19 14:00	5000
1,1,1,2-Tetrachloroethane	ND	*	5000	2600	ug/L			07/23/19 14:00	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/23/19 14:00	5000
Toluene	ND		5000	2100	ug/L			07/23/19 14:00	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:00	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/23/19 14:00	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/23/19 14:00	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/23/19 14:00	5000
Trichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/23/19 14:00	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/23/19 14:00	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/23/19 14:00	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/23/19 14:00	5000
Vinyl acetate	ND		130000	10000	ug/L			07/23/19 14:00	5000
Vinyl chloride	ND		5000	2500	ug/L			07/23/19 14:00	5000
Xylenes, Total	ND		50000	8000	ug/L			07/23/19 14:00	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 14:00*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 14:00*	*5000*
Dibromofluoromethane	*95*		*81 - 121*		*07/23/19 14:00*	*5000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/23/19 14:00*	*5000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2300000**		20000	7600	ug/L			07/24/19 18:13	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/24/19 18:13*	*20000*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 18:13*	*20000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 18:13*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Chrysene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719

Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Fluoranthene	**0.082**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/25/19 00:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
1-Methylnaphthalene	**0.55**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
2-Methylnaphthalene	**0.93**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Pyrene	**0.038**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*15 - 122*	*07/19/19 14:04*	*07/25/19 00:41*	*1*
Nitrobenzene-d5	*67*		*19 - 130*	*07/19/19 14:04*	*07/25/19 00:41*	*1*
Terphenyl-d14	*100*		*33 - 138*	*07/19/19 14:04*	*07/25/19 00:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
Benzoic acid	ND		29	7.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/19/19 14:04	07/23/19 19:36	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/19/19 14:04	07/23/19 19:36	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/19/19 14:04	07/23/19 19:36	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Bromophenyl phenyl ether	ND	*	9.8	0.31	ug/L		07/19/19 14:04	07/23/19 19:36	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:36	1
3,3'-Dichlorobenzidine	ND	*	9.8	2.6	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:36	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/19/19 14:04	07/23/19 19:36	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/19/19 14:04	07/23/19 19:36	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:36	1
Hexachlorobenzene	ND	*	9.8	0.25	ug/L		07/19/19 14:04	07/23/19 19:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 19:36	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/19/19 14:04	07/23/19 19:36	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719

Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:36	1
Isophorone	ND		9.8	0.56	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:36	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/19/19 14:04	07/23/19 19:36	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/19/19 14:04	07/23/19 19:36	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:36	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/19/19 14:04	07/23/19 19:36	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 19:36	1
Pyridine	ND		9.8	3.1	ug/L		07/19/19 14:04	07/23/19 19:36	1
Quinoline	ND		9.8	5.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*27*	*T J N*	*ug/L*		*3.89*	*108-88-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Ethylbenzene	*57*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
o-Xylene	*24*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
1-Methylcyclohexanol	*6.2*	*T J N*	*ug/L*		*4.90*	*590-67-0*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, propyl-	*5.2*	*T J N*	*ug/L*		*5.23*	*103-65-1*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1-ethyl-2-methyl-	*8.2*	*T J N*	*ug/L*		*5.27*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1-ethyl-2-methyl-	*5.8*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1-ethyl-4-methyl-	*6.8*	*T J N*	*ug/L*		*5.37*	*622-96-8*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzonitrile	*4.3*	*T J N*	*ug/L*		*5.41*	*100-47-0*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1,3,5-trimethyl-	*22*	*T J N*	*ug/L*		*5.46*	*108-67-8*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1,2,3-trimethyl-	*7.0*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*7.7*	*T J N*	*ug/L*		*5.66*	*1121-05-7*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Indane	*12*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2-Cyclopenten-1-one, 3,4,4-trimethyl-	*6.9*	*T J N*	*ug/L*		*5.77*	*30434-65-2*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*5.1*	*T J N*	*ug/L*		*5.90*	*934-80-5*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Propanedioic acid, phenyl-	*18*	*T J N*	*ug/L*		*6.55*	*2613-89-0*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
n-Hexadecanoic acid	*8.2*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*34 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2-Fluorophenol	*17*		*10 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Nitrobenzene-d5	*65*		*27 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Phenol-d5	*46*		*10 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Terphenyl-d14	*53*		*53 - 125*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/19/19 14:04*	*07/23/19 19:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**230**		49	13	ug/L		07/19/19 14:04	07/24/19 23:45	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/23/19 14:25	5000
Acrolein	ND		100000	50000	ug/L			07/23/19 14:25	5000
Acrylonitrile	ND		50000	14000	ug/L			07/23/19 14:25	5000
Bromobenzene	ND		5000	2700	ug/L			07/23/19 14:25	5000
Bromochloromethane	ND		5000	2600	ug/L			07/23/19 14:25	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
Bromoform	ND		25000	3600	ug/L			07/23/19 14:25	5000
Bromomethane	ND		5000	4900	ug/L			07/23/19 14:25	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/23/19 14:25	5000
Carbon disulfide	ND		5000	2500	ug/L			07/23/19 14:25	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/23/19 14:25	5000
Chlorobenzene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Chloroethane	ND		5000	3800	ug/L			07/23/19 14:25	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/23/19 14:25	5000
Chloroform	ND		5000	3000	ug/L			07/23/19 14:25	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/23/19 14:25	5000
Chloromethane	ND		5000	4200	ug/L			07/23/19 14:25	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:25	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/23/19 14:25	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/23/19 14:25	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/23/19 14:25	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/23/19 14:25	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:25	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Ethylbenzene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/23/19 14:25	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/23/19 14:25	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/23/19 14:25	5000
2-Hexanone	ND		130000	16000	ug/L			07/23/19 14:25	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/23/19 14:25	5000
Methylene bromide	ND		25000	3000	ug/L			07/23/19 14:25	5000
Methylene Chloride	ND		25000	15000	ug/L			07/23/19 14:25	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/23/19 14:25	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/23/19 14:25	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/23/19 14:25	5000
Naphthalene	ND		5000	5000	ug/L			07/23/19 14:25	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/23/19 14:25	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/23/19 14:25	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/23/19 14:25	5000
o-Xylene	ND		25000	3000	ug/L			07/23/19 14:25	5000
p-Chlorotoluene	ND		5000	2800	ug/L			07/23/19 14:25	5000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP

Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5000	3600	ug/L			07/23/19 14:25	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/23/19 14:25	5000
Styrene	ND		5000	5000	ug/L			07/23/19 14:25	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/23/19 14:25	5000
1,1,1,2-Tetrachloroethane	ND	*	5000	2600	ug/L			07/23/19 14:25	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/23/19 14:25	5000
Toluene	ND		5000	2100	ug/L			07/23/19 14:25	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:25	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/23/19 14:25	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/23/19 14:25	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/23/19 14:25	5000
Trichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/23/19 14:25	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/23/19 14:25	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/23/19 14:25	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/23/19 14:25	5000
Vinyl acetate	ND		130000	10000	ug/L			07/23/19 14:25	5000
Vinyl chloride	ND		5000	2500	ug/L			07/23/19 14:25	5000
Xylenes, Total	ND		50000	8000	ug/L			07/23/19 14:25	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 14:25*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 14:25*	*5000*
Dibromofluoromethane	*97*		*81 - 121*		*07/23/19 14:25*	*5000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 14:25*	*5000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2900000**		20000	7600	ug/L			07/28/19 12:00	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/28/19 12:00*	*20000*
Dibromofluoromethane	*94*		*81 - 121*		*07/28/19 12:00*	*20000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 12:00*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Acenaphthylene	ND		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Anthracene	**0.033**	**J**	0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[a]anthracene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[a]pyrene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[b]fluoranthene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[g,h,i]perylene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[k]fluoranthene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Chrysene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-5
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Fluoranthene	**0.15**	**J**	0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Fluorene	ND		0.21	0.022	ug/L		07/19/19 14:04	07/25/19 01:00	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
1-Methylnaphthalene	**0.55**		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
2-Methylnaphthalene	**0.89**		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Phenanthrene	**0.34**		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Pyrene	**0.060**	**J**	0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*15 - 122*	*07/19/19 14:04*	*07/25/19 01:00*	*1*
Nitrobenzene-d5	*72*		*19 - 130*	*07/19/19 14:04*	*07/25/19 01:00*	*1*
Terphenyl-d14	*81*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:00*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
Benzenethiol	ND	* UJ	10	1.8	ug/L		07/19/19 14:04	07/23/19 19:57	1
Benzoic acid	ND		31	7.5	ug/L		07/19/19 14:04	07/23/19 19:57	1
Benzyl alcohol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Bis(2-chloroethoxy)methane	ND		10	0.71	ug/L		07/19/19 14:04	07/23/19 19:57	1
Bis(2-chloroethyl)ether	ND		10	0.76	ug/L		07/19/19 14:04	07/23/19 19:57	1
bis (2-chloroisopropyl) ether	ND		10	0.83	ug/L		07/19/19 14:04	07/23/19 19:57	1
Bis(2-ethylhexyl) phthalate	**5.4**	**J**	10	5.2	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Bromophenyl phenyl ether	ND	*	10	0.33	ug/L		07/19/19 14:04	07/23/19 19:57	1
Butyl benzyl phthalate	ND		10	0.71	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Chloroaniline	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Chloronaphthalene	ND		10	0.54	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Chlorophenol	ND		10	2.3	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Chlorophenyl phenyl ether	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Dibenz[a,h]acridine	ND	*	10	3.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Dibenzofuran	ND		10	0.54	ug/L		07/19/19 14:04	07/23/19 19:57	1
3,3'-Dichlorobenzidine	ND	*	10	2.7	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Diethyl phthalate	ND		10	0.72	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/19/19 14:04	07/23/19 19:57	1
Dimethyl phthalate	ND		10	0.62	ug/L		07/19/19 14:04	07/23/19 19:57	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/19/19 14:04	07/23/19 19:57	1
4,6-Dinitro-ortho-cresol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dinitrotoluene	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,6-Dinitrotoluene	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/19/19 14:04	07/23/19 19:57	1
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
Hexachlorobenzene	ND	*	10	0.26	ug/L		07/19/19 14:04	07/23/19 19:57	1
Hexachlorocyclopentadiene	ND		21	2.7	ug/L		07/19/19 14:04	07/23/19 19:57	1
Hexachloroethane	ND		10	4.3	ug/L		07/19/19 14:04	07/23/19 19:57	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
Isophorone	ND		10	0.59	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Methylphenol	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
3 & 4 Methylphenol	**1.3**	**J**	21	1.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Nitroaniline	ND		10	2.3	ug/L		07/19/19 14:04	07/23/19 19:57	1
3-Nitroaniline	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Nitroaniline	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 19:57	1
Nitrobenzene	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Nitrophenol	ND		10	0.67	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Nitrophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 19:57	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/19/19 14:04	07/23/19 19:57	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 19:57	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/19/19 14:04	07/23/19 19:57	1
Pentachlorophenol	ND		21	1.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
Pyridine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 19:57	1
Quinoline	ND		10	6.2	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/19/19 14:04	07/23/19 19:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*29*	*T J N*	*ug/L*		*3.90*	*108-88-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
1,3-Dimethylcyclopentanol	*15*	*T J N*	*ug/L*		*4.53*	*19550-46-0*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Ethylbenzene	*53*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
o-Xylene	*68*	*T J N*	*ug/L*		*4.71*	*95-47-6*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*8.2*	*T J*	*ug/L*		*4.75*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
o-Xylene	*33*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
1-Methylcyclohexanol	*7.0*	*T J N*	*ug/L*		*4.91*	*590-67-0*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, propyl-	*5.0*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-2-methyl-	*7.7*	*T J N*	*ug/L*		*5.27*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-2-methyl-	*5.2*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-4-methyl-	*5.6*	*T J N*	*ug/L*		*5.38*	*622-96-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Tricyclo[3.1.0.0(2,4)]hex-3-ene-3-carbonitrile	*4.3*	*T J N*	*ug/L*		*5.41*	*103495-51-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1,3,5-trimethyl-	*17*	*T J N*	*ug/L*		*5.46*	*108-67-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1,2,3-trimethyl-	*5.8*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*7.6*	*T J N*	*ug/L*		*5.66*	*1121-05-7*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Indane	*11*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2-Cyclopenten-1-one, 3,4,4-trimethyl-	*12*	*T J N*	*ug/L*		*5.77*	*30434-65-2*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*5.6*	*T J N*	*ug/L*		*5.90*	*933-98-2*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Propanedioic acid, phenyl-	*17*	*T J N*	*ug/L*		*6.55*	*2613-89-0*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
n-Hexadecanoic acid	*8.7*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*34 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Nitrobenzene-d5	*63*		*27 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Phenol-d5	*35*		*10 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Terphenyl-d14	*41*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2,4,6-Tribromophenol	*77*		*15 - 135*	*07/19/19 14:04*	*07/23/19 19:57*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	170		52	13	ug/L		07/19/19 14:04	07/25/19 00:07	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50000	20000	ug/L			07/23/19 13:11	2000
Acrolein	ND		40000	20000	ug/L			07/23/19 13:11	2000
Acrylonitrile	ND		20000	5600	ug/L			07/23/19 13:11	2000
Bromobenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
Bromochloromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
Bromodichloromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
Bromoform	ND		10000	1400	ug/L			07/23/19 13:11	2000
Bromomethane	ND		2000	2000	ug/L			07/23/19 13:11	2000
2-Butanone (MEK)	ND		50000	5200	ug/L			07/23/19 13:11	2000
Carbon disulfide	ND		2000	1000	ug/L			07/23/19 13:11	2000
Carbon tetrachloride	ND		2000	1000	ug/L			07/23/19 13:11	2000
Chlorobenzene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Chloroethane	ND		2000	1500	ug/L			07/23/19 13:11	2000
2-Chloroethyl vinyl ether	ND		10000	4000	ug/L			07/23/19 13:11	2000
Chloroform	ND		2000	1200	ug/L			07/23/19 13:11	2000
1-Chlorohexane	ND		2000	1400	ug/L			07/23/19 13:11	2000
Chloromethane	ND		2000	1700	ug/L			07/23/19 13:11	2000
cis-1,2-Dichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
cis-1,3-Dichloropropene	ND		10000	1000	ug/L			07/23/19 13:11	2000
Dibromochloromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2-Dibromo-3-Chloropropane	ND		10000	3000	ug/L			07/23/19 13:11	2000
1,2-Dichlorobenzene	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,3-Dichlorobenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
1,4-Dichlorobenzene	ND		2000	1300	ug/L			07/23/19 13:11	2000
Dichlorodifluoromethane	ND		2000	1700	ug/L			07/23/19 13:11	2000
1,1-Dichloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2-Dichloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,1-Dichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2-Dichloropropane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,3-Dichloropropane	ND		2000	1000	ug/L			07/23/19 13:11	2000
2,2-Dichloropropane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,1-Dichloropropene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Ethylbenzene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Ethylene Dibromide	ND		2000	1000	ug/L			07/23/19 13:11	2000
Ethyl methacrylate	ND		2000	1200	ug/L			07/23/19 13:11	2000
Hexachlorobutadiene	ND		10000	1800	ug/L			07/23/19 13:11	2000
2-Hexanone	ND		50000	6200	ug/L			07/23/19 13:11	2000
Isopropylbenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
Methylene bromide	ND		10000	1200	ug/L			07/23/19 13:11	2000
Methylene Chloride	ND		10000	6000	ug/L			07/23/19 13:11	2000
4-Methyl-2-pentanone (MIBK)	ND		50000	3600	ug/L			07/23/19 13:11	2000
Methyl tert-butyl ether	ND		2000	1500	ug/L			07/23/19 13:11	2000
m-Xylene & p-Xylene	ND		10000	3200	ug/L			07/23/19 13:11	2000
Naphthalene	ND		2000	2000	ug/L			07/23/19 13:11	2000
n-Butylbenzene	ND		2000	1500	ug/L			07/23/19 13:11	2000
N-Propylbenzene	ND		2000	1400	ug/L			07/23/19 13:11	2000
o-Chlorotoluene	ND		2000	1100	ug/L			07/23/19 13:11	2000
o-Xylene	ND		10000	1200	ug/L			07/23/19 13:11	2000
p-Chlorotoluene	ND		2000	1100	ug/L			07/23/19 13:11	2000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2000	1400	ug/L			07/23/19 13:11	2000
sec-Butylbenzene	ND		2000	1400	ug/L			07/23/19 13:11	2000
Styrene	ND		2000	2000	ug/L			07/23/19 13:11	2000
tert-Butylbenzene	ND		2000	1300	ug/L			07/23/19 13:11	2000
1,1,1,2-Tetrachloroethane	ND	*	2000	1000	ug/L			07/23/19 13:11	2000
1,1,2,2-Tetrachloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
Tetrachloroethene	ND		2000	1200	ug/L			07/23/19 13:11	2000
Toluene	ND		2000	820	ug/L			07/23/19 13:11	2000
trans-1,2-Dichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
trans-1,3-Dichloropropene	ND		10000	1000	ug/L			07/23/19 13:11	2000
1,2,3-Trichlorobenzene	ND		2000	1400	ug/L			07/23/19 13:11	2000
1,2,4-Trichlorobenzene	ND		2000	1600	ug/L			07/23/19 13:11	2000
1,1,1-Trichloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,1,2-Trichloroethane	ND		10000	1000	ug/L			07/23/19 13:11	2000
Trichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Trichlorofluoromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2,3-Trichloropropane	ND		10000	1700	ug/L			07/23/19 13:11	2000
1,2,4-Trimethylbenzene	ND		2000	1600	ug/L			07/23/19 13:11	2000
1,3,5-Trimethylbenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
Vinyl acetate	ND		50000	4000	ug/L			07/23/19 13:11	2000
Vinyl chloride	ND		2000	1000	ug/L			07/23/19 13:11	2000
Xylenes, Total	ND		20000	3200	ug/L			07/23/19 13:11	2000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 13:11*	*2000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 13:11*	*2000*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 13:11*	*2000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 13:11*	*2000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**970000**		5000	1900	ug/L			07/24/19 10:23	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 10:23*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 10:23*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 10:23*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/25/19 01:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
1-Methylnaphthalene	**11**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
2-Methylnaphthalene	**25**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/19/19 14:04*	*07/25/19 01:17*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/19/19 14:04*	*07/25/19 01:17*	*1*
Terphenyl-d14	*101*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		07/19/19 14:04	07/23/19 20:18	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 20:18	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Bis(2-chloroethoxy)methane	ND		9.9	0.69	ug/L		07/19/19 14:04	07/23/19 20:18	1
Bis(2-chloroethyl)ether	ND		9.9	0.74	ug/L		07/19/19 14:04	07/23/19 20:18	1
bis (2-chloroisopropyl) ether	ND		9.9	0.81	ug/L		07/19/19 14:04	07/23/19 20:18	1
Bis(2-ethylhexyl) phthalate	ND		9.9	5.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Bromophenyl phenyl ether	ND	*	9.9	0.32	ug/L		07/19/19 14:04	07/23/19 20:18	1
Butyl benzyl phthalate	ND		9.9	0.69	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Dibenzofuran	ND		9.9	0.52	ug/L		07/19/19 14:04	07/23/19 20:18	1
3,3'-Dichlorobenzidine	ND	*	9.9	2.6	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Diethyl phthalate	ND		9.9	0.70	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:18	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		07/19/19 14:04	07/23/19 20:18	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/19/19 14:04	07/23/19 20:18	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:18	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		07/19/19 14:04	07/23/19 20:18	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:18	1
Hexachlorobenzene	ND	*	9.9	0.25	ug/L		07/19/19 14:04	07/23/19 20:18	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 20:18	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/19/19 14:04	07/23/19 20:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Lab Sample ID: 400-173355-6

Date Collected: 07/17/19 13:15

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:18	1
Isophorone	ND		9.9	0.57	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:18	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/19/19 14:04	07/23/19 20:18	1
Nitrobenzene	ND		9.9	0.55	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Nitrophenol	ND		9.9	0.65	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/19/19 14:04	07/23/19 20:18	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:18	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/19/19 14:04	07/23/19 20:18	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		07/19/19 14:04	07/23/19 20:18	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
Pyridine	ND		9.9	3.2	ug/L		07/19/19 14:04	07/23/19 20:18	1
Quinoline	ND		9.9	6.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*15*	*T J*	*ug/L*		*3.54*		*07/19/19 14:04*	*07/23/19 20:18*	*1*
Toluene	*100*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
2-Butanone, 4-hydroxy-	*78*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Cyclopentanol, 1-methyl-	*22*	*T J N*	*ug/L*		*4.10*	*1462-03-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Unknown	*23*	*T J*	*ug/L*		*4.47*		*07/19/19 14:04*	*07/23/19 20:18*	*1*
1,3-Dimethylcyclopentanol	*15*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Ethylbenzene	*290*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
o-Xylene	*140*	*T J N*	*ug/L*		*4.86*	*95-47-6*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, (1-methylethyl)-	*25*	*T J N*	*ug/L*		*5.05*	*98-82-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, propyl-	*56*	*T J N*	*ug/L*		*5.23*	*103-65-1*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethyl-3-methyl-	*110*	*T J N*	*ug/L*		*5.27*	*620-14-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethyl-2-methyl-	*98*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethyl-2-methyl-	*88*	*T J N*	*ug/L*		*5.37*	*611-14-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1,2,3-trimethyl-	*240*	*T J N*	*ug/L*		*5.46*	*526-73-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1,2,3-trimethyl-	*98*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Indane	*98*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*49*	*T J N*	*ug/L*		*5.76*	*1758-88-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*18*	*T J N*	*ug/L*		*5.86*	*1758-88-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*15*	*T J N*	*ug/L*		*5.87*	*2870-04-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*38*	*T J N*	*ug/L*		*5.90*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1,2,4,5-tetramethyl-	*21*	*T J N*	*ug/L*		*6.07*	*95-93-2*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethenyl-4-ethyl-	*19*	*T J N*	*ug/L*		*6.18*	*3454-07-7*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
1-Phenyl-1-butene	*46*	*T J N*	*ug/L*		*6.23*	*824-90-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Naphthalene	*56*	*T J N*	*ug/L*		*6.43*	*91-20-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Naphthalene, 1-methyl-	*21*	*T J N*	*ug/L*		*6.87*	*90-12-0*	*07/19/19 14:04*	*07/23/19 20:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*34 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Nitrobenzene-d5	*78*		*27 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Lab Sample ID: 400-173355-6

Date Collected: 07/17/19 13:15
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*64*		*10 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Terphenyl-d14	*54*		*53 - 125*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
2,4,6-Tribromophenol	*93*		*15 - 135*	*07/19/19 14:04*	*07/23/19 20:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**310**		50	13	ug/L		07/19/19 14:04	07/25/19 00:28	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719

Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/23/19 09:52	500
Acrolein	ND		10000	5000	ug/L			07/23/19 09:52	500
Acrylonitrile	ND		5000	1400	ug/L			07/23/19 09:52	500
Benzene	**140000**		500	190	ug/L			07/23/19 09:52	500
Bromobenzene	ND		500	270	ug/L			07/23/19 09:52	500
Bromochloromethane	ND		500	260	ug/L			07/23/19 09:52	500
Bromodichloromethane	ND		500	250	ug/L			07/23/19 09:52	500
Bromoform	ND		2500	360	ug/L			07/23/19 09:52	500
Bromomethane	ND		500	490	ug/L			07/23/19 09:52	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/23/19 09:52	500
Carbon disulfide	ND		500	250	ug/L			07/23/19 09:52	500
Carbon tetrachloride	ND		500	250	ug/L			07/23/19 09:52	500
Chlorobenzene	ND		500	250	ug/L			07/23/19 09:52	500
Chloroethane	ND		500	380	ug/L			07/23/19 09:52	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			07/23/19 09:52	500
Chloroform	ND		500	300	ug/L			07/23/19 09:52	500
1-Chlorohexane	ND		500	350	ug/L			07/23/19 09:52	500
Chloromethane	ND		500	420	ug/L			07/23/19 09:52	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/23/19 09:52	500
Dibromochloromethane	ND		500	250	ug/L			07/23/19 09:52	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/23/19 09:52	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/23/19 09:52	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/23/19 09:52	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/23/19 09:52	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/23/19 09:52	500
1,1-Dichloroethane	ND		500	250	ug/L			07/23/19 09:52	500
1,2-Dichloroethane	ND		500	250	ug/L			07/23/19 09:52	500
1,1-Dichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
1,2-Dichloropropane	ND		500	250	ug/L			07/23/19 09:52	500
1,3-Dichloropropane	ND		500	250	ug/L			07/23/19 09:52	500
2,2-Dichloropropane	ND		500	250	ug/L			07/23/19 09:52	500
1,1-Dichloropropene	ND		500	250	ug/L			07/23/19 09:52	500
Ethylbenzene	**4200**		500	250	ug/L			07/23/19 09:52	500
Ethylene Dibromide	ND		500	250	ug/L			07/23/19 09:52	500
Ethyl methacrylate	ND		500	300	ug/L			07/23/19 09:52	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/23/19 09:52	500
2-Hexanone	ND		13000	1600	ug/L			07/23/19 09:52	500
Isopropylbenzene	ND		500	270	ug/L			07/23/19 09:52	500
Methylene bromide	ND		2500	300	ug/L			07/23/19 09:52	500
Methylene Chloride	ND		2500	1500	ug/L			07/23/19 09:52	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/23/19 09:52	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/23/19 09:52	500
m-Xylene & p-Xylene	**9300**		2500	800	ug/L			07/23/19 09:52	500
Naphthalene	ND		500	500	ug/L			07/23/19 09:52	500
n-Butylbenzene	ND		500	380	ug/L			07/23/19 09:52	500
N-Propylbenzene	ND		500	350	ug/L			07/23/19 09:52	500
o-Chlorotoluene	ND		500	290	ug/L			07/23/19 09:52	500
o-Xylene	**3600**		2500	300	ug/L			07/23/19 09:52	500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719

Lab Sample ID: 400-173355-7

Date Collected: 07/17/19 14:10

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		500	280	ug/L			07/23/19 09:52	500
p-Isopropyltoluene	ND		500	360	ug/L			07/23/19 09:52	500
sec-Butylbenzene	ND		500	350	ug/L			07/23/19 09:52	500
Styrene	ND		500	500	ug/L			07/23/19 09:52	500
tert-Butylbenzene	ND		500	320	ug/L			07/23/19 09:52	500
1,1,1,2-Tetrachloroethane	ND	*	500	260	ug/L			07/23/19 09:52	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/23/19 09:52	500
Tetrachloroethene	ND		500	290	ug/L			07/23/19 09:52	500
Toluene	**1100**		500	210	ug/L			07/23/19 09:52	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/23/19 09:52	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/23/19 09:52	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/23/19 09:52	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/23/19 09:52	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/23/19 09:52	500
Trichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
Trichlorofluoromethane	ND		500	260	ug/L			07/23/19 09:52	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/23/19 09:52	500
1,2,4-Trimethylbenzene	**1300**		500	410	ug/L			07/23/19 09:52	500
1,3,5-Trimethylbenzene	**430**	**J**	500	280	ug/L			07/23/19 09:52	500
Vinyl acetate	ND		13000	1000	ug/L			07/23/19 09:52	500
Vinyl chloride	ND		500	250	ug/L			07/23/19 09:52	500
Xylenes, Total	**13000**		5000	800	ug/L			07/23/19 09:52	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*900*		*ug/L*		*3.70*	*110-54-3*		*07/23/19 09:52*	*500*
Cyclohexane	*1200*		*ug/L*		*4.54*	*110-82-7*		*07/23/19 09:52*	*500*
Isobutyl alcohol	*21000*		*ug/L*		*4.59*	*78-83-1*		*07/23/19 09:52*	*500*
n-Heptane	*390*	*J*	*ug/L*		*4.85*	*142-82-5*		*07/23/19 09:52*	*500*
Methylcyclohexane	*490*	*J*	*ug/L*		*5.27*	*108-87-2*		*07/23/19 09:52*	*500*
3-Ethyltoluene	*1200*		*ug/L*		*8.07*	*620-14-4*		*07/23/19 09:52*	*500*
2-Ethyltoluene	*320*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/23/19 09:52*	*500*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 09:52*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/23/19 09:52*	*500*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 09:52*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 09:52*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
Acenaphthylene	ND		0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
Anthracene	**0.12**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Chrysene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719
Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1
Fluorene	ND		0.99	0.10	ug/L		07/19/19 14:04	08/03/19 14:50	5
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
1-Methylnaphthalene	**82**	**B**	0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
2-Methylnaphthalene	**150**	**B**	0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
Phenanthrene	**0.81**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1
Pyrene	**0.075**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/19/19 14:04*	*08/03/19 14:50*	*5*
Nitrobenzene-d5	*83*		*19 - 130*	*07/19/19 14:04*	*08/03/19 14:50*	*5*
Terphenyl-d14	*105*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
Benzoic acid	ND		30	7.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/19/19 14:04	07/23/19 20:39	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/19/19 14:04	07/23/19 20:39	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/19/19 14:04	07/23/19 20:39	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Bromophenyl phenyl ether	ND	*	9.9	0.32	ug/L		07/19/19 14:04	07/23/19 20:39	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Chloro-3-methylphenol	ND		9.9	3.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/19/19 14:04	07/23/19 20:39	1
3,3'-Dichlorobenzidine	ND	*	9.9	2.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:39	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/19/19 14:04	07/23/19 20:39	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		07/19/19 14:04	07/23/19 20:39	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:39	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:39	1
Hexachlorobenzene	ND	*	9.9	0.25	ug/L		07/19/19 14:04	07/23/19 20:39	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
Hexachloroethane	ND		9.9	4.1	ug/L		07/19/19 14:04	07/23/19 20:39	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719

Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	**36**		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:39	1
Isophorone	ND		9.9	0.56	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:39	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Nitroaniline	ND		9.9	2.4	ug/L		07/19/19 14:04	07/23/19 20:39	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/19/19 14:04	07/23/19 20:39	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:39	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/19/19 14:04	07/23/19 20:39	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/19/19 14:04	07/23/19 20:39	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 20:39	1
Phenol	**36**		9.9	2.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
Pyridine	ND		9.9	3.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
Quinoline	ND		9.9	5.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4,5-Trichlorophenol	ND		9.9	3.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Heptane, 2-methyl-	*33*	*T J N*	*ug/L*		*3.81*	*592-27-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Toluene	*82*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Ethylbenzene	*170*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
o-Xylene	*100*	*T J N*	*ug/L*		*4.88*	*95-47-6*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, (1-methylethyl)-	*47*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, propyl-	*87*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-ethyl-2-methyl-	*120*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Decane	*54*	*T J N*	*ug/L*		*5.46*	*124-18-5*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Indane	*100*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,3,4-tetramethyl-	*73*	*T J N*	*ug/L*		*5.77*	*488-23-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Oxirane, 2-methyl-2-phenyl-	*29*	*T J N*	*ug/L*		*5.83*	*2085-88-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*45*	*T J N*	*ug/L*		*5.87*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*38*	*T J N*	*ug/L*		*5.89*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*100*	*T J N*	*ug/L*		*5.92*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,4,5-tetramethyl-	*43*	*T J N*	*ug/L*		*6.07*	*95-93-2*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,4,5-tetramethyl-	*65*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
1H-Indene, 2,3-dihydro-5-methyl-	*84*	*T J N*	*ug/L*		*6.19*	*874-35-1*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Dodecane	*52*	*T J N*	*ug/L*		*6.35*	*112-40-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, (2-methyl-1-butenyl)-	*51*	*T J N*	*ug/L*		*6.40*	*56253-64-6*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzo[b]thiophene	*50*	*T J N*	*ug/L*		*6.47*	*95-15-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
1H-Indene, 2,3-dihydro-1,6-dimethyl-	*28*	*T J N*	*ug/L*		*6.64*	*17059-48-2*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Tridecane	*57*	*T J N*	*ug/L*		*6.74*	*629-50-5*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Naphthalene, 1-methyl-	*67*	*T J N*	*ug/L*		*6.88*	*90-12-0*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Naphthalene, 1-methyl-	*47*	*T J N*	*ug/L*		*6.95*	*90-12-0*	*07/19/19 14:04*	*07/23/19 20:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*34 - 120*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
2-Fluorophenol	*18*		*10 - 120*	*07/19/19 14:04*	*07/23/19 20:39*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719
Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	55		27 - 120	07/19/19 14:04	07/23/19 20:39	1
Phenol-d5	0.9	X	10 - 120	07/19/19 14:04	07/23/19 20:39	1
Terphenyl-d14	49	X	53 - 125	07/19/19 14:04	07/23/19 20:39	1
2,4,6-Tribromophenol	109		15 - 135	07/19/19 14:04	07/23/19 20:39	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719
Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**10**	**J**	25	10	ug/L			07/23/19 09:27	1
Acrolein	ND		20	10	ug/L			07/23/19 09:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/23/19 09:27	1
Benzene	**130**		1.0	0.38	ug/L			07/23/19 09:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/23/19 09:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/23/19 09:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Bromoform	ND		5.0	0.71	ug/L			07/23/19 09:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/23/19 09:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/23/19 09:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/23/19 09:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/23/19 09:27	1
Chloroform	ND		1.0	0.60	ug/L			07/23/19 09:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/23/19 09:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/23/19 09:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/23/19 09:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/23/19 09:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/23/19 09:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/23/19 09:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/23/19 09:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/23/19 09:27	1
2-Hexanone	ND		25	3.1	ug/L			07/23/19 09:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/23/19 09:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/23/19 09:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/23/19 09:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/23/19 09:27	1
Methyl tert-butyl ether	**4.7**		1.0	0.74	ug/L			07/23/19 09:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/23/19 09:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/23/19 09:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/23/19 09:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/23/19 09:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/23/19 09:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/23/19 09:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719

Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/23/19 09:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/23/19 09:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/23/19 09:27	1
Styrene	ND		1.0	1.0	ug/L			07/23/19 09:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/23/19 09:27	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/23/19 09:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/23/19 09:27	1
Toluene	**0.44**	**J**	1.0	0.41	ug/L			07/23/19 09:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/23/19 09:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/23/19 09:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/23/19 09:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/23/19 09:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/23/19 09:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/23/19 09:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/23/19 09:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/23/19 09:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/23/19 09:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*80*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/23/19 09:27*	*1*
2-Methyl-2-propanol	*73*		*ug/L*		*3.39*	*75-65-0*		*07/23/19 09:27*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 09:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/23/19 09:27*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/23/19 09:27*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 09:27*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Chrysene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Fluorene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8

Date Collected: 07/17/19 15:30

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*15 - 122*	*07/19/19 14:04*	*07/25/19 01:52*	*1*
Nitrobenzene-d5	*54*		*19 - 130*	*07/19/19 14:04*	*07/25/19 01:52*	*1*
Terphenyl-d14	*72*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:52*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		49	19	ug/L		07/19/19 14:04	07/24/19 23:03	5
Benzenethiol	ND	* UJ	49	8.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
Benzoic acid	ND		150	36	ug/L		07/19/19 14:04	07/24/19 23:03	5
Benzyl alcohol	ND		49	9.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
Bis(2-chloroethoxy)methane	ND		49	3.4	ug/L		07/19/19 14:04	07/24/19 23:03	5
Bis(2-chloroethyl)ether	ND		49	3.6	ug/L		07/19/19 14:04	07/24/19 23:03	5
bis (2-chloroisopropyl) ether	ND		49	4.0	ug/L		07/19/19 14:04	07/24/19 23:03	5
Bis(2-ethylhexyl) phthalate	ND		49	24	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Bromophenyl phenyl ether	ND	*	49	1.6	ug/L		07/19/19 14:04	07/24/19 23:03	5
Butyl benzyl phthalate	ND		49	3.4	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Chloroaniline	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Chloro-3-methylphenol	ND		49	19	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Chloronaphthalene	ND		49	2.5	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Chlorophenol	ND		49	11	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Chlorophenyl phenyl ether	ND		49	9.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
Dibenz[a,h]acridine	ND		49	15	ug/L		07/19/19 14:04	07/24/19 23:03	5
Dibenzofuran	ND		49	2.5	ug/L		07/19/19 14:04	07/24/19 23:03	5
3,3'-Dichlorobenzidine	ND	*	49	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dichlorophenol	ND		49	15	ug/L		07/19/19 14:04	07/24/19 23:03	5
Diethyl phthalate	ND		49	3.4	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dimethylphenol	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
Dimethyl phthalate	ND		49	2.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
Di-n-butyl phthalate	ND		49	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
4,6-Dinitro-ortho-cresol	ND		49	9.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dinitrophenol	ND		150	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dinitrotoluene	ND		49	9.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,6-Dinitrotoluene	ND		49	9.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
Di-n-octyl phthalate	ND		49	2.1	ug/L		07/19/19 14:04	07/24/19 23:03	5
1,4-Dioxane	ND		49	4.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		49	4.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
Hexachlorobenzene	ND	*	49	1.2	ug/L		07/19/19 14:04	07/24/19 23:03	5
Hexachlorocyclopentadiene	ND		98	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
Hexachloroethane	ND		49	20	ug/L		07/19/19 14:04	07/24/19 23:03	5
Indene	ND		49	4.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
Isophorone	ND		49	2.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Methylphenol	ND		49	8.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
3 & 4 Methylphenol	ND		98	5.1	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Nitroaniline	ND		49	11	ug/L		07/19/19 14:04	07/24/19 23:03	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719
Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		49	8.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Nitroaniline	ND		49	12	ug/L		07/19/19 14:04	07/24/19 23:03	5
Nitrobenzene	ND		49	2.7	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Nitrophenol	ND		49	3.2	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Nitrophenol	ND		49	10	ug/L		07/19/19 14:04	07/24/19 23:03	5
N-Nitrosodimethylamine	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
N-Nitrosodi-n-propylamine	ND		49	16	ug/L		07/19/19 14:04	07/24/19 23:03	5
N-Nitrosodiphenylamine	ND		49	2.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
Pentachlorophenol	ND		98	8.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
Phenol	ND		49	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
Pyridine	ND		49	16	ug/L		07/19/19 14:04	07/24/19 23:03	5
Quinoline	ND		49	29	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4,5-Trichlorophenol	ND		49	18	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4,6-Trichlorophenol	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/24/19 23:03*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*98*		*34 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
2-Fluorophenol	*11*		*10 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
Nitrobenzene-d5	*78*		*27 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
Phenol-d5	*45*		*10 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
Terphenyl-d14	*113*		*53 - 125*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
2,4,6-Tribromophenol	*178*	*X*	*15 - 135*	*07/19/19 14:04*	*07/24/19 23:03*	*5*

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173355-1	TB-PW-071719-B	102	98	102
400-173355-2	PD-14-GWP-40-071719	101	96	102
400-173355-3	PD-14-GWP-45-071719	100	95	103
400-173355-3 - DL	PD-14-GWP-45-071719	98	95	102
400-173355-4	PD-14-GWP-50-071719	101	95	100
400-173355-4 - DL	PD-14-GWP-50-071719	99	96	101
400-173355-5	PD-14-GWP-50-071719-DUP	101	97	102
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	100	94	103
400-173355-6	PD-14-GWP-53-071719	101	96	102
400-173355-6 - DL	PD-14-GWP-53-071719	101	96	101
400-173355-7	PD-14-GWP-60-071719	102	96	102
400-173355-8	PD-14-GWP-70-071719	102	97	102
400-173355-8 MS	PD-14-GWP-70-071719	101	95	102
400-173355-8 MSD	PD-14-GWP-70-071719	104	96	103
LCS 400-449079/1002	Lab Control Sample	99	97	101
LCS 400-449267/1002	Lab Control Sample	99	95	100
LCS 400-449805/1003	Lab Control Sample	100	95	103
MB 400-449079/4	Method Blank	101	96	103
MB 400-449267/4	Method Blank	101	97	101
MB 400-449805/5	Method Blank	99	96	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173355-2	PD-14-GWP-40-071719	56	6 X	75	37	62	79
400-173355-3	PD-14-GWP-45-071719	64	21	80	57	71	109
400-173355-4	PD-14-GWP-50-071719	50	17	65	46	53	82
400-173355-5	PD-14-GWP-50-071719-DUP	48	0 X	63	35	41 X	77
400-173355-6	PD-14-GWP-53-071719	57	34	78	64	54	93
400-173355-7	PD-14-GWP-60-071719	53	18	55	0.9 X	49 X	109
400-173355-8	PD-14-GWP-70-071719	98	11	78	45	113	178 X
LCS 400-448720/19-A	Lab Control Sample	55	24	77	54	71	63
LCS 400-448720/2-A	Lab Control Sample	92	11	67	38	114	155 X
LCSD 400-448720/20-A	Lab Control Sample Dup	72	33	91	61	96	72
MB 400-448720/1-A	Method Blank	42	21	59	43	49 X	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173355-2	PD-14-GWP-40-071719	100	94	107
400-173355-3	PD-14-GWP-45-071719	80		
400-173355-3 - DL	PD-14-GWP-45-071719		53	101
400-173355-4	PD-14-GWP-50-071719	82	67	100
400-173355-5	PD-14-GWP-50-071719-DUP	83	72	81
400-173355-6	PD-14-GWP-53-071719	74	91	101
400-173355-7	PD-14-GWP-60-071719			105
400-173355-7	PD-14-GWP-60-071719	89	83	
400-173355-8	PD-14-GWP-70-071719	58	54	72
LCS 400-448720/2-A	Lab Control Sample	84	58	127
MB 400-448720/1-A	Method Blank	89	80	117

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B

Date Collected: 07/17/19 00:00
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 09:02	WPD	TAL PEN

Client Sample ID: PD-14-GWP-40-071719

Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449079	07/23/19 12:47	WPD	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 18:54	VC1	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 00:04	PP1	TAL PEN

Client Sample ID: PD-14-GWP-45-071719

Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	449079	07/23/19 13:36	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	449267	07/24/19 10:49	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/24/19 23:24	VC1	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 19:15	VC1	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 00:23	PP1	TAL PEN
Total/NA	Prep	3520C	DL		1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 20:07	KJA	TAL PEN

Client Sample ID: PD-14-GWP-50-071719

Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449079	07/23/19 14:00	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449267	07/24/19 18:13	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1017.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/24/19 23:45	VC1	TAL PEN
Total/NA	Prep	3520C			1017.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 19:36	VC1	TAL PEN
Total/NA	Prep	3520C			1017.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 00:41	PP1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP

Lab Sample ID: 400-173355-5
Matrix: Water
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449079	07/23/19 14:25	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449805	07/28/19 12:00	WPD	TAL PEN
Total/NA	Prep	3520C	DL		970.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/25/19 00:07	VC1	TAL PEN
Total/NA	Prep	3520C			970.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 19:57	VC1	TAL PEN
Total/NA	Prep	3520C			970.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:00	PP1	TAL PEN

Client Sample ID: PD-14-GWP-53-071719

Lab Sample ID: 400-173355-6
Matrix: Water
Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449079	07/23/19 13:11	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	449267	07/24/19 10:23	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1006 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/25/19 00:28	VC1	TAL PEN
Total/NA	Prep	3520C			1006 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 20:18	VC1	TAL PEN
Total/NA	Prep	3520C			1006 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:17	PP1	TAL PEN

Client Sample ID: PD-14-GWP-60-071719

Lab Sample ID: 400-173355-7
Matrix: Water
Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	449079	07/23/19 09:52	WPD	TAL PEN
Total/NA	Prep	3520C			1014 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 20:39	VC1	TAL PEN
Total/NA	Prep	3520C			1014 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 14:50	KJA	TAL PEN
Total/NA	Prep	3520C			1014 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:35	PP1	TAL PEN

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8
Matrix: Water
Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 09:27	WPD	TAL PEN
Total/NA	Prep	3520C			1024.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	449369	07/24/19 23:03	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8
Matrix: Water
Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1024.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:52	PP1	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 15:20	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:50	KJA	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 20:41	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449079/4
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 08:37	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449267/4
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 08:41	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449805/5
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:05	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:22	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 22:41	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 20:57	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449079/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 07:48	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449267/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 07:52	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449805/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 08:15	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:43	VC1	TAL PEN

Client Sample ID: PD-14-GWP-70-071719
Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 11:06	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719
Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 11:31	WPD	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

GC/MS VOA

Analysis Batch: 449079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-1	TB-PW-071719-B	Total/NA	Water	8260B	
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	8260B	
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	8260B	
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	8260B	
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	8260B	
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	8260B	
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8260B	
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	8260B	
MB 400-449079/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449079/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173355-8 MS	PD-14-GWP-70-071719	Total/NA	Water	8260B	
400-173355-8 MSD	PD-14-GWP-70-071719	Total/NA	Water	8260B	

Analysis Batch: 449267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	8260B	
400-173355-4 - DL	PD-14-GWP-50-071719	Total/NA	Water	8260B	
400-173355-6 - DL	PD-14-GWP-53-071719	Total/NA	Water	8260B	
MB 400-449267/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449267/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	Total/NA	Water	8260B	
MB 400-449805/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449805/1003	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	3520C	
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	3520C	
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	3520C	
400-173355-4 - DL	PD-14-GWP-50-071719	Total/NA	Water	3520C	
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	3520C	
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	Total/NA	Water	3520C	
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	3520C	
400-173355-6 - DL	PD-14-GWP-53-071719	Total/NA	Water	3520C	
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	3520C	
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	3520C	
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	3520C	
MB 400-448720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	8270D	448720
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	8270D	448720

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

GC/MS Semi VOA (Continued)

Analysis Batch: 449178 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	8270D	448720
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	8270D	448720
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	8270D	448720
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8270D	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D	448720
LCS 400-448720/19-A	Lab Control Sample	Total/NA	Water	8270D	448720
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	8270D	448720

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	8270D	448720
400-173355-4 - DL	PD-14-GWP-50-071719	Total/NA	Water	8270D	448720
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	Total/NA	Water	8270D	448720
400-173355-6 - DL	PD-14-GWP-53-071719	Total/NA	Water	8270D	448720
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	8270D	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D	448720

Analysis Batch: 449423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	8270D LL	448720
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	8270D LL	448720
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	8270D LL	448720
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	8270D LL	448720
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	8270D LL	448720
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8270D LL	448720
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	8270D LL	448720

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448720

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449079/4
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/23/19 08:37	1
Acrolein	ND		20	10	ug/L			07/23/19 08:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/23/19 08:37	1
Benzene	ND		1.0	0.38	ug/L			07/23/19 08:37	1
Bromobenzene	ND		1.0	0.54	ug/L			07/23/19 08:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/23/19 08:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Bromoform	ND		5.0	0.71	ug/L			07/23/19 08:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/23/19 08:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/23/19 08:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/23/19 08:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/23/19 08:37	1
Chloroform	ND		1.0	0.60	ug/L			07/23/19 08:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/23/19 08:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/23/19 08:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 08:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/23/19 08:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/23/19 08:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/23/19 08:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/23/19 08:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/23/19 08:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/23/19 08:37	1
2-Hexanone	ND		25	3.1	ug/L			07/23/19 08:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/23/19 08:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/23/19 08:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/23/19 08:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/23/19 08:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/23/19 08:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/23/19 08:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/23/19 08:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/23/19 08:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/23/19 08:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/23/19 08:37	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449079/4
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/23/19 08:37	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/23/19 08:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/23/19 08:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/23/19 08:37	1
Styrene	ND		1.0	1.0	ug/L			07/23/19 08:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/23/19 08:37	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/23/19 08:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/23/19 08:37	1
Toluene	ND		1.0	0.41	ug/L			07/23/19 08:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 08:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/23/19 08:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/23/19 08:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/23/19 08:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/23/19 08:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/23/19 08:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/23/19 08:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/23/19 08:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/23/19 08:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/23/19 08:37	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 08:37*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 08:37*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 08:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/23/19 08:37*	*1*

Lab Sample ID: LCS 400-449079/1002
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	244		ug/L		122	43 - 160
Acrolein	500	579		ug/L		116	38 - 160
Acrylonitrile	500	548		ug/L		110	64 - 142
Benzene	50.0	53.8		ug/L		108	70 - 130
Bromobenzene	50.0	53.8		ug/L		108	70 - 132
Bromochloromethane	50.0	54.8		ug/L		110	70 - 130
Bromodichloromethane	50.0	53.5		ug/L		107	67 - 133
Bromoform	50.0	57.9		ug/L		116	57 - 140
Bromomethane	50.0	44.7		ug/L		89	10 - 160
2-Butanone (MEK)	200	222		ug/L		111	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449079/1002
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	53.3		ug/L		107	61 - 137
Carbon tetrachloride	50.0	58.0		ug/L		116	61 - 137
Chlorobenzene	50.0	55.0		ug/L		110	70 - 130
Chloroethane	50.0	53.8		ug/L		108	55 - 141
2-Chloroethyl vinyl ether	50.0	43.7		ug/L		87	10 - 160
Chloroform	50.0	53.2		ug/L		106	69 - 130
1-Chlorohexane	50.0	59.1		ug/L		118	69 - 130
Chloromethane	50.0	62.1		ug/L		124	58 - 137
cis-1,2-Dichloroethene	50.0	57.1		ug/L		114	68 - 130
cis-1,3-Dichloropropene	50.0	57.2		ug/L		114	69 - 132
Dibromochloromethane	50.0	58.6		ug/L		117	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	51.9		ug/L		104	54 - 135
1,2-Dichlorobenzene	50.0	55.1		ug/L		110	67 - 130
1,3-Dichlorobenzene	50.0	55.7		ug/L		111	70 - 130
1,4-Dichlorobenzene	50.0	54.7		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	56.2		ug/L		112	41 - 146
1,1-Dichloroethane	50.0	57.5		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	52.1		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	50.4		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	57.9		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	55.7		ug/L		111	70 - 130
2,2-Dichloropropane	50.0	55.4		ug/L		111	52 - 135
1,1-Dichloropropene	50.0	54.5		ug/L		109	70 - 130
Ethylbenzene	50.0	56.4		ug/L		113	70 - 130
Ethylene Dibromide	50.0	52.3		ug/L		105	70 - 130
Ethyl methacrylate	50.0	59.7		ug/L		119	68 - 130
Hexachlorobutadiene	50.0	49.8		ug/L		100	53 - 140
2-Hexanone	200	264		ug/L		132	65 - 137
Isopropylbenzene	50.0	53.2		ug/L		106	70 - 130
Methylene bromide	50.0	47.6		ug/L		95	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	225		ug/L		112	69 - 138
Methyl tert-butyl ether	50.0	49.0		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	55.4		ug/L		111	70 - 130
Naphthalene	50.0	50.3		ug/L		101	47 - 149
n-Butylbenzene	50.0	53.6		ug/L		107	67 - 130
N-Propylbenzene	50.0	57.2		ug/L		114	70 - 130
o-Chlorotoluene	50.0	54.5		ug/L		109	70 - 130
o-Xylene	50.0	54.9		ug/L		110	70 - 130
p-Chlorotoluene	50.0	56.1		ug/L		112	70 - 130
p-Isopropyltoluene	50.0	55.4		ug/L		111	65 - 130
sec-Butylbenzene	50.0	54.6		ug/L		109	66 - 130
Styrene	50.0	51.8		ug/L		104	70 - 130
tert-Butylbenzene	50.0	53.4		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	65.8	*	ug/L		132	67 - 131
1,1,2,2-Tetrachloroethane	50.0	54.4		ug/L		109	70 - 131
Tetrachloroethene	50.0	54.9		ug/L		110	65 - 130
Toluene	50.0	56.6		ug/L		113	70 - 130
trans-1,2-Dichloroethene	50.0	54.1		ug/L		108	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449079/1002
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	61.1		ug/L		122	63 - 130
1,2,3-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 140
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	56.0		ug/L		112	70 - 130
Trichloroethene	50.0	53.5		ug/L		107	70 - 130
Trichlorofluoromethane	50.0	45.8		ug/L		92	65 - 138
1,2,3-Trichloropropane	50.0	51.2		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.2		ug/L		108	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	59.2		ug/L		118	59 - 136
Xylenes, Total	100	110		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 400-173355-8 MS
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	J	200	122		ug/L		56	43 - 150
Acrolein	ND		500	554		ug/L		111	38 - 150
Acrylonitrile	ND		500	485		ug/L		97	62 - 149
Benzene	130		50.0	160		ug/L		69	56 - 142
Bromobenzene	ND		50.0	41.8		ug/L		84	59 - 136
Bromochloromethane	ND		50.0	45.1		ug/L		90	64 - 140
Bromodichloromethane	ND		50.0	43.4		ug/L		87	59 - 143
Bromoform	ND		50.0	47.2		ug/L		94	50 - 140
Bromomethane	ND		50.0	41.2		ug/L		82	10 - 150
2-Butanone (MEK)	ND		200	133		ug/L		66	55 - 150
Carbon disulfide	ND		50.0	43.5		ug/L		87	48 - 150
Carbon tetrachloride	ND		50.0	46.6		ug/L		93	55 - 145
Chlorobenzene	ND		50.0	43.0		ug/L		86	64 - 130
Chloroethane	ND		50.0	50.3		ug/L		101	50 - 150
2-Chloroethyl vinyl ether	ND		50.0	41.7		ug/L		83	10 - 150
Chloroform	ND		50.0	44.3		ug/L		89	60 - 141
1-Chlorohexane	ND		50.0	44.1		ug/L		88	56 - 136
Chloromethane	ND		50.0	58.6		ug/L		117	49 - 148
cis-1,2-Dichloroethene	ND		50.0	47.6		ug/L		95	59 - 143
cis-1,3-Dichloropropene	ND		50.0	46.1		ug/L		92	57 - 140
Dibromochloromethane	ND		50.0	46.7		ug/L		93	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	42.1		ug/L		84	45 - 135
1,2-Dichlorobenzene	ND		50.0	41.9		ug/L		84	52 - 137
1,3-Dichlorobenzene	ND		50.0	41.3		ug/L		83	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173355-8 MS
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		50.0	40.7		ug/L		81	53 - 135
Dichlorodifluoromethane	ND		50.0	51.6		ug/L		103	16 - 150
1,1-Dichloroethane	ND		50.0	48.5		ug/L		97	61 - 144
1,2-Dichloroethane	ND		50.0	47.4		ug/L		95	60 - 141
1,1-Dichloroethene	ND		50.0	42.1		ug/L		84	54 - 147
1,2-Dichloropropane	ND		50.0	49.3		ug/L		99	66 - 137
1,3-Dichloropropane	ND		50.0	46.9		ug/L		94	66 - 133
2,2-Dichloropropane	ND		50.0	44.9		ug/L		90	42 - 144
1,1-Dichloropropene	ND		50.0	44.1		ug/L		88	65 - 136
Ethylbenzene	ND		50.0	43.3		ug/L		87	58 - 131
Ethylene Dibromide	ND		50.0	43.8		ug/L		88	64 - 132
Ethyl methacrylate	ND		50.0	50.7		ug/L		101	64 - 130
Hexachlorobutadiene	ND		50.0	32.9		ug/L		66	31 - 149
2-Hexanone	ND		200	153		ug/L		77	65 - 140
Isopropylbenzene	ND		50.0	39.3		ug/L		79	56 - 133
Methylene bromide	ND		50.0	41.1		ug/L		82	63 - 138
Methylene Chloride	ND		50.0	45.7		ug/L		91	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	184		ug/L		92	63 - 146
Methyl tert-butyl ether	4.7		50.0	46.8		ug/L		84	59 - 137
m-Xylene & p-Xylene	ND		50.0	43.2		ug/L		86	57 - 130
Naphthalene	ND		50.0	39.7		ug/L		79	25 - 150
n-Butylbenzene	ND		50.0	38.0		ug/L		76	41 - 142
N-Propylbenzene	ND		50.0	42.4		ug/L		85	51 - 138
o-Chlorotoluene	ND		50.0	42.6		ug/L		85	53 - 134
o-Xylene	ND		50.0	42.1		ug/L		84	61 - 130
p-Chlorotoluene	ND		50.0	41.3		ug/L		83	54 - 133
p-Isopropyltoluene	ND		50.0	39.2		ug/L		78	48 - 139
sec-Butylbenzene	ND		50.0	39.1		ug/L		78	50 - 138
Styrene	ND		50.0	39.4		ug/L		79	58 - 131
tert-Butylbenzene	ND		50.0	40.1		ug/L		80	54 - 146
1,1,1,2-Tetrachloroethane	ND	*	50.0	51.2		ug/L		102	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	47.1		ug/L		94	66 - 135
Tetrachloroethene	ND		50.0	42.1		ug/L		84	52 - 133
Toluene	0.44	J	50.0	45.7		ug/L		91	65 - 130
trans-1,2-Dichloroethene	ND		50.0	45.2		ug/L		90	61 - 143
trans-1,3-Dichloropropene	ND		50.0	50.0		ug/L		100	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	37.5		ug/L		75	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	36.9		ug/L		74	39 - 148
1,1,1-Trichloroethane	ND		50.0	43.8		ug/L		88	57 - 142
1,1,2-Trichloroethane	ND		50.0	47.5		ug/L		95	66 - 131
Trichloroethene	ND		50.0	43.3		ug/L		87	64 - 136
Trichlorofluoromethane	ND		50.0	42.2		ug/L		84	54 - 150
1,2,3-Trichloropropane	ND		50.0	43.1		ug/L		86	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	40.6		ug/L		81	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	40.5		ug/L		81	52 - 135
Vinyl acetate	ND		100	97.0		ug/L		97	26 - 150
Vinyl chloride	ND		50.0	55.3		ug/L		111	46 - 150
Xylenes, Total	ND		100	85.3		ug/L		85	59 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173355-8 MS
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	101		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 400-173355-8 MSD
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	J	200	115		ug/L		52	43 - 150	6	30
Acrolein	ND		500	621		ug/L		124	38 - 150	11	31
Acrylonitrile	ND		500	544		ug/L		109	62 - 149	12	30
Benzene	130		50.0	162		ug/L		74	56 - 142	1	30
Bromobenzene	ND		50.0	41.3		ug/L		83	59 - 136	1	30
Bromochloromethane	ND		50.0	49.1		ug/L		98	64 - 140	8	30
Bromodichloromethane	ND		50.0	46.1		ug/L		92	59 - 143	6	30
Bromoform	ND		50.0	51.5		ug/L		103	50 - 140	9	30
Bromomethane	ND		50.0	46.0		ug/L		92	10 - 150	11	50
2-Butanone (MEK)	ND		200	138		ug/L		69	55 - 150	4	30
Carbon disulfide	ND		50.0	46.4		ug/L		93	48 - 150	6	30
Carbon tetrachloride	ND		50.0	49.9		ug/L		100	55 - 145	7	30
Chlorobenzene	ND		50.0	42.5		ug/L		85	64 - 130	1	30
Chloroethane	ND		50.0	53.1		ug/L		106	50 - 150	5	30
2-Chloroethyl vinyl ether	ND		50.0	48.3		ug/L		97	10 - 150	15	50
Chloroform	ND		50.0	46.7		ug/L		93	60 - 141	5	30
1-Chlorohexane	ND		50.0	43.8		ug/L		88	56 - 136	1	30
Chloromethane	ND		50.0	62.4		ug/L		125	49 - 148	6	31
cis-1,2-Dichloroethene	ND		50.0	50.1		ug/L		100	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	48.9		ug/L		98	57 - 140	6	30
Dibromochloromethane	ND		50.0	50.0		ug/L		100	56 - 143	7	30
1,2-Dibromo-3-Chloropropane	ND		50.0	48.3		ug/L		97	45 - 135	14	30
1,2-Dichlorobenzene	ND		50.0	39.7		ug/L		79	52 - 137	5	30
1,3-Dichlorobenzene	ND		50.0	38.4		ug/L		77	54 - 135	7	30
1,4-Dichlorobenzene	ND		50.0	37.7		ug/L		75	53 - 135	8	30
Dichlorodifluoromethane	ND		50.0	56.1		ug/L		112	16 - 150	8	31
1,1-Dichloroethane	ND		50.0	52.0		ug/L		104	61 - 144	7	30
1,2-Dichloroethane	ND		50.0	49.8		ug/L		100	60 - 141	5	30
1,1-Dichloroethene	ND		50.0	44.7		ug/L		89	54 - 147	6	30
1,2-Dichloropropane	ND		50.0	51.0		ug/L		102	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	49.9		ug/L		100	66 - 133	6	30
2,2-Dichloropropane	ND		50.0	48.7		ug/L		97	42 - 144	8	31
1,1-Dichloropropene	ND		50.0	45.8		ug/L		92	65 - 136	4	30
Ethylbenzene	ND		50.0	42.6		ug/L		85	58 - 131	1	30
Ethylene Dibromide	ND		50.0	46.8		ug/L		94	64 - 132	7	30
Ethyl methacrylate	ND		50.0	54.8		ug/L		110	64 - 130	8	30
Hexachlorobutadiene	ND		50.0	29.8		ug/L		60	31 - 149	10	36
2-Hexanone	ND		200	171		ug/L		85	65 - 140	11	30
Isopropylbenzene	ND		50.0	38.7		ug/L		77	56 - 133	2	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173355-8 MSD
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		50.0	42.7		ug/L		85	63 - 138	4	30
Methylene Chloride	ND		50.0	49.1		ug/L		98	60 - 146	7	32
4-Methyl-2-pentanone (MIBK)	ND		200	205		ug/L		103	63 - 146	11	30
Methyl tert-butyl ether	4.7		50.0	51.5		ug/L		94	59 - 137	10	30
m-Xylene & p-Xylene	ND		50.0	41.8		ug/L		84	57 - 130	3	30
Naphthalene	ND		50.0	41.7		ug/L		83	25 - 150	5	30
n-Butylbenzene	ND		50.0	34.3		ug/L		69	41 - 142	10	31
N-Propylbenzene	ND		50.0	40.0		ug/L		80	51 - 138	6	30
o-Chlorotoluene	ND		50.0	39.9		ug/L		80	53 - 134	6	30
o-Xylene	ND		50.0	41.5		ug/L		83	61 - 130	1	30
p-Chlorotoluene	ND		50.0	38.9		ug/L		78	54 - 133	6	30
p-Isopropyltoluene	ND		50.0	36.3		ug/L		73	48 - 139	8	30
sec-Butylbenzene	ND		50.0	37.3		ug/L		75	50 - 138	5	30
Styrene	ND		50.0	38.5		ug/L		77	58 - 131	2	30
tert-Butylbenzene	ND		50.0	38.8		ug/L		78	54 - 146	3	30
1,1,1,2-Tetrachloroethane	ND	*	50.0	53.1		ug/L		106	59 - 137	4	30
1,1,2,2-Tetrachloroethane	ND		50.0	50.6		ug/L		101	66 - 135	7	30
Tetrachloroethene	ND		50.0	42.0		ug/L		84	52 - 133	0	30
Toluene	0.44	J	50.0	46.6		ug/L		92	65 - 130	2	30
trans-1,2-Dichloroethene	ND		50.0	47.0		ug/L		94	61 - 143	4	30
trans-1,3-Dichloropropene	ND		50.0	53.1		ug/L		106	53 - 133	6	30
1,2,3-Trichlorobenzene	ND		50.0	36.4		ug/L		73	43 - 145	3	30
1,2,4-Trichlorobenzene	ND		50.0	33.7		ug/L		67	39 - 148	9	30
1,1,1-Trichloroethane	ND		50.0	46.6		ug/L		93	57 - 142	6	30
1,1,2-Trichloroethane	ND		50.0	50.2		ug/L		100	66 - 131	5	30
Trichloroethene	ND		50.0	44.3		ug/L		89	64 - 136	2	30
Trichlorofluoromethane	ND		50.0	45.0		ug/L		90	54 - 150	6	30
1,2,3-Trichloropropane	ND		50.0	47.1		ug/L		94	65 - 133	9	30
1,2,4-Trimethylbenzene	ND		50.0	36.9		ug/L		74	50 - 139	9	30
1,3,5-Trimethylbenzene	ND		50.0	38.4		ug/L		77	52 - 135	5	30
Vinyl acetate	ND		100	110		ug/L		110	26 - 150	13	33
Vinyl chloride	ND		50.0	58.7		ug/L		117	46 - 150	6	30
Xylenes, Total	ND		100	83.3		ug/L		83	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/24/19 08:41	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 08:41*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		07/24/19 08:41	1
Dibromofluoromethane	97		81 - 121		07/24/19 08:41	1
Toluene-d8 (Surr)	101		80 - 120		07/24/19 08:41	1

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	55.5		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/28/19 09:05	1
Acrolein	ND		20	10	ug/L			07/28/19 09:05	1
Acrylonitrile	ND		10	2.8	ug/L			07/28/19 09:05	1
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:05	1
Bromobenzene	ND		1.0	0.54	ug/L			07/28/19 09:05	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/28/19 09:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Bromoform	ND		5.0	0.71	ug/L			07/28/19 09:05	1
Bromomethane	ND		1.0	0.98	ug/L			07/28/19 09:05	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/28/19 09:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Chloroethane	ND		1.0	0.76	ug/L			07/28/19 09:05	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/28/19 09:05	1
Chloroform	ND		1.0	0.60	ug/L			07/28/19 09:05	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/28/19 09:05	1
Chloromethane	ND		1.0	0.83	ug/L			07/28/19 09:05	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/28/19 09:05	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/28/19 09:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/28/19 09:05	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/28/19 09:05	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/28/19 09:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/28/19 09:05	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/28/19 09:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/28/19 09:05	1
2-Hexanone	ND		25	3.1	ug/L			07/28/19 09:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/28/19 09:05	1
Methylene bromide	ND		5.0	0.59	ug/L			07/28/19 09:05	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/28/19 09:05	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/28/19 09:05	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/28/19 09:05	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/28/19 09:05	1
Naphthalene	ND		1.0	1.0	ug/L			07/28/19 09:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/28/19 09:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/28/19 09:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/28/19 09:05	1
o-Xylene	ND		5.0	0.60	ug/L			07/28/19 09:05	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/28/19 09:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/28/19 09:05	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/28/19 09:05	1
Styrene	ND		1.0	1.0	ug/L			07/28/19 09:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/28/19 09:05	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/28/19 09:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/28/19 09:05	1
Toluene	ND		1.0	0.41	ug/L			07/28/19 09:05	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/28/19 09:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/28/19 09:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/28/19 09:05	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/28/19 09:05	1
Trichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/28/19 09:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/28/19 09:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/28/19 09:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/28/19 09:05	1
Vinyl acetate	ND		25	2.0	ug/L			07/28/19 09:05	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Xylenes, Total	ND		10	1.6	ug/L			07/28/19 09:05	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/28/19 09:05*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/28/19 09:05*	*1*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	96		81 - 121		07/28/19 09:05	1
Toluene-d8 (Surr)	102		80 - 120		07/28/19 09:05	1

Lab Sample ID: LCS 400-449805/1003
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	55.4		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	103		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzenethiol	ND		10	1.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/19/19 14:04	07/23/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/19/19 14:04	07/23/19 15:20	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Diethyl phthalate	ND		10	0.70	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Isophorone	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Nitrobenzene	ND		10	0.55	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitrophenol	ND		10	0.65	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Phenol	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pyridine	ND		10	3.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Quinoline	ND		10	6.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 15:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2-Fluorophenol	*21*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Phenol-d5	*43*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Terphenyl-d14	*49*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2,4,6-Tribromophenol	*40*		*15 - 135*	*07/19/19 14:04*	*07/23/19 15:20*	*1*

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	1.83	J *	ug/L		6	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*55*		*34 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/19-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol	24		10 - 120
Nitrobenzene-d5	77		27 - 120
Phenol-d5	54		10 - 120
Terphenyl-d14	71		53 - 125
2,4,6-Tribromophenol	63		15 - 135

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.5		ug/L		75	29 - 120
Benzoic acid	117	38.8		ug/L		33	10 - 150
Benzyl alcohol	30.0	25.9		ug/L		86	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.1		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	20.1		ug/L		67	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.9		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150
4-Bromophenyl phenyl ether	30.0	40.5	*	ug/L		135	55 - 122
Butyl benzyl phthalate	30.0	23.0		ug/L		77	46 - 145
4-Chloroaniline	30.0	18.0		ug/L		60	30 - 120
4-Chloro-3-methylphenol	30.0	24.6		ug/L		82	39 - 140
2-Chloronaphthalene	30.0	27.8		ug/L		93	52 - 120
2-Chlorophenol	30.0	10.4		ug/L		35	34 - 120
4-Chlorophenyl phenyl ether	30.0	35.3		ug/L		118	58 - 124
Dibenz[a,h]acridine	30.0	32.8		ug/L		109	46 - 149
Dibenzofuran	30.0	31.3		ug/L		104	58 - 123
3,3'-Dichlorobenzidine	40.0	89.1	*	ug/L		223	39 - 135
2,4-Dichlorophenol	30.0	19.6		ug/L		65	39 - 128
Diethyl phthalate	30.0	31.9		ug/L		106	44 - 146
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	32.8		ug/L		109	50 - 131
Di-n-butyl phthalate	30.0	31.6		ug/L		105	55 - 131
4,6-Dinitro-ortho-cresol	60.0	62.0		ug/L		103	10 - 150
2,4-Dinitrophenol	60.0	72.2		ug/L		120	10 - 150
2,4-Dinitrotoluene	30.0	34.9		ug/L		116	58 - 140
2,6-Dinitrotoluene	30.0	34.5		ug/L		115	57 - 130
Di-n-octyl phthalate	30.0	29.2		ug/L		97	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.9		ug/L		83	47 - 123
Hexachlorobenzene	30.0	44.7	*	ug/L		149	52 - 131
Hexachlorocyclopentadiene	30.0	12.2	J	ug/L		41	10 - 129
Hexachloroethane	30.0	17.7		ug/L		59	41 - 120
Indene	30.0	20.4		ug/L		68	47 - 120
Isophorone	30.0	21.9		ug/L		73	49 - 120
2-Methylphenol	30.0	17.8		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	20.0		ug/L		67	38 - 121
2-Nitroaniline	30.0	27.3		ug/L		91	47 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
3-Nitroaniline	30.0	30.9		ug/L		103	34 - 132
4-Nitroaniline	30.0	40.4		ug/L		135	41 - 135
Nitrobenzene	30.0	22.8		ug/L		76	47 - 120
2-Nitrophenol	30.0	14.9		ug/L		50	28 - 136
4-Nitrophenol	60.0	65.7		ug/L		109	10 - 150
N-Nitrosodimethylamine	30.0	26.9		ug/L		90	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120
Pentachlorophenol	60.0	81.0		ug/L		135	15 - 141
Phenol	30.0	11.2		ug/L		37	33 - 120
Pyridine	60.0	33.4		ug/L		56	26 - 120
Quinoline	30.0	28.2		ug/L		94	51 - 129
2,4,5-Trichlorophenol	30.0	28.9		ug/L		96	38 - 147
2,4,6-Trichlorophenol	30.0	27.2		ug/L		91	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*11*		*10 - 120*
Nitrobenzene-d5	*67*		*27 - 120*
Phenol-d5	*38*		*10 - 120*
Terphenyl-d14	*114*		*53 - 125*
2,4,6-Tribromophenol	*155*	*X*	*15 - 135*

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	1.82	J *	ug/L		6	10 - 120	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*33*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*61*		*10 - 120*
Terphenyl-d14	*96*		*53 - 125*
2,4,6-Tribromophenol	*72*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	08/03/19 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/19/19 14:04*	*08/03/19 12:50*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/19/19 14:04*	*08/03/19 12:50*	*1*
Terphenyl-d14	*117*		*33 - 138*	*07/19/19 14:04*	*08/03/19 12:50*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	29.9		ug/L		100	41 - 120
Acenaphthylene	30.0	27.9		ug/L		93	44 - 120
Anthracene	30.0	30.2		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	27.7		ug/L		92	61 - 135
Benzo[a]pyrene	30.0	28.9		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	30.4		ug/L		101	53 - 134
Benzo[g,h,i]perylene	30.0	28.3		ug/L		94	47 - 133
Benzo[k]fluoranthene	30.0	30.7		ug/L		102	57 - 134
Chrysene	30.0	28.3		ug/L		94	55 - 122
Dibenz(a,h)anthracene	30.0	30.5		ug/L		102	48 - 146
Fluoranthene	30.0	29.1		ug/L		97	54 - 128
Fluorene	30.0	33.8		ug/L		113	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	29.5		ug/L		98	43 - 142
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124
Phenanthrene	30.0	29.6		ug/L		99	48 - 120
Pyrene	30.0	15.5		ug/L		52	48 - 132

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	84		15 - 122
Nitrobenzene-d5	58		19 - 130
Terphenyl-d14	127		33 - 138

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (Pensacola)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/17/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
TB-PW-071719-B	7/17/2019	0:00	Water	2					2		x	
PD-14-GWP-40-071719	7/17/2019	9:10	Water	2			2		4	x	x	x
PD-14-GWP-45-071719	7/17/2019	10:15	Water	2			2		4	x	x	x
PD-14-GWP-50-071719	7/17/2019	11:10	Water	2			2		4	x	x	x
PD-14-GWP-50-071719-DUP	7/17/2019	11:10	Water	2			2		4	x	x	x
PD-14-GWP-53-071719	7/17/2019	13:15	Water	2			2		4	x	x	x
PD-14-GWP-60-071719	7/17/2019	14:10	Water	2			2		4	x	x	x
PD-14-GWP-70-071719	7/17/2019	15:30	Water	2			2		4	x	x	x

400-173355 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Relinquished by (Signature)	Received by (Signature)	Date	Time
Paul LeFleur	Fedex: 4931 8203 7498, 4931 8203 7502, [redacted]; custody seal: 11011632 1011633 1011630 1011631 BAU	7/17/2019	18:00
	3.3°C IR8 .2°C CIR8	7/18/19	9:19

Version 10May17

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8/5/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173355-1

Login Number: 173355
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3°C, 0.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173355-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 9:17:12 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173355-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173355-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-5-19.

Receipt
The samples were received on 7/18/2019 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.2º C and 3.3º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-449079 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-14-GWP-40-071719 (400-173355-2), PD-14-GWP-45-071719 (400-173355-3), PD-14-GWP-50-071719 (400-173355-4), PD-14-GWP-50-071719-DUP (400-173355-5), PD-14-GWP-53-071719 (400-173355-6) and PD-14-GWP-60-071719 (400-173355-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071719-B (400-173355-1), PD-14-GWP-40-071719 (400-173355-2), PD-14-GWP-45-071719 (400-173355-3), PD-14-GWP-50-071719 (400-173355-4), PD-14-GWP-50-071719-DUP (400-173355-5), PD-14-GWP-53-071719 (400-173355-6), PD-14-GWP-60-071719 (400-173355-7) and PD-14-GWP-70-071719 (400-173355-8). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-14-GWP-40-071719 (400-173355-2), PD-14-GWP-70-071719 (400-173355-8), (MB 400-448720/1-A), (LCS 400-448720/2-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-448720 and analytical batch 400-449178 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were either non-detects or less than the reporting limit for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-14-GWP-50-071719-DUP (400-173355-5) and PD-14-GWP-60-071719 (400-173355-7). These results have been reported and qualified.

Job ID: 400-173355-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-14-GWP-45-071719 (400-173355-3), PD-14-GWP-50-071719 (400-173355-4), PD-14-GWP-50-071719-DUP (400-173355-5) and PD-14-GWP-53-071719 (400-173355-6). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-448720 and analytical batch 400-449369 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, Hexachlorobenzene and 4-Bromophenyl phenyl ether. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered above the upper control limit for 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 4,6-Dinitro-ortho-cresol, 4-Bromophenyl phenyl ether and 4-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449369 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether, Butyl benzyl phthalate, Hexachlorocyclopentadiene and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449178 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-14-GWP-60-071719 (400-173355-7). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-449887 recovered above the upper control limit for Acenaphthene and Fluorene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: PD-14-GWP-45-071719 (400-173355-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173355-1	TB-PW-071719-B	Water	07/17/19 00:00	07/18/19 09:19	
400-173355-2	PD-14-GWP-40-071719	Water	07/17/19 09:10	07/18/19 09:19	
400-173355-3	PD-14-GWP-45-071719	Water	07/17/19 10:15	07/18/19 09:19	
400-173355-4	PD-14-GWP-50-071719	Water	07/17/19 11:10	07/18/19 09:19	
400-173355-5	PD-14-GWP-50-071719-DUP	Water	07/17/19 11:10	07/18/19 09:19	
400-173355-6	PD-14-GWP-53-071719	Water	07/17/19 13:15	07/18/19 09:19	
400-173355-7	PD-14-GWP-60-071719	Water	07/17/19 14:10	07/18/19 09:19	
400-173355-8	PD-14-GWP-70-071719	Water	07/17/19 15:30	07/18/19 09:19	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B — Lab Sample ID: 400-173355-1

No Detections.

Client Sample ID: PD-14-GWP-40-071719 — Lab Sample ID: 400-173355-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	230000		1000	380	ug/L	1000		8260B	Total/NA
Ethylbenzene	920	J	1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	2900	J	5000	1600	ug/L	1000		8260B	Total/NA
o-Xylene	1200	J	5000	600	ug/L	1000		8260B	Total/NA
Toluene	4400		1000	410	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	940	J	1000	820	ug/L	1000		8260B	Total/NA
Xylenes, Total	4000	J	10000	1600	ug/L	1000		8260B	Total/NA
2-Methylnaphthalene	1.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol	60	*	9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-14-GWP-45-071719 — Lab Sample ID: 400-173355-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2000000		10000	3800	ug/L	10000		8260B	Total/NA
Fluoranthene	0.085	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL	1.5		0.98	0.098	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	1.5		0.98	0.098	ug/L	5		8270D LL	Total/NA
2,4-Dimethylphenol	7.5	J	9.8	3.4	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.2	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	160		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-50-071719 — Lab Sample ID: 400-173355-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2300000		20000	7600	ug/L	20000		8260B	Total/NA
Fluoranthene	0.082	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.55		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.93		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.038	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	230		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-50-071719-DUP — Lab Sample ID: 400-173355-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2900000		20000	7600	ug/L	20000		8260B	Total/NA
Anthracene	0.033	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.15	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.55		0.21	0.021	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.89		0.21	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.34		0.21	0.021	ug/L	1		8270D LL	Total/NA
Pyrene	0.060	J	0.21	0.021	ug/L	1		8270D LL	Total/NA
Bis(2-ethylhexyl) phthalate	5.4	J	10	5.2	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.3	J	21	1.1	ug/L	1		8270D	Total/NA
Phenol - DL	170		52	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-53-071719 — Lab Sample ID: 400-173355-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	970000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	11		0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719 (Continued)

Lab Sample ID: 400-173355-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	25		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	310		50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-14-GWP-60-071719

Lab Sample ID: 400-173355-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	140000		500	190	ug/L	500		8260B	Total/NA
Ethylbenzene	4200		500	250	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	9300		2500	800	ug/L	500		8260B	Total/NA
o-Xylene	3600		2500	300	ug/L	500		8260B	Total/NA
Toluene	1100		500	210	ug/L	500		8260B	Total/NA
1,2,4-Trimethylbenzene	1300		500	410	ug/L	500		8260B	Total/NA
1,3,5-Trimethylbenzene	430	J	500	280	ug/L	500		8260B	Total/NA
Xylenes, Total	13000		5000	800	ug/L	500		8260B	Total/NA
Anthracene	0.12	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	82	B	0.99	0.099	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene	150	B	0.99	0.099	ug/L	5		8270D LL	Total/NA
Phenanthrene	0.81		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.075	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Indene	36		9.9	0.99	ug/L	1		8270D	Total/NA
Phenol	36	*	9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	10	J	25	10	ug/L	1		8260B	Total/NA
Benzene	130		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.7		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.44	J	1.0	0.41	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B

Date Collected: 07/17/19 00:00
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/23/19 09:02	1
Acrolein	ND		20	10	ug/L			07/23/19 09:02	1
Acrylonitrile	ND		10	2.8	ug/L			07/23/19 09:02	1
Benzene	ND		1.0	0.38	ug/L			07/23/19 09:02	1
Bromobenzene	ND		1.0	0.54	ug/L			07/23/19 09:02	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/23/19 09:02	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Bromoform	ND		5.0	0.71	ug/L			07/23/19 09:02	1
Bromomethane	ND		1.0	0.98	ug/L			07/23/19 09:02	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/23/19 09:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Chloroethane	ND		1.0	0.76	ug/L			07/23/19 09:02	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/23/19 09:02	1
Chloroform	ND		1.0	0.60	ug/L			07/23/19 09:02	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/23/19 09:02	1
Chloromethane	ND		1.0	0.83	ug/L			07/23/19 09:02	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:02	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/23/19 09:02	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/23/19 09:02	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/23/19 09:02	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/23/19 09:02	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/23/19 09:02	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/23/19 09:02	1
2-Hexanone	ND		25	3.1	ug/L			07/23/19 09:02	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/23/19 09:02	1
Methylene bromide	ND		5.0	0.59	ug/L			07/23/19 09:02	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/23/19 09:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/23/19 09:02	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/23/19 09:02	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/23/19 09:02	1
Naphthalene	ND		1.0	1.0	ug/L			07/23/19 09:02	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/23/19 09:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/23/19 09:02	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/23/19 09:02	1
o-Xylene	ND		5.0	0.60	ug/L			07/23/19 09:02	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: TB-PW-071719-B
Date Collected: 07/17/19 00:00
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/23/19 09:02	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/23/19 09:02	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/23/19 09:02	1
Styrene	ND		1.0	1.0	ug/L			07/23/19 09:02	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/23/19 09:02	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/23/19 09:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/23/19 09:02	1
Toluene	ND		1.0	0.41	ug/L			07/23/19 09:02	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/23/19 09:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/23/19 09:02	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:02	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/23/19 09:02	1
Trichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/23/19 09:02	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/23/19 09:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/23/19 09:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/23/19 09:02	1
Vinyl acetate	ND		25	2.0	ug/L			07/23/19 09:02	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/23/19 09:02	1
Xylenes, Total	ND		10	1.6	ug/L			07/23/19 09:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 09:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/23/19 09:02*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/23/19 09:02*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 09:02*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719

Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/23/19 12:47	1000
Acrolein	ND		20000	10000	ug/L			07/23/19 12:47	1000
Acrylonitrile	ND		10000	2800	ug/L			07/23/19 12:47	1000
Benzene	**230000**		1000	380	ug/L			07/23/19 12:47	1000
Bromobenzene	ND		1000	540	ug/L			07/23/19 12:47	1000
Bromochloromethane	ND		1000	520	ug/L			07/23/19 12:47	1000
Bromodichloromethane	ND		1000	500	ug/L			07/23/19 12:47	1000
Bromoform	ND		5000	710	ug/L			07/23/19 12:47	1000
Bromomethane	ND		1000	980	ug/L			07/23/19 12:47	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/23/19 12:47	1000
Carbon disulfide	ND		1000	500	ug/L			07/23/19 12:47	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/23/19 12:47	1000
Chlorobenzene	ND		1000	500	ug/L			07/23/19 12:47	1000
Chloroethane	ND		1000	760	ug/L			07/23/19 12:47	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/23/19 12:47	1000
Chloroform	ND		1000	600	ug/L			07/23/19 12:47	1000
1-Chlorohexane	ND		1000	700	ug/L			07/23/19 12:47	1000
Chloromethane	ND		1000	830	ug/L			07/23/19 12:47	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/23/19 12:47	1000
Dibromochloromethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/23/19 12:47	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/23/19 12:47	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/23/19 12:47	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/23/19 12:47	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/23/19 12:47	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/23/19 12:47	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/23/19 12:47	1000
Ethylbenzene	**920**	**J**	1000	500	ug/L			07/23/19 12:47	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/23/19 12:47	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/23/19 12:47	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/23/19 12:47	1000
2-Hexanone	ND		25000	3100	ug/L			07/23/19 12:47	1000
Isopropylbenzene	ND		1000	530	ug/L			07/23/19 12:47	1000
Methylene bromide	ND		5000	590	ug/L			07/23/19 12:47	1000
Methylene Chloride	ND		5000	3000	ug/L			07/23/19 12:47	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/23/19 12:47	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/23/19 12:47	1000
m-Xylene & p-Xylene	**2900**	**J**	5000	1600	ug/L			07/23/19 12:47	1000
Naphthalene	ND		1000	1000	ug/L			07/23/19 12:47	1000
n-Butylbenzene	ND		1000	760	ug/L			07/23/19 12:47	1000
N-Propylbenzene	ND		1000	690	ug/L			07/23/19 12:47	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/23/19 12:47	1000
o-Xylene	**1200**	**J**	5000	600	ug/L			07/23/19 12:47	1000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719

Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1000	560	ug/L			07/23/19 12:47	1000
p-Isopropyltoluene	ND		1000	710	ug/L			07/23/19 12:47	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/23/19 12:47	1000
Styrene	ND		1000	1000	ug/L			07/23/19 12:47	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/23/19 12:47	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/23/19 12:47	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
Tetrachloroethene	ND		1000	580	ug/L			07/23/19 12:47	1000
Toluene	**4400**		1000	410	ug/L			07/23/19 12:47	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/23/19 12:47	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/23/19 12:47	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/23/19 12:47	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/23/19 12:47	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/23/19 12:47	1000
Trichloroethene	ND		1000	500	ug/L			07/23/19 12:47	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/23/19 12:47	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/23/19 12:47	1000
1,2,4-Trimethylbenzene	**940**	**J**	1000	820	ug/L			07/23/19 12:47	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/23/19 12:47	1000
Vinyl acetate	ND		25000	2000	ug/L			07/23/19 12:47	1000
Vinyl chloride	ND		1000	500	ug/L			07/23/19 12:47	1000
Xylenes, Total	**4000**	**J**	10000	1600	ug/L			07/23/19 12:47	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Butane, 2-methyl-	*7900*	*T J N*	*ug/L*		*2.53*	*78-78-4*		*07/23/19 12:47*	*1000*
Pentane	*5100*	*T J N*	*ug/L*		*2.73*	*109-66-0*		*07/23/19 12:47*	*1000*
Hexane	*1700*		*ug/L*		*3.70*	*110-54-3*		*07/23/19 12:47*	*1000*
Isobutyl alcohol	*50000*		*ug/L*		*4.59*	*78-83-1*		*07/23/19 12:47*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 12:47*	*1000*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 12:47*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 12:47*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Anthracene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Chrysene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1
Fluoranthene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Fluorene	ND		0.19	0.020	ug/L		07/19/19 14:04	07/25/19 00:04	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/19/19 14:04	07/25/19 00:04	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719

Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
2-Methylnaphthalene	**1.2**		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Phenanthrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1
Pyrene	ND		0.19	0.019	ug/L		07/19/19 14:04	07/25/19 00:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*100*		*15 - 122*	*07/19/19 14:04*	*07/25/19 00:04*	*1*
Nitrobenzene-d5	*94*		*19 - 130*	*07/19/19 14:04*	*07/25/19 00:04*	*1*
Terphenyl-d14	*107*		*33 - 138*	*07/19/19 14:04*	*07/25/19 00:04*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:54	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/19/19 14:04	07/23/19 18:54	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:54	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/19/19 14:04	07/23/19 18:54	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/19/19 14:04	07/23/19 18:54	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/19/19 14:04	07/23/19 18:54	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Chloronaphthalene	ND	*	9.7	0.51	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Chlorophenol	ND	*	9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Dibenz[a,h]acridine	ND	*	9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Dibenzofuran	ND	*	9.7	0.51	ug/L		07/19/19 14:04	07/23/19 18:54	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:54	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/19/19 14:04	07/23/19 18:54	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/19/19 14:04	07/23/19 18:54	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/19/19 14:04	07/23/19 18:54	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/19/19 14:04	07/23/19 18:54	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:54	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:54	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/19/19 14:04	07/23/19 18:54	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/19/19 14:04	07/23/19 18:54	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
Indene	ND		9.7	0.97	ug/L		07/19/19 14:04	07/23/19 18:54	1
Isophorone	ND		9.7	0.56	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/19/19 14:04	07/23/19 18:54	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719

Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	2.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/19/19 14:04	07/23/19 18:54	1
Nitrobenzene	ND		9.7	0.54	ug/L		07/19/19 14:04	07/23/19 18:54	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/19/19 14:04	07/23/19 18:54	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/19/19 14:04	07/23/19 18:54	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:54	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/19/19 14:04	07/23/19 18:54	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/19/19 14:04	07/23/19 18:54	1
Pentachlorophenol	ND		19	1.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
Phenol	**60**	*	9.7	2.5	ug/L		07/19/19 14:04	07/23/19 18:54	1
Pyridine	ND		9.7	3.1	ug/L		07/19/19 14:04	07/23/19 18:54	1
Quinoline	ND		9.7	5.8	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/19/19 14:04	07/23/19 18:54	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/19/19 14:04	07/23/19 18:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*20*	*T J*	*ug/L*		*3.53*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*3.58*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*14*	*T J*	*ug/L*		*3.74*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Toluene	*13*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Cyclopentanol, 1-methyl-	*17*	*T J N*	*ug/L*		*4.16*	*1462-03-9*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*21*	*T J*	*ug/L*		*4.51*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*4.5*	*T J*	*ug/L*		*4.56*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Ethylbenzene	*27*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*24*	*T J*	*ug/L*		*4.83*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
1-Methylcyclohexanol	*6.9*	*T J N*	*ug/L*		*4.89*	*590-67-0*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*7.1*	*T J*	*ug/L*		*4.91*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*5.40*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*5.0*	*T J*	*ug/L*		*5.46*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*7.7*	*T J*	*ug/L*		*5.66*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	*6.1*	*T J N*	*ug/L*		*5.77*	*83321-16-8*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*14*	*T J*	*ug/L*		*5.96*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Phenol, 2,6-dimethyl-	*16*	*T J N*	*ug/L*		*6.00*	*576-26-1*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*4.3*	*T J*	*ug/L*		*6.35*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*6.54*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*25*	*T J*	*ug/L*		*6.80*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
Benzoic acid, 2,4-dimethyl-	*9.0*	*T J N*	*ug/L*		*6.96*	*611-01-8*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
2-Thiophenecarboxylic acid, 5-ethyl-	*15*	*T J N*	*ug/L*		*7.00*	*23229-72-3*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Benzoic acid, 2,6-dimethyl-	*4.2*	*T J N*	*ug/L*		*7.05*	*632-46-2*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Unknown	*6.7*	*T J*	*ug/L*		*7.33*		*07/19/19 14:04*	*07/23/19 18:54*	*1*
n-Hexadecanoic acid	*14*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/19/19 14:04*	*07/23/19 18:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*34 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
2-Fluorophenol	*6*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Phenol-d5	*37*		*10 - 120*	*07/19/19 14:04*	*07/23/19 18:54*	*1*
Terphenyl-d14	*62*		*53 - 125*	*07/19/19 14:04*	*07/23/19 18:54*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-40-071719
Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	79		15 - 135	07/19/19 14:04	07/23/19 18:54	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719

Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/23/19 13:36	2500
Acrolein	ND		50000	25000	ug/L			07/23/19 13:36	2500
Acrylonitrile	ND		25000	7000	ug/L			07/23/19 13:36	2500
Bromobenzene	ND		2500	1400	ug/L			07/23/19 13:36	2500
Bromochloromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
Bromoform	ND		13000	1800	ug/L			07/23/19 13:36	2500
Bromomethane	ND		2500	2500	ug/L			07/23/19 13:36	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/23/19 13:36	2500
Carbon disulfide	ND		2500	1300	ug/L			07/23/19 13:36	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/23/19 13:36	2500
Chlorobenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Chloroethane	ND		2500	1900	ug/L			07/23/19 13:36	2500
2-Chloroethyl vinyl ether	ND		13000	5000	ug/L			07/23/19 13:36	2500
Chloroform	ND		2500	1500	ug/L			07/23/19 13:36	2500
1-Chlorohexane	ND		2500	1800	ug/L			07/23/19 13:36	2500
Chloromethane	ND		2500	2100	ug/L			07/23/19 13:36	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/23/19 13:36	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/23/19 13:36	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/23/19 13:36	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/23/19 13:36	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/23/19 13:36	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2-Dichloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/23/19 13:36	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Ethylbenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/23/19 13:36	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/23/19 13:36	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/23/19 13:36	2500
2-Hexanone	ND		63000	7800	ug/L			07/23/19 13:36	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Methylene bromide	ND		13000	1500	ug/L			07/23/19 13:36	2500
Methylene Chloride	ND		13000	7500	ug/L			07/23/19 13:36	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/23/19 13:36	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/23/19 13:36	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/23/19 13:36	2500
Naphthalene	ND		2500	2500	ug/L			07/23/19 13:36	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/23/19 13:36	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/23/19 13:36	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/23/19 13:36	2500
o-Xylene	ND		13000	1500	ug/L			07/23/19 13:36	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/23/19 13:36	2500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719
Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/23/19 13:36	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/23/19 13:36	2500
Styrene	ND		2500	2500	ug/L			07/23/19 13:36	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/23/19 13:36	2500
1,1,1,2-Tetrachloroethane	ND	*	2500	1300	ug/L			07/23/19 13:36	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/23/19 13:36	2500
Toluene	ND		2500	1000	ug/L			07/23/19 13:36	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/23/19 13:36	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/23/19 13:36	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/23/19 13:36	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/23/19 13:36	2500
Trichloroethene	ND		2500	1300	ug/L			07/23/19 13:36	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/23/19 13:36	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/23/19 13:36	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/23/19 13:36	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/23/19 13:36	2500
Vinyl acetate	ND		63000	5000	ug/L			07/23/19 13:36	2500
Vinyl chloride	ND		2500	1300	ug/L			07/23/19 13:36	2500
Xylenes, Total	ND		25000	4000	ug/L			07/23/19 13:36	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 13:36*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/23/19 13:36*	*2500*
Dibromofluoromethane	*95*		*81 - 121*		*07/23/19 13:36*	*2500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/23/19 13:36*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2000000**		10000	3800	ug/L			07/24/19 10:49	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/24/19 10:49*	*10000*
Dibromofluoromethane	*95*		*81 - 121*		*07/24/19 10:49*	*10000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 10:49*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Fluoranthene	**0.085**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-45-071719
Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/25/19 00:23	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:23	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*15 - 122*	*07/19/19 14:04*	*07/25/19 00:23*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.98	0.20	ug/L		07/19/19 14:04	07/29/19 20:07	5
Chrysene	ND		0.98	0.20	ug/L		07/19/19 14:04	07/29/19 20:07	5
1-Methylnaphthalene	**1.5**		0.98	0.098	ug/L		07/19/19 14:04	07/29/19 20:07	5
2-Methylnaphthalene	**1.5**		0.98	0.098	ug/L		07/19/19 14:04	07/29/19 20:07	5
Pyrene	ND		0.98	0.098	ug/L		07/19/19 14:04	07/29/19 20:07	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*53*		*19 - 130*	*07/19/19 14:04*	*07/29/19 20:07*	*5*
Terphenyl-d14	*101*		*33 - 138*	*07/19/19 14:04*	*07/29/19 20:07*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:15	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/19/19 14:04	07/23/19 19:15	1
Benzoic acid	ND		29	7.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/19/19 14:04	07/23/19 19:15	1
Bis(2-chloroethyl)ether	ND	*	9.8	0.72	ug/L		07/19/19 14:04	07/23/19 19:15	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/19/19 14:04	07/23/19 19:15	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/19/19 14:04	07/23/19 19:15	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Chloronaphthalene	ND	*	9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Chlorophenol	ND	*	9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Chlorophenyl phenyl ether	ND	*	9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
Dibenzofuran	ND	*	9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:15	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dimethylphenol	**7.5**	**J**	9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:15	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/19/19 14:04	07/23/19 19:15	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/19/19 14:04	07/23/19 19:15	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/19/19 14:04	07/23/19 19:15	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:15	1

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-45-071719
Lab Sample ID: 400-173355-3
Date Collected: 07/17/19 10:15
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:15	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/19/19 14:04	07/23/19 19:15	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		07/19/19 14:04	07/23/19 19:15	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
Indene	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:15	1
Isophorone	ND		9.8	0.56	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:15	1
3 & 4 Methylphenol	**1.2**	**J**	20	1.0	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:15	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/19/19 14:04	07/23/19 19:15	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/19/19 14:04	07/23/19 19:15	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/19/19 14:04	07/23/19 19:15	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:15	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/19/19 14:04	07/23/19 19:15	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/19/19 14:04	07/23/19 19:15	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 19:15	1
Pyridine	ND		9.8	3.1	ug/L		07/19/19 14:04	07/23/19 19:15	1
Quinoline	ND		9.8	5.9	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/19/19 14:04	07/23/19 19:15	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*26*	*T J*	*ug/L*		*3.14*		*07/19/19 14:04*	*07/23/19 19:15*	*1*
Unknown	*16*	*T J*	*ug/L*		*3.76*		*07/19/19 14:04*	*07/23/19 19:15*	*1*
Toluene	*130*	*T J N*	*ug/L*		*3.90*	*108-88-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
2-Butanone, 4-hydroxy-	*200*	*T J N*	*ug/L*		*4.09*	*590-90-9*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Cyclopentanol, 1-methyl-	*50*	*T J N*	*ug/L*		*4.12*	*1462-03-9*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
1,3-Dimethylcyclopentanol	*17*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Ethylbenzene	*150*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
p-Xylene	*50*	*T J N*	*ug/L*		*4.87*	*106-42-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
1-Methylcyclohexanol	*9.3*	*T J N*	*ug/L*		*4.90*	*590-67-0*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, (1-methylethyl)-	*12*	*T J N*	*ug/L*		*5.05*	*98-82-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, propyl-	*12*	*T J N*	*ug/L*		*5.23*	*103-65-1*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1-ethyl-2-methyl-	*19*	*T J N*	*ug/L*		*5.37*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Tricyclo[3.1.0.0(2,4)]hex-3-ene-3-carbonitrile	*10*	*T J N*	*ug/L*		*5.41*	*103495-51-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1,3,5-trimethyl-	*50*	*T J N*	*ug/L*		*5.46*	*108-67-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 1,2,3-trimethyl-	*13*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*15*	*T J N*	*ug/L*		*5.66*	*1121-05-7*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Indane	*45*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Unknown	*15*	*T J*	*ug/L*		*5.77*		*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*13*	*T J N*	*ug/L*		*5.91*	*934-80-5*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Phenol, 2,5-dimethyl-	*8.9*	*T J N*	*ug/L*		*6.00*	*95-87-4*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Unknown	*17*	*T J*	*ug/L*		*6.23*		*07/19/19 14:04*	*07/23/19 19:15*	*1*
Naphthalene	*18*	*T J N*	*ug/L*		*6.42*	*91-20-3*	*07/19/19 14:04*	*07/23/19 19:15*	*1*
Unknown	*23*	*T J*	*ug/L*		*6.56*		*07/19/19 14:04*	*07/23/19 19:15*	*1*
Benzoic acid, 2,6-dimethyl-	*12*	*T J N*	*ug/L*		*6.97*	*632-46-2*	*07/19/19 14:04*	*07/23/19 19:15*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-45-071719
Lab Sample ID: 400-173355-3
Date Collected: 07/17/19 10:15
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
n-Hexadecanoic acid	12	T J N	ug/L		9.08	57-10-3	07/19/19 14:04	07/23/19 19:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		34 - 120	07/19/19 14:04	07/23/19 19:15	1
2-Fluorophenol	21		10 - 120	07/19/19 14:04	07/23/19 19:15	1
Nitrobenzene-d5	80		27 - 120	07/19/19 14:04	07/23/19 19:15	1
Phenol-d5	57		10 - 120	07/19/19 14:04	07/23/19 19:15	1
Terphenyl-d14	71		53 - 125	07/19/19 14:04	07/23/19 19:15	1
2,4,6-Tribromophenol	109		15 - 135	07/19/19 14:04	07/23/19 19:15	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	160		49	13	ug/L		07/19/19 14:04	07/24/19 23:24	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/23/19 14:00	5000
Acrolein	ND		100000	50000	ug/L			07/23/19 14:00	5000
Acrylonitrile	ND		50000	14000	ug/L			07/23/19 14:00	5000
Bromobenzene	ND		5000	2700	ug/L			07/23/19 14:00	5000
Bromochloromethane	ND		5000	2600	ug/L			07/23/19 14:00	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
Bromoform	ND		25000	3600	ug/L			07/23/19 14:00	5000
Bromomethane	ND		5000	4900	ug/L			07/23/19 14:00	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/23/19 14:00	5000
Carbon disulfide	ND		5000	2500	ug/L			07/23/19 14:00	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/23/19 14:00	5000
Chlorobenzene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Chloroethane	ND		5000	3800	ug/L			07/23/19 14:00	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/23/19 14:00	5000
Chloroform	ND		5000	3000	ug/L			07/23/19 14:00	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/23/19 14:00	5000
Chloromethane	ND		5000	4200	ug/L			07/23/19 14:00	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:00	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/23/19 14:00	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/23/19 14:00	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/23/19 14:00	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/23/19 14:00	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:00	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Ethylbenzene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/23/19 14:00	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/23/19 14:00	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/23/19 14:00	5000
2-Hexanone	ND		130000	16000	ug/L			07/23/19 14:00	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/23/19 14:00	5000
Methylene bromide	ND		25000	3000	ug/L			07/23/19 14:00	5000
Methylene Chloride	ND		25000	15000	ug/L			07/23/19 14:00	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/23/19 14:00	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/23/19 14:00	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/23/19 14:00	5000
Naphthalene	ND		5000	5000	ug/L			07/23/19 14:00	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/23/19 14:00	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/23/19 14:00	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/23/19 14:00	5000
o-Xylene	ND		25000	3000	ug/L			07/23/19 14:00	5000
p-Chlorotoluene	ND		5000	2800	ug/L			07/23/19 14:00	5000

Client Sample ID: PD-14-GWP-50-071719
Lab Sample ID: 400-173355-4
Date Collected: 07/17/19 11:10
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5000	3600	ug/L			07/23/19 14:00	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/23/19 14:00	5000
Styrene	ND		5000	5000	ug/L			07/23/19 14:00	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/23/19 14:00	5000
1,1,1,2-Tetrachloroethane	ND	*	5000	2600	ug/L			07/23/19 14:00	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/23/19 14:00	5000
Toluene	ND		5000	2100	ug/L			07/23/19 14:00	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:00	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/23/19 14:00	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/23/19 14:00	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/23/19 14:00	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/23/19 14:00	5000
Trichloroethene	ND		5000	2500	ug/L			07/23/19 14:00	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/23/19 14:00	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/23/19 14:00	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/23/19 14:00	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/23/19 14:00	5000
Vinyl acetate	ND		130000	10000	ug/L			07/23/19 14:00	5000
Vinyl chloride	ND		5000	2500	ug/L			07/23/19 14:00	5000
Xylenes, Total	ND		50000	8000	ug/L			07/23/19 14:00	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 14:00*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 14:00*	*5000*
Dibromofluoromethane	*95*		*81 - 121*		*07/23/19 14:00*	*5000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/23/19 14:00*	*5000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2300000**		20000	7600	ug/L			07/24/19 18:13	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/24/19 18:13*	*20000*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 18:13*	*20000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 18:13*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Chrysene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719

Lab Sample ID: 400-173355-4

Date Collected: 07/17/19 11:10

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
Fluoranthene	**0.082**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/25/19 00:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 00:41	1
1-Methylnaphthalene	**0.55**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
2-Methylnaphthalene	**0.93**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1
Pyrene	**0.038**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*15 - 122*	*07/19/19 14:04*	*07/25/19 00:41*	*1*
Nitrobenzene-d5	*67*		*19 - 130*	*07/19/19 14:04*	*07/25/19 00:41*	*1*
Terphenyl-d14	*100*		*33 - 138*	*07/19/19 14:04*	*07/25/19 00:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
Benzoic acid	ND		29	7.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/19/19 14:04	07/23/19 19:36	1
Bis(2-chloroethyl)ether	ND	*	9.8	0.73	ug/L		07/19/19 14:04	07/23/19 19:36	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		07/19/19 14:04	07/23/19 19:36	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/19/19 14:04	07/23/19 19:36	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Chloronaphthalene	ND	*	9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Chlorophenol	ND	*	9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Chlorophenyl phenyl ether	ND	*	9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
Dibenz[a,h]acridine	ND	*	9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
Dibenzofuran	ND	*	9.8	0.51	ug/L		07/19/19 14:04	07/23/19 19:36	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:36	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/19/19 14:04	07/23/19 19:36	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		07/19/19 14:04	07/23/19 19:36	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/19/19 14:04	07/23/19 19:36	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:36	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/19/19 14:04	07/23/19 19:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 19:36	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/19/19 14:04	07/23/19 19:36	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719

Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		9.8	0.98	ug/L		07/19/19 14:04	07/23/19 19:36	1
Isophorone	ND		9.8	0.56	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:36	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/19/19 14:04	07/23/19 19:36	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/19/19 14:04	07/23/19 19:36	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/19/19 14:04	07/23/19 19:36	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/19/19 14:04	07/23/19 19:36	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:36	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/19/19 14:04	07/23/19 19:36	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/19/19 14:04	07/23/19 19:36	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 19:36	1
Pyridine	ND		9.8	3.1	ug/L		07/19/19 14:04	07/23/19 19:36	1
Quinoline	ND		9.8	5.9	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/19/19 14:04	07/23/19 19:36	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/19/19 14:04	07/23/19 19:36	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*8.6*	*T J*	*ug/L*		*3.77*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Toluene	*27*	*T J N*	*ug/L*		*3.89*	*108-88-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*40*	*T J*	*ug/L*		*4.12*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*13*	*T J*	*ug/L*		*4.51*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Ethylbenzene	*57*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*5.4*	*T J*	*ug/L*		*4.83*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
o-Xylene	*24*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
1-Methylcyclohexanol	*6.2*	*T J N*	*ug/L*		*4.90*	*590-67-0*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*6.1*	*T J*	*ug/L*		*4.91*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*6.2*	*T J*	*ug/L*		*5.19*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, propyl-	*5.2*	*T J N*	*ug/L*		*5.23*	*103-65-1*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1-ethyl-2-methyl-	*8.2*	*T J N*	*ug/L*		*5.27*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1-ethyl-2-methyl-	*5.8*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1-ethyl-4-methyl-	*6.8*	*T J N*	*ug/L*		*5.37*	*622-96-8*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1,3,5-trimethyl-	*22*	*T J N*	*ug/L*		*5.46*	*108-67-8*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 1,2,3-trimethyl-	*7.0*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*7.7*	*T J N*	*ug/L*		*5.66*	*1121-05-7*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Indane	*12*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2-Cyclopenten-1-one, 3,4,4-trimethyl-	*6.9*	*T J N*	*ug/L*		*5.77*	*30434-65-2*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*5.1*	*T J N*	*ug/L*		*5.90*	*934-80-5*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*7.8*	*T J*	*ug/L*		*5.97*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Propanedioic acid, phenyl-	*18*	*T J N*	*ug/L*		*6.55*	*2613-89-0*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*10*	*T J*	*ug/L*		*6.65*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
Unknown	*6.0*	*T J*	*ug/L*		*6.96*		*07/19/19 14:04*	*07/23/19 19:36*	*1*
n-Hexadecanoic acid	*8.2*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/19/19 14:04*	*07/23/19 19:36*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*34 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2-Fluorophenol	*17*		*10 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Nitrobenzene-d5	*65*		*27 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-50-071719
Lab Sample ID: 400-173355-4
Date Collected: 07/17/19 11:10
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*46*		*10 - 120*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
Terphenyl-d14	*53*		*53 - 125*	*07/19/19 14:04*	*07/23/19 19:36*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/19/19 14:04*	*07/23/19 19:36*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**230**		49	13	ug/L		07/19/19 14:04	07/24/19 23:45	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP

Lab Sample ID: 400-173355-5

Date Collected: 07/17/19 11:10

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/23/19 14:25	5000
Acrolein	ND		100000	50000	ug/L			07/23/19 14:25	5000
Acrylonitrile	ND		50000	14000	ug/L			07/23/19 14:25	5000
Bromobenzene	ND		5000	2700	ug/L			07/23/19 14:25	5000
Bromochloromethane	ND		5000	2600	ug/L			07/23/19 14:25	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
Bromoform	ND		25000	3600	ug/L			07/23/19 14:25	5000
Bromomethane	ND		5000	4900	ug/L			07/23/19 14:25	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/23/19 14:25	5000
Carbon disulfide	ND		5000	2500	ug/L			07/23/19 14:25	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/23/19 14:25	5000
Chlorobenzene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Chloroethane	ND		5000	3800	ug/L			07/23/19 14:25	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/23/19 14:25	5000
Chloroform	ND		5000	3000	ug/L			07/23/19 14:25	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/23/19 14:25	5000
Chloromethane	ND		5000	4200	ug/L			07/23/19 14:25	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:25	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/23/19 14:25	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/23/19 14:25	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/23/19 14:25	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/23/19 14:25	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:25	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Ethylbenzene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/23/19 14:25	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/23/19 14:25	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/23/19 14:25	5000
2-Hexanone	ND		130000	16000	ug/L			07/23/19 14:25	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/23/19 14:25	5000
Methylene bromide	ND		25000	3000	ug/L			07/23/19 14:25	5000
Methylene Chloride	ND		25000	15000	ug/L			07/23/19 14:25	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/23/19 14:25	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/23/19 14:25	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/23/19 14:25	5000
Naphthalene	ND		5000	5000	ug/L			07/23/19 14:25	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/23/19 14:25	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/23/19 14:25	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/23/19 14:25	5000
o-Xylene	ND		25000	3000	ug/L			07/23/19 14:25	5000
p-Chlorotoluene	ND		5000	2800	ug/L			07/23/19 14:25	5000

Client Sample ID: PD-14-GWP-50-071719-DUP
Lab Sample ID: 400-173355-5
Date Collected: 07/17/19 11:10
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5000	3600	ug/L			07/23/19 14:25	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/23/19 14:25	5000
Styrene	ND		5000	5000	ug/L			07/23/19 14:25	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/23/19 14:25	5000
1,1,1,2-Tetrachloroethane	ND	*	5000	2600	ug/L			07/23/19 14:25	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/23/19 14:25	5000
Toluene	ND		5000	2100	ug/L			07/23/19 14:25	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/23/19 14:25	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/23/19 14:25	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/23/19 14:25	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/23/19 14:25	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/23/19 14:25	5000
Trichloroethene	ND		5000	2500	ug/L			07/23/19 14:25	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/23/19 14:25	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/23/19 14:25	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/23/19 14:25	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/23/19 14:25	5000
Vinyl acetate	ND		130000	10000	ug/L			07/23/19 14:25	5000
Vinyl chloride	ND		5000	2500	ug/L			07/23/19 14:25	5000
Xylenes, Total	ND		50000	8000	ug/L			07/23/19 14:25	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 14:25*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 14:25*	*5000*
Dibromofluoromethane	*97*		*81 - 121*		*07/23/19 14:25*	*5000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 14:25*	*5000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2900000**		20000	7600	ug/L			07/28/19 12:00	20000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/28/19 12:00*	*20000*
Dibromofluoromethane	*94*		*81 - 121*		*07/28/19 12:00*	*20000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 12:00*	*20000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Acenaphthylene	ND		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Anthracene	**0.033**	**J**	0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[a]anthracene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[a]pyrene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[b]fluoranthene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[g,h,i]perylene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Benzo[k]fluoranthene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Chrysene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP

Lab Sample ID: 400-173355-5

Date Collected: 07/17/19 11:10

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
Fluoranthene	**0.15**	**J**	0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Fluorene	ND		0.21	0.022	ug/L		07/19/19 14:04	07/25/19 01:00	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.041	ug/L		07/19/19 14:04	07/25/19 01:00	1
1-Methylnaphthalene	**0.55**		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
2-Methylnaphthalene	**0.89**		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Phenanthrene	**0.34**		0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1
Pyrene	**0.060**	**J**	0.21	0.021	ug/L		07/19/19 14:04	07/25/19 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*15 - 122*	*07/19/19 14:04*	*07/25/19 01:00*	*1*
Nitrobenzene-d5	*72*		*19 - 130*	*07/19/19 14:04*	*07/25/19 01:00*	*1*
Terphenyl-d14	*81*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:00*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
Benzenethiol	ND	*	10	1.8	ug/L		07/19/19 14:04	07/23/19 19:57	1
Benzoic acid	ND		31	7.5	ug/L		07/19/19 14:04	07/23/19 19:57	1
Benzyl alcohol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Bis(2-chloroethoxy)methane	ND		10	0.71	ug/L		07/19/19 14:04	07/23/19 19:57	1
Bis(2-chloroethyl)ether	ND	*	10	0.76	ug/L		07/19/19 14:04	07/23/19 19:57	1
bis (2-chloroisopropyl) ether	ND		10	0.83	ug/L		07/19/19 14:04	07/23/19 19:57	1
Bis(2-ethylhexyl) phthalate	**5.4**	**J**	10	5.2	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/19/19 14:04	07/23/19 19:57	1
Butyl benzyl phthalate	ND		10	0.71	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Chloroaniline	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Chloronaphthalene	ND	*	10	0.54	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Chlorophenol	ND	*	10	2.3	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Chlorophenyl phenyl ether	ND	*	10	2.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Dibenz[a,h]acridine	ND	*	10	3.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Dibenzofuran	ND	*	10	0.54	ug/L		07/19/19 14:04	07/23/19 19:57	1
3,3'-Dichlorobenzidine	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
Diethyl phthalate	ND		10	0.72	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/19/19 14:04	07/23/19 19:57	1
Dimethyl phthalate	ND		10	0.62	ug/L		07/19/19 14:04	07/23/19 19:57	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/19/19 14:04	07/23/19 19:57	1
4,6-Dinitro-ortho-cresol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4-Dinitrotoluene	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,6-Dinitrotoluene	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/19/19 14:04	07/23/19 19:57	1
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/19/19 14:04	07/23/19 19:57	1
Hexachlorocyclopentadiene	ND		21	2.7	ug/L		07/19/19 14:04	07/23/19 19:57	1
Hexachloroethane	ND		10	4.3	ug/L		07/19/19 14:04	07/23/19 19:57	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-50-071719-DUP

Lab Sample ID: 400-173355-5

Date Collected: 07/17/19 11:10
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 19:57	1
Isophorone	ND		10	0.59	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Methylphenol	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
3 & 4 Methylphenol	**1.3**	**J**	21	1.1	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Nitroaniline	ND		10	2.3	ug/L		07/19/19 14:04	07/23/19 19:57	1
3-Nitroaniline	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Nitroaniline	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 19:57	1
Nitrobenzene	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 19:57	1
2-Nitrophenol	ND		10	0.67	ug/L		07/19/19 14:04	07/23/19 19:57	1
4-Nitrophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 19:57	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/19/19 14:04	07/23/19 19:57	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 19:57	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/19/19 14:04	07/23/19 19:57	1
Pentachlorophenol	ND		21	1.9	ug/L		07/19/19 14:04	07/23/19 19:57	1
Pyridine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 19:57	1
Quinoline	ND		10	6.2	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 19:57	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/19/19 14:04	07/23/19 19:57	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*33*	*T J*	*ug/L*		*3.20*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*9.5*	*T J*	*ug/L*		*3.78*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
Toluene	*29*	*T J N*	*ug/L*		*3.90*	*108-88-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*5.7*	*T J*	*ug/L*		*4.31*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
1,3-Dimethylcyclopentanol	*15*	*T J N*	*ug/L*		*4.53*	*19550-46-0*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Ethylbenzene	*53*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
o-Xylene	*68*	*T J N*	*ug/L*		*4.71*	*95-47-6*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*8.2*	*T J*	*ug/L*		*4.75*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*27*	*T J*	*ug/L*		*4.84*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
o-Xylene	*33*	*T J N*	*ug/L*		*4.87*	*95-47-6*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
1-Methylcyclohexanol	*7.0*	*T J N*	*ug/L*		*4.91*	*590-67-0*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*6.2*	*T J*	*ug/L*		*4.92*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-2-methyl-	*7.7*	*T J N*	*ug/L*		*5.27*	*611-14-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-4-methyl-	*5.6*	*T J N*	*ug/L*		*5.38*	*622-96-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1,3,5-trimethyl-	*17*	*T J N*	*ug/L*		*5.46*	*108-67-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1,2,3-trimethyl-	*5.8*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*7.6*	*T J N*	*ug/L*		*5.66*	*1121-05-7*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Indane	*11*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2-Cyclopenten-1-one, 3,4,4-trimethyl-	*12*	*T J N*	*ug/L*		*5.77*	*30434-65-2*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*5.6*	*T J N*	*ug/L*		*5.90*	*933-98-2*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*7.2*	*T J*	*ug/L*		*5.96*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
Propanedioic acid, phenyl-	*17*	*T J N*	*ug/L*		*6.55*	*2613-89-0*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*6.8*	*T J*	*ug/L*		*6.65*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
Unknown	*5.5*	*T J*	*ug/L*		*6.96*		*07/19/19 14:04*	*07/23/19 19:57*	*1*
n-Hexadecanoic acid	*8.7*	*T J N*	*ug/L*		*9.07*	*57-10-3*	*07/19/19 14:04*	*07/23/19 19:57*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*34 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Nitrobenzene-d5	*63*		*27 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-50-071719-DUP
Lab Sample ID: 400-173355-5
Date Collected: 07/17/19 11:10
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	*35*		*10 - 120*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
Terphenyl-d14	*41*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 19:57*	*1*
2,4,6-Tribromophenol	*77*		*15 - 135*	*07/19/19 14:04*	*07/23/19 19:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**170**		52	13	ug/L		07/19/19 14:04	07/25/19 00:07	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50000	20000	ug/L			07/23/19 13:11	2000
Acrolein	ND		40000	20000	ug/L			07/23/19 13:11	2000
Acrylonitrile	ND		20000	5600	ug/L			07/23/19 13:11	2000
Bromobenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
Bromochloromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
Bromodichloromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
Bromoform	ND		10000	1400	ug/L			07/23/19 13:11	2000
Bromomethane	ND		2000	2000	ug/L			07/23/19 13:11	2000
2-Butanone (MEK)	ND		50000	5200	ug/L			07/23/19 13:11	2000
Carbon disulfide	ND		2000	1000	ug/L			07/23/19 13:11	2000
Carbon tetrachloride	ND		2000	1000	ug/L			07/23/19 13:11	2000
Chlorobenzene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Chloroethane	ND		2000	1500	ug/L			07/23/19 13:11	2000
2-Chloroethyl vinyl ether	ND		10000	4000	ug/L			07/23/19 13:11	2000
Chloroform	ND		2000	1200	ug/L			07/23/19 13:11	2000
1-Chlorohexane	ND		2000	1400	ug/L			07/23/19 13:11	2000
Chloromethane	ND		2000	1700	ug/L			07/23/19 13:11	2000
cis-1,2-Dichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
cis-1,3-Dichloropropene	ND		10000	1000	ug/L			07/23/19 13:11	2000
Dibromochloromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2-Dibromo-3-Chloropropane	ND		10000	3000	ug/L			07/23/19 13:11	2000
1,2-Dichlorobenzene	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,3-Dichlorobenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
1,4-Dichlorobenzene	ND		2000	1300	ug/L			07/23/19 13:11	2000
Dichlorodifluoromethane	ND		2000	1700	ug/L			07/23/19 13:11	2000
1,1-Dichloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2-Dichloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,1-Dichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2-Dichloropropane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,3-Dichloropropane	ND		2000	1000	ug/L			07/23/19 13:11	2000
2,2-Dichloropropane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,1-Dichloropropene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Ethylbenzene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Ethylene Dibromide	ND		2000	1000	ug/L			07/23/19 13:11	2000
Ethyl methacrylate	ND		2000	1200	ug/L			07/23/19 13:11	2000
Hexachlorobutadiene	ND		10000	1800	ug/L			07/23/19 13:11	2000
2-Hexanone	ND		50000	6200	ug/L			07/23/19 13:11	2000
Isopropylbenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
Methylene bromide	ND		10000	1200	ug/L			07/23/19 13:11	2000
Methylene Chloride	ND		10000	6000	ug/L			07/23/19 13:11	2000
4-Methyl-2-pentanone (MIBK)	ND		50000	3600	ug/L			07/23/19 13:11	2000
Methyl tert-butyl ether	ND		2000	1500	ug/L			07/23/19 13:11	2000
m-Xylene & p-Xylene	ND		10000	3200	ug/L			07/23/19 13:11	2000
Naphthalene	ND		2000	2000	ug/L			07/23/19 13:11	2000
n-Butylbenzene	ND		2000	1500	ug/L			07/23/19 13:11	2000
N-Propylbenzene	ND		2000	1400	ug/L			07/23/19 13:11	2000
o-Chlorotoluene	ND		2000	1100	ug/L			07/23/19 13:11	2000
o-Xylene	ND		10000	1200	ug/L			07/23/19 13:11	2000
p-Chlorotoluene	ND		2000	1100	ug/L			07/23/19 13:11	2000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2000	1400	ug/L			07/23/19 13:11	2000
sec-Butylbenzene	ND		2000	1400	ug/L			07/23/19 13:11	2000
Styrene	ND		2000	2000	ug/L			07/23/19 13:11	2000
tert-Butylbenzene	ND		2000	1300	ug/L			07/23/19 13:11	2000
1,1,1,2-Tetrachloroethane	ND	*	2000	1000	ug/L			07/23/19 13:11	2000
1,1,2,2-Tetrachloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
Tetrachloroethene	ND		2000	1200	ug/L			07/23/19 13:11	2000
Toluene	ND		2000	820	ug/L			07/23/19 13:11	2000
trans-1,2-Dichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
trans-1,3-Dichloropropene	ND		10000	1000	ug/L			07/23/19 13:11	2000
1,2,3-Trichlorobenzene	ND		2000	1400	ug/L			07/23/19 13:11	2000
1,2,4-Trichlorobenzene	ND		2000	1600	ug/L			07/23/19 13:11	2000
1,1,1-Trichloroethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,1,2-Trichloroethane	ND		10000	1000	ug/L			07/23/19 13:11	2000
Trichloroethene	ND		2000	1000	ug/L			07/23/19 13:11	2000
Trichlorofluoromethane	ND		2000	1000	ug/L			07/23/19 13:11	2000
1,2,3-Trichloropropane	ND		10000	1700	ug/L			07/23/19 13:11	2000
1,2,4-Trimethylbenzene	ND		2000	1600	ug/L			07/23/19 13:11	2000
1,3,5-Trimethylbenzene	ND		2000	1100	ug/L			07/23/19 13:11	2000
Vinyl acetate	ND		50000	4000	ug/L			07/23/19 13:11	2000
Vinyl chloride	ND		2000	1000	ug/L			07/23/19 13:11	2000
Xylenes, Total	ND		20000	3200	ug/L			07/23/19 13:11	2000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 13:11*	*2000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 13:11*	*2000*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 13:11*	*2000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 13:11*	*2000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**970000**		5000	1900	ug/L			07/24/19 10:23	5000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 10:23*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 10:23*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 10:23*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	07/25/19 01:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	07/25/19 01:17	1
1-Methylnaphthalene	**11**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
2-Methylnaphthalene	**25**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*15 - 122*	*07/19/19 14:04*	*07/25/19 01:17*	*1*
Nitrobenzene-d5	*91*		*19 - 130*	*07/19/19 14:04*	*07/25/19 01:17*	*1*
Terphenyl-d14	*101*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
Benzenethiol	ND	*	9.9	1.7	ug/L		07/19/19 14:04	07/23/19 20:18	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 20:18	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Bis(2-chloroethoxy)methane	ND		9.9	0.69	ug/L		07/19/19 14:04	07/23/19 20:18	1
Bis(2-chloroethyl)ether	ND	*	9.9	0.74	ug/L		07/19/19 14:04	07/23/19 20:18	1
bis (2-chloroisopropyl) ether	ND		9.9	0.81	ug/L		07/19/19 14:04	07/23/19 20:18	1
Bis(2-ethylhexyl) phthalate	ND		9.9	5.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/19/19 14:04	07/23/19 20:18	1
Butyl benzyl phthalate	ND		9.9	0.69	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Chloronaphthalene	ND	*	9.9	0.52	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Chlorophenol	ND	*	9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Chlorophenyl phenyl ether	ND	*	9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Dibenz[a,h]acridine	ND	*	9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Dibenzofuran	ND	*	9.9	0.52	ug/L		07/19/19 14:04	07/23/19 20:18	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
Diethyl phthalate	ND		9.9	0.70	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:18	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		07/19/19 14:04	07/23/19 20:18	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/19/19 14:04	07/23/19 20:18	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:18	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		07/19/19 14:04	07/23/19 20:18	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:18	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/19/19 14:04	07/23/19 20:18	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 20:18	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/19/19 14:04	07/23/19 20:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-53-071719

Date Collected: 07/17/19 13:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:18	1
Isophorone	ND		9.9	0.57	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:18	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/19/19 14:04	07/23/19 20:18	1
Nitrobenzene	ND		9.9	0.55	ug/L		07/19/19 14:04	07/23/19 20:18	1
2-Nitrophenol	ND		9.9	0.65	ug/L		07/19/19 14:04	07/23/19 20:18	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/19/19 14:04	07/23/19 20:18	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:18	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/19/19 14:04	07/23/19 20:18	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		07/19/19 14:04	07/23/19 20:18	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 20:18	1
Pyridine	ND		9.9	3.2	ug/L		07/19/19 14:04	07/23/19 20:18	1
Quinoline	ND		9.9	6.0	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/19/19 14:04	07/23/19 20:18	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*16*	*T J*	*ug/L*		*3.74*		*07/19/19 14:04*	*07/23/19 20:18*	*1*
Toluene	*100*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
2-Butanone, 4-hydroxy-	*78*	*T J N*	*ug/L*		*4.05*	*590-90-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Cyclopentanol, 1-methyl-	*22*	*T J N*	*ug/L*		*4.10*	*1462-03-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
1,3-Dimethylcyclopentanol	*15*	*T J N*	*ug/L*		*4.51*	*19550-46-0*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Ethylbenzene	*290*	*T J N*	*ug/L*		*4.64*	*100-41-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
o-Xylene	*140*	*T J N*	*ug/L*		*4.86*	*95-47-6*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, (1-methylethyl)-	*25*	*T J N*	*ug/L*		*5.05*	*98-82-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, propyl-	*56*	*T J N*	*ug/L*		*5.23*	*103-65-1*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethyl-3-methyl-	*110*	*T J N*	*ug/L*		*5.27*	*620-14-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethyl-2-methyl-	*98*	*T J N*	*ug/L*		*5.29*	*611-14-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethyl-2-methyl-	*88*	*T J N*	*ug/L*		*5.37*	*611-14-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1,2,3-trimethyl-	*240*	*T J N*	*ug/L*		*5.46*	*526-73-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1,2,3-trimethyl-	*98*	*T J N*	*ug/L*		*5.61*	*526-73-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Indane	*98*	*T J N*	*ug/L*		*5.70*	*496-11-7*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*49*	*T J N*	*ug/L*		*5.76*	*1758-88-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*18*	*T J N*	*ug/L*		*5.86*	*1758-88-9*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*38*	*T J N*	*ug/L*		*5.90*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1,2,4,5-tetramethyl-	*21*	*T J N*	*ug/L*		*6.07*	*95-93-2*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Benzene, 1-ethenyl-4-ethyl-	*19*	*T J N*	*ug/L*		*6.18*	*3454-07-7*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
1-Phenyl-1-butene	*46*	*T J N*	*ug/L*		*6.23*	*824-90-8*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Naphthalene	*56*	*T J N*	*ug/L*		*6.43*	*91-20-3*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Unknown	*18*	*T J*	*ug/L*		*6.56*		*07/19/19 14:04*	*07/23/19 20:18*	*1*
Unknown	*16*	*T J*	*ug/L*		*6.66*		*07/19/19 14:04*	*07/23/19 20:18*	*1*
Naphthalene, 1-methyl-	*21*	*T J N*	*ug/L*		*6.87*	*90-12-0*	*07/19/19 14:04*	*07/23/19 20:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*34 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
2-Fluorophenol	*34*		*10 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Nitrobenzene-d5	*78*		*27 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-53-071719
Lab Sample ID: 400-173355-6
Date Collected: 07/17/19 13:15
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Phenol-d5	*64*		*10 - 120*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
Terphenyl-d14	*54*		*53 - 125*	*07/19/19 14:04*	*07/23/19 20:18*	*1*
2,4,6-Tribromophenol	*93*		*15 - 135*	*07/19/19 14:04*	*07/23/19 20:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**310**		50	13	ug/L		07/19/19 14:04	07/25/19 00:28	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719

Lab Sample ID: 400-173355-7

Date Collected: 07/17/19 14:10

Matrix: Water

Date Received: 07/18/19 09:19

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			07/23/19 09:52	500
Acrolein	ND		10000	5000	ug/L			07/23/19 09:52	500
Acrylonitrile	ND		5000	1400	ug/L			07/23/19 09:52	500
Benzene	**140000**		500	190	ug/L			07/23/19 09:52	500
Bromobenzene	ND		500	270	ug/L			07/23/19 09:52	500
Bromochloromethane	ND		500	260	ug/L			07/23/19 09:52	500
Bromodichloromethane	ND		500	250	ug/L			07/23/19 09:52	500
Bromoform	ND		2500	360	ug/L			07/23/19 09:52	500
Bromomethane	ND		500	490	ug/L			07/23/19 09:52	500
2-Butanone (MEK)	ND		13000	1300	ug/L			07/23/19 09:52	500
Carbon disulfide	ND		500	250	ug/L			07/23/19 09:52	500
Carbon tetrachloride	ND		500	250	ug/L			07/23/19 09:52	500
Chlorobenzene	ND		500	250	ug/L			07/23/19 09:52	500
Chloroethane	ND		500	380	ug/L			07/23/19 09:52	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			07/23/19 09:52	500
Chloroform	ND		500	300	ug/L			07/23/19 09:52	500
1-Chlorohexane	ND		500	350	ug/L			07/23/19 09:52	500
Chloromethane	ND		500	420	ug/L			07/23/19 09:52	500
cis-1,2-Dichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			07/23/19 09:52	500
Dibromochloromethane	ND		500	250	ug/L			07/23/19 09:52	500
1,2-Dibromo-3-Chloropropane	ND		2500	750	ug/L			07/23/19 09:52	500
1,2-Dichlorobenzene	ND		500	250	ug/L			07/23/19 09:52	500
1,3-Dichlorobenzene	ND		500	270	ug/L			07/23/19 09:52	500
1,4-Dichlorobenzene	ND		500	320	ug/L			07/23/19 09:52	500
Dichlorodifluoromethane	ND		500	430	ug/L			07/23/19 09:52	500
1,1-Dichloroethane	ND		500	250	ug/L			07/23/19 09:52	500
1,2-Dichloroethane	ND		500	250	ug/L			07/23/19 09:52	500
1,1-Dichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
1,2-Dichloropropane	ND		500	250	ug/L			07/23/19 09:52	500
1,3-Dichloropropane	ND		500	250	ug/L			07/23/19 09:52	500
2,2-Dichloropropane	ND		500	250	ug/L			07/23/19 09:52	500
1,1-Dichloropropene	ND		500	250	ug/L			07/23/19 09:52	500
Ethylbenzene	**4200**		500	250	ug/L			07/23/19 09:52	500
Ethylene Dibromide	ND		500	250	ug/L			07/23/19 09:52	500
Ethyl methacrylate	ND		500	300	ug/L			07/23/19 09:52	500
Hexachlorobutadiene	ND		2500	450	ug/L			07/23/19 09:52	500
2-Hexanone	ND		13000	1600	ug/L			07/23/19 09:52	500
Isopropylbenzene	ND		500	270	ug/L			07/23/19 09:52	500
Methylene bromide	ND		2500	300	ug/L			07/23/19 09:52	500
Methylene Chloride	ND		2500	1500	ug/L			07/23/19 09:52	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			07/23/19 09:52	500
Methyl tert-butyl ether	ND		500	370	ug/L			07/23/19 09:52	500
m-Xylene & p-Xylene	**9300**		2500	800	ug/L			07/23/19 09:52	500
Naphthalene	ND		500	500	ug/L			07/23/19 09:52	500
n-Butylbenzene	ND		500	380	ug/L			07/23/19 09:52	500
N-Propylbenzene	ND		500	350	ug/L			07/23/19 09:52	500
o-Chlorotoluene	ND		500	290	ug/L			07/23/19 09:52	500
o-Xylene	**3600**		2500	300	ug/L			07/23/19 09:52	500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719

Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		500	280	ug/L			07/23/19 09:52	500
p-Isopropyltoluene	ND		500	360	ug/L			07/23/19 09:52	500
sec-Butylbenzene	ND		500	350	ug/L			07/23/19 09:52	500
Styrene	ND		500	500	ug/L			07/23/19 09:52	500
tert-Butylbenzene	ND		500	320	ug/L			07/23/19 09:52	500
1,1,1,2-Tetrachloroethane	ND	*	500	260	ug/L			07/23/19 09:52	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			07/23/19 09:52	500
Tetrachloroethene	ND		500	290	ug/L			07/23/19 09:52	500
Toluene	**1100**		500	210	ug/L			07/23/19 09:52	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
trans-1,3-Dichloropropene	ND		2500	250	ug/L			07/23/19 09:52	500
1,2,3-Trichlorobenzene	ND		500	350	ug/L			07/23/19 09:52	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			07/23/19 09:52	500
1,1,1-Trichloroethane	ND		500	250	ug/L			07/23/19 09:52	500
1,1,2-Trichloroethane	ND		2500	250	ug/L			07/23/19 09:52	500
Trichloroethene	ND		500	250	ug/L			07/23/19 09:52	500
Trichlorofluoromethane	ND		500	260	ug/L			07/23/19 09:52	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			07/23/19 09:52	500
1,2,4-Trimethylbenzene	**1300**		500	410	ug/L			07/23/19 09:52	500
1,3,5-Trimethylbenzene	**430**	**J**	500	280	ug/L			07/23/19 09:52	500
Vinyl acetate	ND		13000	1000	ug/L			07/23/19 09:52	500
Vinyl chloride	ND		500	250	ug/L			07/23/19 09:52	500
Xylenes, Total	**13000**		5000	800	ug/L			07/23/19 09:52	500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*900*		*ug/L*		*3.70*	*110-54-3*		*07/23/19 09:52*	*500*
Cyclohexane	*1200*		*ug/L*		*4.54*	*110-82-7*		*07/23/19 09:52*	*500*
Isobutyl alcohol	*21000*		*ug/L*		*4.59*	*78-83-1*		*07/23/19 09:52*	*500*
n-Heptane	*390*	*J*	*ug/L*		*4.85*	*142-82-5*		*07/23/19 09:52*	*500*
Methylcyclohexane	*490*	*J*	*ug/L*		*5.27*	*108-87-2*		*07/23/19 09:52*	*500*
3-Ethyltoluene	*1200*		*ug/L*		*8.07*	*620-14-4*		*07/23/19 09:52*	*500*
2-Ethyltoluene	*320*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/23/19 09:52*	*500*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 09:52*	*500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/23/19 09:52*	*500*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 09:52*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 09:52*	*500*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
Acenaphthylene	ND		0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
Anthracene	**0.12**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Chrysene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719

Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1
Fluorene	ND		0.99	0.10	ug/L		07/19/19 14:04	08/03/19 14:50	5
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:35	1
1-Methylnaphthalene	**82**	**B**	0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
2-Methylnaphthalene	**150**	**B**	0.99	0.099	ug/L		07/19/19 14:04	08/03/19 14:50	5
Phenanthrene	**0.81**		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1
Pyrene	**0.075**	**J**	0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/19/19 14:04*	*08/03/19 14:50*	*5*
Nitrobenzene-d5	*83*		*19 - 130*	*07/19/19 14:04*	*08/03/19 14:50*	*5*
Terphenyl-d14	*105*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
Benzenethiol	ND	*	9.9	1.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
Benzoic acid	ND		30	7.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/19/19 14:04	07/23/19 20:39	1
Bis(2-chloroethyl)ether	ND	*	9.9	0.73	ug/L		07/19/19 14:04	07/23/19 20:39	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/19/19 14:04	07/23/19 20:39	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/19/19 14:04	07/23/19 20:39	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Chloro-3-methylphenol	ND		9.9	3.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Chloronaphthalene	ND	*	9.9	0.51	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Chlorophenol	ND	*	9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Chlorophenyl phenyl ether	ND	*	9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Dibenz[a,h]acridine	ND	*	9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Dibenzofuran	ND	*	9.9	0.51	ug/L		07/19/19 14:04	07/23/19 20:39	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:39	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/19/19 14:04	07/23/19 20:39	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/19/19 14:04	07/23/19 20:39	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		07/19/19 14:04	07/23/19 20:39	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:39	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:39	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/19/19 14:04	07/23/19 20:39	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
Hexachloroethane	ND		9.9	4.1	ug/L		07/19/19 14:04	07/23/19 20:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-60-071719
Date Collected: 07/17/19 14:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-7
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	**36**		9.9	0.99	ug/L		07/19/19 14:04	07/23/19 20:39	1
Isophorone	ND		9.9	0.56	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:39	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Nitroaniline	ND		9.9	2.4	ug/L		07/19/19 14:04	07/23/19 20:39	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/19/19 14:04	07/23/19 20:39	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/19/19 14:04	07/23/19 20:39	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/19/19 14:04	07/23/19 20:39	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:39	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/19/19 14:04	07/23/19 20:39	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/19/19 14:04	07/23/19 20:39	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 20:39	1
Phenol	**36**	*	9.9	2.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
Pyridine	ND		9.9	3.2	ug/L		07/19/19 14:04	07/23/19 20:39	1
Quinoline	ND		9.9	5.9	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4,5-Trichlorophenol	ND		9.9	3.6	ug/L		07/19/19 14:04	07/23/19 20:39	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/19/19 14:04	07/23/19 20:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*82*	*T J N*	*ug/L*		*3.87*	*108-88-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Ethylbenzene	*170*	*T J N*	*ug/L*		*4.65*	*100-41-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
o-Xylene	*100*	*T J N*	*ug/L*		*4.88*	*95-47-6*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Unknown	*57*	*T J*	*ug/L*		*4.91*		*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, (1-methylethyl)-	*47*	*T J N*	*ug/L*		*5.06*	*98-82-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, propyl-	*87*	*T J N*	*ug/L*		*5.24*	*103-65-1*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-ethyl-2-methyl-	*120*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Decane	*54*	*T J N*	*ug/L*		*5.46*	*124-18-5*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Unknown	*43*	*T J*	*ug/L*		*5.47*		*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.63*	*526-73-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Indane	*100*	*T J N*	*ug/L*		*5.71*	*496-11-7*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,3,4-tetramethyl-	*73*	*T J N*	*ug/L*		*5.77*	*488-23-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*45*	*T J N*	*ug/L*		*5.87*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*100*	*T J N*	*ug/L*		*5.92*	*527-84-4*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,4,5-tetramethyl-	*43*	*T J N*	*ug/L*		*6.07*	*95-93-2*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, 1,2,4,5-tetramethyl-	*65*	*T J N*	*ug/L*		*6.09*	*95-93-2*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Unknown	*38*	*T J*	*ug/L*		*6.14*		*07/19/19 14:04*	*07/23/19 20:39*	*1*
1H-Indene, 2,3-dihydro-5-methyl-	*84*	*T J N*	*ug/L*		*6.19*	*874-35-1*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Unknown	*100*	*T J*	*ug/L*		*6.24*		*07/19/19 14:04*	*07/23/19 20:39*	*1*
Dodecane	*52*	*T J N*	*ug/L*		*6.35*	*112-40-3*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzene, (2-methyl-1-butenyl)-	*51*	*T J N*	*ug/L*		*6.40*	*56253-64-6*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Benzo[b]thiophene	*50*	*T J N*	*ug/L*		*6.47*	*95-15-8*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Tridecane	*57*	*T J N*	*ug/L*		*6.74*	*629-50-5*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Naphthalene, 1-methyl-	*67*	*T J N*	*ug/L*		*6.88*	*90-12-0*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
Naphthalene, 1-methyl-	*47*	*T J N*	*ug/L*		*6.95*	*90-12-0*	*07/19/19 14:04*	*07/23/19 20:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*34 - 120*	*07/19/19 14:04*	*07/23/19 20:39*	*1*
2-Fluorophenol	*18*		*10 - 120*	*07/19/19 14:04*	*07/23/19 20:39*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-60-071719
Lab Sample ID: 400-173355-7
Date Collected: 07/17/19 14:10
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	55		27 - 120	07/19/19 14:04	07/23/19 20:39	1
Phenol-d5	0.9	X	10 - 120	07/19/19 14:04	07/23/19 20:39	1
Terphenyl-d14	49	X	53 - 125	07/19/19 14:04	07/23/19 20:39	1
2,4,6-Tribromophenol	109		15 - 135	07/19/19 14:04	07/23/19 20:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719

Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**10**	**J**	25	10	ug/L			07/23/19 09:27	1
Acrolein	ND		20	10	ug/L			07/23/19 09:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/23/19 09:27	1
Benzene	**130**		1.0	0.38	ug/L			07/23/19 09:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/23/19 09:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/23/19 09:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Bromoform	ND		5.0	0.71	ug/L			07/23/19 09:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/23/19 09:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/23/19 09:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/23/19 09:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/23/19 09:27	1
Chloroform	ND		1.0	0.60	ug/L			07/23/19 09:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/23/19 09:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/23/19 09:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/23/19 09:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/23/19 09:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/23/19 09:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/23/19 09:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/23/19 09:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/23/19 09:27	1
2-Hexanone	ND		25	3.1	ug/L			07/23/19 09:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/23/19 09:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/23/19 09:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/23/19 09:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/23/19 09:27	1
Methyl tert-butyl ether	**4.7**		1.0	0.74	ug/L			07/23/19 09:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/23/19 09:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/23/19 09:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/23/19 09:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/23/19 09:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/23/19 09:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/23/19 09:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719

Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/23/19 09:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/23/19 09:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/23/19 09:27	1
Styrene	ND		1.0	1.0	ug/L			07/23/19 09:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/23/19 09:27	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/23/19 09:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/23/19 09:27	1
Toluene	**0.44**	**J**	1.0	0.41	ug/L			07/23/19 09:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 09:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/23/19 09:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/23/19 09:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/23/19 09:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/23/19 09:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/23/19 09:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/23/19 09:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/23/19 09:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/23/19 09:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/23/19 09:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/23/19 09:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/23/19 09:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*80*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/23/19 09:27*	*1*
2-Methyl-2-propanol	*73*		*ug/L*		*3.39*	*75-65-0*		*07/23/19 09:27*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 09:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*07/23/19 09:27*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/23/19 09:27*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/23/19 09:27*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Chrysene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Fluorene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/19/19 14:04	07/25/19 01:52	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Client Sample ID: PD-14-GWP-70-071719

Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-8

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/25/19 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*15 - 122*	*07/19/19 14:04*	*07/25/19 01:52*	*1*
Nitrobenzene-d5	*54*		*19 - 130*	*07/19/19 14:04*	*07/25/19 01:52*	*1*
Terphenyl-d14	*72*		*33 - 138*	*07/19/19 14:04*	*07/25/19 01:52*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		49	19	ug/L		07/19/19 14:04	07/24/19 23:03	5
Benzenethiol	ND	*	49	8.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
Benzoic acid	ND		150	36	ug/L		07/19/19 14:04	07/24/19 23:03	5
Benzyl alcohol	ND		49	9.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
Bis(2-chloroethoxy)methane	ND		49	3.4	ug/L		07/19/19 14:04	07/24/19 23:03	5
Bis(2-chloroethyl)ether	ND		49	3.6	ug/L		07/19/19 14:04	07/24/19 23:03	5
bis (2-chloroisopropyl) ether	ND		49	4.0	ug/L		07/19/19 14:04	07/24/19 23:03	5
Bis(2-ethylhexyl) phthalate	ND		49	24	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Bromophenyl phenyl ether	ND	*	49	1.6	ug/L		07/19/19 14:04	07/24/19 23:03	5
Butyl benzyl phthalate	ND		49	3.4	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Chloroaniline	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Chloro-3-methylphenol	ND		49	19	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Chloronaphthalene	ND		49	2.5	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Chlorophenol	ND		49	11	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Chlorophenyl phenyl ether	ND		49	9.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
Dibenz[a,h]acridine	ND		49	15	ug/L		07/19/19 14:04	07/24/19 23:03	5
Dibenzofuran	ND		49	2.5	ug/L		07/19/19 14:04	07/24/19 23:03	5
3,3'-Dichlorobenzidine	ND	*	49	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dichlorophenol	ND		49	15	ug/L		07/19/19 14:04	07/24/19 23:03	5
Diethyl phthalate	ND		49	3.4	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dimethylphenol	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
Dimethyl phthalate	ND		49	2.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
Di-n-butyl phthalate	ND		49	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
4,6-Dinitro-ortho-cresol	ND		49	9.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dinitrophenol	ND		150	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4-Dinitrotoluene	ND		49	9.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,6-Dinitrotoluene	ND		49	9.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
Di-n-octyl phthalate	ND		49	2.1	ug/L		07/19/19 14:04	07/24/19 23:03	5
1,4-Dioxane	ND		49	4.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		49	4.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
Hexachlorobenzene	ND	*	49	1.2	ug/L		07/19/19 14:04	07/24/19 23:03	5
Hexachlorocyclopentadiene	ND		98	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
Hexachloroethane	ND		49	20	ug/L		07/19/19 14:04	07/24/19 23:03	5
Indene	ND		49	4.9	ug/L		07/19/19 14:04	07/24/19 23:03	5
Isophorone	ND		49	2.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Methylphenol	ND		49	8.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
3 & 4 Methylphenol	ND		98	5.1	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Nitroaniline	ND		49	11	ug/L		07/19/19 14:04	07/24/19 23:03	5

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-70-071719
Lab Sample ID: 400-173355-8
Date Collected: 07/17/19 15:30
Matrix: Water
Date Received: 07/18/19 09:19

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		49	8.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Nitroaniline	ND		49	12	ug/L		07/19/19 14:04	07/24/19 23:03	5
Nitrobenzene	ND		49	2.7	ug/L		07/19/19 14:04	07/24/19 23:03	5
2-Nitrophenol	ND		49	3.2	ug/L		07/19/19 14:04	07/24/19 23:03	5
4-Nitrophenol	ND		49	10	ug/L		07/19/19 14:04	07/24/19 23:03	5
N-Nitrosodimethylamine	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5
N-Nitrosodi-n-propylamine	ND		49	16	ug/L		07/19/19 14:04	07/24/19 23:03	5
N-Nitrosodiphenylamine	ND		49	2.3	ug/L		07/19/19 14:04	07/24/19 23:03	5
Pentachlorophenol	ND		98	8.8	ug/L		07/19/19 14:04	07/24/19 23:03	5
Phenol	ND		49	13	ug/L		07/19/19 14:04	07/24/19 23:03	5
Pyridine	ND		49	16	ug/L		07/19/19 14:04	07/24/19 23:03	5
Quinoline	ND		49	29	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4,5-Trichlorophenol	ND		49	18	ug/L		07/19/19 14:04	07/24/19 23:03	5
2,4,6-Trichlorophenol	ND		49	17	ug/L		07/19/19 14:04	07/24/19 23:03	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/24/19 23:03*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*98*		*34 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
2-Fluorophenol	*11*		*10 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
Nitrobenzene-d5	*78*		*27 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
Phenol-d5	*45*		*10 - 120*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
Terphenyl-d14	*113*		*53 - 125*	*07/19/19 14:04*	*07/24/19 23:03*	*5*
2,4,6-Tribromophenol	*178*	*X*	*15 - 135*	*07/19/19 14:04*	*07/24/19 23:03*	*5*

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173355-1	TB-PW-071719-B	102	98	102
400-173355-2	PD-14-GWP-40-071719	101	96	102
400-173355-3	PD-14-GWP-45-071719	100	95	103
400-173355-3 - DL	PD-14-GWP-45-071719	98	95	102
400-173355-4	PD-14-GWP-50-071719	101	95	100
400-173355-4 - DL	PD-14-GWP-50-071719	99	96	101
400-173355-5	PD-14-GWP-50-071719-DUP	101	97	102
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	100	94	103
400-173355-6	PD-14-GWP-53-071719	101	96	102
400-173355-6 - DL	PD-14-GWP-53-071719	101	96	101
400-173355-7	PD-14-GWP-60-071719	102	96	102
400-173355-8	PD-14-GWP-70-071719	102	97	102
400-173355-8 MS	PD-14-GWP-70-071719	101	95	102
400-173355-8 MSD	PD-14-GWP-70-071719	104	96	103
LCS 400-449079/1002	Lab Control Sample	99	97	101
LCS 400-449267/1002	Lab Control Sample	99	95	100
LCS 400-449805/1003	Lab Control Sample	100	95	103
MB 400-449079/4	Method Blank	101	96	103
MB 400-449267/4	Method Blank	101	97	101
MB 400-449805/5	Method Blank	99	96	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173355-2	PD-14-GWP-40-071719	56	6 X	75	37	62	79
400-173355-3	PD-14-GWP-45-071719	64	21	80	57	71	109
400-173355-4	PD-14-GWP-50-071719	50	17	65	46	53	82
400-173355-5	PD-14-GWP-50-071719-DUP	48	0 X	63	35	41 X	77
400-173355-6	PD-14-GWP-53-071719	57	34	78	64	54	93
400-173355-7	PD-14-GWP-60-071719	53	18	55	0.9 X	49 X	109
400-173355-8	PD-14-GWP-70-071719	98	11	78	45	113	178 X
LCS 400-448720/2-A	Lab Control Sample	92	11	67	38	114	155 X
LCSD 400-448720/20-A	Lab Control Sample Dup	72	33	91	61	96	72
MB 400-448720/1-A	Method Blank	42	21	59	43	49 X	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		FBP	NBZ	TPHL						
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)						
400-173355-2	PD-14-GWP-40-071719	100	94	107						
400-173355-3	PD-14-GWP-45-071719	80								
400-173355-3 - DL	PD-14-GWP-45-071719		53	101						
400-173355-4	PD-14-GWP-50-071719	82	67	100						
400-173355-5	PD-14-GWP-50-071719-DUP	83	72	81						
400-173355-6	PD-14-GWP-53-071719	74	91	101						
400-173355-7	PD-14-GWP-60-071719			105						
400-173355-7	PD-14-GWP-60-071719	89	83							
400-173355-8	PD-14-GWP-70-071719	58	54	72						
LCS 400-448720/2-A	Lab Control Sample	84	58	127						
MB 400-448720/1-A	Method Blank	89	80	117						

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071719-B
Date Collected: 07/17/19 00:00
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 09:02	WPD	TAL PEN

Client Sample ID: PD-14-GWP-40-071719
Date Collected: 07/17/19 09:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449079	07/23/19 12:47	WPD	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 18:54	VC1	TAL PEN
Total/NA	Prep	3520C			1026.6 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 00:04	PP1	TAL PEN

Client Sample ID: PD-14-GWP-45-071719
Date Collected: 07/17/19 10:15
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	449079	07/23/19 13:36	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	449267	07/24/19 10:49	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/24/19 23:24	VC1	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 19:15	VC1	TAL PEN
Total/NA	Prep	3520C			1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 00:23	PP1	TAL PEN
Total/NA	Prep	3520C	DL		1022.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			449887	07/29/19 20:07	KJA	TAL PEN

Client Sample ID: PD-14-GWP-50-071719
Date Collected: 07/17/19 11:10
Date Received: 07/18/19 09:19

Lab Sample ID: 400-173355-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449079	07/23/19 14:00	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449267	07/24/19 18:13	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1017.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/24/19 23:45	VC1	TAL PEN
Total/NA	Prep	3520C			1017.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 19:36	VC1	TAL PEN
Total/NA	Prep	3520C			1017.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 00:41	PP1	TAL PEN

Client Sample ID: PD-14-GWP-50-071719-DUP

Lab Sample ID: 400-173355-5

Date Collected: 07/17/19 11:10

Matrix: Water

Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449079	07/23/19 14:25	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	20000	5 mL	5 mL	449805	07/28/19 12:00	WPD	TAL PEN
Total/NA	Prep	3520C	DL		970.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/25/19 00:07	VC1	TAL PEN
Total/NA	Prep	3520C			970.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 19:57	VC1	TAL PEN
Total/NA	Prep	3520C			970.4 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:00	PP1	TAL PEN

Client Sample ID: PD-14-GWP-53-071719

Lab Sample ID: 400-173355-6

Date Collected: 07/17/19 13:15

Matrix: Water

Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449079	07/23/19 13:11	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	449267	07/24/19 10:23	WPD	TAL PEN
Total/NA	Prep	3520C	DL		1006 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D	DL	5			449369	07/25/19 00:28	VC1	TAL PEN
Total/NA	Prep	3520C			1006 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 20:18	VC1	TAL PEN
Total/NA	Prep	3520C			1006 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:17	PP1	TAL PEN

Client Sample ID: PD-14-GWP-60-071719

Lab Sample ID: 400-173355-7

Date Collected: 07/17/19 14:10

Matrix: Water

Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	5 mL	5 mL	449079	07/23/19 09:52	WPD	TAL PEN
Total/NA	Prep	3520C			1014 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449178	07/23/19 20:39	VC1	TAL PEN
Total/NA	Prep	3520C			1014 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 14:50	KJA	TAL PEN
Total/NA	Prep	3520C			1014 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:35	PP1	TAL PEN

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8

Date Collected: 07/17/19 15:30

Matrix: Water

Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 09:27	WPD	TAL PEN
Total/NA	Prep	3520C			1024.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	449369	07/24/19 23:03	VC1	TAL PEN

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 400-173355-8

Date Collected: 07/17/19 15:30

Matrix: Water

Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1024.8 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449423	07/25/19 01:52	PP1	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-448720/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 15:20	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 12:50	KJA	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		1			449887	07/29/19 20:41	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449079/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 08:37	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449267/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 08:41	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449805/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:05	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-448720/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449369	07/24/19 22:41	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:04	BNL	TAL PEN
Total/NA	Analysis	8270D LL		5			449887	07/29/19 20:57	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449079/1002

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 07:48	WPD	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449267/1002

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449267	07/24/19 07:52	WPD	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449805/1003

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 08:15	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-448720/20-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	448720	07/19/19 14:38	BNL	TAL PEN
Total/NA	Analysis	8270D		1			449178	07/23/19 21:43	VC1	TAL PEN

Client Sample ID: PD-14-GWP-70-071719 — Lab Sample ID: 400-173355-8 MS

Date Collected: 07/17/19 15:30 — **Matrix: Water**
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 11:06	WPD	TAL PEN

Client Sample ID: PD-14-GWP-70-071719 — Lab Sample ID: 400-173355-8 MSD

Date Collected: 07/17/19 15:30 — **Matrix: Water**
Date Received: 07/18/19 09:19

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449079	07/23/19 11:31	WPD	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

GC/MS VOA

Analysis Batch: 449079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-1	TB-PW-071719-B	Total/NA	Water	8260B	
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	8260B	
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	8260B	
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	8260B	
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	8260B	
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	8260B	
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8260B	
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	8260B	
MB 400-449079/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449079/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173355-8 MS	PD-14-GWP-70-071719	Total/NA	Water	8260B	
400-173355-8 MSD	PD-14-GWP-70-071719	Total/NA	Water	8260B	

Analysis Batch: 449267

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	8260B	
400-173355-4 - DL	PD-14-GWP-50-071719	Total/NA	Water	8260B	
400-173355-6 - DL	PD-14-GWP-53-071719	Total/NA	Water	8260B	
MB 400-449267/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449267/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	Total/NA	Water	8260B	
MB 400-449805/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449805/1003	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 448720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	3520C	
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	3520C	
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	3520C	
400-173355-4 - DL	PD-14-GWP-50-071719	Total/NA	Water	3520C	
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	3520C	
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	Total/NA	Water	3520C	
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	3520C	
400-173355-6 - DL	PD-14-GWP-53-071719	Total/NA	Water	3520C	
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	3520C	
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	3520C	
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	3520C	
MB 400-448720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	8270D	448720
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	8270D	448720
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	8270D	448720

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

GC/MS Semi VOA (Continued)

Analysis Batch: 449178 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	8270D	448720
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	8270D	448720
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8270D	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D	448720
LCSD 400-448720/20-A	Lab Control Sample Dup	Total/NA	Water	8270D	448720

Analysis Batch: 449369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	8270D	448720
400-173355-4 - DL	PD-14-GWP-50-071719	Total/NA	Water	8270D	448720
400-173355-5 - DL	PD-14-GWP-50-071719-DUP	Total/NA	Water	8270D	448720
400-173355-6 - DL	PD-14-GWP-53-071719	Total/NA	Water	8270D	448720
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	8270D	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D	448720

Analysis Batch: 449423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-2	PD-14-GWP-40-071719	Total/NA	Water	8270D LL	448720
400-173355-3	PD-14-GWP-45-071719	Total/NA	Water	8270D LL	448720
400-173355-4	PD-14-GWP-50-071719	Total/NA	Water	8270D LL	448720
400-173355-5	PD-14-GWP-50-071719-DUP	Total/NA	Water	8270D LL	448720
400-173355-6	PD-14-GWP-53-071719	Total/NA	Water	8270D LL	448720
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8270D LL	448720
400-173355-8	PD-14-GWP-70-071719	Total/NA	Water	8270D LL	448720

Analysis Batch: 449887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-3 - DL	PD-14-GWP-45-071719	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720
LCS 400-448720/2-A	Lab Control Sample	Total/NA	Water	8270D LL	448720

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173355-7	PD-14-GWP-60-071719	Total/NA	Water	8270D LL	448720
MB 400-448720/1-A	Method Blank	Total/NA	Water	8270D LL	448720

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449079/4
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/23/19 08:37	1
Acrolein	ND		20	10	ug/L			07/23/19 08:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/23/19 08:37	1
Benzene	ND		1.0	0.38	ug/L			07/23/19 08:37	1
Bromobenzene	ND		1.0	0.54	ug/L			07/23/19 08:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/23/19 08:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Bromoform	ND		5.0	0.71	ug/L			07/23/19 08:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/23/19 08:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/23/19 08:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/23/19 08:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/23/19 08:37	1
Chloroform	ND		1.0	0.60	ug/L			07/23/19 08:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/23/19 08:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/23/19 08:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 08:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/23/19 08:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/23/19 08:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/23/19 08:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/23/19 08:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/23/19 08:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/23/19 08:37	1
2-Hexanone	ND		25	3.1	ug/L			07/23/19 08:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/23/19 08:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/23/19 08:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/23/19 08:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/23/19 08:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/23/19 08:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/23/19 08:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/23/19 08:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/23/19 08:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/23/19 08:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/23/19 08:37	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449079/4
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/23/19 08:37	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/23/19 08:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/23/19 08:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/23/19 08:37	1
Styrene	ND		1.0	1.0	ug/L			07/23/19 08:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/23/19 08:37	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/23/19 08:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/23/19 08:37	1
Toluene	ND		1.0	0.41	ug/L			07/23/19 08:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/23/19 08:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/23/19 08:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/23/19 08:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/23/19 08:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/23/19 08:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/23/19 08:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/23/19 08:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/23/19 08:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/23/19 08:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/23/19 08:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/23/19 08:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/23/19 08:37	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/23/19 08:37*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/23/19 08:37*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/23/19 08:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/23/19 08:37*	*1*

Lab Sample ID: LCS 400-449079/1002
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	244		ug/L		122	43 - 160
Acrolein	500	579		ug/L		116	38 - 160
Acrylonitrile	500	548		ug/L		110	64 - 142
Benzene	50.0	53.8		ug/L		108	70 - 130
Bromobenzene	50.0	53.8		ug/L		108	70 - 132
Bromochloromethane	50.0	54.8		ug/L		110	70 - 130
Bromodichloromethane	50.0	53.5		ug/L		107	67 - 133
Bromoform	50.0	57.9		ug/L		116	57 - 140
Bromomethane	50.0	44.7		ug/L		89	10 - 160
2-Butanone (MEK)	200	222		ug/L		111	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449079/1002
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	53.3		ug/L		107	61 - 137
Carbon tetrachloride	50.0	58.0		ug/L		116	61 - 137
Chlorobenzene	50.0	55.0		ug/L		110	70 - 130
Chloroethane	50.0	53.8		ug/L		108	55 - 141
2-Chloroethyl vinyl ether	50.0	43.7		ug/L		87	10 - 160
Chloroform	50.0	53.2		ug/L		106	69 - 130
1-Chlorohexane	50.0	59.1		ug/L		118	69 - 130
Chloromethane	50.0	62.1		ug/L		124	58 - 137
cis-1,2-Dichloroethene	50.0	57.1		ug/L		114	68 - 130
cis-1,3-Dichloropropene	50.0	57.2		ug/L		114	69 - 132
Dibromochloromethane	50.0	58.6		ug/L		117	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	51.9		ug/L		104	54 - 135
1,2-Dichlorobenzene	50.0	55.1		ug/L		110	67 - 130
1,3-Dichlorobenzene	50.0	55.7		ug/L		111	70 - 130
1,4-Dichlorobenzene	50.0	54.7		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	56.2		ug/L		112	41 - 146
1,1-Dichloroethane	50.0	57.5		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	52.1		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	50.4		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	57.9		ug/L		116	70 - 130
1,3-Dichloropropane	50.0	55.7		ug/L		111	70 - 130
2,2-Dichloropropane	50.0	55.4		ug/L		111	52 - 135
1,1-Dichloropropene	50.0	54.5		ug/L		109	70 - 130
Ethylbenzene	50.0	56.4		ug/L		113	70 - 130
Ethylene Dibromide	50.0	52.3		ug/L		105	70 - 130
Ethyl methacrylate	50.0	59.7		ug/L		119	68 - 130
Hexachlorobutadiene	50.0	49.8		ug/L		100	53 - 140
2-Hexanone	200	264		ug/L		132	65 - 137
Isopropylbenzene	50.0	53.2		ug/L		106	70 - 130
Methylene bromide	50.0	47.6		ug/L		95	70 - 130
Methylene Chloride	50.0	53.8		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	225		ug/L		112	69 - 138
Methyl tert-butyl ether	50.0	49.0		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	55.4		ug/L		111	70 - 130
Naphthalene	50.0	50.3		ug/L		101	47 - 149
n-Butylbenzene	50.0	53.6		ug/L		107	67 - 130
N-Propylbenzene	50.0	57.2		ug/L		114	70 - 130
o-Chlorotoluene	50.0	54.5		ug/L		109	70 - 130
o-Xylene	50.0	54.9		ug/L		110	70 - 130
p-Chlorotoluene	50.0	56.1		ug/L		112	70 - 130
p-Isopropyltoluene	50.0	55.4		ug/L		111	65 - 130
sec-Butylbenzene	50.0	54.6		ug/L		109	66 - 130
Styrene	50.0	51.8		ug/L		104	70 - 130
tert-Butylbenzene	50.0	53.4		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	65.8	*	ug/L		132	67 - 131
1,1,2,2-Tetrachloroethane	50.0	54.4		ug/L		109	70 - 131
Tetrachloroethene	50.0	54.9		ug/L		110	65 - 130
Toluene	50.0	56.6		ug/L		113	70 - 130
trans-1,2-Dichloroethene	50.0	54.1		ug/L		108	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449079/1002
Matrix: Water
Analysis Batch: 449079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	61.1		ug/L		122	63 - 130
1,2,3-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 140
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	56.0		ug/L		112	70 - 130
Trichloroethene	50.0	53.5		ug/L		107	70 - 130
Trichlorofluoromethane	50.0	45.8		ug/L		92	65 - 138
1,2,3-Trichloropropane	50.0	51.2		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	54.2		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	54.2		ug/L		108	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	59.2		ug/L		118	59 - 136
Xylenes, Total	100	110		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 400-173355-8 MS
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	J	200	122		ug/L		56	43 - 150
Acrolein	ND		500	554		ug/L		111	38 - 150
Acrylonitrile	ND		500	485		ug/L		97	62 - 149
Benzene	130		50.0	160		ug/L		69	56 - 142
Bromobenzene	ND		50.0	41.8		ug/L		84	59 - 136
Bromochloromethane	ND		50.0	45.1		ug/L		90	64 - 140
Bromodichloromethane	ND		50.0	43.4		ug/L		87	59 - 143
Bromoform	ND		50.0	47.2		ug/L		94	50 - 140
Bromomethane	ND		50.0	41.2		ug/L		82	10 - 150
2-Butanone (MEK)	ND		200	133		ug/L		66	55 - 150
Carbon disulfide	ND		50.0	43.5		ug/L		87	48 - 150
Carbon tetrachloride	ND		50.0	46.6		ug/L		93	55 - 145
Chlorobenzene	ND		50.0	43.0		ug/L		86	64 - 130
Chloroethane	ND		50.0	50.3		ug/L		101	50 - 150
2-Chloroethyl vinyl ether	ND		50.0	41.7		ug/L		83	10 - 150
Chloroform	ND		50.0	44.3		ug/L		89	60 - 141
1-Chlorohexane	ND		50.0	44.1		ug/L		88	56 - 136
Chloromethane	ND		50.0	58.6		ug/L		117	49 - 148
cis-1,2-Dichloroethene	ND		50.0	47.6		ug/L		95	59 - 143
cis-1,3-Dichloropropene	ND		50.0	46.1		ug/L		92	57 - 140
Dibromochloromethane	ND		50.0	46.7		ug/L		93	56 - 143
1,2-Dibromo-3-Chloropropane	ND		50.0	42.1		ug/L		84	45 - 135
1,2-Dichlorobenzene	ND		50.0	41.9		ug/L		84	52 - 137
1,3-Dichlorobenzene	ND		50.0	41.3		ug/L		83	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173355-8 MS
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		50.0	40.7		ug/L		81	53 - 135
Dichlorodifluoromethane	ND		50.0	51.6		ug/L		103	16 - 150
1,1-Dichloroethane	ND		50.0	48.5		ug/L		97	61 - 144
1,2-Dichloroethane	ND		50.0	47.4		ug/L		95	60 - 141
1,1-Dichloroethene	ND		50.0	42.1		ug/L		84	54 - 147
1,2-Dichloropropane	ND		50.0	49.3		ug/L		99	66 - 137
1,3-Dichloropropane	ND		50.0	46.9		ug/L		94	66 - 133
2,2-Dichloropropane	ND		50.0	44.9		ug/L		90	42 - 144
1,1-Dichloropropene	ND		50.0	44.1		ug/L		88	65 - 136
Ethylbenzene	ND		50.0	43.3		ug/L		87	58 - 131
Ethylene Dibromide	ND		50.0	43.8		ug/L		88	64 - 132
Ethyl methacrylate	ND		50.0	50.7		ug/L		101	64 - 130
Hexachlorobutadiene	ND		50.0	32.9		ug/L		66	31 - 149
2-Hexanone	ND		200	153		ug/L		77	65 - 140
Isopropylbenzene	ND		50.0	39.3		ug/L		79	56 - 133
Methylene bromide	ND		50.0	41.1		ug/L		82	63 - 138
Methylene Chloride	ND		50.0	45.7		ug/L		91	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	184		ug/L		92	63 - 146
Methyl tert-butyl ether	4.7		50.0	46.8		ug/L		84	59 - 137
m-Xylene & p-Xylene	ND		50.0	43.2		ug/L		86	57 - 130
Naphthalene	ND		50.0	39.7		ug/L		79	25 - 150
n-Butylbenzene	ND		50.0	38.0		ug/L		76	41 - 142
N-Propylbenzene	ND		50.0	42.4		ug/L		85	51 - 138
o-Chlorotoluene	ND		50.0	42.6		ug/L		85	53 - 134
o-Xylene	ND		50.0	42.1		ug/L		84	61 - 130
p-Chlorotoluene	ND		50.0	41.3		ug/L		83	54 - 133
p-Isopropyltoluene	ND		50.0	39.2		ug/L		78	48 - 139
sec-Butylbenzene	ND		50.0	39.1		ug/L		78	50 - 138
Styrene	ND		50.0	39.4		ug/L		79	58 - 131
tert-Butylbenzene	ND		50.0	40.1		ug/L		80	54 - 146
1,1,1,2-Tetrachloroethane	ND	*	50.0	51.2		ug/L		102	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	47.1		ug/L		94	66 - 135
Tetrachloroethene	ND		50.0	42.1		ug/L		84	52 - 133
Toluene	0.44	J	50.0	45.7		ug/L		91	65 - 130
trans-1,2-Dichloroethene	ND		50.0	45.2		ug/L		90	61 - 143
trans-1,3-Dichloropropene	ND		50.0	50.0		ug/L		100	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	37.5		ug/L		75	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	36.9		ug/L		74	39 - 148
1,1,1-Trichloroethane	ND		50.0	43.8		ug/L		88	57 - 142
1,1,2-Trichloroethane	ND		50.0	47.5		ug/L		95	66 - 131
Trichloroethene	ND		50.0	43.3		ug/L		87	64 - 136
Trichlorofluoromethane	ND		50.0	42.2		ug/L		84	54 - 150
1,2,3-Trichloropropane	ND		50.0	43.1		ug/L		86	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	40.6		ug/L		81	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	40.5		ug/L		81	52 - 135
Vinyl acetate	ND		100	97.0		ug/L		97	26 - 150
Vinyl chloride	ND		50.0	55.3		ug/L		111	46 - 150
Xylenes, Total	ND		100	85.3		ug/L		85	59 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173355-8 MS
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	*101*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173355-8 MSD
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	J	200	115		ug/L		52	43 - 150	6	30
Acrolein	ND		500	621		ug/L		124	38 - 150	11	31
Acrylonitrile	ND		500	544		ug/L		109	62 - 149	12	30
Benzene	130		50.0	162		ug/L		74	56 - 142	1	30
Bromobenzene	ND		50.0	41.3		ug/L		83	59 - 136	1	30
Bromochloromethane	ND		50.0	49.1		ug/L		98	64 - 140	8	30
Bromodichloromethane	ND		50.0	46.1		ug/L		92	59 - 143	6	30
Bromoform	ND		50.0	51.5		ug/L		103	50 - 140	9	30
Bromomethane	ND		50.0	46.0		ug/L		92	10 - 150	11	50
2-Butanone (MEK)	ND		200	138		ug/L		69	55 - 150	4	30
Carbon disulfide	ND		50.0	46.4		ug/L		93	48 - 150	6	30
Carbon tetrachloride	ND		50.0	49.9		ug/L		100	55 - 145	7	30
Chlorobenzene	ND		50.0	42.5		ug/L		85	64 - 130	1	30
Chloroethane	ND		50.0	53.1		ug/L		106	50 - 150	5	30
2-Chloroethyl vinyl ether	ND		50.0	48.3		ug/L		97	10 - 150	15	50
Chloroform	ND		50.0	46.7		ug/L		93	60 - 141	5	30
1-Chlorohexane	ND		50.0	43.8		ug/L		88	56 - 136	1	30
Chloromethane	ND		50.0	62.4		ug/L		125	49 - 148	6	31
cis-1,2-Dichloroethene	ND		50.0	50.1		ug/L		100	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	48.9		ug/L		98	57 - 140	6	30
Dibromochloromethane	ND		50.0	50.0		ug/L		100	56 - 143	7	30
1,2-Dibromo-3-Chloropropane	ND		50.0	48.3		ug/L		97	45 - 135	14	30
1,2-Dichlorobenzene	ND		50.0	39.7		ug/L		79	52 - 137	5	30
1,3-Dichlorobenzene	ND		50.0	38.4		ug/L		77	54 - 135	7	30
1,4-Dichlorobenzene	ND		50.0	37.7		ug/L		75	53 - 135	8	30
Dichlorodifluoromethane	ND		50.0	56.1		ug/L		112	16 - 150	8	31
1,1-Dichloroethane	ND		50.0	52.0		ug/L		104	61 - 144	7	30
1,2-Dichloroethane	ND		50.0	49.8		ug/L		100	60 - 141	5	30
1,1-Dichloroethene	ND		50.0	44.7		ug/L		89	54 - 147	6	30
1,2-Dichloropropane	ND		50.0	51.0		ug/L		102	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	49.9		ug/L		100	66 - 133	6	30
2,2-Dichloropropane	ND		50.0	48.7		ug/L		97	42 - 144	8	31
1,1-Dichloropropene	ND		50.0	45.8		ug/L		92	65 - 136	4	30
Ethylbenzene	ND		50.0	42.6		ug/L		85	58 - 131	1	30
Ethylene Dibromide	ND		50.0	46.8		ug/L		94	64 - 132	7	30
Ethyl methacrylate	ND		50.0	54.8		ug/L		110	64 - 130	8	30
Hexachlorobutadiene	ND		50.0	29.8		ug/L		60	31 - 149	10	36
2-Hexanone	ND		200	171		ug/L		85	65 - 140	11	30
Isopropylbenzene	ND		50.0	38.7		ug/L		77	56 - 133	2	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173355-8 MSD
Matrix: Water
Analysis Batch: 449079

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		50.0	42.7		ug/L		85	63 - 138	4	30
Methylene Chloride	ND		50.0	49.1		ug/L		98	60 - 146	7	32
4-Methyl-2-pentanone (MIBK)	ND		200	205		ug/L		103	63 - 146	11	30
Methyl tert-butyl ether	4.7		50.0	51.5		ug/L		94	59 - 137	10	30
m-Xylene & p-Xylene	ND		50.0	41.8		ug/L		84	57 - 130	3	30
Naphthalene	ND		50.0	41.7		ug/L		83	25 - 150	5	30
n-Butylbenzene	ND		50.0	34.3		ug/L		69	41 - 142	10	31
N-Propylbenzene	ND		50.0	40.0		ug/L		80	51 - 138	6	30
o-Chlorotoluene	ND		50.0	39.9		ug/L		80	53 - 134	6	30
o-Xylene	ND		50.0	41.5		ug/L		83	61 - 130	1	30
p-Chlorotoluene	ND		50.0	38.9		ug/L		78	54 - 133	6	30
p-Isopropyltoluene	ND		50.0	36.3		ug/L		73	48 - 139	8	30
sec-Butylbenzene	ND		50.0	37.3		ug/L		75	50 - 138	5	30
Styrene	ND		50.0	38.5		ug/L		77	58 - 131	2	30
tert-Butylbenzene	ND		50.0	38.8		ug/L		78	54 - 146	3	30
1,1,1,2-Tetrachloroethane	ND	*	50.0	53.1		ug/L		106	59 - 137	4	30
1,1,2,2-Tetrachloroethane	ND		50.0	50.6		ug/L		101	66 - 135	7	30
Tetrachloroethene	ND		50.0	42.0		ug/L		84	52 - 133	0	30
Toluene	0.44	J	50.0	46.6		ug/L		92	65 - 130	2	30
trans-1,2-Dichloroethene	ND		50.0	47.0		ug/L		94	61 - 143	4	30
trans-1,3-Dichloropropene	ND		50.0	53.1		ug/L		106	53 - 133	6	30
1,2,3-Trichlorobenzene	ND		50.0	36.4		ug/L		73	43 - 145	3	30
1,2,4-Trichlorobenzene	ND		50.0	33.7		ug/L		67	39 - 148	9	30
1,1,1-Trichloroethane	ND		50.0	46.6		ug/L		93	57 - 142	6	30
1,1,2-Trichloroethane	ND		50.0	50.2		ug/L		100	66 - 131	5	30
Trichloroethene	ND		50.0	44.3		ug/L		89	64 - 136	2	30
Trichlorofluoromethane	ND		50.0	45.0		ug/L		90	54 - 150	6	30
1,2,3-Trichloropropane	ND		50.0	47.1		ug/L		94	65 - 133	9	30
1,2,4-Trimethylbenzene	ND		50.0	36.9		ug/L		74	50 - 139	9	30
1,3,5-Trimethylbenzene	ND		50.0	38.4		ug/L		77	52 - 135	5	30
Vinyl acetate	ND		100	110		ug/L		110	26 - 150	13	33
Vinyl chloride	ND		50.0	58.7		ug/L		117	46 - 150	6	30
Xylenes, Total	ND		100	83.3		ug/L		83	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449267/4
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/24/19 08:41	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 08:41*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*101*		*78 - 118*		*07/24/19 08:41*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 08:41*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/24/19 08:41*	*1*

Lab Sample ID: LCS 400-449267/1002
Matrix: Water
Analysis Batch: 449267

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	55.5		ug/L		111	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/28/19 09:05	1
Acrolein	ND		20	10	ug/L			07/28/19 09:05	1
Acrylonitrile	ND		10	2.8	ug/L			07/28/19 09:05	1
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:05	1
Bromobenzene	ND		1.0	0.54	ug/L			07/28/19 09:05	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/28/19 09:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Bromoform	ND		5.0	0.71	ug/L			07/28/19 09:05	1
Bromomethane	ND		1.0	0.98	ug/L			07/28/19 09:05	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/28/19 09:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Chloroethane	ND		1.0	0.76	ug/L			07/28/19 09:05	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/28/19 09:05	1
Chloroform	ND		1.0	0.60	ug/L			07/28/19 09:05	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/28/19 09:05	1
Chloromethane	ND		1.0	0.83	ug/L			07/28/19 09:05	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/28/19 09:05	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/28/19 09:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/28/19 09:05	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/28/19 09:05	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/28/19 09:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/28/19 09:05	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/28/19 09:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/28/19 09:05	1
2-Hexanone	ND		25	3.1	ug/L			07/28/19 09:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/28/19 09:05	1
Methylene bromide	ND		5.0	0.59	ug/L			07/28/19 09:05	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/28/19 09:05	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/28/19 09:05	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/28/19 09:05	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/28/19 09:05	1
Naphthalene	ND		1.0	1.0	ug/L			07/28/19 09:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/28/19 09:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/28/19 09:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/28/19 09:05	1
o-Xylene	ND		5.0	0.60	ug/L			07/28/19 09:05	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/28/19 09:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/28/19 09:05	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/28/19 09:05	1
Styrene	ND		1.0	1.0	ug/L			07/28/19 09:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/28/19 09:05	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/28/19 09:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/28/19 09:05	1
Toluene	ND		1.0	0.41	ug/L			07/28/19 09:05	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/28/19 09:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/28/19 09:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/28/19 09:05	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/28/19 09:05	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/28/19 09:05	1
Trichloroethene	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/28/19 09:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/28/19 09:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/28/19 09:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/28/19 09:05	1
Vinyl acetate	ND		25	2.0	ug/L			07/28/19 09:05	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/28/19 09:05	1
Xylenes, Total	ND		10	1.6	ug/L			07/28/19 09:05	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/28/19 09:05*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/28/19 09:05*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*96*		*81 - 121*		*07/28/19 09:05*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/28/19 09:05*	*1*

Lab Sample ID: LCS 400-449805/1003
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	55.4		ug/L		111	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzenethiol	ND		10	1.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzoic acid	ND		30	7.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
Benzyl alcohol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/19/19 14:04	07/23/19 15:20	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/19/19 14:04	07/23/19 15:20	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/19/19 14:04	07/23/19 15:20	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloroaniline	ND		10	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Chlorophenol	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dibenzofuran	ND		10	0.52	ug/L		07/19/19 14:04	07/23/19 15:20	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Diethyl phthalate	ND		10	0.70	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/19/19 14:04	07/23/19 15:20	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,4-Dioxane	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Hexachloroethane	ND		10	4.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Indene	ND		10	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
Isophorone	ND		10	0.57	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Methylphenol	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitroaniline	ND		10	2.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
3-Nitroaniline	ND		10	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitroaniline	ND		10	2.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
Nitrobenzene	ND		10	0.55	ug/L		07/19/19 14:04	07/23/19 15:20	1
2-Nitrophenol	ND		10	0.65	ug/L		07/19/19 14:04	07/23/19 15:20	1
4-Nitrophenol	ND		10	2.1	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/19/19 14:04	07/23/19 15:20	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pentachlorophenol	ND		20	1.8	ug/L		07/19/19 14:04	07/23/19 15:20	1
Phenol	ND		10	2.6	ug/L		07/19/19 14:04	07/23/19 15:20	1
Pyridine	ND		10	3.2	ug/L		07/19/19 14:04	07/23/19 15:20	1
Quinoline	ND		10	6.0	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/19/19 14:04	07/23/19 15:20	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/19/19 14:04	07/23/19 15:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/19/19 14:04*	*07/23/19 15:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2-Fluorophenol	*21*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Phenol-d5	*43*		*10 - 120*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
Terphenyl-d14	*49*	*X*	*53 - 125*	*07/19/19 14:04*	*07/23/19 15:20*	*1*
2,4,6-Tribromophenol	*40*		*15 - 135*	*07/19/19 14:04*	*07/23/19 15:20*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.5		ug/L		75	29 - 120
Benzoic acid	117	38.8		ug/L		33	10 - 150
Benzyl alcohol	30.0	25.9		ug/L		86	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.1		ug/L		70	45 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethyl)ether	30.0	20.1		ug/L		67	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.9		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150
4-Bromophenyl phenyl ether	30.0	40.5	*	ug/L		135	55 - 122
Butyl benzyl phthalate	30.0	23.0		ug/L		77	46 - 145
4-Chloroaniline	30.0	18.0		ug/L		60	30 - 120
4-Chloro-3-methylphenol	30.0	24.6		ug/L		82	39 - 140
2-Chloronaphthalene	30.0	27.8		ug/L		93	52 - 120
2-Chlorophenol	30.0	10.4		ug/L		35	34 - 120
4-Chlorophenyl phenyl ether	30.0	35.3		ug/L		118	58 - 124
Dibenz[a,h]acridine	30.0	32.8		ug/L		109	46 - 149
Dibenzofuran	30.0	31.3		ug/L		104	58 - 123
3,3'-Dichlorobenzidine	40.0	89.1	*	ug/L		223	39 - 135
2,4-Dichlorophenol	30.0	19.6		ug/L		65	39 - 128
Diethyl phthalate	30.0	31.9		ug/L		106	44 - 146
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	32.8		ug/L		109	50 - 131
Di-n-butyl phthalate	30.0	31.6		ug/L		105	55 - 131
4,6-Dinitro-ortho-cresol	60.0	62.0		ug/L		103	10 - 150
2,4-Dinitrophenol	60.0	72.2		ug/L		120	10 - 150
2,4-Dinitrotoluene	30.0	34.9		ug/L		116	58 - 140
2,6-Dinitrotoluene	30.0	34.5		ug/L		115	57 - 130
Di-n-octyl phthalate	30.0	29.2		ug/L		97	50 - 150
1,4-Dioxane	30.0	12.2		ug/L		41	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	24.9		ug/L		83	47 - 123
Hexachlorobenzene	30.0	44.7	*	ug/L		149	52 - 131
Hexachlorocyclopentadiene	30.0	12.2	J	ug/L		41	10 - 129
Hexachloroethane	30.0	17.7		ug/L		59	41 - 120
Indene	30.0	20.4		ug/L		68	47 - 120
Isophorone	30.0	21.9		ug/L		73	49 - 120
2-Methylphenol	30.0	17.8		ug/L		59	39 - 123
3 & 4 Methylphenol	30.0	20.0		ug/L		67	38 - 121
2-Nitroaniline	30.0	27.3		ug/L		91	47 - 150
3-Nitroaniline	30.0	30.9		ug/L		103	34 - 132
4-Nitroaniline	30.0	40.4		ug/L		135	41 - 135
Nitrobenzene	30.0	22.8		ug/L		76	47 - 120
2-Nitrophenol	30.0	14.9		ug/L		50	28 - 136
4-Nitrophenol	60.0	65.7		ug/L		109	10 - 150
N-Nitrosodimethylamine	30.0	26.9		ug/L		90	22 - 148
N-Nitrosodi-n-propylamine	30.0	28.3		ug/L		94	44 - 120
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120
Pentachlorophenol	60.0	81.0		ug/L		135	15 - 141
Phenol	30.0	11.2		ug/L		37	33 - 120
Pyridine	60.0	33.4		ug/L		56	26 - 120
Quinoline	30.0	28.2		ug/L		94	51 - 129
2,4,5-Trichlorophenol	30.0	28.9		ug/L		96	38 - 147
2,4,6-Trichlorophenol	30.0	27.2		ug/L		91	36 - 139

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449369

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	92		34 - 120
2-Fluorophenol	11		10 - 120
Nitrobenzene-d5	67		27 - 120
Phenol-d5	38		10 - 120
Terphenyl-d14	114		53 - 125
2,4,6-Tribromophenol	155	X	15 - 135

Lab Sample ID: LCSD 400-448720/20-A
Matrix: Water
Analysis Batch: 449178

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 448720

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	1.82	J *	ug/L		6	10 - 120	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	72		34 - 120
2-Fluorophenol	33		10 - 120
Nitrobenzene-d5	91		27 - 120
Phenol-d5	61		10 - 120
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	72		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1
Phenanthrene	ND		0.20	0.020	ug/L		07/19/19 14:04	07/29/19 20:41	1

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1
Anthracene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Chrysene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173355-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-448720/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 448720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.021	ug/L		07/19/19 14:04	08/03/19 12:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/19/19 14:04	08/03/19 12:50	1
Pyrene	ND		0.20	0.020	ug/L		07/19/19 14:04	08/03/19 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/19/19 14:04*	*08/03/19 12:50*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/19/19 14:04*	*08/03/19 12:50*	*1*
Terphenyl-d14	*117*		*33 - 138*	*07/19/19 14:04*	*08/03/19 12:50*	*1*

Lab Sample ID: LCS 400-448720/2-A
Matrix: Water
Analysis Batch: 449887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 448720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	29.9		ug/L		100	41 - 120
Acenaphthylene	30.0	27.9		ug/L		93	44 - 120
Anthracene	30.0	30.2		ug/L		101	49 - 120
Benzo[a]anthracene	30.0	27.7		ug/L		92	61 - 135
Benzo[a]pyrene	30.0	28.9		ug/L		96	52 - 120
Benzo[b]fluoranthene	30.0	30.4		ug/L		101	53 - 134
Benzo[g,h,i]perylene	30.0	28.3		ug/L		94	47 - 133
Benzo[k]fluoranthene	30.0	30.7		ug/L		102	57 - 134
Chrysene	30.0	28.3		ug/L		94	55 - 122
Dibenz(a,h)anthracene	30.0	30.5		ug/L		102	48 - 146
Fluoranthene	30.0	29.1		ug/L		97	54 - 128
Fluorene	30.0	33.8		ug/L		113	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	29.5		ug/L		98	43 - 142
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124
Phenanthrene	30.0	29.6		ug/L		99	48 - 120
Pyrene	30.0	15.5		ug/L		52	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*15 - 122*
Nitrobenzene-d5	*58*		*19 - 130*
Terphenyl-d14	*127*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Pensacola_____
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☐OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/17/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	FIELD NOTES: / TEMPERATURE ON RECEIPT C° / Container PID Readings or Laboratory Notes
TB-PW-071719-B	7/17/2019	0:00	Water	2					2		x		
PD-14-GWP-40-071719	7/17/2019	9:10	Water	2			2		4	x	x	x	
PD-14-GWP-45-071719	7/17/2019	10:15	Water	2			2		4	x	x	x	
PD-14-GWP-50-071719	7/17/2019	11:10	Water	2			2		4	x	x	x	
PD-14-GWP-50-071719-DUP	7/17/2019	11:10	Water	2			2		4	x	x	x	
PD-14-GWP-53-071719	7/17/2019	13:15	Water	2			2		4	x	x	x	
PD-14-GWP-60-071719	7/17/2019	14:10	Water	2			2		4	x	x	x	
PD-14-GWP-70-071719	7/17/2019	15:30	Water	2			2		4	x	x	x	

400-173355 COC

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Paul LeFleur	Fedex: 4931 8203 7498, 4931 8203 7502, [redacted]; custody seal: 11011632 1011633 1011630 1011631	7/17/2019	18:00
	Bryce 3.3°C IR8 .2°C CIR8	7/18/19	9:19

Version: 10May17

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10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173355-1

Login Number: 173355
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3°C, 0.2°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173355-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173405

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/13/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071819-B	PD-14-GWP-78.5-071819
PD-14-GWP-78.5-071819-EB	PD-2-GWP-44-071819
PD-2-GWP-50-071819	PD-2-GWP-50-071819-DUP
PD-2-GWP-50-071819-EB	PD-2-GWP-59-071819

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the SVOC compound bis(2-ethylhexyl) phthalate was detected in the method blank. The compounds benzene and/or fluoranthene were detected in the equipment blanks. Sample PD-2-GWP-50-071819-RE was re-extracted outside extraction holding time criteria. SVOC LCS/LCSD and LCS/LCSD RPDs were outside evaluation criteria. Recoveries of the SVOC surrogate terphenyl-d_{14} were outside evaluation criteria in several samples. VOC and SVOC MS/MSD recoveries and MS/MSD RPDs were outside evaluation criteria in sample PD-2-GWP-44-071819. Additionally, the RPD between analytical results for benzene was outside evaluation criteria in field duplicate pair PD-2-GWP-50-071819/PD-2-GWP-50-071819-Dup; therefore, results were qualified as estimated (**J/J**). These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, SVOC sample PD-2-GWP-50-071819-RE were re-extracted 6 days outside of the extraction holding time criteria (7 days). Re-extraction was due to surrogate compound recoveries outside evaluation criteria. Professional judgement was used to qualify as estimated (**J/UJ**); however, not reject the out of holding time data. Holding time exceedances were not greater than two times (2X) criteria; data requiring qualification is summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
PD-2-GWP-50-071819-RE	SVOCs	SVOC Detects	**J**
PD-2-GWP-50-071819-RE	SVOCs	SVOC Non-detects	**UJ**

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-14-GWP-78.5-071819-EB	VOCs	Benzene	0.69 µg/L
PD-2-GWP-50-071819-EB	VOCs	Benzene	0.57 µg/L
PD-2-GWP-50-071819-EB	PAHs	Fluoranthene	0.027 µg/L
MB 400-449321/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	7.40 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449321/2-A	SVOCs	Benzoic acid	26/38	**40**	10-150/30
400-449321/8-A/9-A	SVOCs	Benzenethiol	70**/4**	**178**	10-120/30
400-450172/2-A	SVOCs	3,3'-Dichlorobenzidine	**167**/NA	NA	39-135

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-14-GWP-78.5-071819	SVOCs	Benzoic acid	**UJ**
PD-2-GWP-44-071819	SVOCs	Benzoic acid	**UJ**
PD-2-GWP-50-071819	SVOCs	Benzoic acid	**UJ**
PD-2-GWP-50-071819-DUP	SVOCs	Benzoic acid	**UJ**
PD-2-GWP-59-071819	SVOCs	Benzoic acid	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-2-GWP-44-071819	SVOCs	Terphenyl-d_{14}	**50**	53-125
PD-2-GWP-50-071819-DUP	SVOCs	Terphenyl-d_{14}	**41**	53-125
PD-2-GWP-59-071819	SVOCs	Terphenyl-d_{14}	**44**	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-2-GWP-44-071819 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-2-GWP-44-071819	VOCs	2-Hexanone	145/143	1	65-140/30
PD-2-GWP-44-071819	SVOCs	Dibenz[a,h]acridine	**41**/**36**	7	42-147/40
PD-2-GWP-44-071819	SVOCs	3,3'-Dichlorobenzidine	**0**/**0**	NA	10-172/58
PD-2-GWP-44-071819	SVOCs	n-Nitrosodiphenylamine	**21/**42	**68**	31-150/34
PD-2-GWP-44-071819	SVOCs	Phenol	55/**-15**	17	23-130/52

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-2-GWP-44-071819	SVOCs	Dibenz[a,h]acridine	**UJ**
PD-2-GWP-44-071819	SVOCs	3,3'-Dichlorobenzidine	**UJ**
PD-2-GWP-44-071819	SVOCs	n-Nitrosodiphenylamine	**UJ**
PD-2-GWP-44-071819	SVOCs	Phenol	**J**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-2-GWP-50-071819	PD-2-GWP-50-071819-DUP

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-2-GWP-50-071819	PD-2-GWP-50-071819-DUP	VOCs	Benzene	**50%**	**J/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173405-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/13/2019 9:57:22 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed
on
8/13/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173405-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173405-1

Comments
No additional comments.

Receipt
The samples were received on 7/19/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.5° C, 4.3° C and 4.5° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071819-B (400-173405-1), PD-14-GWP-78.5-071819 (400-173405-2), PD-14-GWP-78.5-071819-EB (400-173405-3), PD-2-GWP-44-071819 (400-173405-4), PD-2-GWP-50-071819 (400-173405-5), PD-2-GWP-50-071819-DUP (400-173405-6), PD-2-GWP-50-071819-EB (400-173405-7), PD-2-GWP-59-071819 (400-173405-8). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following samples were analyzed after 7 days from sampling: PD-2-GWP-50-071819 (400-173405-5) and PD-2-GWP-50-071819-DUP (400-173405-6).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-449979 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: Samples PD-14-GWP-78.5-071819-EB (400-173405-3) and PD-2-GWP-50-071819-EB (400-173405-7) contained Benzene between the method detection limit and the reporting limit. Reanalysis was performed with concurring results.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-2-GWP-44-071819 (400-173405-4), PD-2-GWP-50-071819 (400-173405-5), PD-2-GWP-50-071819-DUP (400-173405-6), PD-2-GWP-59-071819 (400-173405-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,2'-oxybis[1-chloropropane], 4-Nitrophenol, Nitrobenzene, Diethyl phthalate, Bis(2-ethylhexyl) phthalate, Di-n-butyl phthalate, 4-Chloro-3-methylphenol, N-Nitrosodi-n-propylamine, 2-Methylphenol, 2,4-Dichlorophenol, 1,2-Diphenylhydrazine (as Azobenzene), 4-Chloroaniline, 4,6-Dinitro-ortho-cresol, 2-Chlorophenol, 3 & 4 Methylphenol, Benzyl alcohol, Di-n-octyl phthalate, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 400-173405-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-2-GWP-44-071819 (400-173405-4), PD-2-GWP-50-071819-DUP (400-173405-6), PD-2-GWP-59-071819 (400-173405-8), PD-2-GWP-44-071819 (400-173405-4[MSD]). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449321 and analytical batch 400-449680 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449321 and analytical batch 400-450203 recovered outside control limits for the following analytes: Benzoic acid.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449321 and analytical batch 400-449680 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-450172 and analytical batch 400-450777 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analytes was biased high in the LCS and LCSD that were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-450172 and analytical batch 400-450777 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-450172 and analytical batch 400-450777 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-2-GWP-50-071819 (400-173405-5). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-449321 and analytical batch 400-449680 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173405-1	TB-PW-071819-B	Water	07/18/19 00:00	07/19/19 09:15	
400-173405-2	PD-14-GWP-78.5-071819	Water	07/18/19 09:30	07/19/19 09:15	
400-173405-3	PD-14-GWP-78.5-071819-EB	Water	07/18/19 09:50	07/19/19 09:15	
400-173405-4	PD-2-GWP-44-071819	Water	07/18/19 13:05	07/19/19 09:15	
400-173405-5	PD-2-GWP-50-071819	Water	07/18/19 14:10	07/19/19 09:15	
400-173405-6	PD-2-GWP-50-071819-DUP	Water	07/18/19 14:10	07/19/19 09:15	
400-173405-7	PD-2-GWP-50-071819-EB	Water	07/18/19 14:45	07/19/19 09:15	
400-173405-8	PD-2-GWP-59-071819	Water	07/18/19 14:50	07/19/19 09:15	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: TB-PW-071819-B — Lab Sample ID: 400-173405-1

No Detections.

Client Sample ID: PD-14-GWP-78.5-071819 — Lab Sample ID: 400-173405-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	3.0		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	2.6		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	6.3		5.0	1.6	ug/L	1		8260B	Total/NA
o-Xylene	2.5	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.60	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.9		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.79	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	8.8	J	10	1.6	ug/L	1		8260B	Total/NA
Benzene - DL	310		2.0	0.76	ug/L	2		8260B	Total/NA
1-Methylnaphthalene	0.41		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.67		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	14		9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-14-GWP-78.5-071819-EB — Lab Sample ID: 400-173405-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.69	J	1.0	0.38	ug/L	1		8260B	Total/NA

Client Sample ID: PD-2-GWP-44-071819 — Lab Sample ID: 400-173405-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	340000		2000	760	ug/L	2000		8260B	Total/NA
1-Methylnaphthalene	0.38		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.66		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol - DL	120	J	48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-2-GWP-50-071819 — Lab Sample ID: 400-173405-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2500000		10000	3800	ug/L	10000		8260B	Total/NA
4-Methyl-2-pentanone (MIBK)	57000	J	250000	18000	ug/L	10000		8260B	Total/NA
1-Methylnaphthalene	2.4		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.39		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	8.0	J *	29	7.1	ug/L	1		8270D	Total/NA
Phenol	14		9.7	2.5	ug/L	1		8270D	Total/NA
Benzoic acid - RE	13	J H	29	7.1	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol - RE	10	H	9.8	3.4	ug/L	1		8270D	Total/NA
2-Methylphenol - RE	1.9	J H	9.8	1.8	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol - RE	3.9	J H	20	1.0	ug/L	1		8270D	Total/NA
Phenol - RERA	160	H	49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-2-GWP-50-071819-DUP — Lab Sample ID: 400-173405-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1500000		10000	3800	ug/L	10000		8260B	Total/NA
1-Methylnaphthalene	2.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.3		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	15	J *	29	7.0	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol	7.5	J	9.6	3.4	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP (Continued) — Lab Sample ID: 400-173405-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
3 & 4 Methylphenol	2.4	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	100		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-2-GWP-50-071819-EB — Lab Sample ID: 400-173405-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.57	J	1.0	0.38	ug/L	1		8260B	Total/NA
Fluoranthene	0.027	J	0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-2-GWP-59-071819 — Lab Sample ID: 400-173405-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	12000		100	38	ug/L	100		8260B	Total/NA
1-Methylnaphthalene	1.1		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.4		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	57		10	2.6	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: TB-PW-071819-B

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 13:18	1
Acrolein	ND		20	10	ug/L			07/29/19 13:18	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 13:18	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 13:18	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 13:18	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 13:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 13:18	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 13:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 13:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 13:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 13:18	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 13:18	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 13:18	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 13:18	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 13:18	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 13:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 13:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 13:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 13:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 13:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 13:18	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 13:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 13:18	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 13:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 13:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 13:18	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 13:18	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 13:18	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 13:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 13:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 13:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 13:18	1
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 13:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: TB-PW-071819-B
Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 13:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 13:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 13:18	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 13:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 13:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 13:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 13:18	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 13:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 13:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 13:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 13:18	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 13:18	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 13:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 13:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 13:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 13:18	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 13:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 13:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 13:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 13:18*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/29/19 13:18*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/29/19 13:18*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 18:32	1
Acrolein	ND		20	10	ug/L			07/30/19 18:32	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 18:32	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 18:32	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 18:32	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 18:32	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 18:32	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 18:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 18:32	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 18:32	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 18:32	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 18:32	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 18:32	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 18:32	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 18:32	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 18:32	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 18:32	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 18:32	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Ethylbenzene	**3.0**		1.0	0.50	ug/L			07/30/19 18:32	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 18:32	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 18:32	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 18:32	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 18:32	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 18:32	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 18:32	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 18:32	1
Methyl tert-butyl ether	**2.6**		1.0	0.74	ug/L			07/30/19 18:32	1
m-Xylene & p-Xylene	**6.3**		5.0	1.6	ug/L			07/30/19 18:32	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 18:32	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 18:32	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 18:32	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 18:32	1
o-Xylene	**2.5**	**J**	5.0	0.60	ug/L			07/30/19 18:32	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 18:32	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 18:32	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 18:32	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 18:32	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 18:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 18:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 18:32	1
Toluene	**0.60**	**J**	1.0	0.41	ug/L			07/30/19 18:32	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 18:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 18:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 18:32	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 18:32	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 18:32	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 18:32	1
1,2,4-Trimethylbenzene	**1.9**		1.0	0.82	ug/L			07/30/19 18:32	1
1,3,5-Trimethylbenzene	**0.79**	**J**	1.0	0.56	ug/L			07/30/19 18:32	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 18:32	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Xylenes, Total	**8.8**	**J**	10	1.6	ug/L			07/30/19 18:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*110*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/30/19 18:32*	*1*
2-Methyl-2-propanol	*98*		*ug/L*		*3.39*	*75-65-0*		*07/30/19 18:32*	*1*
Hexane	*1.2*		*ug/L*		*3.71*	*110-54-3*		*07/30/19 18:32*	*1*
Cyclohexane	*1.4*		*ug/L*		*4.54*	*110-82-7*		*07/30/19 18:32*	*1*
Isobutyl alcohol	*32*		*ug/L*		*4.59*	*78-83-1*		*07/30/19 18:32*	*1*
Methylcyclohexane	*1.0*		*ug/L*		*5.27*	*108-87-2*		*07/30/19 18:32*	*1*
3-Ethyltoluene	*1.9*		*ug/L*		*8.07*	*620-14-4*		*07/30/19 18:32*	*1*
2-Ethyltoluene	*0.54*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/30/19 18:32*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 18:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/30/19 18:32*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 18:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 18:32*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**310**		2.0	0.76	ug/L			07/31/19 10:00	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*116*		*78 - 118*		*07/31/19 10:00*	*2*
Dibromofluoromethane	*99*		*81 - 121*		*07/31/19 10:00*	*2*
Toluene-d8 (Surr)	*95*		*80 - 120*		*07/31/19 10:00*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 07:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
1-Methylnaphthalene	**0.41**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
2-Methylnaphthalene	**0.67**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*15 - 122*	*07/24/19 15:00*	*08/03/19 07:08*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/24/19 15:00*	*08/03/19 07:08*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/24/19 15:00*	*08/03/19 07:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
Benzenethiol	ND		9.9	1.7	ug/L		07/24/19 15:00	07/26/19 20:02	1
Benzoic acid	ND	* UJ	30	7.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/24/19 15:00	07/26/19 20:02	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/24/19 15:00	07/26/19 20:02	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/24/19 15:00	07/26/19 20:02	1
Bis(2-ethylhexyl) phthalate	ND		9.9	5.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/24/19 15:00	07/26/19 20:02	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Dibenzofuran	ND		9.9	0.52	ug/L		07/24/19 15:00	07/26/19 20:02	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/24/19 15:00	07/26/19 20:02	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/24/19 15:00	07/26/19 20:02	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/24/19 15:00	07/26/19 20:02	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 15:00	07/26/19 20:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 15:00	07/26/19 20:02	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		07/24/19 15:00	07/26/19 20:02	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/24/19 15:00	07/26/19 20:02	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/24/19 15:00	07/26/19 20:02	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/24/19 15:00	07/26/19 20:02	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 20:02	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
Indene	ND		9.9	0.99	ug/L		07/24/19 15:00	07/26/19 20:02	1
Isophorone	ND		9.9	0.57	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/24/19 15:00	07/26/19 20:02	1
Nitrobenzene	ND		9.9	0.55	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/24/19 15:00	07/26/19 20:02	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/24/19 15:00	07/26/19 20:02	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/24/19 15:00	07/26/19 20:02	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		07/24/19 15:00	07/26/19 20:02	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
Phenol	**14**		9.9	2.6	ug/L		07/24/19 15:00	07/26/19 20:02	1
Pyridine	ND		9.9	3.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
Quinoline	ND		9.9	5.9	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/24/19 15:00	07/26/19 20:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*5.9*	*T J N*	*ug/L*		*3.96*	*590-90-9*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Ethylbenzene	*5.9*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
p-Xylene	*5.9*	*T J N*	*ug/L*		*4.82*	*106-42-3*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Benzene, 1,2,3-trimethyl-	*7.1*	*T J N*	*ug/L*		*5.42*	*526-73-8*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
n-Hexadecanoic acid	*4.6*	*T J N*	*ug/L*		*9.01*	*57-10-3*	*07/24/19 15:00*	*07/26/19 20:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*34 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
2-Fluorophenol	*51*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Nitrobenzene-d5	*85*		*27 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Phenol-d5	*62*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
2,4,6-Tribromophenol	*55*		*15 - 135*	*07/24/19 15:00*	*07/26/19 20:02*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Date Collected: 07/18/19 09:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 17:13	1
Acrolein	ND		20	10	ug/L			07/30/19 17:13	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 17:13	1
Benzene	0.69	J	1.0	0.38	ug/L			07/30/19 17:13	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 17:13	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 17:13	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 17:13	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 17:13	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 17:13	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 17:13	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 17:13	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 17:13	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 17:13	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 17:13	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:13	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 17:13	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 17:13	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 17:13	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 17:13	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 17:13	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 17:13	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 17:13	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 17:13	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 17:13	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 17:13	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 17:13	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 17:13	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 17:13	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 17:13	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 17:13	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 17:13	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 17:13	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 17:13	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Date Collected: 07/18/19 09:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 17:13	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 17:13	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 17:13	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 17:13	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 17:13	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 17:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 17:13	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 17:13	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:13	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 17:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 17:13	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 17:13	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 17:13	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 17:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 17:13	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 17:13	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 17:13	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 17:13	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*180*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/30/19 17:13*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 17:13*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/30/19 17:13*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/30/19 17:13*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/30/19 17:13*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Chrysene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 07:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Date Collected: 07/18/19 09:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*15 - 122*	*07/24/19 15:00*	*08/03/19 07:25*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/24/19 15:00*	*08/03/19 07:25*	*1*
Terphenyl-d14	*109*		*33 - 138*	*07/24/19 15:00*	*08/03/19 07:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/24/19 15:00	07/26/19 23:53	1
Benzenethiol	ND		9.8	1.7	ug/L		07/24/19 15:00	07/26/19 23:53	1
Benzoic acid	ND	* UJ	29	7.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/24/19 15:00	07/26/19 23:53	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/24/19 15:00	07/26/19 23:53	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/24/19 15:00	07/26/19 23:53	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/24/19 15:00	07/26/19 23:53	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/24/19 15:00	07/26/19 23:53	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/24/19 15:00	07/26/19 23:53	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/24/19 15:00	07/26/19 23:53	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/24/19 15:00	07/26/19 23:53	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/24/19 15:00	07/26/19 23:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/24/19 15:00	07/26/19 23:53	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/24/19 15:00	07/26/19 23:53	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/24/19 15:00	07/26/19 23:53	1
Indene	ND		9.8	0.98	ug/L		07/24/19 15:00	07/26/19 23:53	1
Isophorone	ND		9.8	0.56	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/24/19 15:00	07/26/19 23:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/24/19 15:00	07/26/19 23:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Date Collected: 07/18/19 09:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/24/19 15:00	07/26/19 23:53	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/24/19 15:00	07/26/19 23:53	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/24/19 15:00	07/26/19 23:53	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/24/19 15:00	07/26/19 23:53	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 23:53	1
Phenol	ND		9.8	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
Pyridine	ND		9.8	3.1	ug/L		07/24/19 15:00	07/26/19 23:53	1
Quinoline	ND		9.8	5.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/24/19 15:00	07/26/19 23:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*18*	*T J N*	*ug/L*		*3.97*	*590-90-9*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Docosane	*5.8*	*T J N*	*ug/L*		*9.81*	*629-97-0*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Tricosane	*15*	*T J N*	*ug/L*		*10.14*	*638-67-5*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Heptadecane	*10*	*T J N*	*ug/L*		*10.46*	*629-78-7*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Octacosane	*7.3*	*T J N*	*ug/L*		*10.78*	*630-02-4*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Heptadecane	*5.6*	*T J N*	*ug/L*		*11.10*	*629-78-7*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Tetratetracontane	*5.1*	*T J N*	*ug/L*		*11.41*	*7098-22-8*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Heptadecane	*5.7*	*T J N*	*ug/L*		*11.73*	*629-78-7*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Tridecane, 7-hexyl-	*4.1*	*T J N*	*ug/L*		*12.04*	*7225-66-3*	*07/24/19 15:00*	*07/26/19 23:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*34 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
2-Fluorophenol	*36*		*10 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Nitrobenzene-d5	*77*		*27 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Phenol-d5	*52*		*10 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Terphenyl-d14	*72*		*53 - 125*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
2,4,6-Tribromophenol	*46*		*15 - 135*	*07/24/19 15:00*	*07/26/19 23:53*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819
Date Collected: 07/18/19 13:05
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50000	20000	ug/L			07/30/19 11:02	2000
Acrolein	ND		40000	20000	ug/L			07/30/19 11:02	2000
Acrylonitrile	ND		20000	5600	ug/L			07/30/19 11:02	2000
Benzene	**340000**		2000	760	ug/L			07/30/19 11:02	2000
Bromobenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
Bromochloromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
Bromodichloromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
Bromoform	ND		10000	1400	ug/L			07/30/19 11:02	2000
Bromomethane	ND		2000	2000	ug/L			07/30/19 11:02	2000
2-Butanone (MEK)	ND		50000	5200	ug/L			07/30/19 11:02	2000
Carbon disulfide	ND		2000	1000	ug/L			07/30/19 11:02	2000
Carbon tetrachloride	ND		2000	1000	ug/L			07/30/19 11:02	2000
Chlorobenzene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Chloroethane	ND		2000	1500	ug/L			07/30/19 11:02	2000
2-Chloroethyl vinyl ether	ND		10000	4000	ug/L			07/30/19 11:02	2000
Chloroform	ND		2000	1200	ug/L			07/30/19 11:02	2000
1-Chlorohexane	ND		2000	1400	ug/L			07/30/19 11:02	2000
Chloromethane	ND		2000	1700	ug/L			07/30/19 11:02	2000
cis-1,2-Dichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
cis-1,3-Dichloropropene	ND		10000	1000	ug/L			07/30/19 11:02	2000
Dibromochloromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2-Dibromo-3-Chloropropane	ND		10000	3000	ug/L			07/30/19 11:02	2000
1,2-Dichlorobenzene	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,3-Dichlorobenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
1,4-Dichlorobenzene	ND		2000	1300	ug/L			07/30/19 11:02	2000
Dichlorodifluoromethane	ND		2000	1700	ug/L			07/30/19 11:02	2000
1,1-Dichloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2-Dichloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1-Dichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2-Dichloropropane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,3-Dichloropropane	ND		2000	1000	ug/L			07/30/19 11:02	2000
2,2-Dichloropropane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1-Dichloropropene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Ethylbenzene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Ethylene Dibromide	ND		2000	1000	ug/L			07/30/19 11:02	2000
Ethyl methacrylate	ND		2000	1200	ug/L			07/30/19 11:02	2000
Hexachlorobutadiene	ND		10000	1800	ug/L			07/30/19 11:02	2000
2-Hexanone	ND	F1	50000	6200	ug/L			07/30/19 11:02	2000
Isopropylbenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
Methylene bromide	ND		10000	1200	ug/L			07/30/19 11:02	2000
Methylene Chloride	ND		10000	6000	ug/L			07/30/19 11:02	2000
4-Methyl-2-pentanone (MIBK)	ND		50000	3600	ug/L			07/30/19 11:02	2000
Methyl tert-butyl ether	ND		2000	1500	ug/L			07/30/19 11:02	2000
m-Xylene & p-Xylene	ND		10000	3200	ug/L			07/30/19 11:02	2000
Naphthalene	ND		2000	2000	ug/L			07/30/19 11:02	2000
n-Butylbenzene	ND		2000	1500	ug/L			07/30/19 11:02	2000
N-Propylbenzene	ND		2000	1400	ug/L			07/30/19 11:02	2000
o-Chlorotoluene	ND		2000	1100	ug/L			07/30/19 11:02	2000
o-Xylene	ND		10000	1200	ug/L			07/30/19 11:02	2000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819
Date Collected: 07/18/19 13:05
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2000	1100	ug/L			07/30/19 11:02	2000
p-Isopropyltoluene	ND		2000	1400	ug/L			07/30/19 11:02	2000
sec-Butylbenzene	ND		2000	1400	ug/L			07/30/19 11:02	2000
Styrene	ND		2000	2000	ug/L			07/30/19 11:02	2000
tert-Butylbenzene	ND		2000	1300	ug/L			07/30/19 11:02	2000
1,1,1,2-Tetrachloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1,2,2-Tetrachloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
Tetrachloroethene	ND		2000	1200	ug/L			07/30/19 11:02	2000
Toluene	ND		2000	820	ug/L			07/30/19 11:02	2000
trans-1,2-Dichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
trans-1,3-Dichloropropene	ND		10000	1000	ug/L			07/30/19 11:02	2000
1,2,3-Trichlorobenzene	ND		2000	1400	ug/L			07/30/19 11:02	2000
1,2,4-Trichlorobenzene	ND		2000	1600	ug/L			07/30/19 11:02	2000
1,1,1-Trichloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1,2-Trichloroethane	ND		10000	1000	ug/L			07/30/19 11:02	2000
Trichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Trichlorofluoromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2,3-Trichloropropane	ND		10000	1700	ug/L			07/30/19 11:02	2000
1,2,4-Trimethylbenzene	ND		2000	1600	ug/L			07/30/19 11:02	2000
1,3,5-Trimethylbenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
Vinyl acetate	ND		50000	4000	ug/L			07/30/19 11:02	2000
Vinyl chloride	ND		2000	1000	ug/L			07/30/19 11:02	2000
Xylenes, Total	ND		20000	3200	ug/L			07/30/19 11:02	2000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 11:02*	*2000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/30/19 11:02*	*2000*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 11:02*	*2000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 11:02*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 07:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
1-Methylnaphthalene	**0.38**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
2-Methylnaphthalene	**0.66**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819

Date Collected: 07/18/19 13:05
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/24/19 15:00*	*08/03/19 07:42*	*1*
Nitrobenzene-d5	*74*		*19 - 130*	*07/24/19 15:00*	*08/03/19 07:42*	*1*
Terphenyl-d14	*91*		*33 - 138*	*07/24/19 15:00*	*08/03/19 07:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
Benzenethiol	ND		9.7	1.6	ug/L		07/24/19 15:00	07/26/19 20:44	1
Benzoic acid	ND	* UJ	29	7.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 20:44	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/24/19 15:00	07/26/19 20:44	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/24/19 15:00	07/26/19 20:44	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/24/19 15:00	07/26/19 20:44	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Dibenz[a,h]acridine	ND	UJ	9.7	2.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 20:44	1
3,3'-Dichlorobenzidine	ND	UJ	9.7	2.5	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 20:44	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/24/19 15:00	07/26/19 20:44	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/24/19 15:00	07/26/19 20:44	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/24/19 15:00	07/26/19 20:44	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 20:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 20:44	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/24/19 15:00	07/26/19 20:44	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 20:44	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
Indene	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 20:44	1
Isophorone	ND		9.7	0.55	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/24/19 15:00	07/26/19 20:44	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819

Date Collected: 07/18/19 13:05
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/24/19 15:00	07/26/19 20:44	1
N-Nitrosodimethylamine	ND	4J	9.7	3.4	ug/L		07/24/19 15:00	07/26/19 20:44	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/24/19 15:00	07/26/19 20:44	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/24/19 15:00	07/26/19 20:44	1
Pentachlorophenol	ND		19	1.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
Pyridine	ND		9.7	3.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
Quinoline	ND		9.7	5.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 20:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*8.4*	*T J N*	*ug/L*		*3.81*	*108-88-3*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
2-Butanone, 4-hydroxy-	*29*	*T J N*	*ug/L*		*3.97*	*590-90-9*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Ethylbenzene	*38*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Indane	*4.1*	*T J N*	*ug/L*		*5.66*	*496-11-7*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
n-Hexadecanoic acid	*8.5*	*T J N*	*ug/L*		*9.03*	*57-10-3*	*07/24/19 15:00*	*07/26/19 20:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Nitrobenzene-d5	*80*		*27 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Phenol-d5	*63*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Terphenyl-d14	*50*	X	*53 - 125*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
2,4,6-Tribromophenol	*68*		*15 - 135*	*07/24/19 15:00*	*07/26/19 20:44*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**120**	J	48	13	ug/L		07/24/19 15:00	07/30/19 21:42	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250000	100000	ug/L			07/29/19 18:26	10000
Acrolein	ND		200000	100000	ug/L			07/29/19 18:26	10000
Acrylonitrile	ND		100000	28000	ug/L			07/29/19 18:26	10000
Benzene	**2500000**		10000	3800	ug/L			07/29/19 18:26	10000
Bromobenzene	ND		10000	5400	ug/L			07/29/19 18:26	10000
Bromochloromethane	ND		10000	5200	ug/L			07/29/19 18:26	10000
Bromodichloromethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
Bromoform	ND		50000	7100	ug/L			07/29/19 18:26	10000
Bromomethane	ND		10000	9800	ug/L			07/29/19 18:26	10000
2-Butanone (MEK)	ND		250000	26000	ug/L			07/29/19 18:26	10000
Carbon disulfide	ND		10000	5000	ug/L			07/29/19 18:26	10000
Carbon tetrachloride	ND		10000	5000	ug/L			07/29/19 18:26	10000
Chlorobenzene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Chloroethane	ND		10000	7600	ug/L			07/29/19 18:26	10000
2-Chloroethyl vinyl ether	ND		50000	20000	ug/L			07/29/19 18:26	10000
Chloroform	ND		10000	6000	ug/L			07/29/19 18:26	10000
1-Chlorohexane	ND		10000	7000	ug/L			07/29/19 18:26	10000
Chloromethane	ND		10000	8300	ug/L			07/29/19 18:26	10000
cis-1,2-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
cis-1,3-Dichloropropene	ND		50000	5000	ug/L			07/29/19 18:26	10000
Dibromochloromethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,2-Dibromo-3-Chloropropane	ND		50000	15000	ug/L			07/29/19 18:26	10000
1,2-Dichlorobenzene	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,3-Dichlorobenzene	ND		10000	5400	ug/L			07/29/19 18:26	10000
1,4-Dichlorobenzene	ND		10000	6400	ug/L			07/29/19 18:26	10000
Dichlorodifluoromethane	ND		10000	8500	ug/L			07/29/19 18:26	10000
1,1-Dichloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,2-Dichloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,1-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,2-Dichloropropane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,3-Dichloropropane	ND		10000	5000	ug/L			07/29/19 18:26	10000
2,2-Dichloropropane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,1-Dichloropropene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Ethylbenzene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Ethylene Dibromide	ND		10000	5000	ug/L			07/29/19 18:26	10000
Ethyl methacrylate	ND		10000	6000	ug/L			07/29/19 18:26	10000
Hexachlorobutadiene	ND		50000	9000	ug/L			07/29/19 18:26	10000
2-Hexanone	ND		250000	31000	ug/L			07/29/19 18:26	10000
Isopropylbenzene	ND		10000	5300	ug/L			07/29/19 18:26	10000
Methylene bromide	ND		50000	5900	ug/L			07/29/19 18:26	10000
Methylene Chloride	ND		50000	30000	ug/L			07/29/19 18:26	10000
4-Methyl-2-pentanone (MIBK)	**57000**	**J**	250000	18000	ug/L			07/29/19 18:26	10000
Methyl tert-butyl ether	ND		10000	7400	ug/L			07/29/19 18:26	10000
m-Xylene & p-Xylene	ND		50000	16000	ug/L			07/29/19 18:26	10000
Naphthalene	ND		10000	10000	ug/L			07/29/19 18:26	10000
n-Butylbenzene	ND		10000	7600	ug/L			07/29/19 18:26	10000
N-Propylbenzene	ND		10000	6900	ug/L			07/29/19 18:26	10000
o-Chlorotoluene	ND		10000	5700	ug/L			07/29/19 18:26	10000
o-Xylene	ND		50000	6000	ug/L			07/29/19 18:26	10000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10000	5600	ug/L			07/29/19 18:26	10000
p-Isopropyltoluene	ND		10000	7100	ug/L			07/29/19 18:26	10000
sec-Butylbenzene	ND		10000	7000	ug/L			07/29/19 18:26	10000
Styrene	ND		10000	10000	ug/L			07/29/19 18:26	10000
tert-Butylbenzene	ND		10000	6300	ug/L			07/29/19 18:26	10000
1,1,1,2-Tetrachloroethane	ND		10000	5200	ug/L			07/29/19 18:26	10000
1,1,2,2-Tetrachloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
Tetrachloroethene	ND		10000	5800	ug/L			07/29/19 18:26	10000
Toluene	ND		10000	4100	ug/L			07/29/19 18:26	10000
trans-1,2-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
trans-1,3-Dichloropropene	ND		50000	5000	ug/L			07/29/19 18:26	10000
1,2,3-Trichlorobenzene	ND		10000	7000	ug/L			07/29/19 18:26	10000
1,2,4-Trichlorobenzene	ND		10000	8200	ug/L			07/29/19 18:26	10000
1,1,1-Trichloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,1,2-Trichloroethane	ND		50000	5000	ug/L			07/29/19 18:26	10000
Trichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Trichlorofluoromethane	ND		10000	5200	ug/L			07/29/19 18:26	10000
1,2,3-Trichloropropane	ND		50000	8400	ug/L			07/29/19 18:26	10000
1,2,4-Trimethylbenzene	ND		10000	8200	ug/L			07/29/19 18:26	10000
1,3,5-Trimethylbenzene	ND		10000	5600	ug/L			07/29/19 18:26	10000
Vinyl acetate	ND		250000	20000	ug/L			07/29/19 18:26	10000
Vinyl chloride	ND		10000	5000	ug/L			07/29/19 18:26	10000
Xylenes, Total	ND		100000	16000	ug/L			07/29/19 18:26	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 18:26*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 18:26*	*10000*
Dibromofluoromethane	*99*		*81 - 121*		*07/29/19 18:26*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/29/19 18:26*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 08:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
1-Methylnaphthalene	**2.4**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
2-Methylnaphthalene	**3.1**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Phenanthrene	**0.39**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1

Client Sample ID: PD-2-GWP-50-071819 **Lab Sample ID: 400-173405-5**
Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*15 - 122*	*07/24/19 15:00*	*08/03/19 08:16*	*1*
Nitrobenzene-d5	*50*		*19 - 130*	*07/24/19 15:00*	*08/03/19 08:16*	*1*
Terphenyl-d14	*70*		*33 - 138*	*07/24/19 15:00*	*08/03/19 08:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/24/19 15:00	07/26/19 21:47	1
Benzoic acid	**8.0**	**J ***	29	7.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 21:47	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/24/19 15:00	07/26/19 21:47	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/24/19 15:00	07/26/19 21:47	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/24/19 15:00	07/26/19 21:47	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 21:47	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 21:47	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/24/19 15:00	07/26/19 21:47	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/24/19 15:00	07/26/19 21:47	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/24/19 15:00	07/26/19 21:47	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 21:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 21:47	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/24/19 15:00	07/26/19 21:47	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 21:47	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
Indene	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 21:47	1
Isophorone	ND		9.7	0.55	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/24/19 15:00	07/26/19 21:47	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/24/19 15:00	07/26/19 21:47	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 21:47	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/24/19 15:00	07/26/19 21:47	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/24/19 15:00	07/26/19 21:47	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
Phenol	**14**		9.7	2.5	ug/L		07/24/19 15:00	07/26/19 21:47	1
Pyridine	ND		9.7	3.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
Quinoline	ND		9.7	5.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 21:47	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*52*	*T J N*	*ug/L*		*3.83*	*108-88-3*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2-Butanone, 4-hydroxy-	*5.4*	*T J N*	*ug/L*		*3.97*	*590-90-9*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Cyclopentanol, 1-methyl-	*4.3*	*T J N*	*ug/L*		*4.05*	*1462-03-9*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Ethylbenzene	*10*	*T J N*	*ug/L*		*4.60*	*100-41-4*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
o-Xylene	*9.5*	*T J N*	*ug/L*		*4.82*	*95-47-6*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Benzene, 1-ethyl-3-methyl-	*11*	*T J N*	*ug/L*		*5.23*	*620-14-4*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Benzene, 1-ethyl-2-methyl-	*7.8*	*T J N*	*ug/L*		*5.25*	*611-14-3*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Benzene, 1-ethyl-4-methyl-	*4.9*	*T J N*	*ug/L*		*5.34*	*622-96-8*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Benzene, 1,2,4-trimethyl-	*41*	*T J N*	*ug/L*		*5.42*	*95-63-6*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Benzene, 1,2,3-trimethyl-	*9.2*	*T J N*	*ug/L*		*5.58*	*526-73-8*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*6.1*	*T J N*	*ug/L*		*5.62*	*1121-05-7*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
n-Hexadecanoic acid	*5.5*	*T J N*	*ug/L*		*9.03*	*57-10-3*	*07/24/19 15:00*	*07/26/19 21:47*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*35*		*34 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2-Fluorophenol	*2*	*X*	*10 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Nitrobenzene-d5	*51*		*27 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Phenol-d5	*8*	*X*	*10 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Terphenyl-d14	*33*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2,4,6-Tribromophenol	*27*		*15 - 135*	*07/24/19 15:00*	*07/26/19 21:47*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	H	9.8	3.7	ug/L		07/31/19 09:42	08/03/19 13:51	1
Benzenethiol	ND	H*	9.8	1.7	ug/L		07/31/19 09:42	08/03/19 13:51	1
Benzoic acid	**13**	**J H**	29	7.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.67	ug/L		07/31/19 09:42	08/03/19 13:51	1
Bis(2-chloroethyl)ether	ND	H	9.8	0.72	ug/L		07/31/19 09:42	08/03/19 13:51	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/31/19 09:42	08/03/19 13:51	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/31/19 09:42	08/03/19 13:51	1
Butyl benzyl phthalate	ND	H	9.8	0.67	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/31/19 09:42	08/03/19 13:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	ND	H	9.8	2.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/31/19 09:42	08/03/19 13:51	1
3,3'-Dichlorobenzidine	ND	H	9.8	2.5	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
Diethyl phthalate	ND	H	9.8	0.68	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dimethylphenol	**10**	**H**	9.8	3.4	ug/L		07/31/19 09:42	08/03/19 13:51	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/31/19 09:42	08/03/19 13:51	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/31/19 09:42	08/03/19 13:51	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
Di-n-octyl phthalate	ND	H	9.8	0.43	ug/L		07/31/19 09:42	08/03/19 13:51	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/31/19 09:42	08/03/19 13:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/31/19 09:42	08/03/19 13:51	1
Hexachlorobenzene	ND	H	9.8	0.24	ug/L		07/31/19 09:42	08/03/19 13:51	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/31/19 09:42	08/03/19 13:51	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
Indene	ND	H	9.8	0.98	ug/L		07/31/19 09:42	08/03/19 13:51	1
Isophorone	ND	H	9.8	0.56	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Methylphenol	**1.9**	**J H**	9.8	1.8	ug/L		07/31/19 09:42	08/03/19 13:51	1
3 & 4 Methylphenol	**3.9**	**J H**	20	1.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Nitroaniline	ND	H	9.8	2.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/31/19 09:42	08/03/19 13:51	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Nitrophenol	ND	H	9.8	0.63	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Nitrophenol	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/31/19 09:42	08/03/19 13:51	1
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/31/19 09:42	08/03/19 13:51	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/31/19 09:42	08/03/19 13:51	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/31/19 09:42	08/03/19 13:51	1
Pyridine	ND	H	9.8	3.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
Quinoline	ND	H	9.8	5.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/31/19 09:42	08/03/19 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*34 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
2-Fluorophenol	*54*		*10 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Nitrobenzene-d5	*73*		*27 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Phenol-d5	*61*		*10 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
2,4,6-Tribromophenol	*110*		*15 - 135*	*07/31/19 09:42*	*08/03/19 13:51*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819
Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	160	H J	49	13	ug/L		07/31/19 09:42	08/05/19 09:33	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250000	100000	ug/L			07/31/19 14:00	10000
Acrolein	ND		200000	100000	ug/L			07/31/19 14:00	10000
Acrylonitrile	ND		100000	28000	ug/L			07/31/19 14:00	10000
Benzene	**1500000**		10000	3800	ug/L			07/31/19 14:00	10000
Bromobenzene	ND		10000	5400	ug/L			07/31/19 14:00	10000
Bromochloromethane	ND		10000	5200	ug/L			07/31/19 14:00	10000
Bromodichloromethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
Bromoform	ND		50000	7100	ug/L			07/31/19 14:00	10000
Bromomethane	ND		10000	9800	ug/L			07/29/19 18:48	10000
2-Butanone (MEK)	ND		250000	26000	ug/L			07/31/19 14:00	10000
Carbon disulfide	ND		10000	5000	ug/L			07/31/19 14:00	10000
Carbon tetrachloride	ND		10000	5000	ug/L			07/31/19 14:00	10000
Chlorobenzene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Chloroethane	ND		10000	7600	ug/L			07/31/19 14:00	10000
2-Chloroethyl vinyl ether	ND		50000	20000	ug/L			07/31/19 14:00	10000
Chloroform	ND		10000	6000	ug/L			07/31/19 14:00	10000
1-Chlorohexane	ND		10000	7000	ug/L			07/31/19 14:00	10000
Chloromethane	ND		10000	8300	ug/L			07/31/19 14:00	10000
cis-1,2-Dichloroethene	ND		10000	5000	ug/L			07/31/19 14:00	10000
cis-1,3-Dichloropropene	ND		50000	5000	ug/L			07/31/19 14:00	10000
Dibromochloromethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,2-Dibromo-3-Chloropropane	ND		50000	15000	ug/L			07/31/19 14:00	10000
1,2-Dichlorobenzene	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,3-Dichlorobenzene	ND		10000	5400	ug/L			07/31/19 14:00	10000
1,4-Dichlorobenzene	ND		10000	6400	ug/L			07/31/19 14:00	10000
Dichlorodifluoromethane	ND		10000	8500	ug/L			07/31/19 14:00	10000
1,1-Dichloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,2-Dichloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,1-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:48	10000
1,2-Dichloropropane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,3-Dichloropropane	ND		10000	5000	ug/L			07/31/19 14:00	10000
2,2-Dichloropropane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,1-Dichloropropene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Ethylbenzene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Ethylene Dibromide	ND		10000	5000	ug/L			07/31/19 14:00	10000
Ethyl methacrylate	ND		10000	6000	ug/L			07/31/19 14:00	10000
Hexachlorobutadiene	ND		50000	9000	ug/L			07/31/19 14:00	10000
2-Hexanone	ND		250000	31000	ug/L			07/31/19 14:00	10000
Isopropylbenzene	ND		10000	5300	ug/L			07/31/19 14:00	10000
Methylene bromide	ND		50000	5900	ug/L			07/31/19 14:00	10000
Methylene Chloride	ND		50000	30000	ug/L			07/31/19 14:00	10000
4-Methyl-2-pentanone (MIBK)	ND		250000	18000	ug/L			07/31/19 14:00	10000
Methyl tert-butyl ether	ND		10000	7400	ug/L			07/31/19 14:00	10000
m-Xylene & p-Xylene	ND		50000	16000	ug/L			07/31/19 14:00	10000
Naphthalene	ND		10000	10000	ug/L			07/31/19 14:00	10000
n-Butylbenzene	ND		10000	7600	ug/L			07/31/19 14:00	10000
N-Propylbenzene	ND		10000	6900	ug/L			07/31/19 14:00	10000
o-Chlorotoluene	ND		10000	5700	ug/L			07/31/19 14:00	10000
o-Xylene	ND		50000	6000	ug/L			07/31/19 14:00	10000

Client Sample ID: PD-2-GWP-50-071819-DUP **Lab Sample ID: 400-173405-6**
Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10000	5600	ug/L			07/31/19 14:00	10000
p-Isopropyltoluene	ND		10000	7100	ug/L			07/31/19 14:00	10000
sec-Butylbenzene	ND		10000	7000	ug/L			07/31/19 14:00	10000
Styrene	ND		10000	10000	ug/L			07/31/19 14:00	10000
tert-Butylbenzene	ND		10000	6300	ug/L			07/31/19 14:00	10000
1,1,1,2-Tetrachloroethane	ND		10000	5200	ug/L			07/31/19 14:00	10000
1,1,2,2-Tetrachloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
Tetrachloroethene	ND		10000	5800	ug/L			07/31/19 14:00	10000
Toluene	ND		10000	4100	ug/L			07/31/19 14:00	10000
trans-1,2-Dichloroethene	ND		10000	5000	ug/L			07/31/19 14:00	10000
trans-1,3-Dichloropropene	ND		50000	5000	ug/L			07/31/19 14:00	10000
1,2,3-Trichlorobenzene	ND		10000	7000	ug/L			07/31/19 14:00	10000
1,2,4-Trichlorobenzene	ND		10000	8200	ug/L			07/31/19 14:00	10000
1,1,1-Trichloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,1,2-Trichloroethane	ND		50000	5000	ug/L			07/31/19 14:00	10000
Trichloroethene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Trichlorofluoromethane	ND		10000	5200	ug/L			07/31/19 14:00	10000
1,2,3-Trichloropropane	ND		50000	8400	ug/L			07/31/19 14:00	10000
1,2,4-Trimethylbenzene	ND		10000	8200	ug/L			07/31/19 14:00	10000
1,3,5-Trimethylbenzene	ND		10000	5600	ug/L			07/31/19 14:00	10000
Vinyl acetate	ND		250000	20000	ug/L			07/31/19 14:00	10000
Vinyl chloride	ND		10000	5000	ug/L			07/31/19 14:00	10000
Xylenes, Total	ND		100000	16000	ug/L			07/31/19 14:00	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/31/19 14:00*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 18:48*	*10000*
4-Bromofluorobenzene	*116*		*78 - 118*		*07/31/19 14:00*	*10000*
Dibromofluoromethane	*97*		*81 - 121*		*07/29/19 18:48*	*10000*
Dibromofluoromethane	*96*		*81 - 121*		*07/31/19 14:00*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/29/19 18:48*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/31/19 14:00*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 08:50	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1

Client Sample ID: PD-2-GWP-50-071819-DUP

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**2.1**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
2-Methylnaphthalene	**3.3**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*15 - 122*	*07/24/19 15:00*	*08/03/19 08:50*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/24/19 15:00*	*08/03/19 08:50*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/24/19 15:00*	*08/03/19 08:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
Benzenethiol	ND		9.6	1.6	ug/L		07/24/19 15:00	07/26/19 22:09	1
Benzoic acid	**15**	**J * J**	29	7.0	ug/L		07/24/19 15:00	07/26/19 22:09	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/24/19 15:00	07/26/19 22:09	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 15:00	07/26/19 22:09	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 15:00	07/26/19 22:09	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 15:00	07/26/19 22:09	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:09	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Diethyl phthalate	ND		9.6	0.68	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dimethylphenol	**7.5**	**J**	9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:09	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 15:00	07/26/19 22:09	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 15:00	07/26/19 22:09	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 15:00	07/26/19 22:09	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:09	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 15:00	07/26/19 22:09	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 22:09	1
Hexachloroethane	ND		9.6	4.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
Indene	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:09	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
3 & 4 Methylphenol	**2.4**	**J**	19	1.0	ug/L		07/24/19 15:00	07/26/19 22:09	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 15:00	07/26/19 22:09	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 15:00	07/26/19 22:09	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:09	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 15:00	07/26/19 22:09	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 15:00	07/26/19 22:09	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*96*	*T J N*	*ug/L*		*3.85*	*108-88-3*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2-Butanone, 4-hydroxy-	*13*	*T J N*	*ug/L*		*3.99*	*590-90-9*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Ethylbenzene	*18*	*T J N*	*ug/L*		*4.60*	*100-41-4*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1,3-dimethyl-	*13*	*T J N*	*ug/L*		*4.83*	*108-38-3*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, (1-methylethyl)-	*4.5*	*T J N*	*ug/L*		*5.02*	*98-82-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1-ethyl-3-methyl-	*12*	*T J N*	*ug/L*		*5.23*	*620-14-4*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1-ethyl-2-methyl-	*8.2*	*T J N*	*ug/L*		*5.25*	*611-14-3*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1-ethyl-4-methyl-	*6.5*	*T J N*	*ug/L*		*5.34*	*622-96-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1,2,3-trimethyl-	*50*	*T J N*	*ug/L*		*5.43*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1,2,3-trimethyl-	*11*	*T J N*	*ug/L*		*5.58*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*8.5*	*T J N*	*ug/L*		*5.63*	*1121-05-7*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzoic acid, 3-methyl-	*5.1*	*T J N*	*ug/L*		*6.59*	*99-04-7*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzoic acid, 3,4-dimethyl-	*5.6*	*T J N*	*ug/L*		*6.97*	*619-04-5*	*07/24/19 15:00*	*07/26/19 22:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2-Fluorophenol	*22*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Nitrobenzene-d5	*68*		*27 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Phenol-d5	*48*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Terphenyl-d14	*41*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2,4,6-Tribromophenol	*61*		*15 - 135*	*07/24/19 15:00*	*07/26/19 22:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**100**		48	13	ug/L		07/24/19 15:00	07/30/19 22:07	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Date Collected: 07/18/19 14:45
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 17:39	1
Acrolein	ND		20	10	ug/L			07/30/19 17:39	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 17:39	1
Benzene	0.57	J	1.0	0.38	ug/L			07/30/19 17:39	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 17:39	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 17:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 17:39	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 17:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 17:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 17:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 17:39	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 17:39	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 17:39	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 17:39	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:39	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 17:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 17:39	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 17:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 17:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 17:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 17:39	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 17:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 17:39	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 17:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 17:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 17:39	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 17:39	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 17:39	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 17:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 17:39	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 17:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 17:39	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 17:39	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Date Collected: 07/18/19 14:45
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 17:39	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 17:39	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 17:39	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 17:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 17:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 17:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 17:39	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 17:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 17:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 17:39	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 17:39	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 17:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 17:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 17:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 17:39	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 17:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 17:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*140*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/30/19 17:39*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 17:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/30/19 17:39*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/30/19 17:39*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 17:39*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Chrysene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Fluoranthene	**0.027**	**J**	0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 06:34	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*15 - 122*	*07/24/19 15:00*	*08/03/19 06:34*	*1*
Nitrobenzene-d5	*82*		*19 - 130*	*07/24/19 15:00*	*08/03/19 06:34*	*1*
Terphenyl-d14	*129*		*33 - 138*	*07/24/19 15:00*	*08/03/19 06:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
Benzenethiol	ND		9.6	1.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
Benzoic acid	ND	*	29	7.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/24/19 15:00	07/26/19 22:30	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 15:00	07/26/19 22:30	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 15:00	07/26/19 22:30	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 15:00	07/26/19 22:30	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Chloro-3-methylphenol	ND		9.6	3.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:30	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:30	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 15:00	07/26/19 22:30	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 15:00	07/26/19 22:30	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:30	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:30	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 15:00	07/26/19 22:30	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
Indene	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:30	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:30	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:30	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 15:00	07/26/19 22:30	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Nitrophenol	ND		9.6	0.62	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:30	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 15:00	07/26/19 22:30	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 15:00	07/26/19 22:30	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 15:00	07/26/19 22:30	1
Phenol	ND		9.6	2.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 15:00	07/26/19 22:30	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4,5-Trichlorophenol	ND		9.6	3.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*3.97*	*590-90-9*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
9-Octadecenamide, (Z)-	*4.8*	*T J N*	*ug/L*		*11.73*	*301-02-0*	*07/24/19 15:00*	*07/26/19 22:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*34 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Nitrobenzene-d5	*90*		*27 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Phenol-d5	*69*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Terphenyl-d14	*82*		*53 - 125*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
2,4,6-Tribromophenol	*60*		*15 - 135*	*07/24/19 15:00*	*07/26/19 22:30*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819

Date Collected: 07/18/19 14:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		2500	1000	ug/L			07/29/19 16:36	100
Acrolein	ND		2000	1000	ug/L			07/29/19 16:36	100
Acrylonitrile	ND		1000	280	ug/L			07/29/19 16:36	100
Benzene	**12000**		100	38	ug/L			07/29/19 16:36	100
Bromobenzene	ND		100	54	ug/L			07/29/19 16:36	100
Bromochloromethane	ND		100	52	ug/L			07/29/19 16:36	100
Bromodichloromethane	ND		100	50	ug/L			07/29/19 16:36	100
Bromoform	ND		500	71	ug/L			07/29/19 16:36	100
Bromomethane	ND		100	98	ug/L			07/29/19 16:36	100
2-Butanone (MEK)	ND		2500	260	ug/L			07/29/19 16:36	100
Carbon disulfide	ND		100	50	ug/L			07/29/19 16:36	100
Carbon tetrachloride	ND		100	50	ug/L			07/29/19 16:36	100
Chlorobenzene	ND		100	50	ug/L			07/29/19 16:36	100
Chloroethane	ND		100	76	ug/L			07/29/19 16:36	100
2-Chloroethyl vinyl ether	ND		500	200	ug/L			07/29/19 16:36	100
Chloroform	ND		100	60	ug/L			07/29/19 16:36	100
1-Chlorohexane	ND		100	70	ug/L			07/29/19 16:36	100
Chloromethane	ND		100	83	ug/L			07/29/19 16:36	100
cis-1,2-Dichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
cis-1,3-Dichloropropene	ND		500	50	ug/L			07/29/19 16:36	100
Dibromochloromethane	ND		100	50	ug/L			07/29/19 16:36	100
1,2-Dibromo-3-Chloropropane	ND		500	150	ug/L			07/29/19 16:36	100
1,2-Dichlorobenzene	ND		100	50	ug/L			07/29/19 16:36	100
1,3-Dichlorobenzene	ND		100	54	ug/L			07/29/19 16:36	100
1,4-Dichlorobenzene	ND		100	64	ug/L			07/29/19 16:36	100
Dichlorodifluoromethane	ND		100	85	ug/L			07/29/19 16:36	100
1,1-Dichloroethane	ND		100	50	ug/L			07/29/19 16:36	100
1,2-Dichloroethane	ND		100	50	ug/L			07/29/19 16:36	100
1,1-Dichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
1,2-Dichloropropane	ND		100	50	ug/L			07/29/19 16:36	100
1,3-Dichloropropane	ND		100	50	ug/L			07/29/19 16:36	100
2,2-Dichloropropane	ND		100	50	ug/L			07/29/19 16:36	100
1,1-Dichloropropene	ND		100	50	ug/L			07/29/19 16:36	100
Ethylbenzene	ND		100	50	ug/L			07/29/19 16:36	100
Ethylene Dibromide	ND		100	50	ug/L			07/29/19 16:36	100
Ethyl methacrylate	ND		100	60	ug/L			07/29/19 16:36	100
Hexachlorobutadiene	ND		500	90	ug/L			07/29/19 16:36	100
2-Hexanone	ND		2500	310	ug/L			07/29/19 16:36	100
Isopropylbenzene	ND		100	53	ug/L			07/29/19 16:36	100
Methylene bromide	ND		500	59	ug/L			07/29/19 16:36	100
Methylene Chloride	ND		500	300	ug/L			07/29/19 16:36	100
4-Methyl-2-pentanone (MIBK)	ND		2500	180	ug/L			07/29/19 16:36	100
Methyl tert-butyl ether	ND		100	74	ug/L			07/29/19 16:36	100
m-Xylene & p-Xylene	ND		500	160	ug/L			07/29/19 16:36	100
Naphthalene	ND		100	100	ug/L			07/29/19 16:36	100
n-Butylbenzene	ND		100	76	ug/L			07/29/19 16:36	100
N-Propylbenzene	ND		100	69	ug/L			07/29/19 16:36	100
o-Chlorotoluene	ND		100	57	ug/L			07/29/19 16:36	100
o-Xylene	ND		500	60	ug/L			07/29/19 16:36	100

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819

Date Collected: 07/18/19 14:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		100	56	ug/L			07/29/19 16:36	100
p-Isopropyltoluene	ND		100	71	ug/L			07/29/19 16:36	100
sec-Butylbenzene	ND		100	70	ug/L			07/29/19 16:36	100
Styrene	ND		100	100	ug/L			07/29/19 16:36	100
tert-Butylbenzene	ND		100	63	ug/L			07/29/19 16:36	100
1,1,1,2-Tetrachloroethane	ND		100	52	ug/L			07/29/19 16:36	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/L			07/29/19 16:36	100
Tetrachloroethene	ND		100	58	ug/L			07/29/19 16:36	100
Toluene	ND		100	41	ug/L			07/29/19 16:36	100
trans-1,2-Dichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
trans-1,3-Dichloropropene	ND		500	50	ug/L			07/29/19 16:36	100
1,2,3-Trichlorobenzene	ND		100	70	ug/L			07/29/19 16:36	100
1,2,4-Trichlorobenzene	ND		100	82	ug/L			07/29/19 16:36	100
1,1,1-Trichloroethane	ND		100	50	ug/L			07/29/19 16:36	100
1,1,2-Trichloroethane	ND		500	50	ug/L			07/29/19 16:36	100
Trichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
Trichlorofluoromethane	ND		100	52	ug/L			07/29/19 16:36	100
1,2,3-Trichloropropane	ND		500	84	ug/L			07/29/19 16:36	100
1,2,4-Trimethylbenzene	ND		100	82	ug/L			07/29/19 16:36	100
1,3,5-Trimethylbenzene	ND		100	56	ug/L			07/29/19 16:36	100
Vinyl acetate	ND		2500	200	ug/L			07/29/19 16:36	100
Vinyl chloride	ND		100	50	ug/L			07/29/19 16:36	100
Xylenes, Total	ND		1000	160	ug/L			07/29/19 16:36	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 16:36*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 16:36*	*100*
Dibromofluoromethane	*97*		*81 - 121*		*07/29/19 16:36*	*100*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/29/19 16:36*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 06:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
1-Methylnaphthalene	**1.1**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
2-Methylnaphthalene	**1.4**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819

Date Collected: 07/18/19 14:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-8

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*15 - 122*	*07/24/19 15:00*	*08/03/19 06:51*	*1*
Nitrobenzene-d5	*61*		*19 - 130*	*07/24/19 15:00*	*08/03/19 06:51*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/24/19 15:00*	*08/03/19 06:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 15:00	07/26/19 22:51	1
Benzoic acid	ND	*	30	7.3	ug/L		07/24/19 15:00	07/26/19 22:51	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 22:51	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 15:00	07/26/19 22:51	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 15:00	07/26/19 22:51	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 15:00	07/26/19 22:51	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 22:51	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 22:51	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 15:00	07/26/19 22:51	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 15:00	07/26/19 22:51	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 22:51	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 15:00	07/26/19 22:51	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 15:00	07/26/19 22:51	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 22:51	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
Indene	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Isophorone	ND		10	0.57	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 15:00	07/26/19 22:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819
Date Collected: 07/18/19 14:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-8
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 15:00	07/26/19 22:51	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 22:51	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 15:00	07/26/19 22:51	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 15:00	07/26/19 22:51	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
Phenol	57		10	2.6	ug/L		07/24/19 15:00	07/26/19 22:51	1
Pyridine	ND		10	3.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
Quinoline	ND		10	6.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 22:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*4.2*	*T J N*	*ug/L*		*3.81*	*108-88-3*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Cyclopentanol, 1-methyl-	*4.2*	*T J N*	*ug/L*		*4.04*	*1462-03-9*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Ethylbenzene	*7.1*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
o-Xylene	*4.4*	*T J N*	*ug/L*		*4.82*	*95-47-6*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, (1-methylethyl)-	*4.6*	*T J N*	*ug/L*		*5.01*	*98-82-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, propyl-	*8.0*	*T J N*	*ug/L*		*5.19*	*103-65-1*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1-ethyl-3-methyl-	*7.2*	*T J N*	*ug/L*		*5.23*	*620-14-4*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1-ethyl-2-methyl-	*7.4*	*T J N*	*ug/L*		*5.25*	*611-14-3*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1-ethyl-4-methyl-	*14*	*T J N*	*ug/L*		*5.33*	*622-96-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1,2,3-trimethyl-	*42*	*T J N*	*ug/L*		*5.42*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1,2,3-trimethyl-	*16*	*T J N*	*ug/L*		*5.58*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Indane	*20*	*T J N*	*ug/L*		*5.66*	*496-11-7*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
2,4-Dimethylstyrene	*5.4*	*T J N*	*ug/L*		*6.19*	*2234-20-0*	*07/24/19 15:00*	*07/26/19 22:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*49*		*34 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Nitrobenzene-d5	*73*		*27 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Phenol-d5	*58*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Terphenyl-d14	*44*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
2,4,6-Tribromophenol	*47*		*15 - 135*	*07/24/19 15:00*	*07/26/19 22:51*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-173405-1	TB-PW-071819-B	98	101	99
400-173405-2	PD-14-GWP-78.5-071819	99	94	101
400-173405-2 - DL	PD-14-GWP-78.5-071819	116	99	95
400-173405-3	PD-14-GWP-78.5-071819-EB	98	99	99
400-173405-4	PD-2-GWP-44-071819	99	94	101
400-173405-4 MS	PD-2-GWP-44-071819	98	95	99
400-173405-4 MSD	PD-2-GWP-44-071819	99	95	100
400-173405-5	PD-2-GWP-50-071819	98	99	98
400-173405-6	PD-2-GWP-50-071819-DUP	98	97	98
400-173405-6	PD-2-GWP-50-071819-DUP	116	96	98
400-173405-7	PD-2-GWP-50-071819-EB	100	98	101
400-173405-8	PD-2-GWP-59-071819	99	97	98
LCS 400-449846/1002	Lab Control Sample	96	100	98
LCS 400-449979/1002	Lab Control Sample	98	97	100
LCS 400-450140/1002	Lab Control Sample	112	101	91
MB 400-449846/5	Method Blank	99	99	99
MB 400-449979/4	Method Blank	97	97	101
MB 400-450140/4	Method Blank	115	97	97

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-173405-2	PD-14-GWP-78.5-071819	62	51	85	62	70	55
400-173405-3	PD-14-GWP-78.5-071819-EB	48	36	77	52	72	46
400-173405-4	PD-2-GWP-44-071819	52	37	80	63	50 X	68
400-173405-4 MS	PD-2-GWP-44-071819	54	42	73	68	31 X	70
400-173405-4 MSD	PD-2-GWP-44-071819	49	31	71	57	33 X	59
400-173405-5	PD-2-GWP-50-071819	35	2 X	51	8 X	33 X	27
400-173405-5 - RE	PD-2-GWP-50-071819	87	54	73	61	59	110
400-173405-6	PD-2-GWP-50-071819-DUP	42	22	68	48	41 X	61
400-173405-7	PD-2-GWP-50-071819-EB	54	49	90	69	82	60
400-173405-8	PD-2-GWP-59-071819	49	44	73	58	44 X	47
LCS 400-449321/2-A	Lab Control Sample	60	43	85	65	75	70
LCS 400-449321/8-A	Lab Control Sample	53	53	82	69	72	49
LCS 400-450172/2-A	Lab Control Sample	88	78	91	86	102	89
LCS 400-450172/4-A	Lab Control Sample	83	64	80	75	97	63
LCSD 400-449321/3-A	Lab Control Sample Dup	60	44	84	67	76	74
LCSD 400-449321/9-A	Lab Control Sample Dup	51	55	81	69	74	48
LCSD 400-450172/3-A	Lab Control Sample Dup	92	76	94	83	109	93
LCSD 400-450172/5-A	Lab Control Sample Dup	95	71	90	87	111	76
MB 400-449321/1-A	Method Blank	59	44	88	67	78	54
MB 400-450172/1-A	Method Blank	92	43	84	70	110	65

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (15-122)	NBZ (19-130)	TPHL (33-138)
400-173405-2	PD-14-GWP-78.5-071819	91	77	111
400-173405-3	PD-14-GWP-78.5-071819-EB	84	69	109
400-173405-4	PD-2-GWP-44-071819	77	74	91
400-173405-4 MS	PD-2-GWP-44-071819	87	76	44
400-173405-4 MSD	PD-2-GWP-44-071819	81	72	47
400-173405-5	PD-2-GWP-50-071819	66	50	70
400-173405-6	PD-2-GWP-50-071819-DUP	76	65	77
400-173405-7	PD-2-GWP-50-071819-EB	83	82	129
400-173405-8	PD-2-GWP-59-071819	80	61	77
LCS 400-449321/2-A	Lab Control Sample	77	68	89
LCSD 400-449321/3-A	Lab Control Sample Dup	83	69	96
MB 400-449321/1-A	Method Blank	87	80	123

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071819-B — Lab Sample ID: 400-173405-1

Date Collected: 07/18/19 00:00 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449846	07/29/19 13:18	CAR	TAL PEN

Client Sample ID: PD-14-GWP-78.5-071819 — Lab Sample ID: 400-173405-2

Date Collected: 07/18/19 09:30 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 18:32	RS	TAL PEN
Total/NA	Analysis	8260B	DL	2	5 mL	5 mL	450140	07/31/19 10:00	RS	TAL PEN
Total/NA	Prep	3520C			1008.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 20:02	VC1	TAL PEN
Total/NA	Prep	3520C			1008.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 07:08	KJA	TAL PEN

Client Sample ID: PD-14-GWP-78.5-071819-EB — Lab Sample ID: 400-173405-3

Date Collected: 07/18/19 09:50 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 17:13	RS	TAL PEN
Total/NA	Prep	3520C			1019.4 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 23:53	VC1	TAL PEN
Total/NA	Prep	3520C			1019.4 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 07:25	KJA	TAL PEN

Client Sample ID: PD-2-GWP-44-071819 — Lab Sample ID: 400-173405-4

Date Collected: 07/18/19 13:05 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449979	07/30/19 11:02	RS	TAL PEN
Total/NA	Prep	3520C	DL		1033.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450059	07/30/19 21:42	VC1	TAL PEN
Total/NA	Prep	3520C			1033.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 20:44	VC1	TAL PEN
Total/NA	Prep	3520C			1033.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 07:42	KJA	TAL PEN

Client Sample ID: PD-2-GWP-50-071819 — Lab Sample ID: 400-173405-5

Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449846	07/29/19 18:26	CAR	TAL PEN

Client Sample ID: PD-2-GWP-50-071819 — Lab Sample ID: 400-173405-5

Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	RE		1025.6 mL	1 mL	450172	07/31/19 09:42	LGF	TAL PEN
Total/NA	Analysis	8270D	RE	1			450777	08/03/19 13:51	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1025.6 mL	1 mL	450172	07/31/19 09:42	LGF	TAL PEN
Total/NA	Analysis	8270D	RERA	5			450897	08/05/19 09:33	VC1	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 21:47	VC1	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 08:16	KJA	TAL PEN

Client Sample ID: PD-2-GWP-50-071819-DUP — Lab Sample ID: 400-173405-6

Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449846	07/29/19 18:48	CAR	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	450140	07/31/19 14:00	RS	TAL PEN
Total/NA	Prep	3520C	DL		1036.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450059	07/30/19 22:07	VC1	TAL PEN
Total/NA	Prep	3520C			1036.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 22:09	VC1	TAL PEN
Total/NA	Prep	3520C			1036.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 08:50	KJA	TAL PEN

Client Sample ID: PD-2-GWP-50-071819-EB — Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 17:39	RS	TAL PEN
Total/NA	Prep	3520C			1042.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 22:30	VC1	TAL PEN
Total/NA	Prep	3520C			1042.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 06:34	KJA	TAL PEN

Client Sample ID: PD-2-GWP-59-071819 — Lab Sample ID: 400-173405-8

Date Collected: 07/18/19 14:50 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	5 mL	5 mL	449846	07/29/19 16:36	CAR	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 22:51	VC1	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 06:51	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449321/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 16:52	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 05:43	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449846/5

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449846	07/29/19 10:26	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449979/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 10:36	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450140/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450140	07/31/19 07:21	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450172/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 11:53	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449321/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450203	07/31/19 14:24	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:17	KJA	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449321/8-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449846/1002

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449846	07/29/19 09:29	CAR	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-449979/1002

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 09:34	RS	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-450140/1002

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450140	07/31/19 06:21	RS	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-450172/2-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 13:08	VC1	TAL PEN

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 400-450172/4-A

Date Collected: N/A **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 12:25	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449321/3-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 14:45	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:00	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449321/9-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:20	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-450172/3-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 13:30	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-450172/5-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 12:47	VC1	TAL PEN

Client Sample ID: PD-2-GWP-44-071819
Lab Sample ID: 400-173405-4 MS
Date Collected: 07/18/19 13:05
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449979	07/30/19 14:07	RS	TAL PEN
Total/NA	Prep	3520C			1032.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 21:06	VC1	TAL PEN
Total/NA	Prep	3520C			1032.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 07:59	KJA	TAL PEN

Client Sample ID: PD-2-GWP-44-071819
Lab Sample ID: 400-173405-4 MSD
Date Collected: 07/18/19 13:05
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449979	07/30/19 14:34	RS	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-44-071819
Lab Sample ID: 400-173405-4 MSD
Date Collected: 07/18/19 13:05
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			989.2 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 21:27	VC1	TAL PEN
Total/NA	Prep	3520C			989.2 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 08:33	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

GC/MS VOA

Analysis Batch: 449846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-1	TB-PW-071819-B	Total/NA	Water	8260B	
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8260B	
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8260B	
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	8260B	
MB 400-449846/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449846/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	8260B	
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	8260B	
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	8260B	
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	8260B	
MB 400-449979/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449979/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	8260B	
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	8260B	

Analysis Batch: 450140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2 - DL	PD-14-GWP-78.5-071819	Total/NA	Water	8260B	
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8260B	
MB 400-450140/4	Method Blank	Total/NA	Water	8260B	
LCS 400-450140/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	3520C	
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	3520C	
400-173405-4 - DL	PD-2-GWP-44-071819	Total/NA	Water	3520C	
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	3520C	
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	3520C	
400-173405-6 - DL	PD-2-GWP-50-071819-DUP	Total/NA	Water	3520C	
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	3520C	
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	3520C	
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	3520C	
MB 400-449321/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	3520C	
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	3520C	

Analysis Batch: 449680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	8270D	449321
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	8270D	449321
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

GC/MS Semi VOA (Continued)

Analysis Batch: 449680 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8270D	449321
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8270D	449321
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	8270D	449321
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	8270D	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D	449321
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321

Analysis Batch: 450059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-4 - DL	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321
400-173405-6 - DL	PD-2-GWP-50-071819-DUP	Total/NA	Water	8270D	449321

Prep Batch: 450172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5 - RE	PD-2-GWP-50-071819	Total/NA	Water	3520C	
400-173405-5 - RERA	PD-2-GWP-50-071819	Total/NA	Water	3520C	
MB 400-450172/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-450172/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-450172/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-450172/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-450172/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	8270D LL	449321
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	8270D LL	449321
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	8270D LL	449321
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8270D LL	449321
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8270D LL	449321
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	8270D LL	449321
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	8270D LL	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D LL	449321
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449321
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	8270D LL	449321
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	8270D LL	449321

Analysis Batch: 450777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5 - RE	PD-2-GWP-50-071819	Total/NA	Water	8270D	450172
MB 400-450172/1-A	Method Blank	Total/NA	Water	8270D	450172
LCS 400-450172/2-A	Lab Control Sample	Total/NA	Water	8270D	450172
LCS 400-450172/4-A	Lab Control Sample	Total/NA	Water	8270D	450172

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

GC/MS Semi VOA (Continued)

Analysis Batch: 450777 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-450172/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	450172
LCSD 400-450172/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	450172

Analysis Batch: 450897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5 - RERA	PD-2-GWP-50-071819	Total/NA	Water	8270D	450172

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449846/5
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 10:26	1
Acrolein	ND		20	10	ug/L			07/29/19 10:26	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 10:26	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 10:26	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 10:26	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 10:26	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 10:26	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 10:26	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 10:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 10:26	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 10:26	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 10:26	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 10:26	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 10:26	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:26	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 10:26	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 10:26	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 10:26	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 10:26	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 10:26	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 10:26	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 10:26	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 10:26	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 10:26	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 10:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 10:26	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 10:26	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 10:26	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 10:26	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 10:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 10:26	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 10:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449846/5
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 10:26	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 10:26	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 10:26	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 10:26	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 10:26	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 10:26	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 10:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 10:26	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 10:26	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:26	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 10:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 10:26	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 10:26	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 10:26	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 10:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 10:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 10:26	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 10:26	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 10:26	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 10:26*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 10:26*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/29/19 10:26*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/29/19 10:26*	*1*

Lab Sample ID: LCS 400-449846/1002
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	182		ug/L		91	43 - 160
Acrolein	500	498		ug/L		100	38 - 160
Acrylonitrile	500	508		ug/L		102	64 - 142
Benzene	50.0	48.0		ug/L		96	70 - 130
Bromobenzene	50.0	46.0		ug/L		92	70 - 132
Bromochloromethane	50.0	46.1		ug/L		92	70 - 130
Bromodichloromethane	50.0	46.1		ug/L		92	67 - 133
Bromoform	50.0	38.6		ug/L		77	57 - 140
Bromomethane	50.0	42.7		ug/L		85	10 - 160
2-Butanone (MEK)	200	172		ug/L		86	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449846/1002
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	45.1		ug/L		90	61 - 137
Carbon tetrachloride	50.0	45.7		ug/L		91	61 - 137
Chlorobenzene	50.0	47.5		ug/L		95	70 - 130
Chloroethane	50.0	49.6		ug/L		99	55 - 141
2-Chloroethyl vinyl ether	50.0	47.8		ug/L		96	10 - 160
Chloroform	50.0	47.0		ug/L		94	69 - 130
1-Chlorohexane	50.0	50.5		ug/L		101	69 - 130
Chloromethane	50.0	56.0		ug/L		112	58 - 137
cis-1,2-Dichloroethene	50.0	48.8		ug/L		98	68 - 130
cis-1,3-Dichloropropene	50.0	46.4		ug/L		93	69 - 132
Dibromochloromethane	50.0	44.0		ug/L		88	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	40.7		ug/L		81	54 - 135
1,2-Dichlorobenzene	50.0	46.8		ug/L		94	67 - 130
1,3-Dichlorobenzene	50.0	46.6		ug/L		93	70 - 130
1,4-Dichlorobenzene	50.0	46.1		ug/L		92	70 - 130
Dichlorodifluoromethane	50.0	47.7		ug/L		95	41 - 146
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	46.7		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	48.1		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	51.3		ug/L		103	70 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
2,2-Dichloropropane	50.0	43.3		ug/L		87	52 - 135
1,1-Dichloropropene	50.0	47.2		ug/L		94	70 - 130
Ethylbenzene	50.0	46.4		ug/L		93	70 - 130
Ethylene Dibromide	50.0	46.4		ug/L		93	70 - 130
Ethyl methacrylate	50.0	45.0		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	48.0		ug/L		96	53 - 140
2-Hexanone	200	178		ug/L		89	65 - 137
Isopropylbenzene	50.0	46.5		ug/L		93	70 - 130
Methylene bromide	50.0	47.9		ug/L		96	70 - 130
Methylene Chloride	50.0	43.7		ug/L		87	66 - 135
4-Methyl-2-pentanone (MIBK)	200	202		ug/L		101	69 - 138
Methyl tert-butyl ether	50.0	42.8		ug/L		86	66 - 130
m-Xylene & p-Xylene	50.0	45.7		ug/L		91	70 - 130
Naphthalene	50.0	46.5		ug/L		93	47 - 149
n-Butylbenzene	50.0	47.6		ug/L		95	67 - 130
N-Propylbenzene	50.0	46.3		ug/L		93	70 - 130
o-Chlorotoluene	50.0	46.0		ug/L		92	70 - 130
o-Xylene	50.0	46.8		ug/L		94	70 - 130
p-Chlorotoluene	50.0	46.3		ug/L		93	70 - 130
p-Isopropyltoluene	50.0	46.1		ug/L		92	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	45.8		ug/L		92	70 - 130
tert-Butylbenzene	50.0	45.1		ug/L		90	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.3		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	70 - 131
Tetrachloroethene	50.0	44.5		ug/L		89	65 - 130
Toluene	50.0	45.4		ug/L		91	70 - 130
trans-1,2-Dichloroethene	50.0	48.2		ug/L		96	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449846/1002
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	42.8		ug/L		86	63 - 130
1,2,3-Trichlorobenzene	50.0	44.8		ug/L		90	60 - 138
1,2,4-Trichlorobenzene	50.0	47.8		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	46.0		ug/L		92	68 - 130
1,1,2-Trichloroethane	50.0	46.9		ug/L		94	70 - 130
Trichloroethene	50.0	48.5		ug/L		97	70 - 130
Trichlorofluoromethane	50.0	47.2		ug/L		94	65 - 138
1,2,3-Trichloropropane	50.0	44.3		ug/L		89	70 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	50.0	45.9		ug/L		92	69 - 130
Vinyl acetate	100	97.3		ug/L		97	26 - 160
Vinyl chloride	50.0	51.3		ug/L		103	59 - 136
Xylenes, Total	100	92.5		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 10:36	1
Acrolein	ND		20	10	ug/L			07/30/19 10:36	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 10:36	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 10:36	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 10:36	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 10:36	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 10:36	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 10:36	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 10:36	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 10:36	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 10:36	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 10:36	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 10:36	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 10:36	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 10:36	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 10:36	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 10:36	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 10:36	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 10:36	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 10:36	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 10:36	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 10:36	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 10:36	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 10:36	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 10:36	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 10:36	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 10:36	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 10:36	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 10:36	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 10:36	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 10:36	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 10:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 10:36	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 10:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/30/19 10:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118		07/30/19 10:36	1
Dibromofluoromethane	97		81 - 121		07/30/19 10:36	1
Toluene-d8 (Surr)	101		80 - 120		07/30/19 10:36	1

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	275		ug/L		138	43 - 160
Acrolein	500	660		ug/L		132	38 - 160
Acrylonitrile	500	613		ug/L		123	64 - 142
Benzene	50.0	52.5		ug/L		105	70 - 130
Bromobenzene	50.0	50.7		ug/L		101	70 - 132
Bromochloromethane	50.0	52.2		ug/L		104	70 - 130
Bromodichloromethane	50.0	50.6		ug/L		101	67 - 133
Bromoform	50.0	57.1		ug/L		114	57 - 140
Bromomethane	50.0	42.7		ug/L		85	10 - 160
2-Butanone (MEK)	200	246		ug/L		123	61 - 145
Carbon disulfide	50.0	50.1		ug/L		100	61 - 137
Carbon tetrachloride	50.0	55.0		ug/L		110	61 - 137
Chlorobenzene	50.0	52.4		ug/L		105	70 - 130
Chloroethane	50.0	54.3		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	47.4		ug/L		95	10 - 160
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	55.6		ug/L		111	69 - 130
Chloromethane	50.0	64.4		ug/L		129	58 - 137
cis-1,2-Dichloroethene	50.0	55.4		ug/L		111	68 - 130
cis-1,3-Dichloropropene	50.0	53.7		ug/L		107	69 - 132
Dibromochloromethane	50.0	55.6		ug/L		111	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	55.8		ug/L		112	54 - 135
1,2-Dichlorobenzene	50.0	53.4		ug/L		107	67 - 130
1,3-Dichlorobenzene	50.0	53.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130
Dichlorodifluoromethane	50.0	50.8		ug/L		102	41 - 146
1,1-Dichloroethane	50.0	55.6		ug/L		111	70 - 130
1,2-Dichloroethane	50.0	48.6		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	46.9		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	55.4		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	51.3		ug/L		103	52 - 135
1,1-Dichloropropene	50.0	51.8		ug/L		104	70 - 130
Ethylbenzene	50.0	52.8		ug/L		106	70 - 130
Ethylene Dibromide	50.0	51.3		ug/L		103	70 - 130
Ethyl methacrylate	50.0	57.2		ug/L		114	68 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	271		ug/L		136	65 - 137
Isopropylbenzene	50.0	49.7		ug/L		99	70 - 130
Methylene bromide	50.0	47.6		ug/L		95	70 - 130
Methylene Chloride	50.0	52.2		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	244		ug/L		122	69 - 138
Methyl tert-butyl ether	50.0	46.2		ug/L		92	66 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/L		103	70 - 130
Naphthalene	50.0	50.3		ug/L		101	47 - 149
n-Butylbenzene	50.0	52.6		ug/L		105	67 - 130
N-Propylbenzene	50.0	54.4		ug/L		109	70 - 130
o-Chlorotoluene	50.0	51.7		ug/L		103	70 - 130
o-Xylene	50.0	51.0		ug/L		102	70 - 130
p-Chlorotoluene	50.0	52.1		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	53.0		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.2		ug/L		102	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	49.8		ug/L		100	64 - 139
1,1,1,2-Tetrachloroethane	50.0	61.8		ug/L		124	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	70 - 131
Tetrachloroethene	50.0	54.6		ug/L		109	65 - 130
Toluene	50.0	52.8		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/L		105	70 - 130
trans-1,3-Dichloropropene	50.0	56.9		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	50.3		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	50.2		ug/L		100	68 - 130
1,1,2-Trichloroethane	50.0	54.5		ug/L		109	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	46.3		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	50.7		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	51.0		ug/L		102	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	58.9		ug/L		118	59 - 136
Xylenes, Total	100	103		ug/L		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		400000	534000		ug/L		133	43 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		1000000	1400000		ug/L		140	38 - 150
Acrylonitrile	ND		1000000	1320000		ug/L		132	62 - 149
Benzene	340000		100000	462000		ug/L		118	56 - 142
Bromobenzene	ND		100000	108000		ug/L		108	59 - 136
Bromochloromethane	ND		100000	111000		ug/L		111	64 - 140
Bromodichloromethane	ND		100000	106000		ug/L		106	59 - 143
Bromoform	ND		100000	118000		ug/L		118	50 - 140
Bromomethane	ND		100000	89900		ug/L		90	10 - 150
2-Butanone (MEK)	ND		400000	524000		ug/L		131	55 - 150
Carbon disulfide	ND		100000	108000		ug/L		108	48 - 150
Carbon tetrachloride	ND		100000	116000		ug/L		116	55 - 145
Chlorobenzene	ND		100000	111000		ug/L		111	64 - 130
Chloroethane	ND		100000	111000		ug/L		111	50 - 150
2-Chloroethyl vinyl ether	ND		100000	107000		ug/L		107	10 - 150
Chloroform	ND		100000	108000		ug/L		108	60 - 141
1-Chlorohexane	ND		100000	117000		ug/L		117	56 - 136
Chloromethane	ND		100000	132000		ug/L		132	49 - 148
cis-1,2-Dichloroethene	ND		100000	119000		ug/L		119	59 - 143
cis-1,3-Dichloropropene	ND		100000	115000		ug/L		115	57 - 140
Dibromochloromethane	ND		100000	116000		ug/L		116	56 - 143
1,2-Dibromo-3-Chloropropane	ND		100000	118000		ug/L		118	45 - 135
1,2-Dichlorobenzene	ND		100000	113000		ug/L		113	52 - 137
1,3-Dichlorobenzene	ND		100000	114000		ug/L		114	54 - 135
1,4-Dichlorobenzene	ND		100000	112000		ug/L		112	53 - 135
Dichlorodifluoromethane	ND		100000	104000		ug/L		104	16 - 150
1,1-Dichloroethane	ND		100000	119000		ug/L		119	61 - 144
1,2-Dichloroethane	ND		100000	114000		ug/L		114	60 - 141
1,1-Dichloroethene	ND		100000	100000		ug/L		100	54 - 147
1,2-Dichloropropane	ND		100000	119000		ug/L		119	66 - 137
1,3-Dichloropropane	ND		100000	115000		ug/L		115	66 - 133
2,2-Dichloropropane	ND		100000	109000		ug/L		109	42 - 144
1,1-Dichloropropene	ND		100000	110000		ug/L		110	65 - 136
Ethylbenzene	ND		100000	113000		ug/L		113	58 - 131
Ethylene Dibromide	ND		100000	109000		ug/L		109	64 - 132
Ethyl methacrylate	ND		100000	123000		ug/L		123	64 - 130
Hexachlorobutadiene	ND		100000	100000		ug/L		100	31 - 149
2-Hexanone	ND	F1	400000	582000	F1	ug/L		145	65 - 140
Isopropylbenzene	ND		100000	107000		ug/L		107	56 - 133
Methylene bromide	ND		100000	103000		ug/L		103	63 - 138
Methylene Chloride	ND		100000	112000		ug/L		112	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		400000	522000		ug/L		131	63 - 146
Methyl tert-butyl ether	ND		100000	100000		ug/L		100	59 - 137
m-Xylene & p-Xylene	ND		100000	110000		ug/L		110	57 - 130
Naphthalene	ND		100000	108000		ug/L		108	25 - 150
n-Butylbenzene	ND		100000	111000		ug/L		111	41 - 142
N-Propylbenzene	ND		100000	117000		ug/L		117	51 - 138
o-Chlorotoluene	ND		100000	111000		ug/L		111	53 - 134
o-Xylene	ND		100000	109000		ug/L		109	61 - 130
p-Chlorotoluene	ND		100000	113000		ug/L		113	54 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		100000	113000		ug/L		113	48 - 139
sec-Butylbenzene	ND		100000	110000		ug/L		110	50 - 138
Styrene	ND		100000	104000		ug/L		104	58 - 131
tert-Butylbenzene	ND		100000	107000		ug/L		107	54 - 146
1,1,1,2-Tetrachloroethane	ND		100000	128000		ug/L		128	59 - 137
1,1,2,2-Tetrachloroethane	ND		100000	119000		ug/L		119	66 - 135
Tetrachloroethene	ND		100000	114000		ug/L		114	52 - 133
Toluene	ND		100000	112000		ug/L		112	65 - 130
trans-1,2-Dichloroethene	ND		100000	113000		ug/L		113	61 - 143
trans-1,3-Dichloropropene	ND		100000	120000		ug/L		120	53 - 133
1,2,3-Trichlorobenzene	ND		100000	107000		ug/L		107	43 - 145
1,2,4-Trichlorobenzene	ND		100000	103000		ug/L		103	39 - 148
1,1,1-Trichloroethane	ND		100000	106000		ug/L		106	57 - 142
1,1,2-Trichloroethane	ND		100000	114000		ug/L		114	66 - 131
Trichloroethene	ND		100000	110000		ug/L		110	64 - 136
Trichlorofluoromethane	ND		100000	96600		ug/L		97	54 - 150
1,2,3-Trichloropropane	ND		100000	111000		ug/L		111	65 - 133
1,2,4-Trimethylbenzene	ND		100000	107000		ug/L		107	50 - 139
1,3,5-Trimethylbenzene	ND		100000	109000		ug/L		109	52 - 135
Vinyl acetate	ND		200000	236000		ug/L		118	26 - 150
Vinyl chloride	ND		100000	123000		ug/L		123	46 - 150
Xylenes, Total	ND		200000	219000		ug/L		109	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		400000	493000		ug/L		123	43 - 150	8	30
Acrolein	ND		1000000	1400000		ug/L		140	38 - 150	0	31
Acrylonitrile	ND		1000000	1320000		ug/L		132	62 - 149	0	30
Benzene	340000		100000	459000		ug/L		116	56 - 142	1	30
Bromobenzene	ND		100000	113000		ug/L		113	59 - 136	4	30
Bromochloromethane	ND		100000	112000		ug/L		112	64 - 140	0	30
Bromodichloromethane	ND		100000	109000		ug/L		109	59 - 143	2	30
Bromoform	ND		100000	121000		ug/L		121	50 - 140	3	30
Bromomethane	ND		100000	101000		ug/L		101	10 - 150	11	50
2-Butanone (MEK)	ND		400000	508000		ug/L		127	55 - 150	3	30
Carbon disulfide	ND		100000	108000		ug/L		108	48 - 150	0	30
Carbon tetrachloride	ND		100000	119000		ug/L		119	55 - 145	2	30
Chlorobenzene	ND		100000	113000		ug/L		113	64 - 130	1	30
Chloroethane	ND		100000	116000		ug/L		116	50 - 150	4	30
2-Chloroethyl vinyl ether	ND		100000	115000		ug/L		115	10 - 150	7	50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		100000	109000		ug/L		109	60 - 141	1	30
1-Chlorohexane	ND		100000	122000		ug/L		122	56 - 136	4	30
Chloromethane	ND		100000	139000		ug/L		139	49 - 148	5	31
cis-1,2-Dichloroethene	ND		100000	121000		ug/L		121	59 - 143	2	30
cis-1,3-Dichloropropene	ND		100000	120000		ug/L		120	57 - 140	4	30
Dibromochloromethane	ND		100000	119000		ug/L		119	56 - 143	3	30
1,2-Dibromo-3-Chloropropane	ND		100000	119000		ug/L		119	45 - 135	1	30
1,2-Dichlorobenzene	ND		100000	116000		ug/L		116	52 - 137	3	30
1,3-Dichlorobenzene	ND		100000	115000		ug/L		115	54 - 135	1	30
1,4-Dichlorobenzene	ND		100000	114000		ug/L		114	53 - 135	2	30
Dichlorodifluoromethane	ND		100000	108000		ug/L		108	16 - 150	4	31
1,1-Dichloroethane	ND		100000	121000		ug/L		121	61 - 144	2	30
1,2-Dichloroethane	ND		100000	115000		ug/L		115	60 - 141	1	30
1,1-Dichloroethene	ND		100000	103000		ug/L		103	54 - 147	2	30
1,2-Dichloropropane	ND		100000	124000		ug/L		124	66 - 137	4	30
1,3-Dichloropropane	ND		100000	116000		ug/L		116	66 - 133	1	30
2,2-Dichloropropane	ND		100000	112000		ug/L		112	42 - 144	3	31
1,1-Dichloropropene	ND		100000	113000		ug/L		113	65 - 136	3	30
Ethylbenzene	ND		100000	115000		ug/L		115	58 - 131	2	30
Ethylene Dibromide	ND		100000	112000		ug/L		112	64 - 132	2	30
Ethyl methacrylate	ND		100000	127000		ug/L		127	64 - 130	3	30
Hexachlorobutadiene	ND		100000	104000		ug/L		104	31 - 149	4	36
2-Hexanone	ND	F1	400000	574000	F1	ug/L		143	65 - 140	1	30
Isopropylbenzene	ND		100000	109000		ug/L		109	56 - 133	2	30
Methylene bromide	ND		100000	101000		ug/L		101	63 - 138	1	30
Methylene Chloride	ND		100000	114000		ug/L		114	60 - 146	1	32
4-Methyl-2-pentanone (MIBK)	ND		400000	522000		ug/L		130	63 - 146	0	30
Methyl tert-butyl ether	ND		100000	103000		ug/L		103	59 - 137	3	30
m-Xylene & p-Xylene	ND		100000	113000		ug/L		113	57 - 130	3	30
Naphthalene	ND		100000	114000		ug/L		114	25 - 150	6	30
n-Butylbenzene	ND		100000	113000		ug/L		113	41 - 142	2	31
N-Propylbenzene	ND		100000	121000		ug/L		121	51 - 138	4	30
o-Chlorotoluene	ND		100000	114000		ug/L		114	53 - 134	3	30
o-Xylene	ND		100000	111000		ug/L		111	61 - 130	2	30
p-Chlorotoluene	ND		100000	116000		ug/L		116	54 - 133	3	30
p-Isopropyltoluene	ND		100000	117000		ug/L		117	48 - 139	3	30
sec-Butylbenzene	ND		100000	113000		ug/L		113	50 - 138	3	30
Styrene	ND		100000	106000		ug/L		106	58 - 131	2	30
tert-Butylbenzene	ND		100000	111000		ug/L		111	54 - 146	4	30
1,1,1,2-Tetrachloroethane	ND		100000	135000		ug/L		135	59 - 137	5	30
1,1,2,2-Tetrachloroethane	ND		100000	119000		ug/L		119	66 - 135	0	30
Tetrachloroethene	ND		100000	118000		ug/L		118	52 - 133	4	30
Toluene	ND		100000	115000		ug/L		115	65 - 130	3	30
trans-1,2-Dichloroethene	ND		100000	116000		ug/L		116	61 - 143	3	30
trans-1,3-Dichloropropene	ND		100000	125000		ug/L		125	53 - 133	4	30
1,2,3-Trichlorobenzene	ND		100000	109000		ug/L		109	43 - 145	3	30
1,2,4-Trichlorobenzene	ND		100000	107000		ug/L		107	39 - 148	3	30
1,1,1-Trichloroethane	ND		100000	108000		ug/L		108	57 - 142	2	30
1,1,2-Trichloroethane	ND		100000	115000		ug/L		115	66 - 131	1	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		100000	114000		ug/L		114	64 - 136	4	30
Trichlorofluoromethane	ND		100000	99000		ug/L		99	54 - 150	3	30
1,2,3-Trichloropropane	ND		100000	112000		ug/L		112	65 - 133	1	30
1,2,4-Trimethylbenzene	ND		100000	113000		ug/L		113	50 - 139	5	30
1,3,5-Trimethylbenzene	ND		100000	114000		ug/L		114	52 - 135	4	30
Vinyl acetate	ND		200000	245000		ug/L		122	26 - 150	4	33
Vinyl chloride	ND		100000	128000		ug/L		128	46 - 150	4	30
Xylenes, Total	ND		200000	224000		ug/L		112	59 - 130	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-450140/4
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/31/19 07:21	1
Acrolein	ND		20	10	ug/L			07/31/19 07:21	1
Acrylonitrile	ND		10	2.8	ug/L			07/31/19 07:21	1
Benzene	ND		1.0	0.38	ug/L			07/31/19 07:21	1
Bromobenzene	ND		1.0	0.54	ug/L			07/31/19 07:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/31/19 07:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Bromoform	ND		5.0	0.71	ug/L			07/31/19 07:21	1
Bromomethane	ND		1.0	0.98	ug/L			07/31/19 07:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/31/19 07:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Chloroethane	ND		1.0	0.76	ug/L			07/31/19 07:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/31/19 07:21	1
Chloroform	ND		1.0	0.60	ug/L			07/31/19 07:21	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/31/19 07:21	1
Chloromethane	ND		1.0	0.83	ug/L			07/31/19 07:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/31/19 07:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/31/19 07:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/31/19 07:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/31/19 07:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/31/19 07:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450140/4
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/31/19 07:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/31/19 07:21	1
2-Hexanone	ND		25	3.1	ug/L			07/31/19 07:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/31/19 07:21	1
Methylene bromide	ND		5.0	0.59	ug/L			07/31/19 07:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/31/19 07:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/31/19 07:21	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/31/19 07:21	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/31/19 07:21	1
Naphthalene	ND		1.0	1.0	ug/L			07/31/19 07:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/31/19 07:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/31/19 07:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/31/19 07:21	1
o-Xylene	ND		5.0	0.60	ug/L			07/31/19 07:21	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/31/19 07:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/31/19 07:21	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/31/19 07:21	1
Styrene	ND		1.0	1.0	ug/L			07/31/19 07:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/31/19 07:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/31/19 07:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/31/19 07:21	1
Toluene	ND		1.0	0.41	ug/L			07/31/19 07:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/31/19 07:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/31/19 07:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/31/19 07:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/31/19 07:21	1
Trichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/31/19 07:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/31/19 07:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/31/19 07:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/31/19 07:21	1
Vinyl acetate	ND		25	2.0	ug/L			07/31/19 07:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Xylenes, Total	ND		10	1.6	ug/L			07/31/19 07:21	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/31/19 07:21*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450140/4
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*115*		*78 - 118*		*07/31/19 07:21*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/31/19 07:21*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/31/19 07:21*	*1*

Lab Sample ID: LCS 400-450140/1002
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	282		ug/L		141	43 - 160
Acrolein	500	687		ug/L		137	38 - 160
Acrylonitrile	500	628		ug/L		126	64 - 142
Benzene	50.0	44.7		ug/L		89	70 - 130
Bromobenzene	50.0	43.5		ug/L		87	70 - 132
Bromochloromethane	50.0	41.4		ug/L		83	70 - 130
Bromodichloromethane	50.0	42.6		ug/L		85	67 - 133
Bromoform	50.0	43.1		ug/L		86	57 - 140
Bromomethane	50.0	21.1		ug/L		42	10 - 160
2-Butanone (MEK)	200	255		ug/L		127	61 - 145
Carbon disulfide	50.0	35.8		ug/L		72	61 - 137
Carbon tetrachloride	50.0	41.2		ug/L		82	61 - 137
Chlorobenzene	50.0	43.2		ug/L		86	70 - 130
Chloroethane	50.0	46.2		ug/L		92	55 - 141
2-Chloroethyl vinyl ether	50.0	29.0		ug/L		58	10 - 160
Chloroform	50.0	42.7		ug/L		85	69 - 130
1-Chlorohexane	50.0	51.8		ug/L		104	69 - 130
Chloromethane	50.0	57.2		ug/L		114	58 - 137
cis-1,2-Dichloroethene	50.0	53.4		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	45.7		ug/L		91	69 - 132
Dibromochloromethane	50.0	41.4		ug/L		83	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	45.1		ug/L		90	54 - 135
1,2-Dichlorobenzene	50.0	42.4		ug/L		85	67 - 130
1,3-Dichlorobenzene	50.0	43.9		ug/L		88	70 - 130
1,4-Dichlorobenzene	50.0	44.0		ug/L		88	70 - 130
Dichlorodifluoromethane	50.0	48.1		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	50.6		ug/L		101	70 - 130
1,2-Dichloroethane	50.0	50.7		ug/L		101	69 - 130
1,1-Dichloroethene	50.0	39.2		ug/L		78	63 - 134
1,2-Dichloropropane	50.0	52.8		ug/L		106	70 - 130
1,3-Dichloropropane	50.0	45.0		ug/L		90	70 - 130
2,2-Dichloropropane	50.0	40.0		ug/L		80	52 - 135
1,1-Dichloropropene	50.0	43.8		ug/L		88	70 - 130
Ethylbenzene	50.0	41.8		ug/L		84	70 - 130
Ethylene Dibromide	50.0	44.4		ug/L		89	70 - 130
Ethyl methacrylate	50.0	44.8		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	49.2		ug/L		98	53 - 140
2-Hexanone	200	274		ug/L		137	65 - 137
Isopropylbenzene	50.0	39.9		ug/L		80	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450140/1002
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene bromide	50.0	44.5		ug/L		89	70 - 130
Methylene Chloride	50.0	43.0		ug/L		86	66 - 135
4-Methyl-2-pentanone (MIBK)	200	243		ug/L		121	69 - 138
Methyl tert-butyl ether	50.0	43.4		ug/L		87	66 - 130
m-Xylene & p-Xylene	50.0	43.0		ug/L		86	70 - 130
Naphthalene	50.0	39.9		ug/L		80	47 - 149
n-Butylbenzene	50.0	44.2		ug/L		88	67 - 130
N-Propylbenzene	50.0	43.6		ug/L		87	70 - 130
o-Chlorotoluene	50.0	46.1		ug/L		92	70 - 130
o-Xylene	50.0	42.0		ug/L		84	70 - 130
p-Chlorotoluene	50.0	47.1		ug/L		94	70 - 130
p-Isopropyltoluene	50.0	44.6		ug/L		89	65 - 130
sec-Butylbenzene	50.0	43.2		ug/L		86	66 - 130
Styrene	50.0	37.8		ug/L		76	70 - 130
tert-Butylbenzene	50.0	44.9		ug/L		90	64 - 139
1,1,1,2-Tetrachloroethane	50.0	41.2		ug/L		82	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.5		ug/L		105	70 - 131
Tetrachloroethene	50.0	35.8		ug/L		72	65 - 130
Toluene	50.0	41.4		ug/L		83	70 - 130
trans-1,2-Dichloroethene	50.0	43.4		ug/L		87	70 - 130
trans-1,3-Dichloropropene	50.0	41.7		ug/L		83	63 - 130
1,2,3-Trichlorobenzene	50.0	44.0		ug/L		88	60 - 138
1,2,4-Trichlorobenzene	50.0	43.5		ug/L		87	60 - 140
1,1,1-Trichloroethane	50.0	42.2		ug/L		84	68 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/L		85	70 - 130
Trichloroethene	50.0	45.0		ug/L		90	70 - 130
Trichlorofluoromethane	50.0	39.5		ug/L		79	65 - 138
1,2,3-Trichloropropane	50.0	47.4		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	50.0	44.3		ug/L		89	70 - 130
1,3,5-Trimethylbenzene	50.0	44.8		ug/L		90	69 - 130
Vinyl acetate	100	91.6		ug/L		92	26 - 160
Vinyl chloride	50.0	56.5		ug/L		113	59 - 136
Xylenes, Total	100	85.0		ug/L		85	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*112*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 15:00	07/26/19 16:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 15:00	07/26/19 16:52	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-ethylhexyl) phthalate	7.40	J	10	5.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 15:00	07/26/19 16:52	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Indene	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Isophorone	ND		10	0.57	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 15:00	07/26/19 16:52	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Phenol	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
Pyridine	ND		10	3.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Quinoline	ND		10	6.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 15:00	07/26/19 16:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 15:00*	*07/26/19 16:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Nitrobenzene-d5	*88*		*27 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Phenol-d5	*67*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Terphenyl-d14	*78*		*53 - 125*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/24/19 15:00*	*07/26/19 16:52*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	26.6		ug/L		89	29 - 120
Benzoic acid	117	29.8	J	ug/L		26	10 - 150
Benzyl alcohol	30.0	30.0		ug/L		100	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.0		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	19.1		ug/L		64	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.7		ug/L		62	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	26.4		ug/L		88	48 - 150
4-Bromophenyl phenyl ether	30.0	24.3		ug/L		81	55 - 122
Butyl benzyl phthalate	30.0	23.2		ug/L		77	46 - 145
4-Chloroaniline	30.0	28.9		ug/L		96	30 - 120
4-Chloro-3-methylphenol	30.0	23.2		ug/L		77	39 - 140
2-Chloronaphthalene	30.0	18.4		ug/L		61	52 - 120
2-Chlorophenol	30.0	19.8		ug/L		66	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.9		ug/L		73	58 - 124
Dibenz[a,h]acridine	30.0	16.1		ug/L		54	46 - 149
Dibenzofuran	30.0	21.1		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	45.1		ug/L		113	39 - 135
2,4-Dichlorophenol	30.0	24.6		ug/L		82	39 - 128
Diethyl phthalate	30.0	28.1		ug/L		94	44 - 146
2,4-Dimethylphenol	30.0	27.0		ug/L		90	44 - 120
Dimethyl phthalate	30.0	23.3		ug/L		78	50 - 131
Di-n-butyl phthalate	30.0	26.9		ug/L		90	55 - 131
4,6-Dinitro-ortho-cresol	60.0	60.9		ug/L		101	10 - 150
2,4-Dinitrophenol	60.0	67.9		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	21.7		ug/L		72	58 - 140
2,6-Dinitrotoluene	30.0	21.6		ug/L		72	57 - 130
Di-n-octyl phthalate	30.0	23.2		ug/L		77	50 - 150
1,4-Dioxane	30.0	14.8		ug/L		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	26.6		ug/L		89	47 - 123

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobenzene	30.0	28.1		ug/L		94	52 - 131
Hexachlorocyclopentadiene	30.0	6.63	J	ug/L		22	10 - 129
Hexachloroethane	30.0	16.3		ug/L		54	41 - 120
Indene	30.0	17.6		ug/L		59	47 - 120
Isophorone	30.0	24.6		ug/L		82	49 - 120
2-Methylphenol	30.0	25.9		ug/L		86	39 - 123
3 & 4 Methylphenol	30.0	28.1		ug/L		94	38 - 121
2-Nitroaniline	30.0	29.8		ug/L		99	47 - 150
3-Nitroaniline	30.0	28.7		ug/L		96	34 - 132
4-Nitroaniline	30.0	26.0		ug/L		87	41 - 135
Nitrobenzene	30.0	25.2		ug/L		84	47 - 120
2-Nitrophenol	30.0	23.2		ug/L		77	28 - 136
4-Nitrophenol	60.0	64.9		ug/L		108	10 - 150
N-Nitrosodimethylamine	30.0	28.1		ug/L		94	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.5		ug/L		108	44 - 120
N-Nitrosodiphenylamine	29.8	23.6		ug/L		79	56 - 120
Pentachlorophenol	60.0	45.2		ug/L		75	15 - 141
Phenol	30.0	19.8		ug/L		66	33 - 120
Pyridine	60.0	37.9		ug/L		63	26 - 120
Quinoline	30.0	19.2		ug/L		64	51 - 129
2,4,5-Trichlorophenol	30.0	24.4		ug/L		81	38 - 147
2,4,6-Trichlorophenol	30.0	25.1		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*43*		*10 - 120*
Nitrobenzene-d5	*85*		*27 - 120*
Phenol-d5	*65*		*10 - 120*
Terphenyl-d14	*75*		*53 - 125*
2,4,6-Tribromophenol	*70*		*15 - 135*

Lab Sample ID: LCS 400-449321/8-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	21.1		ug/L		70	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*34 - 120*
2-Fluorophenol	*53*		*10 - 120*
Nitrobenzene-d5	*82*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*72*		*53 - 125*
2,4,6-Tribromophenol	*49*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	30.2		ug/L		101	29 - 120	13	30
Benzoic acid	117	44.7	*	ug/L		38	10 - 150	40	30
Benzyl alcohol	30.0	30.3		ug/L		101	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	20.3		ug/L		68	45 - 120	3	30
Bis(2-chloroethyl)ether	30.0	17.2		ug/L		57	48 - 120	10	30
bis (2-chloroisopropyl) ether	30.0	20.1		ug/L		67	30 - 125	7	30
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150	6	30
4-Bromophenyl phenyl ether	30.0	26.0		ug/L		87	55 - 122	7	30
Butyl benzyl phthalate	30.0	23.1		ug/L		77	46 - 145	0	30
4-Chloroaniline	30.0	27.9		ug/L		93	30 - 120	4	30
4-Chloro-3-methylphenol	30.0	23.6		ug/L		79	39 - 140	2	30
2-Chloronaphthalene	30.0	19.7		ug/L		66	52 - 120	7	30
2-Chlorophenol	30.0	21.0		ug/L		70	34 - 120	6	30
4-Chlorophenyl phenyl ether	30.0	23.7		ug/L		79	58 - 124	8	30
Dibenz[a,h]acridine	30.0	18.9		ug/L		63	46 - 149	16	30
Dibenzofuran	30.0	22.7		ug/L		76	58 - 123	7	30
3,3'-Dichlorobenzidine	40.0	48.3		ug/L		121	39 - 135	7	30
2,4-Dichlorophenol	30.0	25.3		ug/L		84	39 - 128	3	30
Diethyl phthalate	30.0	29.5		ug/L		98	44 - 146	5	30
2,4-Dimethylphenol	30.0	27.2		ug/L		91	44 - 120	1	30
Dimethyl phthalate	30.0	24.1		ug/L		80	50 - 131	3	30
Di-n-butyl phthalate	30.0	28.4		ug/L		95	55 - 131	5	30
4,6-Dinitro-ortho-cresol	60.0	68.1		ug/L		113	10 - 150	11	30
2,4-Dinitrophenol	60.0	80.3		ug/L		134	10 - 150	17	30
2,4-Dinitrotoluene	30.0	22.9		ug/L		76	58 - 140	6	30
2,6-Dinitrotoluene	30.0	22.4		ug/L		75	57 - 130	3	30
Di-n-octyl phthalate	30.0	24.1		ug/L		80	50 - 150	4	30
1,4-Dioxane	30.0	17.1		ug/L		57	25 - 120	14	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.6		ug/L		92	47 - 123	4	30
Hexachlorobenzene	30.0	33.1		ug/L		110	52 - 131	16	30
Hexachlorocyclopentadiene	30.0	8.60	J	ug/L		29	10 - 129	26	30
Hexachloroethane	30.0	18.2		ug/L		61	41 - 120	11	30
Indene	30.0	18.1		ug/L		60	47 - 120	3	30
Isophorone	30.0	24.1		ug/L		80	49 - 120	2	30
2-Methylphenol	30.0	27.1		ug/L		90	39 - 123	4	30
3 & 4 Methylphenol	30.0	29.4		ug/L		98	38 - 121	4	30
2-Nitroaniline	30.0	30.1		ug/L		100	47 - 150	1	30
3-Nitroaniline	30.0	29.9		ug/L		100	34 - 132	4	30
4-Nitroaniline	30.0	30.0		ug/L		100	41 - 135	14	30
Nitrobenzene	30.0	24.8		ug/L		83	47 - 120	1	30
2-Nitrophenol	30.0	24.9		ug/L		83	28 - 136	7	30
4-Nitrophenol	60.0	74.7		ug/L		124	10 - 150	14	30
N-Nitrosodimethylamine	30.0	28.8		ug/L		96	22 - 148	2	30
N-Nitrosodi-n-propylamine	30.0	33.9		ug/L		113	44 - 120	4	30
N-Nitrosodiphenylamine	29.8	24.6		ug/L		83	56 - 120	4	30
Pentachlorophenol	60.0	54.0		ug/L		90	15 - 141	18	30
Phenol	30.0	21.0		ug/L		70	33 - 120	6	30
Pyridine	60.0	39.6		ug/L		66	26 - 120	4	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	19.4		ug/L		65	51 - 129	1	30
2,4,5-Trichlorophenol			30.0	25.5		ug/L		85	38 - 147	5	30
2,4,6-Trichlorophenol			30.0	26.2		ug/L		87	36 - 139	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*74*		*15 - 135*

Lab Sample ID: LCSD 400-449321/9-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		4	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*34 - 120*
2-Fluorophenol	*55*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*74*		*53 - 125*
2,4,6-Tribromophenol	*48*		*15 - 135*

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.1	16.0		ug/L		55	10 - 143
Benzoic acid	ND	*	113	120		ug/L		107	10 - 134
Benzyl alcohol	ND		29.1	25.2		ug/L		87	10 - 154
Bis(2-chloroethoxy)methane	ND		29.1	15.6		ug/L		54	14 - 147
Bis(2-chloroethyl)ether	ND		29.1	15.8		ug/L		54	28 - 130
bis (2-chloroisopropyl) ether	ND		29.1	23.7		ug/L		82	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.1	19.2		ug/L		66	43 - 160
4-Bromophenyl phenyl ether	ND		29.1	18.5		ug/L		64	26 - 159
Butyl benzyl phthalate	ND		29.1	17.7		ug/L		61	43 - 151
4-Chloroaniline	ND		29.1	9.56	J	ug/L		33	10 - 152
4-Chloro-3-methylphenol	ND		29.1	19.4		ug/L		67	17 - 156
2-Chloronaphthalene	ND		29.1	15.6		ug/L		54	10 - 155
2-Chlorophenol	ND		29.1	17.2		ug/L		59	19 - 130
4-Chlorophenyl phenyl ether	ND		29.1	17.7		ug/L		61	25 - 161
Dibenz[a,h]acridine	ND		29.1	11.8	F1	ug/L		41	42 - 147
Dibenzofuran	ND		29.1	17.2		ug/L		59	18 - 157

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
3,3'-Dichlorobenzidine	ND		38.7	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND		29.1	18.7		ug/L		64	16 - 147
Diethyl phthalate	ND		29.1	21.6		ug/L		74	23 - 160
2,4-Dimethylphenol	ND		29.1	23.1		ug/L		79	25 - 146
Dimethyl phthalate	ND		29.1	18.0		ug/L		62	11 - 158
Di-n-butyl phthalate	ND		29.1	21.3		ug/L		73	28 - 162
4,6-Dinitro-ortho-cresol	ND		58.1	50.9		ug/L		88	10 - 168
2,4-Dinitrophenol	ND		58.1	70.8		ug/L		122	10 - 166
2,4-Dinitrotoluene	ND		29.1	17.7		ug/L		61	26 - 158
2,6-Dinitrotoluene	ND		29.1	16.8		ug/L		58	19 - 157
Di-n-octyl phthalate	ND		29.1	19.1		ug/L		66	42 - 150
1,4-Dioxane	ND		29.1	13.4		ug/L		46	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.1	17.5		ug/L		60	19 - 162
Hexachlorobenzene	ND		29.1	20.6		ug/L		71	45 - 145
Hexachlorocyclopentadiene	ND		29.1	15.2	J	ug/L		52	10 - 151
Hexachloroethane	ND		29.1	18.3		ug/L		63	29 - 130
Indene	ND		29.1	17.2		ug/L		59	22 - 130
Isophorone	ND		29.1	18.8		ug/L		65	24 - 144
2-Methylphenol	ND		29.1	20.6		ug/L		71	22 - 130
3 & 4 Methylphenol	ND		29.1	22.8		ug/L		79	31 - 130
2-Nitroaniline	ND		29.1	22.5		ug/L		78	10 - 162
3-Nitroaniline	ND		29.1	6.55	J	ug/L		23	10 - 163
4-Nitroaniline	ND		29.1	15.2		ug/L		52	10 - 162
Nitrobenzene	ND		29.1	19.9		ug/L		68	34 - 135
2-Nitrophenol	ND		29.1	18.9		ug/L		65	27 - 134
4-Nitrophenol	ND		58.1	63.1		ug/L		109	10 - 175
N-Nitrosodimethylamine	ND		29.1	34.6		ug/L		119	10 - 139
N-Nitrosodi-n-propylamine	ND		29.1	26.5		ug/L		91	13 - 147
N-Nitrosodiphenylamine	ND		28.8	6.16	J F1	ug/L		21	31 - 150
Pentachlorophenol	ND		58.1	68.0		ug/L		117	10 - 180
Phenol	110	E	29.1	128	E	ug/L		55	23 - 130
Pyridine	ND		58.1	33.9		ug/L		58	10 - 130
Quinoline	ND		29.1	ND	F1	ug/L		0	10 - 180
2,4,5-Trichlorophenol	ND		29.1	18.3		ug/L		63	43 - 137
2,4,6-Trichlorophenol	ND		29.1	17.2		ug/L		59	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*73*		*27 - 120*
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*31*	*X*	*53 - 125*
2,4,6-Tribromophenol	*70*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		30.3	18.6		ug/L		61	10 - 143	15	63
Benzoic acid	ND	*	118	110		ug/L		93	10 - 134	9	49
Benzyl alcohol	ND		30.3	25.5		ug/L		84	10 - 154	1	37
Bis(2-chloroethoxy)methane	ND		30.3	15.8		ug/L		52	14 - 147	1	70
Bis(2-chloroethyl)ether	ND		30.3	15.6		ug/L		51	28 - 130	1	42
bis (2-chloroisopropyl) ether	ND		30.3	25.5		ug/L		84	10 - 141	7	41
Bis(2-ethylhexyl) phthalate	ND		30.3	19.4		ug/L		64	43 - 160	1	35
4-Bromophenyl phenyl ether	ND		30.3	16.7		ug/L		55	26 - 159	10	30
Butyl benzyl phthalate	ND		30.3	17.2		ug/L		57	43 - 151	3	32
4-Chloroaniline	ND		30.3	10.8		ug/L		36	10 - 152	12	94
4-Chloro-3-methylphenol	ND		30.3	19.1		ug/L		63	17 - 156	2	40
2-Chloronaphthalene	ND		30.3	14.9		ug/L		49	10 - 155	5	29
2-Chlorophenol	ND		30.3	15.9		ug/L		52	19 - 130	8	42
4-Chlorophenyl phenyl ether	ND		30.3	16.3		ug/L		54	25 - 161	8	27
Dibenz[a,h]acridine	ND		30.3	11.0	F1	ug/L		36	42 - 147	7	40
Dibenzofuran	ND		30.3	16.2		ug/L		54	18 - 157	5	29
3,3'-Dichlorobenzidine	ND		40.4	ND	F1	ug/L		0	10 - 172	NC	58
2,4-Dichlorophenol	ND		30.3	17.5		ug/L		58	16 - 147	7	43
Diethyl phthalate	ND		30.3	20.5		ug/L		68	23 - 160	5	40
2,4-Dimethylphenol	ND		30.3	22.8		ug/L		75	25 - 146	1	47
Dimethyl phthalate	ND		30.3	17.2		ug/L		57	11 - 158	5	36
Di-n-butyl phthalate	ND		30.3	20.1		ug/L		66	28 - 162	6	32
4,6-Dinitro-ortho-cresol	ND		60.7	47.7		ug/L		79	10 - 168	6	42
2,4-Dinitrophenol	ND		60.7	64.9		ug/L		107	10 - 166	9	36
2,4-Dinitrotoluene	ND		30.3	17.8		ug/L		59	26 - 158	0	28
2,6-Dinitrotoluene	ND		30.3	16.2		ug/L		53	19 - 157	4	28
Di-n-octyl phthalate	ND		30.3	18.2		ug/L		60	42 - 150	5	35
1,4-Dioxane	ND		30.3	12.8		ug/L		42	10 - 130	5	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.3	17.9		ug/L		59	19 - 162	2	40
Hexachlorobenzene	ND		30.3	16.9		ug/L		56	45 - 145	19	33
Hexachlorocyclopentadiene	ND		30.3	12.2	J	ug/L		40	10 - 151	22	50
Hexachloroethane	ND		30.3	20.1		ug/L		66	29 - 130	9	41
Indene	ND		30.3	17.2		ug/L		57	22 - 130	0	40
Isophorone	ND		30.3	19.5		ug/L		64	24 - 144	4	33
2-Methylphenol	ND		30.3	20.1		ug/L		66	22 - 130	2	47
3 & 4 Methylphenol	ND		30.3	21.6		ug/L		71	31 - 130	6	47
2-Nitroaniline	ND		30.3	22.2		ug/L		73	10 - 162	2	33
3-Nitroaniline	ND		30.3	8.18	J	ug/L		27	10 - 163	22	39
4-Nitroaniline	ND		30.3	15.0		ug/L		49	10 - 162	1	50
Nitrobenzene	ND		30.3	19.9		ug/L		66	34 - 135	0	35
2-Nitrophenol	ND		30.3	18.3		ug/L		60	27 - 134	3	43
4-Nitrophenol	ND		60.7	62.4		ug/L		103	10 - 175	1	82
N-Nitrosodimethylamine	ND		30.3	36.6		ug/L		121	10 - 139	6	62
N-Nitrosodi-n-propylamine	ND		30.3	26.4		ug/L		87	13 - 147	0	36
N-Nitrosodiphenylamine	ND		30.1	12.6	F2	ug/L		42	31 - 150	68	34
Pentachlorophenol	ND		60.7	59.3		ug/L		98	10 - 180	14	42
Phenol	110	E	30.3	107	E F1	ug/L		-15	23 - 130	17	52
Pyridine	ND		60.7	33.9		ug/L		56	10 - 130	0	55

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline	ND		30.3	7.57	J	ug/L		25	10 - 180	NC	40
2,4,5-Trichlorophenol	ND		30.3	17.7		ug/L		58	43 - 137	3	42
2,4,6-Trichlorophenol	ND		30.3	16.9		ug/L		56	42 - 135	2	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*49*		*34 - 120*
2-Fluorophenol	*31*		*10 - 120*
Nitrobenzene-d5	*71*		*27 - 120*
Phenol-d5	*57*		*10 - 120*
Terphenyl-d14	*33*	*X*	*53 - 125*
2,4,6-Tribromophenol	*59*		*15 - 135*

Lab Sample ID: MB 400-450172/1-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450172

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
Benzenethiol	ND		10	1.7	ug/L		07/31/19 09:40	08/03/19 11:53	1
Benzoic acid	ND		30	7.3	ug/L		07/31/19 09:40	08/03/19 11:53	1
Benzyl alcohol	ND		10	2.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/31/19 09:40	08/03/19 11:53	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/31/19 09:40	08/03/19 11:53	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/31/19 09:40	08/03/19 11:53	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/31/19 09:40	08/03/19 11:53	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Chloroaniline	ND		10	3.4	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Chlorophenol	ND		10	2.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Dibenzofuran	ND		10	0.52	ug/L		07/31/19 09:40	08/03/19 11:53	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Diethyl phthalate	ND		10	0.70	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/31/19 09:40	08/03/19 11:53	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/31/19 09:40	08/03/19 11:53	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/31/19 09:40	08/03/19 11:53	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/31/19 09:40	08/03/19 11:53	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/31/19 09:40	08/03/19 11:53	1
1,4-Dioxane	ND		10	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/31/19 09:40	08/03/19 11:53	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450172/1-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450172

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/31/19 09:40	08/03/19 11:53	1
Hexachloroethane	ND		10	4.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
Indene	ND		10	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Isophorone	ND		10	0.57	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Methylphenol	ND		10	1.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Nitroaniline	ND		10	2.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
3-Nitroaniline	ND		10	1.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Nitroaniline	ND		10	2.5	ug/L		07/31/19 09:40	08/03/19 11:53	1
Nitrobenzene	ND		10	0.55	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Nitrophenol	ND		10	0.65	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Nitrophenol	ND		10	2.1	ug/L		07/31/19 09:40	08/03/19 11:53	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/31/19 09:40	08/03/19 11:53	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/31/19 09:40	08/03/19 11:53	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/31/19 09:40	08/03/19 11:53	1
Pentachlorophenol	ND		20	1.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
Phenol	ND		10	2.6	ug/L		07/31/19 09:40	08/03/19 11:53	1
Pyridine	ND		10	3.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
Quinoline	ND		10	6.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/31/19 09:40	08/03/19 11:53	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/31/19 09:40*	*08/03/19 11:53*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*34 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
2-Fluorophenol	*43*		*10 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
Nitrobenzene-d5	*84*		*27 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
Phenol-d5	*70*		*10 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
Terphenyl-d14	*110*		*53 - 125*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/31/19 09:40*	*08/03/19 11:53*	*1*

Lab Sample ID: LCS 400-450172/2-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	27.2		ug/L		91	29 - 120
Benzoic acid	117	87.7		ug/L		75	10 - 150
Benzyl alcohol	30.0	29.2		ug/L		97	19 - 125
Bis(2-chloroethoxy)methane	30.0	27.2		ug/L		91	45 - 120
Bis(2-chloroethyl)ether	30.0	25.4		ug/L		85	48 - 120
bis (2-chloroisopropyl) ether	30.0	24.6		ug/L		82	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	30.6		ug/L		102	48 - 150
4-Bromophenyl phenyl ether	30.0	31.3		ug/L		104	55 - 122
Butyl benzyl phthalate	30.0	28.5		ug/L		95	46 - 145
4-Chloroaniline	30.0	23.9		ug/L		80	30 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450172/2-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	30.0	30.9		ug/L		103	39 - 140
2-Chloronaphthalene	30.0	28.5		ug/L		95	52 - 120
2-Chlorophenol	30.0	28.1		ug/L		94	34 - 120
4-Chlorophenyl phenyl ether	30.0	30.5		ug/L		102	58 - 124
Dibenz[a,h]acridine	30.0	28.0		ug/L		93	46 - 149
Dibenzofuran	30.0	28.7		ug/L		96	58 - 123
3,3'-Dichlorobenzidine	40.0	66.9	E *	ug/L		167	39 - 135
2,4-Dichlorophenol	30.0	30.1		ug/L		100	39 - 128
Diethyl phthalate	30.0	29.7		ug/L		99	44 - 146
2,4-Dimethylphenol	30.0	28.9		ug/L		96	44 - 120
Dimethyl phthalate	30.0	30.2		ug/L		101	50 - 131
Di-n-butyl phthalate	30.0	28.3		ug/L		94	55 - 131
4,6-Dinitro-ortho-cresol	60.0	66.5		ug/L		111	10 - 150
2,4-Dinitrophenol	60.0	70.5		ug/L		118	10 - 150
2,4-Dinitrotoluene	30.0	28.9		ug/L		96	58 - 140
2,6-Dinitrotoluene	30.0	29.1		ug/L		97	57 - 130
Di-n-octyl phthalate	30.0	31.2		ug/L		104	50 - 150
1,4-Dioxane	30.0	19.9		ug/L		66	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.8		ug/L		93	47 - 123
Hexachlorobenzene	30.0	30.9		ug/L		103	52 - 131
Hexachlorocyclopentadiene	30.0	17.2	J	ug/L		57	10 - 129
Hexachloroethane	30.0	18.3		ug/L		61	41 - 120
Indene	30.0	23.9		ug/L		80	47 - 120
Isophorone	30.0	27.8		ug/L		93	49 - 120
2-Methylphenol	30.0	28.5		ug/L		95	39 - 123
3 & 4 Methylphenol	30.0	28.3		ug/L		94	38 - 121
2-Nitroaniline	30.0	28.7		ug/L		96	47 - 150
3-Nitroaniline	30.0	25.2		ug/L		84	34 - 132
4-Nitroaniline	30.0	27.1		ug/L		90	41 - 135
Nitrobenzene	30.0	26.8		ug/L		89	47 - 120
2-Nitrophenol	30.0	29.2		ug/L		97	28 - 136
4-Nitrophenol	60.0	55.5		ug/L		93	10 - 150
N-Nitrosodimethylamine	30.0	26.0		ug/L		87	22 - 148
N-Nitrosodi-n-propylamine	30.0	27.9		ug/L		93	44 - 120
N-Nitrosodiphenylamine	29.8	30.5		ug/L		102	56 - 120
Pentachlorophenol	60.0	70.5		ug/L		117	15 - 141
Phenol	30.0	26.4		ug/L		88	33 - 120
Pyridine	60.0	50.4		ug/L		84	26 - 120
Quinoline	30.0	27.2		ug/L		91	51 - 129
2,4,5-Trichlorophenol	30.0	30.1		ug/L		100	38 - 147
2,4,6-Trichlorophenol	30.0	30.9		ug/L		103	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*34 - 120*
2-Fluorophenol	*78*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*86*		*10 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450172/2-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*102*		*53 - 125*
2,4,6-Tribromophenol	*89*		*15 - 135*

Lab Sample ID: LCS 400-450172/4-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	10.9		ug/L		36	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*34 - 120*
2-Fluorophenol	*64*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*75*		*10 - 120*
Terphenyl-d14	*97*		*53 - 125*
2,4,6-Tribromophenol	*63*		*15 - 135*

Lab Sample ID: LCSD 400-450172/3-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	28.5		ug/L		95	29 - 120	4	30
Benzoic acid	117	98.7		ug/L		85	10 - 150	12	30
Benzyl alcohol	30.0	31.3		ug/L		104	19 - 125	7	30
Bis(2-chloroethoxy)methane	30.0	28.6		ug/L		95	45 - 120	5	30
Bis(2-chloroethyl)ether	30.0	27.4		ug/L		91	48 - 120	8	30
bis (2-chloroisopropyl) ether	30.0	26.2		ug/L		87	30 - 125	6	30
Bis(2-ethylhexyl) phthalate	30.0	33.2		ug/L		111	48 - 150	8	30
4-Bromophenyl phenyl ether	30.0	34.1		ug/L		114	55 - 122	9	30
Butyl benzyl phthalate	30.0	31.4		ug/L		105	46 - 145	10	30
4-Chloroaniline	30.0	26.0		ug/L		87	30 - 120	9	30
4-Chloro-3-methylphenol	30.0	32.9		ug/L		110	39 - 140	6	30
2-Chloronaphthalene	30.0	30.4		ug/L		101	52 - 120	6	30
2-Chlorophenol	30.0	29.8		ug/L		99	34 - 120	6	30
4-Chlorophenyl phenyl ether	30.0	33.0		ug/L		110	58 - 124	8	30
Dibenz[a,h]acridine	30.0	32.7		ug/L		109	46 - 149	16	30
Dibenzofuran	30.0	31.0		ug/L		103	58 - 123	8	30
3,3'-Dichlorobenzidine	40.0	72.9	E *	ug/L		182	39 - 135	9	30
2,4-Dichlorophenol	30.0	32.1		ug/L		107	39 - 128	6	30
Diethyl phthalate	30.0	32.7		ug/L		109	44 - 146	9	30
2,4-Dimethylphenol	30.0	30.5		ug/L		102	44 - 120	5	30
Dimethyl phthalate	30.0	32.3		ug/L		108	50 - 131	7	30
Di-n-butyl phthalate	30.0	31.3		ug/L		104	55 - 131	10	30
4,6-Dinitro-ortho-cresol	60.0	71.7		ug/L		119	10 - 150	8	30
2,4-Dinitrophenol	60.0	79.5		ug/L		133	10 - 150	12	30
2,4-Dinitrotoluene	30.0	32.4		ug/L		108	58 - 140	11	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-450172/3-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,6-Dinitrotoluene	30.0	31.6		ug/L		105	57 - 130	8	30
Di-n-octyl phthalate	30.0	34.2		ug/L		114	50 - 150	9	30
1,4-Dioxane	30.0	20.2		ug/L		67	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	30.1		ug/L		100	47 - 123	8	30
Hexachlorobenzene	30.0	34.5		ug/L		115	52 - 131	11	30
Hexachlorocyclopentadiene	30.0	18.8	J	ug/L		63	10 - 129	9	30
Hexachloroethane	30.0	19.0		ug/L		63	41 - 120	4	30
Indene	30.0	24.7		ug/L		82	47 - 120	4	30
Isophorone	30.0	29.6		ug/L		99	49 - 120	6	30
2-Methylphenol	30.0	30.2		ug/L		101	39 - 123	6	30
3 & 4 Methylphenol	30.0	30.0		ug/L		100	38 - 121	6	30
2-Nitroaniline	30.0	30.6		ug/L		102	47 - 150	6	30
3-Nitroaniline	30.0	27.0		ug/L		90	34 - 132	7	30
4-Nitroaniline	30.0	29.7		ug/L		99	41 - 135	9	30
Nitrobenzene	30.0	28.6		ug/L		95	47 - 120	7	30
2-Nitrophenol	30.0	32.1		ug/L		107	28 - 136	9	30
4-Nitrophenol	60.0	58.6		ug/L		98	10 - 150	5	30
N-Nitrosodimethylamine	30.0	27.8		ug/L		93	22 - 148	7	30
N-Nitrosodi-n-propylamine	30.0	29.3		ug/L		98	44 - 120	5	30
N-Nitrosodiphenylamine	29.8	32.7		ug/L		110	56 - 120	7	30
Pentachlorophenol	60.0	77.8		ug/L		130	15 - 141	10	30
Phenol	30.0	27.0		ug/L		90	33 - 120	2	30
Pyridine	60.0	52.0		ug/L		87	26 - 120	3	30
Quinoline	30.0	29.3		ug/L		98	51 - 129	8	30
2,4,5-Trichlorophenol	30.0	32.6		ug/L		109	38 - 147	8	30
2,4,6-Trichlorophenol	30.0	32.9		ug/L		110	36 - 139	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*76*		*10 - 120*
Nitrobenzene-d5	*94*		*27 - 120*
Phenol-d5	*83*		*10 - 120*
Terphenyl-d14	*109*		*53 - 125*
2,4,6-Tribromophenol	*93*		*15 - 135*

Lab Sample ID: LCSD 400-450172/5-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		5	10 - 120	155	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*95*		*34 - 120*
2-Fluorophenol	*71*		*10 - 120*
Nitrobenzene-d5	*90*		*27 - 120*
Phenol-d5	*87*		*10 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-450172/5-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450172

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	*111*		*53 - 125*
2,4,6-Tribromophenol	*76*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 05:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*87*		*15 - 122*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Terphenyl-d14	*123*		*33 - 138*	*07/24/19 15:00*	*08/03/19 05:43*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.0		ug/L		80	41 - 120
Acenaphthylene	30.0	27.2		ug/L		91	44 - 120
Anthracene	30.0	26.8		ug/L		89	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	27.2		ug/L		91	52 - 120
Benzo[b]fluoranthene	30.0	27.9		ug/L		93	53 - 134
Benzo[g,h,i]perylene	30.0	27.3		ug/L		91	47 - 133
Benzo[k]fluoranthene	30.0	25.7		ug/L		86	57 - 134
Chrysene	30.0	24.2		ug/L		81	55 - 122
Dibenz(a,h)anthracene	30.0	27.5		ug/L		92	48 - 146

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoranthene	30.0	25.8		ug/L		86	54 - 128
Fluorene	30.0	26.7		ug/L		89	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	27.9		ug/L		93	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	18.8		ug/L		63	32 - 124
Phenanthrene	30.0	26.7		ug/L		89	48 - 120
Pyrene	30.0	25.5		ug/L		85	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*89*		*33 - 138*

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	25.4		ug/L		85	41 - 120	6	56
Acenaphthylene	30.0	30.1		ug/L		100	44 - 120	10	56
Anthracene	30.0	28.8		ug/L		96	49 - 120	7	51
Benzo[a]anthracene	30.0	27.1		ug/L		90	61 - 135	7	49
Benzo[a]pyrene	30.0	29.3		ug/L		98	52 - 120	7	50
Benzo[b]fluoranthene	30.0	30.2		ug/L		101	53 - 134	8	54
Benzo[g,h,i]perylene	30.0	29.9		ug/L		100	47 - 133	9	50
Benzo[k]fluoranthene	30.0	28.9		ug/L		96	57 - 134	12	52
Chrysene	30.0	26.7		ug/L		89	55 - 122	10	50
Dibenz(a,h)anthracene	30.0	30.3		ug/L		101	48 - 146	10	50
Fluoranthene	30.0	28.6		ug/L		95	54 - 128	10	52
Fluorene	30.0	27.9		ug/L		93	45 - 125	4	56
Indeno[1,2,3-cd]pyrene	30.0	30.2		ug/L		101	43 - 142	8	51
1-Methylnaphthalene	30.0	21.6		ug/L		72	41 - 120	9	55
2-Methylnaphthalene	30.0	21.2		ug/L		71	32 - 124	12	57
Phenanthrene	30.0	28.7		ug/L		96	48 - 120	7	56
Pyrene	30.0	27.6		ug/L		92	48 - 132	8	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*69*		*19 - 130*
Terphenyl-d14	*96*		*33 - 138*

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		29.1	24.9		ug/L		86	35 - 113
Acenaphthylene	ND		29.1	27.0		ug/L		93	41 - 118

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	ND		29.1	26.1		ug/L		90	45 - 122
Benzo[a]anthracene	ND		29.1	21.9		ug/L		76	55 - 133
Benzo[a]pyrene	ND		29.1	23.3		ug/L		80	50 - 108
Benzo[b]fluoranthene	ND		29.1	23.1		ug/L		80	50 - 128
Benzo[g,h,i]perylene	ND		29.1	22.0		ug/L		76	46 - 133
Benzo[k]fluoranthene	ND		29.1	22.7		ug/L		78	52 - 128
Chrysene	ND		29.1	21.6		ug/L		74	52 - 116
Dibenz(a,h)anthracene	ND		29.1	23.6		ug/L		81	52 - 143
Fluoranthene	ND		29.1	27.2		ug/L		94	32 - 150
Fluorene	ND		29.1	27.7		ug/L		95	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.1	23.2		ug/L		80	41 - 141
1-Methylnaphthalene	0.38		29.1	22.9		ug/L		77	10 - 150
2-Methylnaphthalene	0.66		29.1	22.1		ug/L		74	10 - 150
Phenanthrene	ND		29.1	26.3		ug/L		90	36 - 125
Pyrene	ND		29.1	23.0		ug/L		79	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*15 - 122*
Nitrobenzene-d5	*76*		*19 - 130*
Terphenyl-d14	*44*		*33 - 138*

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		30.3	23.5		ug/L		77	35 - 113	6	49
Acenaphthylene	ND		30.3	25.9		ug/L		86	41 - 118	4	48
Anthracene	ND		30.3	25.2		ug/L		83	45 - 122	4	56
Benzo[a]anthracene	ND		30.3	20.3		ug/L		67	55 - 133	8	57
Benzo[a]pyrene	ND		30.3	21.6		ug/L		71	50 - 108	8	59
Benzo[b]fluoranthene	ND		30.3	21.6		ug/L		71	50 - 128	7	62
Benzo[g,h,i]perylene	ND		30.3	19.2		ug/L		63	46 - 133	14	58
Benzo[k]fluoranthene	ND		30.3	19.7		ug/L		65	52 - 128	14	58
Chrysene	ND		30.3	19.8		ug/L		65	52 - 116	9	59
Dibenz(a,h)anthracene	ND		30.3	21.1		ug/L		70	52 - 143	11	60
Fluoranthene	ND		30.3	25.4		ug/L		84	32 - 150	7	59
Fluorene	ND		30.3	25.6		ug/L		84	15 - 150	8	49
Indeno[1,2,3-cd]pyrene	ND		30.3	20.4		ug/L		67	41 - 141	13	58
1-Methylnaphthalene	0.38		30.3	22.8		ug/L		74	10 - 150	0	66
2-Methylnaphthalene	0.66		30.3	22.0		ug/L		70	10 - 150	0	66
Phenanthrene	ND		30.3	24.8		ug/L		82	36 - 125	6	69
Pyrene	ND		30.3	21.4		ug/L		71	41 - 127	7	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*15 - 122*
Nitrobenzene-d5	*72*		*19 - 130*
Terphenyl-d14	*47*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (Pensacola)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐SGW FDG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☐OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/18/2019
PO #	GSAP Project ID	PAGE 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:
SAMPLER NAME(S) (Print): Brett Howell
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS)
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

400-173405 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071819-B	7/18/2019	0:00	Water	2					2		x	
	PD-14-GWP-78.5-071819	7/18/2019	9:30	Water	2			2		4	x	x	x
	PD-14-GWP-78.5-071819-EB	7/18/2019	9:50	Water	2			2		4	x	x	x
	PD-2-GWP-44-071819	7/18/2019	13:05	Water	2			2		4	x	x	x
	PD-2-GWP-44-071819-MS	7/18/2019	13:05	Water	2			2		4	x	x	x
	PD-2-GWP-44-071819-MSD	7/18/2019	13:05	Water	2			2		4	x	x	x
	PD-2-GWP-50-071819	7/18/2019	14:10	Water	2			2		4	x	x	x
	PD-2-GWP-50-071819-DUP	7/18/2019	14:10	Water	2			2		4	x	x	x
	PD-2-GWP-50-071819-EB	7/18/2019	14:45	Water	2			2		4	x	x	x
	PD-2-GWP-59-071819	7/18/2019	15:40	Water	2			2		4	x	x	x

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Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Brett Howell	Fedex: 4931 8203 7513 4931 8203 7465 4931 8203 7454	7/18/2019	18:00
		7-19-19	9:15

Version 10May17

Custody seals: 1011628, 1011629, 1011650, 1011651, 1011649, 1011648

2.5°C, 4.5°C, 4.3°C IR7

CONFIDENTIAL SETTLEMENT COMMUNICATION

8/13/2019

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173405-1

Login Number: 173405
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C, 4.5°C, 4.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Illinois	NELAP		004586	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173405-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 9:33:25 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173405-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173405-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-13-19.

Receipt
The samples were received on 7/19/2019 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.5º C, 4.3º C and 4.5º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071819-B (400-173405-1), PD-14-GWP-78.5-071819 (400-173405-2), PD-14-GWP-78.5-071819-EB (400-173405-3), PD-2-GWP-44-071819 (400-173405-4), PD-2-GWP-50-071819 (400-173405-5), PD-2-GWP-50-071819-DUP (400-173405-6), PD-2-GWP-50-071819-EB (400-173405-7), PD-2-GWP-59-071819 (400-173405-8). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, an acid-labile compound that degrades in an acidic medium.

Method(s) 8260B: The sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, when verified by the laboratory, the pH was greater than 2 and the following samples were analyzed after 7 days from sampling: PD-2-GWP-50-071819 (400-173405-5) and PD-2-GWP-50-071819-DUP (400-173405-6).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-449979 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: Samples PD-14-GWP-78.5-071819-EB (400-173405-3) and PD-2-GWP-50-071819-EB (400-173405-7) contained Benzene between the method detection limit and the reporting limit. Reanalysis was performed with concurring results.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: PD-2-GWP-44-071819 (400-173405-4), PD-2-GWP-50-071819 (400-173405-5), PD-2-GWP-50-071819-DUP (400-173405-6), PD-2-GWP-59-071819 (400-173405-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,2'-oxybis[1-chloropropane], 4-Nitrophenol, Nitrobenzene, Diethyl phthalate, Bis(2-ethylhexyl) phthalate, Di-n-butyl phthalate, 4-Chloro-3-methylphenol, N-Nitrosodi-n-propylamine, 2-Methylphenol, 2,4-Dichlorophenol, 1,2-Diphenylhydrazine (as Azobenzene), 4-Chloroaniline, 4,6-Dinitro-ortho-cresol, 2-Chlorophenol, 3 & 4 Methylphenol, Benzyl alcohol, Di-n-octyl phthalate, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been

Job ID: 400-173405-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-2-GWP-44-071819 (400-173405-4), PD-2-GWP-50-071819-DUP (400-173405-6), PD-2-GWP-59-071819 (400-173405-8), PD-2-GWP-44-071819 (400-173405-4[MSD]). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449321 and analytical batch 400-449680 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449321 and analytical batch 400-450203 recovered outside control limits for the following analytes: Benzoic acid.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449321 and analytical batch 400-449680 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-450172 and analytical batch 400-450777 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine. The analytes was biased high in the LCS and LCSD that were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-450172 and analytical batch 400-450777 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-450172 and analytical batch 400-450777 recovered outside control limits for the following analytes: Benzenethiol.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: PD-2-GWP-50-071819 (400-173405-5). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Both sets of data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-449321 and analytical batch 400-449680 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173405-1	TB-PW-071819-B	Water	07/18/19 00:00	07/19/19 09:15	
400-173405-2	PD-14-GWP-78.5-071819	Water	07/18/19 09:30	07/19/19 09:15	
400-173405-3	PD-14-GWP-78.5-071819-EB	Water	07/18/19 09:50	07/19/19 09:15	
400-173405-4	PD-2-GWP-44-071819	Water	07/18/19 13:05	07/19/19 09:15	
400-173405-5	PD-2-GWP-50-071819	Water	07/18/19 14:10	07/19/19 09:15	
400-173405-6	PD-2-GWP-50-071819-DUP	Water	07/18/19 14:10	07/19/19 09:15	
400-173405-7	PD-2-GWP-50-071819-EB	Water	07/18/19 14:45	07/19/19 09:15	
400-173405-8	PD-2-GWP-59-071819	Water	07/18/19 14:50	07/19/19 09:15	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: TB-PW-071819-B — Lab Sample ID: 400-173405-1

No Detections.

Client Sample ID: PD-14-GWP-78.5-071819 — Lab Sample ID: 400-173405-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	3.0		1.0	0.50	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	2.6		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	6.3		5.0	1.6	ug/L	1		8260B	Total/NA
o-Xylene	2.5	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.60	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	1.9		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	0.79	J	1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	8.8	J	10	1.6	ug/L	1		8260B	Total/NA
Benzene - DL	310		2.0	0.76	ug/L	2		8260B	Total/NA
1-Methylnaphthalene	0.41		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.67		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	14		9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-14-GWP-78.5-071819-EB — Lab Sample ID: 400-173405-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.69	J	1.0	0.38	ug/L	1		8260B	Total/NA

Client Sample ID: PD-2-GWP-44-071819 — Lab Sample ID: 400-173405-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	340000		2000	760	ug/L	2000		8260B	Total/NA
1-Methylnaphthalene	0.38		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.66		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol - DL	120		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-2-GWP-50-071819 — Lab Sample ID: 400-173405-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2500000		10000	3800	ug/L	10000		8260B	Total/NA
4-Methyl-2-pentanone (MIBK)	57000	J	250000	18000	ug/L	10000		8260B	Total/NA
1-Methylnaphthalene	2.4		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.39		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	8.0	J *	29	7.1	ug/L	1		8270D	Total/NA
Benzoic acid	13	J H	29	7.1	ug/L	1		8270D	Total/NA
2,4-Dimethylphenol	10	H	9.8	3.4	ug/L	1		8270D	Total/NA
2-Methylphenol	1.9	J H	9.8	1.8	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	3.9	J H	20	1.0	ug/L	1		8270D	Total/NA
Phenol	14		9.7	2.5	ug/L	1		8270D	Total/NA
Phenol	160	E H	9.8	2.5	ug/L	1		8270D	Total/NA
Phenol - RERA	160	H	49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-2-GWP-50-071819-DUP — Lab Sample ID: 400-173405-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1500000		10000	3800	ug/L	10000		8260B	Total/NA
1-Methylnaphthalene	2.1		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.3		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	15	J	29	7.0	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP (Continued)

Lab Sample ID: 400-173405-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-Dimethylphenol	7.5	J	9.6	3.4	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	2.4	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	100		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-2-GWP-50-071819-EB

Lab Sample ID: 400-173405-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.57	J	1.0	0.38	ug/L	1		8260B	Total/NA
Fluoranthene	0.027	J	0.19	0.019	ug/L	1		8270D LL	Total/NA

Client Sample ID: PD-2-GWP-59-071819

Lab Sample ID: 400-173405-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	12000		100	38	ug/L	100		8260B	Total/NA
1-Methylnaphthalene	1.1		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.4		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	57		10	2.6	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: TB-PW-071819-B

Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 13:18	1
Acrolein	ND		20	10	ug/L			07/29/19 13:18	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 13:18	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 13:18	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 13:18	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 13:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 13:18	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 13:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 13:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 13:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 13:18	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 13:18	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 13:18	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 13:18	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 13:18	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 13:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 13:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 13:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 13:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 13:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 13:18	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 13:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 13:18	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 13:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 13:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 13:18	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 13:18	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 13:18	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 13:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 13:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 13:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 13:18	1
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 13:18	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: TB-PW-071819-B
Date Collected: 07/18/19 00:00
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 13:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 13:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 13:18	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 13:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 13:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 13:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 13:18	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 13:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 13:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 13:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 13:18	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 13:18	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 13:18	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 13:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 13:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 13:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 13:18	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 13:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 13:18	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 13:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 13:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 13:18*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*07/29/19 13:18*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/29/19 13:18*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 18:32	1
Acrolein	ND		20	10	ug/L			07/30/19 18:32	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 18:32	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 18:32	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 18:32	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 18:32	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 18:32	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 18:32	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 18:32	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 18:32	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 18:32	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 18:32	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 18:32	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 18:32	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 18:32	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 18:32	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 18:32	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 18:32	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Ethylbenzene	**3.0**		1.0	0.50	ug/L			07/30/19 18:32	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 18:32	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 18:32	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 18:32	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 18:32	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 18:32	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 18:32	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 18:32	1
Methyl tert-butyl ether	**2.6**		1.0	0.74	ug/L			07/30/19 18:32	1
m-Xylene & p-Xylene	**6.3**		5.0	1.6	ug/L			07/30/19 18:32	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 18:32	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 18:32	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 18:32	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 18:32	1
o-Xylene	**2.5**	**J**	5.0	0.60	ug/L			07/30/19 18:32	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 18:32	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 18:32	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 18:32	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 18:32	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 18:32	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 18:32	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 18:32	1
Toluene	**0.60**	**J**	1.0	0.41	ug/L			07/30/19 18:32	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 18:32	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 18:32	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 18:32	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 18:32	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 18:32	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 18:32	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 18:32	1
1,2,4-Trimethylbenzene	**1.9**		1.0	0.82	ug/L			07/30/19 18:32	1
1,3,5-Trimethylbenzene	**0.79**	**J**	1.0	0.56	ug/L			07/30/19 18:32	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 18:32	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 18:32	1
Xylenes, Total	**8.8**	**J**	10	1.6	ug/L			07/30/19 18:32	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*110*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/30/19 18:32*	*1*
2-Methyl-2-propanol	*98*		*ug/L*		*3.39*	*75-65-0*		*07/30/19 18:32*	*1*
Hexane	*1.2*		*ug/L*		*3.71*	*110-54-3*		*07/30/19 18:32*	*1*
Cyclohexane	*1.4*		*ug/L*		*4.54*	*110-82-7*		*07/30/19 18:32*	*1*
Isobutyl alcohol	*32*		*ug/L*		*4.59*	*78-83-1*		*07/30/19 18:32*	*1*
Methylcyclohexane	*1.0*		*ug/L*		*5.27*	*108-87-2*		*07/30/19 18:32*	*1*
3-Ethyltoluene	*1.9*		*ug/L*		*8.07*	*620-14-4*		*07/30/19 18:32*	*1*
2-Ethyltoluene	*0.54*	*J*	*ug/L*		*8.30*	*611-14-3*		*07/30/19 18:32*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 18:32*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/30/19 18:32*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 18:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 18:32*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**310**		2.0	0.76	ug/L			07/31/19 10:00	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*116*		*78 - 118*		*07/31/19 10:00*	*2*
Dibromofluoromethane	*99*		*81 - 121*		*07/31/19 10:00*	*2*
Toluene-d8 (Surr)	*95*		*80 - 120*		*07/31/19 10:00*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819

Date Collected: 07/18/19 09:30
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 07:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 07:08	1
1-Methylnaphthalene	**0.41**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
2-Methylnaphthalene	**0.67**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*15 - 122*	*07/24/19 15:00*	*08/03/19 07:08*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/24/19 15:00*	*08/03/19 07:08*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/24/19 15:00*	*08/03/19 07:08*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
Benzenethiol	ND	*	9.9	1.7	ug/L		07/24/19 15:00	07/26/19 20:02	1
Benzoic acid	ND		30	7.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/24/19 15:00	07/26/19 20:02	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/24/19 15:00	07/26/19 20:02	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/24/19 15:00	07/26/19 20:02	1
Bis(2-ethylhexyl) phthalate	ND		9.9	5.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/24/19 15:00	07/26/19 20:02	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Dibenzofuran	ND		9.9	0.52	ug/L		07/24/19 15:00	07/26/19 20:02	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/24/19 15:00	07/26/19 20:02	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/24/19 15:00	07/26/19 20:02	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/24/19 15:00	07/26/19 20:02	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 15:00	07/26/19 20:02	1

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-14-GWP-78.5-071819
Lab Sample ID: 400-173405-2
Date Collected: 07/18/19 09:30
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 15:00	07/26/19 20:02	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		07/24/19 15:00	07/26/19 20:02	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/24/19 15:00	07/26/19 20:02	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/24/19 15:00	07/26/19 20:02	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/24/19 15:00	07/26/19 20:02	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 20:02	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
Indene	ND		9.9	0.99	ug/L		07/24/19 15:00	07/26/19 20:02	1
Isophorone	ND		9.9	0.57	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
3-Nitroaniline	ND		9.9	1.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/24/19 15:00	07/26/19 20:02	1
Nitrobenzene	ND		9.9	0.55	ug/L		07/24/19 15:00	07/26/19 20:02	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/24/19 15:00	07/26/19 20:02	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/24/19 15:00	07/26/19 20:02	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/24/19 15:00	07/26/19 20:02	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/24/19 15:00	07/26/19 20:02	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		07/24/19 15:00	07/26/19 20:02	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 20:02	1
Phenol	**14**		9.9	2.6	ug/L		07/24/19 15:00	07/26/19 20:02	1
Pyridine	ND		9.9	3.2	ug/L		07/24/19 15:00	07/26/19 20:02	1
Quinoline	ND		9.9	5.9	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/24/19 15:00	07/26/19 20:02	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/24/19 15:00	07/26/19 20:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*5.9*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
p-Xylene	*5.9*	*T J N*	*ug/L*		*4.82*	*106-42-3*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Unknown	*4.0*	*T J*	*ug/L*		*5.03*		*07/24/19 15:00*	*07/26/19 20:02*	*1*
Benzene, 1,2,3-trimethyl-	*7.1*	*T J N*	*ug/L*		*5.42*	*526-73-8*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
n-Hexadecanoic acid	*4.6*	*T J N*	*ug/L*		*9.01*	*57-10-3*	*07/24/19 15:00*	*07/26/19 20:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*62*		*34 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
2-Fluorophenol	*51*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Nitrobenzene-d5	*85*		*27 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Phenol-d5	*62*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/24/19 15:00*	*07/26/19 20:02*	*1*
2,4,6-Tribromophenol	*55*		*15 - 135*	*07/24/19 15:00*	*07/26/19 20:02*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Date Collected: 07/18/19 09:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 17:13	1
Acrolein	ND		20	10	ug/L			07/30/19 17:13	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 17:13	1
Benzene	**0.69**	**J**	1.0	0.38	ug/L			07/30/19 17:13	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 17:13	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 17:13	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 17:13	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 17:13	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 17:13	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 17:13	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 17:13	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 17:13	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 17:13	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 17:13	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:13	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 17:13	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 17:13	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 17:13	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 17:13	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 17:13	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 17:13	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 17:13	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 17:13	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 17:13	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 17:13	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 17:13	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 17:13	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 17:13	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 17:13	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 17:13	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 17:13	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 17:13	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 17:13	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Lab Sample ID: 400-173405-3

Date Collected: 07/18/19 09:50
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 17:13	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 17:13	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 17:13	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 17:13	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 17:13	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 17:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 17:13	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 17:13	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:13	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 17:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 17:13	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:13	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 17:13	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 17:13	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 17:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 17:13	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 17:13	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 17:13	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 17:13	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 17:13	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*180*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/30/19 17:13*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 17:13*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/30/19 17:13*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/30/19 17:13*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/30/19 17:13*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Chrysene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 07:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/24/19 15:00	08/03/19 07:25	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-14-GWP-78.5-071819-EB

Lab Sample ID: 400-173405-3

Date Collected: 07/18/19 09:50
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 07:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*15 - 122*	*07/24/19 15:00*	*08/03/19 07:25*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/24/19 15:00*	*08/03/19 07:25*	*1*
Terphenyl-d14	*109*		*33 - 138*	*07/24/19 15:00*	*08/03/19 07:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/24/19 15:00	07/26/19 23:53	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/24/19 15:00	07/26/19 23:53	1
Benzoic acid	ND		29	7.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/24/19 15:00	07/26/19 23:53	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/24/19 15:00	07/26/19 23:53	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/24/19 15:00	07/26/19 23:53	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/24/19 15:00	07/26/19 23:53	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/24/19 15:00	07/26/19 23:53	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/24/19 15:00	07/26/19 23:53	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/24/19 15:00	07/26/19 23:53	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/24/19 15:00	07/26/19 23:53	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/24/19 15:00	07/26/19 23:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/24/19 15:00	07/26/19 23:53	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/24/19 15:00	07/26/19 23:53	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/24/19 15:00	07/26/19 23:53	1
Indene	ND		9.8	0.98	ug/L		07/24/19 15:00	07/26/19 23:53	1
Isophorone	ND		9.8	0.56	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/24/19 15:00	07/26/19 23:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/24/19 15:00	07/26/19 23:53	1

Client Sample ID: PD-14-GWP-78.5-071819-EB
Lab Sample ID: 400-173405-3
Date Collected: 07/18/19 09:50
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.8	2.4	ug/L		07/24/19 15:00	07/26/19 23:53	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/24/19 15:00	07/26/19 23:53	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/24/19 15:00	07/26/19 23:53	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/24/19 15:00	07/26/19 23:53	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/24/19 15:00	07/26/19 23:53	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/24/19 15:00	07/26/19 23:53	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/24/19 15:00	07/26/19 23:53	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 23:53	1
Phenol	ND		9.8	2.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
Pyridine	ND		9.8	3.1	ug/L		07/24/19 15:00	07/26/19 23:53	1
Quinoline	ND		9.8	5.9	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/24/19 15:00	07/26/19 23:53	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/24/19 15:00	07/26/19 23:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Docosane	*5.8*	*T J N*	*ug/L*		*9.81*	*629-97-0*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Tricosane	*15*	*T J N*	*ug/L*		*10.14*	*638-67-5*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Heptadecane	*10*	*T J N*	*ug/L*		*10.46*	*629-78-7*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Octacosane	*7.3*	*T J N*	*ug/L*		*10.78*	*630-02-4*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Heptadecane	*5.6*	*T J N*	*ug/L*		*11.10*	*629-78-7*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Tetratetracontane	*5.1*	*T J N*	*ug/L*		*11.41*	*7098-22-8*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Heptadecane	*5.7*	*T J N*	*ug/L*		*11.73*	*629-78-7*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Tridecane, 7-hexyl-	*4.1*	*T J N*	*ug/L*		*12.04*	*7225-66-3*	*07/24/19 15:00*	*07/26/19 23:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*34 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
2-Fluorophenol	*36*		*10 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Nitrobenzene-d5	*77*		*27 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Phenol-d5	*52*		*10 - 120*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
Terphenyl-d14	*72*		*53 - 125*	*07/24/19 15:00*	*07/26/19 23:53*	*1*
2,4,6-Tribromophenol	*46*		*15 - 135*	*07/24/19 15:00*	*07/26/19 23:53*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819

Date Collected: 07/18/19 13:05
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50000	20000	ug/L			07/30/19 11:02	2000
Acrolein	ND		40000	20000	ug/L			07/30/19 11:02	2000
Acrylonitrile	ND		20000	5600	ug/L			07/30/19 11:02	2000
Benzene	**340000**		2000	760	ug/L			07/30/19 11:02	2000
Bromobenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
Bromochloromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
Bromodichloromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
Bromoform	ND		10000	1400	ug/L			07/30/19 11:02	2000
Bromomethane	ND		2000	2000	ug/L			07/30/19 11:02	2000
2-Butanone (MEK)	ND		50000	5200	ug/L			07/30/19 11:02	2000
Carbon disulfide	ND		2000	1000	ug/L			07/30/19 11:02	2000
Carbon tetrachloride	ND		2000	1000	ug/L			07/30/19 11:02	2000
Chlorobenzene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Chloroethane	ND		2000	1500	ug/L			07/30/19 11:02	2000
2-Chloroethyl vinyl ether	ND		10000	4000	ug/L			07/30/19 11:02	2000
Chloroform	ND		2000	1200	ug/L			07/30/19 11:02	2000
1-Chlorohexane	ND		2000	1400	ug/L			07/30/19 11:02	2000
Chloromethane	ND		2000	1700	ug/L			07/30/19 11:02	2000
cis-1,2-Dichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
cis-1,3-Dichloropropene	ND		10000	1000	ug/L			07/30/19 11:02	2000
Dibromochloromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2-Dibromo-3-Chloropropane	ND		10000	3000	ug/L			07/30/19 11:02	2000
1,2-Dichlorobenzene	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,3-Dichlorobenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
1,4-Dichlorobenzene	ND		2000	1300	ug/L			07/30/19 11:02	2000
Dichlorodifluoromethane	ND		2000	1700	ug/L			07/30/19 11:02	2000
1,1-Dichloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2-Dichloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1-Dichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2-Dichloropropane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,3-Dichloropropane	ND		2000	1000	ug/L			07/30/19 11:02	2000
2,2-Dichloropropane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1-Dichloropropene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Ethylbenzene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Ethylene Dibromide	ND		2000	1000	ug/L			07/30/19 11:02	2000
Ethyl methacrylate	ND		2000	1200	ug/L			07/30/19 11:02	2000
Hexachlorobutadiene	ND		10000	1800	ug/L			07/30/19 11:02	2000
2-Hexanone	ND	F1	50000	6200	ug/L			07/30/19 11:02	2000
Isopropylbenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
Methylene bromide	ND		10000	1200	ug/L			07/30/19 11:02	2000
Methylene Chloride	ND		10000	6000	ug/L			07/30/19 11:02	2000
4-Methyl-2-pentanone (MIBK)	ND		50000	3600	ug/L			07/30/19 11:02	2000
Methyl tert-butyl ether	ND		2000	1500	ug/L			07/30/19 11:02	2000
m-Xylene & p-Xylene	ND		10000	3200	ug/L			07/30/19 11:02	2000
Naphthalene	ND		2000	2000	ug/L			07/30/19 11:02	2000
n-Butylbenzene	ND		2000	1500	ug/L			07/30/19 11:02	2000
N-Propylbenzene	ND		2000	1400	ug/L			07/30/19 11:02	2000
o-Chlorotoluene	ND		2000	1100	ug/L			07/30/19 11:02	2000
o-Xylene	ND		10000	1200	ug/L			07/30/19 11:02	2000

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-44-071819
Lab Sample ID: 400-173405-4
Date Collected: 07/18/19 13:05
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2000	1100	ug/L			07/30/19 11:02	2000
p-Isopropyltoluene	ND		2000	1400	ug/L			07/30/19 11:02	2000
sec-Butylbenzene	ND		2000	1400	ug/L			07/30/19 11:02	2000
Styrene	ND		2000	2000	ug/L			07/30/19 11:02	2000
tert-Butylbenzene	ND		2000	1300	ug/L			07/30/19 11:02	2000
1,1,1,2-Tetrachloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1,2,2-Tetrachloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
Tetrachloroethene	ND		2000	1200	ug/L			07/30/19 11:02	2000
Toluene	ND		2000	820	ug/L			07/30/19 11:02	2000
trans-1,2-Dichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
trans-1,3-Dichloropropene	ND		10000	1000	ug/L			07/30/19 11:02	2000
1,2,3-Trichlorobenzene	ND		2000	1400	ug/L			07/30/19 11:02	2000
1,2,4-Trichlorobenzene	ND		2000	1600	ug/L			07/30/19 11:02	2000
1,1,1-Trichloroethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,1,2-Trichloroethane	ND		10000	1000	ug/L			07/30/19 11:02	2000
Trichloroethene	ND		2000	1000	ug/L			07/30/19 11:02	2000
Trichlorofluoromethane	ND		2000	1000	ug/L			07/30/19 11:02	2000
1,2,3-Trichloropropane	ND		10000	1700	ug/L			07/30/19 11:02	2000
1,2,4-Trimethylbenzene	ND		2000	1600	ug/L			07/30/19 11:02	2000
1,3,5-Trimethylbenzene	ND		2000	1100	ug/L			07/30/19 11:02	2000
Vinyl acetate	ND		50000	4000	ug/L			07/30/19 11:02	2000
Vinyl chloride	ND		2000	1000	ug/L			07/30/19 11:02	2000
Xylenes, Total	ND		20000	3200	ug/L			07/30/19 11:02	2000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 11:02*	*2000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/30/19 11:02*	*2000*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 11:02*	*2000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 11:02*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 07:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 07:42	1
1-Methylnaphthalene	**0.38**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
2-Methylnaphthalene	**0.66**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819

Date Collected: 07/18/19 13:05
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 07:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/24/19 15:00*	*08/03/19 07:42*	*1*
Nitrobenzene-d5	*74*		*19 - 130*	*07/24/19 15:00*	*08/03/19 07:42*	*1*
Terphenyl-d14	*91*		*33 - 138*	*07/24/19 15:00*	*08/03/19 07:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/24/19 15:00	07/26/19 20:44	1
Benzoic acid	ND	*	29	7.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 20:44	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/24/19 15:00	07/26/19 20:44	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/24/19 15:00	07/26/19 20:44	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/24/19 15:00	07/26/19 20:44	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Dibenz[a,h]acridine	ND	F1	9.7	2.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 20:44	1
3,3'-Dichlorobenzidine	ND	F1	9.7	2.5	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 20:44	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/24/19 15:00	07/26/19 20:44	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/24/19 15:00	07/26/19 20:44	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/24/19 15:00	07/26/19 20:44	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 20:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 20:44	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/24/19 15:00	07/26/19 20:44	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 20:44	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
Indene	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 20:44	1
Isophorone	ND		9.7	0.55	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/24/19 15:00	07/26/19 20:44	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-44-071819

Lab Sample ID: 400-173405-4

Date Collected: 07/18/19 13:05

Matrix: Water

Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/24/19 15:00	07/26/19 20:44	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/24/19 15:00	07/26/19 20:44	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/24/19 15:00	07/26/19 20:44	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 20:44	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/24/19 15:00	07/26/19 20:44	1
N-Nitrosodiphenylamine	ND	F1 F2	9.7	0.45	ug/L		07/24/19 15:00	07/26/19 20:44	1
Pentachlorophenol	ND		19	1.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
Pyridine	ND		9.7	3.1	ug/L		07/24/19 15:00	07/26/19 20:44	1
Quinoline	ND	F1	9.7	5.8	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/24/19 15:00	07/26/19 20:44	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 20:44	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*8.4*	*T J N*	*ug/L*		*3.81*	*108-88-3*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
2-Butanone, 4-hydroxy-	*29*	*T J N*	*ug/L*		*3.97*	*590-90-9*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Ethylbenzene	*38*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Indane	*4.1*	*T J N*	*ug/L*		*5.66*	*496-11-7*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
n-Hexadecanoic acid	*8.5*	*T J N*	*ug/L*		*9.03*	*57-10-3*	*07/24/19 15:00*	*07/26/19 20:44*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*52*		*34 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Nitrobenzene-d5	*80*		*27 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Phenol-d5	*63*		*10 - 120*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
Terphenyl-d14	*50*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 20:44*	*1*
2,4,6-Tribromophenol	*68*		*15 - 135*	*07/24/19 15:00*	*07/26/19 20:44*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**120**		48	13	ug/L		07/24/19 15:00	07/30/19 21:42	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819

Lab Sample ID: 400-173405-5

Date Collected: 07/18/19 14:10

Matrix: Water

Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250000	100000	ug/L			07/29/19 18:26	10000
Acrolein	ND		200000	100000	ug/L			07/29/19 18:26	10000
Acrylonitrile	ND		100000	28000	ug/L			07/29/19 18:26	10000
Benzene	**2500000**		10000	3800	ug/L			07/29/19 18:26	10000
Bromobenzene	ND		10000	5400	ug/L			07/29/19 18:26	10000
Bromochloromethane	ND		10000	5200	ug/L			07/29/19 18:26	10000
Bromodichloromethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
Bromoform	ND		50000	7100	ug/L			07/29/19 18:26	10000
Bromomethane	ND		10000	9800	ug/L			07/29/19 18:26	10000
2-Butanone (MEK)	ND		250000	26000	ug/L			07/29/19 18:26	10000
Carbon disulfide	ND		10000	5000	ug/L			07/29/19 18:26	10000
Carbon tetrachloride	ND		10000	5000	ug/L			07/29/19 18:26	10000
Chlorobenzene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Chloroethane	ND		10000	7600	ug/L			07/29/19 18:26	10000
2-Chloroethyl vinyl ether	ND		50000	20000	ug/L			07/29/19 18:26	10000
Chloroform	ND		10000	6000	ug/L			07/29/19 18:26	10000
1-Chlorohexane	ND		10000	7000	ug/L			07/29/19 18:26	10000
Chloromethane	ND		10000	8300	ug/L			07/29/19 18:26	10000
cis-1,2-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
cis-1,3-Dichloropropene	ND		50000	5000	ug/L			07/29/19 18:26	10000
Dibromochloromethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,2-Dibromo-3-Chloropropane	ND		50000	15000	ug/L			07/29/19 18:26	10000
1,2-Dichlorobenzene	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,3-Dichlorobenzene	ND		10000	5400	ug/L			07/29/19 18:26	10000
1,4-Dichlorobenzene	ND		10000	6400	ug/L			07/29/19 18:26	10000
Dichlorodifluoromethane	ND		10000	8500	ug/L			07/29/19 18:26	10000
1,1-Dichloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,2-Dichloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,1-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,2-Dichloropropane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,3-Dichloropropane	ND		10000	5000	ug/L			07/29/19 18:26	10000
2,2-Dichloropropane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,1-Dichloropropene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Ethylbenzene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Ethylene Dibromide	ND		10000	5000	ug/L			07/29/19 18:26	10000
Ethyl methacrylate	ND		10000	6000	ug/L			07/29/19 18:26	10000
Hexachlorobutadiene	ND		50000	9000	ug/L			07/29/19 18:26	10000
2-Hexanone	ND		250000	31000	ug/L			07/29/19 18:26	10000
Isopropylbenzene	ND		10000	5300	ug/L			07/29/19 18:26	10000
Methylene bromide	ND		50000	5900	ug/L			07/29/19 18:26	10000
Methylene Chloride	ND		50000	30000	ug/L			07/29/19 18:26	10000
4-Methyl-2-pentanone (MIBK)	**57000**	**J**	250000	18000	ug/L			07/29/19 18:26	10000
Methyl tert-butyl ether	ND		10000	7400	ug/L			07/29/19 18:26	10000
m-Xylene & p-Xylene	ND		50000	16000	ug/L			07/29/19 18:26	10000
Naphthalene	ND		10000	10000	ug/L			07/29/19 18:26	10000
n-Butylbenzene	ND		10000	7600	ug/L			07/29/19 18:26	10000
N-Propylbenzene	ND		10000	6900	ug/L			07/29/19 18:26	10000
o-Chlorotoluene	ND		10000	5700	ug/L			07/29/19 18:26	10000
o-Xylene	ND		50000	6000	ug/L			07/29/19 18:26	10000

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-50-071819
Lab Sample ID: 400-173405-5
Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10000	5600	ug/L			07/29/19 18:26	10000
p-Isopropyltoluene	ND		10000	7100	ug/L			07/29/19 18:26	10000
sec-Butylbenzene	ND		10000	7000	ug/L			07/29/19 18:26	10000
Styrene	ND		10000	10000	ug/L			07/29/19 18:26	10000
tert-Butylbenzene	ND		10000	6300	ug/L			07/29/19 18:26	10000
1,1,1,2-Tetrachloroethane	ND		10000	5200	ug/L			07/29/19 18:26	10000
1,1,2,2-Tetrachloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
Tetrachloroethene	ND		10000	5800	ug/L			07/29/19 18:26	10000
Toluene	ND		10000	4100	ug/L			07/29/19 18:26	10000
trans-1,2-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
trans-1,3-Dichloropropene	ND		50000	5000	ug/L			07/29/19 18:26	10000
1,2,3-Trichlorobenzene	ND		10000	7000	ug/L			07/29/19 18:26	10000
1,2,4-Trichlorobenzene	ND		10000	8200	ug/L			07/29/19 18:26	10000
1,1,1-Trichloroethane	ND		10000	5000	ug/L			07/29/19 18:26	10000
1,1,2-Trichloroethane	ND		50000	5000	ug/L			07/29/19 18:26	10000
Trichloroethene	ND		10000	5000	ug/L			07/29/19 18:26	10000
Trichlorofluoromethane	ND		10000	5200	ug/L			07/29/19 18:26	10000
1,2,3-Trichloropropane	ND		50000	8400	ug/L			07/29/19 18:26	10000
1,2,4-Trimethylbenzene	ND		10000	8200	ug/L			07/29/19 18:26	10000
1,3,5-Trimethylbenzene	ND		10000	5600	ug/L			07/29/19 18:26	10000
Vinyl acetate	ND		250000	20000	ug/L			07/29/19 18:26	10000
Vinyl chloride	ND		10000	5000	ug/L			07/29/19 18:26	10000
Xylenes, Total	ND		100000	16000	ug/L			07/29/19 18:26	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 18:26*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 18:26*	*10000*
Dibromofluoromethane	*99*		*81 - 121*		*07/29/19 18:26*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/29/19 18:26*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 08:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:16	1
1-Methylnaphthalene	**2.4**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
2-Methylnaphthalene	**3.1**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1
Phenanthrene	**0.39**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819

Lab Sample ID: 400-173405-5

Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*15 - 122*	*07/24/19 15:00*	*08/03/19 08:16*	*1*
Nitrobenzene-d5	*50*		*19 - 130*	*07/24/19 15:00*	*08/03/19 08:16*	*1*
Terphenyl-d14	*70*		*33 - 138*	*07/24/19 15:00*	*08/03/19 08:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
Aniline	ND	H	9.8	3.7	ug/L		07/31/19 09:42	08/03/19 13:51	1
Benzenethiol	ND	*	9.7	1.6	ug/L		07/24/19 15:00	07/26/19 21:47	1
Benzenethiol	ND	H	9.8	1.7	ug/L		07/31/19 09:42	08/03/19 13:51	1
Benzoic acid	**8.0**	**J ***	29	7.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
Benzoic acid	**13**	**J H**	29	7.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
Benzyl alcohol	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 21:47	1
Bis(2-chloroethoxy)methane	ND	H	9.8	0.67	ug/L		07/31/19 09:42	08/03/19 13:51	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/24/19 15:00	07/26/19 21:47	1
Bis(2-chloroethyl)ether	ND	H	9.8	0.72	ug/L		07/31/19 09:42	08/03/19 13:51	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/24/19 15:00	07/26/19 21:47	1
bis (2-chloroisopropyl) ether	ND	H	9.8	0.79	ug/L		07/31/19 09:42	08/03/19 13:51	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
Bis(2-ethylhexyl) phthalate	ND	H	9.8	4.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Bromophenyl phenyl ether	ND	H	9.8	0.31	ug/L		07/31/19 09:42	08/03/19 13:51	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/24/19 15:00	07/26/19 21:47	1
Butyl benzyl phthalate	ND	H	9.8	0.67	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Chloroaniline	ND	H	9.8	3.3	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Chloro-3-methylphenol	ND	H	9.8	3.7	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Chloronaphthalene	ND	H	9.8	0.51	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Chlorophenol	ND	H	9.8	2.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Chlorophenyl phenyl ether	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
Dibenz[a,h]acridine	ND	H	9.8	2.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
Dibenzofuran	ND		9.7	0.50	ug/L		07/24/19 15:00	07/26/19 21:47	1
Dibenzofuran	ND	H	9.8	0.51	ug/L		07/31/19 09:42	08/03/19 13:51	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/24/19 15:00	07/26/19 21:47	1
3,3'-Dichlorobenzidine	ND	H *	9.8	2.5	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dichlorophenol	ND	H	9.8	2.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/24/19 15:00	07/26/19 21:47	1
Diethyl phthalate	ND	H	9.8	0.68	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 21:47	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819
Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	**10**	**H**	9.8	3.4	ug/L		07/31/19 09:42	08/03/19 13:51	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/24/19 15:00	07/26/19 21:47	1
Dimethyl phthalate	ND	H	9.8	0.59	ug/L		07/31/19 09:42	08/03/19 13:51	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/24/19 15:00	07/26/19 21:47	1
Di-n-butyl phthalate	ND	H	9.8	2.6	ug/L		07/31/19 09:42	08/03/19 13:51	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/24/19 15:00	07/26/19 21:47	1
4,6-Dinitro-ortho-cresol	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dinitrophenol	ND	H	29	3.3	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,6-Dinitrotoluene	ND	H	9.8	1.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/24/19 15:00	07/26/19 21:47	1
Di-n-octyl phthalate	ND	H	9.8	0.43	ug/L		07/31/19 09:42	08/03/19 13:51	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 21:47	1
1,4-Dioxane	ND	H	9.8	0.98	ug/L		07/31/19 09:42	08/03/19 13:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 21:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	H	9.8	0.98	ug/L		07/31/19 09:42	08/03/19 13:51	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/24/19 15:00	07/26/19 21:47	1
Hexachlorobenzene	ND	H	9.8	0.24	ug/L		07/31/19 09:42	08/03/19 13:51	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 21:47	1
Hexachlorocyclopentadiene	ND	H	20	2.5	ug/L		07/31/19 09:42	08/03/19 13:51	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
Hexachloroethane	ND	H	9.8	4.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
Indene	ND		9.7	0.97	ug/L		07/24/19 15:00	07/26/19 21:47	1
Indene	ND	H	9.8	0.98	ug/L		07/31/19 09:42	08/03/19 13:51	1
Isophorone	ND		9.7	0.55	ug/L		07/24/19 15:00	07/26/19 21:47	1
Isophorone	ND	H	9.8	0.56	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Methylphenol	**1.9**	**J H**	9.8	1.8	ug/L		07/31/19 09:42	08/03/19 13:51	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 15:00	07/26/19 21:47	1
3 & 4 Methylphenol	**3.9**	**J H**	20	1.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Nitroaniline	ND	H	9.8	2.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
3-Nitroaniline	ND	H	9.8	1.8	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Nitroaniline	ND	H	9.8	2.4	ug/L		07/31/19 09:42	08/03/19 13:51	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/24/19 15:00	07/26/19 21:47	1
Nitrobenzene	ND	H	9.8	0.54	ug/L		07/31/19 09:42	08/03/19 13:51	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/24/19 15:00	07/26/19 21:47	1
2-Nitrophenol	ND	H	9.8	0.63	ug/L		07/31/19 09:42	08/03/19 13:51	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/24/19 15:00	07/26/19 21:47	1
4-Nitrophenol	ND	H	9.8	2.0	ug/L		07/31/19 09:42	08/03/19 13:51	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 21:47	1
N-Nitrosodimethylamine	ND	H	9.8	3.4	ug/L		07/31/19 09:42	08/03/19 13:51	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/24/19 15:00	07/26/19 21:47	1

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-50-071819
Lab Sample ID: 400-173405-5
Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	H	9.8	3.2	ug/L		07/31/19 09:42	08/03/19 13:51	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/24/19 15:00	07/26/19 21:47	1
N-Nitrosodiphenylamine	ND	H	9.8	0.46	ug/L		07/31/19 09:42	08/03/19 13:51	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 15:00	07/26/19 21:47	1
Pentachlorophenol	ND	H	20	1.8	ug/L		07/31/19 09:42	08/03/19 13:51	1
Phenol	**14**		9.7	2.5	ug/L		07/24/19 15:00	07/26/19 21:47	1
Phenol	**160**	**E H**	9.8	2.5	ug/L		07/31/19 09:42	08/03/19 13:51	1
Pyridine	ND		9.7	3.1	ug/L		07/24/19 15:00	07/26/19 21:47	1
Pyridine	ND	H	9.8	3.1	ug/L		07/31/19 09:42	08/03/19 13:51	1
Quinoline	ND		9.7	5.8	ug/L		07/24/19 15:00	07/26/19 21:47	1
Quinoline	ND	H	9.8	5.9	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4,5-Trichlorophenol	ND	H	9.8	3.6	ug/L		07/31/19 09:42	08/03/19 13:51	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/24/19 15:00	07/26/19 21:47	1
2,4,6-Trichlorophenol	ND	H	9.8	3.4	ug/L		07/31/19 09:42	08/03/19 13:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*70*	*T H J*	*ug/L*		*3.39*		*07/31/19 09:42*	*08/03/19 13:51*	*1*
Unknown	*9.1*	*T H J*	*ug/L*		*3.74*		*07/31/19 09:42*	*08/03/19 13:51*	*1*
Unknown	*5.2*	*T H J*	*ug/L*		*3.92*		*07/31/19 09:42*	*08/03/19 13:51*	*1*
Toluene	*79*	*T H J N*	*ug/L*		*4.05*	*108-88-3*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Cyclopentanol, 1-methyl-	*10*	*T H J N*	*ug/L*		*4.24*	*1462-03-9*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Unknown	*7.5*	*T H J*	*ug/L*		*4.53*		*07/31/19 09:42*	*08/03/19 13:51*	*1*
Ethylbenzene	*19*	*T H J N*	*ug/L*		*4.77*	*100-41-4*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
o-Xylene	*15*	*T H J N*	*ug/L*		*4.98*	*95-47-6*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, (1-methylethyl)-	*9.3*	*T H J N*	*ug/L*		*5.17*	*98-82-8*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, propyl-	*7.3*	*T H J N*	*ug/L*		*5.34*	*103-65-1*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, 1-ethyl-3-methyl-	*18*	*T H J N*	*ug/L*		*5.38*	*620-14-4*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, 1-ethyl-2-methyl-	*10*	*T H J N*	*ug/L*		*5.49*	*611-14-3*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, 1,2,4-trimethyl-	*62*	*T H J N*	*ug/L*		*5.57*	*95-63-6*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, 1,3,5-trimethyl-	*16*	*T H J N*	*ug/L*		*5.72*	*108-67-8*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*11*	*T H J N*	*ug/L*		*5.77*	*1121-05-7*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, 1,3-diethyl-	*7.3*	*T H J N*	*ug/L*		*5.87*	*141-93-5*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Benzene, 1-methyl-3-(1-methylethyl)-	*9.6*	*T H J N*	*ug/L*		*6.01*	*535-77-3*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Phenol, 2,6-dimethyl-	*4.7*	*T H J N*	*ug/L*		*6.10*	*576-26-1*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*4.6*	*T H J N*	*ug/L*		*6.41*	*119-64-2*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Unknown	*5.7*	*T H J*	*ug/L*		*6.45*		*07/31/19 09:42*	*08/03/19 13:51*	*1*
p-menth-1-en-8-ol	*4.3*	*T H J N*	*ug/L*		*6.50*	*1000157-89-9*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Unknown	*16*	*T H J*	*ug/L*		*6.65*		*07/31/19 09:42*	*08/03/19 13:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*35*		*34 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2-Fluorobiphenyl	*87*		*34 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
2-Fluorophenol	*2*	*X*	*10 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2-Fluorophenol	*54*		*10 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Nitrobenzene-d5	*51*		*27 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Nitrobenzene-d5	*73*		*27 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
Phenol-d5	*8*	*X*	*10 - 120*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Phenol-d5	*61*		*10 - 120*	*07/31/19 09:42*	*08/03/19 13:51*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-50-071819
Lab Sample ID: 400-173405-5
Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*33*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/31/19 09:42*	*08/03/19 13:51*	*1*
2,4,6-Tribromophenol	*27*		*15 - 135*	*07/24/19 15:00*	*07/26/19 21:47*	*1*
2,4,6-Tribromophenol	*110*		*15 - 135*	*07/31/19 09:42*	*08/03/19 13:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RERA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**160**	**H**	49	13	ug/L		07/31/19 09:42	08/05/19 09:33	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250000	100000	ug/L			07/31/19 14:00	10000
Acrolein	ND		200000	100000	ug/L			07/31/19 14:00	10000
Acrylonitrile	ND		100000	28000	ug/L			07/31/19 14:00	10000
Benzene	**1500000**		10000	3800	ug/L			07/31/19 14:00	10000
Bromobenzene	ND		10000	5400	ug/L			07/31/19 14:00	10000
Bromochloromethane	ND		10000	5200	ug/L			07/31/19 14:00	10000
Bromodichloromethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
Bromoform	ND		50000	7100	ug/L			07/31/19 14:00	10000
Bromomethane	ND		10000	9800	ug/L			07/29/19 18:48	10000
2-Butanone (MEK)	ND		250000	26000	ug/L			07/31/19 14:00	10000
Carbon disulfide	ND		10000	5000	ug/L			07/31/19 14:00	10000
Carbon tetrachloride	ND		10000	5000	ug/L			07/31/19 14:00	10000
Chlorobenzene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Chloroethane	ND		10000	7600	ug/L			07/31/19 14:00	10000
2-Chloroethyl vinyl ether	ND		50000	20000	ug/L			07/31/19 14:00	10000
Chloroform	ND		10000	6000	ug/L			07/31/19 14:00	10000
1-Chlorohexane	ND		10000	7000	ug/L			07/31/19 14:00	10000
Chloromethane	ND		10000	8300	ug/L			07/31/19 14:00	10000
cis-1,2-Dichloroethene	ND		10000	5000	ug/L			07/31/19 14:00	10000
cis-1,3-Dichloropropene	ND		50000	5000	ug/L			07/31/19 14:00	10000
Dibromochloromethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,2-Dibromo-3-Chloropropane	ND		50000	15000	ug/L			07/31/19 14:00	10000
1,2-Dichlorobenzene	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,3-Dichlorobenzene	ND		10000	5400	ug/L			07/31/19 14:00	10000
1,4-Dichlorobenzene	ND		10000	6400	ug/L			07/31/19 14:00	10000
Dichlorodifluoromethane	ND		10000	8500	ug/L			07/31/19 14:00	10000
1,1-Dichloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,2-Dichloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,1-Dichloroethene	ND		10000	5000	ug/L			07/29/19 18:48	10000
1,2-Dichloropropane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,3-Dichloropropane	ND		10000	5000	ug/L			07/31/19 14:00	10000
2,2-Dichloropropane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,1-Dichloropropene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Ethylbenzene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Ethylene Dibromide	ND		10000	5000	ug/L			07/31/19 14:00	10000
Ethyl methacrylate	ND		10000	6000	ug/L			07/31/19 14:00	10000
Hexachlorobutadiene	ND		50000	9000	ug/L			07/31/19 14:00	10000
2-Hexanone	ND		250000	31000	ug/L			07/31/19 14:00	10000
Isopropylbenzene	ND		10000	5300	ug/L			07/31/19 14:00	10000
Methylene bromide	ND		50000	5900	ug/L			07/31/19 14:00	10000
Methylene Chloride	ND		50000	30000	ug/L			07/31/19 14:00	10000
4-Methyl-2-pentanone (MIBK)	ND		250000	18000	ug/L			07/31/19 14:00	10000
Methyl tert-butyl ether	ND		10000	7400	ug/L			07/31/19 14:00	10000
m-Xylene & p-Xylene	ND		50000	16000	ug/L			07/31/19 14:00	10000
Naphthalene	ND		10000	10000	ug/L			07/31/19 14:00	10000
n-Butylbenzene	ND		10000	7600	ug/L			07/31/19 14:00	10000
N-Propylbenzene	ND		10000	6900	ug/L			07/31/19 14:00	10000
o-Chlorotoluene	ND		10000	5700	ug/L			07/31/19 14:00	10000
o-Xylene	ND		50000	6000	ug/L			07/31/19 14:00	10000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Lab Sample ID: 400-173405-6

Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10000	5600	ug/L			07/31/19 14:00	10000
p-Isopropyltoluene	ND		10000	7100	ug/L			07/31/19 14:00	10000
sec-Butylbenzene	ND		10000	7000	ug/L			07/31/19 14:00	10000
Styrene	ND		10000	10000	ug/L			07/31/19 14:00	10000
tert-Butylbenzene	ND		10000	6300	ug/L			07/31/19 14:00	10000
1,1,1,2-Tetrachloroethane	ND		10000	5200	ug/L			07/31/19 14:00	10000
1,1,2,2-Tetrachloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
Tetrachloroethene	ND		10000	5800	ug/L			07/31/19 14:00	10000
Toluene	ND		10000	4100	ug/L			07/31/19 14:00	10000
trans-1,2-Dichloroethene	ND		10000	5000	ug/L			07/31/19 14:00	10000
trans-1,3-Dichloropropene	ND		50000	5000	ug/L			07/31/19 14:00	10000
1,2,3-Trichlorobenzene	ND		10000	7000	ug/L			07/31/19 14:00	10000
1,2,4-Trichlorobenzene	ND		10000	8200	ug/L			07/31/19 14:00	10000
1,1,1-Trichloroethane	ND		10000	5000	ug/L			07/31/19 14:00	10000
1,1,2-Trichloroethane	ND		50000	5000	ug/L			07/31/19 14:00	10000
Trichloroethene	ND		10000	5000	ug/L			07/31/19 14:00	10000
Trichlorofluoromethane	ND		10000	5200	ug/L			07/31/19 14:00	10000
1,2,3-Trichloropropane	ND		50000	8400	ug/L			07/31/19 14:00	10000
1,2,4-Trimethylbenzene	ND		10000	8200	ug/L			07/31/19 14:00	10000
1,3,5-Trimethylbenzene	ND		10000	5600	ug/L			07/31/19 14:00	10000
Vinyl acetate	ND		250000	20000	ug/L			07/31/19 14:00	10000
Vinyl chloride	ND		10000	5000	ug/L			07/31/19 14:00	10000
Xylenes, Total	ND		100000	16000	ug/L			07/31/19 14:00	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/31/19 14:00*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 18:48*	*10000*
4-Bromofluorobenzene	*116*		*78 - 118*		*07/31/19 14:00*	*10000*
Dibromofluoromethane	*97*		*81 - 121*		*07/29/19 18:48*	*10000*
Dibromofluoromethane	*96*		*81 - 121*		*07/31/19 14:00*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/29/19 18:48*	*10000*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/31/19 14:00*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 08:50	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 15:00	08/03/19 08:50	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Lab Sample ID: 400-173405-6

Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**2.1**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
2-Methylnaphthalene	**3.3**		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 08:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*15 - 122*	*07/24/19 15:00*	*08/03/19 08:50*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/24/19 15:00*	*08/03/19 08:50*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/24/19 15:00*	*08/03/19 08:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/24/19 15:00	07/26/19 22:09	1
Benzoic acid	**15**	**J**	29	7.0	ug/L		07/24/19 15:00	07/26/19 22:09	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/24/19 15:00	07/26/19 22:09	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 15:00	07/26/19 22:09	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 15:00	07/26/19 22:09	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 15:00	07/26/19 22:09	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:09	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
Diethyl phthalate	ND		9.6	0.68	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dimethylphenol	**7.5**	**J**	9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:09	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 15:00	07/26/19 22:09	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 15:00	07/26/19 22:09	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 15:00	07/26/19 22:09	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:09	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 15:00	07/26/19 22:09	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 22:09	1
Hexachloroethane	ND		9.6	4.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
Indene	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:09	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
3 & 4 Methylphenol	**2.4**	**J**	19	1.0	ug/L		07/24/19 15:00	07/26/19 22:09	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Lab Sample ID: 400-173405-6

Date Collected: 07/18/19 14:10

Matrix: Water

Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 15:00	07/26/19 22:09	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 15:00	07/26/19 22:09	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/24/19 15:00	07/26/19 22:09	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 15:00	07/26/19 22:09	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:09	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 15:00	07/26/19 22:09	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 15:00	07/26/19 22:09	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 15:00	07/26/19 22:09	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 15:00	07/26/19 22:09	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/24/19 15:00	07/26/19 22:09	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:09	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*60*	*T J*	*ug/L*		*3.11*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Toluene	*96*	*T J N*	*ug/L*		*3.85*	*108-88-3*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*7.9*	*T J*	*ug/L*		*4.06*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*3.9*	*T J*	*ug/L*		*4.45*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*9.2*	*T J*	*ug/L*		*4.47*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Ethylbenzene	*18*	*T J N*	*ug/L*		*4.60*	*100-41-4*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1,3-dimethyl-	*13*	*T J N*	*ug/L*		*4.83*	*108-38-3*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, (1-methylethyl)-	*4.5*	*T J N*	*ug/L*		*5.02*	*98-82-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1-ethyl-3-methyl-	*12*	*T J N*	*ug/L*		*5.23*	*620-14-4*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1-ethyl-2-methyl-	*8.2*	*T J N*	*ug/L*		*5.25*	*611-14-3*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1-ethyl-4-methyl-	*6.5*	*T J N*	*ug/L*		*5.34*	*622-96-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1,2,3-trimethyl-	*50*	*T J N*	*ug/L*		*5.43*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*5.6*	*T J*	*ug/L*		*5.51*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzene, 1,2,3-trimethyl-	*11*	*T J N*	*ug/L*		*5.58*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*8.5*	*T J N*	*ug/L*		*5.63*	*1121-05-7*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*8.8*	*T J*	*ug/L*		*5.74*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*4.0*	*T J*	*ug/L*		*5.82*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*4.6*	*T J*	*ug/L*		*5.87*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*16*	*T J*	*ug/L*		*6.52*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzoic acid, 3-methyl-	*5.1*	*T J N*	*ug/L*		*6.59*	*99-04-7*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*8.2*	*T J*	*ug/L*		*6.93*		*07/24/19 15:00*	*07/26/19 22:09*	*1*
Benzoic acid, 3,4-dimethyl-	*5.6*	*T J N*	*ug/L*		*6.97*	*619-04-5*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Unknown	*4.0*	*T J*	*ug/L*		*7.87*		*07/24/19 15:00*	*07/26/19 22:09*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*34 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2-Fluorophenol	*22*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Nitrobenzene-d5	*68*		*27 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Phenol-d5	*48*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
Terphenyl-d14	*41*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 22:09*	*1*
2,4,6-Tribromophenol	*61*		*15 - 135*	*07/24/19 15:00*	*07/26/19 22:09*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-DUP

Lab Sample ID: 400-173405-6

Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	100		48	13	ug/L		07/24/19 15:00	07/30/19 22:07	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 17:39	1
Acrolein	ND		20	10	ug/L			07/30/19 17:39	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 17:39	1
Benzene	**0.57**	**J**	1.0	0.38	ug/L			07/30/19 17:39	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 17:39	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 17:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 17:39	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 17:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 17:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 17:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 17:39	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 17:39	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 17:39	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 17:39	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:39	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 17:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 17:39	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 17:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 17:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 17:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 17:39	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 17:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 17:39	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 17:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 17:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 17:39	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 17:39	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 17:39	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 17:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 17:39	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 17:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 17:39	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 17:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 17:39	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 17:39	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 17:39	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 17:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 17:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 17:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 17:39	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 17:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 17:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 17:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 17:39	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 17:39	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 17:39	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 17:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 17:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 17:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 17:39	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 17:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 17:39	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 17:39	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*140*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/30/19 17:39*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 17:39*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/30/19 17:39*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/30/19 17:39*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 17:39*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Chrysene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
Fluoranthene	**0.027**	**J**	0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 15:00	08/03/19 06:34	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/24/19 15:00	08/03/19 06:34	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-50-071819-EB

Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45

Matrix: Water

Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 15:00	08/03/19 06:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*15 - 122*	*07/24/19 15:00*	*08/03/19 06:34*	*1*
Nitrobenzene-d5	*82*		*19 - 130*	*07/24/19 15:00*	*08/03/19 06:34*	*1*
Terphenyl-d14	*129*		*33 - 138*	*07/24/19 15:00*	*08/03/19 06:34*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
Benzoic acid	ND		29	7.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/24/19 15:00	07/26/19 22:30	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 15:00	07/26/19 22:30	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 15:00	07/26/19 22:30	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 15:00	07/26/19 22:30	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Chloro-3-methylphenol	ND		9.6	3.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 15:00	07/26/19 22:30	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:30	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 15:00	07/26/19 22:30	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 15:00	07/26/19 22:30	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 15:00	07/26/19 22:30	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:30	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:30	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 15:00	07/26/19 22:30	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
Indene	ND		9.6	0.96	ug/L		07/24/19 15:00	07/26/19 22:30	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:30	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 15:00	07/26/19 22:30	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 15:00	07/26/19 22:30	1

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-50-071819-EB
Lab Sample ID: 400-173405-7
Date Collected: 07/18/19 14:45
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 15:00	07/26/19 22:30	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 15:00	07/26/19 22:30	1
2-Nitrophenol	ND		9.6	0.62	ug/L		07/24/19 15:00	07/26/19 22:30	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 15:00	07/26/19 22:30	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:30	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 15:00	07/26/19 22:30	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 15:00	07/26/19 22:30	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 15:00	07/26/19 22:30	1
Phenol	ND		9.6	2.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 15:00	07/26/19 22:30	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4,5-Trichlorophenol	ND		9.6	3.5	ug/L		07/24/19 15:00	07/26/19 22:30	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 15:00	07/26/19 22:30	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*4.1*	*T J*	*ug/L*		*11.60*		*07/24/19 15:00*	*07/26/19 22:30*	*1*
9-Octadecenamide, (Z)-	*4.8*	*T J N*	*ug/L*		*11.73*	*301-02-0*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Unknown	*5.7*	*T J*	*ug/L*		*11.82*		*07/24/19 15:00*	*07/26/19 22:30*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*34 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Nitrobenzene-d5	*90*		*27 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Phenol-d5	*69*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
Terphenyl-d14	*82*		*53 - 125*	*07/24/19 15:00*	*07/26/19 22:30*	*1*
2,4,6-Tribromophenol	*60*		*15 - 135*	*07/24/19 15:00*	*07/26/19 22:30*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819

Date Collected: 07/18/19 14:50
Date Received: 07/19/19 09:15

Lab Sample ID: 400-173405-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		2500	1000	ug/L			07/29/19 16:36	100
Acrolein	ND		2000	1000	ug/L			07/29/19 16:36	100
Acrylonitrile	ND		1000	280	ug/L			07/29/19 16:36	100
Benzene	**12000**		100	38	ug/L			07/29/19 16:36	100
Bromobenzene	ND		100	54	ug/L			07/29/19 16:36	100
Bromochloromethane	ND		100	52	ug/L			07/29/19 16:36	100
Bromodichloromethane	ND		100	50	ug/L			07/29/19 16:36	100
Bromoform	ND		500	71	ug/L			07/29/19 16:36	100
Bromomethane	ND		100	98	ug/L			07/29/19 16:36	100
2-Butanone (MEK)	ND		2500	260	ug/L			07/29/19 16:36	100
Carbon disulfide	ND		100	50	ug/L			07/29/19 16:36	100
Carbon tetrachloride	ND		100	50	ug/L			07/29/19 16:36	100
Chlorobenzene	ND		100	50	ug/L			07/29/19 16:36	100
Chloroethane	ND		100	76	ug/L			07/29/19 16:36	100
2-Chloroethyl vinyl ether	ND		500	200	ug/L			07/29/19 16:36	100
Chloroform	ND		100	60	ug/L			07/29/19 16:36	100
1-Chlorohexane	ND		100	70	ug/L			07/29/19 16:36	100
Chloromethane	ND		100	83	ug/L			07/29/19 16:36	100
cis-1,2-Dichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
cis-1,3-Dichloropropene	ND		500	50	ug/L			07/29/19 16:36	100
Dibromochloromethane	ND		100	50	ug/L			07/29/19 16:36	100
1,2-Dibromo-3-Chloropropane	ND		500	150	ug/L			07/29/19 16:36	100
1,2-Dichlorobenzene	ND		100	50	ug/L			07/29/19 16:36	100
1,3-Dichlorobenzene	ND		100	54	ug/L			07/29/19 16:36	100
1,4-Dichlorobenzene	ND		100	64	ug/L			07/29/19 16:36	100
Dichlorodifluoromethane	ND		100	85	ug/L			07/29/19 16:36	100
1,1-Dichloroethane	ND		100	50	ug/L			07/29/19 16:36	100
1,2-Dichloroethane	ND		100	50	ug/L			07/29/19 16:36	100
1,1-Dichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
1,2-Dichloropropane	ND		100	50	ug/L			07/29/19 16:36	100
1,3-Dichloropropane	ND		100	50	ug/L			07/29/19 16:36	100
2,2-Dichloropropane	ND		100	50	ug/L			07/29/19 16:36	100
1,1-Dichloropropene	ND		100	50	ug/L			07/29/19 16:36	100
Ethylbenzene	ND		100	50	ug/L			07/29/19 16:36	100
Ethylene Dibromide	ND		100	50	ug/L			07/29/19 16:36	100
Ethyl methacrylate	ND		100	60	ug/L			07/29/19 16:36	100
Hexachlorobutadiene	ND		500	90	ug/L			07/29/19 16:36	100
2-Hexanone	ND		2500	310	ug/L			07/29/19 16:36	100
Isopropylbenzene	ND		100	53	ug/L			07/29/19 16:36	100
Methylene bromide	ND		500	59	ug/L			07/29/19 16:36	100
Methylene Chloride	ND		500	300	ug/L			07/29/19 16:36	100
4-Methyl-2-pentanone (MIBK)	ND		2500	180	ug/L			07/29/19 16:36	100
Methyl tert-butyl ether	ND		100	74	ug/L			07/29/19 16:36	100
m-Xylene & p-Xylene	ND		500	160	ug/L			07/29/19 16:36	100
Naphthalene	ND		100	100	ug/L			07/29/19 16:36	100
n-Butylbenzene	ND		100	76	ug/L			07/29/19 16:36	100
N-Propylbenzene	ND		100	69	ug/L			07/29/19 16:36	100
o-Chlorotoluene	ND		100	57	ug/L			07/29/19 16:36	100
o-Xylene	ND		500	60	ug/L			07/29/19 16:36	100

Client Sample ID: PD-2-GWP-59-071819
Lab Sample ID: 400-173405-8
Date Collected: 07/18/19 14:50
Matrix: Water
Date Received: 07/19/19 09:15

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		100	56	ug/L			07/29/19 16:36	100
p-Isopropyltoluene	ND		100	71	ug/L			07/29/19 16:36	100
sec-Butylbenzene	ND		100	70	ug/L			07/29/19 16:36	100
Styrene	ND		100	100	ug/L			07/29/19 16:36	100
tert-Butylbenzene	ND		100	63	ug/L			07/29/19 16:36	100
1,1,1,2-Tetrachloroethane	ND		100	52	ug/L			07/29/19 16:36	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/L			07/29/19 16:36	100
Tetrachloroethene	ND		100	58	ug/L			07/29/19 16:36	100
Toluene	ND		100	41	ug/L			07/29/19 16:36	100
trans-1,2-Dichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
trans-1,3-Dichloropropene	ND		500	50	ug/L			07/29/19 16:36	100
1,2,3-Trichlorobenzene	ND		100	70	ug/L			07/29/19 16:36	100
1,2,4-Trichlorobenzene	ND		100	82	ug/L			07/29/19 16:36	100
1,1,1-Trichloroethane	ND		100	50	ug/L			07/29/19 16:36	100
1,1,2-Trichloroethane	ND		500	50	ug/L			07/29/19 16:36	100
Trichloroethene	ND		100	50	ug/L			07/29/19 16:36	100
Trichlorofluoromethane	ND		100	52	ug/L			07/29/19 16:36	100
1,2,3-Trichloropropane	ND		500	84	ug/L			07/29/19 16:36	100
1,2,4-Trimethylbenzene	ND		100	82	ug/L			07/29/19 16:36	100
1,3,5-Trimethylbenzene	ND		100	56	ug/L			07/29/19 16:36	100
Vinyl acetate	ND		2500	200	ug/L			07/29/19 16:36	100
Vinyl chloride	ND		100	50	ug/L			07/29/19 16:36	100
Xylenes, Total	ND		1000	160	ug/L			07/29/19 16:36	100

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 16:36*	*100*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 16:36*	*100*
Dibromofluoromethane	*97*		*81 - 121*		*07/29/19 16:36*	*100*
Toluene-d8 (Surr)	*98*		*80 - 120*		*07/29/19 16:36*	*100*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 06:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 06:51	1
1-Methylnaphthalene	**1.1**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
2-Methylnaphthalene	**1.4**		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819

Lab Sample ID: 400-173405-8

Date Collected: 07/18/19 14:50

Matrix: Water

Date Received: 07/19/19 09:15

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*15 - 122*	*07/24/19 15:00*	*08/03/19 06:51*	*1*
Nitrobenzene-d5	*61*		*19 - 130*	*07/24/19 15:00*	*08/03/19 06:51*	*1*
Terphenyl-d14	*77*		*33 - 138*	*07/24/19 15:00*	*08/03/19 06:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
Benzenethiol	ND	*	10	1.7	ug/L		07/24/19 15:00	07/26/19 22:51	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 15:00	07/26/19 22:51	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 22:51	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 15:00	07/26/19 22:51	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 15:00	07/26/19 22:51	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 15:00	07/26/19 22:51	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 22:51	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 22:51	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 15:00	07/26/19 22:51	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 15:00	07/26/19 22:51	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 22:51	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 15:00	07/26/19 22:51	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 15:00	07/26/19 22:51	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 22:51	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
Indene	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
Isophorone	ND		10	0.57	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 15:00	07/26/19 22:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Client Sample ID: PD-2-GWP-59-071819

Lab Sample ID: 400-173405-8

Date Collected: 07/18/19 14:50

Matrix: Water

Date Received: 07/19/19 09:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 15:00	07/26/19 22:51	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 15:00	07/26/19 22:51	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 15:00	07/26/19 22:51	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 22:51	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 15:00	07/26/19 22:51	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 15:00	07/26/19 22:51	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 22:51	1
Phenol	**57**		10	2.6	ug/L		07/24/19 15:00	07/26/19 22:51	1
Pyridine	ND		10	3.2	ug/L		07/24/19 15:00	07/26/19 22:51	1
Quinoline	ND		10	6.0	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 15:00	07/26/19 22:51	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 22:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*4.2*	*T J N*	*ug/L*		*3.81*	*108-88-3*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Cyclopentanol, 1-methyl-	*4.2*	*T J N*	*ug/L*		*4.04*	*1462-03-9*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Ethylbenzene	*7.1*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
o-Xylene	*4.4*	*T J N*	*ug/L*		*4.82*	*95-47-6*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, (1-methylethyl)-	*4.6*	*T J N*	*ug/L*		*5.01*	*98-82-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, propyl-	*8.0*	*T J N*	*ug/L*		*5.19*	*103-65-1*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1-ethyl-3-methyl-	*7.2*	*T J N*	*ug/L*		*5.23*	*620-14-4*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1-ethyl-2-methyl-	*7.4*	*T J N*	*ug/L*		*5.25*	*611-14-3*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1-ethyl-4-methyl-	*14*	*T J N*	*ug/L*		*5.33*	*622-96-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1,2,3-trimethyl-	*42*	*T J N*	*ug/L*		*5.42*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Benzene, 1,2,3-trimethyl-	*16*	*T J N*	*ug/L*		*5.58*	*526-73-8*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Indane	*20*	*T J N*	*ug/L*		*5.66*	*496-11-7*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
2,4-Dimethylstyrene	*5.4*	*T J N*	*ug/L*		*6.19*	*2234-20-0*	*07/24/19 15:00*	*07/26/19 22:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*49*		*34 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Nitrobenzene-d5	*73*		*27 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Phenol-d5	*58*		*10 - 120*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
Terphenyl-d14	*44*	*X*	*53 - 125*	*07/24/19 15:00*	*07/26/19 22:51*	*1*
2,4,6-Tribromophenol	*47*		*15 - 135*	*07/24/19 15:00*	*07/26/19 22:51*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173405-1	TB-PW-071819-B	98	101	99
400-173405-2	PD-14-GWP-78.5-071819	99	94	101
400-173405-2 - DL	PD-14-GWP-78.5-071819	116	99	95
400-173405-3	PD-14-GWP-78.5-071819-EB	98	99	99
400-173405-4	PD-2-GWP-44-071819	99	94	101
400-173405-4 MS	PD-2-GWP-44-071819	98	95	99
400-173405-4 MSD	PD-2-GWP-44-071819	99	95	100
400-173405-5	PD-2-GWP-50-071819	98	99	98
400-173405-6	PD-2-GWP-50-071819-DUP	98	97	98
400-173405-6	PD-2-GWP-50-071819-DUP	116	96	98
400-173405-7	PD-2-GWP-50-071819-EB	100	98	101
400-173405-8	PD-2-GWP-59-071819	99	97	98
LCS 400-449846/1002	Lab Control Sample	96	100	98
LCS 400-449979/1002	Lab Control Sample	98	97	100
LCS 400-450140/1002	Lab Control Sample	112	101	91
MB 400-449846/5	Method Blank	99	99	99
MB 400-449979/4	Method Blank	97	97	101
MB 400-450140/4	Method Blank	115	97	97

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173405-2	PD-14-GWP-78.5-071819	62	51	85	62	70	55
400-173405-3	PD-14-GWP-78.5-071819-EB	48	36	77	52	72	46
400-173405-4	PD-2-GWP-44-071819	52	37	80	63	50 X	68
400-173405-4 MS	PD-2-GWP-44-071819	54	42	73	68	31 X	70
400-173405-4 MSD	PD-2-GWP-44-071819	49	31	71	57	33 X	59
400-173405-5	PD-2-GWP-50-071819	35	2 X	51	8 X	33 X	27
400-173405-5	PD-2-GWP-50-071819	87	54	73	61	59	110
400-173405-6	PD-2-GWP-50-071819-DUP	42	22	68	48	41 X	61
400-173405-7	PD-2-GWP-50-071819-EB	54	49	90	69	82	60
400-173405-8	PD-2-GWP-59-071819	49	44	73	58	44 X	47
LCS 400-449321/2-A	Lab Control Sample	60	43	85	65	75	70
LCS 400-449321/8-A	Lab Control Sample	53	53	82	69	72	49
LCS 400-450172/2-A	Lab Control Sample	88	78	91	86	102	89
LCSD 400-449321/3-A	Lab Control Sample Dup	60	44	84	67	76	74
LCSD 400-449321/9-A	Lab Control Sample Dup	51	55	81	69	74	48
LCSD 400-450172/3-A	Lab Control Sample Dup	92	76	94	83	109	93
MB 400-449321/1-A	Method Blank	59	44	88	67	78	54
MB 400-450172/1-A	Method Blank	92	43	84	70	110	65

Surrogate Legend

FBP = 2-Fluorobiphenyl

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173405-2	PD-14-GWP-78.5-071819	91	77	111
400-173405-3	PD-14-GWP-78.5-071819-EB	84	69	109
400-173405-4	PD-2-GWP-44-071819	77	74	91
400-173405-4 MS	PD-2-GWP-44-071819	87	76	44
400-173405-4 MSD	PD-2-GWP-44-071819	81	72	47
400-173405-5	PD-2-GWP-50-071819	66	50	70
400-173405-6	PD-2-GWP-50-071819-DUP	76	65	77
400-173405-7	PD-2-GWP-50-071819-EB	83	82	129
400-173405-8	PD-2-GWP-59-071819	80	61	77
LCS 400-449321/2-A	Lab Control Sample	77	68	89
LCSD 400-449321/3-A	Lab Control Sample Dup	83	69	96
MB 400-449321/1-A	Method Blank	87	80	123

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071819-B
Lab Sample ID: 400-173405-1
Date Collected: 07/18/19 00:00
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449846	07/29/19 13:18	CAR	TAL PEN

Client Sample ID: PD-14-GWP-78.5-071819
Lab Sample ID: 400-173405-2
Date Collected: 07/18/19 09:30
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 18:32	RS	TAL PEN
Total/NA	Analysis	8260B	DL	2	5 mL	5 mL	450140	07/31/19 10:00	RS	TAL PEN
Total/NA	Prep	3520C			1008.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 20:02	VC1	TAL PEN
Total/NA	Prep	3520C			1008.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 07:08	KJA	TAL PEN

Client Sample ID: PD-14-GWP-78.5-071819-EB
Lab Sample ID: 400-173405-3
Date Collected: 07/18/19 09:50
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 17:13	RS	TAL PEN
Total/NA	Prep	3520C			1019.4 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 23:53	VC1	TAL PEN
Total/NA	Prep	3520C			1019.4 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 07:25	KJA	TAL PEN

Client Sample ID: PD-2-GWP-44-071819
Lab Sample ID: 400-173405-4
Date Collected: 07/18/19 13:05
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449979	07/30/19 11:02	RS	TAL PEN
Total/NA	Prep	3520C	DL		1033.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450059	07/30/19 21:42	VC1	TAL PEN
Total/NA	Prep	3520C			1033.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 20:44	VC1	TAL PEN
Total/NA	Prep	3520C			1033.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 07:42	KJA	TAL PEN

Client Sample ID: PD-2-GWP-50-071819
Lab Sample ID: 400-173405-5
Date Collected: 07/18/19 14:10
Matrix: Water
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449846	07/29/19 18:26	CAR	TAL PEN

Client Sample ID: PD-2-GWP-50-071819 — Lab Sample ID: 400-173405-5

Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1025.6 mL	1 mL	450172	07/31/19 09:42	LGF	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450777	08/03/19 13:51	VC1	TAL PEN
Total/NA	Prep	3520C	RERA		1025.6 mL	1 mL	450172	07/31/19 09:42	LGF	TAL PEN
Total/NA	Analysis	8270D	RERA	5			450897	08/05/19 09:33	VC1	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 21:47	VC1	TAL PEN
Total/NA	Prep	3520C			1034.8 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 08:16	KJA	TAL PEN

Client Sample ID: PD-2-GWP-50-071819-DUP — Lab Sample ID: 400-173405-6

Date Collected: 07/18/19 14:10 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449846	07/29/19 18:48	CAR	TAL PEN
Total/NA	Analysis	8260B		10000	5 mL	5 mL	450140	07/31/19 14:00	RS	TAL PEN
Total/NA	Prep	3520C	DL		1036.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450059	07/30/19 22:07	VC1	TAL PEN
Total/NA	Prep	3520C			1036.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 22:09	VC1	TAL PEN
Total/NA	Prep	3520C			1036.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 08:50	KJA	TAL PEN

Client Sample ID: PD-2-GWP-50-071819-EB — Lab Sample ID: 400-173405-7

Date Collected: 07/18/19 14:45 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 17:39	RS	TAL PEN
Total/NA	Prep	3520C			1042.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 22:30	VC1	TAL PEN
Total/NA	Prep	3520C			1042.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 06:34	KJA	TAL PEN

Client Sample ID: PD-2-GWP-59-071819 — Lab Sample ID: 400-173405-8

Date Collected: 07/18/19 14:50 **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	5 mL	5 mL	449846	07/29/19 16:36	CAR	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 22:51	VC1	TAL PEN
Total/NA	Prep	3520C			998.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 06:51	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449321/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 16:52	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 05:43	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449846/5
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449846	07/29/19 10:26	CAR	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449979/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 10:36	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450140/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450140	07/31/19 07:21	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450172/1-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 11:53	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449321/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450203	07/31/19 14:24	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:17	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449321/8-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449846/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449846	07/29/19 09:29	CAR	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449979/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 09:34	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450140/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450140	07/31/19 06:21	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450172/2-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 13:08	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 400-449321/3-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 14:45	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:00	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-449321/9-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:20	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-450172/3-A

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	450172	07/31/19 09:40	LGF	TAL PEN
Total/NA	Analysis	8270D		1			450777	08/03/19 13:30	VC1	TAL PEN

Client Sample ID: PD-2-GWP-44-071819 — Lab Sample ID: 400-173405-4 MS

Date Collected: 07/18/19 13:05 — **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449979	07/30/19 14:07	RS	TAL PEN
Total/NA	Prep	3520C			1032.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 21:06	VC1	TAL PEN
Total/NA	Prep	3520C			1032.6 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 07:59	KJA	TAL PEN

Client Sample ID: PD-2-GWP-44-071819 — Lab Sample ID: 400-173405-4 MSD

Date Collected: 07/18/19 13:05 — **Matrix: Water**
Date Received: 07/19/19 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	449979	07/30/19 14:34	RS	TAL PEN
Total/NA	Prep	3520C			989.2 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 21:27	VC1	TAL PEN
Total/NA	Prep	3520C			989.2 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 08:33	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

GC/MS VOA

Analysis Batch: 449846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-1	TB-PW-071819-B	Total/NA	Water	8260B	
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8260B	
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8260B	
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	8260B	
MB 400-449846/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449846/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	8260B	
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	8260B	
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	8260B	
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	8260B	
MB 400-449979/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449979/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	8260B	
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	8260B	

Analysis Batch: 450140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2 - DL	PD-14-GWP-78.5-071819	Total/NA	Water	8260B	
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8260B	
MB 400-450140/4	Method Blank	Total/NA	Water	8260B	
LCS 400-450140/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	3520C	
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	3520C	
400-173405-4 - DL	PD-2-GWP-44-071819	Total/NA	Water	3520C	
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	3520C	
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	3520C	
400-173405-6 - DL	PD-2-GWP-50-071819-DUP	Total/NA	Water	3520C	
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	3520C	
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	3520C	
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	3520C	
MB 400-449321/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	3520C	
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	3520C	

Analysis Batch: 449680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	8270D	449321
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	8270D	449321
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

GC/MS Semi VOA (Continued)

Analysis Batch: 449680 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8270D	449321
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8270D	449321
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	8270D	449321
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	8270D	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D	449321
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321

Analysis Batch: 450059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-4 - DL	PD-2-GWP-44-071819	Total/NA	Water	8270D	449321
400-173405-6 - DL	PD-2-GWP-50-071819-DUP	Total/NA	Water	8270D	449321

Prep Batch: 450172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	3520C	
400-173405-5 - RERA	PD-2-GWP-50-071819	Total/NA	Water	3520C	
MB 400-450172/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-450172/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-450172/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-2	PD-14-GWP-78.5-071819	Total/NA	Water	8270D LL	449321
400-173405-3	PD-14-GWP-78.5-071819-EB	Total/NA	Water	8270D LL	449321
400-173405-4	PD-2-GWP-44-071819	Total/NA	Water	8270D LL	449321
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8270D LL	449321
400-173405-6	PD-2-GWP-50-071819-DUP	Total/NA	Water	8270D LL	449321
400-173405-7	PD-2-GWP-50-071819-EB	Total/NA	Water	8270D LL	449321
400-173405-8	PD-2-GWP-59-071819	Total/NA	Water	8270D LL	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D LL	449321
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449321
400-173405-4 MS	PD-2-GWP-44-071819	Total/NA	Water	8270D LL	449321
400-173405-4 MSD	PD-2-GWP-44-071819	Total/NA	Water	8270D LL	449321

Analysis Batch: 450777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5	PD-2-GWP-50-071819	Total/NA	Water	8270D	450172
MB 400-450172/1-A	Method Blank	Total/NA	Water	8270D	450172
LCS 400-450172/2-A	Lab Control Sample	Total/NA	Water	8270D	450172
LCSD 400-450172/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	450172

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

GC/MS Semi VOA

Analysis Batch: 450897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173405-5 - RERA	PD-2-GWP-50-071819	Total/NA	Water	8270D	450172

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449846/5
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/29/19 10:26	1
Acrolein	ND		20	10	ug/L			07/29/19 10:26	1
Acrylonitrile	ND		10	2.8	ug/L			07/29/19 10:26	1
Benzene	ND		1.0	0.38	ug/L			07/29/19 10:26	1
Bromobenzene	ND		1.0	0.54	ug/L			07/29/19 10:26	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/29/19 10:26	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Bromoform	ND		5.0	0.71	ug/L			07/29/19 10:26	1
Bromomethane	ND		1.0	0.98	ug/L			07/29/19 10:26	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/29/19 10:26	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Chloroethane	ND		1.0	0.76	ug/L			07/29/19 10:26	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/29/19 10:26	1
Chloroform	ND		1.0	0.60	ug/L			07/29/19 10:26	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/29/19 10:26	1
Chloromethane	ND		1.0	0.83	ug/L			07/29/19 10:26	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:26	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/29/19 10:26	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/29/19 10:26	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/29/19 10:26	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/29/19 10:26	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/29/19 10:26	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/29/19 10:26	1
2-Hexanone	ND		25	3.1	ug/L			07/29/19 10:26	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/29/19 10:26	1
Methylene bromide	ND		5.0	0.59	ug/L			07/29/19 10:26	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/29/19 10:26	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/29/19 10:26	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/29/19 10:26	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/29/19 10:26	1
Naphthalene	ND		1.0	1.0	ug/L			07/29/19 10:26	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/29/19 10:26	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/29/19 10:26	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/29/19 10:26	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449846/5
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/29/19 10:26	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/29/19 10:26	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/29/19 10:26	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/29/19 10:26	1
Styrene	ND		1.0	1.0	ug/L			07/29/19 10:26	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/29/19 10:26	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/29/19 10:26	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/29/19 10:26	1
Toluene	ND		1.0	0.41	ug/L			07/29/19 10:26	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/29/19 10:26	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/29/19 10:26	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/29/19 10:26	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/29/19 10:26	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/29/19 10:26	1
Trichloroethene	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/29/19 10:26	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/29/19 10:26	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/29/19 10:26	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/29/19 10:26	1
Vinyl acetate	ND		25	2.0	ug/L			07/29/19 10:26	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/29/19 10:26	1
Xylenes, Total	ND		10	1.6	ug/L			07/29/19 10:26	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/29/19 10:26*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/29/19 10:26*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/29/19 10:26*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/29/19 10:26*	*1*

Lab Sample ID: LCS 400-449846/1002
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	182		ug/L		91	43 - 160
Acrolein	500	498		ug/L		100	38 - 160
Acrylonitrile	500	508		ug/L		102	64 - 142
Benzene	50.0	48.0		ug/L		96	70 - 130
Bromobenzene	50.0	46.0		ug/L		92	70 - 132
Bromochloromethane	50.0	46.1		ug/L		92	70 - 130
Bromodichloromethane	50.0	46.1		ug/L		92	67 - 133
Bromoform	50.0	38.6		ug/L		77	57 - 140
Bromomethane	50.0	42.7		ug/L		85	10 - 160
2-Butanone (MEK)	200	172		ug/L		86	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449846/1002
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	45.1		ug/L		90	61 - 137
Carbon tetrachloride	50.0	45.7		ug/L		91	61 - 137
Chlorobenzene	50.0	47.5		ug/L		95	70 - 130
Chloroethane	50.0	49.6		ug/L		99	55 - 141
2-Chloroethyl vinyl ether	50.0	47.8		ug/L		96	10 - 160
Chloroform	50.0	47.0		ug/L		94	69 - 130
1-Chlorohexane	50.0	50.5		ug/L		101	69 - 130
Chloromethane	50.0	56.0		ug/L		112	58 - 137
cis-1,2-Dichloroethene	50.0	48.8		ug/L		98	68 - 130
cis-1,3-Dichloropropene	50.0	46.4		ug/L		93	69 - 132
Dibromochloromethane	50.0	44.0		ug/L		88	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	40.7		ug/L		81	54 - 135
1,2-Dichlorobenzene	50.0	46.8		ug/L		94	67 - 130
1,3-Dichlorobenzene	50.0	46.6		ug/L		93	70 - 130
1,4-Dichlorobenzene	50.0	46.1		ug/L		92	70 - 130
Dichlorodifluoromethane	50.0	47.7		ug/L		95	41 - 146
1,1-Dichloroethane	50.0	49.9		ug/L		100	70 - 130
1,2-Dichloroethane	50.0	46.7		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	48.1		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	51.3		ug/L		103	70 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
2,2-Dichloropropane	50.0	43.3		ug/L		87	52 - 135
1,1-Dichloropropene	50.0	47.2		ug/L		94	70 - 130
Ethylbenzene	50.0	46.4		ug/L		93	70 - 130
Ethylene Dibromide	50.0	46.4		ug/L		93	70 - 130
Ethyl methacrylate	50.0	45.0		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	48.0		ug/L		96	53 - 140
2-Hexanone	200	178		ug/L		89	65 - 137
Isopropylbenzene	50.0	46.5		ug/L		93	70 - 130
Methylene bromide	50.0	47.9		ug/L		96	70 - 130
Methylene Chloride	50.0	43.7		ug/L		87	66 - 135
4-Methyl-2-pentanone (MIBK)	200	202		ug/L		101	69 - 138
Methyl tert-butyl ether	50.0	42.8		ug/L		86	66 - 130
m-Xylene & p-Xylene	50.0	45.7		ug/L		91	70 - 130
Naphthalene	50.0	46.5		ug/L		93	47 - 149
n-Butylbenzene	50.0	47.6		ug/L		95	67 - 130
N-Propylbenzene	50.0	46.3		ug/L		93	70 - 130
o-Chlorotoluene	50.0	46.0		ug/L		92	70 - 130
o-Xylene	50.0	46.8		ug/L		94	70 - 130
p-Chlorotoluene	50.0	46.3		ug/L		93	70 - 130
p-Isopropyltoluene	50.0	46.1		ug/L		92	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	45.8		ug/L		92	70 - 130
tert-Butylbenzene	50.0	45.1		ug/L		90	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.3		ug/L		91	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/L		93	70 - 131
Tetrachloroethene	50.0	44.5		ug/L		89	65 - 130
Toluene	50.0	45.4		ug/L		91	70 - 130
trans-1,2-Dichloroethene	50.0	48.2		ug/L		96	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449846/1002
Matrix: Water
Analysis Batch: 449846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	42.8		ug/L		86	63 - 130
1,2,3-Trichlorobenzene	50.0	44.8		ug/L		90	60 - 138
1,2,4-Trichlorobenzene	50.0	47.8		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	46.0		ug/L		92	68 - 130
1,1,2-Trichloroethane	50.0	46.9		ug/L		94	70 - 130
Trichloroethene	50.0	48.5		ug/L		97	70 - 130
Trichlorofluoromethane	50.0	47.2		ug/L		94	65 - 138
1,2,3-Trichloropropane	50.0	44.3		ug/L		89	70 - 130
1,2,4-Trimethylbenzene	50.0	46.3		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	50.0	45.9		ug/L		92	69 - 130
Vinyl acetate	100	97.3		ug/L		97	26 - 160
Vinyl chloride	50.0	51.3		ug/L		103	59 - 136
Xylenes, Total	100	92.5		ug/L		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 10:36	1
Acrolein	ND		20	10	ug/L			07/30/19 10:36	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 10:36	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 10:36	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 10:36	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 10:36	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 10:36	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 10:36	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 10:36	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 10:36	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 10:36	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 10:36	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 10:36	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 10:36	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 10:36	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 10:36	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 10:36	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 10:36	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 10:36	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 10:36	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 10:36	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 10:36	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 10:36	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 10:36	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 10:36	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 10:36	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 10:36	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 10:36	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 10:36	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 10:36	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 10:36	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 10:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 10:36	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 10:36	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/30/19 10:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		78 - 118		07/30/19 10:36	1
Dibromofluoromethane	97		81 - 121		07/30/19 10:36	1
Toluene-d8 (Surr)	101		80 - 120		07/30/19 10:36	1

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	275		ug/L		138	43 - 160
Acrolein	500	660		ug/L		132	38 - 160
Acrylonitrile	500	613		ug/L		123	64 - 142
Benzene	50.0	52.5		ug/L		105	70 - 130
Bromobenzene	50.0	50.7		ug/L		101	70 - 132
Bromochloromethane	50.0	52.2		ug/L		104	70 - 130
Bromodichloromethane	50.0	50.6		ug/L		101	67 - 133
Bromoform	50.0	57.1		ug/L		114	57 - 140
Bromomethane	50.0	42.7		ug/L		85	10 - 160
2-Butanone (MEK)	200	246		ug/L		123	61 - 145
Carbon disulfide	50.0	50.1		ug/L		100	61 - 137
Carbon tetrachloride	50.0	55.0		ug/L		110	61 - 137
Chlorobenzene	50.0	52.4		ug/L		105	70 - 130
Chloroethane	50.0	54.3		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	47.4		ug/L		95	10 - 160
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	55.6		ug/L		111	69 - 130
Chloromethane	50.0	64.4		ug/L		129	58 - 137
cis-1,2-Dichloroethene	50.0	55.4		ug/L		111	68 - 130
cis-1,3-Dichloropropene	50.0	53.7		ug/L		107	69 - 132
Dibromochloromethane	50.0	55.6		ug/L		111	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	55.8		ug/L		112	54 - 135
1,2-Dichlorobenzene	50.0	53.4		ug/L		107	67 - 130
1,3-Dichlorobenzene	50.0	53.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130
Dichlorodifluoromethane	50.0	50.8		ug/L		102	41 - 146
1,1-Dichloroethane	50.0	55.6		ug/L		111	70 - 130
1,2-Dichloroethane	50.0	48.6		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	46.9		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	55.4		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	51.3		ug/L		103	52 - 135
1,1-Dichloropropene	50.0	51.8		ug/L		104	70 - 130
Ethylbenzene	50.0	52.8		ug/L		106	70 - 130
Ethylene Dibromide	50.0	51.3		ug/L		103	70 - 130
Ethyl methacrylate	50.0	57.2		ug/L		114	68 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	271		ug/L		136	65 - 137
Isopropylbenzene	50.0	49.7		ug/L		99	70 - 130
Methylene bromide	50.0	47.6		ug/L		95	70 - 130
Methylene Chloride	50.0	52.2		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	244		ug/L		122	69 - 138
Methyl tert-butyl ether	50.0	46.2		ug/L		92	66 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/L		103	70 - 130
Naphthalene	50.0	50.3		ug/L		101	47 - 149
n-Butylbenzene	50.0	52.6		ug/L		105	67 - 130
N-Propylbenzene	50.0	54.4		ug/L		109	70 - 130
o-Chlorotoluene	50.0	51.7		ug/L		103	70 - 130
o-Xylene	50.0	51.0		ug/L		102	70 - 130
p-Chlorotoluene	50.0	52.1		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	53.0		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.2		ug/L		102	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	49.8		ug/L		100	64 - 139
1,1,1,2-Tetrachloroethane	50.0	61.8		ug/L		124	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	70 - 131
Tetrachloroethene	50.0	54.6		ug/L		109	65 - 130
Toluene	50.0	52.8		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/L		105	70 - 130
trans-1,3-Dichloropropene	50.0	56.9		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	50.3		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	50.2		ug/L		100	68 - 130
1,1,2-Trichloroethane	50.0	54.5		ug/L		109	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	46.3		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	50.7		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	51.0		ug/L		102	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	58.9		ug/L		118	59 - 136
Xylenes, Total	100	103		ug/L		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		400000	534000		ug/L		133	43 - 150

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	ND		1000000	1400000		ug/L		140	38 - 150
Acrylonitrile	ND		1000000	1320000		ug/L		132	62 - 149
Benzene	340000		100000	462000		ug/L		118	56 - 142
Bromobenzene	ND		100000	108000		ug/L		108	59 - 136
Bromochloromethane	ND		100000	111000		ug/L		111	64 - 140
Bromodichloromethane	ND		100000	106000		ug/L		106	59 - 143
Bromoform	ND		100000	118000		ug/L		118	50 - 140
Bromomethane	ND		100000	89900		ug/L		90	10 - 150
2-Butanone (MEK)	ND		400000	524000		ug/L		131	55 - 150
Carbon disulfide	ND		100000	108000		ug/L		108	48 - 150
Carbon tetrachloride	ND		100000	116000		ug/L		116	55 - 145
Chlorobenzene	ND		100000	111000		ug/L		111	64 - 130
Chloroethane	ND		100000	111000		ug/L		111	50 - 150
2-Chloroethyl vinyl ether	ND		100000	107000		ug/L		107	10 - 150
Chloroform	ND		100000	108000		ug/L		108	60 - 141
1-Chlorohexane	ND		100000	117000		ug/L		117	56 - 136
Chloromethane	ND		100000	132000		ug/L		132	49 - 148
cis-1,2-Dichloroethene	ND		100000	119000		ug/L		119	59 - 143
cis-1,3-Dichloropropene	ND		100000	115000		ug/L		115	57 - 140
Dibromochloromethane	ND		100000	116000		ug/L		116	56 - 143
1,2-Dibromo-3-Chloropropane	ND		100000	118000		ug/L		118	45 - 135
1,2-Dichlorobenzene	ND		100000	113000		ug/L		113	52 - 137
1,3-Dichlorobenzene	ND		100000	114000		ug/L		114	54 - 135
1,4-Dichlorobenzene	ND		100000	112000		ug/L		112	53 - 135
Dichlorodifluoromethane	ND		100000	104000		ug/L		104	16 - 150
1,1-Dichloroethane	ND		100000	119000		ug/L		119	61 - 144
1,2-Dichloroethane	ND		100000	114000		ug/L		114	60 - 141
1,1-Dichloroethene	ND		100000	100000		ug/L		100	54 - 147
1,2-Dichloropropane	ND		100000	119000		ug/L		119	66 - 137
1,3-Dichloropropane	ND		100000	115000		ug/L		115	66 - 133
2,2-Dichloropropane	ND		100000	109000		ug/L		109	42 - 144
1,1-Dichloropropene	ND		100000	110000		ug/L		110	65 - 136
Ethylbenzene	ND		100000	113000		ug/L		113	58 - 131
Ethylene Dibromide	ND		100000	109000		ug/L		109	64 - 132
Ethyl methacrylate	ND		100000	123000		ug/L		123	64 - 130
Hexachlorobutadiene	ND		100000	100000		ug/L		100	31 - 149
2-Hexanone	ND	F1	400000	582000	F1	ug/L		145	65 - 140
Isopropylbenzene	ND		100000	107000		ug/L		107	56 - 133
Methylene bromide	ND		100000	103000		ug/L		103	63 - 138
Methylene Chloride	ND		100000	112000		ug/L		112	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		400000	522000		ug/L		131	63 - 146
Methyl tert-butyl ether	ND		100000	100000		ug/L		100	59 - 137
m-Xylene & p-Xylene	ND		100000	110000		ug/L		110	57 - 130
Naphthalene	ND		100000	108000		ug/L		108	25 - 150
n-Butylbenzene	ND		100000	111000		ug/L		111	41 - 142
N-Propylbenzene	ND		100000	117000		ug/L		117	51 - 138
o-Chlorotoluene	ND		100000	111000		ug/L		111	53 - 134
o-Xylene	ND		100000	109000		ug/L		109	61 - 130
p-Chlorotoluene	ND		100000	113000		ug/L		113	54 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
p-Isopropyltoluene	ND		100000	113000		ug/L		113	48 - 139
sec-Butylbenzene	ND		100000	110000		ug/L		110	50 - 138
Styrene	ND		100000	104000		ug/L		104	58 - 131
tert-Butylbenzene	ND		100000	107000		ug/L		107	54 - 146
1,1,1,2-Tetrachloroethane	ND		100000	128000		ug/L		128	59 - 137
1,1,2,2-Tetrachloroethane	ND		100000	119000		ug/L		119	66 - 135
Tetrachloroethene	ND		100000	114000		ug/L		114	52 - 133
Toluene	ND		100000	112000		ug/L		112	65 - 130
trans-1,2-Dichloroethene	ND		100000	113000		ug/L		113	61 - 143
trans-1,3-Dichloropropene	ND		100000	120000		ug/L		120	53 - 133
1,2,3-Trichlorobenzene	ND		100000	107000		ug/L		107	43 - 145
1,2,4-Trichlorobenzene	ND		100000	103000		ug/L		103	39 - 148
1,1,1-Trichloroethane	ND		100000	106000		ug/L		106	57 - 142
1,1,2-Trichloroethane	ND		100000	114000		ug/L		114	66 - 131
Trichloroethene	ND		100000	110000		ug/L		110	64 - 136
Trichlorofluoromethane	ND		100000	96600		ug/L		97	54 - 150
1,2,3-Trichloropropane	ND		100000	111000		ug/L		111	65 - 133
1,2,4-Trimethylbenzene	ND		100000	107000		ug/L		107	50 - 139
1,3,5-Trimethylbenzene	ND		100000	109000		ug/L		109	52 - 135
Vinyl acetate	ND		200000	236000		ug/L		118	26 - 150
Vinyl chloride	ND		100000	123000		ug/L		123	46 - 150
Xylenes, Total	ND		200000	219000		ug/L		109	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		400000	493000		ug/L		123	43 - 150	8	30
Acrolein	ND		1000000	1400000		ug/L		140	38 - 150	0	31
Acrylonitrile	ND		1000000	1320000		ug/L		132	62 - 149	0	30
Benzene	340000		100000	459000		ug/L		116	56 - 142	1	30
Bromobenzene	ND		100000	113000		ug/L		113	59 - 136	4	30
Bromochloromethane	ND		100000	112000		ug/L		112	64 - 140	0	30
Bromodichloromethane	ND		100000	109000		ug/L		109	59 - 143	2	30
Bromoform	ND		100000	121000		ug/L		121	50 - 140	3	30
Bromomethane	ND		100000	101000		ug/L		101	10 - 150	11	50
2-Butanone (MEK)	ND		400000	508000		ug/L		127	55 - 150	3	30
Carbon disulfide	ND		100000	108000		ug/L		108	48 - 150	0	30
Carbon tetrachloride	ND		100000	119000		ug/L		119	55 - 145	2	30
Chlorobenzene	ND		100000	113000		ug/L		113	64 - 130	1	30
Chloroethane	ND		100000	116000		ug/L		116	50 - 150	4	30
2-Chloroethyl vinyl ether	ND		100000	115000		ug/L		115	10 - 150	7	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	ND		100000	109000		ug/L		109	60 - 141	1	30
1-Chlorohexane	ND		100000	122000		ug/L		122	56 - 136	4	30
Chloromethane	ND		100000	139000		ug/L		139	49 - 148	5	31
cis-1,2-Dichloroethene	ND		100000	121000		ug/L		121	59 - 143	2	30
cis-1,3-Dichloropropene	ND		100000	120000		ug/L		120	57 - 140	4	30
Dibromochloromethane	ND		100000	119000		ug/L		119	56 - 143	3	30
1,2-Dibromo-3-Chloropropane	ND		100000	119000		ug/L		119	45 - 135	1	30
1,2-Dichlorobenzene	ND		100000	116000		ug/L		116	52 - 137	3	30
1,3-Dichlorobenzene	ND		100000	115000		ug/L		115	54 - 135	1	30
1,4-Dichlorobenzene	ND		100000	114000		ug/L		114	53 - 135	2	30
Dichlorodifluoromethane	ND		100000	108000		ug/L		108	16 - 150	4	31
1,1-Dichloroethane	ND		100000	121000		ug/L		121	61 - 144	2	30
1,2-Dichloroethane	ND		100000	115000		ug/L		115	60 - 141	1	30
1,1-Dichloroethene	ND		100000	103000		ug/L		103	54 - 147	2	30
1,2-Dichloropropane	ND		100000	124000		ug/L		124	66 - 137	4	30
1,3-Dichloropropane	ND		100000	116000		ug/L		116	66 - 133	1	30
2,2-Dichloropropane	ND		100000	112000		ug/L		112	42 - 144	3	31
1,1-Dichloropropene	ND		100000	113000		ug/L		113	65 - 136	3	30
Ethylbenzene	ND		100000	115000		ug/L		115	58 - 131	2	30
Ethylene Dibromide	ND		100000	112000		ug/L		112	64 - 132	2	30
Ethyl methacrylate	ND		100000	127000		ug/L		127	64 - 130	3	30
Hexachlorobutadiene	ND		100000	104000		ug/L		104	31 - 149	4	36
2-Hexanone	ND	F1	400000	574000	F1	ug/L		143	65 - 140	1	30
Isopropylbenzene	ND		100000	109000		ug/L		109	56 - 133	2	30
Methylene bromide	ND		100000	101000		ug/L		101	63 - 138	1	30
Methylene Chloride	ND		100000	114000		ug/L		114	60 - 146	1	32
4-Methyl-2-pentanone (MIBK)	ND		400000	522000		ug/L		130	63 - 146	0	30
Methyl tert-butyl ether	ND		100000	103000		ug/L		103	59 - 137	3	30
m-Xylene & p-Xylene	ND		100000	113000		ug/L		113	57 - 130	3	30
Naphthalene	ND		100000	114000		ug/L		114	25 - 150	6	30
n-Butylbenzene	ND		100000	113000		ug/L		113	41 - 142	2	31
N-Propylbenzene	ND		100000	121000		ug/L		121	51 - 138	4	30
o-Chlorotoluene	ND		100000	114000		ug/L		114	53 - 134	3	30
o-Xylene	ND		100000	111000		ug/L		111	61 - 130	2	30
p-Chlorotoluene	ND		100000	116000		ug/L		116	54 - 133	3	30
p-Isopropyltoluene	ND		100000	117000		ug/L		117	48 - 139	3	30
sec-Butylbenzene	ND		100000	113000		ug/L		113	50 - 138	3	30
Styrene	ND		100000	106000		ug/L		106	58 - 131	2	30
tert-Butylbenzene	ND		100000	111000		ug/L		111	54 - 146	4	30
1,1,1,2-Tetrachloroethane	ND		100000	135000		ug/L		135	59 - 137	5	30
1,1,2,2-Tetrachloroethane	ND		100000	119000		ug/L		119	66 - 135	0	30
Tetrachloroethene	ND		100000	118000		ug/L		118	52 - 133	4	30
Toluene	ND		100000	115000		ug/L		115	65 - 130	3	30
trans-1,2-Dichloroethene	ND		100000	116000		ug/L		116	61 - 143	3	30
trans-1,3-Dichloropropene	ND		100000	125000		ug/L		125	53 - 133	4	30
1,2,3-Trichlorobenzene	ND		100000	109000		ug/L		109	43 - 145	3	30
1,2,4-Trichlorobenzene	ND		100000	107000		ug/L		107	39 - 148	3	30
1,1,1-Trichloroethane	ND		100000	108000		ug/L		108	57 - 142	2	30
1,1,2-Trichloroethane	ND		100000	115000		ug/L		115	66 - 131	1	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449979

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		100000	114000		ug/L		114	64 - 136	4	30
Trichlorofluoromethane	ND		100000	99000		ug/L		99	54 - 150	3	30
1,2,3-Trichloropropane	ND		100000	112000		ug/L		112	65 - 133	1	30
1,2,4-Trimethylbenzene	ND		100000	113000		ug/L		113	50 - 139	5	30
1,3,5-Trimethylbenzene	ND		100000	114000		ug/L		114	52 - 135	4	30
Vinyl acetate	ND		200000	245000		ug/L		122	26 - 150	4	33
Vinyl chloride	ND		100000	128000		ug/L		128	46 - 150	4	30
Xylenes, Total	ND		200000	224000		ug/L		112	59 - 130	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-450140/4
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/31/19 07:21	1
Acrolein	ND		20	10	ug/L			07/31/19 07:21	1
Acrylonitrile	ND		10	2.8	ug/L			07/31/19 07:21	1
Benzene	ND		1.0	0.38	ug/L			07/31/19 07:21	1
Bromobenzene	ND		1.0	0.54	ug/L			07/31/19 07:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/31/19 07:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Bromoform	ND		5.0	0.71	ug/L			07/31/19 07:21	1
Bromomethane	ND		1.0	0.98	ug/L			07/31/19 07:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/31/19 07:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Chloroethane	ND		1.0	0.76	ug/L			07/31/19 07:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/31/19 07:21	1
Chloroform	ND		1.0	0.60	ug/L			07/31/19 07:21	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/31/19 07:21	1
Chloromethane	ND		1.0	0.83	ug/L			07/31/19 07:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/31/19 07:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/31/19 07:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/31/19 07:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/31/19 07:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/31/19 07:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450140/4
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/31/19 07:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/31/19 07:21	1
2-Hexanone	ND		25	3.1	ug/L			07/31/19 07:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/31/19 07:21	1
Methylene bromide	ND		5.0	0.59	ug/L			07/31/19 07:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/31/19 07:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/31/19 07:21	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/31/19 07:21	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/31/19 07:21	1
Naphthalene	ND		1.0	1.0	ug/L			07/31/19 07:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/31/19 07:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/31/19 07:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/31/19 07:21	1
o-Xylene	ND		5.0	0.60	ug/L			07/31/19 07:21	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/31/19 07:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/31/19 07:21	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/31/19 07:21	1
Styrene	ND		1.0	1.0	ug/L			07/31/19 07:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/31/19 07:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/31/19 07:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/31/19 07:21	1
Toluene	ND		1.0	0.41	ug/L			07/31/19 07:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/31/19 07:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/31/19 07:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/31/19 07:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/31/19 07:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/31/19 07:21	1
Trichloroethene	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/31/19 07:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/31/19 07:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/31/19 07:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/31/19 07:21	1
Vinyl acetate	ND		25	2.0	ug/L			07/31/19 07:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/31/19 07:21	1
Xylenes, Total	ND		10	1.6	ug/L			07/31/19 07:21	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/31/19 07:21*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450140/4
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115		78 - 118		07/31/19 07:21	1
Dibromofluoromethane	97		81 - 121		07/31/19 07:21	1
Toluene-d8 (Surr)	97		80 - 120		07/31/19 07:21	1

Lab Sample ID: LCS 400-450140/1002
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	282		ug/L		141	43 - 160
Acrolein	500	687		ug/L		137	38 - 160
Acrylonitrile	500	628		ug/L		126	64 - 142
Benzene	50.0	44.7		ug/L		89	70 - 130
Bromobenzene	50.0	43.5		ug/L		87	70 - 132
Bromochloromethane	50.0	41.4		ug/L		83	70 - 130
Bromodichloromethane	50.0	42.6		ug/L		85	67 - 133
Bromoform	50.0	43.1		ug/L		86	57 - 140
Bromomethane	50.0	21.1		ug/L		42	10 - 160
2-Butanone (MEK)	200	255		ug/L		127	61 - 145
Carbon disulfide	50.0	35.8		ug/L		72	61 - 137
Carbon tetrachloride	50.0	41.2		ug/L		82	61 - 137
Chlorobenzene	50.0	43.2		ug/L		86	70 - 130
Chloroethane	50.0	46.2		ug/L		92	55 - 141
2-Chloroethyl vinyl ether	50.0	29.0		ug/L		58	10 - 160
Chloroform	50.0	42.7		ug/L		85	69 - 130
1-Chlorohexane	50.0	51.8		ug/L		104	69 - 130
Chloromethane	50.0	57.2		ug/L		114	58 - 137
cis-1,2-Dichloroethene	50.0	53.4		ug/L		107	68 - 130
cis-1,3-Dichloropropene	50.0	45.7		ug/L		91	69 - 132
Dibromochloromethane	50.0	41.4		ug/L		83	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	45.1		ug/L		90	54 - 135
1,2-Dichlorobenzene	50.0	42.4		ug/L		85	67 - 130
1,3-Dichlorobenzene	50.0	43.9		ug/L		88	70 - 130
1,4-Dichlorobenzene	50.0	44.0		ug/L		88	70 - 130
Dichlorodifluoromethane	50.0	48.1		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	50.6		ug/L		101	70 - 130
1,2-Dichloroethane	50.0	50.7		ug/L		101	69 - 130
1,1-Dichloroethene	50.0	39.2		ug/L		78	63 - 134
1,2-Dichloropropane	50.0	52.8		ug/L		106	70 - 130
1,3-Dichloropropane	50.0	45.0		ug/L		90	70 - 130
2,2-Dichloropropane	50.0	40.0		ug/L		80	52 - 135
1,1-Dichloropropene	50.0	43.8		ug/L		88	70 - 130
Ethylbenzene	50.0	41.8		ug/L		84	70 - 130
Ethylene Dibromide	50.0	44.4		ug/L		89	70 - 130
Ethyl methacrylate	50.0	44.8		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	49.2		ug/L		98	53 - 140
2-Hexanone	200	274		ug/L		137	65 - 137
Isopropylbenzene	50.0	39.9		ug/L		80	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450140/1002
Matrix: Water
Analysis Batch: 450140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene bromide	50.0	44.5		ug/L		89	70 - 130
Methylene Chloride	50.0	43.0		ug/L		86	66 - 135
4-Methyl-2-pentanone (MIBK)	200	243		ug/L		121	69 - 138
Methyl tert-butyl ether	50.0	43.4		ug/L		87	66 - 130
m-Xylene & p-Xylene	50.0	43.0		ug/L		86	70 - 130
Naphthalene	50.0	39.9		ug/L		80	47 - 149
n-Butylbenzene	50.0	44.2		ug/L		88	67 - 130
N-Propylbenzene	50.0	43.6		ug/L		87	70 - 130
o-Chlorotoluene	50.0	46.1		ug/L		92	70 - 130
o-Xylene	50.0	42.0		ug/L		84	70 - 130
p-Chlorotoluene	50.0	47.1		ug/L		94	70 - 130
p-Isopropyltoluene	50.0	44.6		ug/L		89	65 - 130
sec-Butylbenzene	50.0	43.2		ug/L		86	66 - 130
Styrene	50.0	37.8		ug/L		76	70 - 130
tert-Butylbenzene	50.0	44.9		ug/L		90	64 - 139
1,1,1,2-Tetrachloroethane	50.0	41.2		ug/L		82	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.5		ug/L		105	70 - 131
Tetrachloroethene	50.0	35.8		ug/L		72	65 - 130
Toluene	50.0	41.4		ug/L		83	70 - 130
trans-1,2-Dichloroethene	50.0	43.4		ug/L		87	70 - 130
trans-1,3-Dichloropropene	50.0	41.7		ug/L		83	63 - 130
1,2,3-Trichlorobenzene	50.0	44.0		ug/L		88	60 - 138
1,2,4-Trichlorobenzene	50.0	43.5		ug/L		87	60 - 140
1,1,1-Trichloroethane	50.0	42.2		ug/L		84	68 - 130
1,1,2-Trichloroethane	50.0	42.4		ug/L		85	70 - 130
Trichloroethene	50.0	45.0		ug/L		90	70 - 130
Trichlorofluoromethane	50.0	39.5		ug/L		79	65 - 138
1,2,3-Trichloropropane	50.0	47.4		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	50.0	44.3		ug/L		89	70 - 130
1,3,5-Trimethylbenzene	50.0	44.8		ug/L		90	69 - 130
Vinyl acetate	100	91.6		ug/L		92	26 - 160
Vinyl chloride	50.0	56.5		ug/L		113	59 - 136
Xylenes, Total	100	85.0		ug/L		85	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*112*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*91*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 15:00	07/26/19 16:52	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 15:00	07/26/19 16:52	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-ethylhexyl) phthalate	7.40	J	10	5.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 15:00	07/26/19 16:52	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Indene	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Isophorone	ND		10	0.57	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 15:00	07/26/19 16:52	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Phenol	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
Pyridine	ND		10	3.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Quinoline	ND		10	6.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 15:00	07/26/19 16:52	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentative Identified Compound	*None*		*ug/L*				*07/24/19 15:00*	*07/26/19 16:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Nitrobenzene-d5	*88*		*27 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Phenol-d5	*67*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Terphenyl-d14	*78*		*53 - 125*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/24/19 15:00*	*07/26/19 16:52*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	26.6		ug/L		89	29 - 120
Benzoic acid	117	29.8	J	ug/L		26	10 - 150
Benzyl alcohol	30.0	30.0		ug/L		100	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.0		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	19.1		ug/L		64	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.7		ug/L		62	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	26.4		ug/L		88	48 - 150
4-Bromophenyl phenyl ether	30.0	24.3		ug/L		81	55 - 122
Butyl benzyl phthalate	30.0	23.2		ug/L		77	46 - 145
4-Chloroaniline	30.0	28.9		ug/L		96	30 - 120
4-Chloro-3-methylphenol	30.0	23.2		ug/L		77	39 - 140
2-Chloronaphthalene	30.0	18.4		ug/L		61	52 - 120
2-Chlorophenol	30.0	19.8		ug/L		66	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.9		ug/L		73	58 - 124
Dibenz[a,h]acridine	30.0	16.1		ug/L		54	46 - 149
Dibenzofuran	30.0	21.1		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	45.1		ug/L		113	39 - 135
2,4-Dichlorophenol	30.0	24.6		ug/L		82	39 - 128
Diethyl phthalate	30.0	28.1		ug/L		94	44 - 146
2,4-Dimethylphenol	30.0	27.0		ug/L		90	44 - 120
Dimethyl phthalate	30.0	23.3		ug/L		78	50 - 131
Di-n-butyl phthalate	30.0	26.9		ug/L		90	55 - 131
4,6-Dinitro-ortho-cresol	60.0	60.9		ug/L		101	10 - 150
2,4-Dinitrophenol	60.0	67.9		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	21.7		ug/L		72	58 - 140
2,6-Dinitrotoluene	30.0	21.6		ug/L		72	57 - 130
Di-n-octyl phthalate	30.0	23.2		ug/L		77	50 - 150
1,4-Dioxane	30.0	14.8		ug/L		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	26.6		ug/L		89	47 - 123

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobenzene	30.0	28.1		ug/L		94	52 - 131
Hexachlorocyclopentadiene	30.0	6.63	J	ug/L		22	10 - 129
Hexachloroethane	30.0	16.3		ug/L		54	41 - 120
Indene	30.0	17.6		ug/L		59	47 - 120
Isophorone	30.0	24.6		ug/L		82	49 - 120
2-Methylphenol	30.0	25.9		ug/L		86	39 - 123
3 & 4 Methylphenol	30.0	28.1		ug/L		94	38 - 121
2-Nitroaniline	30.0	29.8		ug/L		99	47 - 150
3-Nitroaniline	30.0	28.7		ug/L		96	34 - 132
4-Nitroaniline	30.0	26.0		ug/L		87	41 - 135
Nitrobenzene	30.0	25.2		ug/L		84	47 - 120
2-Nitrophenol	30.0	23.2		ug/L		77	28 - 136
4-Nitrophenol	60.0	64.9		ug/L		108	10 - 150
N-Nitrosodimethylamine	30.0	28.1		ug/L		94	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.5		ug/L		108	44 - 120
N-Nitrosodiphenylamine	29.8	23.6		ug/L		79	56 - 120
Pentachlorophenol	60.0	45.2		ug/L		75	15 - 141
Phenol	30.0	19.8		ug/L		66	33 - 120
Pyridine	60.0	37.9		ug/L		63	26 - 120
Quinoline	30.0	19.2		ug/L		64	51 - 129
2,4,5-Trichlorophenol	30.0	24.4		ug/L		81	38 - 147
2,4,6-Trichlorophenol	30.0	25.1		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*43*		*10 - 120*
Nitrobenzene-d5	*85*		*27 - 120*
Phenol-d5	*65*		*10 - 120*
Terphenyl-d14	*75*		*53 - 125*
2,4,6-Tribromophenol	*70*		*15 - 135*

Lab Sample ID: LCS 400-449321/8-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	21.1		ug/L		70	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*34 - 120*
2-Fluorophenol	*53*		*10 - 120*
Nitrobenzene-d5	*82*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*72*		*53 - 125*
2,4,6-Tribromophenol	*49*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	30.2		ug/L		101	29 - 120	13	30
Benzoic acid	117	44.7	*	ug/L		38	10 - 150	40	30
Benzyl alcohol	30.0	30.3		ug/L		101	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	20.3		ug/L		68	45 - 120	3	30
Bis(2-chloroethyl)ether	30.0	17.2		ug/L		57	48 - 120	10	30
bis (2-chloroisopropyl) ether	30.0	20.1		ug/L		67	30 - 125	7	30
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150	6	30
4-Bromophenyl phenyl ether	30.0	26.0		ug/L		87	55 - 122	7	30
Butyl benzyl phthalate	30.0	23.1		ug/L		77	46 - 145	0	30
4-Chloroaniline	30.0	27.9		ug/L		93	30 - 120	4	30
4-Chloro-3-methylphenol	30.0	23.6		ug/L		79	39 - 140	2	30
2-Chloronaphthalene	30.0	19.7		ug/L		66	52 - 120	7	30
2-Chlorophenol	30.0	21.0		ug/L		70	34 - 120	6	30
4-Chlorophenyl phenyl ether	30.0	23.7		ug/L		79	58 - 124	8	30
Dibenz[a,h]acridine	30.0	18.9		ug/L		63	46 - 149	16	30
Dibenzofuran	30.0	22.7		ug/L		76	58 - 123	7	30
3,3'-Dichlorobenzidine	40.0	48.3		ug/L		121	39 - 135	7	30
2,4-Dichlorophenol	30.0	25.3		ug/L		84	39 - 128	3	30
Diethyl phthalate	30.0	29.5		ug/L		98	44 - 146	5	30
2,4-Dimethylphenol	30.0	27.2		ug/L		91	44 - 120	1	30
Dimethyl phthalate	30.0	24.1		ug/L		80	50 - 131	3	30
Di-n-butyl phthalate	30.0	28.4		ug/L		95	55 - 131	5	30
4,6-Dinitro-ortho-cresol	60.0	68.1		ug/L		113	10 - 150	11	30
2,4-Dinitrophenol	60.0	80.3		ug/L		134	10 - 150	17	30
2,4-Dinitrotoluene	30.0	22.9		ug/L		76	58 - 140	6	30
2,6-Dinitrotoluene	30.0	22.4		ug/L		75	57 - 130	3	30
Di-n-octyl phthalate	30.0	24.1		ug/L		80	50 - 150	4	30
1,4-Dioxane	30.0	17.1		ug/L		57	25 - 120	14	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.6		ug/L		92	47 - 123	4	30
Hexachlorobenzene	30.0	33.1		ug/L		110	52 - 131	16	30
Hexachlorocyclopentadiene	30.0	8.60	J	ug/L		29	10 - 129	26	30
Hexachloroethane	30.0	18.2		ug/L		61	41 - 120	11	30
Indene	30.0	18.1		ug/L		60	47 - 120	3	30
Isophorone	30.0	24.1		ug/L		80	49 - 120	2	30
2-Methylphenol	30.0	27.1		ug/L		90	39 - 123	4	30
3 & 4 Methylphenol	30.0	29.4		ug/L		98	38 - 121	4	30
2-Nitroaniline	30.0	30.1		ug/L		100	47 - 150	1	30
3-Nitroaniline	30.0	29.9		ug/L		100	34 - 132	4	30
4-Nitroaniline	30.0	30.0		ug/L		100	41 - 135	14	30
Nitrobenzene	30.0	24.8		ug/L		83	47 - 120	1	30
2-Nitrophenol	30.0	24.9		ug/L		83	28 - 136	7	30
4-Nitrophenol	60.0	74.7		ug/L		124	10 - 150	14	30
N-Nitrosodimethylamine	30.0	28.8		ug/L		96	22 - 148	2	30
N-Nitrosodi-n-propylamine	30.0	33.9		ug/L		113	44 - 120	4	30
N-Nitrosodiphenylamine	29.8	24.6		ug/L		83	56 - 120	4	30
Pentachlorophenol	60.0	54.0		ug/L		90	15 - 141	18	30
Phenol	30.0	21.0		ug/L		70	33 - 120	6	30
Pyridine	60.0	39.6		ug/L		66	26 - 120	4	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	19.4		ug/L		65	51 - 129	1	30
2,4,5-Trichlorophenol			30.0	25.5		ug/L		85	38 - 147	5	30
2,4,6-Trichlorophenol			30.0	26.2		ug/L		87	36 - 139	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*74*		*15 - 135*

Lab Sample ID: LCSD 400-449321/9-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		4	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*34 - 120*
2-Fluorophenol	*55*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*74*		*53 - 125*
2,4,6-Tribromophenol	*48*		*15 - 135*

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.1	16.0		ug/L		55	10 - 143
Benzoic acid	ND	*	113	120		ug/L		107	10 - 134
Benzyl alcohol	ND		29.1	25.2		ug/L		87	10 - 154
Bis(2-chloroethoxy)methane	ND		29.1	15.6		ug/L		54	14 - 147
Bis(2-chloroethyl)ether	ND		29.1	15.8		ug/L		54	28 - 130
bis (2-chloroisopropyl) ether	ND		29.1	23.7		ug/L		82	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.1	19.2		ug/L		66	43 - 160
4-Bromophenyl phenyl ether	ND		29.1	18.5		ug/L		64	26 - 159
Butyl benzyl phthalate	ND		29.1	17.7		ug/L		61	43 - 151
4-Chloroaniline	ND		29.1	9.56	J	ug/L		33	10 - 152
4-Chloro-3-methylphenol	ND		29.1	19.4		ug/L		67	17 - 156
2-Chloronaphthalene	ND		29.1	15.6		ug/L		54	10 - 155
2-Chlorophenol	ND		29.1	17.2		ug/L		59	19 - 130
4-Chlorophenyl phenyl ether	ND		29.1	17.7		ug/L		61	25 - 161
Dibenz[a,h]acridine	ND	F1	29.1	11.8	F1	ug/L		41	42 - 147
Dibenzofuran	ND		29.1	17.2		ug/L		59	18 - 157

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
3,3'-Dichlorobenzidine	ND	F1	38.7	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND		29.1	18.7		ug/L		64	16 - 147
Diethyl phthalate	ND		29.1	21.6		ug/L		74	23 - 160
2,4-Dimethylphenol	ND		29.1	23.1		ug/L		79	25 - 146
Dimethyl phthalate	ND		29.1	18.0		ug/L		62	11 - 158
Di-n-butyl phthalate	ND		29.1	21.3		ug/L		73	28 - 162
4,6-Dinitro-ortho-cresol	ND		58.1	50.9		ug/L		88	10 - 168
2,4-Dinitrophenol	ND		58.1	70.8		ug/L		122	10 - 166
2,4-Dinitrotoluene	ND		29.1	17.7		ug/L		61	26 - 158
2,6-Dinitrotoluene	ND		29.1	16.8		ug/L		58	19 - 157
Di-n-octyl phthalate	ND		29.1	19.1		ug/L		66	42 - 150
1,4-Dioxane	ND		29.1	13.4		ug/L		46	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.1	17.5		ug/L		60	19 - 162
Hexachlorobenzene	ND		29.1	20.6		ug/L		71	45 - 145
Hexachlorocyclopentadiene	ND		29.1	15.2	J	ug/L		52	10 - 151
Hexachloroethane	ND		29.1	18.3		ug/L		63	29 - 130
Indene	ND		29.1	17.2		ug/L		59	22 - 130
Isophorone	ND		29.1	18.8		ug/L		65	24 - 144
2-Methylphenol	ND		29.1	20.6		ug/L		71	22 - 130
3 & 4 Methylphenol	ND		29.1	22.8		ug/L		79	31 - 130
2-Nitroaniline	ND		29.1	22.5		ug/L		78	10 - 162
3-Nitroaniline	ND		29.1	6.55	J	ug/L		23	10 - 163
4-Nitroaniline	ND		29.1	15.2		ug/L		52	10 - 162
Nitrobenzene	ND		29.1	19.9		ug/L		68	34 - 135
2-Nitrophenol	ND		29.1	18.9		ug/L		65	27 - 134
4-Nitrophenol	ND		58.1	63.1		ug/L		109	10 - 175
N-Nitrosodimethylamine	ND		29.1	34.6		ug/L		119	10 - 139
N-Nitrosodi-n-propylamine	ND		29.1	26.5		ug/L		91	13 - 147
N-Nitrosodiphenylamine	ND	F1 F2	28.8	6.16	J F1	ug/L		21	31 - 150
Pentachlorophenol	ND		58.1	68.0		ug/L		117	10 - 180
Phenol	110	E F1	29.1	128	E	ug/L		55	23 - 130
Pyridine	ND		58.1	33.9		ug/L		58	10 - 130
Quinoline	ND	F1	29.1	ND	F1	ug/L		0	10 - 180
2,4,5-Trichlorophenol	ND		29.1	18.3		ug/L		63	43 - 137
2,4,6-Trichlorophenol	ND		29.1	17.2		ug/L		59	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*34 - 120*
2-Fluorophenol	*42*		*10 - 120*
Nitrobenzene-d5	*73*		*27 - 120*
Phenol-d5	*68*		*10 - 120*
Terphenyl-d14	*31*	*X*	*53 - 125*
2,4,6-Tribromophenol	*70*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		30.3	18.6		ug/L		61	10 - 143	15	63
Benzoic acid	ND	*	118	110		ug/L		93	10 - 134	9	49
Benzyl alcohol	ND		30.3	25.5		ug/L		84	10 - 154	1	37
Bis(2-chloroethoxy)methane	ND		30.3	15.8		ug/L		52	14 - 147	1	70
Bis(2-chloroethyl)ether	ND		30.3	15.6		ug/L		51	28 - 130	1	42
bis (2-chloroisopropyl) ether	ND		30.3	25.5		ug/L		84	10 - 141	7	41
Bis(2-ethylhexyl) phthalate	ND		30.3	19.4		ug/L		64	43 - 160	1	35
4-Bromophenyl phenyl ether	ND		30.3	16.7		ug/L		55	26 - 159	10	30
Butyl benzyl phthalate	ND		30.3	17.2		ug/L		57	43 - 151	3	32
4-Chloroaniline	ND		30.3	10.8		ug/L		36	10 - 152	12	94
4-Chloro-3-methylphenol	ND		30.3	19.1		ug/L		63	17 - 156	2	40
2-Chloronaphthalene	ND		30.3	14.9		ug/L		49	10 - 155	5	29
2-Chlorophenol	ND		30.3	15.9		ug/L		52	19 - 130	8	42
4-Chlorophenyl phenyl ether	ND		30.3	16.3		ug/L		54	25 - 161	8	27
Dibenz[a,h]acridine	ND	F1	30.3	11.0	F1	ug/L		36	42 - 147	7	40
Dibenzofuran	ND		30.3	16.2		ug/L		54	18 - 157	5	29
3,3'-Dichlorobenzidine	ND	F1	40.4	ND	F1	ug/L		0	10 - 172	NC	58
2,4-Dichlorophenol	ND		30.3	17.5		ug/L		58	16 - 147	7	43
Diethyl phthalate	ND		30.3	20.5		ug/L		68	23 - 160	5	40
2,4-Dimethylphenol	ND		30.3	22.8		ug/L		75	25 - 146	1	47
Dimethyl phthalate	ND		30.3	17.2		ug/L		57	11 - 158	5	36
Di-n-butyl phthalate	ND		30.3	20.1		ug/L		66	28 - 162	6	32
4,6-Dinitro-ortho-cresol	ND		60.7	47.7		ug/L		79	10 - 168	6	42
2,4-Dinitrophenol	ND		60.7	64.9		ug/L		107	10 - 166	9	36
2,4-Dinitrotoluene	ND		30.3	17.8		ug/L		59	26 - 158	0	28
2,6-Dinitrotoluene	ND		30.3	16.2		ug/L		53	19 - 157	4	28
Di-n-octyl phthalate	ND		30.3	18.2		ug/L		60	42 - 150	5	35
1,4-Dioxane	ND		30.3	12.8		ug/L		42	10 - 130	5	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.3	17.9		ug/L		59	19 - 162	2	40
Hexachlorobenzene	ND		30.3	16.9		ug/L		56	45 - 145	19	33
Hexachlorocyclopentadiene	ND		30.3	12.2	J	ug/L		40	10 - 151	22	50
Hexachloroethane	ND		30.3	20.1		ug/L		66	29 - 130	9	41
Indene	ND		30.3	17.2		ug/L		57	22 - 130	0	40
Isophorone	ND		30.3	19.5		ug/L		64	24 - 144	4	33
2-Methylphenol	ND		30.3	20.1		ug/L		66	22 - 130	2	47
3 & 4 Methylphenol	ND		30.3	21.6		ug/L		71	31 - 130	6	47
2-Nitroaniline	ND		30.3	22.2		ug/L		73	10 - 162	2	33
3-Nitroaniline	ND		30.3	8.18	J	ug/L		27	10 - 163	22	39
4-Nitroaniline	ND		30.3	15.0		ug/L		49	10 - 162	1	50
Nitrobenzene	ND		30.3	19.9		ug/L		66	34 - 135	0	35
2-Nitrophenol	ND		30.3	18.3		ug/L		60	27 - 134	3	43
4-Nitrophenol	ND		60.7	62.4		ug/L		103	10 - 175	1	82
N-Nitrosodimethylamine	ND		30.3	36.6		ug/L		121	10 - 139	6	62
N-Nitrosodi-n-propylamine	ND		30.3	26.4		ug/L		87	13 - 147	0	36
N-Nitrosodiphenylamine	ND	F1 F2	30.1	12.6	F2	ug/L		42	31 - 150	68	34
Pentachlorophenol	ND		60.7	59.3		ug/L		98	10 - 180	14	42
Phenol	110	E F1	30.3	107	E F1	ug/L		-15	23 - 130	17	52
Pyridine	ND		60.7	33.9		ug/L		56	10 - 130	0	55

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 449680

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline	ND	F1	30.3	7.57	J	ug/L		25	10 - 180	NC	40
2,4,5-Trichlorophenol	ND		30.3	17.7		ug/L		58	43 - 137	3	42
2,4,6-Trichlorophenol	ND		30.3	16.9		ug/L		56	42 - 135	2	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*49*		*34 - 120*
2-Fluorophenol	*31*		*10 - 120*
Nitrobenzene-d5	*71*		*27 - 120*
Phenol-d5	*57*		*10 - 120*
Terphenyl-d14	*33*	*X*	*53 - 125*
2,4,6-Tribromophenol	*59*		*15 - 135*

Lab Sample ID: MB 400-450172/1-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450172

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
Benzenethiol	ND		10	1.7	ug/L		07/31/19 09:40	08/03/19 11:53	1
Benzoic acid	ND		30	7.3	ug/L		07/31/19 09:40	08/03/19 11:53	1
Benzyl alcohol	ND		10	2.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/31/19 09:40	08/03/19 11:53	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/31/19 09:40	08/03/19 11:53	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/31/19 09:40	08/03/19 11:53	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/31/19 09:40	08/03/19 11:53	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Chloroaniline	ND		10	3.4	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Chlorophenol	ND		10	2.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Dibenzofuran	ND		10	0.52	ug/L		07/31/19 09:40	08/03/19 11:53	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Diethyl phthalate	ND		10	0.70	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/31/19 09:40	08/03/19 11:53	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/31/19 09:40	08/03/19 11:53	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/31/19 09:40	08/03/19 11:53	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/31/19 09:40	08/03/19 11:53	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/31/19 09:40	08/03/19 11:53	1
1,4-Dioxane	ND		10	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/31/19 09:40	08/03/19 11:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-450172/1-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450172

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/31/19 09:40	08/03/19 11:53	1
Hexachloroethane	ND		10	4.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
Indene	ND		10	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
Isophorone	ND		10	0.57	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Methylphenol	ND		10	1.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Nitroaniline	ND		10	2.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
3-Nitroaniline	ND		10	1.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Nitroaniline	ND		10	2.5	ug/L		07/31/19 09:40	08/03/19 11:53	1
Nitrobenzene	ND		10	0.55	ug/L		07/31/19 09:40	08/03/19 11:53	1
2-Nitrophenol	ND		10	0.65	ug/L		07/31/19 09:40	08/03/19 11:53	1
4-Nitrophenol	ND		10	2.1	ug/L		07/31/19 09:40	08/03/19 11:53	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/31/19 09:40	08/03/19 11:53	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/31/19 09:40	08/03/19 11:53	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/31/19 09:40	08/03/19 11:53	1
Pentachlorophenol	ND		20	1.8	ug/L		07/31/19 09:40	08/03/19 11:53	1
Phenol	ND		10	2.6	ug/L		07/31/19 09:40	08/03/19 11:53	1
Pyridine	ND		10	3.2	ug/L		07/31/19 09:40	08/03/19 11:53	1
Quinoline	ND		10	6.0	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/31/19 09:40	08/03/19 11:53	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/31/19 09:40	08/03/19 11:53	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/31/19 09:40*	*08/03/19 11:53*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*34 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
2-Fluorophenol	*43*		*10 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
Nitrobenzene-d5	*84*		*27 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
Phenol-d5	*70*		*10 - 120*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
Terphenyl-d14	*110*		*53 - 125*	*07/31/19 09:40*	*08/03/19 11:53*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/31/19 09:40*	*08/03/19 11:53*	*1*

Lab Sample ID: LCS 400-450172/2-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	27.2		ug/L		91	29 - 120
Benzoic acid	117	87.7		ug/L		75	10 - 150
Benzyl alcohol	30.0	29.2		ug/L		97	19 - 125
Bis(2-chloroethoxy)methane	30.0	27.2		ug/L		91	45 - 120
Bis(2-chloroethyl)ether	30.0	25.4		ug/L		85	48 - 120
bis (2-chloroisopropyl) ether	30.0	24.6		ug/L		82	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	30.6		ug/L		102	48 - 150
4-Bromophenyl phenyl ether	30.0	31.3		ug/L		104	55 - 122
Butyl benzyl phthalate	30.0	28.5		ug/L		95	46 - 145
4-Chloroaniline	30.0	23.9		ug/L		80	30 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450172/2-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloro-3-methylphenol	30.0	30.9		ug/L		103	39 - 140
2-Chloronaphthalene	30.0	28.5		ug/L		95	52 - 120
2-Chlorophenol	30.0	28.1		ug/L		94	34 - 120
4-Chlorophenyl phenyl ether	30.0	30.5		ug/L		102	58 - 124
Dibenz[a,h]acridine	30.0	28.0		ug/L		93	46 - 149
Dibenzofuran	30.0	28.7		ug/L		96	58 - 123
3,3'-Dichlorobenzidine	40.0	66.9	E *	ug/L		167	39 - 135
2,4-Dichlorophenol	30.0	30.1		ug/L		100	39 - 128
Diethyl phthalate	30.0	29.7		ug/L		99	44 - 146
2,4-Dimethylphenol	30.0	28.9		ug/L		96	44 - 120
Dimethyl phthalate	30.0	30.2		ug/L		101	50 - 131
Di-n-butyl phthalate	30.0	28.3		ug/L		94	55 - 131
4,6-Dinitro-ortho-cresol	60.0	66.5		ug/L		111	10 - 150
2,4-Dinitrophenol	60.0	70.5		ug/L		118	10 - 150
2,4-Dinitrotoluene	30.0	28.9		ug/L		96	58 - 140
2,6-Dinitrotoluene	30.0	29.1		ug/L		97	57 - 130
Di-n-octyl phthalate	30.0	31.2		ug/L		104	50 - 150
1,4-Dioxane	30.0	19.9		ug/L		66	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.8		ug/L		93	47 - 123
Hexachlorobenzene	30.0	30.9		ug/L		103	52 - 131
Hexachlorocyclopentadiene	30.0	17.2	J	ug/L		57	10 - 129
Hexachloroethane	30.0	18.3		ug/L		61	41 - 120
Indene	30.0	23.9		ug/L		80	47 - 120
Isophorone	30.0	27.8		ug/L		93	49 - 120
2-Methylphenol	30.0	28.5		ug/L		95	39 - 123
3 & 4 Methylphenol	30.0	28.3		ug/L		94	38 - 121
2-Nitroaniline	30.0	28.7		ug/L		96	47 - 150
3-Nitroaniline	30.0	25.2		ug/L		84	34 - 132
4-Nitroaniline	30.0	27.1		ug/L		90	41 - 135
Nitrobenzene	30.0	26.8		ug/L		89	47 - 120
2-Nitrophenol	30.0	29.2		ug/L		97	28 - 136
4-Nitrophenol	60.0	55.5		ug/L		93	10 - 150
N-Nitrosodimethylamine	30.0	26.0		ug/L		87	22 - 148
N-Nitrosodi-n-propylamine	30.0	27.9		ug/L		93	44 - 120
N-Nitrosodiphenylamine	29.8	30.5		ug/L		102	56 - 120
Pentachlorophenol	60.0	70.5		ug/L		117	15 - 141
Phenol	30.0	26.4		ug/L		88	33 - 120
Pyridine	60.0	50.4		ug/L		84	26 - 120
Quinoline	30.0	27.2		ug/L		91	51 - 129
2,4,5-Trichlorophenol	30.0	30.1		ug/L		100	38 - 147
2,4,6-Trichlorophenol	30.0	30.9		ug/L		103	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*34 - 120*
2-Fluorophenol	*78*		*10 - 120*
Nitrobenzene-d5	*91*		*27 - 120*
Phenol-d5	*86*		*10 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450172/2-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450172

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*102*		*53 - 125*
2,4,6-Tribromophenol	*89*		*15 - 135*

Lab Sample ID: LCSD 400-450172/3-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	28.5		ug/L		95	29 - 120	4	30
Benzoic acid			117	98.7		ug/L		85	10 - 150	12	30
Benzyl alcohol			30.0	31.3		ug/L		104	19 - 125	7	30
Bis(2-chloroethoxy)methane			30.0	28.6		ug/L		95	45 - 120	5	30
Bis(2-chloroethyl)ether			30.0	27.4		ug/L		91	48 - 120	8	30
bis (2-chloroisopropyl) ether			30.0	26.2		ug/L		87	30 - 125	6	30
Bis(2-ethylhexyl) phthalate			30.0	33.2		ug/L		111	48 - 150	8	30
4-Bromophenyl phenyl ether			30.0	34.1		ug/L		114	55 - 122	9	30
Butyl benzyl phthalate			30.0	31.4		ug/L		105	46 - 145	10	30
4-Chloroaniline			30.0	26.0		ug/L		87	30 - 120	9	30
4-Chloro-3-methylphenol			30.0	32.9		ug/L		110	39 - 140	6	30
2-Chloronaphthalene			30.0	30.4		ug/L		101	52 - 120	6	30
2-Chlorophenol			30.0	29.8		ug/L		99	34 - 120	6	30
4-Chlorophenyl phenyl ether			30.0	33.0		ug/L		110	58 - 124	8	30
Dibenz[a,h]acridine			30.0	32.7		ug/L		109	46 - 149	16	30
Dibenzofuran			30.0	31.0		ug/L		103	58 - 123	8	30
3,3'-Dichlorobenzidine			40.0	72.9	E *	ug/L		182	39 - 135	9	30
2,4-Dichlorophenol			30.0	32.1		ug/L		107	39 - 128	6	30
Diethyl phthalate			30.0	32.7		ug/L		109	44 - 146	9	30
2,4-Dimethylphenol			30.0	30.5		ug/L		102	44 - 120	5	30
Dimethyl phthalate			30.0	32.3		ug/L		108	50 - 131	7	30
Di-n-butyl phthalate			30.0	31.3		ug/L		104	55 - 131	10	30
4,6-Dinitro-ortho-cresol			60.0	71.7		ug/L		119	10 - 150	8	30
2,4-Dinitrophenol			60.0	79.5		ug/L		133	10 - 150	12	30
2,4-Dinitrotoluene			30.0	32.4		ug/L		108	58 - 140	11	30
2,6-Dinitrotoluene			30.0	31.6		ug/L		105	57 - 130	8	30
Di-n-octyl phthalate			30.0	34.2		ug/L		114	50 - 150	9	30
1,4-Dioxane			30.0	20.2		ug/L		67	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	30.1		ug/L		100	47 - 123	8	30
Hexachlorobenzene			30.0	34.5		ug/L		115	52 - 131	11	30
Hexachlorocyclopentadiene			30.0	18.8	J	ug/L		63	10 - 129	9	30
Hexachloroethane			30.0	19.0		ug/L		63	41 - 120	4	30
Indene			30.0	24.7		ug/L		82	47 - 120	4	30
Isophorone			30.0	29.6		ug/L		99	49 - 120	6	30
2-Methylphenol			30.0	30.2		ug/L		101	39 - 123	6	30
3 & 4 Methylphenol			30.0	30.0		ug/L		100	38 - 121	6	30
2-Nitroaniline			30.0	30.6		ug/L		102	47 - 150	6	30
3-Nitroaniline			30.0	27.0		ug/L		90	34 - 132	7	30
4-Nitroaniline			30.0	29.7		ug/L		99	41 - 135	9	30
Nitrobenzene			30.0	28.6		ug/L		95	47 - 120	7	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-450172/3-A
Matrix: Water
Analysis Batch: 450777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 450172

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitrophenol			30.0	32.1		ug/L		107	28 - 136	9	30
4-Nitrophenol			60.0	58.6		ug/L		98	10 - 150	5	30
N-Nitrosodimethylamine			30.0	27.8		ug/L		93	22 - 148	7	30
N-Nitrosodi-n-propylamine			30.0	29.3		ug/L		98	44 - 120	5	30
N-Nitrosodiphenylamine			29.8	32.7		ug/L		110	56 - 120	7	30
Pentachlorophenol			60.0	77.8		ug/L		130	15 - 141	10	30
Phenol			30.0	27.0		ug/L		90	33 - 120	2	30
Pyridine			60.0	52.0		ug/L		87	26 - 120	3	30
Quinoline			30.0	29.3		ug/L		98	51 - 129	8	30
2,4,5-Trichlorophenol			30.0	32.6		ug/L		109	38 - 147	8	30
2,4,6-Trichlorophenol			30.0	32.9		ug/L		110	36 - 139	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*92*		*34 - 120*
2-Fluorophenol	*76*		*10 - 120*
Nitrobenzene-d5	*94*		*27 - 120*
Phenol-d5	*83*		*10 - 120*
Terphenyl-d14	*109*		*53 - 125*
2,4,6-Tribromophenol	*93*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 05:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/24/19 15:00*	*08/03/19 05:43*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	123		33 - 138	07/24/19 15:00	08/03/19 05:43	1

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.0		ug/L		80	41 - 120
Acenaphthylene	30.0	27.2		ug/L		91	44 - 120
Anthracene	30.0	26.8		ug/L		89	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	27.2		ug/L		91	52 - 120
Benzo[b]fluoranthene	30.0	27.9		ug/L		93	53 - 134
Benzo[g,h,i]perylene	30.0	27.3		ug/L		91	47 - 133
Benzo[k]fluoranthene	30.0	25.7		ug/L		86	57 - 134
Chrysene	30.0	24.2		ug/L		81	55 - 122
Dibenz(a,h)anthracene	30.0	27.5		ug/L		92	48 - 146
Fluoranthene	30.0	25.8		ug/L		86	54 - 128
Fluorene	30.0	26.7		ug/L		89	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	27.9		ug/L		93	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	18.8		ug/L		63	32 - 124
Phenanthrene	30.0	26.7		ug/L		89	48 - 120
Pyrene	30.0	25.5		ug/L		85	48 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	77		15 - 122
Nitrobenzene-d5	68		19 - 130
Terphenyl-d14	89		33 - 138

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	25.4		ug/L		85	41 - 120	6	56
Acenaphthylene	30.0	30.1		ug/L		100	44 - 120	10	56
Anthracene	30.0	28.8		ug/L		96	49 - 120	7	51
Benzo[a]anthracene	30.0	27.1		ug/L		90	61 - 135	7	49
Benzo[a]pyrene	30.0	29.3		ug/L		98	52 - 120	7	50
Benzo[b]fluoranthene	30.0	30.2		ug/L		101	53 - 134	8	54
Benzo[g,h,i]perylene	30.0	29.9		ug/L		100	47 - 133	9	50
Benzo[k]fluoranthene	30.0	28.9		ug/L		96	57 - 134	12	52
Chrysene	30.0	26.7		ug/L		89	55 - 122	10	50
Dibenz(a,h)anthracene	30.0	30.3		ug/L		101	48 - 146	10	50
Fluoranthene	30.0	28.6		ug/L		95	54 - 128	10	52
Fluorene	30.0	27.9		ug/L		93	45 - 125	4	56
Indeno[1,2,3-cd]pyrene	30.0	30.2		ug/L		101	43 - 142	8	51

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173405-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene			30.0	21.6		ug/L		72	41 - 120	9	55
2-Methylnaphthalene			30.0	21.2		ug/L		71	32 - 124	12	57
Phenanthrene			30.0	28.7		ug/L		96	48 - 120	7	56
Pyrene			30.0	27.6		ug/L		92	48 - 132	8	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*69*		*19 - 130*
Terphenyl-d14	*96*		*33 - 138*

Lab Sample ID: 400-173405-4 MS
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		29.1	24.9		ug/L		86	35 - 113
Acenaphthylene	ND		29.1	27.0		ug/L		93	41 - 118
Anthracene	ND		29.1	26.1		ug/L		90	45 - 122
Benzo[a]anthracene	ND		29.1	21.9		ug/L		76	55 - 133
Benzo[a]pyrene	ND		29.1	23.3		ug/L		80	50 - 108
Benzo[b]fluoranthene	ND		29.1	23.1		ug/L		80	50 - 128
Benzo[g,h,i]perylene	ND		29.1	22.0		ug/L		76	46 - 133
Benzo[k]fluoranthene	ND		29.1	22.7		ug/L		78	52 - 128
Chrysene	ND		29.1	21.6		ug/L		74	52 - 116
Dibenz(a,h)anthracene	ND		29.1	23.6		ug/L		81	52 - 143
Fluoranthene	ND		29.1	27.2		ug/L		94	32 - 150
Fluorene	ND		29.1	27.7		ug/L		95	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.1	23.2		ug/L		80	41 - 141
1-Methylnaphthalene	0.38		29.1	22.9		ug/L		77	10 - 150
2-Methylnaphthalene	0.66		29.1	22.1		ug/L		74	10 - 150
Phenanthrene	ND		29.1	26.3		ug/L		90	36 - 125
Pyrene	ND		29.1	23.0		ug/L		79	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*87*		*15 - 122*
Nitrobenzene-d5	*76*		*19 - 130*
Terphenyl-d14	*44*		*33 - 138*

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		30.3	23.5		ug/L		77	35 - 113	6	49
Acenaphthylene	ND		30.3	25.9		ug/L		86	41 - 118	4	48
Anthracene	ND		30.3	25.2		ug/L		83	45 - 122	4	56
Benzo[a]anthracene	ND		30.3	20.3		ug/L		67	55 - 133	8	57
Benzo[a]pyrene	ND		30.3	21.6		ug/L		71	50 - 108	8	59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173405-4 MSD
Matrix: Water
Analysis Batch: 450726

Client Sample ID: PD-2-GWP-44-071819
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene	ND		30.3	21.6		ug/L		71	50 - 128	7	62
Benzo[g,h,i]perylene	ND		30.3	19.2		ug/L		63	46 - 133	14	58
Benzo[k]fluoranthene	ND		30.3	19.7		ug/L		65	52 - 128	14	58
Chrysene	ND		30.3	19.8		ug/L		65	52 - 116	9	59
Dibenz(a,h)anthracene	ND		30.3	21.1		ug/L		70	52 - 143	11	60
Fluoranthene	ND		30.3	25.4		ug/L		84	32 - 150	7	59
Fluorene	ND		30.3	25.6		ug/L		84	15 - 150	8	49
Indeno[1,2,3-cd]pyrene	ND		30.3	20.4		ug/L		67	41 - 141	13	58
1-Methylnaphthalene	0.38		30.3	22.8		ug/L		74	10 - 150	0	66
2-Methylnaphthalene	0.66		30.3	22.0		ug/L		70	10 - 150	0	66
Phenanthrene	ND		30.3	24.8		ug/L		82	36 - 125	6	69
Pyrene	ND		30.3	21.4		ug/L		71	41 - 127	7	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*15 - 122*
Nitrobenzene-d5	*72*		*19 - 130*
Terphenyl-d14	*47*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (__Pensacola_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐ RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/18/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Brett Howell

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) __EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 SIM PAH

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

400-173405 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071819-B	7/18/2019	0:00	Water	2					2		x	
	PD-14-GWP-78.5-071819	7/18/2019	9:30	Water	2			2		4	x	x	x
	PD-14-GWP-78.5-071819-EB	7/18/2019	9:50	Water	2			2		4	x	x	x
	PD-2-GWP-44-071819	7/18/2019	13:05	Water	2			2		4	x	x	x
	PD-2-GWP-44-071819-MS	7/18/2019	13:05	Water	2			2		4	x	x	x
	PD-2-GWP-44-071819-MSD	7/18/2019	13:05	Water	2			2		4	x	x	x
	PD-2-GWP-50-071819	7/18/2019	14:10	Water	2			2		4	x	x	x
	PD-2-GWP-50-071819-DUP	7/18/2019	14:10	Water	2			2		4	x	x	x
	PD-2-GWP-50-071819-EB	7/18/2019	14:45	Water	2			2		4	x	x	x
	PD-2-GWP-59-071819	7/18/2019	15:40	Water	2			2		4	x	x	x

	Relinquished by: (Signature)	Received by: (Signature)	Date	Time
1	Brett Howell	Fedex: 4931 8203 7513 4931 8203 7465 / 4931 8203 7454	7/18/2019	18:00
2				
3			7-19-19	9:15

custody seals: 1011628, 1011629, 1011650, 1011651, 1011649, 1011648

2.5°, 4.5°, 4.3° IR7

Version: 10May17

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10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173405-1

Login Number: 173405
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5°C, 4.5°C, 4.3°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173405-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173468

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/6/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-071919-B	PD-2-GWP-65-071919
PD-2-GWP-70-071919	PD-2-GWP-74.5-071919
PD-2-GWP-74.5-071919-EB	PD-17-GWP-45-071919
PD-17-GWP-45-071919-EB	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the SVOC compound bis(2-ethylhexyl) phthalate was detected in the method blank. The VOC compound acetone was detected in the equipment blank. SVOC LCSD recovery and LCS/LCSD RPDs were outside evaluation criteria. SVOC surrogates were outside evaluation criteria in several samples. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-17-GWP-45-071919-EB	VOCs	Acetone	11 μg/L
MB 400-449321/1-A	SVOCs	bis(2-ethylhexyl) Phthalate	7.40 μg/L

Analytical data that were reported non-detect or at concentrations greater than five times

(5X) the associated blank concentration, ten times (10X) for common laboratory contaminants did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449321/2-A	SVOCs	Benzoic acid	26/38	**40**	10-150/30
400-449321/8-A	SVOCs	Benzenethiol	70/**4**	**178**	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-2-GWP-65-071919	SVOCs	Benzenethiol	**UJ**
PD-2-GWP-70-071919	SVOCs	Benzenethiol	**UJ**
PD-2-GWP-74.5-071919	SVOCs	Benzenethiol	**UJ**
PD-17-GWP-45-071919	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-2-GWP-74.5-071919	SVOCs	Terphenyl-d_{14}	**45**	53-125
PD-2-GWP-74.5-071919-EB	SVOCs	Nitrobenzene-d_5	**128**	27-120
PD-17-GWP-45-071919	SVOCs	Terphenyl-d_{14}	**25**	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

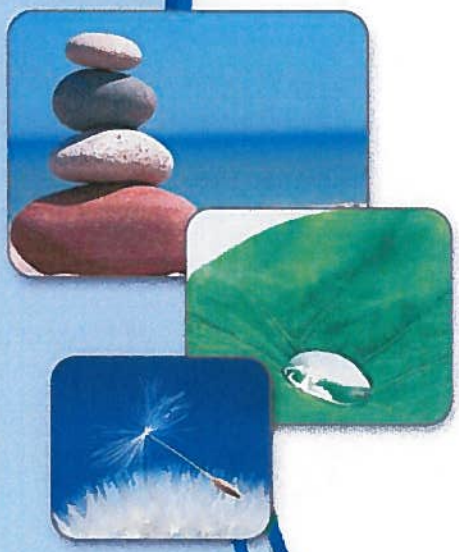
Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173468-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/6/2019 9:14:50 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/6/2019

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Job ID: 400-173468-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173468-1

Comments
No additional comments.

Receipt
The samples were received on 7/20/2019 8:17 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.7° C and 3.4° C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-2-GWP-65-071919 (400-173468-2) and PD17-GWP-45-071919 (400-173468-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071919-B (400-173468-1), PD-2-GWP-65-071919 (400-173468-2), PD-2-GWP-70-071919 (400-173468-3), PD-2-GWP-74.5-071919 (400-173468-4), PD-2-GWP-74.5-071919-EB (400-173468-5), PD17-GWP-45-071919 (400-173468-6) and PD17-GWP-45-071919-EB (400-173468-7). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: Sample PD17-GWP-45-071919-EB (400-173468-7) contains Acetone above the method detection limit (MDL). Reanalysis was performed with concurring results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for Dibenz[a,h]acridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for N-Nitrosodimethylamine, 2,4,6-Trichlorophenol, 2,4-Dinitrophenol, 4-Nitrophenol, 2,4,5-Trichlorophenol, Diethyl phthalate, 2,6-Dinitrotoluene, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 2,4-Dichlorophenol, 4,6-Dinitro-2-methylphenol, 4-Bromophenyl phenyl ether and 2,4-Dimethylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Quinoline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD17-GWP-45-071919 (400-173468-6). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,2'-oxybis[1-chloropropane], 4-Nitrophenol, Nitrobenzene, Diethyl phthalate, Bis(2-ethylhexyl) phthalate, Di-n-butyl phthalate, 4-Chloro-3-methylphenol, N-Nitrosodi-n-propylamine, 2-Methylphenol, 2,4-Dichlorophenol, 1,2-Diphenylhydrazine (as Azobenzene), 4-Chloroaniline, 4,6-Dinitro-ortho-cresol, 2-Chlorophenol, 3 & 4 Methylphenol, Benzyl alcohol, Di-n-octyl phthalate, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Job ID: 400-173468-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (400-173405-C-4-A MSD). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-2-GWP-74.5-071919 (400-173468-4) and PD-2-GWP-74.5-071919-EB (400-173468-5). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449321 and analytical batch 400-449680 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The method blank for preparation batch 400-449321 and analytical batch 400-449680 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Indene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 4-Nitrophenol, 2,2'-oxybis[1-chloropropane] and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-450063/2).

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449321 and analytical batch 400-450203 recovered outside control limits for the following analytes: Benzoic acid.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered above the upper control limit for 4-Nitrophenol and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Job ID: 400-173468-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173468-1	TB-PW-071919-B	Water	07/19/19 00:00	07/20/19 08:17	
400-173468-2	PD-2-GWP-65-071919	Water	07/19/19 09:10	07/20/19 08:17	
400-173468-3	PD-2-GWP-70-071919	Water	07/19/19 10:20	07/20/19 08:17	
400-173468-4	PD-2-GWP-74.5-071919	Water	07/19/19 11:40	07/20/19 08:17	
400-173468-5	PD-2-GWP-74.5-071919-EB	Water	07/19/19 14:00	07/20/19 08:17	
400-173468-6	PD17-GWP-45-071919	Water	07/19/19 14:50	07/20/19 08:17	
400-173468-7	PD17-GWP-45-071919-EB	Water	07/19/19 15:50	07/20/19 08:17	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B — Lab Sample ID: 400-173468-1

No Detections.

Client Sample ID: PD-2-GWP-65-071919 — Lab Sample ID: 400-173468-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	10000		50	19	ug/L	50		8260B	Total/NA
1-Methylnaphthalene	0.25		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.13	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	84		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-2-GWP-70-071919 — Lab Sample ID: 400-173468-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.55	J	1.0	0.41	ug/L	1		8260B	Total/NA

Client Sample ID: PD-2-GWP-74.5-071919 — Lab Sample ID: 400-173468-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	54		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.4		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.44	J	1.0	0.41	ug/L	1		8260B	Total/NA

Client Sample ID: PD-2-GWP-74.5-071919-EB — Lab Sample ID: 400-173468-5

No Detections.

Client Sample ID: PD17-GWP-45-071919 — Lab Sample ID: 400-173468-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	100	J	250	100	ug/L	250		8260B	Total/NA
Benzene - DL	180000		1000	380	ug/L	1000		8260B	Total/NA
Acenaphthene	3.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
Anthracene	0.27		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.097	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.16	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.13	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.15	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.8		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	4.7		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.54		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.67		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.55		0.19	0.019	ug/L	1		8270D LL	Total/NA
Dibenzofuran	0.70	J	9.7	0.50	ug/L	1		8270D	Total/NA
Phenol	90		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD17-GWP-45-071919-EB — Lab Sample ID: 400-173468-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11	J	25	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B

Date Collected: 07/19/19 00:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 13:48	1
Acrolein	ND		20	10	ug/L			07/24/19 13:48	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 13:48	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 13:48	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 13:48	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 13:48	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 13:48	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 13:48	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 13:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 13:48	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 13:48	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 13:48	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 13:48	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 13:48	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 13:48	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 13:48	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 13:48	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 13:48	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 13:48	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 13:48	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 13:48	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 13:48	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 13:48	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 13:48	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 13:48	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 13:48	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 13:48	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 13:48	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 13:48	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 13:48	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 13:48	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 13:48	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 13:48	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B

Date Collected: 07/19/19 00:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 13:48	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 13:48	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 13:48	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 13:48	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 13:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 13:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 13:48	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 13:48	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 13:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 13:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 13:48	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 13:48	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 13:48	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 13:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 13:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 13:48	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 13:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 13:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1.0*		*ug/L*		*2.73*	*110-54-3*		*07/24/19 13:48*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 13:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/24/19 13:48*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 13:48*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/24/19 13:48*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-65-071919

Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	500	ug/L			07/24/19 19:57	50
Acrolein	ND		1000	500	ug/L			07/24/19 19:57	50
Acrylonitrile	ND		500	140	ug/L			07/24/19 19:57	50
Benzene	**10000**		50	19	ug/L			07/24/19 19:57	50
Bromobenzene	ND		50	27	ug/L			07/24/19 19:57	50
Bromochloromethane	ND		50	26	ug/L			07/24/19 19:57	50
Bromodichloromethane	ND		50	25	ug/L			07/24/19 19:57	50
Bromoform	ND		250	36	ug/L			07/24/19 19:57	50
Bromomethane	ND		50	49	ug/L			07/24/19 19:57	50
2-Butanone (MEK)	ND		1300	130	ug/L			07/24/19 19:57	50
Carbon disulfide	ND		50	25	ug/L			07/24/19 19:57	50
Carbon tetrachloride	ND		50	25	ug/L			07/24/19 19:57	50
Chlorobenzene	ND		50	25	ug/L			07/24/19 19:57	50
Chloroethane	ND		50	38	ug/L			07/24/19 19:57	50
2-Chloroethyl vinyl ether	ND		250	100	ug/L			07/24/19 19:57	50
Chloroform	ND		50	30	ug/L			07/24/19 19:57	50
1-Chlorohexane	ND		50	35	ug/L			07/24/19 19:57	50
Chloromethane	ND		50	42	ug/L			07/24/19 19:57	50
cis-1,2-Dichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
cis-1,3-Dichloropropene	ND		250	25	ug/L			07/24/19 19:57	50
Dibromochloromethane	ND		50	25	ug/L			07/24/19 19:57	50
1,2-Dibromo-3-Chloropropane	ND		250	75	ug/L			07/24/19 19:57	50
1,2-Dichlorobenzene	ND		50	25	ug/L			07/24/19 19:57	50
1,3-Dichlorobenzene	ND		50	27	ug/L			07/24/19 19:57	50
1,4-Dichlorobenzene	ND		50	32	ug/L			07/24/19 19:57	50
Dichlorodifluoromethane	ND		50	43	ug/L			07/24/19 19:57	50
1,1-Dichloroethane	ND		50	25	ug/L			07/24/19 19:57	50
1,2-Dichloroethane	ND		50	25	ug/L			07/24/19 19:57	50
1,1-Dichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
1,2-Dichloropropane	ND		50	25	ug/L			07/24/19 19:57	50
1,3-Dichloropropane	ND		50	25	ug/L			07/24/19 19:57	50
2,2-Dichloropropane	ND		50	25	ug/L			07/24/19 19:57	50
1,1-Dichloropropene	ND		50	25	ug/L			07/24/19 19:57	50
Ethylbenzene	ND		50	25	ug/L			07/24/19 19:57	50
Ethylene Dibromide	ND		50	25	ug/L			07/24/19 19:57	50
Ethyl methacrylate	ND		50	30	ug/L			07/24/19 19:57	50
Hexachlorobutadiene	ND		250	45	ug/L			07/24/19 19:57	50
2-Hexanone	ND		1300	160	ug/L			07/24/19 19:57	50
Isopropylbenzene	ND		50	27	ug/L			07/24/19 19:57	50
Methylene bromide	ND		250	30	ug/L			07/24/19 19:57	50
Methylene Chloride	ND		250	150	ug/L			07/24/19 19:57	50
4-Methyl-2-pentanone (MIBK)	ND		1300	90	ug/L			07/24/19 19:57	50
Methyl tert-butyl ether	ND		50	37	ug/L			07/24/19 19:57	50
m-Xylene & p-Xylene	ND		250	80	ug/L			07/24/19 19:57	50
Naphthalene	ND		50	50	ug/L			07/24/19 19:57	50
n-Butylbenzene	ND		50	38	ug/L			07/24/19 19:57	50
N-Propylbenzene	ND		50	35	ug/L			07/24/19 19:57	50
o-Chlorotoluene	ND		50	29	ug/L			07/24/19 19:57	50
o-Xylene	ND		250	30	ug/L			07/24/19 19:57	50

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-65-071919

Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		50	28	ug/L			07/24/19 19:57	50
p-Isopropyltoluene	ND		50	36	ug/L			07/24/19 19:57	50
sec-Butylbenzene	ND		50	35	ug/L			07/24/19 19:57	50
Styrene	ND		50	50	ug/L			07/24/19 19:57	50
tert-Butylbenzene	ND		50	32	ug/L			07/24/19 19:57	50
1,1,1,2-Tetrachloroethane	ND		50	26	ug/L			07/24/19 19:57	50
1,1,2,2-Tetrachloroethane	ND		50	25	ug/L			07/24/19 19:57	50
Tetrachloroethene	ND		50	29	ug/L			07/24/19 19:57	50
Toluene	ND		50	21	ug/L			07/24/19 19:57	50
trans-1,2-Dichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
trans-1,3-Dichloropropene	ND		250	25	ug/L			07/24/19 19:57	50
1,2,3-Trichlorobenzene	ND		50	35	ug/L			07/24/19 19:57	50
1,2,4-Trichlorobenzene	ND		50	41	ug/L			07/24/19 19:57	50
1,1,1-Trichloroethane	ND		50	25	ug/L			07/24/19 19:57	50
1,1,2-Trichloroethane	ND		250	25	ug/L			07/24/19 19:57	50
Trichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
Trichlorofluoromethane	ND		50	26	ug/L			07/24/19 19:57	50
1,2,3-Trichloropropane	ND		250	42	ug/L			07/24/19 19:57	50
1,2,4-Trimethylbenzene	ND		50	41	ug/L			07/24/19 19:57	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			07/24/19 19:57	50
Vinyl acetate	ND		1300	100	ug/L			07/24/19 19:57	50
Vinyl chloride	ND		50	25	ug/L			07/24/19 19:57	50
Xylenes, Total	ND		500	80	ug/L			07/24/19 19:57	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 19:57*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/24/19 19:57*	*50*
Dibromofluoromethane	*95*		*81 - 121*		*07/24/19 19:57*	*50*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/24/19 19:57*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 11:25	08/03/19 09:07	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
1-Methylnaphthalene	**0.25**		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
2-Methylnaphthalene	**0.13**	J	0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-65-071919

Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:07*	*1*
Nitrobenzene-d5	*78*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:07*	*1*
Terphenyl-d14	*88*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 11:25	07/26/19 23:33	1
Benzoic acid	ND	*	30	7.3	ug/L		07/24/19 11:25	07/26/19 23:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 11:25	07/26/19 23:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 11:25	07/26/19 23:33	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 11:25	07/26/19 23:33	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 11:25	07/26/19 23:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 11:25	07/26/19 23:33	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 11:25	07/26/19 23:33	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 11:25	07/26/19 23:33	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 11:25	07/26/19 23:33	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 11:25	07/26/19 23:33	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 11:25	07/26/19 23:33	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 11:25	07/26/19 23:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 11:25	07/26/19 23:33	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
Indene	ND		10	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Isophorone	ND		10	0.57	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 11:25	07/26/19 23:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-65-071919

Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 11:25	07/26/19 23:33	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 11:25	07/26/19 23:33	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 11:25	07/26/19 23:33	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 11:25	07/26/19 23:33	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
Phenol	**84**		10	2.6	ug/L		07/24/19 11:25	07/26/19 23:33	1
Pyridine	ND		10	3.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
Quinoline	ND		10	6.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 11:25	07/26/19 23:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*6.3*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
o-Xylene	*5.6*	*T J N*	*ug/L*		*4.82*	*95-47-6*	*07/24/19 11:25*	*07/26/19 23:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*34 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
2-Fluorophenol	*42*		*10 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
Nitrobenzene-d5	*83*		*27 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
Phenol-d5	*59*		*10 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
Terphenyl-d14	*55*		*53 - 125*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
2,4,6-Tribromophenol	*55*		*15 - 135*	*07/24/19 11:25*	*07/26/19 23:33*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-70-071919
Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 19:04	1
Acrolein	ND		20	10	ug/L			07/24/19 19:04	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 19:04	1
Benzene	**13**		1.0	0.38	ug/L			07/24/19 19:04	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 19:04	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 19:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 19:04	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 19:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 19:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 19:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 19:04	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 19:04	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 19:04	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 19:04	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:04	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 19:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 19:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 19:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 19:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 19:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 19:04	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 19:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 19:04	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 19:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 19:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 19:04	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/24/19 19:04	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 19:04	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 19:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 19:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 19:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 19:04	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 19:04	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-70-071919

Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 19:04	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 19:04	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 19:04	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 19:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 19:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 19:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 19:04	1
Toluene	**0.55**	**J**	1.0	0.41	ug/L			07/24/19 19:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 19:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 19:04	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 19:04	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 19:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 19:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 19:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 19:04	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 19:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 19:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*100*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 19:04*	*1*
2-Methyl-2-propanol	*5.0*	*J*	*ug/L*		*2.50*	*75-65-0*		*07/24/19 19:04*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 19:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/24/19 19:04*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/24/19 19:04*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*07/24/19 19:04*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 11:25	08/03/19 09:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-70-071919

Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:25*	*1*
Nitrobenzene-d5	*87*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:25*	*1*
Terphenyl-d14	*92*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		07/24/19 11:25	07/26/19 20:23	1
Benzoic acid	ND	*	30	7.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/24/19 11:25	07/26/19 20:23	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/24/19 11:25	07/26/19 20:23	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/24/19 11:25	07/26/19 20:23	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/24/19 11:25	07/26/19 20:23	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/24/19 11:25	07/26/19 20:23	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/24/19 11:25	07/26/19 20:23	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/24/19 11:25	07/26/19 20:23	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/24/19 11:25	07/26/19 20:23	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		07/24/19 11:25	07/26/19 20:23	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/24/19 11:25	07/26/19 20:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/24/19 11:25	07/26/19 20:23	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/24/19 11:25	07/26/19 20:23	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 11:25	07/26/19 20:23	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
Indene	ND		9.9	0.99	ug/L		07/24/19 11:25	07/26/19 20:23	1
Isophorone	ND		9.9	0.56	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/24/19 11:25	07/26/19 20:23	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-70-071919

Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.9	1.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/24/19 11:25	07/26/19 20:23	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/24/19 11:25	07/26/19 20:23	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/24/19 11:25	07/26/19 20:23	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/24/19 11:25	07/26/19 20:23	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/24/19 11:25	07/26/19 20:23	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
Phenol	ND		9.9	2.6	ug/L		07/24/19 11:25	07/26/19 20:23	1
Pyridine	ND		9.9	3.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
Quinoline	ND		9.9	5.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/24/19 11:25	07/26/19 20:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*4.9*	*T J N*	*ug/L*		*3.96*	*590-90-9*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
n-Hexadecanoic acid	*11*	*T J N*	*ug/L*		*9.01*	*57-10-3*	*07/24/19 11:25*	*07/26/19 20:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*34 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
2-Fluorophenol	*48*		*10 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
Nitrobenzene-d5	*88*		*27 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
Phenol-d5	*61*		*10 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/24/19 11:25*	*07/26/19 20:23*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919

Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 19:31	1
Acrolein	ND		20	10	ug/L			07/24/19 19:31	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 19:31	1
Benzene	**54**		1.0	0.38	ug/L			07/24/19 19:31	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 19:31	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 19:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 19:31	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 19:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 19:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 19:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 19:31	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 19:31	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 19:31	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 19:31	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:31	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 19:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 19:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 19:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 19:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 19:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 19:31	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 19:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 19:31	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 19:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 19:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 19:31	1
Methyl tert-butyl ether	**4.4**		1.0	0.74	ug/L			07/24/19 19:31	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 19:31	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 19:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 19:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 19:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 19:31	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 19:31	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919

Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 19:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 19:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 19:31	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 19:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 19:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 19:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 19:31	1
Toluene	**0.44**	**J**	1.0	0.41	ug/L			07/24/19 19:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 19:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 19:31	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 19:31	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 19:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 19:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 19:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 19:31	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 19:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 19:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*64*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 19:31*	*1*
2-Methyl-2-propanol	*10*		*ug/L*		*2.49*	*75-65-0*		*07/24/19 19:31*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 19:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/24/19 19:31*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 19:31*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*07/24/19 19:31*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Chrysene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 11:25	08/03/19 09:42	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919

Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:42*	*1*
Nitrobenzene-d5	*74*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:42*	*1*
Terphenyl-d14	*73*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/24/19 11:25	07/27/19 00:15	1
Benzenethiol	ND	UJ	9.8	1.7	ug/L		07/24/19 11:25	07/27/19 00:15	1
Benzoic acid	ND	*	29	7.2	ug/L		07/24/19 11:25	07/27/19 00:15	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/24/19 11:25	07/27/19 00:15	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/24/19 11:25	07/27/19 00:15	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/24/19 11:25	07/27/19 00:15	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/24/19 11:25	07/30/19 19:57	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/24/19 11:25	07/27/19 00:15	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/24/19 11:25	07/27/19 00:15	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/24/19 11:25	07/27/19 00:15	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/24/19 11:25	07/27/19 00:15	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/24/19 11:25	07/27/19 00:15	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/24/19 11:25	07/27/19 00:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/24/19 11:25	07/27/19 00:15	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/24/19 11:25	07/27/19 00:15	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/24/19 11:25	07/27/19 00:15	1
Indene	ND		9.8	0.98	ug/L		07/24/19 11:25	07/27/19 00:15	1
Isophorone	ND		9.8	0.56	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/24/19 11:25	07/27/19 00:15	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/24/19 11:25	07/27/19 00:15	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919
Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/24/19 11:25	07/27/19 00:15	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/24/19 11:25	07/27/19 00:15	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/24/19 11:25	07/27/19 00:15	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/24/19 11:25	07/27/19 00:15	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/24/19 11:25	07/27/19 00:15	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 11:25	07/27/19 00:15	1
Phenol	ND		9.8	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
Pyridine	ND		9.8	3.1	ug/L		07/24/19 11:25	07/27/19 00:15	1
Quinoline	ND		9.8	5.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/24/19 11:25	07/27/19 00:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Propylene Glycol	*6.1*	*T J N*	*ug/L*		*3.51*	*57-55-6*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
2-Butanone, 4-hydroxy-	*44*	*T J N*	*ug/L*		*3.96*	*590-90-9*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
n-Hexadecanoic acid	*4.3*	*T J N*	*ug/L*		*9.01*	*57-10-3*	*07/24/19 11:25*	*07/27/19 00:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
2-Fluorophenol	*38*		*10 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
Phenol-d5	*53*		*10 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
Terphenyl-d14	*45*	*X*	*53 - 125*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
2,4,6-Tribromophenol	*48*		*15 - 135*	*07/24/19 11:25*	*07/27/19 00:15*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 14:14	1
Acrolein	ND		20	10	ug/L			07/24/19 14:14	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 14:14	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 14:14	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 14:14	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 14:14	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 14:14	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 14:14	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 14:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 14:14	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 14:14	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 14:14	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 14:14	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 14:14	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:14	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 14:14	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 14:14	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 14:14	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 14:14	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 14:14	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 14:14	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 14:14	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 14:14	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 14:14	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 14:14	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 14:14	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 14:14	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 14:14	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 14:14	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 14:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 14:14	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 14:14	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 14:14	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 14:14	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 14:14	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 14:14	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 14:14	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 14:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 14:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 14:14	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 14:14	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 14:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 14:14	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 14:14	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 14:14	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 14:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 14:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 14:14	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 14:14	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 14:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*54*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 14:14*	*1*
2-Methyl-2-propanol	*4.9*	*J*	*ug/L*		*2.49*	*75-65-0*		*07/24/19 14:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 14:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*78 - 118*		*07/24/19 14:14*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 14:14*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 14:14*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 11:25	08/03/19 09:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-5

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:59*	*1*
Nitrobenzene-d5	*81*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:59*	*1*
Terphenyl-d14	*121*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
Benzenethiol	ND	UJ	9.6	1.6	ug/L		07/24/19 11:25	07/30/19 18:53	1
Benzoic acid	ND		29	7.0	ug/L		07/24/19 11:25	07/30/19 18:53	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/30/19 18:53	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/24/19 11:25	07/30/19 18:53	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 11:25	08/02/19 01:12	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 11:25	08/02/19 01:12	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 11:25	08/02/19 01:12	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 11:25	08/02/19 01:12	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 11:25	08/02/19 01:12	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 11:25	08/02/19 01:12	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 11:25	08/02/19 01:12	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 11:25	07/30/19 18:53	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 11:25	07/30/19 18:53	1
Diethyl phthalate	ND		9.6	0.68	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/24/19 11:25	07/30/19 18:53	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 11:25	08/02/19 01:12	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 11:25	07/30/19 18:53	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/30/19 18:53	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/30/19 18:53	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 11:25	08/02/19 01:12	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 11:25	07/30/19 18:53	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 11:25	07/30/19 18:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 11:25	07/30/19 18:53	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 11:25	08/02/19 01:12	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 11:25	08/02/19 01:12	1
Hexachloroethane	ND		9.6	4.1	ug/L		07/24/19 11:25	08/02/19 01:12	1
Indene	ND		9.6	0.96	ug/L		07/24/19 11:25	08/02/19 01:12	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 11:25	07/30/19 18:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 11:25	07/30/19 18:53	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 11:25	08/02/19 01:12	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 11:25	08/02/19 01:12	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 11:25	08/02/19 01:12	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 11:25	07/30/19 18:53	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
Phenol	ND		9.6	2.5	ug/L		07/24/19 11:25	07/30/19 18:53	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 11:25	07/30/19 18:53	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 11:25	08/02/19 01:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*8.7*	*T J*	*ug/L*		*3.92*		*07/24/19 11:25*	*08/02/19 01:12*	*1*
Unknown	*20*	*T J*	*ug/L*		*3.95*		*07/24/19 11:25*	*07/30/19 18:53*	*1*
Acrylamide	*1.3*	*J*	*ug/L*		*4.40*	*79-06-1*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Benzaldehyde	*2.8*	*J*	*ug/L*		*5.24*	*100-52-7*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
p-Phenylene diamine	*78*		*ug/L*		*6.36*	*106-50-3*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Unknown	*3.9*	*T J*	*ug/L*		*11.59*		*07/24/19 11:25*	*07/30/19 18:53*	*1*
13-Docosenamide, (Z)-	*12*	*T J N*	*ug/L*		*11.72*	*112-84-5*	*07/24/19 11:25*	*07/30/19 18:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*34 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
2-Fluorophenol	*82*		*10 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Nitrobenzene-d5	*128*	*X*	*27 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Phenol-d5	*98*		*10 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Terphenyl-d14	*120*		*53 - 125*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
2,4,6-Tribromophenol	*56*		*15 - 135*	*07/24/19 11:25*	*07/30/19 18:53*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		6300	2500	ug/L			07/24/19 20:24	250
Acrolein	ND		5000	2500	ug/L			07/24/19 20:24	250
Acrylonitrile	ND		2500	700	ug/L			07/24/19 20:24	250
Bromobenzene	ND		250	140	ug/L			07/24/19 20:24	250
Bromochloromethane	ND		250	130	ug/L			07/24/19 20:24	250
Bromodichloromethane	ND		250	130	ug/L			07/24/19 20:24	250
Bromoform	ND		1300	180	ug/L			07/24/19 20:24	250
Bromomethane	ND		250	250	ug/L			07/24/19 20:24	250
2-Butanone (MEK)	ND		6300	650	ug/L			07/24/19 20:24	250
Carbon disulfide	ND		250	130	ug/L			07/24/19 20:24	250
Carbon tetrachloride	ND		250	130	ug/L			07/24/19 20:24	250
Chlorobenzene	ND		250	130	ug/L			07/24/19 20:24	250
Chloroethane	ND		250	190	ug/L			07/24/19 20:24	250
2-Chloroethyl vinyl ether	ND		1300	500	ug/L			07/24/19 20:24	250
Chloroform	ND		250	150	ug/L			07/24/19 20:24	250
1-Chlorohexane	ND		250	180	ug/L			07/24/19 20:24	250
Chloromethane	ND		250	210	ug/L			07/24/19 20:24	250
cis-1,2-Dichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
cis-1,3-Dichloropropene	ND		1300	130	ug/L			07/24/19 20:24	250
Dibromochloromethane	ND		250	130	ug/L			07/24/19 20:24	250
1,2-Dibromo-3-Chloropropane	ND		1300	380	ug/L			07/24/19 20:24	250
1,2-Dichlorobenzene	ND		250	130	ug/L			07/24/19 20:24	250
1,3-Dichlorobenzene	ND		250	140	ug/L			07/24/19 20:24	250
1,4-Dichlorobenzene	ND		250	160	ug/L			07/24/19 20:24	250
Dichlorodifluoromethane	ND		250	210	ug/L			07/24/19 20:24	250
1,1-Dichloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,2-Dichloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,1-Dichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
1,2-Dichloropropane	ND		250	130	ug/L			07/24/19 20:24	250
1,3-Dichloropropane	ND		250	130	ug/L			07/24/19 20:24	250
2,2-Dichloropropane	ND		250	130	ug/L			07/24/19 20:24	250
1,1-Dichloropropene	ND		250	130	ug/L			07/24/19 20:24	250
Ethylbenzene	ND		250	130	ug/L			07/24/19 20:24	250
Ethylene Dibromide	ND		250	130	ug/L			07/24/19 20:24	250
Ethyl methacrylate	ND		250	150	ug/L			07/24/19 20:24	250
Hexachlorobutadiene	ND		1300	230	ug/L			07/24/19 20:24	250
2-Hexanone	ND		6300	780	ug/L			07/24/19 20:24	250
Isopropylbenzene	ND		250	130	ug/L			07/24/19 20:24	250
Methylene bromide	ND		1300	150	ug/L			07/24/19 20:24	250
Methylene Chloride	ND		1300	750	ug/L			07/24/19 20:24	250
4-Methyl-2-pentanone (MIBK)	ND		6300	450	ug/L			07/24/19 20:24	250
Methyl tert-butyl ether	ND		250	190	ug/L			07/24/19 20:24	250
m-Xylene & p-Xylene	ND		1300	400	ug/L			07/24/19 20:24	250
Naphthalene	ND		250	250	ug/L			07/24/19 20:24	250
n-Butylbenzene	ND		250	190	ug/L			07/24/19 20:24	250
N-Propylbenzene	ND		250	170	ug/L			07/24/19 20:24	250
o-Chlorotoluene	ND		250	140	ug/L			07/24/19 20:24	250
o-Xylene	ND		1300	150	ug/L			07/24/19 20:24	250
p-Chlorotoluene	ND		250	140	ug/L			07/24/19 20:24	250

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		250	180	ug/L			07/24/19 20:24	250
sec-Butylbenzene	ND		250	180	ug/L			07/24/19 20:24	250
Styrene	ND		250	250	ug/L			07/24/19 20:24	250
tert-Butylbenzene	ND		250	160	ug/L			07/24/19 20:24	250
1,1,1,2-Tetrachloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,1,2,2-Tetrachloroethane	ND		250	130	ug/L			07/24/19 20:24	250
Tetrachloroethene	ND		250	150	ug/L			07/24/19 20:24	250
Toluene	**100**	**J**	250	100	ug/L			07/24/19 20:24	250
trans-1,2-Dichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
trans-1,3-Dichloropropene	ND		1300	130	ug/L			07/24/19 20:24	250
1,2,3-Trichlorobenzene	ND		250	180	ug/L			07/24/19 20:24	250
1,2,4-Trichlorobenzene	ND		250	210	ug/L			07/24/19 20:24	250
1,1,1-Trichloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,1,2-Trichloroethane	ND		1300	130	ug/L			07/24/19 20:24	250
Trichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
Trichlorofluoromethane	ND		250	130	ug/L			07/24/19 20:24	250
1,2,3-Trichloropropane	ND		1300	210	ug/L			07/24/19 20:24	250
1,2,4-Trimethylbenzene	ND		250	210	ug/L			07/24/19 20:24	250
1,3,5-Trimethylbenzene	ND		250	140	ug/L			07/24/19 20:24	250
Vinyl acetate	ND		6300	500	ug/L			07/24/19 20:24	250
Vinyl chloride	ND		250	130	ug/L			07/24/19 20:24	250
Xylenes, Total	ND		2500	400	ug/L			07/24/19 20:24	250

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butenedinitrile, (E)-	*1500*	*T J N*	*ug/L*		*3.69*	*764-42-1*		*07/24/19 20:24*	*250*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/24/19 20:24*	*250*
Dibromofluoromethane	*89*		*81 - 121*		*07/24/19 20:24*	*250*
Toluene-d8 (Surr)	*111*		*80 - 120*		*07/24/19 20:24*	*250*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**180000**		1000	380	ug/L			07/25/19 20:27	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/25/19 20:27*	*1000*
Dibromofluoromethane	*95*		*81 - 121*		*07/25/19 20:27*	*1000*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/25/19 20:27*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**3.2**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Anthracene	**0.27**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[a]anthracene	**0.097**	**J**	0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[a]pyrene	**0.16**	**J**	0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Chrysene	**0.13**	**J**	0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Fluoranthene	**0.15**	**J**	0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Fluorene	**1.8**		0.19	0.020	ug/L		07/24/19 11:25	08/03/19 10:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
1-Methylnaphthalene	**4.7**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
2-Methylnaphthalene	**0.54**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Phenanthrene	**0.67**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Pyrene	**0.55**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*15 - 122*	*07/24/19 11:25*	*08/03/19 10:16*	*1*
Nitrobenzene-d5	*84*		*19 - 130*	*07/24/19 11:25*	*08/03/19 10:16*	*1*
Terphenyl-d14	*43*		*33 - 138*	*07/24/19 11:25*	*08/03/19 10:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
Benzenethiol	ND	UJ	9.7	1.6	ug/L		07/24/19 11:25	07/26/19 19:00	1
Benzoic acid	ND	*	29	7.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/24/19 11:25	07/26/19 19:00	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/24/19 11:25	07/26/19 19:00	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/24/19 11:25	07/26/19 19:00	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/24/19 11:25	07/26/19 19:00	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Chloronaphthalene	ND		9.7	0.50	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/24/19 11:25	08/02/19 01:33	1
Dibenzofuran	**0.70**	**J**	9.7	0.50	ug/L		07/24/19 11:25	07/26/19 19:00	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/24/19 11:25	07/26/19 19:00	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/24/19 11:25	07/26/19 19:00	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/24/19 11:25	07/26/19 19:00	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/24/19 11:25	07/26/19 19:00	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/24/19 11:25	07/26/19 19:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/24/19 11:25	07/26/19 19:00	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/24/19 11:25	07/26/19 19:00	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 11:25	07/26/19 19:00	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/24/19 11:25	07/26/19 19:00	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		9.7	0.97	ug/L		07/24/19 11:25	07/26/19 19:00	1
Isophorone	ND		9.7	0.55	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/24/19 11:25	07/26/19 19:00	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/24/19 11:25	07/26/19 19:00	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/24/19 11:25	07/26/19 19:00	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/24/19 11:25	07/26/19 19:00	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/24/19 11:25	07/26/19 19:00	1
Pentachlorophenol	ND		19	1.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
Phenol	**90**		9.7	2.5	ug/L		07/24/19 11:25	07/26/19 19:00	1
Pyridine	ND		9.7	3.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
Quinoline	ND		9.7	5.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/24/19 11:25	07/26/19 19:00	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*13*	*T J N*	*ug/L*		*3.62*	*108-88-3*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Toluene	*13*	*T J N*	*ug/L*		*3.76*	*108-88-3*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*3.78*	*590-90-9*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Unknown	*8.7*	*T J*	*ug/L*		*3.93*		*07/24/19 11:25*	*08/02/19 01:33*	*1*
Unknown	*75*	*T J*	*ug/L*		*4.24*		*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, (1-methylethyl)-	*7.8*	*T J N*	*ug/L*		*4.84*	*98-82-8*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, propyl-	*13*	*T J N*	*ug/L*		*5.03*	*103-65-1*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, propyl-	*15*	*T J N*	*ug/L*		*5.16*	*103-65-1*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Benzene, 1-ethyl-4-methyl-	*4.0*	*T J N*	*ug/L*		*5.17*	*622-96-8*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,2,4-trimethyl-	*37*	*T J N*	*ug/L*		*5.26*	*95-63-6*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1-ethyl-2-methyl-	*4.2*	*T J N*	*ug/L*		*5.30*	*611-14-3*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Benzene, 1-methyl-4-propyl-	*14*	*T J N*	*ug/L*		*5.34*	*1074-55-1*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, (1-methylpropyl)-	*17*	*T J N*	*ug/L*		*5.47*	*135-98-8*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Acetophenone	*2.6*	*J*	*ug/L*		*5.59*	*98-86-2*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,2-diethyl-	*4.6*	*T J N*	*ug/L*		*5.70*	*135-01-3*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Benzene, 1,4-diethyl-	*6.2*	*T J N*	*ug/L*		*5.72*	*105-05-5*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Benzene, 1,2,3,4-tetramethyl-	*17*	*T J N*	*ug/L*		*6.01*	*488-23-3*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Sulfolane	*1.9*	*J*	*ug/L*		*6.24*	*126-33-0*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Unknown	*6.4*	*T J*	*ug/L*		*6.45*		*07/24/19 11:25*	*08/02/19 01:33*	*1*
Benzene, (2-methyl-1-butenyl)-	*4.3*	*T J N*	*ug/L*		*6.49*	*56253-64-6*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
1-Methylnaphthalene	*3.0*	*J*	*ug/L*		*6.73*	*90-12-0*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Naphthalene, 1,6-dimethyl-	*6.2*	*T J N*	*ug/L*		*7.27*	*575-43-9*	*07/24/19 11:25*	*08/02/19 01:33*	*1*
Acenaphthene	*1.6*	*J*	*ug/L*		*7.41*	*83-32-9*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
o-Phenylphenol	*1.7*	*J*	*ug/L*		*7.51*	*90-43-7*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Fluorene	*1.1*	*J*	*ug/L*		*7.77*	*86-73-7*	*07/24/19 11:25*	*07/26/19 19:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*34 - 120*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
2-Fluorophenol	*40*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:00*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919
Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	52		27 - 120	07/24/19 11:25	07/26/19 19:00	1
Phenol-d5	45		10 - 120	07/24/19 11:25	07/26/19 19:00	1
Terphenyl-d14	25	X	53 - 125	07/24/19 11:25	07/26/19 19:00	1
2,4,6-Tribromophenol	82		15 - 135	07/24/19 11:25	07/26/19 19:00	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919-EB

Date Collected: 07/19/19 15:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	11	J	25	10	ug/L			07/24/19 14:41	1
Acrolein	ND		20	10	ug/L			07/24/19 14:41	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 14:41	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 14:41	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 14:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 14:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 14:41	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 14:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 14:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 14:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 14:41	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 14:41	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 14:41	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 14:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 14:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 14:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 14:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 14:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 14:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 14:41	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 14:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 14:41	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 14:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 14:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 14:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 14:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 14:41	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 14:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 14:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 14:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 14:41	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 14:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919-EB

Date Collected: 07/19/19 15:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 14:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 14:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 14:41	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 14:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 14:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 14:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 14:41	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 14:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 14:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 14:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 14:41	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 14:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 14:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 14:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 14:41	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 14:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 14:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*28*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 14:41*	*1*
2-Methyl-2-propanol	*4.9*	*J*	*ug/L*		*2.49*	*75-65-0*		*07/24/19 14:41*	*1*
Hexane	*1.1*		*ug/L*		*2.72*	*110-54-3*		*07/24/19 14:41*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 14:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/24/19 14:41*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*07/24/19 14:41*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 14:41*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 11:25	08/03/19 10:33	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919-EB

Date Collected: 07/19/19 15:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*15 - 122*	*07/24/19 11:25*	*08/03/19 10:33*	*1*
Nitrobenzene-d5	*85*		*19 - 130*	*07/24/19 11:25*	*08/03/19 10:33*	*1*
Terphenyl-d14	*136*		*33 - 138*	*07/24/19 11:25*	*08/03/19 10:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
Benzenethiol	ND	UJ	9.6	1.6	ug/L		07/24/19 11:25	07/26/19 19:22	1
Benzoic acid	ND	*	29	7.0	ug/L		07/24/19 11:25	07/26/19 19:22	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/24/19 11:25	07/26/19 19:22	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 11:25	07/26/19 19:22	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 11:25	07/26/19 19:22	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 11:25	07/26/19 19:22	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 11:25	07/26/19 19:22	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/24/19 11:25	07/26/19 19:22	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 11:25	07/26/19 19:22	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 11:25	07/26/19 19:22	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 11:25	07/26/19 19:22	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 11:25	07/26/19 19:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 11:25	07/26/19 19:22	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 11:25	07/26/19 19:22	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 11:25	07/26/19 19:22	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/24/19 11:25	07/26/19 19:22	1
Indene	ND		9.6	0.96	ug/L		07/24/19 11:25	07/26/19 19:22	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 11:25	07/26/19 19:22	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919-EB

Date Collected: 07/19/19 15:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 11:25	07/26/19 19:22	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 11:25	07/26/19 19:22	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 11:25	07/26/19 19:22	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 11:25	07/26/19 19:22	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 11:25	07/26/19 19:22	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 11:25	07/26/19 19:22	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
Phenol	ND		9.6	2.5	ug/L		07/24/19 11:25	07/26/19 19:22	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 11:25	07/26/19 19:22	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 11:25	07/26/19 19:22	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*24*	*T J N*	*ug/L*		*3.78*	*590-90-9*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Unknown	*28*	*T J*	*ug/L*		*4.23*		*07/24/19 11:25*	*07/26/19 19:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Phenol-d5	*44*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
2,4,6-Tribromophenol	*87*		*15 - 135*	*07/24/19 11:25*	*07/26/19 19:22*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173468-1	TB-PW-071919-B	110	96	104
400-173468-2	PD-2-GWP-65-071919	109	95	105
400-173468-3	PD-2-GWP-70-071919	108	99	107
400-173468-4	PD-2-GWP-74.5-071919	110	97	108
400-173468-5	PD-2-GWP-74.5-071919-EB	112	96	102
400-173468-6	PD17-GWP-45-071919	105	89	111
400-173468-6 - DL	PD17-GWP-45-071919	100	95	105
400-173468-7	PD17-GWP-45-071919-EB	110	94	102
LCS 400-449292/1002	Lab Control Sample	109	96	93
LCS 400-449454/1002	Lab Control Sample	98	97	102
MB 400-449292/34	Method Blank	113	95	105
MB 400-449454/4	Method Blank	100	97	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173468-2	PD-2-GWP-65-071919	56	42	83	59	55	55
400-173468-3	PD-2-GWP-70-071919	61	48	88	61	59	54
400-173468-4	PD-2-GWP-74.5-071919	45	38	71	53	45 X	48
400-173468-5	PD-2-GWP-74.5-071919-EB	83	82	128 X	98	120	56
400-173468-6	PD17-GWP-45-071919	50	40	52	45	25 X	82
400-173468-7	PD17-GWP-45-071919-EB	59	37	54	44	69	87
LCS 400-449321/2-A	Lab Control Sample	60	43	85	65	75	70
LCS 400-449321/8-A	Lab Control Sample	53	53	82	69	72	49
LCSD 400-449321/3-A	Lab Control Sample Dup	60	44	84	67	76	74
LCSD 400-449321/9-A	Lab Control Sample Dup	51	55	81	69	74	48
MB 400-449321/1-A	Method Blank	59	44	88	67	78	54

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173468-2	PD-2-GWP-65-071919	84	78	88

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173468-3	PD-2-GWP-70-071919	89	87	92
400-173468-4	PD-2-GWP-74.5-071919	75	74	73
400-173468-5	PD-2-GWP-74.5-071919-EB	91	81	121
400-173468-6	PD17-GWP-45-071919	82	84	43
400-173468-7	PD17-GWP-45-071919-EB	95	85	136
LCS 400-449321/2-A	Lab Control Sample	77	68	89
LCSD 400-449321/3-A	Lab Control Sample Dup	83	69	96
MB 400-449321/1-A	Method Blank	87	80	123

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B
Date Collected: 07/19/19 00:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 13:48	RS	TAL PEN

Client Sample ID: PD-2-GWP-65-071919
Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	5 mL	5 mL	449292	07/24/19 19:57	RS	TAL PEN
Total/NA	Prep	3520C			1001.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 23:33	VC1	TAL PEN
Total/NA	Prep	3520C			1001.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:07	KJA	TAL PEN

Client Sample ID: PD-2-GWP-70-071919
Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 19:04	RS	TAL PEN
Total/NA	Prep	3520C			1011 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 20:23	VC1	TAL PEN
Total/NA	Prep	3520C			1011 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:25	KJA	TAL PEN

Client Sample ID: PD-2-GWP-74.5-071919
Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 19:31	RS	TAL PEN
Total/NA	Prep	3520C			1019.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/27/19 00:15	VC1	TAL PEN
Total/NA	Prep	3520C			1019.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 19:57	VC1	TAL PEN
Total/NA	Prep	3520C			1019.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:42	KJA	TAL PEN

Client Sample ID: PD-2-GWP-74.5-071919-EB
Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 14:14	RS	TAL PEN
Total/NA	Prep	3520C			1036.8 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450063	07/30/19 18:53	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Lab Sample ID: 400-173468-5
Matrix: Water
Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1036.8 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/02/19 01:12	VC1	TAL PEN
Total/NA	Prep	3520C			1036.8 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:59	KJA	TAL PEN

Client Sample ID: PD17-GWP-45-071919

Lab Sample ID: 400-173468-6
Matrix: Water
Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	1000	5 mL	5 mL	449454	07/25/19 20:27	S1K	TAL PEN
Total/NA	Analysis	8260B		250	5 mL	5 mL	449292	07/24/19 20:24	RS	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/26/19 19:00	VC1	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/02/19 01:33	VC1	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 10:16	KJA	TAL PEN

Client Sample ID: PD17-GWP-45-071919-EB

Lab Sample ID: 400-173468-7
Matrix: Water
Date Collected: 07/19/19 15:50
Date Received: 07/20/19 08:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 14:41	RS	TAL PEN
Total/NA	Prep	3520C			1038.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449722	07/26/19 19:22	VC1	TAL PEN
Total/NA	Prep	3520C			1038.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 10:33	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449292/34
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 10:43	RS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Date Collected: N/A
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 16:52	VC1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449321/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 05:43	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449454/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449454	07/25/19 10:20	S1K	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449292/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 09:46	RS	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450203	07/31/19 14:24	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:17	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449321/8-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449454/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449454	07/25/19 09:18	S1K	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449321/3-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 14:45	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:00	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449321/9-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:20	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

GC/MS VOA

Analysis Batch: 449292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-1	TB-PW-071919-B	Total/NA	Water	8260B	
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	8260B	
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	8260B	
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8260B	
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8260B	
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8260B	
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	8260B	
MB 400-449292/34	Method Blank	Total/NA	Water	8260B	
LCS 400-449292/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-6 - DL	PD17-GWP-45-071919	Total/NA	Water	8260B	
MB 400-449454/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449454/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	3520C	
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	3520C	
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	3520C	
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	3520C	
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	3520C	
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	3520C	
MB 400-449321/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	8270D	449321
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	8270D	449321
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8270D	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D	449321
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321

Analysis Batch: 449722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8270D	449321
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	8270D	449321

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8270D	449321
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8270D	449321

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

GC/MS Semi VOA

Analysis Batch: 450203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8270D	449321
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8270D	449321

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	8270D LL	449321
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	8270D LL	449321
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8270D LL	449321
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8270D LL	449321
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8270D LL	449321
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	8270D LL	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D LL	449321
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449321

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449292/34
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 10:43	1
Acrolein	ND		20	10	ug/L			07/24/19 10:43	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 10:43	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 10:43	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 10:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 10:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 10:43	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 10:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 10:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 10:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 10:43	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 10:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 10:43	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 10:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 10:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 10:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 10:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 10:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 10:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 10:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 10:43	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 10:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 10:43	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 10:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 10:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 10:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 10:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 10:43	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 10:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 10:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 10:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 10:43	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449292/34
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 10:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 10:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 10:43	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 10:43	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 10:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 10:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 10:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 10:43	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 10:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 10:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 10:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 10:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 10:43	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 10:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 10:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 10:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 10:43	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 10:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 10:43	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/24/19 10:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		78 - 118		07/24/19 10:43	1
Dibromofluoromethane	95		81 - 121		07/24/19 10:43	1
Toluene-d8 (Surr)	105		80 - 120		07/24/19 10:43	1

Lab Sample ID: LCS 400-449292/1002
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	239		ug/L		119	43 - 160
Acrolein	500	635		ug/L		127	38 - 160
Acrylonitrile	500	449		ug/L		90	64 - 142
Benzene	50.0	44.9		ug/L		90	70 - 130
Bromobenzene	50.0	44.3		ug/L		89	70 - 132
Bromochloromethane	50.0	40.4		ug/L		81	70 - 130
Bromodichloromethane	50.0	40.2		ug/L		80	67 - 133
Bromoform	50.0	42.5		ug/L		85	57 - 140
Bromomethane	50.0	30.3		ug/L		61	10 - 160
2-Butanone (MEK)	200	281		ug/L		140	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449292/1002
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	37.9		ug/L		76	61 - 137
Carbon tetrachloride	50.0	38.4		ug/L		77	61 - 137
Chlorobenzene	50.0	44.3		ug/L		89	70 - 130
Chloroethane	50.0	47.7		ug/L		95	55 - 141
2-Chloroethyl vinyl ether	50.0	27.2		ug/L		54	10 - 160
Chloroform	50.0	41.7		ug/L		83	69 - 130
1-Chlorohexane	50.0	41.7		ug/L		83	69 - 130
Chloromethane	50.0	54.8		ug/L		110	58 - 137
cis-1,2-Dichloroethene	50.0	42.9		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	43.2		ug/L		86	69 - 132
Dibromochloromethane	50.0	42.1		ug/L		84	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	41.7		ug/L		83	54 - 135
1,2-Dichlorobenzene	50.0	43.7		ug/L		87	67 - 130
1,3-Dichlorobenzene	50.0	44.2		ug/L		88	70 - 130
1,4-Dichlorobenzene	50.0	44.3		ug/L		89	70 - 130
Dichlorodifluoromethane	50.0	53.7		ug/L		107	41 - 146
1,1-Dichloroethane	50.0	42.2		ug/L		84	70 - 130
1,2-Dichloroethane	50.0	39.7		ug/L		79	69 - 130
1,1-Dichloroethene	50.0	41.1		ug/L		82	63 - 134
1,2-Dichloropropane	50.0	45.2		ug/L		90	70 - 130
1,3-Dichloropropane	50.0	44.5		ug/L		89	70 - 130
2,2-Dichloropropane	50.0	37.8		ug/L		76	52 - 135
1,1-Dichloropropene	50.0	42.1		ug/L		84	70 - 130
Ethylbenzene	50.0	41.7		ug/L		83	70 - 130
Ethylene Dibromide	50.0	45.3		ug/L		91	70 - 130
Ethyl methacrylate	50.0	43.0		ug/L		86	68 - 130
Hexachlorobutadiene	50.0	51.2		ug/L		102	53 - 140
2-Hexanone	200	225		ug/L		113	65 - 137
Isopropylbenzene	50.0	41.0		ug/L		82	70 - 130
Methylene bromide	50.0	41.3		ug/L		83	70 - 130
Methylene Chloride	50.0	46.1		ug/L		92	66 - 135
4-Methyl-2-pentanone (MIBK)	200	168		ug/L		84	69 - 138
Methyl tert-butyl ether	50.0	40.8		ug/L		82	66 - 130
m-Xylene & p-Xylene	50.0	42.4		ug/L		85	70 - 130
Naphthalene	50.0	39.3		ug/L		79	47 - 149
n-Butylbenzene	50.0	44.3		ug/L		89	67 - 130
N-Propylbenzene	50.0	45.2		ug/L		90	70 - 130
o-Chlorotoluene	50.0	46.6		ug/L		93	70 - 130
o-Xylene	50.0	40.9		ug/L		82	70 - 130
p-Chlorotoluene	50.0	47.9		ug/L		96	70 - 130
p-Isopropyltoluene	50.0	45.0		ug/L		90	65 - 130
sec-Butylbenzene	50.0	44.8		ug/L		90	66 - 130
Styrene	50.0	39.5		ug/L		79	70 - 130
tert-Butylbenzene	50.0	44.2		ug/L		88	64 - 139
1,1,1,2-Tetrachloroethane	50.0	41.1		ug/L		82	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.2		ug/L		100	70 - 131
Tetrachloroethene	50.0	38.4		ug/L		77	65 - 130
Toluene	50.0	42.6		ug/L		85	70 - 130
trans-1,2-Dichloroethene	50.0	42.9		ug/L		86	70 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449292/1002
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	40.4		ug/L		81	63 - 130
1,2,3-Trichlorobenzene	50.0	44.0		ug/L		88	60 - 138
1,2,4-Trichlorobenzene	50.0	43.3		ug/L		87	60 - 140
1,1,1-Trichloroethane	50.0	38.8		ug/L		78	68 - 130
1,1,2-Trichloroethane	50.0	44.7		ug/L		89	70 - 130
Trichloroethene	50.0	42.4		ug/L		85	70 - 130
Trichlorofluoromethane	50.0	46.6		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	49.4		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	47.0		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	46.7		ug/L		93	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	57.3		ug/L		115	59 - 136
Xylenes, Total	100	83.3		ug/L		83	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*109*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Lab Sample ID: MB 400-449454/4
Matrix: Water
Analysis Batch: 449454

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/25/19 10:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/25/19 10:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/25/19 10:20*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/25/19 10:20*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/25/19 10:20*	*1*

Lab Sample ID: LCS 400-449454/1002
Matrix: Water
Analysis Batch: 449454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	50.7		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 15:00	07/26/19 16:52	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-ethylhexyl) phthalate	7.40	J	10	5.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 15:00	07/26/19 16:52	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Indene	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Isophorone	ND		10	0.57	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 15:00	07/26/19 16:52	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Phenol	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Quinoline	ND		10	6.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 15:00*	*07/26/19 16:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Nitrobenzene-d5	*88*		*27 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Phenol-d5	*67*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Terphenyl-d14	*78*		*53 - 125*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/24/19 15:00*	*07/26/19 16:52*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	26.6		ug/L		89	29 - 120
Benzoic acid	117	29.8	J	ug/L		26	10 - 150
Benzyl alcohol	30.0	30.0		ug/L		100	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.0		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	19.1		ug/L		64	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.7		ug/L		62	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	26.4		ug/L		88	48 - 150
4-Bromophenyl phenyl ether	30.0	24.3		ug/L		81	55 - 122
Butyl benzyl phthalate	30.0	23.2		ug/L		77	46 - 145
4-Chloroaniline	30.0	28.9		ug/L		96	30 - 120
4-Chloro-3-methylphenol	30.0	23.2		ug/L		77	39 - 140
2-Chloronaphthalene	30.0	18.4		ug/L		61	52 - 120
2-Chlorophenol	30.0	19.8		ug/L		66	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.9		ug/L		73	58 - 124
Dibenz[a,h]acridine	30.0	16.1		ug/L		54	46 - 149
Dibenzofuran	30.0	21.1		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	45.1		ug/L		113	39 - 135
2,4-Dichlorophenol	30.0	24.6		ug/L		82	39 - 128
Diethyl phthalate	30.0	28.1		ug/L		94	44 - 146
2,4-Dimethylphenol	30.0	27.0		ug/L		90	44 - 120
Dimethyl phthalate	30.0	23.3		ug/L		78	50 - 131
Di-n-butyl phthalate	30.0	26.9		ug/L		90	55 - 131
4,6-Dinitro-ortho-cresol	60.0	60.9		ug/L		101	10 - 150
2,4-Dinitrophenol	60.0	67.9		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	21.7		ug/L		72	58 - 140
2,6-Dinitrotoluene	30.0	21.6		ug/L		72	57 - 130
Di-n-octyl phthalate	30.0	23.2		ug/L		77	50 - 150

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	30.0	14.8		ug/L		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	26.6		ug/L		89	47 - 123
Hexachlorobenzene	30.0	28.1		ug/L		94	52 - 131
Hexachlorocyclopentadiene	30.0	6.63	J	ug/L		22	10 - 129
Hexachloroethane	30.0	16.3		ug/L		54	41 - 120
Indene	30.0	17.6		ug/L		59	47 - 120
Isophorone	30.0	24.6		ug/L		82	49 - 120
2-Methylphenol	30.0	25.9		ug/L		86	39 - 123
3 & 4 Methylphenol	30.0	28.1		ug/L		94	38 - 121
2-Nitroaniline	30.0	29.8		ug/L		99	47 - 150
3-Nitroaniline	30.0	28.7		ug/L		96	34 - 132
4-Nitroaniline	30.0	26.0		ug/L		87	41 - 135
Nitrobenzene	30.0	25.2		ug/L		84	47 - 120
2-Nitrophenol	30.0	23.2		ug/L		77	28 - 136
4-Nitrophenol	60.0	64.9		ug/L		108	10 - 150
N-Nitrosodimethylamine	30.0	28.1		ug/L		94	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.5		ug/L		108	44 - 120
N-Nitrosodiphenylamine	29.8	23.6		ug/L		79	56 - 120
Pentachlorophenol	60.0	45.2		ug/L		75	15 - 141
Phenol	30.0	19.8		ug/L		66	33 - 120
Pyridine	60.0	37.9		ug/L		63	26 - 120
Quinoline	30.0	19.2		ug/L		64	51 - 129
2,4,5-Trichlorophenol	30.0	24.4		ug/L		81	38 - 147
2,4,6-Trichlorophenol	30.0	25.1		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*43*		*10 - 120*
Nitrobenzene-d5	*85*		*27 - 120*
Phenol-d5	*65*		*10 - 120*
Terphenyl-d14	*75*		*53 - 125*
2,4,6-Tribromophenol	*70*		*15 - 135*

Lab Sample ID: LCS 400-449321/8-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	21.1		ug/L		70	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*34 - 120*
2-Fluorophenol	*53*		*10 - 120*
Nitrobenzene-d5	*82*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*72*		*53 - 125*
2,4,6-Tribromophenol	*49*		*15 - 135*

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	30.2		ug/L		101	29 - 120	13	30
Benzoic acid	117	44.7	*	ug/L		38	10 - 150	40	30
Benzyl alcohol	30.0	30.3		ug/L		101	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	20.3		ug/L		68	45 - 120	3	30
Bis(2-chloroethyl)ether	30.0	17.2		ug/L		57	48 - 120	10	30
bis (2-chloroisopropyl) ether	30.0	20.1		ug/L		67	30 - 125	7	30
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150	6	30
4-Bromophenyl phenyl ether	30.0	26.0		ug/L		87	55 - 122	7	30
Butyl benzyl phthalate	30.0	23.1		ug/L		77	46 - 145	0	30
4-Chloroaniline	30.0	27.9		ug/L		93	30 - 120	4	30
4-Chloro-3-methylphenol	30.0	23.6		ug/L		79	39 - 140	2	30
2-Chloronaphthalene	30.0	19.7		ug/L		66	52 - 120	7	30
2-Chlorophenol	30.0	21.0		ug/L		70	34 - 120	6	30
4-Chlorophenyl phenyl ether	30.0	23.7		ug/L		79	58 - 124	8	30
Dibenz[a,h]acridine	30.0	18.9		ug/L		63	46 - 149	16	30
Dibenzofuran	30.0	22.7		ug/L		76	58 - 123	7	30
3,3'-Dichlorobenzidine	40.0	48.3		ug/L		121	39 - 135	7	30
2,4-Dichlorophenol	30.0	25.3		ug/L		84	39 - 128	3	30
Diethyl phthalate	30.0	29.5		ug/L		98	44 - 146	5	30
2,4-Dimethylphenol	30.0	27.2		ug/L		91	44 - 120	1	30
Dimethyl phthalate	30.0	24.1		ug/L		80	50 - 131	3	30
Di-n-butyl phthalate	30.0	28.4		ug/L		95	55 - 131	5	30
4,6-Dinitro-ortho-cresol	60.0	68.1		ug/L		113	10 - 150	11	30
2,4-Dinitrophenol	60.0	80.3		ug/L		134	10 - 150	17	30
2,4-Dinitrotoluene	30.0	22.9		ug/L		76	58 - 140	6	30
2,6-Dinitrotoluene	30.0	22.4		ug/L		75	57 - 130	3	30
Di-n-octyl phthalate	30.0	24.1		ug/L		80	50 - 150	4	30
1,4-Dioxane	30.0	17.1		ug/L		57	25 - 120	14	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.6		ug/L		92	47 - 123	4	30
Hexachlorobenzene	30.0	33.1		ug/L		110	52 - 131	16	30
Hexachlorocyclopentadiene	30.0	8.60	J	ug/L		29	10 - 129	26	30
Hexachloroethane	30.0	18.2		ug/L		61	41 - 120	11	30
Indene	30.0	18.1		ug/L		60	47 - 120	3	30
Isophorone	30.0	24.1		ug/L		80	49 - 120	2	30
2-Methylphenol	30.0	27.1		ug/L		90	39 - 123	4	30
3 & 4 Methylphenol	30.0	29.4		ug/L		98	38 - 121	4	30
2-Nitroaniline	30.0	30.1		ug/L		100	47 - 150	1	30
3-Nitroaniline	30.0	29.9		ug/L		100	34 - 132	4	30
4-Nitroaniline	30.0	30.0		ug/L		100	41 - 135	14	30
Nitrobenzene	30.0	24.8		ug/L		83	47 - 120	1	30
2-Nitrophenol	30.0	24.9		ug/L		83	28 - 136	7	30
4-Nitrophenol	60.0	74.7		ug/L		124	10 - 150	14	30
N-Nitrosodimethylamine	30.0	28.8		ug/L		96	22 - 148	2	30
N-Nitrosodi-n-propylamine	30.0	33.9		ug/L		113	44 - 120	4	30
N-Nitrosodiphenylamine	29.8	24.6		ug/L		83	56 - 120	4	30
Pentachlorophenol	60.0	54.0		ug/L		90	15 - 141	18	30
Phenol	30.0	21.0		ug/L		70	33 - 120	6	30
Pyridine	60.0	39.6		ug/L		66	26 - 120	4	30

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	19.4		ug/L		65	51 - 129	1	30
2,4,5-Trichlorophenol			30.0	25.5		ug/L		85	38 - 147	5	30
2,4,6-Trichlorophenol			30.0	26.2		ug/L		87	36 - 139	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*74*		*15 - 135*

Lab Sample ID: LCSD 400-449321/9-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		4	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*34 - 120*
2-Fluorophenol	*55*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*74*		*53 - 125*
2,4,6-Tribromophenol	*48*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 05:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Terphenyl-d14	*123*		*33 - 138*	*07/24/19 15:00*	*08/03/19 05:43*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.0		ug/L		80	41 - 120
Acenaphthylene	30.0	27.2		ug/L		91	44 - 120
Anthracene	30.0	26.8		ug/L		89	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	27.2		ug/L		91	52 - 120
Benzo[b]fluoranthene	30.0	27.9		ug/L		93	53 - 134
Benzo[g,h,i]perylene	30.0	27.3		ug/L		91	47 - 133
Benzo[k]fluoranthene	30.0	25.7		ug/L		86	57 - 134
Chrysene	30.0	24.2		ug/L		81	55 - 122
Dibenz(a,h)anthracene	30.0	27.5		ug/L		92	48 - 146
Fluoranthene	30.0	25.8		ug/L		86	54 - 128
Fluorene	30.0	26.7		ug/L		89	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	27.9		ug/L		93	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	18.8		ug/L		63	32 - 124
Phenanthrene	30.0	26.7		ug/L		89	48 - 120
Pyrene	30.0	25.5		ug/L		85	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*89*		*33 - 138*

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	25.4		ug/L		85	41 - 120	6	56
Acenaphthylene	30.0	30.1		ug/L		100	44 - 120	10	56
Anthracene	30.0	28.8		ug/L		96	49 - 120	7	51
Benzo[a]anthracene	30.0	27.1		ug/L		90	61 - 135	7	49
Benzo[a]pyrene	30.0	29.3		ug/L		98	52 - 120	7	50
Benzo[b]fluoranthene	30.0	30.2		ug/L		101	53 - 134	8	54

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			30.0	29.9		ug/L		100	47 - 133	9	50
Benzo[k]fluoranthene			30.0	28.9		ug/L		96	57 - 134	12	52
Chrysene			30.0	26.7		ug/L		89	55 - 122	10	50
Dibenz(a,h)anthracene			30.0	30.3		ug/L		101	48 - 146	10	50
Fluoranthene			30.0	28.6		ug/L		95	54 - 128	10	52
Fluorene			30.0	27.9		ug/L		93	45 - 125	4	56
Indeno[1,2,3-cd]pyrene			30.0	30.2		ug/L		101	43 - 142	8	51
1-Methylnaphthalene			30.0	21.6		ug/L		72	41 - 120	9	55
2-Methylnaphthalene			30.0	21.2		ug/L		71	32 - 124	12	57
Phenanthrene			30.0	28.7		ug/L		96	48 - 120	7	56
Pyrene			30.0	27.6		ug/L		92	48 - 132	8	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*69*		*19 - 130*
Terphenyl-d14	*96*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: James Carrino
PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060

PlaNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02

☐ CHECK IF ... # APPLIES
DATE
PAG

400-173488 COC

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS)
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071919-B	7/19/2019	0:00	Water	2					2		x	
	PD-2-GWP-65-071919	7/19/2019	9:10	Water	2			2		4	x	x	x
	PD-2-GWP-70-071919	7/19/2019	10:20	Water	2			2		4	x	x	x
	PD-2-GWP-74.5-071919	7/19/2019	11:40	Water	2			2		4	x	x	x
	PD-2-GWP-74.5-071919-EB	7/19/2019	14:00	Water	2			2		4	x	x	x
	PD-17-GWP-45-071919	7/19/2019	14:50	Water	2			2		4	x	x	x
	PD-17-GWP-45-071919-EB	7/19/2019	15:50	Water	2			2		4	x	x	x

Relinquished by (Signature)	Received by (Signature): 1011534 1011535 Fedex: 4782 2882 5322; 4782 2882 5333 ; custody seal: 1011536 1011537	Date: 7/19/2019	Time: 18:00
Relinquished by (Signature)	Received by (Signature)	Date	Time
Relinquished by (Signature)	Received by (Signature)	Date: 7-20-19	Time: 8:17

Version 10May17

3.4°c, 0.7°c IR7

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8/6/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173468-1

Login Number: 173468
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4°C 0.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19 *
Florida	NELAP	4	E81010	06-30-20 *
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173468-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 10:05:44 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173468-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173468-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-6-19.

Receipt
The samples were received on 7/20/2019 8:17 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.7º C and 3.4º C.

GC/MS VOA
Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-441311 was outside method criteria for the following analyte(s): Bromomethane As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-2-GWP-65-071919 (400-173468-2) and PD17-GWP-45-071919 (400-173468-6). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-071919-B (400-173468-1), PD-2-GWP-65-071919 (400-173468-2), PD-2-GWP-70-071919 (400-173468-3), PD-2-GWP-74.5-071919 (400-173468-4), PD-2-GWP-74.5-071919-EB (400-173468-5), PD17-GWP-45-071919 (400-173468-6) and PD17-GWP-45-071919-EB (400-173468-7). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: Sample PD17-GWP-45-071919-EB (400-173468-7) contains Acetone above the method detection limit (MDL). Reanalysis was performed with concurring results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for Dibenz[a,h]acridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered above the upper control limit for N-Nitrosodimethylamine, 2,4,6-Trichlorophenol, 2,4-Dinitrophenol, 4-Nitrophenol, 2,4,5-Trichlorophenol, Diethyl phthalate, 2,6-Dinitrotoluene, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 2,4-Dichlorophenol, 4,6-Dinitro-2-methylphenol, 4-Bromophenyl phenyl ether and 2,4-Dimethylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449722 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Quinoline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD17-GWP-45-071919 (400-173468-6). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 2,2'-oxybis[1-chloropropane], 4-Nitrophenol, Nitrobenzene, Diethyl phthalate, Bis(2-ethylhexyl) phthalate, Di-n-butyl phthalate, 4-Chloro-3-methylphenol, N-Nitrosodi-n-propylamine, 2-Methylphenol, 2,4-Dichlorophenol, 1,2-Diphenylhydrazine (as Azobenzene), 4-Chloroaniline, 4,6-Dinitro-ortho-cresol, 2-Chlorophenol, 3 & 4

Job ID: 400-173468-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Methylphenol, Benzyl alcohol, Di-n-octyl phthalate, 2,4-Dimethylphenol and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzoic acid. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-449680 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (400-173405-C-4-A MSD). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-2-GWP-74.5-071919 (400-173468-4) and PD-2-GWP-74.5-071919-EB (400-173468-5). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-449321 and analytical batch 400-449680 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: The method blank for preparation batch 400-449321 and analytical batch 400-449680 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Indene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450063 recovered above the upper control limit for Hexachloroethane, N-Nitrosodimethylamine, 4-Nitrophenol, 2,2'-oxybis[1-chloropropane] and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-450063/2).

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449321 and analytical batch 400-450203 recovered outside control limits for the following analytes: Benzoic acid.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered above the upper control limit for 4-Nitrophenol and N-Nitrosodi-n-propylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450467 recovered outside acceptance criteria, low biased, for 2-Chloronaphthalene, 2,6-Dinitrotoluene and 2,4-Dinitrotoluene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Job ID: 400-173468-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173468-1	TB-PW-071919-B	Water	07/19/19 00:00	07/20/19 08:17	
400-173468-2	PD-2-GWP-65-071919	Water	07/19/19 09:10	07/20/19 08:17	
400-173468-3	PD-2-GWP-70-071919	Water	07/19/19 10:20	07/20/19 08:17	
400-173468-4	PD-2-GWP-74.5-071919	Water	07/19/19 11:40	07/20/19 08:17	
400-173468-5	PD-2-GWP-74.5-071919-EB	Water	07/19/19 14:00	07/20/19 08:17	
400-173468-6	PD17-GWP-45-071919	Water	07/19/19 14:50	07/20/19 08:17	
400-173468-7	PD17-GWP-45-071919-EB	Water	07/19/19 15:50	07/20/19 08:17	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B — Lab Sample ID: 400-173468-1

No Detections.

Client Sample ID: PD-2-GWP-65-071919 — Lab Sample ID: 400-173468-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	10000		50	19	ug/L	50		8260B	Total/NA
1-Methylnaphthalene	0.25		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.13	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	84		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: PD-2-GWP-70-071919 — Lab Sample ID: 400-173468-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.9		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.55	J	1.0	0.41	ug/L	1		8260B	Total/NA

Client Sample ID: PD-2-GWP-74.5-071919 — Lab Sample ID: 400-173468-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	54		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	4.4		1.0	0.74	ug/L	1		8260B	Total/NA
Toluene	0.44	J	1.0	0.41	ug/L	1		8260B	Total/NA

Client Sample ID: PD-2-GWP-74.5-071919-EB — Lab Sample ID: 400-173468-5

No Detections.

Client Sample ID: PD17-GWP-45-071919 — Lab Sample ID: 400-173468-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	100	J	250	100	ug/L	250		8260B	Total/NA
Benzene - DL	180000		1000	380	ug/L	1000		8260B	Total/NA
Acenaphthene	3.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
Anthracene	0.27		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	0.097	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	0.16	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Chrysene	0.13	J	0.19	0.039	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.15	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.8		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	4.7		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.54		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.67		0.19	0.019	ug/L	1		8270D LL	Total/NA
Pyrene	0.55		0.19	0.019	ug/L	1		8270D LL	Total/NA
Dibenzofuran	0.70	J *	9.7	0.50	ug/L	1		8270D	Total/NA
Phenol	90		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD17-GWP-45-071919-EB — Lab Sample ID: 400-173468-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11	J	25	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B

Date Collected: 07/19/19 00:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 13:48	1
Acrolein	ND		20	10	ug/L			07/24/19 13:48	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 13:48	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 13:48	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 13:48	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 13:48	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 13:48	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 13:48	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 13:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 13:48	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 13:48	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 13:48	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 13:48	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 13:48	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 13:48	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 13:48	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 13:48	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 13:48	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 13:48	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 13:48	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 13:48	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 13:48	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 13:48	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 13:48	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 13:48	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 13:48	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 13:48	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 13:48	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 13:48	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 13:48	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 13:48	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 13:48	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 13:48	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: TB-PW-071919-B

Date Collected: 07/19/19 00:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 13:48	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 13:48	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 13:48	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 13:48	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 13:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 13:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 13:48	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 13:48	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 13:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 13:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 13:48	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 13:48	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 13:48	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 13:48	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 13:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 13:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 13:48	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 13:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 13:48	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 13:48	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexane	*1.0*		*ug/L*		*2.73*	*110-54-3*		*07/24/19 13:48*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 13:48*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/24/19 13:48*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 13:48*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/24/19 13:48*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-65-071919

Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	500	ug/L			07/24/19 19:57	50
Acrolein	ND		1000	500	ug/L			07/24/19 19:57	50
Acrylonitrile	ND		500	140	ug/L			07/24/19 19:57	50
Benzene	**10000**		50	19	ug/L			07/24/19 19:57	50
Bromobenzene	ND		50	27	ug/L			07/24/19 19:57	50
Bromochloromethane	ND		50	26	ug/L			07/24/19 19:57	50
Bromodichloromethane	ND		50	25	ug/L			07/24/19 19:57	50
Bromoform	ND		250	36	ug/L			07/24/19 19:57	50
Bromomethane	ND		50	49	ug/L			07/24/19 19:57	50
2-Butanone (MEK)	ND		1300	130	ug/L			07/24/19 19:57	50
Carbon disulfide	ND		50	25	ug/L			07/24/19 19:57	50
Carbon tetrachloride	ND		50	25	ug/L			07/24/19 19:57	50
Chlorobenzene	ND		50	25	ug/L			07/24/19 19:57	50
Chloroethane	ND		50	38	ug/L			07/24/19 19:57	50
2-Chloroethyl vinyl ether	ND		250	100	ug/L			07/24/19 19:57	50
Chloroform	ND		50	30	ug/L			07/24/19 19:57	50
1-Chlorohexane	ND		50	35	ug/L			07/24/19 19:57	50
Chloromethane	ND		50	42	ug/L			07/24/19 19:57	50
cis-1,2-Dichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
cis-1,3-Dichloropropene	ND		250	25	ug/L			07/24/19 19:57	50
Dibromochloromethane	ND		50	25	ug/L			07/24/19 19:57	50
1,2-Dibromo-3-Chloropropane	ND		250	75	ug/L			07/24/19 19:57	50
1,2-Dichlorobenzene	ND		50	25	ug/L			07/24/19 19:57	50
1,3-Dichlorobenzene	ND		50	27	ug/L			07/24/19 19:57	50
1,4-Dichlorobenzene	ND		50	32	ug/L			07/24/19 19:57	50
Dichlorodifluoromethane	ND		50	43	ug/L			07/24/19 19:57	50
1,1-Dichloroethane	ND		50	25	ug/L			07/24/19 19:57	50
1,2-Dichloroethane	ND		50	25	ug/L			07/24/19 19:57	50
1,1-Dichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
1,2-Dichloropropane	ND		50	25	ug/L			07/24/19 19:57	50
1,3-Dichloropropane	ND		50	25	ug/L			07/24/19 19:57	50
2,2-Dichloropropane	ND		50	25	ug/L			07/24/19 19:57	50
1,1-Dichloropropene	ND		50	25	ug/L			07/24/19 19:57	50
Ethylbenzene	ND		50	25	ug/L			07/24/19 19:57	50
Ethylene Dibromide	ND		50	25	ug/L			07/24/19 19:57	50
Ethyl methacrylate	ND		50	30	ug/L			07/24/19 19:57	50
Hexachlorobutadiene	ND		250	45	ug/L			07/24/19 19:57	50
2-Hexanone	ND		1300	160	ug/L			07/24/19 19:57	50
Isopropylbenzene	ND		50	27	ug/L			07/24/19 19:57	50
Methylene bromide	ND		250	30	ug/L			07/24/19 19:57	50
Methylene Chloride	ND		250	150	ug/L			07/24/19 19:57	50
4-Methyl-2-pentanone (MIBK)	ND		1300	90	ug/L			07/24/19 19:57	50
Methyl tert-butyl ether	ND		50	37	ug/L			07/24/19 19:57	50
m-Xylene & p-Xylene	ND		250	80	ug/L			07/24/19 19:57	50
Naphthalene	ND		50	50	ug/L			07/24/19 19:57	50
n-Butylbenzene	ND		50	38	ug/L			07/24/19 19:57	50
N-Propylbenzene	ND		50	35	ug/L			07/24/19 19:57	50
o-Chlorotoluene	ND		50	29	ug/L			07/24/19 19:57	50
o-Xylene	ND		250	30	ug/L			07/24/19 19:57	50

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-65-071919
Lab Sample ID: 400-173468-2
Date Collected: 07/19/19 09:10
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		50	28	ug/L			07/24/19 19:57	50
p-Isopropyltoluene	ND		50	36	ug/L			07/24/19 19:57	50
sec-Butylbenzene	ND		50	35	ug/L			07/24/19 19:57	50
Styrene	ND		50	50	ug/L			07/24/19 19:57	50
tert-Butylbenzene	ND		50	32	ug/L			07/24/19 19:57	50
1,1,1,2-Tetrachloroethane	ND		50	26	ug/L			07/24/19 19:57	50
1,1,2,2-Tetrachloroethane	ND		50	25	ug/L			07/24/19 19:57	50
Tetrachloroethene	ND		50	29	ug/L			07/24/19 19:57	50
Toluene	ND		50	21	ug/L			07/24/19 19:57	50
trans-1,2-Dichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
trans-1,3-Dichloropropene	ND		250	25	ug/L			07/24/19 19:57	50
1,2,3-Trichlorobenzene	ND		50	35	ug/L			07/24/19 19:57	50
1,2,4-Trichlorobenzene	ND		50	41	ug/L			07/24/19 19:57	50
1,1,1-Trichloroethane	ND		50	25	ug/L			07/24/19 19:57	50
1,1,2-Trichloroethane	ND		250	25	ug/L			07/24/19 19:57	50
Trichloroethene	ND		50	25	ug/L			07/24/19 19:57	50
Trichlorofluoromethane	ND		50	26	ug/L			07/24/19 19:57	50
1,2,3-Trichloropropane	ND		250	42	ug/L			07/24/19 19:57	50
1,2,4-Trimethylbenzene	ND		50	41	ug/L			07/24/19 19:57	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			07/24/19 19:57	50
Vinyl acetate	ND		1300	100	ug/L			07/24/19 19:57	50
Vinyl chloride	ND		50	25	ug/L			07/24/19 19:57	50
Xylenes, Total	ND		500	80	ug/L			07/24/19 19:57	50

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 19:57*	*50*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*78 - 118*		*07/24/19 19:57*	*50*
Dibromofluoromethane	*95*		*81 - 121*		*07/24/19 19:57*	*50*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/24/19 19:57*	*50*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 11:25	08/03/19 09:07	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:07	1
1-Methylnaphthalene	**0.25**		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
2-Methylnaphthalene	**0.13**	**J**	0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-65-071919
Lab Sample ID: 400-173468-2

Date Collected: 07/19/19 09:10
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:07*	*1*
Nitrobenzene-d5	*78*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:07*	*1*
Terphenyl-d14	*88*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:07*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
Benzenethiol	ND	*	10	1.7	ug/L		07/24/19 11:25	07/26/19 23:33	1
Benzoic acid	ND	*	30	7.3	ug/L		07/24/19 11:25	07/26/19 23:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 11:25	07/26/19 23:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 11:25	07/26/19 23:33	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 11:25	07/26/19 23:33	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 11:25	07/26/19 23:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 11:25	07/26/19 23:33	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 11:25	07/26/19 23:33	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 11:25	07/26/19 23:33	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 11:25	07/26/19 23:33	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 11:25	07/26/19 23:33	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 11:25	07/26/19 23:33	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 11:25	07/26/19 23:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 11:25	07/26/19 23:33	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
Indene	ND		10	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
Isophorone	ND		10	0.57	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 11:25	07/26/19 23:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-65-071919
Lab Sample ID: 400-173468-2
Date Collected: 07/19/19 09:10
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 11:25	07/26/19 23:33	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 11:25	07/26/19 23:33	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 11:25	07/26/19 23:33	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 11:25	07/26/19 23:33	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 11:25	07/26/19 23:33	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 11:25	07/26/19 23:33	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 11:25	07/26/19 23:33	1
Phenol	**84**		10	2.6	ug/L		07/24/19 11:25	07/26/19 23:33	1
Pyridine	ND		10	3.2	ug/L		07/24/19 11:25	07/26/19 23:33	1
Quinoline	ND		10	6.0	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 11:25	07/26/19 23:33	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 11:25	07/26/19 23:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Ethylbenzene	*6.3*	*T J N*	*ug/L*		*4.59*	*100-41-4*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
o-Xylene	*5.6*	*T J N*	*ug/L*		*4.82*	*95-47-6*	*07/24/19 11:25*	*07/26/19 23:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*56*		*34 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
2-Fluorophenol	*42*		*10 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
Nitrobenzene-d5	*83*		*27 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
Phenol-d5	*59*		*10 - 120*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
Terphenyl-d14	*55*		*53 - 125*	*07/24/19 11:25*	*07/26/19 23:33*	*1*
2,4,6-Tribromophenol	*55*		*15 - 135*	*07/24/19 11:25*	*07/26/19 23:33*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-70-071919
Lab Sample ID: 400-173468-3

Date Collected: 07/19/19 10:20
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 19:04	1
Acrolein	ND		20	10	ug/L			07/24/19 19:04	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 19:04	1
Benzene	**13**		1.0	0.38	ug/L			07/24/19 19:04	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 19:04	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 19:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 19:04	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 19:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 19:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 19:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 19:04	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 19:04	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 19:04	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 19:04	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:04	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 19:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 19:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 19:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 19:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 19:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 19:04	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 19:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 19:04	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 19:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 19:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 19:04	1
Methyl tert-butyl ether	**4.9**		1.0	0.74	ug/L			07/24/19 19:04	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 19:04	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 19:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 19:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 19:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 19:04	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 19:04	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-70-071919

Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 19:04	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 19:04	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 19:04	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 19:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 19:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 19:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 19:04	1
Toluene	**0.55**	**J**	1.0	0.41	ug/L			07/24/19 19:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 19:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 19:04	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:04	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 19:04	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 19:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 19:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 19:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 19:04	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 19:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 19:04	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 19:04	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*100*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 19:04*	*1*
2-Methyl-2-propanol	*5.0*	*J*	*ug/L*		*2.50*	*75-65-0*		*07/24/19 19:04*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 19:04*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*78 - 118*		*07/24/19 19:04*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/24/19 19:04*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*07/24/19 19:04*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 11:25	08/03/19 09:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 11:25	08/03/19 09:25	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1

Client Sample ID: PD-2-GWP-70-071919
Lab Sample ID: 400-173468-3
Date Collected: 07/19/19 10:20
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:25*	*1*
Nitrobenzene-d5	*87*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:25*	*1*
Terphenyl-d14	*92*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:25*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
Benzenethiol	ND	*	9.9	1.7	ug/L		07/24/19 11:25	07/26/19 20:23	1
Benzoic acid	ND		30	7.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
Benzyl alcohol	ND		9.9	2.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		07/24/19 11:25	07/26/19 20:23	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		07/24/19 11:25	07/26/19 20:23	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		07/24/19 11:25	07/26/19 20:23	1
Bis(2-ethylhexyl) phthalate	ND		9.9	4.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		07/24/19 11:25	07/26/19 20:23	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Chloroaniline	ND		9.9	3.4	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Chlorophenol	ND		9.9	2.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Dibenzofuran	ND		9.9	0.51	ug/L		07/24/19 11:25	07/26/19 20:23	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
Diethyl phthalate	ND		9.9	0.69	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		07/24/19 11:25	07/26/19 20:23	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		07/24/19 11:25	07/26/19 20:23	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		07/24/19 11:25	07/26/19 20:23	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		07/24/19 11:25	07/26/19 20:23	1
1,4-Dioxane	ND		9.9	0.99	ug/L		07/24/19 11:25	07/26/19 20:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		07/24/19 11:25	07/26/19 20:23	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		07/24/19 11:25	07/26/19 20:23	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 11:25	07/26/19 20:23	1
Hexachloroethane	ND		9.9	4.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
Indene	ND		9.9	0.99	ug/L		07/24/19 11:25	07/26/19 20:23	1
Isophorone	ND		9.9	0.56	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Methylphenol	ND		9.9	1.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Nitroaniline	ND		9.9	2.2	ug/L		07/24/19 11:25	07/26/19 20:23	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-70-071919
Lab Sample ID: 400-173468-3
Date Collected: 07/19/19 10:20
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.9	1.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Nitroaniline	ND		9.9	2.5	ug/L		07/24/19 11:25	07/26/19 20:23	1
Nitrobenzene	ND		9.9	0.54	ug/L		07/24/19 11:25	07/26/19 20:23	1
2-Nitrophenol	ND		9.9	0.64	ug/L		07/24/19 11:25	07/26/19 20:23	1
4-Nitrophenol	ND		9.9	2.1	ug/L		07/24/19 11:25	07/26/19 20:23	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		07/24/19 11:25	07/26/19 20:23	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		07/24/19 11:25	07/26/19 20:23	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		07/24/19 11:25	07/26/19 20:23	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 11:25	07/26/19 20:23	1
Phenol	ND		9.9	2.6	ug/L		07/24/19 11:25	07/26/19 20:23	1
Pyridine	ND		9.9	3.2	ug/L		07/24/19 11:25	07/26/19 20:23	1
Quinoline	ND		9.9	5.9	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		07/24/19 11:25	07/26/19 20:23	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		07/24/19 11:25	07/26/19 20:23	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*7.8*	*T J*	*ug/L*		*6.40*		*07/24/19 11:25*	*07/26/19 20:23*	*1*
Unknown	*4.0*	*T J*	*ug/L*		*7.11*		*07/24/19 11:25*	*07/26/19 20:23*	*1*
n-Hexadecanoic acid	*11*	*T J N*	*ug/L*		*9.01*	*57-10-3*	*07/24/19 11:25*	*07/26/19 20:23*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*34 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
2-Fluorophenol	*48*		*10 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
Nitrobenzene-d5	*88*		*27 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
Phenol-d5	*61*		*10 - 120*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/24/19 11:25*	*07/26/19 20:23*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/24/19 11:25*	*07/26/19 20:23*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919

Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 19:31	1
Acrolein	ND		20	10	ug/L			07/24/19 19:31	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 19:31	1
Benzene	**54**		1.0	0.38	ug/L			07/24/19 19:31	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 19:31	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 19:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 19:31	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 19:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 19:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 19:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 19:31	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 19:31	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 19:31	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 19:31	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:31	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 19:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 19:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 19:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 19:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 19:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 19:31	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 19:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 19:31	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 19:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 19:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 19:31	1
Methyl tert-butyl ether	**4.4**		1.0	0.74	ug/L			07/24/19 19:31	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 19:31	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 19:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 19:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 19:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 19:31	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 19:31	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919

Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 19:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 19:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 19:31	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 19:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 19:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 19:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 19:31	1
Toluene	**0.44**	**J**	1.0	0.41	ug/L			07/24/19 19:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 19:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 19:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 19:31	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 19:31	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 19:31	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 19:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 19:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 19:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 19:31	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 19:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 19:31	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 19:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*64*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 19:31*	*1*
2-Methyl-2-propanol	*10*		*ug/L*		*2.49*	*75-65-0*		*07/24/19 19:31*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 19:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/24/19 19:31*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/24/19 19:31*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*07/24/19 19:31*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Chrysene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 11:25	08/03/19 09:42	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/24/19 11:25	08/03/19 09:42	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919

Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 11:25	08/03/19 09:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:42*	*1*
Nitrobenzene-d5	*74*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:42*	*1*
Terphenyl-d14	*73*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		07/24/19 11:25	07/27/19 00:15	1
Benzenethiol	ND	*	9.8	1.7	ug/L		07/24/19 11:25	07/27/19 00:15	1
Benzoic acid	ND		29	7.2	ug/L		07/24/19 11:25	07/27/19 00:15	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/24/19 11:25	07/27/19 00:15	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/24/19 11:25	07/27/19 00:15	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/24/19 11:25	07/27/19 00:15	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/24/19 11:25	07/30/19 19:57	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/24/19 11:25	07/27/19 00:15	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/24/19 11:25	07/27/19 00:15	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/24/19 11:25	07/27/19 00:15	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/24/19 11:25	07/27/19 00:15	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/24/19 11:25	07/27/19 00:15	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/24/19 11:25	07/27/19 00:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/24/19 11:25	07/27/19 00:15	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		07/24/19 11:25	07/27/19 00:15	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/24/19 11:25	07/27/19 00:15	1
Indene	ND		9.8	0.98	ug/L		07/24/19 11:25	07/27/19 00:15	1
Isophorone	ND		9.8	0.56	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/24/19 11:25	07/27/19 00:15	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/24/19 11:25	07/27/19 00:15	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-74.5-071919
Lab Sample ID: 400-173468-4
Date Collected: 07/19/19 11:40
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.8	1.8	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/24/19 11:25	07/27/19 00:15	1
Nitrobenzene	ND		9.8	0.54	ug/L		07/24/19 11:25	07/27/19 00:15	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/24/19 11:25	07/27/19 00:15	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/24/19 11:25	07/27/19 00:15	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/24/19 11:25	07/27/19 00:15	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/24/19 11:25	07/27/19 00:15	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/24/19 11:25	07/27/19 00:15	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 11:25	07/27/19 00:15	1
Phenol	ND		9.8	2.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
Pyridine	ND		9.8	3.1	ug/L		07/24/19 11:25	07/27/19 00:15	1
Quinoline	ND		9.8	5.9	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/24/19 11:25	07/27/19 00:15	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/24/19 11:25	07/27/19 00:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
n-Hexadecanoic acid	*4.3*	*T J N*	*ug/L*		*9.01*	*57-10-3*	*07/24/19 11:25*	*07/27/19 00:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*45*		*34 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
2-Fluorobiphenyl	*43*		*34 - 120*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
2-Fluorophenol	*38*		*10 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
2-Fluorophenol	*52*		*10 - 120*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
Nitrobenzene-d5	*71*		*27 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
Phenol-d5	*53*		*10 - 120*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
Phenol-d5	*66*		*10 - 120*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
Terphenyl-d14	*45*	*X*	*53 - 125*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
Terphenyl-d14	*35*	*X*	*53 - 125*	*07/24/19 11:25*	*07/30/19 19:57*	*1*
2,4,6-Tribromophenol	*48*		*15 - 135*	*07/24/19 11:25*	*07/27/19 00:15*	*1*
2,4,6-Tribromophenol	*43*		*15 - 135*	*07/24/19 11:25*	*07/30/19 19:57*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Lab Sample ID: 400-173468-5

Date Collected: 07/19/19 14:00
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 14:14	1
Acrolein	ND		20	10	ug/L			07/24/19 14:14	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 14:14	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 14:14	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 14:14	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 14:14	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 14:14	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 14:14	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 14:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 14:14	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 14:14	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 14:14	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 14:14	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 14:14	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:14	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 14:14	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 14:14	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 14:14	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 14:14	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 14:14	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 14:14	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 14:14	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 14:14	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 14:14	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 14:14	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 14:14	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 14:14	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 14:14	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 14:14	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 14:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 14:14	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 14:14	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 14:14	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-74.5-071919-EB
Lab Sample ID: 400-173468-5

Date Collected: 07/19/19 14:00
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 14:14	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 14:14	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 14:14	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 14:14	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 14:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 14:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 14:14	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 14:14	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 14:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 14:14	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:14	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 14:14	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 14:14	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 14:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 14:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 14:14	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 14:14	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 14:14	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 14:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*54*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 14:14*	*1*
2-Methyl-2-propanol	*4.9*	*J*	*ug/L*		*2.49*	*75-65-0*		*07/24/19 14:14*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 14:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*78 - 118*		*07/24/19 14:14*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/24/19 14:14*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 14:14*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 11:25	08/03/19 09:59	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 09:59	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD-2-GWP-74.5-071919-EB

Lab Sample ID: 400-173468-5

Date Collected: 07/19/19 14:00
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 09:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*15 - 122*	*07/24/19 11:25*	*08/03/19 09:59*	*1*
Nitrobenzene-d5	*81*		*19 - 130*	*07/24/19 11:25*	*08/03/19 09:59*	*1*
Terphenyl-d14	*121*		*33 - 138*	*07/24/19 11:25*	*08/03/19 09:59*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
Benzenethiol	ND		9.6	1.6	ug/L		07/24/19 11:25	07/30/19 18:53	1
Benzoic acid	ND		29	7.0	ug/L		07/24/19 11:25	07/30/19 18:53	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/30/19 18:53	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/24/19 11:25	07/30/19 18:53	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/24/19 11:25	08/02/19 01:12	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 11:25	08/02/19 01:12	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/24/19 11:25	08/02/19 01:12	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/24/19 11:25	08/02/19 01:12	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/24/19 11:25	08/02/19 01:12	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/24/19 11:25	08/02/19 01:12	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/24/19 11:25	08/02/19 01:12	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 11:25	07/30/19 18:53	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 11:25	07/30/19 18:53	1
Diethyl phthalate	ND		9.6	0.68	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/24/19 11:25	07/30/19 18:53	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 11:25	08/02/19 01:12	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 11:25	07/30/19 18:53	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/30/19 18:53	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/30/19 18:53	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/24/19 11:25	08/02/19 01:12	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 11:25	07/30/19 18:53	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 11:25	07/30/19 18:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 11:25	07/30/19 18:53	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 11:25	08/02/19 01:12	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 11:25	08/02/19 01:12	1
Hexachloroethane	ND		9.6	4.1	ug/L		07/24/19 11:25	08/02/19 01:12	1
Indene	ND		9.6	0.96	ug/L		07/24/19 11:25	08/02/19 01:12	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 11:25	07/30/19 18:53	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-2-GWP-74.5-071919-EB
Lab Sample ID: 400-173468-5
Date Collected: 07/19/19 14:00
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 11:25	07/30/19 18:53	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 11:25	07/30/19 18:53	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/24/19 11:25	07/30/19 18:53	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 11:25	08/02/19 01:12	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 11:25	08/02/19 01:12	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 11:25	08/02/19 01:12	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 11:25	07/30/19 18:53	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 11:25	07/30/19 18:53	1
Phenol	ND		9.6	2.5	ug/L		07/24/19 11:25	07/30/19 18:53	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 11:25	07/30/19 18:53	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/24/19 11:25	08/02/19 01:12	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 11:25	08/02/19 01:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*3.9*	*T J*	*ug/L*		*11.59*		*07/24/19 11:25*	*07/30/19 18:53*	*1*
13-Docosenamide, (Z)-	*12*	*T J N*	*ug/L*		*11.72*	*112-84-5*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Unknown	*5.2*	*T J*	*ug/L*		*11.81*		*07/24/19 11:25*	*07/30/19 18:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*34 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
2-Fluorophenol	*82*		*10 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Nitrobenzene-d5	*128*	*X*	*27 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Phenol-d5	*98*		*10 - 120*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
Terphenyl-d14	*120*		*53 - 125*	*07/24/19 11:25*	*07/30/19 18:53*	*1*
2,4,6-Tribromophenol	*56*		*15 - 135*	*07/24/19 11:25*	*07/30/19 18:53*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD17-GWP-45-071919
Lab Sample ID: 400-173468-6
Date Collected: 07/19/19 14:50
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		6300	2500	ug/L			07/24/19 20:24	250
Acrolein	ND		5000	2500	ug/L			07/24/19 20:24	250
Acrylonitrile	ND		2500	700	ug/L			07/24/19 20:24	250
Bromobenzene	ND		250	140	ug/L			07/24/19 20:24	250
Bromochloromethane	ND		250	130	ug/L			07/24/19 20:24	250
Bromodichloromethane	ND		250	130	ug/L			07/24/19 20:24	250
Bromoform	ND		1300	180	ug/L			07/24/19 20:24	250
Bromomethane	ND		250	250	ug/L			07/24/19 20:24	250
2-Butanone (MEK)	ND		6300	650	ug/L			07/24/19 20:24	250
Carbon disulfide	ND		250	130	ug/L			07/24/19 20:24	250
Carbon tetrachloride	ND		250	130	ug/L			07/24/19 20:24	250
Chlorobenzene	ND		250	130	ug/L			07/24/19 20:24	250
Chloroethane	ND		250	190	ug/L			07/24/19 20:24	250
2-Chloroethyl vinyl ether	ND		1300	500	ug/L			07/24/19 20:24	250
Chloroform	ND		250	150	ug/L			07/24/19 20:24	250
1-Chlorohexane	ND		250	180	ug/L			07/24/19 20:24	250
Chloromethane	ND		250	210	ug/L			07/24/19 20:24	250
cis-1,2-Dichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
cis-1,3-Dichloropropene	ND		1300	130	ug/L			07/24/19 20:24	250
Dibromochloromethane	ND		250	130	ug/L			07/24/19 20:24	250
1,2-Dibromo-3-Chloropropane	ND		1300	380	ug/L			07/24/19 20:24	250
1,2-Dichlorobenzene	ND		250	130	ug/L			07/24/19 20:24	250
1,3-Dichlorobenzene	ND		250	140	ug/L			07/24/19 20:24	250
1,4-Dichlorobenzene	ND		250	160	ug/L			07/24/19 20:24	250
Dichlorodifluoromethane	ND		250	210	ug/L			07/24/19 20:24	250
1,1-Dichloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,2-Dichloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,1-Dichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
1,2-Dichloropropane	ND		250	130	ug/L			07/24/19 20:24	250
1,3-Dichloropropane	ND		250	130	ug/L			07/24/19 20:24	250
2,2-Dichloropropane	ND		250	130	ug/L			07/24/19 20:24	250
1,1-Dichloropropene	ND		250	130	ug/L			07/24/19 20:24	250
Ethylbenzene	ND		250	130	ug/L			07/24/19 20:24	250
Ethylene Dibromide	ND		250	130	ug/L			07/24/19 20:24	250
Ethyl methacrylate	ND		250	150	ug/L			07/24/19 20:24	250
Hexachlorobutadiene	ND		1300	230	ug/L			07/24/19 20:24	250
2-Hexanone	ND		6300	780	ug/L			07/24/19 20:24	250
Isopropylbenzene	ND		250	130	ug/L			07/24/19 20:24	250
Methylene bromide	ND		1300	150	ug/L			07/24/19 20:24	250
Methylene Chloride	ND		1300	750	ug/L			07/24/19 20:24	250
4-Methyl-2-pentanone (MIBK)	ND		6300	450	ug/L			07/24/19 20:24	250
Methyl tert-butyl ether	ND		250	190	ug/L			07/24/19 20:24	250
m-Xylene & p-Xylene	ND		1300	400	ug/L			07/24/19 20:24	250
Naphthalene	ND		250	250	ug/L			07/24/19 20:24	250
n-Butylbenzene	ND		250	190	ug/L			07/24/19 20:24	250
N-Propylbenzene	ND		250	170	ug/L			07/24/19 20:24	250
o-Chlorotoluene	ND		250	140	ug/L			07/24/19 20:24	250
o-Xylene	ND		1300	150	ug/L			07/24/19 20:24	250
p-Chlorotoluene	ND		250	140	ug/L			07/24/19 20:24	250

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		250	180	ug/L			07/24/19 20:24	250
sec-Butylbenzene	ND		250	180	ug/L			07/24/19 20:24	250
Styrene	ND		250	250	ug/L			07/24/19 20:24	250
tert-Butylbenzene	ND		250	160	ug/L			07/24/19 20:24	250
1,1,1,2-Tetrachloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,1,2,2-Tetrachloroethane	ND		250	130	ug/L			07/24/19 20:24	250
Tetrachloroethene	ND		250	150	ug/L			07/24/19 20:24	250
Toluene	**100**	**J**	250	100	ug/L			07/24/19 20:24	250
trans-1,2-Dichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
trans-1,3-Dichloropropene	ND		1300	130	ug/L			07/24/19 20:24	250
1,2,3-Trichlorobenzene	ND		250	180	ug/L			07/24/19 20:24	250
1,2,4-Trichlorobenzene	ND		250	210	ug/L			07/24/19 20:24	250
1,1,1-Trichloroethane	ND		250	130	ug/L			07/24/19 20:24	250
1,1,2-Trichloroethane	ND		1300	130	ug/L			07/24/19 20:24	250
Trichloroethene	ND		250	130	ug/L			07/24/19 20:24	250
Trichlorofluoromethane	ND		250	130	ug/L			07/24/19 20:24	250
1,2,3-Trichloropropane	ND		1300	210	ug/L			07/24/19 20:24	250
1,2,4-Trimethylbenzene	ND		250	210	ug/L			07/24/19 20:24	250
1,3,5-Trimethylbenzene	ND		250	140	ug/L			07/24/19 20:24	250
Vinyl acetate	ND		6300	500	ug/L			07/24/19 20:24	250
Vinyl chloride	ND		250	130	ug/L			07/24/19 20:24	250
Xylenes, Total	ND		2500	400	ug/L			07/24/19 20:24	250

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butenedinitrile, (E)-	*1500*	*T J N*	*ug/L*		*3.69*	*764-42-1*		*07/24/19 20:24*	*250*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*07/24/19 20:24*	*250*
Dibromofluoromethane	*89*		*81 - 121*		*07/24/19 20:24*	*250*
Toluene-d8 (Surr)	*111*		*80 - 120*		*07/24/19 20:24*	*250*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**180000**		1000	380	ug/L			07/25/19 20:27	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/25/19 20:27*	*1000*
Dibromofluoromethane	*95*		*81 - 121*		*07/25/19 20:27*	*1000*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/25/19 20:27*	*1000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**3.2**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Anthracene	**0.27**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[a]anthracene	**0.097**	**J**	0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[a]pyrene	**0.16**	**J**	0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Chrysene	**0.13**	**J**	0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
Fluoranthene	**0.15**	**J**	0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Fluorene	**1.8**		0.19	0.020	ug/L		07/24/19 11:25	08/03/19 10:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:16	1
1-Methylnaphthalene	**4.7**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
2-Methylnaphthalene	**0.54**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Phenanthrene	**0.67**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1
Pyrene	**0.55**		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*15 - 122*	*07/24/19 11:25*	*08/03/19 10:16*	*1*
Nitrobenzene-d5	*84*		*19 - 130*	*07/24/19 11:25*	*08/03/19 10:16*	*1*
Terphenyl-d14	*43*		*33 - 138*	*07/24/19 11:25*	*08/03/19 10:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
Benzenethiol	ND		9.7	1.6	ug/L		07/24/19 11:25	07/26/19 19:00	1
Benzoic acid	ND		29	7.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/24/19 11:25	07/26/19 19:00	1
Bis(2-chloroethyl)ether	ND	*	9.7	0.72	ug/L		07/24/19 11:25	07/26/19 19:00	1
bis (2-chloroisopropyl) ether	ND		9.7	0.78	ug/L		07/24/19 11:25	07/26/19 19:00	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Bromophenyl phenyl ether	ND	*	9.7	0.31	ug/L		07/24/19 11:25	07/26/19 19:00	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Chloronaphthalene	ND	*	9.7	0.50	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Chlorophenyl phenyl ether	ND	*	9.7	1.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/24/19 11:25	08/02/19 01:33	1
Dibenzofuran	**0.70**	**J ***	9.7	0.50	ug/L		07/24/19 11:25	07/26/19 19:00	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/24/19 11:25	07/26/19 19:00	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/24/19 11:25	07/26/19 19:00	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/24/19 11:25	07/26/19 19:00	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4-Dinitrotoluene	ND	*	9.7	1.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,6-Dinitrotoluene	ND	*	9.7	1.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/24/19 11:25	07/26/19 19:00	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/24/19 11:25	07/26/19 19:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/24/19 11:25	07/26/19 19:00	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/24/19 11:25	07/26/19 19:00	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 11:25	07/26/19 19:00	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/24/19 11:25	07/26/19 19:00	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919

Date Collected: 07/19/19 14:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indene	ND		9.7	0.97	ug/L		07/24/19 11:25	07/26/19 19:00	1
Isophorone	ND		9.7	0.55	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/24/19 11:25	07/26/19 19:00	1
Nitrobenzene	ND		9.7	0.53	ug/L		07/24/19 11:25	07/26/19 19:00	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/24/19 11:25	07/26/19 19:00	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/24/19 11:25	07/26/19 19:00	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/24/19 11:25	07/26/19 19:00	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/24/19 11:25	07/26/19 19:00	1
N-Nitrosodiphenylamine	ND		9.7	0.45	ug/L		07/24/19 11:25	07/26/19 19:00	1
Pentachlorophenol	ND		19	1.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
Phenol	**90**		9.7	2.5	ug/L		07/24/19 11:25	07/26/19 19:00	1
Pyridine	ND		9.7	3.1	ug/L		07/24/19 11:25	07/26/19 19:00	1
Quinoline	ND		9.7	5.8	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/24/19 11:25	07/26/19 19:00	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/24/19 11:25	07/26/19 19:00	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*13*	*T J N*	*ug/L*		*3.62*	*108-88-3*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*3.78*	*590-90-9*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, (1-methylethyl)-	*7.8*	*T J N*	*ug/L*		*4.84*	*98-82-8*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, propyl-	*13*	*T J N*	*ug/L*		*5.03*	*103-65-1*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1-ethyl-4-methyl-	*4.0*	*T J N*	*ug/L*		*5.17*	*622-96-8*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,2,4-trimethyl-	*37*	*T J N*	*ug/L*		*5.26*	*95-63-6*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1-methyl-4-propyl-	*14*	*T J N*	*ug/L*		*5.34*	*1074-55-1*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,4-diethyl-	*4.1*	*T J N*	*ug/L*		*5.57*	*105-05-5*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,4-diethyl-	*4.9*	*T J N*	*ug/L*		*5.59*	*105-05-5*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,2,4,5-tetramethyl-	*10*	*T J N*	*ug/L*		*5.86*	*95-93-2*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, 1,2,4,5-tetramethyl-	*12*	*T J N*	*ug/L*		*5.88*	*95-93-2*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Benzene, (2-methyl-1-butenyl)-	*4.1*	*T J N*	*ug/L*		*5.97*	*56253-64-6*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	*4.9*	*T J N*	*ug/L*		*6.33*	*3877-19-8*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Naphthalene, 2,3-dimethyl-	*5.9*	*T J N*	*ug/L*		*7.13*	*581-40-8*	*07/24/19 11:25*	*07/26/19 19:00*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*50*		*34 - 120*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
2-Fluorophenol	*40*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Nitrobenzene-d5	*52*		*27 - 120*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Phenol-d5	*45*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
Terphenyl-d14	*25*	*X*	*53 - 125*	*07/24/19 11:25*	*07/26/19 19:00*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/24/19 11:25*	*07/26/19 19:00*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Client Sample ID: PD17-GWP-45-071919-EB

Date Collected: 07/19/19 15:50
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**11**	**J**	25	10	ug/L			07/24/19 14:41	1
Acrolein	ND		20	10	ug/L			07/24/19 14:41	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 14:41	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 14:41	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 14:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 14:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 14:41	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 14:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 14:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 14:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 14:41	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 14:41	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 14:41	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 14:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 14:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 14:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 14:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 14:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 14:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 14:41	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 14:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 14:41	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 14:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 14:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 14:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 14:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 14:41	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 14:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 14:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 14:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 14:41	1
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 14:41	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD17-GWP-45-071919-EB
Lab Sample ID: 400-173468-7
Date Collected: 07/19/19 15:50
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 14:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 14:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 14:41	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 14:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 14:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 14:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 14:41	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 14:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 14:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 14:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 14:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 14:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 14:41	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 14:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 14:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 14:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 14:41	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 14:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 14:41	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 14:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*28*	*J*	*ug/L*		*2.28*	*67-63-0*		*07/24/19 14:41*	*1*
2-Methyl-2-propanol	*4.9*	*J*	*ug/L*		*2.49*	*75-65-0*		*07/24/19 14:41*	*1*
Hexane	*1.1*		*ug/L*		*2.72*	*110-54-3*		*07/24/19 14:41*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 14:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*07/24/19 14:41*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*07/24/19 14:41*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/24/19 14:41*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Anthracene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Chrysene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1
Fluoranthene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Fluorene	ND		0.19	0.020	ug/L		07/24/19 11:25	08/03/19 10:33	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/24/19 11:25	08/03/19 10:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD17-GWP-45-071919-EB
Lab Sample ID: 400-173468-7
Date Collected: 07/19/19 15:50
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Phenanthrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1
Pyrene	ND		0.19	0.019	ug/L		07/24/19 11:25	08/03/19 10:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*15 - 122*	*07/24/19 11:25*	*08/03/19 10:33*	*1*
Nitrobenzene-d5	*85*		*19 - 130*	*07/24/19 11:25*	*08/03/19 10:33*	*1*
Terphenyl-d14	*136*		*33 - 138*	*07/24/19 11:25*	*08/03/19 10:33*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	3.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
Benzenethiol	ND		9.6	1.6	ug/L		07/24/19 11:25	07/26/19 19:22	1
Benzoic acid	ND		29	7.0	ug/L		07/24/19 11:25	07/26/19 19:22	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/24/19 11:25	07/26/19 19:22	1
Bis(2-chloroethyl)ether	ND	*	9.6	0.71	ug/L		07/24/19 11:25	07/26/19 19:22	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/24/19 11:25	07/26/19 19:22	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Bromophenyl phenyl ether	ND	*	9.6	0.31	ug/L		07/24/19 11:25	07/26/19 19:22	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Chloronaphthalene	ND	*	9.6	0.50	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Chlorophenyl phenyl ether	ND	*	9.6	1.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Dibenz[a,h]acridine	ND	*	9.6	2.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Dibenzofuran	ND	*	9.6	0.50	ug/L		07/24/19 11:25	07/26/19 19:22	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/24/19 11:25	07/26/19 19:22	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/24/19 11:25	07/26/19 19:22	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/24/19 11:25	07/26/19 19:22	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4-Dinitrotoluene	ND	*	9.6	1.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,6-Dinitrotoluene	ND	*	9.6	1.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
Di-n-octyl phthalate	ND		9.6	0.42	ug/L		07/24/19 11:25	07/26/19 19:22	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/24/19 11:25	07/26/19 19:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/24/19 11:25	07/26/19 19:22	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/24/19 11:25	07/26/19 19:22	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/24/19 11:25	07/26/19 19:22	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/24/19 11:25	07/26/19 19:22	1
Indene	ND		9.6	0.96	ug/L		07/24/19 11:25	07/26/19 19:22	1
Isophorone	ND		9.6	0.55	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/24/19 11:25	07/26/19 19:22	1

Client Sample ID: PD17-GWP-45-071919-EB
Lab Sample ID: 400-173468-7
Date Collected: 07/19/19 15:50
Matrix: Water
Date Received: 07/20/19 08:17

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	2.1	ug/L		07/24/19 11:25	07/26/19 19:22	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/24/19 11:25	07/26/19 19:22	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/24/19 11:25	07/26/19 19:22	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/24/19 11:25	07/26/19 19:22	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/24/19 11:25	07/26/19 19:22	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/24/19 11:25	07/26/19 19:22	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/24/19 11:25	07/26/19 19:22	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/24/19 11:25	07/26/19 19:22	1
Pentachlorophenol	ND		19	1.7	ug/L		07/24/19 11:25	07/26/19 19:22	1
Phenol	ND		9.6	2.5	ug/L		07/24/19 11:25	07/26/19 19:22	1
Pyridine	ND		9.6	3.1	ug/L		07/24/19 11:25	07/26/19 19:22	1
Quinoline	ND		9.6	5.8	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/24/19 11:25	07/26/19 19:22	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/24/19 11:25	07/26/19 19:22	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/24/19 11:25*	*07/26/19 19:22*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Phenol-d5	*44*		*10 - 120*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/24/19 11:25*	*07/26/19 19:22*	*1*
2,4,6-Tribromophenol	*87*		*15 - 135*	*07/24/19 11:25*	*07/26/19 19:22*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-173468-1	TB-PW-071919-B	110	96	104
400-173468-2	PD-2-GWP-65-071919	109	95	105
400-173468-3	PD-2-GWP-70-071919	108	99	107
400-173468-4	PD-2-GWP-74.5-071919	110	97	108
400-173468-5	PD-2-GWP-74.5-071919-EB	112	96	102
400-173468-6	PD17-GWP-45-071919	105	89	111
400-173468-6 - DL	PD17-GWP-45-071919	100	95	105
400-173468-7	PD17-GWP-45-071919-EB	110	94	102
LCS 400-449292/1002	Lab Control Sample	109	96	93
LCS 400-449454/1002	Lab Control Sample	98	97	102
MB 400-449292/34	Method Blank	113	95	105
MB 400-449454/4	Method Blank	100	97	102

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-173468-2	PD-2-GWP-65-071919	56	42	83	59	55	55
400-173468-3	PD-2-GWP-70-071919	61	48	88	61	59	54
400-173468-4	PD-2-GWP-74.5-071919	45	38	71	53	45 X	48
400-173468-4	PD-2-GWP-74.5-071919	43	52	75	66	35 X	43
400-173468-5	PD-2-GWP-74.5-071919-EB	83	82	128 X	98	120	56
400-173468-6	PD17-GWP-45-071919	50	40	52	45	25 X	82
400-173468-7	PD17-GWP-45-071919-EB	59	37	54	44	69	87
LCS 400-449321/2-A	Lab Control Sample	60	43	85	65	75	70
LCS 400-449321/8-A	Lab Control Sample	53	53	82	69	72	49
LCSD 400-449321/3-A	Lab Control Sample Dup	60	44	84	67	76	74
LCSD 400-449321/9-A	Lab Control Sample Dup	51	55	81	69	74	48
MB 400-449321/1-A	Method Blank	59	44	88	67	78	54

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173468-2	PD-2-GWP-65-071919	84	78	88
400-173468-3	PD-2-GWP-70-071919	89	87	92
400-173468-4	PD-2-GWP-74.5-071919	75	74	73
400-173468-5	PD-2-GWP-74.5-071919-EB	91	81	121
400-173468-6	PD17-GWP-45-071919	82	84	43
400-173468-7	PD17-GWP-45-071919-EB	95	85	136
LCS 400-449321/2-A	Lab Control Sample	77	68	89
LCSD 400-449321/3-A	Lab Control Sample Dup	83	69	96
MB 400-449321/1-A	Method Blank	87	80	123

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-071919-B
Date Collected: 07/19/19 00:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 13:48	RS	TAL PEN

Client Sample ID: PD-2-GWP-65-071919
Date Collected: 07/19/19 09:10
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	5 mL	5 mL	449292	07/24/19 19:57	RS	TAL PEN
Total/NA	Prep	3520C			1001.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 23:33	VC1	TAL PEN
Total/NA	Prep	3520C			1001.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:07	KJA	TAL PEN

Client Sample ID: PD-2-GWP-70-071919
Date Collected: 07/19/19 10:20
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 19:04	RS	TAL PEN
Total/NA	Prep	3520C			1011 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/26/19 20:23	VC1	TAL PEN
Total/NA	Prep	3520C			1011 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:25	KJA	TAL PEN

Client Sample ID: PD-2-GWP-74.5-071919
Date Collected: 07/19/19 11:40
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 19:31	RS	TAL PEN
Total/NA	Prep	3520C			1019.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449680	07/27/19 00:15	VC1	TAL PEN
Total/NA	Prep	3520C			1019.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450063	07/30/19 19:57	VC1	TAL PEN
Total/NA	Prep	3520C			1019.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:42	KJA	TAL PEN

Client Sample ID: PD-2-GWP-74.5-071919-EB
Date Collected: 07/19/19 14:00
Date Received: 07/20/19 08:17

Lab Sample ID: 400-173468-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 14:14	RS	TAL PEN
Total/NA	Prep	3520C			1036.8 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450063	07/30/19 18:53	VC1	TAL PEN

Client Sample ID: PD-2-GWP-74.5-071919-EB

Lab Sample ID: 400-173468-5

Date Collected: 07/19/19 14:00

Matrix: Water

Date Received: 07/20/19 08:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1036.8 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/02/19 01:12	VC1	TAL PEN
Total/NA	Prep	3520C			1036.8 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 09:59	KJA	TAL PEN

Client Sample ID: PD17-GWP-45-071919

Lab Sample ID: 400-173468-6

Date Collected: 07/19/19 14:50

Matrix: Water

Date Received: 07/20/19 08:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	1000	5 mL	5 mL	449454	07/25/19 20:27	S1K	TAL PEN
Total/NA	Analysis	8260B		250	5 mL	5 mL	449292	07/24/19 20:24	RS	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449722	07/26/19 19:00	VC1	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450467	08/02/19 01:33	VC1	TAL PEN
Total/NA	Prep	3520C			1034.2 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 10:16	KJA	TAL PEN

Client Sample ID: PD17-GWP-45-071919-EB

Lab Sample ID: 400-173468-7

Date Collected: 07/19/19 15:50

Matrix: Water

Date Received: 07/20/19 08:17

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 14:41	RS	TAL PEN
Total/NA	Prep	3520C			1038.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	449722	07/26/19 19:22	VC1	TAL PEN
Total/NA	Prep	3520C			1038.6 mL	1.0 mL	449321	07/24/19 11:25	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 10:33	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449292/34

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 10:43	RS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449321/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 16:52	VC1	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449321/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450726	08/03/19 05:43	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449454/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449454	07/25/19 10:20	S1K	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449292/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449292	07/24/19 09:46	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449321/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450203	07/31/19 14:24	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:17	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449321/8-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449454/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449454	07/25/19 09:18	S1K	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 14:45	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450726	08/03/19 06:00	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449321/9-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	449321	07/24/19 15:00	NTH	TAL PEN
Total/NA	Analysis	8270D		1			449680	07/26/19 19:20	VC1	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

GC/MS VOA

Analysis Batch: 449292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-1	TB-PW-071919-B	Total/NA	Water	8260B	
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	8260B	
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	8260B	
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8260B	
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8260B	
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8260B	
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	8260B	
MB 400-449292/34	Method Blank	Total/NA	Water	8260B	
LCS 400-449292/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-6 - DL	PD17-GWP-45-071919	Total/NA	Water	8260B	
MB 400-449454/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449454/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	3520C	
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	3520C	
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	3520C	
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	3520C	
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	3520C	
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	3520C	
MB 400-449321/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 449680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	8270D	449321
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	8270D	449321
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8270D	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D	449321
LCS 400-449321/8-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/9-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321

Analysis Batch: 449722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8270D	449321
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	8270D	449321

Analysis Batch: 450063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8270D	449321
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8270D	449321

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

GC/MS Semi VOA

Analysis Batch: 450203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449321

Analysis Batch: 450467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8270D	449321
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8270D	449321

Analysis Batch: 450726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173468-2	PD-2-GWP-65-071919	Total/NA	Water	8270D LL	449321
400-173468-3	PD-2-GWP-70-071919	Total/NA	Water	8270D LL	449321
400-173468-4	PD-2-GWP-74.5-071919	Total/NA	Water	8270D LL	449321
400-173468-5	PD-2-GWP-74.5-071919-EB	Total/NA	Water	8270D LL	449321
400-173468-6	PD17-GWP-45-071919	Total/NA	Water	8270D LL	449321
400-173468-7	PD17-GWP-45-071919-EB	Total/NA	Water	8270D LL	449321
MB 400-449321/1-A	Method Blank	Total/NA	Water	8270D LL	449321
LCS 400-449321/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449321
LCSD 400-449321/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449321

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449292/34
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/24/19 10:43	1
Acrolein	ND		20	10	ug/L			07/24/19 10:43	1
Acrylonitrile	ND		10	2.8	ug/L			07/24/19 10:43	1
Benzene	ND		1.0	0.38	ug/L			07/24/19 10:43	1
Bromobenzene	ND		1.0	0.54	ug/L			07/24/19 10:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/24/19 10:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Bromoform	ND		5.0	0.71	ug/L			07/24/19 10:43	1
Bromomethane	ND		1.0	0.98	ug/L			07/24/19 10:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/24/19 10:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Chloroethane	ND		1.0	0.76	ug/L			07/24/19 10:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/24/19 10:43	1
Chloroform	ND		1.0	0.60	ug/L			07/24/19 10:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/24/19 10:43	1
Chloromethane	ND		1.0	0.83	ug/L			07/24/19 10:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 10:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/24/19 10:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/24/19 10:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/24/19 10:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/24/19 10:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/24/19 10:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/24/19 10:43	1
2-Hexanone	ND		25	3.1	ug/L			07/24/19 10:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/24/19 10:43	1
Methylene bromide	ND		5.0	0.59	ug/L			07/24/19 10:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/24/19 10:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/24/19 10:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/24/19 10:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/24/19 10:43	1
Naphthalene	ND		1.0	1.0	ug/L			07/24/19 10:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/24/19 10:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/24/19 10:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/24/19 10:43	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449292/34
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/24/19 10:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/24/19 10:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/24/19 10:43	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/24/19 10:43	1
Styrene	ND		1.0	1.0	ug/L			07/24/19 10:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/24/19 10:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/24/19 10:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/24/19 10:43	1
Toluene	ND		1.0	0.41	ug/L			07/24/19 10:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/24/19 10:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/24/19 10:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/24/19 10:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/24/19 10:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/24/19 10:43	1
Trichloroethene	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/24/19 10:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/24/19 10:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/24/19 10:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/24/19 10:43	1
Vinyl acetate	ND		25	2.0	ug/L			07/24/19 10:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/24/19 10:43	1
Xylenes, Total	ND		10	1.6	ug/L			07/24/19 10:43	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/24/19 10:43*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*113*		*78 - 118*		*07/24/19 10:43*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*07/24/19 10:43*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/24/19 10:43*	*1*

Lab Sample ID: LCS 400-449292/1002
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	239		ug/L		119	43 - 160
Acrolein	500	635		ug/L		127	38 - 160
Acrylonitrile	500	449		ug/L		90	64 - 142
Benzene	50.0	44.9		ug/L		90	70 - 130
Bromobenzene	50.0	44.3		ug/L		89	70 - 132
Bromochloromethane	50.0	40.4		ug/L		81	70 - 130
Bromodichloromethane	50.0	40.2		ug/L		80	67 - 133
Bromoform	50.0	42.5		ug/L		85	57 - 140
Bromomethane	50.0	30.3		ug/L		61	10 - 160
2-Butanone (MEK)	200	281		ug/L		140	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449292/1002
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	37.9		ug/L		76	61 - 137
Carbon tetrachloride	50.0	38.4		ug/L		77	61 - 137
Chlorobenzene	50.0	44.3		ug/L		89	70 - 130
Chloroethane	50.0	47.7		ug/L		95	55 - 141
2-Chloroethyl vinyl ether	50.0	27.2		ug/L		54	10 - 160
Chloroform	50.0	41.7		ug/L		83	69 - 130
1-Chlorohexane	50.0	41.7		ug/L		83	69 - 130
Chloromethane	50.0	54.8		ug/L		110	58 - 137
cis-1,2-Dichloroethene	50.0	42.9		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	43.2		ug/L		86	69 - 132
Dibromochloromethane	50.0	42.1		ug/L		84	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	41.7		ug/L		83	54 - 135
1,2-Dichlorobenzene	50.0	43.7		ug/L		87	67 - 130
1,3-Dichlorobenzene	50.0	44.2		ug/L		88	70 - 130
1,4-Dichlorobenzene	50.0	44.3		ug/L		89	70 - 130
Dichlorodifluoromethane	50.0	53.7		ug/L		107	41 - 146
1,1-Dichloroethane	50.0	42.2		ug/L		84	70 - 130
1,2-Dichloroethane	50.0	39.7		ug/L		79	69 - 130
1,1-Dichloroethene	50.0	41.1		ug/L		82	63 - 134
1,2-Dichloropropane	50.0	45.2		ug/L		90	70 - 130
1,3-Dichloropropane	50.0	44.5		ug/L		89	70 - 130
2,2-Dichloropropane	50.0	37.8		ug/L		76	52 - 135
1,1-Dichloropropene	50.0	42.1		ug/L		84	70 - 130
Ethylbenzene	50.0	41.7		ug/L		83	70 - 130
Ethylene Dibromide	50.0	45.3		ug/L		91	70 - 130
Ethyl methacrylate	50.0	43.0		ug/L		86	68 - 130
Hexachlorobutadiene	50.0	51.2		ug/L		102	53 - 140
2-Hexanone	200	225		ug/L		113	65 - 137
Isopropylbenzene	50.0	41.0		ug/L		82	70 - 130
Methylene bromide	50.0	41.3		ug/L		83	70 - 130
Methylene Chloride	50.0	46.1		ug/L		92	66 - 135
4-Methyl-2-pentanone (MIBK)	200	168		ug/L		84	69 - 138
Methyl tert-butyl ether	50.0	40.8		ug/L		82	66 - 130
m-Xylene & p-Xylene	50.0	42.4		ug/L		85	70 - 130
Naphthalene	50.0	39.3		ug/L		79	47 - 149
n-Butylbenzene	50.0	44.3		ug/L		89	67 - 130
N-Propylbenzene	50.0	45.2		ug/L		90	70 - 130
o-Chlorotoluene	50.0	46.6		ug/L		93	70 - 130
o-Xylene	50.0	40.9		ug/L		82	70 - 130
p-Chlorotoluene	50.0	47.9		ug/L		96	70 - 130
p-Isopropyltoluene	50.0	45.0		ug/L		90	65 - 130
sec-Butylbenzene	50.0	44.8		ug/L		90	66 - 130
Styrene	50.0	39.5		ug/L		79	70 - 130
tert-Butylbenzene	50.0	44.2		ug/L		88	64 - 139
1,1,1,2-Tetrachloroethane	50.0	41.1		ug/L		82	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.2		ug/L		100	70 - 131
Tetrachloroethene	50.0	38.4		ug/L		77	65 - 130
Toluene	50.0	42.6		ug/L		85	70 - 130
trans-1,2-Dichloroethene	50.0	42.9		ug/L		86	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449292/1002
Matrix: Water
Analysis Batch: 449292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	40.4		ug/L		81	63 - 130
1,2,3-Trichlorobenzene	50.0	44.0		ug/L		88	60 - 138
1,2,4-Trichlorobenzene	50.0	43.3		ug/L		87	60 - 140
1,1,1-Trichloroethane	50.0	38.8		ug/L		78	68 - 130
1,1,2-Trichloroethane	50.0	44.7		ug/L		89	70 - 130
Trichloroethene	50.0	42.4		ug/L		85	70 - 130
Trichlorofluoromethane	50.0	46.6		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	49.4		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	47.0		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	46.7		ug/L		93	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	57.3		ug/L		115	59 - 136
Xylenes, Total	100	83.3		ug/L		83	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*109*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*93*		*80 - 120*

Lab Sample ID: MB 400-449454/4
Matrix: Water
Analysis Batch: 449454

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/25/19 10:20	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/25/19 10:20*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/25/19 10:20*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/25/19 10:20*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/25/19 10:20*	*1*

Lab Sample ID: LCS 400-449454/1002
Matrix: Water
Analysis Batch: 449454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	50.7		ug/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzenethiol	ND		10	1.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzoic acid	ND		30	7.3	ug/L		07/24/19 15:00	07/26/19 16:52	1
Benzyl alcohol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/24/19 15:00	07/26/19 16:52	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/24/19 15:00	07/26/19 16:52	1
Bis(2-ethylhexyl) phthalate	7.40	J	10	5.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/24/19 15:00	07/26/19 16:52	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloroaniline	ND		10	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Chlorophenol	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dibenzofuran	ND		10	0.52	ug/L		07/24/19 15:00	07/26/19 16:52	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Diethyl phthalate	ND		10	0.70	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/24/19 15:00	07/26/19 16:52	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,4-Dioxane	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1
Hexachloroethane	ND		10	4.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Indene	ND		10	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
Isophorone	ND		10	0.57	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Methylphenol	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitroaniline	ND		10	2.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
3-Nitroaniline	ND		10	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitroaniline	ND		10	2.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
Nitrobenzene	ND		10	0.55	ug/L		07/24/19 15:00	07/26/19 16:52	1
2-Nitrophenol	ND		10	0.65	ug/L		07/24/19 15:00	07/26/19 16:52	1
4-Nitrophenol	ND		10	2.1	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/24/19 15:00	07/26/19 16:52	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/24/19 15:00	07/26/19 16:52	1
Pentachlorophenol	ND		20	1.8	ug/L		07/24/19 15:00	07/26/19 16:52	1
Phenol	ND		10	2.6	ug/L		07/24/19 15:00	07/26/19 16:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	3.2	ug/L		07/24/19 15:00	07/26/19 16:52	1
Quinoline	ND		10	6.0	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/24/19 15:00	07/26/19 16:52	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/24/19 15:00	07/26/19 16:52	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentative Identified Compound	*None*		*ug/L*				*07/24/19 15:00*	*07/26/19 16:52*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*59*		*34 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2-Fluorophenol	*44*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Nitrobenzene-d5	*88*		*27 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Phenol-d5	*67*		*10 - 120*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
Terphenyl-d14	*78*		*53 - 125*	*07/24/19 15:00*	*07/26/19 16:52*	*1*
2,4,6-Tribromophenol	*54*		*15 - 135*	*07/24/19 15:00*	*07/26/19 16:52*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	26.6		ug/L		89	29 - 120
Benzoic acid	117	29.8	J	ug/L		26	10 - 150
Benzyl alcohol	30.0	30.0		ug/L		100	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.0		ug/L		70	45 - 120
Bis(2-chloroethyl)ether	30.0	19.1		ug/L		64	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.7		ug/L		62	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	26.4		ug/L		88	48 - 150
4-Bromophenyl phenyl ether	30.0	24.3		ug/L		81	55 - 122
Butyl benzyl phthalate	30.0	23.2		ug/L		77	46 - 145
4-Chloroaniline	30.0	28.9		ug/L		96	30 - 120
4-Chloro-3-methylphenol	30.0	23.2		ug/L		77	39 - 140
2-Chloronaphthalene	30.0	18.4		ug/L		61	52 - 120
2-Chlorophenol	30.0	19.8		ug/L		66	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.9		ug/L		73	58 - 124
Dibenz[a,h]acridine	30.0	16.1		ug/L		54	46 - 149
Dibenzofuran	30.0	21.1		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	45.1		ug/L		113	39 - 135
2,4-Dichlorophenol	30.0	24.6		ug/L		82	39 - 128
Diethyl phthalate	30.0	28.1		ug/L		94	44 - 146
2,4-Dimethylphenol	30.0	27.0		ug/L		90	44 - 120
Dimethyl phthalate	30.0	23.3		ug/L		78	50 - 131
Di-n-butyl phthalate	30.0	26.9		ug/L		90	55 - 131
4,6-Dinitro-ortho-cresol	60.0	60.9		ug/L		101	10 - 150
2,4-Dinitrophenol	60.0	67.9		ug/L		113	10 - 150
2,4-Dinitrotoluene	30.0	21.7		ug/L		72	58 - 140
2,6-Dinitrotoluene	30.0	21.6		ug/L		72	57 - 130
Di-n-octyl phthalate	30.0	23.2		ug/L		77	50 - 150

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	30.0	14.8		ug/L		49	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	26.6		ug/L		89	47 - 123
Hexachlorobenzene	30.0	28.1		ug/L		94	52 - 131
Hexachlorocyclopentadiene	30.0	6.63	J	ug/L		22	10 - 129
Hexachloroethane	30.0	16.3		ug/L		54	41 - 120
Indene	30.0	17.6		ug/L		59	47 - 120
Isophorone	30.0	24.6		ug/L		82	49 - 120
2-Methylphenol	30.0	25.9		ug/L		86	39 - 123
3 & 4 Methylphenol	30.0	28.1		ug/L		94	38 - 121
2-Nitroaniline	30.0	29.8		ug/L		99	47 - 150
3-Nitroaniline	30.0	28.7		ug/L		96	34 - 132
4-Nitroaniline	30.0	26.0		ug/L		87	41 - 135
Nitrobenzene	30.0	25.2		ug/L		84	47 - 120
2-Nitrophenol	30.0	23.2		ug/L		77	28 - 136
4-Nitrophenol	60.0	64.9		ug/L		108	10 - 150
N-Nitrosodimethylamine	30.0	28.1		ug/L		94	22 - 148
N-Nitrosodi-n-propylamine	30.0	32.5		ug/L		108	44 - 120
N-Nitrosodiphenylamine	29.8	23.6		ug/L		79	56 - 120
Pentachlorophenol	60.0	45.2		ug/L		75	15 - 141
Phenol	30.0	19.8		ug/L		66	33 - 120
Pyridine	60.0	37.9		ug/L		63	26 - 120
Quinoline	30.0	19.2		ug/L		64	51 - 129
2,4,5-Trichlorophenol	30.0	24.4		ug/L		81	38 - 147
2,4,6-Trichlorophenol	30.0	25.1		ug/L		84	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*43*		*10 - 120*
Nitrobenzene-d5	*85*		*27 - 120*
Phenol-d5	*65*		*10 - 120*
Terphenyl-d14	*75*		*53 - 125*
2,4,6-Tribromophenol	*70*		*15 - 135*

Lab Sample ID: LCS 400-449321/8-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	21.1		ug/L		70	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*34 - 120*
2-Fluorophenol	*53*		*10 - 120*
Nitrobenzene-d5	*82*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*72*		*53 - 125*
2,4,6-Tribromophenol	*49*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	30.2		ug/L		101	29 - 120	13	30
Benzoic acid	117	44.7	*	ug/L		38	10 - 150	40	30
Benzyl alcohol	30.0	30.3		ug/L		101	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	20.3		ug/L		68	45 - 120	3	30
Bis(2-chloroethyl)ether	30.0	17.2		ug/L		57	48 - 120	10	30
bis (2-chloroisopropyl) ether	30.0	20.1		ug/L		67	30 - 125	7	30
Bis(2-ethylhexyl) phthalate	30.0	25.0		ug/L		83	48 - 150	6	30
4-Bromophenyl phenyl ether	30.0	26.0		ug/L		87	55 - 122	7	30
Butyl benzyl phthalate	30.0	23.1		ug/L		77	46 - 145	0	30
4-Chloroaniline	30.0	27.9		ug/L		93	30 - 120	4	30
4-Chloro-3-methylphenol	30.0	23.6		ug/L		79	39 - 140	2	30
2-Chloronaphthalene	30.0	19.7		ug/L		66	52 - 120	7	30
2-Chlorophenol	30.0	21.0		ug/L		70	34 - 120	6	30
4-Chlorophenyl phenyl ether	30.0	23.7		ug/L		79	58 - 124	8	30
Dibenz[a,h]acridine	30.0	18.9		ug/L		63	46 - 149	16	30
Dibenzofuran	30.0	22.7		ug/L		76	58 - 123	7	30
3,3'-Dichlorobenzidine	40.0	48.3		ug/L		121	39 - 135	7	30
2,4-Dichlorophenol	30.0	25.3		ug/L		84	39 - 128	3	30
Diethyl phthalate	30.0	29.5		ug/L		98	44 - 146	5	30
2,4-Dimethylphenol	30.0	27.2		ug/L		91	44 - 120	1	30
Dimethyl phthalate	30.0	24.1		ug/L		80	50 - 131	3	30
Di-n-butyl phthalate	30.0	28.4		ug/L		95	55 - 131	5	30
4,6-Dinitro-ortho-cresol	60.0	68.1		ug/L		113	10 - 150	11	30
2,4-Dinitrophenol	60.0	80.3		ug/L		134	10 - 150	17	30
2,4-Dinitrotoluene	30.0	22.9		ug/L		76	58 - 140	6	30
2,6-Dinitrotoluene	30.0	22.4		ug/L		75	57 - 130	3	30
Di-n-octyl phthalate	30.0	24.1		ug/L		80	50 - 150	4	30
1,4-Dioxane	30.0	17.1		ug/L		57	25 - 120	14	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.6		ug/L		92	47 - 123	4	30
Hexachlorobenzene	30.0	33.1		ug/L		110	52 - 131	16	30
Hexachlorocyclopentadiene	30.0	8.60	J	ug/L		29	10 - 129	26	30
Hexachloroethane	30.0	18.2		ug/L		61	41 - 120	11	30
Indene	30.0	18.1		ug/L		60	47 - 120	3	30
Isophorone	30.0	24.1		ug/L		80	49 - 120	2	30
2-Methylphenol	30.0	27.1		ug/L		90	39 - 123	4	30
3 & 4 Methylphenol	30.0	29.4		ug/L		98	38 - 121	4	30
2-Nitroaniline	30.0	30.1		ug/L		100	47 - 150	1	30
3-Nitroaniline	30.0	29.9		ug/L		100	34 - 132	4	30
4-Nitroaniline	30.0	30.0		ug/L		100	41 - 135	14	30
Nitrobenzene	30.0	24.8		ug/L		83	47 - 120	1	30
2-Nitrophenol	30.0	24.9		ug/L		83	28 - 136	7	30
4-Nitrophenol	60.0	74.7		ug/L		124	10 - 150	14	30
N-Nitrosodimethylamine	30.0	28.8		ug/L		96	22 - 148	2	30
N-Nitrosodi-n-propylamine	30.0	33.9		ug/L		113	44 - 120	4	30
N-Nitrosodiphenylamine	29.8	24.6		ug/L		83	56 - 120	4	30
Pentachlorophenol	60.0	54.0		ug/L		90	15 - 141	18	30
Phenol	30.0	21.0		ug/L		70	33 - 120	6	30
Pyridine	60.0	39.6		ug/L		66	26 - 120	4	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Quinoline			30.0	19.4		ug/L		65	51 - 129	1	30
2,4,5-Trichlorophenol			30.0	25.5		ug/L		85	38 - 147	5	30
2,4,6-Trichlorophenol			30.0	26.2		ug/L		87	36 - 139	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*74*		*15 - 135*

Lab Sample ID: LCSD 400-449321/9-A
Matrix: Water
Analysis Batch: 449680

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		4	10 - 120	178	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*51*		*34 - 120*
2-Fluorophenol	*55*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*74*		*53 - 125*
2,4,6-Tribromophenol	*48*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Anthracene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Chrysene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluoranthene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Fluorene	ND		0.20	0.021	ug/L		07/24/19 15:00	08/03/19 05:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/24/19 15:00	08/03/19 05:43	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-449321/1-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Phenanthrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1
Pyrene	ND		0.20	0.020	ug/L		07/24/19 15:00	08/03/19 05:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*15 - 122*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/24/19 15:00*	*08/03/19 05:43*	*1*
Terphenyl-d14	*123*		*33 - 138*	*07/24/19 15:00*	*08/03/19 05:43*	*1*

Lab Sample ID: LCS 400-449321/2-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.0		ug/L		80	41 - 120
Acenaphthylene	30.0	27.2		ug/L		91	44 - 120
Anthracene	30.0	26.8		ug/L		89	49 - 120
Benzo[a]anthracene	30.0	25.3		ug/L		84	61 - 135
Benzo[a]pyrene	30.0	27.2		ug/L		91	52 - 120
Benzo[b]fluoranthene	30.0	27.9		ug/L		93	53 - 134
Benzo[g,h,i]perylene	30.0	27.3		ug/L		91	47 - 133
Benzo[k]fluoranthene	30.0	25.7		ug/L		86	57 - 134
Chrysene	30.0	24.2		ug/L		81	55 - 122
Dibenz(a,h)anthracene	30.0	27.5		ug/L		92	48 - 146
Fluoranthene	30.0	25.8		ug/L		86	54 - 128
Fluorene	30.0	26.7		ug/L		89	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	27.9		ug/L		93	43 - 142
1-Methylnaphthalene	30.0	19.8		ug/L		66	41 - 120
2-Methylnaphthalene	30.0	18.8		ug/L		63	32 - 124
Phenanthrene	30.0	26.7		ug/L		89	48 - 120
Pyrene	30.0	25.5		ug/L		85	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*77*		*15 - 122*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*89*		*33 - 138*

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	25.4		ug/L		85	41 - 120	6	56
Acenaphthylene	30.0	30.1		ug/L		100	44 - 120	10	56
Anthracene	30.0	28.8		ug/L		96	49 - 120	7	51
Benzo[a]anthracene	30.0	27.1		ug/L		90	61 - 135	7	49
Benzo[a]pyrene	30.0	29.3		ug/L		98	52 - 120	7	50
Benzo[b]fluoranthene	30.0	30.2		ug/L		101	53 - 134	8	54

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173468-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-449321/3-A
Matrix: Water
Analysis Batch: 450726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449321

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene			30.0	29.9		ug/L		100	47 - 133	9	50
Benzo[k]fluoranthene			30.0	28.9		ug/L		96	57 - 134	12	52
Chrysene			30.0	26.7		ug/L		89	55 - 122	10	50
Dibenz(a,h)anthracene			30.0	30.3		ug/L		101	48 - 146	10	50
Fluoranthene			30.0	28.6		ug/L		95	54 - 128	10	52
Fluorene			30.0	27.9		ug/L		93	45 - 125	4	56
Indeno[1,2,3-cd]pyrene			30.0	30.2		ug/L		101	43 - 142	8	51
1-Methylnaphthalene			30.0	21.6		ug/L		72	41 - 120	9	55
2-Methylnaphthalene			30.0	21.2		ug/L		71	32 - 124	12	57
Phenanthrene			30.0	28.7		ug/L		96	48 - 120	7	56
Pyrene			30.0	27.6		ug/L		92	48 - 132	8	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*15 - 122*
Nitrobenzene-d5	*69*		*19 - 130*
Terphenyl-d14	*96*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF [illegible] APPLIES
James Carrino	25278	DATE
PO #	**GSAP Project ID**	PAG
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

400-173468 COC

SAMPLING COMPANY: AECOM	LOG CODE:	170 East Rand Avenue, Hartford	State: IL
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102		AECOM Project #: PreDesign Invest. PW	
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell		EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel	PHONE NO.: 3144290100
TELEPHONE: 314-429-0100	FAX: 314-429-0462	Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com	E-MAIL: elizabeth.kunkel@aecom.com
SAMPLER NAME(S) (Print): Paul LeFleur			LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-071919-B	7/19/2019	0:00	Water	2					2		x	
	PD-2-GWP-65-071919	7/19/2019	9:10	Water	2			2		4	x	x	x
	PD-2-GWP-70-071919	7/19/2019	10:20	Water	2			2		4	x	x	x
	PD-2-GWP-74.5-071919	7/19/2019	11:40	Water	2			2		4	x	x	x
	PD-2-GWP-74.5-071919-EB	7/19/2019	14:00	Water	2			2		4	x	x	x
	PD-17-GWP-45-071919	7/19/2019	14:50	Water	2			2		4	x	x	x
	PD-17-GWP-45-071919-EB	7/19/2019	15:50	Water	2			2		4	x	x	x

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature) 1011534 1011535 Fedex: 4782 2882 5322; 4782 2882 5333 ; custody seal: 1011536 1011537	Date: 7/19/2019	Time: 18:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 7-20-19	Time: 8:17

Version 10May17

3.4°c, 0.7°c IR7

10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173468-1

Login Number: 173468
List Number: 1
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4°C 0.7°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173468-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173526

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/12/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-072219-B	PD-17-GWP-50-072219
PD-17-GWP-50-072219-DUP	PD-17-GWP-50-072219-EB
PD-7-GWP-45-072219	PD-7-GWP-50-072219
PD-7-GWP-50-072219-DUP	PD-7-GWP-50-072219-EB

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated SVOC LCS/LCSD recoveries and LCS/LCSD RPDs were outside evaluation criteria. SVOC surrogate recoveries were outside evaluation criteria in several samples. MS/MSD VOC and PAH recoveries were outside evaluation criteria in sample PD-7-GWP-45-072219. SVOCs and PAHs were detected in the method and equipment blanks. Additionally, the RPDs for PAHs were outside evaluation criteria or the difference in analytical results for PAHs were greater than two times (2X) the reporting level in field duplicate pair PD-17-GWP-50-072219/PD-17-GWP-50-072219-Dup; therefore, results were qualified as estimated (**J**/**J**).These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-17-GWP-50-072219-EB	PAHs	1-Methylnaphthalene	0.079 μg/L

Blank ID	Parameter	Analyte	Concentration/ Amount
PD-17-GWP-50-072219-EB	PAHs	2-Methylnaphthalene	0.11 µg/L
PD-17-GWP-50-072219-EB	SVOCs	di-n-octyl-Phthalate	0.11 µg/L
PD-7-GWP-50-072219-EB	PAHs	1-Methylnaphthalene	0.050 µg/L
PD-7-GWP-50-072219-EB	PAHs	2-Methylnaphthalene	0.074 µg/L
MB 400-449448/1-A	PAHs	1-Methylnaphthalene	0.0335 µg/L
MB 400-449448/1-A	PAHs	2-Methylnaphthalene	0.0549 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was needed.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449755/1002	VOCs	2-Hexanone	**150**	NA	65-137
400-449755/1002	VOCs	1,1,1,2-Tetrachloroethane	**133**	NA	67-131
400-449448/20-A/21-A	SVOCs	Benzoic acid	30/42	**33**	10-150/30
400-449448/20-A/21-A	SVOCs	2,4-Dinitrotoluene	**56**/67	19	58-140/30
400-449448/20-A/21-A	SVOCs	2,6-Dinitrotoluene	**55**/66	16	57-130/30
400-449448/22-A/23-A	SVOCs	Benzenethiol	**1/3**	**64**	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-17-GWP-50-072219	SVOCs	Benzenethiol	**UJ**
PD-17-GWP-50-072219	SVOCs	2,4-Dinitrotoluene	**UJ**
PD-17-GWP-50-072219	SVOCs	2,6-Dinitrotoluene	**UJ**
PD-17-GWP-50-072219-DUP	SVOCs	Benzenethiol	**UJ**
PD-17-GWP-50-072219-DUP	SVOCs	2,4-Dinitrotoluene	**UJ**
PD-17-GWP-50-072219-DUP	SVOCs	2,6-Dinitrotoluene	**UJ**
PD-7-GWP-45-072219	SVOCs	Benzenethiol	**UJ**
PD-7-GWP-45-072219	SVOCs	2,4-Dinitrotoluene	**UJ**
PD-7-GWP-45-072219	SVOCs	2,6-Dinitrotoluene	**UJ**

Sample ID	Parameter	Analyte	Qualification
PD-7-GWP-50-072219	SVOCs	Benzenethiol	**UJ**
PD-7-GWP-50-072219	SVOCs	2,4-Dinitrotoluene	**UJ**
PD-7-GWP-50-072219	SVOCs	2,6-Dinitrotoluene	**UJ**
PD-7-GWP-50-072219-DUP	SVOCs	Benzenethiol	**UJ**
PD-7-GWP-50-072219-DUP	SVOCs	2,4-Dinitrotoluene	**UJ**
PD-7-GWP-50-072219-DUP	SVOCs	2,6-Dinitrotoluene	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-17-GWP-50-072219-DUP-DL	PAHs	2-Fluorobiphenyl	**127**	15-122
PD-17-GWP-50-072219-DUP-DL	PAHs	Nitrobenzene-d_5	**247**	19-130
PD-17-GWP-50-072219-EB	PAHs	Terphenyl-d_{14}	**200**	33-138
PD-7-GWP-45-072219-MS	SVOCs	Terphenyl-d_{14}	**36**	53-125
PD-7-GWP-45-072219-MSD	SVOCs	Terphenyl-d_{14}	**41**	53-125
PD-7-GWP-50-072219	SVOCs	2-Fluorophenol	**0**	10-120
PD-7-GWP-50-072219	SVOCs	Nitrobenzene-d_5	**0**	27-120
PD-7-GWP-50-072219-Dup	SVOCs	2-Fluorophenol	**0**	10-120
PD-7-GWP-50-072219	SVOCs	Nitrobenzene-d_5	**0**	19-130
PD-7-GWP-50-072219-Dup	SVOCs	Nitrobenzene-d_5	**137**	19-130
PD-7-GWP-50-072219-EB	PAHs	Terphenyl-d_{14}	**142**	33-138

Analytical data that required qualification based on surrogate recovery outside evaluation criteria are included in the table below. Qualifications due to surrogate recoveries were not required if only one of three base/neutral or acid fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. Method blanks are quality control samples and do not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-17-GWP-50-0722919-DUP-DL	PAHs	Acenaphthene	**J**
PD-17-GWP-50-0722919-DUP-DL	PAHs	Fluorene	**J**
PD-17-GWP-50-0722919-DUP-DL	PAHs	1-Methylnaphthalene	**J**
PD-17-GWP-50-0722919-DUP-DL	PAHs	2-Methylnaphthalene	**J**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample PD-7-GWP-45-072219 was spiked and duplicated for VOCs, SVOCs and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
PD-7-GWP-45-072219	VOCs	Ethyl methacrylate	**134/**129	4	64-130/30
PD-7-GWP-45-072219	PAHs	Benzo[g,h,i]perylene	**41/42**	2	46-133/58

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-7-GWP-45-072219	VOCs	Ethyl methacrylate	**UJ**
PD-7-GWP-45-072219	PAHs	Benzo[g,h,i]perylene	**UJ**

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP
PD-7-GWP-50-072219	PD-7-GWP-50-072219-DUP

Were field duplicate sample RPDs within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-17-GWP-50-072219-DL	PD-17-GWP-50-072219-DUP-DL	VOCs	Benzene	**32**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP-DL	PAHs	Acenaphthene	**171**	**J/J**

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP	PAHs	Anthracene	**≥2X RL**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP	PAHs	Benzo[a]pyrene	**175**	**J/J**
PD-17-GWP-50-072219-DL	PD-17-GWP-50-072219-DUP	PAHs	Benzo[b]fluoran-thene	**≥2X RL**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP	PAHs	Chrysene	**176**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP	PAHs	Fluoranthene	**≥2X RL**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP-DL	PAHs	Fluorene	**180**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP	PAHs	Phenanthrene	**174**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP	PAHs	Pyrene	**175**	**J/J**
PD-17-GWP-50-072219	PD-17-GWP-50-072219-DUP-DL	PAHs	1-Methylnaphthalene	**179**	**J/J**
PD-17-GWP-50-072219-DL	PD-17-GWP-50-072219-DUP-DL	PAHs	2-Methylnaphthalene	**175**	**J/J**

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173526-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/12/2019 2:27:50 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/12/2019

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173526-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173526-1

Comments
No additional comments.

Receipt
The samples were received on 7/23/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.8° C, 2.4° C and 2.7° C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-449755 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-449755 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-17-GWP-50-072219 (400-173526-2), PD-17-GWP-50-072219-DUP (400-173526-3), PD-7-GWP-45-072219 (400-173526-5), PD-7-GWP-50-072219 (400-173526-6) and PD-7-GWP-50-072219-DUP (400-173526-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-072219-B (400-173526-1), PD-17-GWP-50-072219 (400-173526-2), PD-17-GWP-50-072219-DUP (400-173526-3), PD-17-GWP-50-072219-EB (400-173526-4), PD-7-GWP-45-072219 (400-173526-5), PD-7-GWP-50-072219 (400-173526-6), PD-7-GWP-50-072219-DUP (400-173526-7) and PD-7-GWP-50-072219-EB (400-173526-8). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-7-GWP-45-072219 (400-173526-5[MS]) and PD-7-GWP-45-072219 (400-173526-5[MSD]). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-449448 and analytical batch 400-450203: 2,4-Dinitrotoluene and 2,6-Dinitrotoluene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449448 and analytical batch 400-450203 recovered outside control limits for the following analytes: Benzoic acid.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-7-GWP-50-072219 (400-173526-6), PD-7-GWP-50-072219-DUP (400-173526-7). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Dimethyl phthalate, 2-Chloronaphthalene, Diethyl phthalate, 4-Chlorophenyl phenyl ether, 2,4-Dinitrotoluene, Hexachlorocyclopentadiene and Dibenzofuran The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The following samples were diluted due to the nature of the sample matrix: PD-17-GWP-50-072219-DUP

Job ID: 400-173526-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

(400-173526-3) and PD-7-GWP-50-072219 (400-173526-6). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450054 recovered above the upper control limit for Hexachlorobenzene, 4-Bromophenyl phenyl ether, N-Nitrosodimethylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-450054/2).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-451086 recovered above the upper control limit for Hexachlorobenzene, 2-Methylphenol, 4,6-Dinitro-2-methylphenol and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449448 and analytical batch 400-450054 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D LL: The method blank for preparation batch 400-449448 and analytical batch 400-450731 contained 1-Methylnaphthalene and 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-17-GWP-50-072219-DUP (400-173526-3). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: Surrogate recovery for the following sample was outside control limits: PD-17-GWP-50-072219-DUP (400-173526-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-451069 recovered outside acceptance criteria, low biased, for Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-449448 and analytical batch 400-451069 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-17-GWP-50-072219-EB (400-173526-4), PD-7-GWP-50-072219 (400-173526-6), PD-7-GWP-50-072219-DUP (400-173526-7), PD-7-GWP-50-072219-EB (400-173526-8). These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173526-1	TB-PW-072219-B	Water	07/22/19 00:00	07/23/19 09:09	
400-173526-2	PD-17-GWP-50-072219	Water	07/22/19 10:00	07/23/19 09:09	
400-173526-3	PD-17-GWP-50-072219-DUP	Water	07/22/19 10:00	07/23/19 09:09	
400-173526-4	PD-17-GWP-50-072219-EB	Water	07/22/19 11:15	07/23/19 09:09	
400-173526-5	PD-7-GWP-45-072219	Water	07/22/19 13:45	07/23/19 09:09	
400-173526-6	PD-7-GWP-50-072219	Water	07/22/19 14:55	07/23/19 09:09	
400-173526-7	PD-7-GWP-50-072219-DUP	Water	07/22/19 14:55	07/23/19 09:09	
400-173526-8	PD-7-GWP-50-072219-EB	Water	07/22/19 15:45	07/23/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: TB-PW-072219-B — Lab Sample ID: 400-173526-1

No Detections.

Client Sample ID: PD-17-GWP-50-072219 — Lab Sample ID: 400-173526-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	1600000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.99		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	1.2		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	1.2		0.20	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	2.3		0.20	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.38		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	1.8		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	32	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	7.7		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	3.9		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene - DL	0.63	J	1.0	0.20	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	50	B	1.0	0.10	ug/L	5		8270D LL	Total/NA
Dibenzofuran	0.93	J	10	0.53	ug/L	1		8270D	Total/NA
Phenol - DL	150		51	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-17-GWP-50-072219-DUP — Lab Sample ID: 400-173526-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2200000		10000	3800	ug/L	10000		8260B	Total/NA
Anthracene	15		1.0	0.10	ug/L	5		8270D LL	Total/NA
Benzo[a]pyrene	18		1.0	0.21	ug/L	5		8270D LL	Total/NA
Benzo[b]fluoranthene	6.3		1.0	0.21	ug/L	5		8270D LL	Total/NA
Benzo[g,h,i]perylene	3.5		1.0	0.21	ug/L	5		8270D LL	Total/NA
Chrysene	36		1.0	0.21	ug/L	5		8270D LL	Total/NA
Dibenz(a,h)anthracene	2.8		1.0	0.21	ug/L	5		8270D LL	Total/NA
Fluoranthene	7.0		1.0	0.10	ug/L	5		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	1.4		1.0	0.21	ug/L	5		8270D LL	Total/NA
Phenanthrene	110		1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene	60		1.0	0.10	ug/L	5		8270D LL	Total/NA
Acenaphthene - DL	23		10	1.0	ug/L	50		8270D LL	Total/NA
Fluorene - DL	35		10	1.1	ug/L	50		8270D LL	Total/NA
1-Methylnaphthalene - DL	570	B	10	1.0	ug/L	50		8270D LL	Total/NA
2-Methylnaphthalene - DL	740	B	10	1.0	ug/L	50		8270D LL	Total/NA
Phenol	120		52	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-17-GWP-50-072219-EB — Lab Sample ID: 400-173526-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.079	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.11	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Di-n-octyl phthalate	1.0	J	10	0.44	ug/L	1		8270D	Total/NA

Client Sample ID: PD-7-GWP-45-072219 — Lab Sample ID: 400-173526-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	400		2.0	0.76	ug/L	2		8260B	Total/NA
Ethylbenzene	15		2.0	1.0	ug/L	2		8260B	Total/NA
Isopropylbenzene	11		2.0	1.1	ug/L	2		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219 (Continued)

Lab Sample ID: 400-173526-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m-Xylene & p-Xylene	27		10	3.2	ug/L	2		8260B	Total/NA
Naphthalene	13		2.0	2.0	ug/L	2		8260B	Total/NA
N-Propylbenzene	17		2.0	1.4	ug/L	2		8260B	Total/NA
p-Isopropyltoluene	7.0		2.0	1.4	ug/L	2		8260B	Total/NA
sec-Butylbenzene	12		2.0	1.4	ug/L	2		8260B	Total/NA
1,2,4-Trimethylbenzene	110		2.0	1.6	ug/L	2		8260B	Total/NA
1,3,5-Trimethylbenzene	26		2.0	1.1	ug/L	2		8260B	Total/NA
Xylenes, Total	27		20	3.2	ug/L	2		8260B	Total/NA
Acenaphthene	2.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.15	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.053	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	1.4		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	4.4	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	2.2	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.46		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.21		0.20	0.020	ug/L	1		8270D LL	Total/NA
Dibenzofuran	0.63	J	10	0.52	ug/L	1		8270D	Total/NA

Client Sample ID: PD-7-GWP-50-072219

Lab Sample ID: 400-173526-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1400		1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	2700	J	5000	1600	ug/L	1000		8260B	Total/NA
o-Xylene	710	J	5000	600	ug/L	1000		8260B	Total/NA
Toluene	1100		1000	410	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	970	J	1000	820	ug/L	1000		8260B	Total/NA
Xylenes, Total	3500	J	10000	1600	ug/L	1000		8260B	Total/NA
Benzene - DL	500000		2000	760	ug/L	2000		8260B	Total/NA
Anthracene	8.0		1.0	0.10	ug/L	5		8270D LL	Total/NA
Benzo[a]anthracene	10		1.0	0.20	ug/L	5		8270D LL	Total/NA
Benzo[a]pyrene	9.0		1.0	0.20	ug/L	5		8270D LL	Total/NA
Benzo[b]fluoranthene	4.8		1.0	0.20	ug/L	5		8270D LL	Total/NA
Benzo[g,h,i]perylene	2.1		1.0	0.20	ug/L	5		8270D LL	Total/NA
Chrysene	19		1.0	0.20	ug/L	5		8270D LL	Total/NA
Dibenz(a,h)anthracene	1.9		1.0	0.20	ug/L	5		8270D LL	Total/NA
Fluoranthene	4.0		1.0	0.10	ug/L	5		8270D LL	Total/NA
Fluorene	14		1.0	0.11	ug/L	5		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.84	J	1.0	0.20	ug/L	5		8270D LL	Total/NA
Phenanthrene	57		1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene	33		1.0	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene - DL	270	B	5.0	0.50	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene - DL	360	B	5.0	0.50	ug/L	25		8270D LL	Total/NA
Phenol	95		50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1500		1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	2800	J	5000	1600	ug/L	1000		8260B	Total/NA
o-Xylene	750	J	5000	600	ug/L	1000		8260B	Total/NA
Toluene	1100		1000	410	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	1100		1000	820	ug/L	1000		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP (Continued)

Lab Sample ID: 400-173526-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	3600	J	10000	1600	ug/L	1000		8260B	Total/NA
Benzene - DL	380000		2000	760	ug/L	2000		8260B	Total/NA
Acenaphthene	2.9		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	3.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	3.9		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	3.8		0.20	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	6.8		0.20	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	3.5		0.20	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	21		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	11		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene - DL	2.0		1.4	0.29	ug/L	7		8270D LL	Total/NA
Benzo[g,h,i]perylene - DL	1.2	J	1.4	0.29	ug/L	7		8270D LL	Total/NA
1-Methylnaphthalene - DL	76	B	1.4	0.14	ug/L	7		8270D LL	Total/NA
2-Methylnaphthalene - DL	100	B	1.4	0.14	ug/L	7		8270D LL	Total/NA
Dibenzofuran	2.1	J	10	0.53	ug/L	1		8270D	Total/NA
Phenol - DL	140		51	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-7-GWP-50-072219-EB

Lab Sample ID: 400-173526-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.050	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.074	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: TB-PW-072219-B

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 12:55	1
Acrolein	ND		20	10	ug/L			07/30/19 12:55	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 12:55	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 12:55	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 12:55	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 12:55	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 12:55	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 12:55	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 12:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 12:55	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 12:55	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 12:55	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 12:55	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 12:55	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 12:55	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 12:55	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 12:55	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 12:55	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 12:55	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 12:55	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 12:55	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 12:55	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 12:55	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 12:55	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 12:55	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 12:55	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 12:55	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 12:55	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 12:55	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 12:55	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 12:55	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 12:55	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 12:55	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: TB-PW-072219-B
Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 12:55	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 12:55	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 12:55	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 12:55	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 12:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 12:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 12:55	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 12:55	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 12:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 12:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 12:55	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 12:55	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 12:55	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 12:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 12:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 12:55	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 12:55	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 12:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*5.0*	*T J N*	*ug/L*		*1.66*	*109-66-0*		*07/30/19 12:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*07/30/19 12:55*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/30/19 12:55*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/30/19 12:55*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/27/19 17:18	2500
Acrolein	ND		50000	25000	ug/L			07/27/19 17:18	2500
Acrylonitrile	ND		25000	7000	ug/L			07/27/19 17:18	2500
Bromobenzene	ND		2500	1400	ug/L			07/27/19 17:18	2500
Bromochloromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
Bromoform	ND		13000	1800	ug/L			07/27/19 17:18	2500
Bromomethane	ND		2500	2500	ug/L			07/27/19 17:18	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/27/19 17:18	2500
Carbon disulfide	ND		2500	1300	ug/L			07/27/19 17:18	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/27/19 17:18	2500
Chlorobenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Chloroethane	ND		2500	1900	ug/L			07/27/19 17:18	2500
2-Chloroethyl vinyl ether	ND		13000	5000	ug/L			07/27/19 17:18	2500
Chloroform	ND		2500	1500	ug/L			07/27/19 17:18	2500
1-Chlorohexane	ND		2500	1800	ug/L			07/27/19 17:18	2500
Chloromethane	ND		2500	2100	ug/L			07/27/19 17:18	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:18	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/27/19 17:18	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/27/19 17:18	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/27/19 17:18	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/27/19 17:18	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:18	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Ethylbenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/27/19 17:18	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/27/19 17:18	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/27/19 17:18	2500
2-Hexanone	ND	*	63000	7800	ug/L			07/27/19 17:18	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Methylene bromide	ND		13000	1500	ug/L			07/27/19 17:18	2500
Methylene Chloride	ND		13000	7500	ug/L			07/27/19 17:18	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/27/19 17:18	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/27/19 17:18	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/27/19 17:18	2500
Naphthalene	ND		2500	2500	ug/L			07/27/19 17:18	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/27/19 17:18	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/27/19 17:18	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:18	2500
o-Xylene	ND		13000	1500	ug/L			07/27/19 17:18	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:18	2500

Client Sample ID: PD-17-GWP-50-072219
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/27/19 17:18	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/27/19 17:18	2500
Styrene	ND		2500	2500	ug/L			07/27/19 17:18	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/27/19 17:18	2500
1,1,1,2-Tetrachloroethane	ND	*	2500	1300	ug/L			07/27/19 17:18	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/27/19 17:18	2500
Toluene	ND		2500	1000	ug/L			07/27/19 17:18	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:18	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/27/19 17:18	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/27/19 17:18	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/27/19 17:18	2500
Trichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/27/19 17:18	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/27/19 17:18	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/27/19 17:18	2500
Vinyl acetate	ND		63000	5000	ug/L			07/27/19 17:18	2500
Vinyl chloride	ND		2500	1300	ug/L			07/27/19 17:18	2500
Xylenes, Total	ND		25000	4000	ug/L			07/27/19 17:18	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 17:18*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/27/19 17:18*	*2500*
Dibromofluoromethane	*92*		*81 - 121*		*07/27/19 17:18*	*2500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/27/19 17:18*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1600000**	J	10000	3800	ug/L			07/29/19 20:52	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 20:52*	*10000*
Dibromofluoromethane	*95*		*81 - 121*		*07/29/19 20:52*	*10000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/29/19 20:52*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.8**	J	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Anthracene	**0.99**	J	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[a]anthracene	**1.2**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[a]pyrene	**1.2**	J	0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Chrysene	**2.3**	J	0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	**0.38**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Fluorene	**1.8**		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 04:30	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
1-Methylnaphthalene	**32**	**B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Phenanthrene	**7.7**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Pyrene	**3.9**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*15 - 122*	*07/25/19 08:28*	*08/07/19 04:30*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/25/19 08:28*	*08/07/19 04:30*	*1*
Terphenyl-d14	*64*		*33 - 138*	*07/25/19 08:28*	*08/07/19 04:30*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.63**	**J**	1.0	0.20	ug/L		07/25/19 08:28	08/07/19 16:52	5
2-Methylnaphthalene	**50**	**B**	1.0	0.10	ug/L		07/25/19 08:28	08/07/19 16:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/25/19 08:28*	*08/07/19 16:52*	*5*
Nitrobenzene-d5	*73*		*19 - 130*	*07/25/19 08:28*	*08/07/19 16:52*	*5*
Terphenyl-d14	*67*		*33 - 138*	*07/25/19 08:28*	*08/07/19 16:52*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND	*	30	7.4	ug/L		07/25/19 08:28	07/31/19 02:31	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Chloroaniline	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Dibenzofuran	**0.93**	**J**	10	0.53	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Diethyl phthalate	ND		10	0.71	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 02:31	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dinitrophenol	ND		30	3.5	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,6-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 02:31	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 02:31	1
Hexachloroethane	ND		10	4.3	ug/L		07/25/19 08:28	07/31/19 02:31	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:31	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/31/19 02:31	1
Nitrobenzene	ND		10	0.56	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Nitrophenol	ND		10	0.66	ug/L		07/25/19 08:28	07/31/19 02:31	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 02:31	1
Quinoline	ND		10	6.1	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 02:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*98*	*T J N*	*ug/L*		*3.62*	*108-88-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Ethylbenzene	*67*	*T J N*	*ug/L*		*4.41*	*100-41-4*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
o-Xylene	*83*	*T J N*	*ug/L*		*4.64*	*95-47-6*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, (1-methylethyl)-	*18*	*T J N*	*ug/L*		*4.83*	*98-82-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, propyl-	*39*	*T J N*	*ug/L*		*5.02*	*103-65-1*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-3-methyl-	*140*	*T J N*	*ug/L*		*5.06*	*620-14-4*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-2-methyl-	*100*	*T J N*	*ug/L*		*5.07*	*611-14-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-4-methyl-	*60*	*T J N*	*ug/L*		*5.16*	*622-96-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Decane	*39*	*T J N*	*ug/L*		*5.23*	*124-18-5*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1,2,4-trimethyl-	*410*	*T J N*	*ug/L*		*5.26*	*95-63-6*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1,2,3-trimethyl-	*130*	*T J N*	*ug/L*		*5.40*	*526-73-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-methyl-3-propyl-	*17*	*T J N*	*ug/L*		*5.53*	*1074-43-7*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*38*	*T J N*	*ug/L*		*5.55*	*934-74-7*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*24*	*T J N*	*ug/L*		*5.69*	*934-80-5*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*28*	*T J N*	*ug/L*		*6.09*	*119-64-2*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Dodecane	*62*	*T J N*	*ug/L*		*6.14*	*112-40-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene	*52*	*T J N*	*ug/L*		*6.21*	*91-20-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Dodecane, 4,6-dimethyl-	*20*	*T J N*	*ug/L*		*6.42*	*61141-72-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Tridecane	*33*	*T J N*	*ug/L*		*6.52*	*629-50-5*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 2-methyl-	*35*	*T J N*	*ug/L*		*6.65*	*91-57-6*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 1-methyl-	*26*	*T J N*	*ug/L*		*6.72*	*90-12-0*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Tetradecane	*24*	*T J N*	*ug/L*		*6.89*	*629-59-4*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 2,6-dimethyl-	*16*	*T J N*	*ug/L*		*7.06*	*581-42-0*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 1,3-dimethyl-	*20*	*T J N*	*ug/L*		*7.12*	*575-41-7*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Pentadecane	*19*	*T J N*	*ug/L*		*7.25*	*629-62-9*	*07/25/19 08:28*	*07/31/19 02:31*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**150**		51	13	ug/L		07/25/19 08:28	07/31/19 16:43	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/25/19 08:28	08/03/19 16:08	1
Benzenethiol	ND	UJ	10	1.7	ug/L		07/25/19 08:28	08/03/19 16:08	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 16:08	1
Bis(2-chloroethoxy)methane	ND	*	10	0.70	ug/L		07/25/19 08:28	08/03/19 16:08	1
Bis(2-chloroethyl)ether	ND	*	10	0.75	ug/L		07/25/19 08:28	08/03/19 16:08	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/25/19 08:28	08/03/19 16:08	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	08/03/19 16:08	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	08/03/19 16:08	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/25/19 08:28	08/03/19 16:08	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	08/03/19 16:08	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 16:08	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/25/19 08:28	08/03/19 16:08	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	08/03/19 16:08	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	08/03/19 16:08	1
Isophorone	ND	*	10	0.58	ug/L		07/25/19 08:28	08/03/19 16:08	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/03/19 16:08	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/03/19 16:08	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/25/19 08:28	08/03/19 16:08	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/25/19 08:28	08/03/19 16:08	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	08/03/19 16:08	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/03/19 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*34 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
Phenol-d5	*36*		*10 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
2,4,6-Tribromophenol	*100*		*15 - 135*	*07/25/19 08:28*	*08/03/19 16:08*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/27/19 17:45	2500
Acrolein	ND		50000	25000	ug/L			07/27/19 17:45	2500
Acrylonitrile	ND		25000	7000	ug/L			07/27/19 17:45	2500
Bromobenzene	ND		2500	1400	ug/L			07/27/19 17:45	2500
Bromochloromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
Bromoform	ND		13000	1800	ug/L			07/27/19 17:45	2500
Bromomethane	ND		2500	2500	ug/L			07/27/19 17:45	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/27/19 17:45	2500
Carbon disulfide	ND		2500	1300	ug/L			07/27/19 17:45	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/27/19 17:45	2500
Chlorobenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Chloroethane	ND		2500	1900	ug/L			07/27/19 17:45	2500
2-Chloroethyl vinyl ether	ND		13000	5000	ug/L			07/27/19 17:45	2500
Chloroform	ND		2500	1500	ug/L			07/27/19 17:45	2500
1-Chlorohexane	ND		2500	1800	ug/L			07/27/19 17:45	2500
Chloromethane	ND		2500	2100	ug/L			07/27/19 17:45	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:45	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/27/19 17:45	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/27/19 17:45	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/27/19 17:45	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/27/19 17:45	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:45	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Ethylbenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/27/19 17:45	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/27/19 17:45	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/27/19 17:45	2500
2-Hexanone	ND	*	63000	7800	ug/L			07/27/19 17:45	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Methylene bromide	ND		13000	1500	ug/L			07/27/19 17:45	2500
Methylene Chloride	ND		13000	7500	ug/L			07/27/19 17:45	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/27/19 17:45	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/27/19 17:45	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/27/19 17:45	2500
Naphthalene	ND		2500	2500	ug/L			07/27/19 17:45	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/27/19 17:45	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/27/19 17:45	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:45	2500
o-Xylene	ND		13000	1500	ug/L			07/27/19 17:45	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:45	2500

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/27/19 17:45	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/27/19 17:45	2500
Styrene	ND		2500	2500	ug/L			07/27/19 17:45	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/27/19 17:45	2500
1,1,1,2-Tetrachloroethane	ND	*	2500	1300	ug/L			07/27/19 17:45	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/27/19 17:45	2500
Toluene	ND		2500	1000	ug/L			07/27/19 17:45	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:45	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/27/19 17:45	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/27/19 17:45	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/27/19 17:45	2500
Trichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/27/19 17:45	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/27/19 17:45	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/27/19 17:45	2500
Vinyl acetate	ND		63000	5000	ug/L			07/27/19 17:45	2500
Vinyl chloride	ND		2500	1300	ug/L			07/27/19 17:45	2500
Xylenes, Total	ND		25000	4000	ug/L			07/27/19 17:45	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 17:45*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/27/19 17:45*	*2500*
Dibromofluoromethane	*92*		*81 - 121*		*07/27/19 17:45*	*2500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/27/19 17:45*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2200000**	J	10000	3800	ug/L			07/28/19 16:59	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/28/19 16:59*	*10000*
Dibromofluoromethane	*93*		*81 - 121*		*07/28/19 16:59*	*10000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/28/19 16:59*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**15**	J	1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[a]anthracene	ND		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[a]pyrene	**18**	J	1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[b]fluoranthene	**6.3**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[g,h,i]perylene	**3.5**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[k]fluoranthene	ND		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Chrysene	**36**	J	1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Dibenz(a,h)anthracene	**2.8**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Fluoranthene	**7.0**	J	1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	1.4		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Phenanthrene	110	J	1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5
Pyrene	60	J	1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	63		33 - 138	07/25/19 08:28	08/07/19 17:11	5

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	23	J	10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50
Acenaphthylene	ND		10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50
Fluorene	35	J	10	1.1	ug/L		07/25/19 08:28	08/08/19 15:58	50
1-Methylnaphthalene	570	B J	10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50
2-Methylnaphthalene	740	B J	10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	127	X	15 - 122	07/25/19 08:28	08/08/19 15:58	50
Nitrobenzene-d5	247	X	19 - 130	07/25/19 08:28	08/08/19 15:58	50

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		52	20	ug/L		07/25/19 08:28	08/03/19 16:33	5
Benzenethiol	ND	UJ	52	8.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
Benzoic acid	ND	*	160	38	ug/L		07/25/19 08:28	08/03/19 16:33	5
Benzyl alcohol	ND		52	10	ug/L		07/25/19 08:28	08/03/19 16:33	5
Bis(2-chloroethoxy)methane	ND		52	3.6	ug/L		07/25/19 08:28	08/03/19 16:33	5
Bis(2-chloroethyl)ether	ND		52	3.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
bis (2-chloroisopropyl) ether	ND		52	4.2	ug/L		07/25/19 08:28	08/03/19 16:33	5
Bis(2-ethylhexyl) phthalate	ND		52	26	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Bromophenyl phenyl ether	ND		52	1.7	ug/L		07/25/19 08:28	08/03/19 16:33	5
Butyl benzyl phthalate	ND		52	3.6	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Chloroaniline	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Chloro-3-methylphenol	ND		52	20	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Chloronaphthalene	ND		52	2.7	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Chlorophenol	ND		52	11	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Chlorophenyl phenyl ether	ND		52	10	ug/L		07/25/19 08:28	08/03/19 16:33	5
Dibenz[a,h]acridine	ND		52	16	ug/L		07/25/19 08:28	08/03/19 16:33	5
Dibenzofuran	ND		52	2.7	ug/L		07/25/19 08:28	08/03/19 16:33	5
3,3'-Dichlorobenzidine	ND		52	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dichlorophenol	ND		52	16	ug/L		07/25/19 08:28	08/03/19 16:33	5
Diethyl phthalate	ND		52	3.6	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dimethylphenol	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
Dimethyl phthalate	ND		52	3.1	ug/L		07/25/19 08:28	08/03/19 16:33	5
Di-n-butyl phthalate	ND		52	14	ug/L		07/25/19 08:28	08/03/19 16:33	5
4,6-Dinitro-ortho-cresol	ND		52	10	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dinitrophenol	ND		160	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dinitrotoluene	ND	* UJ	52	9.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,6-Dinitrotoluene	ND	* UJ	52	9.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
Di-n-octyl phthalate	ND		52	2.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
1,4-Dioxane	ND		52	5.2	ug/L		07/25/19 08:28	08/03/19 16:33	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		52	5.2	ug/L		07/25/19 08:28	08/03/19 16:33	5
Hexachlorobenzene	ND		52	1.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
Hexachlorocyclopentadiene	ND		100	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
Hexachloroethane	ND		52	22	ug/L		07/25/19 08:28	08/03/19 16:33	5
Indene	ND		52	5.2	ug/L		07/25/19 08:28	08/03/19 16:33	5
Isophorone	ND		52	3.0	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Methylphenol	ND		52	9.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
3 & 4 Methylphenol	ND		100	5.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Nitroaniline	ND		52	11	ug/L		07/25/19 08:28	08/03/19 16:33	5
3-Nitroaniline	ND		52	9.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Nitroaniline	ND		52	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
Nitrobenzene	ND		52	2.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Nitrophenol	ND		52	3.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Nitrophenol	ND		52	11	ug/L		07/25/19 08:28	08/03/19 16:33	5
N-Nitrosodimethylamine	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
N-Nitrosodi-n-propylamine	ND		52	17	ug/L		07/25/19 08:28	08/03/19 16:33	5
N-Nitrosodiphenylamine	ND		52	2.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
Pentachlorophenol	ND		100	9.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
Phenol	**120**		52	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
Pyridine	ND		52	17	ug/L		07/25/19 08:28	08/03/19 16:33	5
Quinoline	ND		52	31	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4,5-Trichlorophenol	ND		52	19	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4,6-Trichlorophenol	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*2400*	*T J N*	*ug/L*		*3.05*	*71-43-2*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Toluene	*320*	*T J N*	*ug/L*		*4.09*	*108-88-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
3-Penten-2-one, 4-methyl-	*640*	*T J N*	*ug/L*		*4.33*	*141-79-7*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Ethylbenzene	*550*	*T J N*	*ug/L*		*4.84*	*100-41-4*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
p-Xylene	*400*	*T J N*	*ug/L*		*5.06*	*106-42-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Octane, 2,6-dimethyl-	*180*	*T J N*	*ug/L*		*5.26*	*2051-30-1*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 1-ethyl-4-methyl-	*270*	*T J N*	*ug/L*		*5.57*	*622-96-8*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 1,2,3-trimethyl-	*530*	*T J N*	*ug/L*		*5.82*	*526-73-8*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 1-methyl-4-propyl-	*88*	*T J N*	*ug/L*		*6.02*	*1074-55-1*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 2-ethyl-1,4-dimethyl-	*230*	*T J N*	*ug/L*		*6.05*	*1758-88-9*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Dodecane	*280*	*T J N*	*ug/L*		*6.54*	*112-40-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 1-methyl-	*320*	*T J N*	*ug/L*		*7.10*	*90-12-0*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 1,3-dimethyl-	*130*	*T J N*	*ug/L*		*7.73*	*575-41-7*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 2,3,6-trimethyl-	*210*	*T J N*	*ug/L*		*7.96*	*829-26-5*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 1,6,7-trimethyl-	*170*	*T J N*	*ug/L*		*7.99*	*2245-38-7*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Hexadecane	*270*	*T J N*	*ug/L*		*8.05*	*544-76-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Pentadecane, 2,6,10-trimethyl-	*340*	*T J N*	*ug/L*		*8.22*	*3892-00-0*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Dibenzothiophene, 3-methyl-	*56*	*T J N*	*ug/L*		*9.26*	*16587-52-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Phenanthrene, 2-methyl-	*120*	*T J N*	*ug/L*		*9.41*	*2531-84-2*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Anthracene, 2-methyl-	*120*	*T J N*	*ug/L*		*9.43*	*613-12-7*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Phenanthrene, 1-methyl-	*65*	*T J N*	*ug/L*		*9.50*	*832-69-9*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Phenanthrene, 3,6-dimethyl-	*76*	*T J N*	*ug/L*		*9.78*	*1576-67-6*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Phenanthrene, 3,6-dimethyl-	*61*	*T J N*	*ug/L*		*9.84*	*1576-67-6*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Phenanthrene, 2,5-dimethyl-	*160*	*T J N*	*ug/L*		*9.89*	*3674-66-6*	*07/25/19 08:28*	*08/03/19 16:33*	*5*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Lab Sample ID: 400-173526-3

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Pyrene, 1-methyl-	84	T J N	ug/L		10.79	2381-21-7	07/25/19 08:28	08/03/19 16:33	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	94		34 - 120	07/25/19 08:28	08/03/19 16:33	5
2-Fluorophenol	77		10 - 120	07/25/19 08:28	08/03/19 16:33	5
Nitrobenzene-d5	62		27 - 120	07/25/19 08:28	08/03/19 16:33	5
Phenol-d5	30		10 - 120	07/25/19 08:28	08/03/19 16:33	5
Terphenyl-d14	71		53 - 125	07/25/19 08:28	08/03/19 16:33	5
2,4,6-Tribromophenol	109		15 - 135	07/25/19 08:28	08/03/19 16:33	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-EB

Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/27/19 08:37	1
Acrolein	ND		20	10	ug/L			07/27/19 08:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/27/19 08:37	1
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:54	1
Bromobenzene	ND		1.0	0.54	ug/L			07/27/19 08:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/27/19 08:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Bromoform	ND		5.0	0.71	ug/L			07/27/19 08:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/27/19 08:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/27/19 08:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/27/19 08:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/27/19 08:37	1
Chloroform	ND		1.0	0.60	ug/L			07/27/19 08:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/27/19 08:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/27/19 08:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/27/19 08:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/27/19 08:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/27/19 08:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/27/19 08:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/27/19 08:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/27/19 08:37	1
2-Hexanone	ND	*	25	3.1	ug/L			07/27/19 08:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/27/19 08:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/27/19 08:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/27/19 08:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/27/19 08:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/27/19 08:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/27/19 08:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/27/19 08:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/27/19 08:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/27/19 08:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/27/19 08:37	1
o-Xylene	ND		5.0	0.60	ug/L			07/27/19 08:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-EB

Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/27/19 08:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/27/19 08:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/27/19 08:37	1
Styrene	ND		1.0	1.0	ug/L			07/27/19 08:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/27/19 08:37	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/27/19 08:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/27/19 08:37	1
Toluene	ND		1.0	0.41	ug/L			07/27/19 08:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/27/19 08:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/27/19 08:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/27/19 08:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/27/19 08:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/27/19 08:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/27/19 08:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/27/19 08:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/27/19 08:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/27/19 08:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 08:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/27/19 08:37*	*1*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/28/19 09:54*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*07/27/19 08:37*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/28/19 09:54*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/27/19 08:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 09:54*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Anthracene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Fluorene	ND		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 05:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-EB

Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**0.079**	**J B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
2-Methylnaphthalene	**0.11**	**J B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Pyrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*106*		*15 - 122*	*07/25/19 08:28*	*08/07/19 05:04*	*1*
Nitrobenzene-d5	*87*		*19 - 130*	*07/25/19 08:28*	*08/07/19 05:04*	*1*
Terphenyl-d14	*200*	*X*	*33 - 138*	*07/25/19 08:28*	*08/07/19 05:04*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND	*	10	1.7	ug/L		07/25/19 08:28	07/31/19 03:14	1
Benzoic acid	ND	*	30	7.3	ug/L		07/25/19 08:28	07/31/19 03:14	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/31/19 03:14	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Dibenzofuran	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 03:14	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 03:14	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,6-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 03:14	1
Di-n-octyl phthalate	**1.0**	**J**	10	0.44	ug/L		07/25/19 08:28	07/31/19 03:14	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 03:14	1
Hexachloroethane	ND		10	4.2	ug/L		07/25/19 08:28	07/31/19 03:14	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 03:14	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/31/19 03:14	1
Nitrobenzene	ND		10	0.55	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/31/19 03:14	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/31/19 03:14	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 03:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
3-Penten-2-one, 4-methyl-	*11*	*T J N*	*ug/L*		*3.86*	*141-79-7*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
4-Chloro-2-butanone	*5.1*	*T J N*	*ug/L*		*4.03*	*6322-49-2*	*07/25/19 08:28*	*07/31/19 03:14*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-EB

Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
9-Octadecenamide, (Z)-	*6.9*	*T J N*	*ug/L*		*11.51*	*301-02-0*	*07/25/19 08:28*	*07/31/19 03:14*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
2-Fluorophenol	*45*		*10 - 120*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
Nitrobenzene-d5	*58*		*27 - 120*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
Phenol-d5	*50*		*10 - 120*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
Terphenyl-d14	*94*		*53 - 125*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
2,4,6-Tribromophenol	*107*		*15 - 135*	*07/25/19 08:28*	*07/31/19 03:14*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/25/19 08:28	08/06/19 12:03	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/06/19 12:03	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 12:03	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/25/19 08:28	08/06/19 12:03	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	08/06/19 12:03	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 12:03	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	08/06/19 12:03	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	08/06/19 12:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	08/06/19 12:03	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	08/06/19 12:03	1
Isophorone	ND		10	0.57	ug/L		07/25/19 08:28	08/06/19 12:03	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/06/19 12:03	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/06/19 12:03	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	08/06/19 12:03	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	08/06/19 12:03	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	08/06/19 12:03	1
Phenol	ND		10	2.6	ug/L		07/25/19 08:28	08/06/19 12:03	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/06/19 12:03	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50	20	ug/L			07/27/19 10:16	2
Acrolein	ND		40	20	ug/L			07/27/19 10:16	2
Acrylonitrile	ND		20	5.6	ug/L			07/27/19 10:16	2
Benzene	**400**		2.0	0.76	ug/L			07/27/19 10:16	2
Bromobenzene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
Bromochloromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Bromodichloromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Bromoform	ND		10	1.4	ug/L			07/27/19 10:16	2
Bromomethane	ND		2.0	2.0	ug/L			07/27/19 10:16	2
2-Butanone (MEK)	ND		50	5.2	ug/L			07/27/19 10:16	2
Carbon disulfide	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Carbon tetrachloride	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Chlorobenzene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Chloroethane	ND		2.0	1.5	ug/L			07/27/19 10:16	2
2-Chloroethyl vinyl ether	ND		10	4.0	ug/L			07/27/19 10:16	2
Chloroform	ND		2.0	1.2	ug/L			07/27/19 10:16	2
1-Chlorohexane	ND		2.0	1.4	ug/L			07/27/19 10:16	2
Chloromethane	ND		2.0	1.7	ug/L			07/27/19 10:16	2
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
cis-1,3-Dichloropropene	ND		10	1.0	ug/L			07/27/19 10:16	2
Dibromochloromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2-Dibromo-3-Chloropropane	ND		10	3.0	ug/L			07/27/19 10:16	2
1,2-Dichlorobenzene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,3-Dichlorobenzene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
1,4-Dichlorobenzene	ND		2.0	1.3	ug/L			07/27/19 10:16	2
Dichlorodifluoromethane	ND		2.0	1.7	ug/L			07/27/19 10:16	2
1,1-Dichloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2-Dichloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,1-Dichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2-Dichloropropane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,3-Dichloropropane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
2,2-Dichloropropane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,1-Dichloropropene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Ethylbenzene	**15**		2.0	1.0	ug/L			07/27/19 10:16	2
Ethylene Dibromide	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Ethyl methacrylate	ND	F1 UJ	2.0	1.2	ug/L			07/27/19 10:16	2
Hexachlorobutadiene	ND		10	1.8	ug/L			07/27/19 10:16	2
2-Hexanone	ND	*	50	6.2	ug/L			07/27/19 10:16	2
Isopropylbenzene	**11**		2.0	1.1	ug/L			07/27/19 10:16	2
Methylene bromide	ND		10	1.2	ug/L			07/27/19 10:16	2
Methylene Chloride	ND		10	6.0	ug/L			07/27/19 10:16	2
4-Methyl-2-pentanone (MIBK)	ND		50	3.6	ug/L			07/27/19 10:16	2
Methyl tert-butyl ether	ND		2.0	1.5	ug/L			07/27/19 10:16	2
m-Xylene & p-Xylene	**27**		10	3.2	ug/L			07/27/19 10:16	2
Naphthalene	**13**		2.0	2.0	ug/L			07/27/19 10:16	2
n-Butylbenzene	ND		2.0	1.5	ug/L			07/27/19 10:16	2
N-Propylbenzene	**17**		2.0	1.4	ug/L			07/27/19 10:16	2
o-Chlorotoluene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
o-Xylene	ND		10	1.2	ug/L			07/27/19 10:16	2

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
p-Isopropyltoluene	**7.0**		2.0	1.4	ug/L			07/27/19 10:16	2
sec-Butylbenzene	**12**		2.0	1.4	ug/L			07/27/19 10:16	2
Styrene	ND		2.0	2.0	ug/L			07/27/19 10:16	2
tert-Butylbenzene	ND		2.0	1.3	ug/L			07/27/19 10:16	2
1,1,1,2-Tetrachloroethane	ND	*	2.0	1.0	ug/L			07/27/19 10:16	2
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Tetrachloroethene	ND		2.0	1.2	ug/L			07/27/19 10:16	2
Toluene	ND		2.0	0.82	ug/L			07/27/19 10:16	2
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
trans-1,3-Dichloropropene	ND		10	1.0	ug/L			07/27/19 10:16	2
1,2,3-Trichlorobenzene	ND		2.0	1.4	ug/L			07/27/19 10:16	2
1,2,4-Trichlorobenzene	ND		2.0	1.6	ug/L			07/27/19 10:16	2
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,1,2-Trichloroethane	ND		10	1.0	ug/L			07/27/19 10:16	2
Trichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Trichlorofluoromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2,3-Trichloropropane	ND		10	1.7	ug/L			07/27/19 10:16	2
1,2,4-Trimethylbenzene	**110**		2.0	1.6	ug/L			07/27/19 10:16	2
1,3,5-Trimethylbenzene	**26**		2.0	1.1	ug/L			07/27/19 10:16	2
Vinyl acetate	ND		50	4.0	ug/L			07/27/19 10:16	2
Vinyl chloride	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Xylenes, Total	**27**		20	3.2	ug/L			07/27/19 10:16	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*57*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/27/19 10:16*	*2*
Pentane, 3-methyl-	*18*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/27/19 10:16*	*2*
Hexane	*2.7*		*ug/L*		*3.70*	*110-54-3*		*07/27/19 10:16*	*2*
Pentane, 2,4-dimethyl-	*13*	*T J N*	*ug/L*		*4.04*	*108-08-7*		*07/27/19 10:16*	*2*
Cyclohexane	*4.1*		*ug/L*		*4.54*	*110-82-7*		*07/27/19 10:16*	*2*
Isooctane	*22*		*ug/L*		*4.76*	*540-84-1*		*07/27/19 10:16*	*2*
Methylcyclohexane	*8.9*		*ug/L*		*5.27*	*108-87-2*		*07/27/19 10:16*	*2*
Cyclohexane, 1,2-dimethyl-, trans-	*11*	*T J N*	*ug/L*		*6.16*	*6876-23-9*		*07/27/19 10:16*	*2*
3-Ethyltoluene	*46*		*ug/L*		*8.07*	*620-14-4*		*07/27/19 10:16*	*2*
2-Ethyltoluene	*18*		*ug/L*		*8.30*	*611-14-3*		*07/27/19 10:16*	*2*
1,2,3-Trimethylbenzene	*31*		*ug/L*		*8.77*	*526-73-8*		*07/27/19 10:16*	*2*
p-Diethylbenzene	*16*		*ug/L*		*8.97*	*105-05-5*		*07/27/19 10:16*	*2*
o-diethylbenzene	*5.6*	*J*	*ug/L*		*9.08*	*135-01-3*		*07/27/19 10:16*	*2*
Benzene, 2-ethyl-1,3-dimethyl-	*48*	*T J N*	*ug/L*		*9.20*	*2870-04-4*		*07/27/19 10:16*	*2*
Benzene, 2-ethyl-1,4-dimethyl-	*42*	*T J N*	*ug/L*		*9.29*	*1758-88-9*		*07/27/19 10:16*	*2*
Benzene, 1,3-diethyl-5-methyl-	*10*	*T J N*	*ug/L*		*9.49*	*2050-24-0*		*07/27/19 10:16*	*2*
Benzene, (2-methyl-1-butenyl)-	*13*	*T J N*	*ug/L*		*9.58*	*56253-64-6*		*07/27/19 10:16*	*2*
Benzene, 1,2,3,4-tetramethyl-	*42*	*T J N*	*ug/L*		*9.65*	*488-23-3*		*07/27/19 10:16*	*2*
Benzene, 1,2,4,5-tetramethyl-	*62*	*T J N*	*ug/L*		*9.71*	*95-93-2*		*07/27/19 10:16*	*2*
1,3-Cyclopentadiene, 1,2,3,4-tetramethyl-5-methylene-	*48*	*T J N*	*ug/L*		*10.11*	*76089-59-3*		*07/27/19 10:16*	*2*
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-2-Methylnaphthalene	*12*	*T J N*	*ug/L*		*10.78*	*3877-19-8*		*07/27/19 10:16*	*2*
1-Methylnaphthalene	*12*	*J*	*ug/L*		*11.72*	*91-57-6*		*07/27/19 10:16*	*2*
	14		*ug/L*		*11.91*	*90-12-0*		*07/27/19 10:16*	*2*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	*98*		*78 - 118*		*07/27/19 10:16*	*2*
Dibromofluoromethane	*94*		*81 - 121*		*07/27/19 10:16*	*2*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/27/19 10:16*	*2*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.0**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Anthracene	**0.15**	**J**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[g,h,i]perylene	ND	F1 UJ	0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Fluoranthene	**0.053**	**J**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Fluorene	**1.4**		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 05:21	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
1-Methylnaphthalene	**4.4**	**B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
2-Methylnaphthalene	**2.2**	**B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Phenanthrene	**0.46**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Pyrene	**0.21**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*105*		*15 - 122*	*07/25/19 08:28*	*08/07/19 05:21*	*1*
Nitrobenzene-d5	*96*		*19 - 130*	*07/25/19 08:28*	*08/07/19 05:21*	*1*
Terphenyl-d14	*74*		*33 - 138*	*07/25/19 08:28*	*08/07/19 05:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/25/19 08:28	07/31/19 01:27	1
Benzoic acid	ND	*	30	7.3	ug/L		07/25/19 08:28	07/31/19 01:27	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/31/19 01:27	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Dibenzofuran	**0.63**	**J**	10	0.52	ug/L		07/25/19 08:28	07/31/19 01:27	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 01:27	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/31/19 01:27	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	07/31/19 01:27	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dinitrotoluene	ND	* UJ	10	1.9	ug/L		07/25/19 08:28	07/31/19 01:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND	* UJ	10	1.9	ug/L		07/25/19 08:28	07/31/19 01:27	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/25/19 08:28	07/31/19 01:27	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 01:27	1
Hexachloroethane	ND		10	4.2	ug/L		07/25/19 08:28	07/31/19 01:27	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:27	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/31/19 01:27	1
Nitrobenzene	ND		10	0.55	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/31/19 01:27	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/31/19 01:27	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	07/31/19 01:27	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/31/19 01:27	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 01:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*8.1*	*T J N*	*ug/L*		*3.75*	*590-90-9*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, propyl-	*4.3*	*T J N*	*ug/L*		*5.01*	*103-65-1*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 1,2,3-trimethyl-	*14*	*T J N*	*ug/L*		*5.24*	*526-73-8*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 1-ethyl-2-methyl-	*4.9*	*T J N*	*ug/L*		*5.40*	*611-14-3*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*5.7*	*T J N*	*ug/L*		*5.69*	*2870-04-4*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 1,2,3,4-tetramethyl-	*5.7*	*T J N*	*ug/L*		*5.86*	*488-23-3*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
2-Methylnaphthalene	*1.4*	*J **	*ug/L*		*6.65*	*91-57-6*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
1-Methylnaphthalene	*2.8*	*J **	*ug/L*		*6.72*	*90-12-0*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Acenaphthene	*1.3*	*J*	*ug/L*		*7.38*	*83-32-9*	*07/25/19 08:28*	*07/31/19 01:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/25/19 08:28	08/03/19 16:58	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 16:58	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/25/19 08:28	08/03/19 16:58	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/25/19 08:28	08/03/19 16:58	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	08/03/19 16:58	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/25/19 08:28	08/03/19 16:58	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	08/03/19 16:58	1
Isophorone	ND		10	0.57	ug/L		07/25/19 08:28	08/03/19 16:58	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/03/19 16:58	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/03/19 16:58	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	08/03/19 16:58	1
Phenol	ND		10	2.6	ug/L		07/25/19 08:28	08/03/19 16:58	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/03/19 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*34 - 120*	*07/25/19 08:28*	*08/03/19 16:58*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219
Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	53		10 - 120	07/25/19 08:28	08/03/19 16:58	1
Nitrobenzene-d5	81		27 - 120	07/25/19 08:28	08/03/19 16:58	1
Phenol-d5	55		10 - 120	07/25/19 08:28	08/03/19 16:58	1
Terphenyl-d14	60		53 - 125	07/25/19 08:28	08/03/19 16:58	1
2,4,6-Tribromophenol	71		15 - 135	07/25/19 08:28	08/03/19 16:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/27/19 16:29	1000
Acrolein	ND		20000	10000	ug/L			07/27/19 16:29	1000
Acrylonitrile	ND		10000	2800	ug/L			07/27/19 16:29	1000
Bromobenzene	ND		1000	540	ug/L			07/27/19 16:29	1000
Bromochloromethane	ND		1000	520	ug/L			07/27/19 16:29	1000
Bromodichloromethane	ND		1000	500	ug/L			07/27/19 16:29	1000
Bromoform	ND		5000	710	ug/L			07/27/19 16:29	1000
Bromomethane	ND		1000	980	ug/L			07/27/19 16:29	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/27/19 16:29	1000
Carbon disulfide	ND		1000	500	ug/L			07/27/19 16:29	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/27/19 16:29	1000
Chlorobenzene	ND		1000	500	ug/L			07/27/19 16:29	1000
Chloroethane	ND		1000	760	ug/L			07/27/19 16:29	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/27/19 16:29	1000
Chloroform	ND		1000	600	ug/L			07/27/19 16:29	1000
1-Chlorohexane	ND		1000	700	ug/L			07/27/19 16:29	1000
Chloromethane	ND		1000	830	ug/L			07/27/19 16:29	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:29	1000
Dibromochloromethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/27/19 16:29	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/27/19 16:29	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/27/19 16:29	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/27/19 16:29	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/27/19 16:29	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:29	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/27/19 16:29	1000
Ethylbenzene	**1400**		1000	500	ug/L			07/27/19 16:29	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/27/19 16:29	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/27/19 16:29	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/27/19 16:29	1000
2-Hexanone	ND	*	25000	3100	ug/L			07/27/19 16:29	1000
Isopropylbenzene	ND		1000	530	ug/L			07/27/19 16:29	1000
Methylene bromide	ND		5000	590	ug/L			07/27/19 16:29	1000
Methylene Chloride	ND		5000	3000	ug/L			07/27/19 16:29	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/27/19 16:29	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/27/19 16:29	1000
m-Xylene & p-Xylene	**2700**	**J**	5000	1600	ug/L			07/27/19 16:29	1000
Naphthalene	ND		1000	1000	ug/L			07/27/19 16:29	1000
n-Butylbenzene	ND		1000	760	ug/L			07/27/19 16:29	1000
N-Propylbenzene	ND		1000	690	ug/L			07/27/19 16:29	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/27/19 16:29	1000
o-Xylene	**710**	**J**	5000	600	ug/L			07/27/19 16:29	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/27/19 16:29	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/27/19 16:29	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/27/19 16:29	1000
Styrene	ND		1000	1000	ug/L			07/27/19 16:29	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/27/19 16:29	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/27/19 16:29	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
Tetrachloroethene	ND		1000	580	ug/L			07/27/19 16:29	1000
Toluene	**1100**		1000	410	ug/L			07/27/19 16:29	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:29	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/27/19 16:29	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/27/19 16:29	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/27/19 16:29	1000
Trichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/27/19 16:29	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/27/19 16:29	1000
1,2,4-Trimethylbenzene	**970**	**J**	1000	820	ug/L			07/27/19 16:29	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/27/19 16:29	1000
Vinyl acetate	ND		25000	2000	ug/L			07/27/19 16:29	1000
Vinyl chloride	ND		1000	500	ug/L			07/27/19 16:29	1000
Xylenes, Total	**3500**	**J**	10000	1600	ug/L			07/27/19 16:29	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 16:29*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/27/19 16:29*	*1000*
Dibromofluoromethane	*93*		*81 - 121*		*07/27/19 16:29*	*1000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/27/19 16:29*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**500000**		2000	760	ug/L			07/28/19 15:42	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/28/19 15:42*	*2000*
Dibromofluoromethane	*94*		*81 - 121*		*07/28/19 15:42*	*2000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/28/19 15:42*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Acenaphthylene	ND		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Anthracene	**8.0**		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[a]anthracene	**10**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[a]pyrene	**9.0**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[b]fluoranthene	**4.8**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[g,h,i]perylene	**2.1**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[k]fluoranthene	ND		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Chrysene	**19**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	1.9		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Fluoranthene	4.0		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Fluorene	14		1.0	0.11	ug/L		07/25/19 08:28	08/07/19 17:28	5
Indeno[1,2,3-cd]pyrene	0.84	J	1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Phenanthrene	57		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Pyrene	33		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*15 - 122*	*07/25/19 08:28*	*08/07/19 17:28*	*5*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/25/19 08:28*	*08/07/19 17:28*	*5*
Terphenyl-d14	*63*		*33 - 138*	*07/25/19 08:28*	*08/07/19 17:28*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	270	B	5.0	0.50	ug/L		07/25/19 08:28	08/08/19 16:16	25
2-Methylnaphthalene	360	B	5.0	0.50	ug/L		07/25/19 08:28	08/08/19 16:16	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		50	19	ug/L		07/25/19 08:28	08/03/19 17:23	5
Benzenethiol	ND		50	8.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
Benzoic acid	ND	* UJ	150	37	ug/L		07/25/19 08:28	08/03/19 17:23	5
Benzyl alcohol	ND		50	10	ug/L		07/25/19 08:28	08/03/19 17:23	5
Bis(2-chloroethoxy)methane	ND		50	3.5	ug/L		07/25/19 08:28	08/03/19 17:23	5
Bis(2-chloroethyl)ether	ND		50	3.7	ug/L		07/25/19 08:28	08/03/19 17:23	5
bis (2-chloroisopropyl) ether	ND		50	4.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
Bis(2-ethylhexyl) phthalate	ND		50	25	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Bromophenyl phenyl ether	ND		50	1.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
Butyl benzyl phthalate	ND		50	3.5	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Chloroaniline	ND		50	17	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Chloro-3-methylphenol	ND		50	19	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Chloronaphthalene	ND		50	2.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Chlorophenol	ND		50	11	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Chlorophenyl phenyl ether	ND		50	10	ug/L		07/25/19 08:28	08/03/19 17:23	5
Dibenz[a,h]acridine	ND		50	15	ug/L		07/25/19 08:28	08/03/19 17:23	5
Dibenzofuran	ND		50	2.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
3,3'-Dichlorobenzidine	ND		50	13	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dichlorophenol	ND		50	15	ug/L		07/25/19 08:28	08/03/19 17:23	5
Diethyl phthalate	ND		50	3.5	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dimethylphenol	ND		50	18	ug/L		07/25/19 08:28	08/03/19 17:23	5
Dimethyl phthalate	ND		50	3.0	ug/L		07/25/19 08:28	08/03/19 17:23	5
Di-n-butyl phthalate	ND		50	14	ug/L		07/25/19 08:28	08/03/19 17:23	5
4,6-Dinitro-ortho-cresol	ND		50	10	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dinitrophenol	ND		150	17	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dinitrotoluene	ND	* UJ	50	9.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,6-Dinitrotoluene	ND	* UJ	50	9.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
Di-n-octyl phthalate	ND		50	2.2	ug/L		07/25/19 08:28	08/03/19 17:23	5
1,4-Dioxane	ND		50	5.0	ug/L		07/25/19 08:28	08/03/19 17:23	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		50	5.0	ug/L		07/25/19 08:28	08/03/19 17:23	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		50	1.3	ug/L		07/25/19 08:28	08/03/19 17:23	5
Hexachlorocyclopentadiene	ND		100	13	ug/L		07/25/19 08:28	08/03/19 17:23	5
Hexachloroethane	ND		50	21	ug/L		07/25/19 08:28	08/03/19 17:23	5
Indene	ND		50	5.0	ug/L		07/25/19 08:28	08/03/19 17:23	5
Isophorone	ND		50	2.9	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Methylphenol	ND		50	9.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
3 & 4 Methylphenol	ND		100	5.2	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Nitroaniline	ND		50	11	ug/L		07/25/19 08:28	08/03/19 17:23	5
3-Nitroaniline	ND		50	9.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Nitroaniline	ND		50	12	ug/L		07/25/19 08:28	08/03/19 17:23	5
Nitrobenzene	ND		50	2.8	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Nitrophenol	ND		50	3.3	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Nitrophenol	ND		50	11	ug/L		07/25/19 08:28	08/03/19 17:23	5
N-Nitrosodimethylamine	ND		50	18	ug/L		07/25/19 08:28	08/03/19 17:23	5
N-Nitrosodi-n-propylamine	ND		50	17	ug/L		07/25/19 08:28	08/03/19 17:23	5
N-Nitrosodiphenylamine	ND		50	2.4	ug/L		07/25/19 08:28	08/03/19 17:23	5
Pentachlorophenol	ND		100	9.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
Phenol	**95**		50	13	ug/L		07/25/19 08:28	08/03/19 17:23	5
Pyridine	ND		50	16	ug/L		07/25/19 08:28	08/03/19 17:23	5
Quinoline	ND		50	30	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4,5-Trichlorophenol	ND		50	19	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4,6-Trichlorophenol	ND		50	18	ug/L		07/25/19 08:28	08/03/19 17:23	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*2700*	*T J N*	*ug/L*		*3.04*	*71-43-2*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Toluene	*330*	*T J N*	*ug/L*		*4.08*	*108-88-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Ethylbenzene	*570*	*T J N*	*ug/L*		*4.83*	*100-41-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
p-Xylene	*850*	*T J N*	*ug/L*		*4.90*	*106-42-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
o-Xylene	*420*	*T J N*	*ug/L*		*5.05*	*95-47-6*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, (1-methylethyl)-	*140*	*T J N*	*ug/L*		*5.24*	*98-82-8*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Octane, 2,6-dimethyl-	*120*	*T J N*	*ug/L*		*5.26*	*2051-30-1*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, propyl-	*370*	*T J N*	*ug/L*		*5.42*	*103-65-1*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1-ethyl-3-methyl-	*340*	*T J N*	*ug/L*		*5.46*	*620-14-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1-ethyl-4-methyl-	*270*	*T J N*	*ug/L*		*5.57*	*622-96-8*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Decane	*300*	*T J N*	*ug/L*		*5.63*	*124-18-5*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1,2,3-trimethyl-	*750*	*T J N*	*ug/L*		*5.65*	*526-73-8*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1,2,4-trimethyl-	*540*	*T J N*	*ug/L*		*5.81*	*95-63-6*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Decane, 3-methyl-	*130*	*T J N*	*ug/L*		*5.98*	*13151-34-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
1,3-Cyclopentadiene, 1,2,3,4-tetramethyl-5-methylene-	*480*	*T J N*	*ug/L*		*6.27*	*76089-59-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, decahydro-2-methyl-	*230*	*T J N*	*ug/L*		*6.30*	*2958-76-1*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 1,2,3,4-tetrahydro-	*550*	*T J N*	*ug/L*		*6.50*	*119-64-2*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Dodecane	*1100*	*T J N*	*ug/L*		*6.54*	*112-40-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Undecane, 2,6-dimethyl-	*750*	*T J N*	*ug/L*		*6.59*	*17301-23-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Tridecane	*930*	*T J N*	*ug/L*		*6.94*	*629-50-5*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 2-methyl-	*750*	*T J N*	*ug/L*		*7.09*	*91-57-6*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 1-methyl-	*330*	*T J N*	*ug/L*		*7.16*	*90-12-0*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 1,4-dimethyl-	*340*	*T J N*	*ug/L*		*7.57*	*571-58-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Pentadecane	*240*	*T J N*	*ug/L*		*7.69*	*629-62-9*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Hexadecane	*150*	*T J N*	*ug/L*		*8.04*	*544-76-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	98		34 - 120	07/25/19 08:28	08/03/19 17:23	5
2-Fluorophenol	0	X	10 - 120	07/25/19 08:28	08/03/19 17:23	5
Nitrobenzene-d5	0	X	27 - 120	07/25/19 08:28	08/03/19 17:23	5
Phenol-d5	11		10 - 120	07/25/19 08:28	08/03/19 17:23	5
Terphenyl-d14	67		53 - 125	07/25/19 08:28	08/03/19 17:23	5
2,4,6-Tribromophenol	101		15 - 135	07/25/19 08:28	08/03/19 17:23	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/27/19 16:53	1000
Acrolein	ND		20000	10000	ug/L			07/27/19 16:53	1000
Acrylonitrile	ND		10000	2800	ug/L			07/27/19 16:53	1000
Bromobenzene	ND		1000	540	ug/L			07/27/19 16:53	1000
Bromochloromethane	ND		1000	520	ug/L			07/27/19 16:53	1000
Bromodichloromethane	ND		1000	500	ug/L			07/27/19 16:53	1000
Bromoform	ND		5000	710	ug/L			07/27/19 16:53	1000
Bromomethane	ND		1000	980	ug/L			07/27/19 16:53	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/27/19 16:53	1000
Carbon disulfide	ND		1000	500	ug/L			07/27/19 16:53	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/27/19 16:53	1000
Chlorobenzene	ND		1000	500	ug/L			07/27/19 16:53	1000
Chloroethane	ND		1000	760	ug/L			07/27/19 16:53	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/27/19 16:53	1000
Chloroform	ND		1000	600	ug/L			07/27/19 16:53	1000
1-Chlorohexane	ND		1000	700	ug/L			07/27/19 16:53	1000
Chloromethane	ND		1000	830	ug/L			07/27/19 16:53	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:53	1000
Dibromochloromethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/27/19 16:53	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/27/19 16:53	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/27/19 16:53	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/27/19 16:53	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/27/19 16:53	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:53	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/27/19 16:53	1000
Ethylbenzene	**1500**		1000	500	ug/L			07/27/19 16:53	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/27/19 16:53	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/27/19 16:53	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/27/19 16:53	1000
2-Hexanone	ND	*	25000	3100	ug/L			07/27/19 16:53	1000
Isopropylbenzene	ND		1000	530	ug/L			07/27/19 16:53	1000
Methylene bromide	ND		5000	590	ug/L			07/27/19 16:53	1000
Methylene Chloride	ND		5000	3000	ug/L			07/27/19 16:53	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/27/19 16:53	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/27/19 16:53	1000
m-Xylene & p-Xylene	**2800**	**J**	5000	1600	ug/L			07/27/19 16:53	1000
Naphthalene	ND		1000	1000	ug/L			07/27/19 16:53	1000
n-Butylbenzene	ND		1000	760	ug/L			07/27/19 16:53	1000
N-Propylbenzene	ND		1000	690	ug/L			07/27/19 16:53	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/27/19 16:53	1000
o-Xylene	**750**	**J**	5000	600	ug/L			07/27/19 16:53	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/27/19 16:53	1000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/27/19 16:53	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/27/19 16:53	1000
Styrene	ND		1000	1000	ug/L			07/27/19 16:53	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/27/19 16:53	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/27/19 16:53	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
Tetrachloroethene	ND		1000	580	ug/L			07/27/19 16:53	1000
Toluene	**1100**		1000	410	ug/L			07/27/19 16:53	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:53	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/27/19 16:53	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/27/19 16:53	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/27/19 16:53	1000
Trichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/27/19 16:53	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/27/19 16:53	1000
1,2,4-Trimethylbenzene	**1100**		1000	820	ug/L			07/27/19 16:53	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/27/19 16:53	1000
Vinyl acetate	ND		25000	2000	ug/L			07/27/19 16:53	1000
Vinyl chloride	ND		1000	500	ug/L			07/27/19 16:53	1000
Xylenes, Total	**3600**	**J**	10000	1600	ug/L			07/27/19 16:53	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 16:53*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/27/19 16:53*	*1000*
Dibromofluoromethane	*92*		*81 - 121*		*07/27/19 16:53*	*1000*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/27/19 16:53*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**380000**		2000	760	ug/L			07/28/19 16:07	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/28/19 16:07*	*2000*
Dibromofluoromethane	*95*		*81 - 121*		*07/28/19 16:07*	*2000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 16:07*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.9**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Anthracene	**3.0**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Benzo[a]anthracene	**3.9**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Benzo[a]pyrene	**3.8**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Chrysene	**6.8**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Fluoranthene	**1.8**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1

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Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**3.5**		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 06:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Phenanthrene	**21**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Pyrene	**11**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*15 - 122*	*07/25/19 08:28*	*08/07/19 06:27*	*1*
Nitrobenzene-d5	*56*		*19 - 130*	*07/25/19 08:28*	*08/07/19 06:27*	*1*
Terphenyl-d14	*46*		*33 - 138*	*07/25/19 08:28*	*08/07/19 06:27*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**2.0**		1.4	0.29	ug/L		07/25/19 08:28	08/07/19 17:46	7
Benzo[g,h,i]perylene	**1.2**	**J**	1.4	0.29	ug/L		07/25/19 08:28	08/07/19 17:46	7
1-Methylnaphthalene	**76**	**B**	1.4	0.14	ug/L		07/25/19 08:28	08/07/19 17:46	7
2-Methylnaphthalene	**100**	**B**	1.4	0.14	ug/L		07/25/19 08:28	08/07/19 17:46	7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*107*		*15 - 122*	*07/25/19 08:28*	*08/07/19 17:46*	*7*
Nitrobenzene-d5	*137*	*X*	*19 - 130*	*07/25/19 08:28*	*08/07/19 17:46*	*7*
Terphenyl-d14	*68*		*33 - 138*	*07/25/19 08:28*	*08/07/19 17:46*	*7*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND	*	31	7.4	ug/L		07/25/19 08:28	07/31/19 01:49	1
bis (2-chloroisopropyl) ether	ND		10	0.83	ug/L		07/25/19 08:28	07/31/19 01:49	1
4-Chloroaniline	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 01:49	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:49	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
Dibenzofuran	**2.1**	**J**	10	0.53	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
Diethyl phthalate	ND		10	0.71	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 01:49	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/25/19 08:28	07/31/19 01:49	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/25/19 08:28	07/31/19 01:49	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dinitrotoluene	ND	* UJ	10	1.9	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,6-Dinitrotoluene	ND	* UJ	10	1.9	ug/L		07/25/19 08:28	07/31/19 01:49	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
Hexachlorocyclopentadiene	ND		20	2.7	ug/L		07/25/19 08:28	07/31/19 01:49	1
Hexachloroethane	ND		10	4.3	ug/L		07/25/19 08:28	07/31/19 01:49	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:49	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 01:49	1

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Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/31/19 01:49	1
Nitrobenzene	ND		10	0.56	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Nitrophenol	ND		10	0.66	ug/L		07/25/19 08:28	07/31/19 01:49	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 01:49	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/25/19 08:28	07/31/19 01:49	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/31/19 01:49	1
Quinoline	ND		10	6.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 01:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*51*	*T J N*	*ug/L*		*3.62*	*108-88-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
o-Xylene	*140*	*T J N*	*ug/L*		*4.48*	*95-47-6*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
p-Xylene	*69*	*T J N*	*ug/L*		*4.64*	*106-42-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, propyl-	*42*	*T J N*	*ug/L*		*5.02*	*103-65-1*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-3-methyl-	*120*	*T J N*	*ug/L*		*5.06*	*620-14-4*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-2-methyl-	*110*	*T J N*	*ug/L*		*5.08*	*611-14-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-2-methyl-	*51*	*T J N*	*ug/L*		*5.16*	*611-14-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Decane	*89*	*T J N*	*ug/L*		*5.24*	*124-18-5*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1,2,3-trimethyl-	*340*	*T J N*	*ug/L*		*5.26*	*526-73-8*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1,2,3-trimethyl-	*110*	*T J N*	*ug/L*		*5.41*	*526-73-8*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-methyl-3-propyl-	*30*	*T J N*	*ug/L*		*5.53*	*1074-43-7*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*62*	*T J N*	*ug/L*		*5.56*	*934-74-7*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*38*	*T J N*	*ug/L*		*5.70*	*934-80-5*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Dodecane	*130*	*T J N*	*ug/L*		*6.14*	*112-40-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene	*42*	*T J N*	*ug/L*		*6.21*	*91-20-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Octane, 2,6-dimethyl-	*63*	*T J N*	*ug/L*		*6.42*	*2051-30-1*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Tridecane	*100*	*T J N*	*ug/L*		*6.53*	*629-50-5*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 2-methyl-	*67*	*T J N*	*ug/L*		*6.65*	*91-57-6*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 1-methyl-	*52*	*T J N*	*ug/L*		*6.72*	*90-12-0*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Dodecane, 2,6,10-trimethyl-	*40*	*T J N*	*ug/L*		*6.81*	*3891-98-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Tetradecane	*87*	*T J N*	*ug/L*		*6.90*	*629-59-4*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 1,6-dimethyl-	*40*	*T J N*	*ug/L*		*7.07*	*575-43-9*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 1,6-dimethyl-	*68*	*T J N*	*ug/L*		*7.12*	*575-43-9*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Pentadecane	*60*	*T J N*	*ug/L*		*7.25*	*629-62-9*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Hexadecane	*30*	*T J N*	*ug/L*		*7.60*	*544-76-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**140**		51	13	ug/L		07/25/19 08:28	07/31/19 17:07	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/25/19 08:28	08/03/19 17:47	1
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	08/03/19 17:47	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 17:47	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/25/19 08:28	08/03/19 17:47	1
Bis(2-chloroethyl)ether	ND		10	0.76	ug/L		07/25/19 08:28	08/03/19 17:47	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/25/19 08:28	08/03/19 17:47	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/25/19 08:28	08/03/19 17:47	1

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Project/Site: PreDesign Invest PW

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Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	08/03/19 17:47	1
3,3'-Dichlorobenzidine	ND		10	2.7	ug/L		07/25/19 08:28	08/03/19 17:47	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/25/19 08:28	08/03/19 17:47	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/25/19 08:28	08/03/19 17:47	1
Isophorone	ND		10	0.58	ug/L		07/25/19 08:28	08/03/19 17:47	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/03/19 17:47	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/03/19 17:47	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/25/19 08:28	08/03/19 17:47	1
Pyridine	ND		10	3.3	ug/L		07/25/19 08:28	08/03/19 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*34 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
Nitrobenzene-d5	*68*		*27 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
Phenol-d5	*11*		*10 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
Terphenyl-d14	*55*		*53 - 125*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/25/19 08:28*	*08/03/19 17:47*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Date Collected: 07/22/19 15:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/27/19 09:02	1
Acrolein	ND		20	10	ug/L			07/27/19 09:02	1
Acrylonitrile	ND		10	2.8	ug/L			07/27/19 09:02	1
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:29	1
Bromobenzene	ND		1.0	0.54	ug/L			07/27/19 09:02	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/27/19 09:02	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Bromoform	ND		5.0	0.71	ug/L			07/27/19 09:02	1
Bromomethane	ND		1.0	0.98	ug/L			07/27/19 09:02	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/27/19 09:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Chloroethane	ND		1.0	0.76	ug/L			07/27/19 09:02	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/27/19 09:02	1
Chloroform	ND		1.0	0.60	ug/L			07/27/19 09:02	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/27/19 09:02	1
Chloromethane	ND		1.0	0.83	ug/L			07/27/19 09:02	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 09:02	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/27/19 09:02	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/27/19 09:02	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/27/19 09:02	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/27/19 09:02	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/27/19 09:02	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/27/19 09:02	1
2-Hexanone	ND	*	25	3.1	ug/L			07/27/19 09:02	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/27/19 09:02	1
Methylene bromide	ND		5.0	0.59	ug/L			07/27/19 09:02	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/27/19 09:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/27/19 09:02	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/27/19 09:02	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/27/19 09:02	1
Naphthalene	ND		1.0	1.0	ug/L			07/27/19 09:02	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/27/19 09:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/27/19 09:02	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/27/19 09:02	1
o-Xylene	ND		5.0	0.60	ug/L			07/27/19 09:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Date Collected: 07/22/19 15:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/27/19 09:02	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/27/19 09:02	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/27/19 09:02	1
Styrene	ND		1.0	1.0	ug/L			07/27/19 09:02	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/27/19 09:02	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/27/19 09:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/27/19 09:02	1
Toluene	ND		1.0	0.41	ug/L			07/27/19 09:02	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 09:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/27/19 09:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/27/19 09:02	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/27/19 09:02	1
Trichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/27/19 09:02	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/27/19 09:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/27/19 09:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/27/19 09:02	1
Vinyl acetate	ND		25	2.0	ug/L			07/27/19 09:02	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Xylenes, Total	ND		10	1.6	ug/L			07/27/19 09:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*29*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/27/19 09:02*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 09:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/27/19 09:02*	*1*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/28/19 09:29*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/27/19 09:02*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/28/19 09:29*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/27/19 09:02*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 09:29*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Anthracene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Fluoranthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Fluorene	ND		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 06:45	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Date Collected: 07/22/19 15:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-8

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
1-Methylnaphthalene	**0.050**	**J B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
2-Methylnaphthalene	**0.074**	**J B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Phenanthrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Pyrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*122*		*15 - 122*	*07/25/19 08:28*	*08/07/19 06:45*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/25/19 08:28*	*08/07/19 06:45*	*1*
Terphenyl-d14	*142*	*X*	*33 - 138*	*07/25/19 08:28*	*08/07/19 06:45*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND	*	10	1.7	ug/L		07/25/19 08:28	07/31/19 02:10	1
Benzoic acid	ND	*	30	7.3	ug/L		07/25/19 08:28	07/31/19 02:10	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/31/19 02:10	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Dibenzofuran	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 02:10	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:10	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/31/19 02:10	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	07/31/19 02:10	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,6-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 02:10	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/25/19 08:28	07/31/19 02:10	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	07/31/19 02:10	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 02:10	1
Hexachloroethane	ND		10	4.2	ug/L		07/25/19 08:28	07/31/19 02:10	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:10	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/31/19 02:10	1
Nitrobenzene	ND		10	0.55	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	07/31/19 02:10	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Date Collected: 07/22/19 15:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-8

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:10	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/31/19 02:10	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	07/31/19 02:10	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/31/19 02:10	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*87*	*T J N*	*ug/L*		*3.78*	*590-90-9*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
13-Docosenamide, (Z)-	*8.5*	*T J N*	*ug/L*		*11.51*	*112-84-5*	*07/25/19 08:28*	*07/31/19 02:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*34 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
2-Fluorophenol	*33*		*10 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
Nitrobenzene-d5	*56*		*27 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
Phenol-d5	*43*		*10 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
Terphenyl-d14	*89*		*53 - 125*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
2,4,6-Tribromophenol	*93*		*15 - 135*	*07/25/19 08:28*	*07/31/19 02:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/25/19 08:28	08/09/19 22:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/09/19 22:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/25/19 08:28	08/09/19 22:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/25/19 08:28	08/09/19 22:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/25/19 08:28	08/09/19 22:33	1
Isophorone	ND		10	0.57	ug/L		07/25/19 08:28	08/09/19 22:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/09/19 22:33	1
Phenol	ND		10	2.6	ug/L		07/25/19 08:28	08/09/19 22:33	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/09/19 22:33	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173526-1	TB-PW-072219-B	95	100	99
400-173526-2	PD-17-GWP-50-072219	100	92	103
400-173526-2 - DL	PD-17-GWP-50-072219	98	95	103
400-173526-3	PD-17-GWP-50-072219-DUP	101	92	102
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	101	93	102
400-173526-4	PD-17-GWP-50-072219-EB	100	95	104
400-173526-4	PD-17-GWP-50-072219-EB	99	96	103
400-173526-5	PD-7-GWP-45-072219	98	94	104
400-173526-5 MS	PD-7-GWP-45-072219	100	95	102
400-173526-5 MSD	PD-7-GWP-45-072219	102	94	103
400-173526-6	PD-7-GWP-50-072219	99	93	103
400-173526-6 - DL	PD-7-GWP-50-072219	99	94	102
400-173526-7	PD-7-GWP-50-072219-DUP	101	92	105
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	97	95	103
400-173526-8	PD-7-GWP-50-072219-EB	99	96	102
400-173526-8	PD-7-GWP-50-072219-EB	100	96	103
LCS 400-449755/1002	Lab Control Sample	96	97	102
LCS 400-449805/1003	Lab Control Sample	100	95	103
LCS 400-449839/1002	Lab Control Sample	100	96	101
LCS 400-449985/1002	Lab Control Sample	94	100	97
MB 400-449755/5	Method Blank	97	97	102
MB 400-449805/5	Method Blank	99	96	102
MB 400-449839/4	Method Blank	99	96	102
MB 400-449985/4	Method Blank	97	99	97

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173526-2 - RA	PD-17-GWP-50-072219	83	37	75	36	69	100
400-173526-3	PD-17-GWP-50-072219-DUP	94	77	62	30	71	109
400-173526-4	PD-17-GWP-50-072219-EB	68	45	58	50	94	107
400-173526-5 - RA	PD-7-GWP-45-072219	86	53	81	55	60	71
400-173526-5 MS	PD-7-GWP-45-072219	58	47	84	56	36 X	57
400-173526-5 MSD	PD-7-GWP-45-072219	56	47	80	67	41 X	65
400-173526-6	PD-7-GWP-50-072219	98	0 X	0 X	11	67	101
400-173526-7 - RA	PD-7-GWP-50-072219-DUP	65	0 X	68	11	55	82
400-173526-8	PD-7-GWP-50-072219-EB	66	33	56	43	89	93
LCS 400-449448/20-A	Lab Control Sample	54	45	80	67	69	67
LCS 400-449448/22-A	Lab Control Sample	54	26	46	36	76	53
LCSD 400-449448/21-A	Lab Control Sample Dup	60	48	81	70	77	71
LCSD 400-449448/23-A	Lab Control Sample Dup	60	29	52	42	83	44
MB 400-449448/1-A	Method Blank	63	35	54	44	84	81

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173526-2	PD-17-GWP-50-072219	54	69	64
400-173526-2 - DL	PD-17-GWP-50-072219	89	73	67
400-173526-3	PD-17-GWP-50-072219-DUP			63
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	127 X	247 X	
400-173526-4	PD-17-GWP-50-072219-EB	106	87	200 X
400-173526-5	PD-7-GWP-45-072219	105	96	74
400-173526-5 MS	PD-7-GWP-45-072219	86	73	51
400-173526-5 MSD	PD-7-GWP-45-072219	81	66	56
400-173526-6	PD-7-GWP-50-072219	82	0 X	63
400-173526-7	PD-7-GWP-50-072219-DUP	42	56	46
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	107	137 X	68
400-173526-8	PD-7-GWP-50-072219-EB	122	80	142 X
LCS 400-449448/20-A	Lab Control Sample	75	73	93
LCSD 400-449448/21-A	Lab Control Sample Dup	82	87	94
MB 400-449448/1-A	Method Blank	86	85	111

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-072219-B

Lab Sample ID: 400-173526-1
Matrix: Water

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449985	07/30/19 12:55	AMB	TAL PEN

Client Sample ID: PD-17-GWP-50-072219

Lab Sample ID: 400-173526-2
Matrix: Water

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	449755	07/27/19 17:18	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	449839	07/29/19 20:52	WPD	TAL PEN
Total/NA	Prep	3520C	DL		984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450272	07/31/19 16:43	VC1	TAL PEN
Total/NA	Prep	3520C			984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 02:31	VC1	TAL PEN
Total/NA	Prep	3520C	RA		984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	450762	08/03/19 16:08	VC1	TAL PEN
Total/NA	Prep	3520C			984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 04:30	KJA	TAL PEN
Total/NA	Prep	3520C	DL		984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			451311	08/07/19 16:52	CAC	TAL PEN

Client Sample ID: PD-17-GWP-50-072219-DUP

Lab Sample ID: 400-173526-3
Matrix: Water

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	449755	07/27/19 17:45	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	449805	07/28/19 16:59	WPD	TAL PEN
Total/NA	Prep	3520C			965.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		5			450762	08/03/19 16:33	VC1	TAL PEN
Total/NA	Prep	3520C	DL		965.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	50			451504	08/08/19 15:58	KJA	TAL PEN
Total/NA	Prep	3520C			965.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451311	08/07/19 17:11	CAC	TAL PEN

Client Sample ID: PD-17-GWP-50-072219-EB

Lab Sample ID: 400-173526-4
Matrix: Water

Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 08:37	WPD	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:54	WPD	TAL PEN
Total/NA	Prep	3520C			996 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/31/19 03:14	VC1	TAL PEN
Total/NA	Prep	3520C	RA		996 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			451086	08/06/19 12:03	VC1	TAL PEN

Client Sample ID: PD-17-GWP-50-072219-EB

Lab Sample ID: 400-173526-4
Matrix: Water
Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			996 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 05:04	KJA	TAL PEN

Client Sample ID: PD-7-GWP-45-072219

Lab Sample ID: 400-173526-5
Matrix: Water
Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	449755	07/27/19 10:16	WPD	TAL PEN
Total/NA	Prep	3520C			997.6 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 01:27	VC1	TAL PEN
Total/NA	Prep	3520C	RA		997.6 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			450762	08/03/19 16:58	VC1	TAL PEN
Total/NA	Prep	3520C			997.6 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 05:21	KJA	TAL PEN

Client Sample ID: PD-7-GWP-50-072219

Lab Sample ID: 400-173526-6
Matrix: Water
Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449755	07/27/19 16:29	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	449805	07/28/19 15:42	WPD	TAL PEN
Total/NA	Prep	3520C			992.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	450762	08/03/19 17:23	VC1	TAL PEN
Total/NA	Prep	3520C	DL		992.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			451504	08/08/19 16:16	KJA	TAL PEN
Total/NA	Prep	3520C			992.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451311	08/07/19 17:28	CAC	TAL PEN

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7
Matrix: Water
Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449755	07/27/19 16:53	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	449805	07/28/19 16:07	WPD	TAL PEN
Total/NA	Prep	3520C	DL		980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450272	07/31/19 17:07	VC1	TAL PEN
Total/NA	Prep	3520C			980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 01:49	VC1	TAL PEN
Total/NA	Prep	3520C	RA		980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	450762	08/03/19 17:47	VC1	TAL PEN
Total/NA	Prep	3520C			980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 06:27	KJA	TAL PEN

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7

Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	7			451311	08/07/19 17:46	CAC	TAL PEN

Client Sample ID: PD-7-GWP-50-072219-EB

Lab Sample ID: 400-173526-8

Date Collected: 07/22/19 15:45
Matrix: Water
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 09:02	WPD	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:29	WPD	TAL PEN
Total/NA	Prep	3520C			1004.2 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 02:10	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1004.2 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			451665	08/09/19 22:33	VC1	TAL PEN
Total/NA	Prep	3520C			1004.2 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 06:45	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449448/1-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/30/19 22:58	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1000 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			451086	08/06/19 11:42	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450731	08/02/19 18:25	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449755/5

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 08:12	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449805/5

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:05	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449839/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:57	WPD	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449985/4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449985	07/30/19 10:54	AMB	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:17	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 20:45	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:17	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 18:41	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449448/22-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/30/19 23:19	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449755/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 06:59	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449805/1003
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 08:15	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449839/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:08	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449985/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449985	07/30/19 09:48	AMB	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 21:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 18:56	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449448/23-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/30/19 23:41	VC1	TAL PEN

Client Sample ID: PD-7-GWP-45-072219
Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	449755	07/27/19 11:06	WPD	TAL PEN
Total/NA	Prep	3520C			1008 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 21:27	VC1	TAL PEN
Total/NA	Prep	3520C			1008 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451069	08/07/19 05:38	KJA	TAL PEN

Client Sample ID: PD-7-GWP-45-072219
Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	449755	07/27/19 11:30	WPD	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	449448	07/25/19 21:38	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 21:48	VC1	TAL PEN

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5 MSD

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1023 mL	1 mL	449448	07/25/19 21:38	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451069	08/07/19 05:54	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

GC/MS VOA

Analysis Batch: 449755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	8260B	
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8260B	
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	8260B	
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	8260B	
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8260B	
MB 400-449755/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449755/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	8260B	
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	8260B	

Analysis Batch: 449805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8260B	
400-173526-6 - DL	PD-7-GWP-50-072219	Total/NA	Water	8260B	
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8260B	
MB 400-449805/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449805/1003	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	8260B	
MB 400-449839/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449839/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-1	TB-PW-072219-B	Total/NA	Water	8260B	
MB 400-449985/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449985/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	3520C	
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	3520C	
400-173526-2 - RA	PD-17-GWP-50-072219	Total/NA	Water	3520C	
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-4 - RA	PD-17-GWP-50-072219-EB	Total/NA	Water	3520C	
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	3520C	
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	3520C	
400-173526-5 - RA	PD-7-GWP-45-072219	Total/NA	Water	3520C	
400-173526-6 - DL	PD-7-GWP-50-072219	Total/NA	Water	3520C	
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	3520C	
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

GC/MS Semi VOA (Continued)

Prep Batch: 449448 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-7 - RA	PD-7-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	3520C	
400-173526-8 - RA	PD-7-GWP-50-072219-EB	Total/NA	Water	3520C	
MB 400-449448/1-A	Method Blank	Total/NA	Water	3520C	
MB 400-449448/1-A - RA	Method Blank	Total/NA	Water	3520C	
LCS 400-449448/20-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449448/22-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449448/21-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449448/23-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	3520C	
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	3520C	

Analysis Batch: 450054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8270D	449448
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D	449448
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8270D	449448
MB 400-449448/1-A	Method Blank	Total/NA	Water	8270D	449448
LCS 400-449448/22-A	Lab Control Sample	Total/NA	Water	8270D	449448
LCSD 400-449448/23-A	Lab Control Sample Dup	Total/NA	Water	8270D	449448

Analysis Batch: 450203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449448/20-A	Lab Control Sample	Total/NA	Water	8270D	449448
LCSD 400-449448/21-A	Lab Control Sample Dup	Total/NA	Water	8270D	449448
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448

Analysis Batch: 450272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D	449448

Analysis Batch: 450731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-449448/1-A	Method Blank	Total/NA	Water	8270D LL	449448
LCS 400-449448/20-A	Lab Control Sample	Total/NA	Water	8270D LL	449448
LCSD 400-449448/21-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449448

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - RA	PD-17-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	8270D	449448
400-173526-5 - RA	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-7 - RA	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D	449448

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

GC/MS Semi VOA

Analysis Batch: 451069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	8270D LL	449448
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8270D LL	449448
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	8270D LL	449448
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8270D LL	449448
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	8270D LL	449448
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	8270D LL	449448

Analysis Batch: 451086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-4 - RA	PD-17-GWP-50-072219-EB	Total/NA	Water	8270D	449448
MB 400-449448/1-A - RA	Method Blank	Total/NA	Water	8270D	449448

Analysis Batch: 451311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	8270D LL	449448
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	8270D LL	449448
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448

Analysis Batch: 451504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448
400-173526-6 - DL	PD-7-GWP-50-072219	Total/NA	Water	8270D LL	449448

Analysis Batch: 451665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-8 - RA	PD-7-GWP-50-072219-EB	Total/NA	Water	8270D	449448

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449755/5
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/27/19 08:12	1
Acrolein	ND		20	10	ug/L			07/27/19 08:12	1
Acrylonitrile	ND		10	2.8	ug/L			07/27/19 08:12	1
Benzene	ND		1.0	0.38	ug/L			07/27/19 08:12	1
Bromobenzene	ND		1.0	0.54	ug/L			07/27/19 08:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/27/19 08:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Bromoform	ND		5.0	0.71	ug/L			07/27/19 08:12	1
Bromomethane	ND		1.0	0.98	ug/L			07/27/19 08:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/27/19 08:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Chloroethane	ND		1.0	0.76	ug/L			07/27/19 08:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/27/19 08:12	1
Chloroform	ND		1.0	0.60	ug/L			07/27/19 08:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/27/19 08:12	1
Chloromethane	ND		1.0	0.83	ug/L			07/27/19 08:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/27/19 08:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/27/19 08:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/27/19 08:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/27/19 08:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/27/19 08:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/27/19 08:12	1
2-Hexanone	ND		25	3.1	ug/L			07/27/19 08:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/27/19 08:12	1
Methylene bromide	ND		5.0	0.59	ug/L			07/27/19 08:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/27/19 08:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/27/19 08:12	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/27/19 08:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/27/19 08:12	1
Naphthalene	ND		1.0	1.0	ug/L			07/27/19 08:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/27/19 08:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/27/19 08:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/27/19 08:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449755/5
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/27/19 08:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/27/19 08:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/27/19 08:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/27/19 08:12	1
Styrene	ND		1.0	1.0	ug/L			07/27/19 08:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/27/19 08:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/27/19 08:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/27/19 08:12	1
Toluene	ND		1.0	0.41	ug/L			07/27/19 08:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/27/19 08:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/27/19 08:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/27/19 08:12	1
Trichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/27/19 08:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/27/19 08:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/27/19 08:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/27/19 08:12	1
Vinyl acetate	ND		25	2.0	ug/L			07/27/19 08:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Xylenes, Total	ND		10	1.6	ug/L			07/27/19 08:12	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 08:12*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/27/19 08:12*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/27/19 08:12*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/27/19 08:12*	*1*

Lab Sample ID: LCS 400-449755/1002
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	274		ug/L		137	43 - 160
Acrolein	500	644		ug/L		129	38 - 160
Acrylonitrile	500	636		ug/L		127	64 - 142
Benzene	50.0	53.8		ug/L		108	70 - 130
Bromobenzene	50.0	54.3		ug/L		109	70 - 132
Bromochloromethane	50.0	54.9		ug/L		110	70 - 130
Bromodichloromethane	50.0	53.1		ug/L		106	67 - 133
Bromoform	50.0	62.3		ug/L		125	57 - 140
Bromomethane	50.0	38.3		ug/L		77	10 - 160
2-Butanone (MEK)	200	260		ug/L		130	61 - 145

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449755/1002
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	52.2		ug/L		104	61 - 137
Carbon tetrachloride	50.0	56.9		ug/L		114	61 - 137
Chlorobenzene	50.0	55.4		ug/L		111	70 - 130
Chloroethane	50.0	48.0		ug/L		96	55 - 141
2-Chloroethyl vinyl ether	50.0	51.4		ug/L		103	10 - 160
Chloroform	50.0	52.4		ug/L		105	69 - 130
1-Chlorohexane	50.0	58.7		ug/L		117	69 - 130
Chloromethane	50.0	47.9		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	57.2		ug/L		114	68 - 130
cis-1,3-Dichloropropene	50.0	57.5		ug/L		115	69 - 132
Dibromochloromethane	50.0	61.7		ug/L		123	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.0		ug/L		122	54 - 135
1,2-Dichlorobenzene	50.0	56.1		ug/L		112	67 - 130
1,3-Dichlorobenzene	50.0	56.1		ug/L		112	70 - 130
1,4-Dichlorobenzene	50.0	55.7		ug/L		111	70 - 130
Dichlorodifluoromethane	50.0	25.9		ug/L		52	41 - 146
1,1-Dichloroethane	50.0	57.3		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	53.0		ug/L		106	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	57.5		ug/L		115	70 - 130
1,3-Dichloropropane	50.0	58.6		ug/L		117	70 - 130
2,2-Dichloropropane	50.0	53.2		ug/L		106	52 - 135
1,1-Dichloropropene	50.0	52.3		ug/L		105	70 - 130
Ethylbenzene	50.0	55.8		ug/L		112	70 - 130
Ethylene Dibromide	50.0	56.1		ug/L		112	70 - 130
Ethyl methacrylate	50.0	63.6		ug/L		127	68 - 130
Hexachlorobutadiene	50.0	49.3		ug/L		99	53 - 140
2-Hexanone	200	301	*	ug/L		150	65 - 137
Isopropylbenzene	50.0	52.6		ug/L		105	70 - 130
Methylene bromide	50.0	50.7		ug/L		101	70 - 130
Methylene Chloride	50.0	54.5		ug/L		109	66 - 135
4-Methyl-2-pentanone (MIBK)	200	257		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	49.5		ug/L		99	66 - 130
m-Xylene & p-Xylene	50.0	54.4		ug/L		109	70 - 130
Naphthalene	50.0	54.3		ug/L		109	47 - 149
n-Butylbenzene	50.0	53.0		ug/L		106	67 - 130
N-Propylbenzene	50.0	55.9		ug/L		112	70 - 130
o-Chlorotoluene	50.0	53.9		ug/L		108	70 - 130
o-Xylene	50.0	54.5		ug/L		109	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	54.7		ug/L		109	65 - 130
sec-Butylbenzene	50.0	53.1		ug/L		106	66 - 130
Styrene	50.0	52.5		ug/L		105	70 - 130
tert-Butylbenzene	50.0	51.8		ug/L		104	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.6	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	59.5		ug/L		119	70 - 131
Tetrachloroethene	50.0	56.4		ug/L		113	65 - 130
Toluene	50.0	55.7		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	53.7		ug/L		107	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449755/1002
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	62.0		ug/L		124	63 - 130
1,2,3-Trichlorobenzene	50.0	53.1		ug/L		106	60 - 138
1,2,4-Trichlorobenzene	50.0	51.5		ug/L		103	60 - 140
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	59.3		ug/L		119	70 - 130
Trichloroethene	50.0	53.6		ug/L		107	70 - 130
Trichlorofluoromethane	50.0	41.8		ug/L		84	65 - 138
1,2,3-Trichloropropane	50.0	57.1		ug/L		114	70 - 130
1,2,4-Trimethylbenzene	50.0	52.8		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	52.9		ug/L		106	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	47.2		ug/L		94	59 - 136
Xylenes, Total	100	109		ug/L		109	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		400	490		ug/L		122	43 - 150
Acrolein	ND		1000	1060		ug/L		106	38 - 150
Acrylonitrile	ND		1000	1260		ug/L		126	62 - 149
Benzene	400		100	490		ug/L		93	56 - 142
Bromobenzene	ND		100	118		ug/L		118	59 - 136
Bromochloromethane	ND		100	113		ug/L		113	64 - 140
Bromodichloromethane	ND		100	108		ug/L		108	59 - 143
Bromoform	ND		100	128		ug/L		128	50 - 140
Bromomethane	ND		100	72.2		ug/L		72	10 - 150
2-Butanone (MEK)	ND		400	474		ug/L		119	55 - 150
Carbon disulfide	ND		100	107		ug/L		107	48 - 150
Carbon tetrachloride	ND		100	117		ug/L		117	55 - 145
Chlorobenzene	ND		100	115		ug/L		115	64 - 130
Chloroethane	ND		100	85.7		ug/L		86	50 - 150
2-Chloroethyl vinyl ether	ND		100	93.2		ug/L		93	10 - 150
Chloroform	ND		100	109		ug/L		109	60 - 141
1-Chlorohexane	ND		100	126		ug/L		126	56 - 136
Chloromethane	ND		100	84.2		ug/L		84	49 - 148
cis-1,2-Dichloroethene	ND		100	119		ug/L		119	59 - 143
cis-1,3-Dichloropropene	ND		100	119		ug/L		119	57 - 140
Dibromochloromethane	ND		100	122		ug/L		122	56 - 143
1,2-Dibromo-3-Chloropropane	ND		100	122		ug/L		122	45 - 135
1,2-Dichlorobenzene	ND		100	119		ug/L		119	52 - 137
1,3-Dichlorobenzene	ND		100	119		ug/L		119	54 - 135

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		100	117		ug/L		117	53 - 135
Dichlorodifluoromethane	ND		100	46.1		ug/L		46	16 - 150
1,1-Dichloroethane	ND		100	121		ug/L		121	61 - 144
1,2-Dichloroethane	ND		100	118		ug/L		118	60 - 141
1,1-Dichloroethene	ND		100	101		ug/L		101	54 - 147
1,2-Dichloropropane	ND		100	122		ug/L		122	66 - 137
1,3-Dichloropropane	ND		100	119		ug/L		119	66 - 133
2,2-Dichloropropane	ND		100	111		ug/L		111	42 - 144
1,1-Dichloropropene	ND		100	110		ug/L		110	65 - 136
Ethylbenzene	15		100	133		ug/L		118	58 - 131
Ethylene Dibromide	ND		100	115		ug/L		115	64 - 132
Ethyl methacrylate	ND	F1	100	134	F1	ug/L		134	64 - 130
Hexachlorobutadiene	ND		100	103		ug/L		103	31 - 149
2-Hexanone	ND	*	400	534		ug/L		133	65 - 140
Isopropylbenzene	11		100	124		ug/L		113	56 - 133
Methylene bromide	ND		100	103		ug/L		103	63 - 138
Methylene Chloride	ND		100	114		ug/L		114	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		400	493		ug/L		123	63 - 146
Methyl tert-butyl ether	ND		100	103		ug/L		103	59 - 137
m-Xylene & p-Xylene	27		100	142		ug/L		115	57 - 130
Naphthalene	13		100	130		ug/L		117	25 - 150
n-Butylbenzene	ND		100	118		ug/L		118	41 - 142
N-Propylbenzene	17		100	140		ug/L		123	51 - 138
o-Chlorotoluene	ND		100	125		ug/L		125	53 - 134
o-Xylene	ND		100	121		ug/L		121	61 - 130
p-Chlorotoluene	ND		100	119		ug/L		119	54 - 133
p-Isopropyltoluene	7.0		100	129		ug/L		122	48 - 139
sec-Butylbenzene	12		100	129		ug/L		117	50 - 138
Styrene	ND		100	110		ug/L		110	58 - 131
tert-Butylbenzene	ND		100	139		ug/L		139	54 - 146
1,1,1,2-Tetrachloroethane	ND	*	100	136		ug/L		136	59 - 137
1,1,2,2-Tetrachloroethane	ND		100	126		ug/L		126	66 - 135
Tetrachloroethene	ND		100	112		ug/L		112	52 - 133
Toluene	ND		100	117		ug/L		117	65 - 130
trans-1,2-Dichloroethene	ND		100	113		ug/L		113	61 - 143
trans-1,3-Dichloropropene	ND		100	127		ug/L		127	53 - 133
1,2,3-Trichlorobenzene	ND		100	110		ug/L		110	43 - 145
1,2,4-Trichlorobenzene	ND		100	112		ug/L		112	39 - 148
1,1,1-Trichloroethane	ND		100	107		ug/L		107	57 - 142
1,1,2-Trichloroethane	ND		100	121		ug/L		121	66 - 131
Trichloroethene	ND		100	110		ug/L		110	64 - 136
Trichlorofluoromethane	ND		100	73.1		ug/L		73	54 - 150
1,2,3-Trichloropropane	ND		100	118		ug/L		118	65 - 133
1,2,4-Trimethylbenzene	110		100	224		ug/L		114	50 - 139
1,3,5-Trimethylbenzene	26		100	140		ug/L		114	52 - 135
Vinyl acetate	ND		200	192		ug/L		96	26 - 150
Vinyl chloride	ND		100	83.1		ug/L		83	46 - 150
Xylenes, Total	27		200	263		ug/L		118	59 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		400	423		ug/L		106	43 - 150	15	30
Acrolein	ND		1000	1080		ug/L		108	38 - 150	2	31
Acrylonitrile	ND		1000	1180		ug/L		118	62 - 149	7	30
Benzene	400		100	483		ug/L		86	56 - 142	1	30
Bromobenzene	ND		100	104		ug/L		104	59 - 136	13	30
Bromochloromethane	ND		100	106		ug/L		106	64 - 140	6	30
Bromodichloromethane	ND		100	102		ug/L		102	59 - 143	6	30
Bromoform	ND		100	117		ug/L		117	50 - 140	9	30
Bromomethane	ND		100	75.2		ug/L		75	10 - 150	4	50
2-Butanone (MEK)	ND		400	415		ug/L		104	55 - 150	13	30
Carbon disulfide	ND		100	106		ug/L		106	48 - 150	1	30
Carbon tetrachloride	ND		100	111		ug/L		111	55 - 145	5	30
Chlorobenzene	ND		100	103		ug/L		103	64 - 130	10	30
Chloroethane	ND		100	89.9		ug/L		90	50 - 150	5	30
2-Chloroethyl vinyl ether	ND		100	96.1		ug/L		96	10 - 150	3	50
Chloroform	ND		100	104		ug/L		104	60 - 141	4	30
1-Chlorohexane	ND		100	115		ug/L		115	56 - 136	9	30
Chloromethane	ND		100	90.2		ug/L		90	49 - 148	7	31
cis-1,2-Dichloroethene	ND		100	113		ug/L		113	59 - 143	5	30
cis-1,3-Dichloropropene	ND		100	111		ug/L		111	57 - 140	7	30
Dibromochloromethane	ND		100	114		ug/L		114	56 - 143	7	30
1,2-Dibromo-3-Chloropropane	ND		100	113		ug/L		113	45 - 135	8	30
1,2-Dichlorobenzene	ND		100	100		ug/L		100	52 - 137	17	30
1,3-Dichlorobenzene	ND		100	98.4		ug/L		98	54 - 135	19	30
1,4-Dichlorobenzene	ND		100	96.6		ug/L		97	53 - 135	19	30
Dichlorodifluoromethane	ND		100	47.6		ug/L		48	16 - 150	3	31
1,1-Dichloroethane	ND		100	115		ug/L		115	61 - 144	5	30
1,2-Dichloroethane	ND		100	110		ug/L		110	60 - 141	7	30
1,1-Dichloroethene	ND		100	97.5		ug/L		98	54 - 147	3	30
1,2-Dichloropropane	ND		100	116		ug/L		116	66 - 137	5	30
1,3-Dichloropropane	ND		100	113		ug/L		113	66 - 133	5	30
2,2-Dichloropropane	ND		100	109		ug/L		109	42 - 144	2	31
1,1-Dichloropropene	ND		100	104		ug/L		104	65 - 136	5	30
Ethylbenzene	15		100	121		ug/L		106	58 - 131	10	30
Ethylene Dibromide	ND		100	107		ug/L		107	64 - 132	7	30
Ethyl methacrylate	ND	F1	100	129		ug/L		129	64 - 130	4	30
Hexachlorobutadiene	ND		100	80.1		ug/L		80	31 - 149	25	36
2-Hexanone	ND	*	400	485		ug/L		121	65 - 140	9	30
Isopropylbenzene	11		100	109		ug/L		98	56 - 133	13	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		100	95.0		ug/L		95	63 - 138	8	30
Methylene Chloride	ND		100	108		ug/L		108	60 - 146	5	32
4-Methyl-2-pentanone (MIBK)	ND		400	454		ug/L		114	63 - 146	8	30
Methyl tert-butyl ether	ND		100	100		ug/L		100	59 - 137	3	30
m-Xylene & p-Xylene	27		100	127		ug/L		101	57 - 130	11	30
Naphthalene	13		100	120		ug/L		107	25 - 150	8	30
n-Butylbenzene	ND		100	93.9		ug/L		94	41 - 142	23	31
N-Propylbenzene	17		100	121		ug/L		104	51 - 138	14	30
o-Chlorotoluene	ND		100	109		ug/L		109	53 - 134	14	30
o-Xylene	ND		100	107		ug/L		107	61 - 130	12	30
p-Chlorotoluene	ND		100	101		ug/L		101	54 - 133	16	30
p-Isopropyltoluene	7.0		100	108		ug/L		101	48 - 139	18	30
sec-Butylbenzene	12		100	110		ug/L		98	50 - 138	16	30
Styrene	ND		100	95.7		ug/L		96	58 - 131	14	30
tert-Butylbenzene	ND		100	123		ug/L		123	54 - 146	13	30
1,1,1,2-Tetrachloroethane	ND	*	100	124		ug/L		124	59 - 137	9	30
1,1,2,2-Tetrachloroethane	ND		100	116		ug/L		116	66 - 135	9	30
Tetrachloroethene	ND		100	101		ug/L		101	52 - 133	10	30
Toluene	ND		100	109		ug/L		109	65 - 130	7	30
trans-1,2-Dichloroethene	ND		100	107		ug/L		107	61 - 143	6	30
trans-1,3-Dichloropropene	ND		100	121		ug/L		121	53 - 133	5	30
1,2,3-Trichlorobenzene	ND		100	92.6		ug/L		93	43 - 145	17	30
1,2,4-Trichlorobenzene	ND		100	87.9		ug/L		88	39 - 148	24	30
1,1,1-Trichloroethane	ND		100	103		ug/L		103	57 - 142	4	30
1,1,2-Trichloroethane	ND		100	114		ug/L		114	66 - 131	6	30
Trichloroethene	ND		100	103		ug/L		103	64 - 136	7	30
Trichlorofluoromethane	ND		100	75.9		ug/L		76	54 - 150	4	30
1,2,3-Trichloropropane	ND		100	111		ug/L		111	65 - 133	6	30
1,2,4-Trimethylbenzene	110		100	203		ug/L		93	50 - 139	10	30
1,3,5-Trimethylbenzene	26		100	123		ug/L		97	52 - 135	13	30
Vinyl acetate	ND		200	212		ug/L		106	26 - 150	10	33
Vinyl chloride	ND		100	89.3		ug/L		89	46 - 150	7	30
Xylenes, Total	27		200	235		ug/L		104	59 - 130	11	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:05	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/28/19 09:05*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		07/28/19 09:05	1
Dibromofluoromethane	96		81 - 121		07/28/19 09:05	1
Toluene-d8 (Surr)	102		80 - 120		07/28/19 09:05	1

Lab Sample ID: LCS 400-449805/1003
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	55.4		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	103		80 - 120

Lab Sample ID: MB 400-449839/4
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/29/19 10:57	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/29/19 10:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		07/29/19 10:57	1
Dibromofluoromethane	96		81 - 121		07/29/19 10:57	1
Toluene-d8 (Surr)	102		80 - 120		07/29/19 10:57	1

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.5		ug/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		78 - 118
Dibromofluoromethane	96		81 - 121
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 400-449985/4
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 10:54	1
Acrolein	ND		20	10	ug/L			07/30/19 10:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449985/4
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 10:54	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 10:54	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 10:54	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 10:54	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 10:54	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 10:54	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 10:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 10:54	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 10:54	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 10:54	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 10:54	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 10:54	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:54	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 10:54	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 10:54	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 10:54	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 10:54	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 10:54	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 10:54	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 10:54	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 10:54	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 10:54	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 10:54	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 10:54	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 10:54	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 10:54	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 10:54	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 10:54	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 10:54	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 10:54	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 10:54	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 10:54	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 10:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449985/4
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 10:54	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 10:54	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 10:54	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 10:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 10:54	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 10:54	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:54	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 10:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 10:54	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 10:54	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 10:54	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 10:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 10:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 10:54	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 10:54	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 10:54	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 10:54*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 10:54*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/30/19 10:54*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/30/19 10:54*	*1*

Lab Sample ID: LCS 400-449985/1002
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	207		ug/L		104	43 - 160
Acrolein	500	544		ug/L		109	38 - 160
Acrylonitrile	500	558		ug/L		112	64 - 142
Benzene	50.0	49.1		ug/L		98	70 - 130
Bromobenzene	50.0	46.8		ug/L		94	70 - 132
Bromochloromethane	50.0	46.9		ug/L		94	70 - 130
Bromodichloromethane	50.0	47.4		ug/L		95	67 - 133
Bromoform	50.0	42.1		ug/L		84	57 - 140
Bromomethane	50.0	44.2		ug/L		88	10 - 160
2-Butanone (MEK)	200	200		ug/L		100	61 - 145
Carbon disulfide	50.0	45.7		ug/L		91	61 - 137
Carbon tetrachloride	50.0	47.9		ug/L		96	61 - 137
Chlorobenzene	50.0	48.8		ug/L		98	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449985/1002
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	50.3		ug/L		101	55 - 141
2-Chloroethyl vinyl ether	50.0	51.6		ug/L		103	10 - 160
Chloroform	50.0	48.1		ug/L		96	69 - 130
1-Chlorohexane	50.0	51.2		ug/L		102	69 - 130
Chloromethane	50.0	57.2		ug/L		114	58 - 137
cis-1,2-Dichloroethene	50.0	50.3		ug/L		101	68 - 130
cis-1,3-Dichloropropene	50.0	47.4		ug/L		95	69 - 132
Dibromochloromethane	50.0	45.4		ug/L		91	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/L		89	54 - 135
1,2-Dichlorobenzene	50.0	47.4		ug/L		95	67 - 130
1,3-Dichlorobenzene	50.0	46.4		ug/L		93	70 - 130
1,4-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130
Dichlorodifluoromethane	50.0	48.0		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	51.0		ug/L		102	70 - 130
1,2-Dichloroethane	50.0	47.9		ug/L		96	69 - 130
1,1-Dichloroethene	50.0	49.1		ug/L		98	63 - 134
1,2-Dichloropropane	50.0	52.1		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	49.8		ug/L		100	70 - 130
2,2-Dichloropropane	50.0	44.4		ug/L		89	52 - 135
1,1-Dichloropropene	50.0	47.7		ug/L		95	70 - 130
Ethylbenzene	50.0	47.6		ug/L		95	70 - 130
Ethylene Dibromide	50.0	48.9		ug/L		98	70 - 130
Ethyl methacrylate	50.0	48.0		ug/L		96	68 - 130
Hexachlorobutadiene	50.0	49.0		ug/L		98	53 - 140
2-Hexanone	200	204		ug/L		102	65 - 137
Isopropylbenzene	50.0	46.7		ug/L		93	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	44.3		ug/L		89	66 - 135
4-Methyl-2-pentanone (MIBK)	200	225		ug/L		113	69 - 138
Methyl tert-butyl ether	50.0	44.7		ug/L		89	66 - 130
m-Xylene & p-Xylene	50.0	47.8		ug/L		96	70 - 130
Naphthalene	50.0	48.0		ug/L		96	47 - 149
n-Butylbenzene	50.0	47.7		ug/L		95	67 - 130
N-Propylbenzene	50.0	46.5		ug/L		93	70 - 130
o-Chlorotoluene	50.0	46.0		ug/L		92	70 - 130
o-Xylene	50.0	48.2		ug/L		96	70 - 130
p-Chlorotoluene	50.0	47.2		ug/L		94	70 - 130
p-Isopropyltoluene	50.0	46.6		ug/L		93	65 - 130
sec-Butylbenzene	50.0	47.0		ug/L		94	66 - 130
Styrene	50.0	46.2		ug/L		92	70 - 130
tert-Butylbenzene	50.0	45.9		ug/L		92	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.1		ug/L		94	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.5		ug/L		99	70 - 131
Tetrachloroethene	50.0	47.3		ug/L		95	65 - 130
Toluene	50.0	46.7		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	49.4		ug/L		99	70 - 130
trans-1,3-Dichloropropene	50.0	44.9		ug/L		90	63 - 130
1,2,3-Trichlorobenzene	50.0	45.5		ug/L		91	60 - 138
1,2,4-Trichlorobenzene	50.0	48.7		ug/L		97	60 - 140

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449985/1002
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	47.8		ug/L		96	68 - 130
1,1,2-Trichloroethane	50.0	49.5		ug/L		99	70 - 130
Trichloroethene	50.0	49.2		ug/L		98	70 - 130
Trichlorofluoromethane	50.0	47.7		ug/L		95	65 - 138
1,2,3-Trichloropropane	50.0	47.6		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	50.0	46.5		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	100	102		ug/L		102	26 - 160
Vinyl chloride	50.0	52.6		ug/L		105	59 - 136
Xylenes, Total	100	96.0		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*97*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	07/30/19 22:58	1
Benzoic acid	ND		30	7.3	ug/L		07/25/19 08:28	07/30/19 22:58	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/30/19 22:58	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
Dibenzofuran	ND		10	0.52	ug/L		07/25/19 08:28	07/30/19 22:58	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/30/19 22:58	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/30/19 22:58	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	07/30/19 22:58	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/30/19 22:58	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/25/19 08:28	07/30/19 22:58	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	07/30/19 22:58	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/30/19 22:58	1
Hexachloroethane	ND		10	4.2	ug/L		07/25/19 08:28	07/30/19 22:58	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/30/19 22:58	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/30/19 22:58	1
Nitrobenzene	ND		10	0.55	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	07/30/19 22:58	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	07/30/19 22:58	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/30/19 22:58	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	07/30/19 22:58	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/30/19 22:58	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/30/19 22:58	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/25/19 08:28*	*07/30/19 22:58*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*34 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
Phenol-d5	*44*		*10 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
Terphenyl-d14	*84*		*53 - 125*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
2,4,6-Tribromophenol	*81*		*15 - 135*	*07/25/19 08:28*	*07/30/19 22:58*	*1*

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	24.0		ug/L		80	29 - 120
Benzoic acid	117	35.1		ug/L		30	10 - 150
Benzyl alcohol	30.0	24.7		ug/L		82	19 - 125
Bis(2-chloroethoxy)methane	30.0	16.6		ug/L		55	45 - 120
Bis(2-chloroethyl)ether	30.0	16.0		ug/L		53	48 - 120
bis (2-chloroisopropyl) ether	30.0	15.2		ug/L		51	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	18.8		ug/L		63	48 - 150
4-Bromophenyl phenyl ether	30.0	18.5		ug/L		62	55 - 122
Butyl benzyl phthalate	30.0	17.4		ug/L		58	46 - 145
4-Chloroaniline	30.0	22.5		ug/L		75	30 - 120
4-Chloro-3-methylphenol	30.0	18.4		ug/L		61	39 - 140
2-Chloronaphthalene	30.0	15.8		ug/L		53	52 - 120
2-Chlorophenol	30.0	17.0		ug/L		57	34 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorophenyl phenyl ether	30.0	17.7		ug/L		59	58 - 124
Dibenz[a,h]acridine	30.0	17.2		ug/L		57	46 - 149
Dibenzofuran	30.0	17.3		ug/L		58	58 - 123
3,3'-Dichlorobenzidine	40.0	38.7		ug/L		97	39 - 135
2,4-Dichlorophenol	30.0	19.8		ug/L		66	39 - 128
Diethyl phthalate	30.0	22.4		ug/L		75	44 - 146
2,4-Dimethylphenol	30.0	22.3		ug/L		74	44 - 120
Dimethyl phthalate	30.0	18.1		ug/L		60	50 - 131
Di-n-butyl phthalate	30.0	21.3		ug/L		71	55 - 131
4,6-Dinitro-ortho-cresol	60.0	50.2		ug/L		84	10 - 150
2,4-Dinitrophenol	60.0	60.7		ug/L		101	10 - 150
2,4-Dinitrotoluene	30.0	16.9	*	ug/L		56	58 - 140
2,6-Dinitrotoluene	30.0	16.4	*	ug/L		55	57 - 130
Di-n-octyl phthalate	30.0	18.6		ug/L		62	50 - 150
1,4-Dioxane	30.0	14.0		ug/L		47	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	21.1		ug/L		70	47 - 123
Hexachlorobenzene	30.0	22.7		ug/L		76	52 - 131
Hexachlorocyclopentadiene	30.0	10.8	J	ug/L		36	10 - 129
Hexachloroethane	30.0	14.8		ug/L		49	41 - 120
Indene	30.0	19.7		ug/L		66	47 - 120
Isophorone	30.0	19.9		ug/L		66	49 - 120
2-Methylphenol	30.0	22.0		ug/L		73	39 - 123
3 & 4 Methylphenol	30.0	23.6		ug/L		79	38 - 121
2-Nitroaniline	30.0	22.8		ug/L		76	47 - 150
3-Nitroaniline	30.0	23.0		ug/L		77	34 - 132
4-Nitroaniline	30.0	21.8		ug/L		73	41 - 135
Nitrobenzene	30.0	21.0		ug/L		70	47 - 120
2-Nitrophenol	30.0	19.2		ug/L		64	28 - 136
4-Nitrophenol	60.0	51.7		ug/L		86	10 - 150
N-Nitrosodimethylamine	30.0	24.9		ug/L		83	22 - 148
N-Nitrosodi-n-propylamine	30.0	27.9		ug/L		93	44 - 120
N-Nitrosodiphenylamine	29.8	17.9		ug/L		60	56 - 120
Pentachlorophenol	60.0	40.8		ug/L		68	15 - 141
Phenol	30.0	17.5		ug/L		58	33 - 120
Pyridine	60.0	32.5		ug/L		54	26 - 120
Quinoline	30.0	18.8		ug/L		63	51 - 129
2,4,5-Trichlorophenol	30.0	18.7		ug/L		62	38 - 147
2,4,6-Trichlorophenol	30.0	19.4		ug/L		65	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*34 - 120*
2-Fluorophenol	*45*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*69*		*53 - 125*
2,4,6-Tribromophenol	*67*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449448/22-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		1	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*34 - 120*
2-Fluorophenol	*26*		*10 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d5	*36*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*53*		*15 - 135*

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	29.2		ug/L		97	29 - 120	19	30
Benzoic acid	117	48.9	*	ug/L		42	10 - 150	33	30
Benzyl alcohol	30.0	27.9		ug/L		93	19 - 125	12	30
Bis(2-chloroethoxy)methane	30.0	18.5		ug/L		62	45 - 120	11	30
Bis(2-chloroethyl)ether	30.0	16.1		ug/L		54	48 - 120	1	30
bis (2-chloroisopropyl) ether	30.0	17.7		ug/L		59	30 - 125	15	30
Bis(2-ethylhexyl) phthalate	30.0	23.5		ug/L		78	48 - 150	22	30
4-Bromophenyl phenyl ether	30.0	22.5		ug/L		75	55 - 122	19	30
Butyl benzyl phthalate	30.0	20.9		ug/L		70	46 - 145	18	30
4-Chloroaniline	30.0	25.2		ug/L		84	30 - 120	11	30
4-Chloro-3-methylphenol	30.0	20.6		ug/L		69	39 - 140	11	30
2-Chloronaphthalene	30.0	18.3		ug/L		61	52 - 120	15	30
2-Chlorophenol	30.0	20.0		ug/L		67	34 - 120	16	30
4-Chlorophenyl phenyl ether	30.0	20.7		ug/L		69	58 - 124	16	30
Dibenz[a,h]acridine	30.0	19.3		ug/L		64	46 - 149	11	30
Dibenzofuran	30.0	20.4		ug/L		68	58 - 123	16	30
3,3'-Dichlorobenzidine	40.0	42.0		ug/L		105	39 - 135	8	30
2,4-Dichlorophenol	30.0	23.4		ug/L		78	39 - 128	16	30
Diethyl phthalate	30.0	26.1		ug/L		87	44 - 146	16	30
2,4-Dimethylphenol	30.0	26.3		ug/L		88	44 - 120	17	30
Dimethyl phthalate	30.0	21.5		ug/L		72	50 - 131	17	30
Di-n-butyl phthalate	30.0	24.3		ug/L		81	55 - 131	14	30
4,6-Dinitro-ortho-cresol	60.0	58.1		ug/L		97	10 - 150	15	30
2,4-Dinitrophenol	60.0	67.5		ug/L		112	10 - 150	11	30
2,4-Dinitrotoluene	30.0	20.0		ug/L		67	58 - 140	17	30
2,6-Dinitrotoluene	30.0	19.9		ug/L		66	57 - 130	19	30
Di-n-octyl phthalate	30.0	21.7		ug/L		72	50 - 150	16	30
1,4-Dioxane	30.0	16.4		ug/L		55	25 - 120	15	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	25.4		ug/L		85	47 - 123	19	30
Hexachlorobenzene	30.0	27.3		ug/L		91	52 - 131	18	30
Hexachlorocyclopentadiene	30.0	11.6	J	ug/L		39	10 - 129	7	30
Hexachloroethane	30.0	16.4		ug/L		55	41 - 120	10	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene	30.0	19.5		ug/L		65	47 - 120	1	30
Isophorone	30.0	21.9		ug/L		73	49 - 120	9	30
2-Methylphenol	30.0	25.7		ug/L		86	39 - 123	16	30
3 & 4 Methylphenol	30.0	28.1		ug/L		94	38 - 121	18	30
2-Nitroaniline	30.0	27.4		ug/L		91	47 - 150	18	30
3-Nitroaniline	30.0	26.9		ug/L		90	34 - 132	16	30
4-Nitroaniline	30.0	25.9		ug/L		86	41 - 135	17	30
Nitrobenzene	30.0	23.3		ug/L		78	47 - 120	10	30
2-Nitrophenol	30.0	22.6		ug/L		75	28 - 136	16	30
4-Nitrophenol	60.0	56.5		ug/L		94	10 - 150	9	30
N-Nitrosodimethylamine	30.0	29.0		ug/L		97	22 - 148	15	30
N-Nitrosodi-n-propylamine	30.0	31.7		ug/L		106	44 - 120	13	30
N-Nitrosodiphenylamine	29.8	22.4		ug/L		75	56 - 120	22	30
Pentachlorophenol	60.0	48.6		ug/L		81	15 - 141	17	30
Phenol	30.0	20.3		ug/L		68	33 - 120	15	30
Pyridine	60.0	39.3		ug/L		66	26 - 120	19	30
Quinoline	30.0	22.8		ug/L		76	51 - 129	19	30
2,4,5-Trichlorophenol	30.0	22.4		ug/L		75	38 - 147	18	30
2,4,6-Trichlorophenol	30.0	23.5		ug/L		78	36 - 139	19	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*48*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*70*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Lab Sample ID: LCSD 400-449448/23-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120	64	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*29*		*10 - 120*
Nitrobenzene-d5	*52*		*27 - 120*
Phenol-d5	*42*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*44*		*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.8	22.2		ug/L		75	10 - 143
Benzoic acid	ND	*	116	55.0		ug/L		48	10 - 134
Benzyl alcohol	ND		29.8	27.6		ug/L		93	10 - 154
Bis(2-chloroethoxy)methane	ND		29.8	19.1		ug/L		64	14 - 147
Bis(2-chloroethyl)ether	ND		29.8	18.8		ug/L		63	28 - 130
bis (2-chloroisopropyl) ether	ND		29.8	17.5		ug/L		59	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.8	21.1		ug/L		71	43 - 160
4-Bromophenyl phenyl ether	ND		29.8	21.1		ug/L		71	26 - 159
Butyl benzyl phthalate	ND		29.8	18.8		ug/L		63	43 - 151
4-Chloroaniline	ND		29.8	23.4		ug/L		79	10 - 152
4-Chloro-3-methylphenol	ND		29.8	18.5		ug/L		62	17 - 156
2-Chloronaphthalene	ND		29.8	18.0		ug/L		60	10 - 155
2-Chlorophenol	ND		29.8	17.9		ug/L		60	19 - 130
4-Chlorophenyl phenyl ether	ND		29.8	19.8		ug/L		66	25 - 161
Dibenz[a,h]acridine	ND		29.8	16.3		ug/L		55	42 - 147
Dibenzofuran	ND		29.8	19.7		ug/L		66	18 - 157
3,3'-Dichlorobenzidine	ND		39.7	24.5		ug/L		62	10 - 172
2,4-Dichlorophenol	ND		29.8	20.4		ug/L		69	16 - 147
Diethyl phthalate	ND		29.8	20.7		ug/L		69	23 - 160
2,4-Dimethylphenol	ND		29.8	24.7		ug/L		83	25 - 146
Dimethyl phthalate	ND		29.8	17.7		ug/L		59	11 - 158
Di-n-butyl phthalate	ND		29.8	21.1		ug/L		71	28 - 162
4,6-Dinitro-ortho-cresol	ND		59.5	50.3		ug/L		85	10 - 168
2,4-Dinitrophenol	ND		59.5	62.6		ug/L		105	10 - 166
2,4-Dinitrotoluene	ND	*	29.8	19.2		ug/L		65	26 - 158
2,6-Dinitrotoluene	ND	*	29.8	18.5		ug/L		62	19 - 157
Di-n-octyl phthalate	ND		29.8	20.5		ug/L		69	42 - 150
1,4-Dioxane	ND		29.8	11.2		ug/L		38	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.8	23.3		ug/L		78	19 - 162
Hexachlorobenzene	ND		29.8	28.7		ug/L		96	45 - 145
Hexachlorocyclopentadiene	ND		29.8	11.3	J	ug/L		38	10 - 151
Hexachloroethane	ND		29.8	20.4		ug/L		68	29 - 130
Indene	ND		29.8	20.5		ug/L		69	22 - 130
Isophorone	ND		29.8	23.0		ug/L		77	24 - 144
2-Methylphenol	ND		29.8	22.9		ug/L		77	22 - 130
3 & 4 Methylphenol	ND		29.8	23.1		ug/L		78	31 - 130
2-Nitroaniline	ND		29.8	26.3		ug/L		88	10 - 162
3-Nitroaniline	ND		29.8	23.7		ug/L		80	10 - 163
4-Nitroaniline	ND		29.8	23.1		ug/L		78	10 - 162
Nitrobenzene	ND		29.8	25.2		ug/L		85	34 - 135
2-Nitrophenol	ND		29.8	19.3		ug/L		65	27 - 134
4-Nitrophenol	ND		59.5	45.1		ug/L		76	10 - 175
N-Nitrosodimethylamine	ND		29.8	26.7		ug/L		90	10 - 139
N-Nitrosodi-n-propylamine	ND		29.8	32.0		ug/L		108	13 - 147
N-Nitrosodiphenylamine	ND		29.5	19.0		ug/L		64	31 - 150
Pentachlorophenol	ND		59.5	45.2		ug/L		76	10 - 180
Phenol	ND		29.8	18.3		ug/L		62	23 - 130
Pyridine	ND		59.5	35.8		ug/L		60	10 - 130

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	ND		29.8	14.6		ug/L		49	10 - 180
2,4,5-Trichlorophenol	ND		29.8	18.6		ug/L		63	43 - 137
2,4,6-Trichlorophenol	ND		29.8	18.1		ug/L		61	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*34 - 120*
2-Fluorophenol	*47*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*56*		*10 - 120*
Terphenyl-d14	*36*	*X*	*53 - 125*
2,4,6-Tribromophenol	*57*		*15 - 135*

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		29.3	19.0		ug/L		65	10 - 143	15	63
Benzoic acid	ND	*	114	70.1		ug/L		62	10 - 134	24	49
Benzyl alcohol	ND		29.3	24.8		ug/L		85	10 - 154	11	37
Bis(2-chloroethoxy)methane	ND		29.3	17.0		ug/L		58	14 - 147	12	70
Bis(2-chloroethyl)ether	ND		29.3	17.6		ug/L		60	28 - 130	6	42
bis (2-chloroisopropyl) ether	ND		29.3	15.8		ug/L		54	10 - 141	10	41
Bis(2-ethylhexyl) phthalate	ND		29.3	21.9		ug/L		75	43 - 160	4	35
4-Bromophenyl phenyl ether	ND		29.3	21.3		ug/L		72	26 - 159	1	30
Butyl benzyl phthalate	ND		29.3	20.3		ug/L		69	43 - 151	8	32
4-Chloroaniline	ND		29.3	21.6		ug/L		74	10 - 152	8	94
4-Chloro-3-methylphenol	ND		29.3	19.4		ug/L		66	17 - 156	5	40
2-Chloronaphthalene	ND		29.3	18.0		ug/L		61	10 - 155	0	29
2-Chlorophenol	ND		29.3	18.8		ug/L		64	19 - 130	5	42
4-Chlorophenyl phenyl ether	ND		29.3	19.5		ug/L		66	25 - 161	1	27
Dibenz[a,h]acridine	ND		29.3	19.2		ug/L		65	42 - 147	16	40
Dibenzofuran	ND		29.3	19.1		ug/L		65	18 - 157	3	29
3,3'-Dichlorobenzidine	ND		39.1	20.9		ug/L		54	10 - 172	16	58
2,4-Dichlorophenol	ND		29.3	22.1		ug/L		75	16 - 147	8	43
Diethyl phthalate	ND		29.3	22.8		ug/L		78	23 - 160	10	40
2,4-Dimethylphenol	ND		29.3	23.9		ug/L		82	25 - 146	3	47
Dimethyl phthalate	ND		29.3	20.3		ug/L		69	11 - 158	14	36
Di-n-butyl phthalate	ND		29.3	22.0		ug/L		75	28 - 162	4	32
4,6-Dinitro-ortho-cresol	ND		58.7	58.8		ug/L		100	10 - 168	15	42
2,4-Dinitrophenol	ND		58.7	68.7		ug/L		117	10 - 166	9	36
2,4-Dinitrotoluene	ND	*	29.3	18.0		ug/L		61	26 - 158	7	28
2,6-Dinitrotoluene	ND	*	29.3	17.3		ug/L		59	19 - 157	7	28
Di-n-octyl phthalate	ND		29.3	21.2		ug/L		72	42 - 150	3	35
1,4-Dioxane	ND		29.3	9.23	J	ug/L		31	10 - 130	19	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.3	23.8		ug/L		81	19 - 162	2	40
Hexachlorobenzene	ND		29.3	26.1		ug/L		89	45 - 145	9	33
Hexachlorocyclopentadiene	ND		29.3	12.2	J	ug/L		41	10 - 151	7	50

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	ND		29.3	23.5		ug/L		80	29 - 130	14	41
Indene	ND		29.3	18.9		ug/L		64	22 - 130	8	40
Isophorone	ND		29.3	20.9		ug/L		71	24 - 144	10	33
2-Methylphenol	ND		29.3	23.2		ug/L		79	22 - 130	1	47
3 & 4 Methylphenol	ND		29.3	24.0		ug/L		82	31 - 130	4	47
2-Nitroaniline	ND		29.3	24.3		ug/L		83	10 - 162	8	33
3-Nitroaniline	ND		29.3	22.0		ug/L		75	10 - 163	7	39
4-Nitroaniline	ND		29.3	19.8		ug/L		67	10 - 162	16	50
Nitrobenzene	ND		29.3	22.9		ug/L		78	34 - 135	10	35
2-Nitrophenol	ND		29.3	20.1		ug/L		68	27 - 134	4	43
4-Nitrophenol	ND		58.7	53.5		ug/L		91	10 - 175	17	82
N-Nitrosodimethylamine	ND		29.3	22.9		ug/L		78	10 - 139	15	62
N-Nitrosodi-n-propylamine	ND		29.3	28.3		ug/L		96	13 - 147	12	36
N-Nitrosodiphenylamine	ND		29.1	20.0		ug/L		69	31 - 150	5	34
Pentachlorophenol	ND		58.7	51.0		ug/L		87	10 - 180	12	42
Phenol	ND		29.3	24.1		ug/L		82	23 - 130	27	52
Pyridine	ND		58.7	32.8		ug/L		56	10 - 130	9	55
Quinoline	ND		29.3	16.0		ug/L		54	10 - 180	9	40
2,4,5-Trichlorophenol	ND		29.3	20.8		ug/L		71	43 - 137	11	42
2,4,6-Trichlorophenol	ND		29.3	21.1		ug/L		72	42 - 135	15	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*56*		*34 - 120*
2-Fluorophenol	*47*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*41*	*X*	*53 - 125*
2,4,6-Tribromophenol	*65*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 451086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline - RA	ND		10	3.8	ug/L		07/25/19 08:28	08/06/19 11:42	1
Benzyl alcohol - RA	ND		10	2.0	ug/L		07/25/19 08:28	08/06/19 11:42	1
Bis(2-chloroethoxy)methane - RA	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 11:42	1
Bis(2-chloroethyl)ether - RA	ND		10	0.74	ug/L		07/25/19 08:28	08/06/19 11:42	1
Butyl benzyl phthalate - RA	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 11:42	1
Isophorone - RA	ND		10	0.57	ug/L		07/25/19 08:28	08/06/19 11:42	1
2-Methylphenol - RA	ND		10	1.8	ug/L		07/25/19 08:28	08/06/19 11:42	1
Phenol - RA	ND		10	2.6	ug/L		07/25/19 08:28	08/06/19 11:42	1
Pyridine - RA	ND		10	3.2	ug/L		07/25/19 08:28	08/06/19 11:42	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound - RA	*None*		*ug/L*				*07/25/19 08:28*	*08/06/19 11:42*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Anthracene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Fluoranthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Fluorene	ND		0.20	0.021	ug/L		07/25/19 08:28	08/02/19 18:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
1-Methylnaphthalene	0.0335	J	0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
2-Methylnaphthalene	0.0549	J	0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Phenanthrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Pyrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*15 - 122*	*07/25/19 08:28*	*08/02/19 18:25*	*1*
Nitrobenzene-d5	*85*		*19 - 130*	*07/25/19 08:28*	*08/02/19 18:25*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/25/19 08:28*	*08/02/19 18:25*	*1*

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.5		ug/L		82	41 - 120
Acenaphthylene	30.0	24.0		ug/L		80	44 - 120
Anthracene	30.0	23.8		ug/L		79	49 - 120
Benzo[a]anthracene	30.0	23.5		ug/L		78	61 - 135
Benzo[a]pyrene	30.0	23.7		ug/L		79	52 - 120
Benzo[b]fluoranthene	30.0	23.7		ug/L		79	53 - 134
Benzo[g,h,i]perylene	30.0	23.7		ug/L		79	47 - 133
Benzo[k]fluoranthene	30.0	24.2		ug/L		81	57 - 134
Chrysene	30.0	23.6		ug/L		79	55 - 122
Dibenz(a,h)anthracene	30.0	26.8		ug/L		89	48 - 146
Fluoranthene	30.0	23.8		ug/L		79	54 - 128
Fluorene	30.0	23.8		ug/L		79	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	23.7		ug/L		79	43 - 142
1-Methylnaphthalene	30.0	22.9		ug/L		76	41 - 120
2-Methylnaphthalene	30.0	22.1		ug/L		74	32 - 124
Phenanthrene	30.0	24.1		ug/L		80	48 - 120
Pyrene	30.0	23.9		ug/L		80	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*15 - 122*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	73		19 - 130
Terphenyl-d14	93		33 - 138

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	30.0	27.4		ug/L		91	41 - 120	11	56
Acenaphthylene	30.0	26.2		ug/L		87	44 - 120	9	56
Anthracene	30.0	28.9		ug/L		96	49 - 120	19	51
Benzo[a]anthracene	30.0	26.3		ug/L		88	61 - 135	11	49
Benzo[a]pyrene	30.0	25.2		ug/L		84	52 - 120	6	50
Benzo[b]fluoranthene	30.0	26.9		ug/L		90	53 - 134	13	54
Benzo[g,h,i]perylene	30.0	25.5		ug/L		85	47 - 133	7	50
Benzo[k]fluoranthene	30.0	25.4		ug/L		85	57 - 134	5	52
Chrysene	30.0	26.3		ug/L		88	55 - 122	11	50
Dibenz(a,h)anthracene	30.0	29.2		ug/L		97	48 - 146	8	50
Fluoranthene	30.0	27.2		ug/L		91	54 - 128	14	52
Fluorene	30.0	28.2		ug/L		94	45 - 125	17	56
Indeno[1,2,3-cd]pyrene	30.0	25.5		ug/L		85	43 - 142	7	51
1-Methylnaphthalene	30.0	25.4		ug/L		85	41 - 120	10	55
2-Methylnaphthalene	30.0	25.3		ug/L		84	32 - 124	14	57
Phenanthrene	30.0	27.1		ug/L		90	48 - 120	12	56
Pyrene	30.0	27.1		ug/L		90	48 - 132	13	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	82		15 - 122
Nitrobenzene-d5	87		19 - 130
Terphenyl-d14	94		33 - 138

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 451069

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2.0		29.8	29.4		ug/L		92	35 - 113
Acenaphthylene	ND		29.8	26.0		ug/L		87	41 - 118
Anthracene	0.15	J	29.8	27.9		ug/L		93	45 - 122
Benzo[a]anthracene	ND		29.8	23.9		ug/L		80	55 - 133
Benzo[a]pyrene	ND		29.8	23.9		ug/L		80	50 - 108
Benzo[b]fluoranthene	ND		29.8	22.0		ug/L		74	50 - 128
Benzo[g,h,i]perylene	ND	F1	29.8	12.2	F1	ug/L		41	46 - 133
Benzo[k]fluoranthene	ND		29.8	32.8		ug/L		110	52 - 128
Chrysene	ND		29.8	25.5		ug/L		86	52 - 116
Dibenz(a,h)anthracene	ND		29.8	17.4		ug/L		58	52 - 143
Fluoranthene	0.053	J	29.8	26.7		ug/L		90	32 - 150
Fluorene	1.4		29.8	31.0		ug/L		99	15 - 150

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 451069

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indeno[1,2,3-cd]pyrene	ND		29.8	13.9		ug/L		47	41 - 141
1-Methylnaphthalene	4.4	B	29.8	25.4		ug/L		71	10 - 150
2-Methylnaphthalene	2.2	B	29.8	24.0		ug/L		73	10 - 150
Phenanthrene	0.46		29.8	26.3		ug/L		87	36 - 125
Pyrene	0.21		29.8	27.0		ug/L		90	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*86*		*15 - 122*
Nitrobenzene-d5	*73*		*19 - 130*
Terphenyl-d14	*51*		*33 - 138*

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 451069

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	2.0		29.3	28.4		ug/L		90	35 - 113	4	49
Acenaphthylene	ND		29.3	24.7		ug/L		84	41 - 118	5	48
Anthracene	0.15	J	29.3	27.7		ug/L		94	45 - 122	1	56
Benzo[a]anthracene	ND		29.3	23.4		ug/L		80	55 - 133	2	57
Benzo[a]pyrene	ND		29.3	23.5		ug/L		80	50 - 108	2	59
Benzo[b]fluoranthene	ND		29.3	22.9		ug/L		78	50 - 128	4	62
Benzo[g,h,i]perylene	ND	F1	29.3	12.4	F1	ug/L		42	46 - 133	2	58
Benzo[k]fluoranthene	ND		29.3	33.0		ug/L		112	52 - 128	0	58
Chrysene	ND		29.3	24.7		ug/L		84	52 - 116	3	59
Dibenz(a,h)anthracene	ND		29.3	16.8		ug/L		57	52 - 143	4	60
Fluoranthene	0.053	J	29.3	25.6		ug/L		87	32 - 150	4	59
Fluorene	1.4		29.3	29.9		ug/L		97	15 - 150	3	49
Indeno[1,2,3-cd]pyrene	ND		29.3	14.3		ug/L		49	41 - 141	3	58
1-Methylnaphthalene	4.4	B	29.3	25.3		ug/L		71	10 - 150	1	66
2-Methylnaphthalene	2.2	B	29.3	23.6		ug/L		73	10 - 150	2	66
Phenanthrene	0.46		29.3	26.1		ug/L		87	36 - 125	1	69
Pyrene	0.21		29.3	25.5		ug/L		86	41 - 127	6	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*15 - 122*
Nitrobenzene-d5	*66*		*19 - 130*
Terphenyl-d14	*56*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

- [ ] ACCUTEST (_____)
- [ ] CALSCIENCE (_____)
- [x] TESTAMERICA (___Pensacola_____)
- [ ] Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:

- [ ] SGW FDG
- [ ] PIPELINE
- [ ] RETAIL
- [ ] CHEMICALS
- [ ] CONSULTANT
- [ ] LUBES
- [ ] TRANSPORTATION
- [ ] OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	[ ] CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/22/2019
PO #	GSAP Project ID	PAGE ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE	State	AECOM Project / Task Number:
AECOM		IL	PreDesign Invest. PW

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

170 East Rand Avenue, Hartford

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com

EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO	E-MAIL	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

SAMPLER NAME(S) (Print): Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS)

- [x] STANDARD (14 DAY)
- [ ] 5 DAYS
- [ ] 3 DAYS
- [ ] 2 DAYS
- [ ] 24 HOURS
- [ ] RESULTS NEEDED ON WEEKEND

- [ ] LA - RWQCB REPORT FORMAT
- [ ] UST AGENCY:

DELIVERABLES: [ ] LEVEL 1 [x] LEVEL 2 [ ] LEVEL 3 [x] LEVEL 4 [x] OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- [x] SHELL CONTRACT RATE APPLIES
- [ ] STATE REIMBURSEMENT RATE APPLIES
- [ ] EDD NOT NEEDED
- [x] RECEIPT VERIFICATION REQUESTED
- [ ] PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051

NON-UNIT COST 60592794 - 1.24.050

400-173526 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-072219-B	7/22/2019	0:00	Water	2					2		x		
	PD-17-GWP-50-072219	7/22/2019	10:00	Water	2			2		4	x	x	x	
	PD-17-GWP-50-072219-DUP	7/22/2019	10:00	Water	2			2		4	x	x	x	
	PD-17-GWP-50-072219-EB	7/22/2019	11:15	Water	2			2		4	x	x	x	
	PD-7-GWP-45-072219	7/22/2019	13:45	Water	2			2		4	x	x	x	
	PD-7-GWP-45-072219-MS	7/22/2019	13:45	Water	2			2		4	x	x	x	
	PD-7-GWP-45-072219-MSD	7/22/2019	13:45	Water	2			2		4	x	x	x	
	PD-7-GWP-50-072219	7/22/2019	14:55	Water	2			2		4	x	x	x	
	PD-7-GWP-50-072219-DUP	7/22/2019	14:55	Water	2			2		4	x	x	x	
	PD-7-GWP-50-072219-EB	7/22/2019	15:45	Water	2			2		4	x	x	x	

Relinquished by (Signature)	Received by (Signature)	Date	Time
Paul Lafleur	Fedex: 4931 8203 7524; 4931 8203 7351, 4931 8203 7362 ; custody seal: 1011642, 1011643, 1011644, 1011645, 1011646, 1011647	7/22/2019	18:00
	Buyer 1.8C, 2.7C, 2.4C IR	7/23/2019	9:09

Version 10May17

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8/12/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173526-1

Login Number: 173526
List Number: 1
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8°C, 2.7°C, 2.4°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Illinois	NELAP		004586	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173526-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 10:20:53 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173526-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173526-1

Comments
Revised Report
Report revised to correct TIC reporting for both the VOC and SVOC analysis due to evaluation error.
Supersedes report dated 8-12-19.

Receipt
The samples were received on 7/23/2019 9:09 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.8º C, 2.4º C and 2.7º C.

GC/MS VOA
Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-449755 recovered outside control limits for the following analytes: 1,1,1,2-Tetrachloroethane and 2-Hexanone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-449755 recovered above the upper control limit for 2-Hexanone. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-17-GWP-50-072219 (400-173526-2), PD-17-GWP-50-072219-DUP (400-173526-3), PD-7-GWP-45-072219 (400-173526-5), PD-7-GWP-50-072219 (400-173526-6) and PD-7-GWP-50-072219-DUP (400-173526-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-072219-B (400-173526-1), PD-17-GWP-50-072219 (400-173526-2), PD-17-GWP-50-072219-DUP (400-173526-3), PD-17-GWP-50-072219-EB (400-173526-4), PD-7-GWP-45-072219 (400-173526-5), PD-7-GWP-50-072219 (400-173526-6), PD-7-GWP-50-072219-DUP (400-173526-7) and PD-7-GWP-50-072219-EB (400-173526-8). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-7-GWP-45-072219 (400-173526-5[MS]) and PD-7-GWP-45-072219 (400-173526-5[MSD]). These results have been reported and qualified.

Method(s) 8270D: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-449448 and analytical batch 400-450203: 2,4-Dinitrotoluene and 2,6-Dinitrotoluene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449448 and analytical batch 400-450203 recovered outside control limits for the following analytes: Benzoic acid.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-7-GWP-50-072219 (400-173526-6), PD-7-GWP-50-072219-DUP (400-173526-7). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Dimethyl phthalate, 2-Chloronaphthalene, Diethyl phthalate, 4-Chlorophenyl phenyl ether, 2,4-Dinitrotoluene, Hexachlorocyclopentadiene and Dibenzofuran The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 400-173526-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The following samples were diluted due to the nature of the sample matrix: PD-17-GWP-50-072219-DUP (400-173526-3) and PD-7-GWP-50-072219 (400-173526-6). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450054 recovered above the upper control limit for Hexachlorobenzene, 4-Bromophenyl phenyl ether, N-Nitrosodimethylamine and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 400-450054/2).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-451086 recovered above the upper control limit for Hexachlorobenzene, 2-Methylphenol, 4,6-Dinitro-2-methylphenol and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449448 and analytical batch 400-450054 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D LL: The method blank for preparation batch 400-449448 and analytical batch 400-450731 contained 1-Methylnaphthalene and 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: PD-17-GWP-50-072219-DUP (400-173526-3). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: Surrogate recovery for the following sample was outside control limits: PD-17-GWP-50-072219-DUP (400-173526-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-451069 recovered outside acceptance criteria, low biased, for Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D LL: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-449448 and analytical batch 400-451069 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D LL: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: PD-17-GWP-50-072219-EB (400-173526-4), PD-7-GWP-50-072219 (400-173526-6), PD-7-GWP-50-072219-DUP (400-173526-7), PD-7-GWP-50-072219-EB (400-173526-8). These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173526-1	TB-PW-072219-B	Water	07/22/19 00:00	07/23/19 09:09	
400-173526-2	PD-17-GWP-50-072219	Water	07/22/19 10:00	07/23/19 09:09	
400-173526-3	PD-17-GWP-50-072219-DUP	Water	07/22/19 10:00	07/23/19 09:09	
400-173526-4	PD-17-GWP-50-072219-EB	Water	07/22/19 11:15	07/23/19 09:09	
400-173526-5	PD-7-GWP-45-072219	Water	07/22/19 13:45	07/23/19 09:09	
400-173526-6	PD-7-GWP-50-072219	Water	07/22/19 14:55	07/23/19 09:09	
400-173526-7	PD-7-GWP-50-072219-DUP	Water	07/22/19 14:55	07/23/19 09:09	
400-173526-8	PD-7-GWP-50-072219-EB	Water	07/22/19 15:45	07/23/19 09:09	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: TB-PW-072219-B — Lab Sample ID: 400-173526-1

No Detections.

Client Sample ID: PD-17-GWP-50-072219 — Lab Sample ID: 400-173526-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	1600000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.99		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	1.2		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	1.2		0.20	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	2.3		0.20	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.38		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	1.8		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	32	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	7.7		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	3.9		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene - DL	0.63	J	1.0	0.20	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	50	B	1.0	0.10	ug/L	5		8270D LL	Total/NA
Dibenzofuran	0.93	J	10	0.53	ug/L	1		8270D	Total/NA
Phenol - DL	150		51	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-17-GWP-50-072219-DUP — Lab Sample ID: 400-173526-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2200000		10000	3800	ug/L	10000		8260B	Total/NA
Anthracene	15		1.0	0.10	ug/L	5		8270D LL	Total/NA
Benzo[a]pyrene	18		1.0	0.21	ug/L	5		8270D LL	Total/NA
Benzo[b]fluoranthene	6.3		1.0	0.21	ug/L	5		8270D LL	Total/NA
Benzo[g,h,i]perylene	3.5		1.0	0.21	ug/L	5		8270D LL	Total/NA
Chrysene	36		1.0	0.21	ug/L	5		8270D LL	Total/NA
Dibenz(a,h)anthracene	2.8		1.0	0.21	ug/L	5		8270D LL	Total/NA
Fluoranthene	7.0		1.0	0.10	ug/L	5		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	1.4		1.0	0.21	ug/L	5		8270D LL	Total/NA
Phenanthrene	110		1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene	60		1.0	0.10	ug/L	5		8270D LL	Total/NA
Acenaphthene - DL	23		10	1.0	ug/L	50		8270D LL	Total/NA
Fluorene - DL	35		10	1.1	ug/L	50		8270D LL	Total/NA
1-Methylnaphthalene - DL	570	B	10	1.0	ug/L	50		8270D LL	Total/NA
2-Methylnaphthalene - DL	740	B	10	1.0	ug/L	50		8270D LL	Total/NA
Phenol	120		52	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-17-GWP-50-072219-EB — Lab Sample ID: 400-173526-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.079	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.11	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Di-n-octyl phthalate	1.0	J	10	0.44	ug/L	1		8270D	Total/NA

Client Sample ID: PD-7-GWP-45-072219 — Lab Sample ID: 400-173526-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	400		2.0	0.76	ug/L	2		8260B	Total/NA
Ethylbenzene	15		2.0	1.0	ug/L	2		8260B	Total/NA
Isopropylbenzene	11		2.0	1.1	ug/L	2		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219 (Continued) — Lab Sample ID: 400-173526-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m-Xylene & p-Xylene	27		10	3.2	ug/L	2		8260B	Total/NA
Naphthalene	13		2.0	2.0	ug/L	2		8260B	Total/NA
N-Propylbenzene	17		2.0	1.4	ug/L	2		8260B	Total/NA
p-Isopropyltoluene	7.0		2.0	1.4	ug/L	2		8260B	Total/NA
sec-Butylbenzene	12		2.0	1.4	ug/L	2		8260B	Total/NA
1,2,4-Trimethylbenzene	110		2.0	1.6	ug/L	2		8260B	Total/NA
1,3,5-Trimethylbenzene	26		2.0	1.1	ug/L	2		8260B	Total/NA
Xylenes, Total	27		20	3.2	ug/L	2		8260B	Total/NA
Acenaphthene	2.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.15	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.053	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	1.4		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	4.4	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	2.2	B	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.46		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.21		0.20	0.020	ug/L	1		8270D LL	Total/NA
Dibenzofuran	0.63	J	10	0.52	ug/L	1		8270D	Total/NA

Client Sample ID: PD-7-GWP-50-072219 — Lab Sample ID: 400-173526-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1400		1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	2700	J	5000	1600	ug/L	1000		8260B	Total/NA
o-Xylene	710	J	5000	600	ug/L	1000		8260B	Total/NA
Toluene	1100		1000	410	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	970	J	1000	820	ug/L	1000		8260B	Total/NA
Xylenes, Total	3500	J	10000	1600	ug/L	1000		8260B	Total/NA
Benzene - DL	500000		2000	760	ug/L	2000		8260B	Total/NA
Anthracene	8.0		1.0	0.10	ug/L	5		8270D LL	Total/NA
Benzo[a]anthracene	10		1.0	0.20	ug/L	5		8270D LL	Total/NA
Benzo[a]pyrene	9.0		1.0	0.20	ug/L	5		8270D LL	Total/NA
Benzo[b]fluoranthene	4.8		1.0	0.20	ug/L	5		8270D LL	Total/NA
Benzo[g,h,i]perylene	2.1		1.0	0.20	ug/L	5		8270D LL	Total/NA
Chrysene	19		1.0	0.20	ug/L	5		8270D LL	Total/NA
Dibenz(a,h)anthracene	1.9		1.0	0.20	ug/L	5		8270D LL	Total/NA
Fluoranthene	4.0		1.0	0.10	ug/L	5		8270D LL	Total/NA
Fluorene	14		1.0	0.11	ug/L	5		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.84	J	1.0	0.20	ug/L	5		8270D LL	Total/NA
Phenanthrene	57		1.0	0.10	ug/L	5		8270D LL	Total/NA
Pyrene	33		1.0	0.10	ug/L	5		8270D LL	Total/NA
1-Methylnaphthalene - DL	270	B	5.0	0.50	ug/L	25		8270D LL	Total/NA
2-Methylnaphthalene - DL	360	B	5.0	0.50	ug/L	25		8270D LL	Total/NA
Phenol	95		50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-7-GWP-50-072219-DUP — Lab Sample ID: 400-173526-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1500		1000	500	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene	2800	J	5000	1600	ug/L	1000		8260B	Total/NA
o-Xylene	750	J	5000	600	ug/L	1000		8260B	Total/NA
Toluene	1100		1000	410	ug/L	1000		8260B	Total/NA
1,2,4-Trimethylbenzene	1100		1000	820	ug/L	1000		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP (Continued)

Lab Sample ID: 400-173526-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	3600	J	10000	1600	ug/L	1000		8260B	Total/NA
Benzene - DL	380000		2000	760	ug/L	2000		8260B	Total/NA
Acenaphthene	2.9		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	3.0		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[a]anthracene	3.9		0.20	0.041	ug/L	1		8270D LL	Total/NA
Benzo[a]pyrene	3.8		0.20	0.041	ug/L	1		8270D LL	Total/NA
Chrysene	6.8		0.20	0.041	ug/L	1		8270D LL	Total/NA
Fluoranthene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	3.5		0.20	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	21		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	11		0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzo[b]fluoranthene - DL	2.0		1.4	0.29	ug/L	7		8270D LL	Total/NA
Benzo[g,h,i]perylene - DL	1.2	J	1.4	0.29	ug/L	7		8270D LL	Total/NA
1-Methylnaphthalene - DL	76	B	1.4	0.14	ug/L	7		8270D LL	Total/NA
2-Methylnaphthalene - DL	100	B	1.4	0.14	ug/L	7		8270D LL	Total/NA
Dibenzofuran	2.1	J	10	0.53	ug/L	1		8270D	Total/NA
Phenol - DL	140		51	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-7-GWP-50-072219-EB

Lab Sample ID: 400-173526-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.050	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.074	J B	0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: TB-PW-072219-B

Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 12:55	1
Acrolein	ND		20	10	ug/L			07/30/19 12:55	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 12:55	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 12:55	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 12:55	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 12:55	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 12:55	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 12:55	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 12:55	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 12:55	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 12:55	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 12:55	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 12:55	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 12:55	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 12:55	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 12:55	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 12:55	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 12:55	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 12:55	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 12:55	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 12:55	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 12:55	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 12:55	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 12:55	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 12:55	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 12:55	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 12:55	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 12:55	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 12:55	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 12:55	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 12:55	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 12:55	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 12:55	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: TB-PW-072219-B
Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 12:55	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 12:55	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 12:55	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 12:55	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 12:55	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 12:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 12:55	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 12:55	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 12:55	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 12:55	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 12:55	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 12:55	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 12:55	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 12:55	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 12:55	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 12:55	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 12:55	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 12:55	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 12:55	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 12:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Pentane	*5.0*	*T J N*	*ug/L*		*1.66*	*109-66-0*		*07/30/19 12:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*07/30/19 12:55*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*07/30/19 12:55*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*07/30/19 12:55*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/27/19 17:18	2500
Acrolein	ND		50000	25000	ug/L			07/27/19 17:18	2500
Acrylonitrile	ND		25000	7000	ug/L			07/27/19 17:18	2500
Bromobenzene	ND		2500	1400	ug/L			07/27/19 17:18	2500
Bromochloromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
Bromoform	ND		13000	1800	ug/L			07/27/19 17:18	2500
Bromomethane	ND		2500	2500	ug/L			07/27/19 17:18	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/27/19 17:18	2500
Carbon disulfide	ND		2500	1300	ug/L			07/27/19 17:18	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/27/19 17:18	2500
Chlorobenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Chloroethane	ND		2500	1900	ug/L			07/27/19 17:18	2500
2-Chloroethyl vinyl ether	ND		13000	5000	ug/L			07/27/19 17:18	2500
Chloroform	ND		2500	1500	ug/L			07/27/19 17:18	2500
1-Chlorohexane	ND		2500	1800	ug/L			07/27/19 17:18	2500
Chloromethane	ND		2500	2100	ug/L			07/27/19 17:18	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:18	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/27/19 17:18	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/27/19 17:18	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/27/19 17:18	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/27/19 17:18	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:18	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Ethylbenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/27/19 17:18	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/27/19 17:18	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/27/19 17:18	2500
2-Hexanone	ND	*	63000	7800	ug/L			07/27/19 17:18	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Methylene bromide	ND		13000	1500	ug/L			07/27/19 17:18	2500
Methylene Chloride	ND		13000	7500	ug/L			07/27/19 17:18	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/27/19 17:18	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/27/19 17:18	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/27/19 17:18	2500
Naphthalene	ND		2500	2500	ug/L			07/27/19 17:18	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/27/19 17:18	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/27/19 17:18	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:18	2500
o-Xylene	ND		13000	1500	ug/L			07/27/19 17:18	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:18	2500

Client Sample ID: PD-17-GWP-50-072219
Lab Sample ID: 400-173526-2
Date Collected: 07/22/19 10:00
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/27/19 17:18	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/27/19 17:18	2500
Styrene	ND		2500	2500	ug/L			07/27/19 17:18	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/27/19 17:18	2500
1,1,1,2-Tetrachloroethane	ND	*	2500	1300	ug/L			07/27/19 17:18	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/27/19 17:18	2500
Toluene	ND		2500	1000	ug/L			07/27/19 17:18	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:18	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/27/19 17:18	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/27/19 17:18	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/27/19 17:18	2500
Trichloroethene	ND		2500	1300	ug/L			07/27/19 17:18	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/27/19 17:18	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/27/19 17:18	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/27/19 17:18	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/27/19 17:18	2500
Vinyl acetate	ND		63000	5000	ug/L			07/27/19 17:18	2500
Vinyl chloride	ND		2500	1300	ug/L			07/27/19 17:18	2500
Xylenes, Total	ND		25000	4000	ug/L			07/27/19 17:18	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 17:18*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/27/19 17:18*	*2500*
Dibromofluoromethane	*92*		*81 - 121*		*07/27/19 17:18*	*2500*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/27/19 17:18*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1600000**		10000	3800	ug/L			07/29/19 20:52	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/29/19 20:52*	*10000*
Dibromofluoromethane	*95*		*81 - 121*		*07/29/19 20:52*	*10000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/29/19 20:52*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.8**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Anthracene	**0.99**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[a]anthracene	**1.2**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[a]pyrene	**1.2**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Chrysene	**2.3**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2
Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	**0.38**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Fluorene	**1.8**		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 04:30	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 04:30	1
1-Methylnaphthalene	**32**	**B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Phenanthrene	**7.7**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1
Pyrene	**3.9**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 04:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*54*		*15 - 122*	*07/25/19 08:28*	*08/07/19 04:30*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/25/19 08:28*	*08/07/19 04:30*	*1*
Terphenyl-d14	*64*		*33 - 138*	*07/25/19 08:28*	*08/07/19 04:30*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.63**	**J**	1.0	0.20	ug/L		07/25/19 08:28	08/07/19 16:52	5
2-Methylnaphthalene	**50**	**B**	1.0	0.10	ug/L		07/25/19 08:28	08/07/19 16:52	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*89*		*15 - 122*	*07/25/19 08:28*	*08/07/19 16:52*	*5*
Nitrobenzene-d5	*73*		*19 - 130*	*07/25/19 08:28*	*08/07/19 16:52*	*5*
Terphenyl-d14	*67*		*33 - 138*	*07/25/19 08:28*	*08/07/19 16:52*	*5*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND		30	7.4	ug/L		07/25/19 08:28	07/31/19 02:31	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Chloroaniline	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Dibenzofuran	**0.93**	**J**	10	0.53	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Diethyl phthalate	ND		10	0.71	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 02:31	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dinitrophenol	ND		30	3.5	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 02:31	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 02:31	1
Hexachloroethane	ND	*	10	4.3	ug/L		07/25/19 08:28	07/31/19 02:31	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:31	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:31	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 02:31	1
4-Nitroaniline	ND	*	10	2.5	ug/L		07/25/19 08:28	07/31/19 02:31	1
Nitrobenzene	ND	*	10	0.56	ug/L		07/25/19 08:28	07/31/19 02:31	1
2-Nitrophenol	ND		10	0.66	ug/L		07/25/19 08:28	07/31/19 02:31	1

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-GWP-50-072219
Lab Sample ID: 400-173526-2
Date Collected: 07/22/19 10:00
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 02:31	1
Quinoline	ND		10	6.1	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 02:31	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 02:31	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*98*	*T J N*	*ug/L*		*3.62*	*108-88-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Ethylbenzene	*67*	*T J N*	*ug/L*		*4.41*	*100-41-4*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
o-Xylene	*83*	*T J N*	*ug/L*		*4.64*	*95-47-6*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, (1-methylethyl)-	*18*	*T J N*	*ug/L*		*4.83*	*98-82-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, propyl-	*39*	*T J N*	*ug/L*		*5.02*	*103-65-1*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-3-methyl-	*140*	*T J N*	*ug/L*		*5.06*	*620-14-4*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-2-methyl-	*100*	*T J N*	*ug/L*		*5.07*	*611-14-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-4-methyl-	*60*	*T J N*	*ug/L*		*5.16*	*622-96-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Decane	*39*	*T J N*	*ug/L*		*5.23*	*124-18-5*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1,2,4-trimethyl-	*410*	*T J N*	*ug/L*		*5.26*	*95-63-6*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1,2,3-trimethyl-	*130*	*T J N*	*ug/L*		*5.40*	*526-73-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*38*	*T J N*	*ug/L*		*5.55*	*934-74-7*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*24*	*T J N*	*ug/L*		*5.69*	*934-80-5*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Unknown	*54*	*T J*	*ug/L*		*6.02*		*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*28*	*T J N*	*ug/L*		*6.09*	*119-64-2*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Dodecane	*62*	*T J N*	*ug/L*		*6.14*	*112-40-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene	*52*	*T J N*	*ug/L*		*6.21*	*91-20-3*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Unknown	*54*	*T J*	*ug/L*		*6.35*		*07/25/19 08:28*	*07/31/19 02:31*	*1*
Dodecane, 4,6-dimethyl-	*20*	*T J N*	*ug/L*		*6.42*	*61141-72-8*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Tridecane	*33*	*T J N*	*ug/L*		*6.52*	*629-50-5*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 2-methyl-	*35*	*T J N*	*ug/L*		*6.65*	*91-57-6*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 1-methyl-	*26*	*T J N*	*ug/L*		*6.72*	*90-12-0*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Tetradecane	*24*	*T J N*	*ug/L*		*6.89*	*629-59-4*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Naphthalene, 1,3-dimethyl-	*20*	*T J N*	*ug/L*		*7.12*	*575-41-7*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Pentadecane	*19*	*T J N*	*ug/L*		*7.25*	*629-62-9*	*07/25/19 08:28*	*07/31/19 02:31*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*34 - 120*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
2-Fluorophenol	*45*		*10 - 120*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Nitrobenzene-d5	*58*		*27 - 120*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Phenol-d5	*57*		*10 - 120*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
Terphenyl-d14	*50*	*X **	*53 - 125*	*07/25/19 08:28*	*07/31/19 02:31*	*1*
2,4,6-Tribromophenol	*101*		*15 - 135*	*07/25/19 08:28*	*07/31/19 02:31*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**150**		51	13	ug/L		07/25/19 08:28	07/31/19 16:43	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/25/19 08:28	08/03/19 16:08	1
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	08/03/19 16:08	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 16:08	1
Bis(2-chloroethoxy)methane	ND	*	10	0.70	ug/L		07/25/19 08:28	08/03/19 16:08	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND	*	10	0.75	ug/L		07/25/19 08:28	08/03/19 16:08	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/25/19 08:28	08/03/19 16:08	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	08/03/19 16:08	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	08/03/19 16:08	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/25/19 08:28	08/03/19 16:08	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	08/03/19 16:08	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 16:08	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/25/19 08:28	08/03/19 16:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	08/03/19 16:08	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	08/03/19 16:08	1
Isophorone	ND	*	10	0.58	ug/L		07/25/19 08:28	08/03/19 16:08	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/03/19 16:08	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/03/19 16:08	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/25/19 08:28	08/03/19 16:08	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/25/19 08:28	08/03/19 16:08	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	08/03/19 16:08	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/03/19 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*34 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
Phenol-d5	*36*		*10 - 120*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/25/19 08:28*	*08/03/19 16:08*	*1*
2,4,6-Tribromophenol	*100*		*15 - 135*	*07/25/19 08:28*	*08/03/19 16:08*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		63000	25000	ug/L			07/27/19 17:45	2500
Acrolein	ND		50000	25000	ug/L			07/27/19 17:45	2500
Acrylonitrile	ND		25000	7000	ug/L			07/27/19 17:45	2500
Bromobenzene	ND		2500	1400	ug/L			07/27/19 17:45	2500
Bromochloromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
Bromodichloromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
Bromoform	ND		13000	1800	ug/L			07/27/19 17:45	2500
Bromomethane	ND		2500	2500	ug/L			07/27/19 17:45	2500
2-Butanone (MEK)	ND		63000	6500	ug/L			07/27/19 17:45	2500
Carbon disulfide	ND		2500	1300	ug/L			07/27/19 17:45	2500
Carbon tetrachloride	ND		2500	1300	ug/L			07/27/19 17:45	2500
Chlorobenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Chloroethane	ND		2500	1900	ug/L			07/27/19 17:45	2500
2-Chloroethyl vinyl ether	ND		13000	5000	ug/L			07/27/19 17:45	2500
Chloroform	ND		2500	1500	ug/L			07/27/19 17:45	2500
1-Chlorohexane	ND		2500	1800	ug/L			07/27/19 17:45	2500
Chloromethane	ND		2500	2100	ug/L			07/27/19 17:45	2500
cis-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
cis-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:45	2500
Dibromochloromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2-Dibromo-3-Chloropropane	ND		13000	3800	ug/L			07/27/19 17:45	2500
1,2-Dichlorobenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,3-Dichlorobenzene	ND		2500	1400	ug/L			07/27/19 17:45	2500
1,4-Dichlorobenzene	ND		2500	1600	ug/L			07/27/19 17:45	2500
Dichlorodifluoromethane	ND		2500	2100	ug/L			07/27/19 17:45	2500
1,1-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2-Dichloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,1-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,3-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:45	2500
2,2-Dichloropropane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,1-Dichloropropene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Ethylbenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Ethylene Dibromide	ND		2500	1300	ug/L			07/27/19 17:45	2500
Ethyl methacrylate	ND		2500	1500	ug/L			07/27/19 17:45	2500
Hexachlorobutadiene	ND		13000	2300	ug/L			07/27/19 17:45	2500
2-Hexanone	ND	*	63000	7800	ug/L			07/27/19 17:45	2500
Isopropylbenzene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Methylene bromide	ND		13000	1500	ug/L			07/27/19 17:45	2500
Methylene Chloride	ND		13000	7500	ug/L			07/27/19 17:45	2500
4-Methyl-2-pentanone (MIBK)	ND		63000	4500	ug/L			07/27/19 17:45	2500
Methyl tert-butyl ether	ND		2500	1900	ug/L			07/27/19 17:45	2500
m-Xylene & p-Xylene	ND		13000	4000	ug/L			07/27/19 17:45	2500
Naphthalene	ND		2500	2500	ug/L			07/27/19 17:45	2500
n-Butylbenzene	ND		2500	1900	ug/L			07/27/19 17:45	2500
N-Propylbenzene	ND		2500	1700	ug/L			07/27/19 17:45	2500
o-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:45	2500
o-Xylene	ND		13000	1500	ug/L			07/27/19 17:45	2500
p-Chlorotoluene	ND		2500	1400	ug/L			07/27/19 17:45	2500

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		2500	1800	ug/L			07/27/19 17:45	2500
sec-Butylbenzene	ND		2500	1800	ug/L			07/27/19 17:45	2500
Styrene	ND		2500	2500	ug/L			07/27/19 17:45	2500
tert-Butylbenzene	ND		2500	1600	ug/L			07/27/19 17:45	2500
1,1,1,2-Tetrachloroethane	ND	*	2500	1300	ug/L			07/27/19 17:45	2500
1,1,2,2-Tetrachloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
Tetrachloroethene	ND		2500	1500	ug/L			07/27/19 17:45	2500
Toluene	ND		2500	1000	ug/L			07/27/19 17:45	2500
trans-1,2-Dichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
trans-1,3-Dichloropropene	ND		13000	1300	ug/L			07/27/19 17:45	2500
1,2,3-Trichlorobenzene	ND		2500	1800	ug/L			07/27/19 17:45	2500
1,2,4-Trichlorobenzene	ND		2500	2100	ug/L			07/27/19 17:45	2500
1,1,1-Trichloroethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,1,2-Trichloroethane	ND		13000	1300	ug/L			07/27/19 17:45	2500
Trichloroethene	ND		2500	1300	ug/L			07/27/19 17:45	2500
Trichlorofluoromethane	ND		2500	1300	ug/L			07/27/19 17:45	2500
1,2,3-Trichloropropane	ND		13000	2100	ug/L			07/27/19 17:45	2500
1,2,4-Trimethylbenzene	ND		2500	2100	ug/L			07/27/19 17:45	2500
1,3,5-Trimethylbenzene	ND		2500	1400	ug/L			07/27/19 17:45	2500
Vinyl acetate	ND		63000	5000	ug/L			07/27/19 17:45	2500
Vinyl chloride	ND		2500	1300	ug/L			07/27/19 17:45	2500
Xylenes, Total	ND		25000	4000	ug/L			07/27/19 17:45	2500

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 17:45*	*2500*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/27/19 17:45*	*2500*
Dibromofluoromethane	*92*		*81 - 121*		*07/27/19 17:45*	*2500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/27/19 17:45*	*2500*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2200000**		10000	3800	ug/L			07/28/19 16:59	10000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/28/19 16:59*	*10000*
Dibromofluoromethane	*93*		*81 - 121*		*07/28/19 16:59*	*10000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/28/19 16:59*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	**15**		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[a]anthracene	ND		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[a]pyrene	**18**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[b]fluoranthene	**6.3**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[g,h,i]perylene	**3.5**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Benzo[k]fluoranthene	ND		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Chrysene	**36**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Dibenz(a,h)anthracene	**2.8**		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Fluoranthene	**7.0**		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	1.4		1.0	0.21	ug/L		07/25/19 08:28	08/07/19 17:11	5
Phenanthrene	110		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5
Pyrene	60		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:11	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*63*		*33 - 138*	*07/25/19 08:28*	*08/07/19 17:11*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	23		10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50
Acenaphthylene	ND		10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50
Fluorene	35		10	1.1	ug/L		07/25/19 08:28	08/08/19 15:58	50
1-Methylnaphthalene	570	B	10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50
2-Methylnaphthalene	740	B	10	1.0	ug/L		07/25/19 08:28	08/08/19 15:58	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*127*	*X*	*15 - 122*	*07/25/19 08:28*	*08/08/19 15:58*	*50*
Nitrobenzene-d5	*247*	*X*	*19 - 130*	*07/25/19 08:28*	*08/08/19 15:58*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		52	20	ug/L		07/25/19 08:28	08/03/19 16:33	5
Benzenethiol	ND		52	8.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
Benzoic acid	ND		160	38	ug/L		07/25/19 08:28	08/03/19 16:33	5
Benzyl alcohol	ND		52	10	ug/L		07/25/19 08:28	08/03/19 16:33	5
Bis(2-chloroethoxy)methane	ND	*	52	3.6	ug/L		07/25/19 08:28	08/03/19 16:33	5
Bis(2-chloroethyl)ether	ND	*	52	3.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
bis (2-chloroisopropyl) ether	ND		52	4.2	ug/L		07/25/19 08:28	08/03/19 16:33	5
Bis(2-ethylhexyl) phthalate	ND		52	26	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Bromophenyl phenyl ether	ND		52	1.7	ug/L		07/25/19 08:28	08/03/19 16:33	5
Butyl benzyl phthalate	ND		52	3.6	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Chloroaniline	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Chloro-3-methylphenol	ND		52	20	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Chloronaphthalene	ND		52	2.7	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Chlorophenol	ND		52	11	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Chlorophenyl phenyl ether	ND		52	10	ug/L		07/25/19 08:28	08/03/19 16:33	5
Dibenz[a,h]acridine	ND		52	16	ug/L		07/25/19 08:28	08/03/19 16:33	5
Dibenzofuran	ND		52	2.7	ug/L		07/25/19 08:28	08/03/19 16:33	5
3,3'-Dichlorobenzidine	ND	*	52	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dichlorophenol	ND		52	16	ug/L		07/25/19 08:28	08/03/19 16:33	5
Diethyl phthalate	ND		52	3.6	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dimethylphenol	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
Dimethyl phthalate	ND		52	3.1	ug/L		07/25/19 08:28	08/03/19 16:33	5
Di-n-butyl phthalate	ND		52	14	ug/L		07/25/19 08:28	08/03/19 16:33	5
4,6-Dinitro-ortho-cresol	ND		52	10	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dinitrophenol	ND		160	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4-Dinitrotoluene	ND		52	9.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,6-Dinitrotoluene	ND		52	9.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
Di-n-octyl phthalate	ND		52	2.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
1,4-Dioxane	ND		52	5.2	ug/L		07/25/19 08:28	08/03/19 16:33	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-DUP

Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		52	5.2	ug/L		07/25/19 08:28	08/03/19 16:33	5
Hexachlorobenzene	ND		52	1.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
Hexachlorocyclopentadiene	ND		100	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
Hexachloroethane	ND	*	52	22	ug/L		07/25/19 08:28	08/03/19 16:33	5
Indene	ND		52	5.2	ug/L		07/25/19 08:28	08/03/19 16:33	5
Isophorone	ND	*	52	3.0	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Methylphenol	ND		52	9.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
3 & 4 Methylphenol	ND		100	5.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Nitroaniline	ND		52	11	ug/L		07/25/19 08:28	08/03/19 16:33	5
3-Nitroaniline	ND		52	9.3	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Nitroaniline	ND	*	52	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
Nitrobenzene	ND	*	52	2.8	ug/L		07/25/19 08:28	08/03/19 16:33	5
2-Nitrophenol	ND		52	3.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
4-Nitrophenol	ND		52	11	ug/L		07/25/19 08:28	08/03/19 16:33	5
N-Nitrosodimethylamine	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5
N-Nitrosodi-n-propylamine	ND		52	17	ug/L		07/25/19 08:28	08/03/19 16:33	5
N-Nitrosodiphenylamine	ND		52	2.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
Pentachlorophenol	ND		100	9.4	ug/L		07/25/19 08:28	08/03/19 16:33	5
Phenol	**120**		52	13	ug/L		07/25/19 08:28	08/03/19 16:33	5
Pyridine	ND		52	17	ug/L		07/25/19 08:28	08/03/19 16:33	5
Quinoline	ND		52	31	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4,5-Trichlorophenol	ND		52	19	ug/L		07/25/19 08:28	08/03/19 16:33	5
2,4,6-Trichlorophenol	ND		52	18	ug/L		07/25/19 08:28	08/03/19 16:33	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*2400*	*T J N*	*ug/L*		*3.05*	*71-43-2*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Toluene	*320*	*T J N*	*ug/L*		*4.09*	*108-88-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
3-Penten-2-one, 4-methyl-	*640*	*T J N*	*ug/L*		*4.33*	*141-79-7*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Ethylbenzene	*550*	*T J N*	*ug/L*		*4.84*	*100-41-4*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
p-Xylene	*400*	*T J N*	*ug/L*		*5.06*	*106-42-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*180*	*T J*	*ug/L*		*5.24*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Octane, 2,6-dimethyl-	*180*	*T J N*	*ug/L*		*5.26*	*2051-30-1*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*280*	*T J*	*ug/L*		*5.30*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*410*	*T J*	*ug/L*		*5.42*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 1-ethyl-4-methyl-	*270*	*T J N*	*ug/L*		*5.57*	*622-96-8*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*330*	*T J*	*ug/L*		*5.75*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 1,2,3-trimethyl-	*530*	*T J N*	*ug/L*		*5.82*	*526-73-8*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*160*	*T J*	*ug/L*		*5.86*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*220*	*T J*	*ug/L*		*5.92*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Benzene, 2-ethyl-1,4-dimethyl-	*230*	*T J N*	*ug/L*		*6.05*	*1758-88-9*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*400*	*T J*	*ug/L*		*6.43*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Dodecane	*280*	*T J N*	*ug/L*		*6.54*	*112-40-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*320*	*T J*	*ug/L*		*6.74*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Unknown	*420*	*T J*	*ug/L*		*6.84*		*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 1-methyl-	*320*	*T J N*	*ug/L*		*7.10*	*90-12-0*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 2,3,6-trimethyl-	*210*	*T J N*	*ug/L*		*7.96*	*829-26-5*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Naphthalene, 1,6,7-trimethyl-	*170*	*T J N*	*ug/L*		*7.99*	*2245-38-7*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Hexadecane	*270*	*T J N*	*ug/L*		*8.05*	*544-76-3*	*07/25/19 08:28*	*08/03/19 16:33*	*5*
Pentadecane, 2,6,10-trimethyl-	*340*	*T J N*	*ug/L*		*8.22*	*3892-00-0*	*07/25/19 08:28*	*08/03/19 16:33*	*5*

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-GWP-50-072219-DUP
Lab Sample ID: 400-173526-3
Date Collected: 07/22/19 10:00
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Phenanthrene, 2,5-dimethyl-	160	T J N	ug/L		9.89	3674-66-6	07/25/19 08:28	08/03/19 16:33	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	94		34 - 120	07/25/19 08:28	08/03/19 16:33	5
2-Fluorophenol	77		10 - 120	07/25/19 08:28	08/03/19 16:33	5
Nitrobenzene-d5	62		27 - 120	07/25/19 08:28	08/03/19 16:33	5
Phenol-d5	30		10 - 120	07/25/19 08:28	08/03/19 16:33	5
Terphenyl-d14	71		53 - 125	07/25/19 08:28	08/03/19 16:33	5
2,4,6-Tribromophenol	109		15 - 135	07/25/19 08:28	08/03/19 16:33	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-EB

Lab Sample ID: 400-173526-4

Date Collected: 07/22/19 11:15
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/27/19 08:37	1
Acrolein	ND		20	10	ug/L			07/27/19 08:37	1
Acrylonitrile	ND		10	2.8	ug/L			07/27/19 08:37	1
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:54	1
Bromobenzene	ND		1.0	0.54	ug/L			07/27/19 08:37	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/27/19 08:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Bromoform	ND		5.0	0.71	ug/L			07/27/19 08:37	1
Bromomethane	ND		1.0	0.98	ug/L			07/27/19 08:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/27/19 08:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Chloroethane	ND		1.0	0.76	ug/L			07/27/19 08:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/27/19 08:37	1
Chloroform	ND		1.0	0.60	ug/L			07/27/19 08:37	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/27/19 08:37	1
Chloromethane	ND		1.0	0.83	ug/L			07/27/19 08:37	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:37	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/27/19 08:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/27/19 08:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/27/19 08:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/27/19 08:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/27/19 08:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/27/19 08:37	1
2-Hexanone	ND	*	25	3.1	ug/L			07/27/19 08:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/27/19 08:37	1
Methylene bromide	ND		5.0	0.59	ug/L			07/27/19 08:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/27/19 08:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/27/19 08:37	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/27/19 08:37	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/27/19 08:37	1
Naphthalene	ND		1.0	1.0	ug/L			07/27/19 08:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/27/19 08:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/27/19 08:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/27/19 08:37	1
o-Xylene	ND		5.0	0.60	ug/L			07/27/19 08:37	1

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-GWP-50-072219-EB
Lab Sample ID: 400-173526-4
Date Collected: 07/22/19 11:15
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/27/19 08:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/27/19 08:37	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/27/19 08:37	1
Styrene	ND		1.0	1.0	ug/L			07/27/19 08:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/27/19 08:37	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/27/19 08:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/27/19 08:37	1
Toluene	ND		1.0	0.41	ug/L			07/27/19 08:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/27/19 08:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/27/19 08:37	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:37	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/27/19 08:37	1
Trichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/27/19 08:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/27/19 08:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/27/19 08:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/27/19 08:37	1
Vinyl acetate	ND		25	2.0	ug/L			07/27/19 08:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/27/19 08:37	1
Xylenes, Total	ND		10	1.6	ug/L			07/27/19 08:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 08:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/27/19 08:37*	*1*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/28/19 09:54*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*07/27/19 08:37*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/28/19 09:54*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/27/19 08:37*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 09:54*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Anthracene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1
Fluoranthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Fluorene	ND		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 05:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:04	1

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-17-GWP-50-072219-EB
Lab Sample ID: 400-173526-4
Date Collected: 07/22/19 11:15
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.079	J B	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
2-Methylnaphthalene	0.11	J B	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Phenanthrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1
Pyrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*106*		*15 - 122*	*07/25/19 08:28*	*08/07/19 05:04*	*1*
Nitrobenzene-d5	*87*		*19 - 130*	*07/25/19 08:28*	*08/07/19 05:04*	*1*
Terphenyl-d14	*200*	*X*	*33 - 138*	*07/25/19 08:28*	*08/07/19 05:04*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND	*	10	1.7	ug/L		07/25/19 08:28	07/31/19 03:14	1
Benzoic acid	ND	*	30	7.3	ug/L		07/25/19 08:28	07/31/19 03:14	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/31/19 03:14	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Dibenzofuran	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 03:14	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 03:14	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,6-Dinitrotoluene	ND	*	10	1.9	ug/L		07/25/19 08:28	07/31/19 03:14	1
Di-n-octyl phthalate	1.0	J	10	0.44	ug/L		07/25/19 08:28	07/31/19 03:14	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 03:14	1
Hexachloroethane	ND	*	10	4.2	ug/L		07/25/19 08:28	07/31/19 03:14	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 03:14	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 03:14	1
4-Nitroaniline	ND	*	10	2.5	ug/L		07/25/19 08:28	07/31/19 03:14	1
Nitrobenzene	ND	*	10	0.55	ug/L		07/25/19 08:28	07/31/19 03:14	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/31/19 03:14	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/31/19 03:14	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/31/19 03:14	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 03:14	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
3-Penten-2-one, 4-methyl-	*11*	*T J N*	*ug/L*		*3.86*	*141-79-7*	*07/25/19 08:28*	*07/31/19 03:14*	*1*
4-Chloro-2-butanone	*5.1*	*T J N*	*ug/L*		*4.03*	*6322-49-2*	*07/25/19 08:28*	*07/31/19 03:14*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-17-GWP-50-072219-EB

Lab Sample ID: 400-173526-4

Date Collected: 07/22/19 11:15
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
9-Octadecenamide, (Z)-	6.9	T J N	ug/L		11.51	301-02-0	07/25/19 08:28	07/31/19 03:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		34 - 120	07/25/19 08:28	07/31/19 03:14	1
2-Fluorophenol	45		10 - 120	07/25/19 08:28	07/31/19 03:14	1
Nitrobenzene-d5	58		27 - 120	07/25/19 08:28	07/31/19 03:14	1
Phenol-d5	50		10 - 120	07/25/19 08:28	07/31/19 03:14	1
Terphenyl-d14	94		53 - 125	07/25/19 08:28	07/31/19 03:14	1
2,4,6-Tribromophenol	107		15 - 135	07/25/19 08:28	07/31/19 03:14	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/25/19 08:28	08/06/19 12:03	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/06/19 12:03	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 12:03	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/25/19 08:28	08/06/19 12:03	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	08/06/19 12:03	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 12:03	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	08/06/19 12:03	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	08/06/19 12:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	08/06/19 12:03	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	08/06/19 12:03	1
Isophorone	ND		10	0.57	ug/L		07/25/19 08:28	08/06/19 12:03	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/06/19 12:03	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/06/19 12:03	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	08/06/19 12:03	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	08/06/19 12:03	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	08/06/19 12:03	1
Phenol	ND		10	2.6	ug/L		07/25/19 08:28	08/06/19 12:03	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/06/19 12:03	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50	20	ug/L			07/27/19 10:16	2
Acrolein	ND		40	20	ug/L			07/27/19 10:16	2
Acrylonitrile	ND		20	5.6	ug/L			07/27/19 10:16	2
Benzene	**400**		2.0	0.76	ug/L			07/27/19 10:16	2
Bromobenzene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
Bromochloromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Bromodichloromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Bromoform	ND		10	1.4	ug/L			07/27/19 10:16	2
Bromomethane	ND		2.0	2.0	ug/L			07/27/19 10:16	2
2-Butanone (MEK)	ND		50	5.2	ug/L			07/27/19 10:16	2
Carbon disulfide	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Carbon tetrachloride	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Chlorobenzene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Chloroethane	ND		2.0	1.5	ug/L			07/27/19 10:16	2
2-Chloroethyl vinyl ether	ND		10	4.0	ug/L			07/27/19 10:16	2
Chloroform	ND		2.0	1.2	ug/L			07/27/19 10:16	2
1-Chlorohexane	ND		2.0	1.4	ug/L			07/27/19 10:16	2
Chloromethane	ND		2.0	1.7	ug/L			07/27/19 10:16	2
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
cis-1,3-Dichloropropene	ND		10	1.0	ug/L			07/27/19 10:16	2
Dibromochloromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2-Dibromo-3-Chloropropane	ND		10	3.0	ug/L			07/27/19 10:16	2
1,2-Dichlorobenzene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,3-Dichlorobenzene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
1,4-Dichlorobenzene	ND		2.0	1.3	ug/L			07/27/19 10:16	2
Dichlorodifluoromethane	ND		2.0	1.7	ug/L			07/27/19 10:16	2
1,1-Dichloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2-Dichloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,1-Dichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2-Dichloropropane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,3-Dichloropropane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
2,2-Dichloropropane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,1-Dichloropropene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Ethylbenzene	**15**		2.0	1.0	ug/L			07/27/19 10:16	2
Ethylene Dibromide	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Ethyl methacrylate	ND	F1	2.0	1.2	ug/L			07/27/19 10:16	2
Hexachlorobutadiene	ND		10	1.8	ug/L			07/27/19 10:16	2
2-Hexanone	ND	*	50	6.2	ug/L			07/27/19 10:16	2
Isopropylbenzene	**11**		2.0	1.1	ug/L			07/27/19 10:16	2
Methylene bromide	ND		10	1.2	ug/L			07/27/19 10:16	2
Methylene Chloride	ND		10	6.0	ug/L			07/27/19 10:16	2
4-Methyl-2-pentanone (MIBK)	ND		50	3.6	ug/L			07/27/19 10:16	2
Methyl tert-butyl ether	ND		2.0	1.5	ug/L			07/27/19 10:16	2
m-Xylene & p-Xylene	**27**		10	3.2	ug/L			07/27/19 10:16	2
Naphthalene	**13**		2.0	2.0	ug/L			07/27/19 10:16	2
n-Butylbenzene	ND		2.0	1.5	ug/L			07/27/19 10:16	2
N-Propylbenzene	**17**		2.0	1.4	ug/L			07/27/19 10:16	2
o-Chlorotoluene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
o-Xylene	ND		10	1.2	ug/L			07/27/19 10:16	2

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		2.0	1.1	ug/L			07/27/19 10:16	2
p-Isopropyltoluene	**7.0**		2.0	1.4	ug/L			07/27/19 10:16	2
sec-Butylbenzene	**12**		2.0	1.4	ug/L			07/27/19 10:16	2
Styrene	ND		2.0	2.0	ug/L			07/27/19 10:16	2
tert-Butylbenzene	ND		2.0	1.3	ug/L			07/27/19 10:16	2
1,1,1,2-Tetrachloroethane	ND	*	2.0	1.0	ug/L			07/27/19 10:16	2
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Tetrachloroethene	ND		2.0	1.2	ug/L			07/27/19 10:16	2
Toluene	ND		2.0	0.82	ug/L			07/27/19 10:16	2
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
trans-1,3-Dichloropropene	ND		10	1.0	ug/L			07/27/19 10:16	2
1,2,3-Trichlorobenzene	ND		2.0	1.4	ug/L			07/27/19 10:16	2
1,2,4-Trichlorobenzene	ND		2.0	1.6	ug/L			07/27/19 10:16	2
1,1,1-Trichloroethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,1,2-Trichloroethane	ND		10	1.0	ug/L			07/27/19 10:16	2
Trichloroethene	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Trichlorofluoromethane	ND		2.0	1.0	ug/L			07/27/19 10:16	2
1,2,3-Trichloropropane	ND		10	1.7	ug/L			07/27/19 10:16	2
1,2,4-Trimethylbenzene	**110**		2.0	1.6	ug/L			07/27/19 10:16	2
1,3,5-Trimethylbenzene	**26**		2.0	1.1	ug/L			07/27/19 10:16	2
Vinyl acetate	ND		50	4.0	ug/L			07/27/19 10:16	2
Vinyl chloride	ND		2.0	1.0	ug/L			07/27/19 10:16	2
Xylenes, Total	**27**		20	3.2	ug/L			07/27/19 10:16	2

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*57*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/27/19 10:16*	*2*
Pentane, 3-methyl-	*18*	*T J N*	*ug/L*		*3.53*	*96-14-0*		*07/27/19 10:16*	*2*
Pentane, 2,4-dimethyl-	*13*	*T J N*	*ug/L*		*4.04*	*108-08-7*		*07/27/19 10:16*	*2*
Isooctane	*22*		*ug/L*		*4.76*	*540-84-1*		*07/27/19 10:16*	*2*
Methylcyclohexane	*8.9*		*ug/L*		*5.27*	*108-87-2*		*07/27/19 10:16*	*2*
Unknown	*22*	*T J*	*ug/L*		*5.52*			*07/27/19 10:16*	*2*
Unknown	*30*	*T J*	*ug/L*		*5.61*			*07/27/19 10:16*	*2*
Cyclohexane, 1,2-dimethyl-, trans-	*11*	*T J N*	*ug/L*		*6.16*	*6876-23-9*		*07/27/19 10:16*	*2*
3-Ethyltoluene	*46*		*ug/L*		*8.07*	*620-14-4*		*07/27/19 10:16*	*2*
2-Ethyltoluene	*18*		*ug/L*		*8.30*	*611-14-3*		*07/27/19 10:16*	*2*
1,2,3-Trimethylbenzene	*31*		*ug/L*		*8.77*	*526-73-8*		*07/27/19 10:16*	*2*
p-Diethylbenzene	*16*		*ug/L*		*8.97*	*105-05-5*		*07/27/19 10:16*	*2*
o-diethylbenzene	*5.6*	*J*	*ug/L*		*9.08*	*135-01-3*		*07/27/19 10:16*	*2*
Benzene, 2-ethyl-1,3-dimethyl-	*48*	*T J N*	*ug/L*		*9.20*	*2870-04-4*		*07/27/19 10:16*	*2*
Benzene, 2-ethyl-1,4-dimethyl-	*42*	*T J N*	*ug/L*		*9.29*	*1758-88-9*		*07/27/19 10:16*	*2*
Unknown	*53*	*T J*	*ug/L*		*9.41*			*07/27/19 10:16*	*2*
Benzene, 1,3-diethyl-5-methyl-	*10*	*T J N*	*ug/L*		*9.49*	*2050-24-0*		*07/27/19 10:16*	*2*
Benzene, (2-methyl-1-butenyl)-	*13*	*T J N*	*ug/L*		*9.58*	*56253-64-6*		*07/27/19 10:16*	*2*
Benzene, 1,2,3,4-tetramethyl-	*42*	*T J N*	*ug/L*		*9.65*	*488-23-3*		*07/27/19 10:16*	*2*
Benzene, 1,2,4,5-tetramethyl-	*62*	*T J N*	*ug/L*		*9.71*	*95-93-2*		*07/27/19 10:16*	*2*
Unknown	*15*	*T J*	*ug/L*		*9.92*			*07/27/19 10:16*	*2*
Benzene, 1,2,4,5-tetramethyl-	*48*	*T J N*	*ug/L*		*10.11*	*95-93-2*		*07/27/19 10:16*	*2*
Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	*12*	*T J N*	*ug/L*		*10.78*	*3877-19-8*		*07/27/19 10:16*	*2*
2-Methylnaphthalene	*12*	*J*	*ug/L*		*11.72*	*91-57-6*		*07/27/19 10:16*	*2*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	14		ug/L		11.91	90-12-0		07/27/19 10:16	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118		07/27/19 10:16	2
Dibromofluoromethane	94		81 - 121		07/27/19 10:16	2
Toluene-d8 (Surr)	104		80 - 120		07/27/19 10:16	2

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.0**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Anthracene	**0.15**	**J**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[g,h,i]perylene	ND	F1	0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
Fluoranthene	**0.053**	**J**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Fluorene	**1.4**		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 05:21	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 05:21	1
1-Methylnaphthalene	**4.4**	**B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
2-Methylnaphthalene	**2.2**	**B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Phenanthrene	**0.46**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1
Pyrene	**0.21**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 05:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	105		15 - 122	07/25/19 08:28	08/07/19 05:21	1
Nitrobenzene-d5	96		19 - 130	07/25/19 08:28	08/07/19 05:21	1
Terphenyl-d14	74		33 - 138	07/25/19 08:28	08/07/19 05:21	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	07/31/19 01:27	1
Benzoic acid	ND		30	7.3	ug/L		07/25/19 08:28	07/31/19 01:27	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/31/19 01:27	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Dibenzofuran	**0.63**	**J**	10	0.52	ug/L		07/25/19 08:28	07/31/19 01:27	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 01:27	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/31/19 01:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-45-072219

Lab Sample ID: 400-173526-5

Date Collected: 07/22/19 13:45
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	07/31/19 01:27	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 01:27	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/25/19 08:28	07/31/19 01:27	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 01:27	1
Hexachloroethane	ND	*	10	4.2	ug/L		07/25/19 08:28	07/31/19 01:27	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:27	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 01:27	1
4-Nitroaniline	ND	*	10	2.5	ug/L		07/25/19 08:28	07/31/19 01:27	1
Nitrobenzene	ND	*	10	0.55	ug/L		07/25/19 08:28	07/31/19 01:27	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/31/19 01:27	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/31/19 01:27	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	07/31/19 01:27	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/31/19 01:27	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/31/19 01:27	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 01:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*8.1*	*T J N*	*ug/L*		*3.75*	*590-90-9*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, propyl-	*4.3*	*T J N*	*ug/L*		*5.01*	*103-65-1*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 1,2,3-trimethyl-	*14*	*T J N*	*ug/L*		*5.24*	*526-73-8*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 1-ethyl-2-methyl-	*4.9*	*T J N*	*ug/L*		*5.40*	*611-14-3*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 2-ethyl-1,3-dimethyl-	*5.7*	*T J N*	*ug/L*		*5.69*	*2870-04-4*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Benzene, 1,2,3,4-tetramethyl-	*5.7*	*T J N*	*ug/L*		*5.86*	*488-23-3*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
2-Methylnaphthalene	*1.4*	*J **	*ug/L*		*6.65*	*91-57-6*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
1-Methylnaphthalene	*2.8*	*J **	*ug/L*		*6.72*	*90-12-0*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Acenaphthene	*1.3*	*J*	*ug/L*		*7.38*	*83-32-9*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Unknown	*4.5*	*T J*	*ug/L*		*7.54*		*07/25/19 08:28*	*07/31/19 01:27*	*1*
Unknown	*7.6*	*T J*	*ug/L*		*11.38*		*07/25/19 08:28*	*07/31/19 01:27*	*1*
Unknown	*7.1*	*T J*	*ug/L*		*11.60*		*07/25/19 08:28*	*07/31/19 01:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
2-Fluorophenol	*36*		*10 - 120*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Nitrobenzene-d5	*57*		*27 - 120*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Phenol-d5	*37*		*10 - 120*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
Terphenyl-d14	*52*	*X*	*53 - 125*	*07/25/19 08:28*	*07/31/19 01:27*	*1*
2,4,6-Tribromophenol	*76*		*15 - 135*	*07/25/19 08:28*	*07/31/19 01:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/25/19 08:28	08/03/19 16:58	1

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-45-072219
Lab Sample ID: 400-173526-5
Date Collected: 07/22/19 13:45
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 16:58	1
Bis(2-chloroethoxy)methane	ND	*	10	0.69	ug/L		07/25/19 08:28	08/03/19 16:58	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		07/25/19 08:28	08/03/19 16:58	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	08/03/19 16:58	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/25/19 08:28	08/03/19 16:58	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	08/03/19 16:58	1
Isophorone	ND	*	10	0.57	ug/L		07/25/19 08:28	08/03/19 16:58	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/03/19 16:58	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/03/19 16:58	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	08/03/19 16:58	1
Phenol	ND		10	2.6	ug/L		07/25/19 08:28	08/03/19 16:58	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/03/19 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*34 - 120*	*07/25/19 08:28*	*08/03/19 16:58*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/25/19 08:28*	*08/03/19 16:58*	*1*
Nitrobenzene-d5	*81*		*27 - 120*	*07/25/19 08:28*	*08/03/19 16:58*	*1*
Phenol-d5	*55*		*10 - 120*	*07/25/19 08:28*	*08/03/19 16:58*	*1*
Terphenyl-d14	*60*		*53 - 125*	*07/25/19 08:28*	*08/03/19 16:58*	*1*
2,4,6-Tribromophenol	*71*		*15 - 135*	*07/25/19 08:28*	*08/03/19 16:58*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/27/19 16:29	1000
Acrolein	ND		20000	10000	ug/L			07/27/19 16:29	1000
Acrylonitrile	ND		10000	2800	ug/L			07/27/19 16:29	1000
Bromobenzene	ND		1000	540	ug/L			07/27/19 16:29	1000
Bromochloromethane	ND		1000	520	ug/L			07/27/19 16:29	1000
Bromodichloromethane	ND		1000	500	ug/L			07/27/19 16:29	1000
Bromoform	ND		5000	710	ug/L			07/27/19 16:29	1000
Bromomethane	ND		1000	980	ug/L			07/27/19 16:29	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/27/19 16:29	1000
Carbon disulfide	ND		1000	500	ug/L			07/27/19 16:29	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/27/19 16:29	1000
Chlorobenzene	ND		1000	500	ug/L			07/27/19 16:29	1000
Chloroethane	ND		1000	760	ug/L			07/27/19 16:29	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/27/19 16:29	1000
Chloroform	ND		1000	600	ug/L			07/27/19 16:29	1000
1-Chlorohexane	ND		1000	700	ug/L			07/27/19 16:29	1000
Chloromethane	ND		1000	830	ug/L			07/27/19 16:29	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:29	1000
Dibromochloromethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/27/19 16:29	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/27/19 16:29	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/27/19 16:29	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/27/19 16:29	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/27/19 16:29	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:29	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/27/19 16:29	1000
Ethylbenzene	**1400**		1000	500	ug/L			07/27/19 16:29	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/27/19 16:29	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/27/19 16:29	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/27/19 16:29	1000
2-Hexanone	ND	*	25000	3100	ug/L			07/27/19 16:29	1000
Isopropylbenzene	ND		1000	530	ug/L			07/27/19 16:29	1000
Methylene bromide	ND		5000	590	ug/L			07/27/19 16:29	1000
Methylene Chloride	ND		5000	3000	ug/L			07/27/19 16:29	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/27/19 16:29	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/27/19 16:29	1000
m-Xylene & p-Xylene	**2700**	**J**	5000	1600	ug/L			07/27/19 16:29	1000
Naphthalene	ND		1000	1000	ug/L			07/27/19 16:29	1000
n-Butylbenzene	ND		1000	760	ug/L			07/27/19 16:29	1000
N-Propylbenzene	ND		1000	690	ug/L			07/27/19 16:29	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/27/19 16:29	1000
o-Xylene	**710**	**J**	5000	600	ug/L			07/27/19 16:29	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/27/19 16:29	1000

Client Sample ID: PD-7-GWP-50-072219
Lab Sample ID: 400-173526-6
Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/27/19 16:29	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/27/19 16:29	1000
Styrene	ND		1000	1000	ug/L			07/27/19 16:29	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/27/19 16:29	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/27/19 16:29	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
Tetrachloroethene	ND		1000	580	ug/L			07/27/19 16:29	1000
Toluene	**1100**		1000	410	ug/L			07/27/19 16:29	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:29	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/27/19 16:29	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/27/19 16:29	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/27/19 16:29	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/27/19 16:29	1000
Trichloroethene	ND		1000	500	ug/L			07/27/19 16:29	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/27/19 16:29	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/27/19 16:29	1000
1,2,4-Trimethylbenzene	**970**	**J**	1000	820	ug/L			07/27/19 16:29	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/27/19 16:29	1000
Vinyl acetate	ND		25000	2000	ug/L			07/27/19 16:29	1000
Vinyl chloride	ND		1000	500	ug/L			07/27/19 16:29	1000
Xylenes, Total	**3500**	**J**	10000	1600	ug/L			07/27/19 16:29	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 16:29*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/27/19 16:29*	*1000*
Dibromofluoromethane	*93*		*81 - 121*		*07/27/19 16:29*	*1000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/27/19 16:29*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**500000**		2000	760	ug/L			07/28/19 15:42	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/28/19 15:42*	*2000*
Dibromofluoromethane	*94*		*81 - 121*		*07/28/19 15:42*	*2000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/28/19 15:42*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Acenaphthylene	ND		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Anthracene	**8.0**		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[a]anthracene	**10**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[a]pyrene	**9.0**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[b]fluoranthene	**4.8**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[g,h,i]perylene	**2.1**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Benzo[k]fluoranthene	ND		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Chrysene	**19**		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-6

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	1.9		1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Fluoranthene	4.0		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Fluorene	14		1.0	0.11	ug/L		07/25/19 08:28	08/07/19 17:28	5
Indeno[1,2,3-cd]pyrene	0.84	J	1.0	0.20	ug/L		07/25/19 08:28	08/07/19 17:28	5
Phenanthrene	57		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5
Pyrene	33		1.0	0.10	ug/L		07/25/19 08:28	08/07/19 17:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*15 - 122*	*07/25/19 08:28*	*08/07/19 17:28*	*5*
Nitrobenzene-d5	*0*	*X*	*19 - 130*	*07/25/19 08:28*	*08/07/19 17:28*	*5*
Terphenyl-d14	*63*		*33 - 138*	*07/25/19 08:28*	*08/07/19 17:28*	*5*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	270	B	5.0	0.50	ug/L		07/25/19 08:28	08/08/19 16:16	25
2-Methylnaphthalene	360	B	5.0	0.50	ug/L		07/25/19 08:28	08/08/19 16:16	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		50	19	ug/L		07/25/19 08:28	08/03/19 17:23	5
Benzenethiol	ND		50	8.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
Benzoic acid	ND		150	37	ug/L		07/25/19 08:28	08/03/19 17:23	5
Benzyl alcohol	ND		50	10	ug/L		07/25/19 08:28	08/03/19 17:23	5
Bis(2-chloroethoxy)methane	ND	*	50	3.5	ug/L		07/25/19 08:28	08/03/19 17:23	5
Bis(2-chloroethyl)ether	ND	*	50	3.7	ug/L		07/25/19 08:28	08/03/19 17:23	5
bis (2-chloroisopropyl) ether	ND		50	4.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
Bis(2-ethylhexyl) phthalate	ND		50	25	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Bromophenyl phenyl ether	ND		50	1.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
Butyl benzyl phthalate	ND		50	3.5	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Chloroaniline	ND		50	17	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Chloro-3-methylphenol	ND		50	19	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Chloronaphthalene	ND		50	2.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Chlorophenol	ND		50	11	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Chlorophenyl phenyl ether	ND		50	10	ug/L		07/25/19 08:28	08/03/19 17:23	5
Dibenz[a,h]acridine	ND		50	15	ug/L		07/25/19 08:28	08/03/19 17:23	5
Dibenzofuran	ND		50	2.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
3,3'-Dichlorobenzidine	ND	*	50	13	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dichlorophenol	ND		50	15	ug/L		07/25/19 08:28	08/03/19 17:23	5
Diethyl phthalate	ND		50	3.5	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dimethylphenol	ND		50	18	ug/L		07/25/19 08:28	08/03/19 17:23	5
Dimethyl phthalate	ND		50	3.0	ug/L		07/25/19 08:28	08/03/19 17:23	5
Di-n-butyl phthalate	ND		50	14	ug/L		07/25/19 08:28	08/03/19 17:23	5
4,6-Dinitro-ortho-cresol	ND		50	10	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dinitrophenol	ND		150	17	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4-Dinitrotoluene	ND		50	9.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,6-Dinitrotoluene	ND		50	9.6	ug/L		07/25/19 08:28	08/03/19 17:23	5
Di-n-octyl phthalate	ND		50	2.2	ug/L		07/25/19 08:28	08/03/19 17:23	5
1,4-Dioxane	ND		50	5.0	ug/L		07/25/19 08:28	08/03/19 17:23	5
1,2-Diphenylhydrazine (as Azobenzene)	ND		50	5.0	ug/L		07/25/19 08:28	08/03/19 17:23	5

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-50-072219
Lab Sample ID: 400-173526-6

Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		50	1.3	ug/L		07/25/19 08:28	08/03/19 17:23	5
Hexachlorocyclopentadiene	ND		100	13	ug/L		07/25/19 08:28	08/03/19 17:23	5
Hexachloroethane	ND	*	50	21	ug/L		07/25/19 08:28	08/03/19 17:23	5
Indene	ND		50	5.0	ug/L		07/25/19 08:28	08/03/19 17:23	5
Isophorone	ND	*	50	2.9	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Methylphenol	ND		50	9.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
3 & 4 Methylphenol	ND		100	5.2	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Nitroaniline	ND		50	11	ug/L		07/25/19 08:28	08/03/19 17:23	5
3-Nitroaniline	ND		50	9.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Nitroaniline	ND	*	50	12	ug/L		07/25/19 08:28	08/03/19 17:23	5
Nitrobenzene	ND	*	50	2.8	ug/L		07/25/19 08:28	08/03/19 17:23	5
2-Nitrophenol	ND		50	3.3	ug/L		07/25/19 08:28	08/03/19 17:23	5
4-Nitrophenol	ND		50	11	ug/L		07/25/19 08:28	08/03/19 17:23	5
N-Nitrosodimethylamine	ND		50	18	ug/L		07/25/19 08:28	08/03/19 17:23	5
N-Nitrosodi-n-propylamine	ND		50	17	ug/L		07/25/19 08:28	08/03/19 17:23	5
N-Nitrosodiphenylamine	ND		50	2.4	ug/L		07/25/19 08:28	08/03/19 17:23	5
Pentachlorophenol	ND		100	9.1	ug/L		07/25/19 08:28	08/03/19 17:23	5
Phenol	**95**		50	13	ug/L		07/25/19 08:28	08/03/19 17:23	5
Pyridine	ND		50	16	ug/L		07/25/19 08:28	08/03/19 17:23	5
Quinoline	ND		50	30	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4,5-Trichlorophenol	ND		50	19	ug/L		07/25/19 08:28	08/03/19 17:23	5
2,4,6-Trichlorophenol	ND		50	18	ug/L		07/25/19 08:28	08/03/19 17:23	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*2700*	*T J N*	*ug/L*		*3.04*	*71-43-2*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Toluene	*330*	*T J N*	*ug/L*		*4.08*	*108-88-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Ethylbenzene	*570*	*T J N*	*ug/L*		*4.83*	*100-41-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
p-Xylene	*850*	*T J N*	*ug/L*		*4.90*	*106-42-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
p-Xylene	*420*	*T J N*	*ug/L*		*5.05*	*106-42-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, propyl-	*370*	*T J N*	*ug/L*		*5.42*	*103-65-1*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1-ethyl-3-methyl-	*340*	*T J N*	*ug/L*		*5.46*	*620-14-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Decane	*300*	*T J N*	*ug/L*		*5.63*	*124-18-5*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1,2,3-trimethyl-	*750*	*T J N*	*ug/L*		*5.65*	*526-73-8*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Benzene, 1,2,3-trimethyl-	*540*	*T J N*	*ug/L*		*5.81*	*526-73-8*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*540*	*T J*	*ug/L*		*6.10*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
1,3-Cyclopentadiene, 1,2,3,4-tetramethyl-5-methylene-	*480*	*T J N*	*ug/L*		*6.27*	*76089-59-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*400*	*T J*	*ug/L*		*6.33*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*710*	*T J*	*ug/L*		*6.39*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*970*	*T J*	*ug/L*		*6.42*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 1,2,3,4-tetrahydro-	*550*	*T J N*	*ug/L*		*6.50*	*119-64-2*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Dodecane	*1100*	*T J N*	*ug/L*		*6.54*	*112-40-3*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Undecane, 2,6-dimethyl-	*750*	*T J N*	*ug/L*		*6.59*	*17301-23-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*520*	*T J*	*ug/L*		*6.73*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*370*	*T J*	*ug/L*		*6.79*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
Unknown	*630*	*T J*	*ug/L*		*6.83*		*07/25/19 08:28*	*08/03/19 17:23*	*5*
Tridecane	*930*	*T J N*	*ug/L*		*6.94*	*629-50-5*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 2-methyl-	*750*	*T J N*	*ug/L*		*7.09*	*91-57-6*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 1-methyl-	*330*	*T J N*	*ug/L*		*7.16*	*90-12-0*	*07/25/19 08:28*	*08/03/19 17:23*	*5*
Naphthalene, 1,4-dimethyl-	*340*	*T J N*	*ug/L*		*7.57*	*571-58-4*	*07/25/19 08:28*	*08/03/19 17:23*	*5*

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-50-072219
Lab Sample ID: 400-173526-6
Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	98		34 - 120	07/25/19 08:28	08/03/19 17:23	5
2-Fluorophenol	0	X	10 - 120	07/25/19 08:28	08/03/19 17:23	5
Nitrobenzene-d5	0	X	27 - 120	07/25/19 08:28	08/03/19 17:23	5
Phenol-d5	11		10 - 120	07/25/19 08:28	08/03/19 17:23	5
Terphenyl-d14	67		53 - 125	07/25/19 08:28	08/03/19 17:23	5
2,4,6-Tribromophenol	101		15 - 135	07/25/19 08:28	08/03/19 17:23	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP

Date Collected: 07/22/19 14:55
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			07/27/19 16:53	1000
Acrolein	ND		20000	10000	ug/L			07/27/19 16:53	1000
Acrylonitrile	ND		10000	2800	ug/L			07/27/19 16:53	1000
Bromobenzene	ND		1000	540	ug/L			07/27/19 16:53	1000
Bromochloromethane	ND		1000	520	ug/L			07/27/19 16:53	1000
Bromodichloromethane	ND		1000	500	ug/L			07/27/19 16:53	1000
Bromoform	ND		5000	710	ug/L			07/27/19 16:53	1000
Bromomethane	ND		1000	980	ug/L			07/27/19 16:53	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			07/27/19 16:53	1000
Carbon disulfide	ND		1000	500	ug/L			07/27/19 16:53	1000
Carbon tetrachloride	ND		1000	500	ug/L			07/27/19 16:53	1000
Chlorobenzene	ND		1000	500	ug/L			07/27/19 16:53	1000
Chloroethane	ND		1000	760	ug/L			07/27/19 16:53	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			07/27/19 16:53	1000
Chloroform	ND		1000	600	ug/L			07/27/19 16:53	1000
1-Chlorohexane	ND		1000	700	ug/L			07/27/19 16:53	1000
Chloromethane	ND		1000	830	ug/L			07/27/19 16:53	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:53	1000
Dibromochloromethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,2-Dibromo-3-Chloropropane	ND		5000	1500	ug/L			07/27/19 16:53	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			07/27/19 16:53	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			07/27/19 16:53	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			07/27/19 16:53	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			07/27/19 16:53	1000
1,1-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,2-Dichloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,1-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
1,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,3-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:53	1000
2,2-Dichloropropane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,1-Dichloropropene	ND		1000	500	ug/L			07/27/19 16:53	1000
Ethylbenzene	**1500**		1000	500	ug/L			07/27/19 16:53	1000
Ethylene Dibromide	ND		1000	500	ug/L			07/27/19 16:53	1000
Ethyl methacrylate	ND		1000	600	ug/L			07/27/19 16:53	1000
Hexachlorobutadiene	ND		5000	900	ug/L			07/27/19 16:53	1000
2-Hexanone	ND	*	25000	3100	ug/L			07/27/19 16:53	1000
Isopropylbenzene	ND		1000	530	ug/L			07/27/19 16:53	1000
Methylene bromide	ND		5000	590	ug/L			07/27/19 16:53	1000
Methylene Chloride	ND		5000	3000	ug/L			07/27/19 16:53	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			07/27/19 16:53	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			07/27/19 16:53	1000
m-Xylene & p-Xylene	**2800**	**J**	5000	1600	ug/L			07/27/19 16:53	1000
Naphthalene	ND		1000	1000	ug/L			07/27/19 16:53	1000
n-Butylbenzene	ND		1000	760	ug/L			07/27/19 16:53	1000
N-Propylbenzene	ND		1000	690	ug/L			07/27/19 16:53	1000
o-Chlorotoluene	ND		1000	570	ug/L			07/27/19 16:53	1000
o-Xylene	**750**	**J**	5000	600	ug/L			07/27/19 16:53	1000
p-Chlorotoluene	ND		1000	560	ug/L			07/27/19 16:53	1000

Client Sample ID: PD-7-GWP-50-072219-DUP
Lab Sample ID: 400-173526-7
Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1000	710	ug/L			07/27/19 16:53	1000
sec-Butylbenzene	ND		1000	700	ug/L			07/27/19 16:53	1000
Styrene	ND		1000	1000	ug/L			07/27/19 16:53	1000
tert-Butylbenzene	ND		1000	630	ug/L			07/27/19 16:53	1000
1,1,1,2-Tetrachloroethane	ND	*	1000	520	ug/L			07/27/19 16:53	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
Tetrachloroethene	ND		1000	580	ug/L			07/27/19 16:53	1000
Toluene	**1100**		1000	410	ug/L			07/27/19 16:53	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			07/27/19 16:53	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			07/27/19 16:53	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			07/27/19 16:53	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			07/27/19 16:53	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			07/27/19 16:53	1000
Trichloroethene	ND		1000	500	ug/L			07/27/19 16:53	1000
Trichlorofluoromethane	ND		1000	520	ug/L			07/27/19 16:53	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			07/27/19 16:53	1000
1,2,4-Trimethylbenzene	**1100**		1000	820	ug/L			07/27/19 16:53	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			07/27/19 16:53	1000
Vinyl acetate	ND		25000	2000	ug/L			07/27/19 16:53	1000
Vinyl chloride	ND		1000	500	ug/L			07/27/19 16:53	1000
Xylenes, Total	**3600**	**J**	10000	1600	ug/L			07/27/19 16:53	1000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 16:53*	*1000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*07/27/19 16:53*	*1000*
Dibromofluoromethane	*92*		*81 - 121*		*07/27/19 16:53*	*1000*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/27/19 16:53*	*1000*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**380000**		2000	760	ug/L			07/28/19 16:07	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/28/19 16:07*	*2000*
Dibromofluoromethane	*95*		*81 - 121*		*07/28/19 16:07*	*2000*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 16:07*	*2000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.9**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Anthracene	**3.0**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Benzo[a]anthracene	**3.9**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Benzo[a]pyrene	**3.8**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Chrysene	**6.8**		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Fluoranthene	**1.8**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7

Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	**3.5**		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 06:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		07/25/19 08:28	08/07/19 06:27	1
Phenanthrene	**21**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1
Pyrene	**11**		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*42*		*15 - 122*	*07/25/19 08:28*	*08/07/19 06:27*	*1*
Nitrobenzene-d5	*56*		*19 - 130*	*07/25/19 08:28*	*08/07/19 06:27*	*1*
Terphenyl-d14	*46*		*33 - 138*	*07/25/19 08:28*	*08/07/19 06:27*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**2.0**		1.4	0.29	ug/L		07/25/19 08:28	08/07/19 17:46	7
Benzo[g,h,i]perylene	**1.2**	**J**	1.4	0.29	ug/L		07/25/19 08:28	08/07/19 17:46	7
1-Methylnaphthalene	**76**	**B**	1.4	0.14	ug/L		07/25/19 08:28	08/07/19 17:46	7
2-Methylnaphthalene	**100**	**B**	1.4	0.14	ug/L		07/25/19 08:28	08/07/19 17:46	7

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*107*		*15 - 122*	*07/25/19 08:28*	*08/07/19 17:46*	*7*
Nitrobenzene-d5	*137*	*X*	*19 - 130*	*07/25/19 08:28*	*08/07/19 17:46*	*7*
Terphenyl-d14	*68*		*33 - 138*	*07/25/19 08:28*	*08/07/19 17:46*	*7*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND		31	7.4	ug/L		07/25/19 08:28	07/31/19 01:49	1
bis (2-chloroisopropyl) ether	ND		10	0.83	ug/L		07/25/19 08:28	07/31/19 01:49	1
4-Chloroaniline	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 01:49	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Chloronaphthalene	ND		10	0.53	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:49	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
Dibenzofuran	**2.1**	**J**	10	0.53	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
Diethyl phthalate	ND		10	0.71	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 01:49	1
Dimethyl phthalate	ND		10	0.61	ug/L		07/25/19 08:28	07/31/19 01:49	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		07/25/19 08:28	07/31/19 01:49	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 01:49	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
Hexachlorocyclopentadiene	ND		20	2.7	ug/L		07/25/19 08:28	07/31/19 01:49	1
Hexachloroethane	ND	*	10	4.3	ug/L		07/25/19 08:28	07/31/19 01:49	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 01:49	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 01:49	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 01:49	1

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-50-072219-DUP
Lab Sample ID: 400-173526-7
Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	ND	*	10	2.5	ug/L		07/25/19 08:28	07/31/19 01:49	1
Nitrobenzene	ND	*	10	0.56	ug/L		07/25/19 08:28	07/31/19 01:49	1
2-Nitrophenol	ND		10	0.66	ug/L		07/25/19 08:28	07/31/19 01:49	1
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 01:49	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		07/25/19 08:28	07/31/19 01:49	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/31/19 01:49	1
Quinoline	ND		10	6.1	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 01:49	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		07/25/19 08:28	07/31/19 01:49	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene	*51*	*T J N*	*ug/L*		*3.62*	*108-88-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
o-Xylene	*140*	*T J N*	*ug/L*		*4.48*	*95-47-6*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
p-Xylene	*69*	*T J N*	*ug/L*		*4.64*	*106-42-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, propyl-	*42*	*T J N*	*ug/L*		*5.02*	*103-65-1*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-3-methyl-	*120*	*T J N*	*ug/L*		*5.06*	*620-14-4*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-2-methyl-	*110*	*T J N*	*ug/L*		*5.08*	*611-14-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-2-methyl-	*51*	*T J N*	*ug/L*		*5.16*	*611-14-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Decane	*89*	*T J N*	*ug/L*		*5.24*	*124-18-5*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1,2,3-trimethyl-	*340*	*T J N*	*ug/L*		*5.26*	*526-73-8*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1,2,3-trimethyl-	*110*	*T J N*	*ug/L*		*5.41*	*526-73-8*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*62*	*T J N*	*ug/L*		*5.56*	*934-74-7*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*38*	*T J N*	*ug/L*		*5.70*	*934-80-5*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Unknown	*66*	*T J*	*ug/L*		*6.02*		*07/25/19 08:28*	*07/31/19 01:49*	*1*
Dodecane	*130*	*T J N*	*ug/L*		*6.14*	*112-40-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene	*42*	*T J N*	*ug/L*		*6.21*	*91-20-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Unknown	*43*	*T J*	*ug/L*		*6.35*		*07/25/19 08:28*	*07/31/19 01:49*	*1*
Octane, 2,6-dimethyl-	*63*	*T J N*	*ug/L*		*6.42*	*2051-30-1*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Tridecane	*100*	*T J N*	*ug/L*		*6.53*	*629-50-5*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 2-methyl-	*67*	*T J N*	*ug/L*		*6.65*	*91-57-6*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 1-methyl-	*52*	*T J N*	*ug/L*		*6.72*	*90-12-0*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Dodecane, 2,6,10-trimethyl-	*40*	*T J N*	*ug/L*		*6.81*	*3891-98-3*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Tetradecane	*87*	*T J N*	*ug/L*		*6.90*	*629-59-4*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 1,6-dimethyl-	*40*	*T J N*	*ug/L*		*7.07*	*575-43-9*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Naphthalene, 1,6-dimethyl-	*68*	*T J N*	*ug/L*		*7.12*	*575-43-9*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Pentadecane	*60*	*T J N*	*ug/L*		*7.25*	*629-62-9*	*07/25/19 08:28*	*07/31/19 01:49*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*48*		*34 - 120*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
2-Fluorophenol	*0.7*	*X*	*10 - 120*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Nitrobenzene-d5	*61*		*27 - 120*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Phenol-d5	*55*		*10 - 120*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
Terphenyl-d14	*44*	*X **	*53 - 125*	*07/25/19 08:28*	*07/31/19 01:49*	*1*
2,4,6-Tribromophenol	*85*		*15 - 135*	*07/25/19 08:28*	*07/31/19 01:49*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**140**		51	13	ug/L		07/25/19 08:28	07/31/19 17:07	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7

Date Collected: 07/22/19 14:55
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		07/25/19 08:28	08/03/19 17:47	1
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	08/03/19 17:47	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/03/19 17:47	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		07/25/19 08:28	08/03/19 17:47	1
Bis(2-chloroethyl)ether	ND		10	0.76	ug/L		07/25/19 08:28	08/03/19 17:47	1
Bis(2-ethylhexyl) phthalate	ND		10	5.1	ug/L		07/25/19 08:28	08/03/19 17:47	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		07/25/19 08:28	08/03/19 17:47	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	08/03/19 17:47	1
3,3'-Dichlorobenzidine	ND		10	2.7	ug/L		07/25/19 08:28	08/03/19 17:47	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		07/25/19 08:28	08/03/19 17:47	1
Hexachlorobenzene	ND		10	0.26	ug/L		07/25/19 08:28	08/03/19 17:47	1
Isophorone	ND		10	0.58	ug/L		07/25/19 08:28	08/03/19 17:47	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/03/19 17:47	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	08/03/19 17:47	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		07/25/19 08:28	08/03/19 17:47	1
Pyridine	ND		10	3.3	ug/L		07/25/19 08:28	08/03/19 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*34 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
Nitrobenzene-d5	*68*		*27 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
Phenol-d5	*11*		*10 - 120*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
Terphenyl-d14	*55*		*53 - 125*	*07/25/19 08:28*	*08/03/19 17:47*	*1*
2,4,6-Tribromophenol	*82*		*15 - 135*	*07/25/19 08:28*	*08/03/19 17:47*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Date Collected: 07/22/19 15:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/27/19 09:02	1
Acrolein	ND		20	10	ug/L			07/27/19 09:02	1
Acrylonitrile	ND		10	2.8	ug/L			07/27/19 09:02	1
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:29	1
Bromobenzene	ND		1.0	0.54	ug/L			07/27/19 09:02	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/27/19 09:02	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Bromoform	ND		5.0	0.71	ug/L			07/27/19 09:02	1
Bromomethane	ND		1.0	0.98	ug/L			07/27/19 09:02	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/27/19 09:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Chloroethane	ND		1.0	0.76	ug/L			07/27/19 09:02	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/27/19 09:02	1
Chloroform	ND		1.0	0.60	ug/L			07/27/19 09:02	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/27/19 09:02	1
Chloromethane	ND		1.0	0.83	ug/L			07/27/19 09:02	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 09:02	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/27/19 09:02	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/27/19 09:02	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/27/19 09:02	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/27/19 09:02	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/27/19 09:02	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/27/19 09:02	1
2-Hexanone	ND	*	25	3.1	ug/L			07/27/19 09:02	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/27/19 09:02	1
Methylene bromide	ND		5.0	0.59	ug/L			07/27/19 09:02	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/27/19 09:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/27/19 09:02	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/27/19 09:02	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/27/19 09:02	1
Naphthalene	ND		1.0	1.0	ug/L			07/27/19 09:02	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/27/19 09:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/27/19 09:02	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/27/19 09:02	1
o-Xylene	ND		5.0	0.60	ug/L			07/27/19 09:02	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Lab Sample ID: 400-173526-8

Date Collected: 07/22/19 15:45
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/27/19 09:02	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/27/19 09:02	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/27/19 09:02	1
Styrene	ND		1.0	1.0	ug/L			07/27/19 09:02	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/27/19 09:02	1
1,1,1,2-Tetrachloroethane	ND	*	1.0	0.52	ug/L			07/27/19 09:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/27/19 09:02	1
Toluene	ND		1.0	0.41	ug/L			07/27/19 09:02	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 09:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/27/19 09:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/27/19 09:02	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/27/19 09:02	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/27/19 09:02	1
Trichloroethene	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/27/19 09:02	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/27/19 09:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/27/19 09:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/27/19 09:02	1
Vinyl acetate	ND		25	2.0	ug/L			07/27/19 09:02	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/27/19 09:02	1
Xylenes, Total	ND		10	1.6	ug/L			07/27/19 09:02	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl alcohol	*29*	*J*	*ug/L*		*3.13*	*67-63-0*		*07/27/19 09:02*	*1*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 09:02*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/27/19 09:02*	*1*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/28/19 09:29*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/27/19 09:02*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/28/19 09:29*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/27/19 09:02*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*07/28/19 09:29*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Anthracene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
Fluoranthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Fluorene	ND		0.20	0.021	ug/L		07/25/19 08:28	08/07/19 06:45	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Client Sample ID: PD-7-GWP-50-072219-EB

Lab Sample ID: 400-173526-8

Date Collected: 07/22/19 15:45

Matrix: Water

Date Received: 07/23/19 09:09

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/07/19 06:45	1
1-Methylnaphthalene	**0.050**	**J B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
2-Methylnaphthalene	**0.074**	**J B**	0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Phenanthrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1
Pyrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/07/19 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*122*		*15 - 122*	*07/25/19 08:28*	*08/07/19 06:45*	*1*
Nitrobenzene-d5	*80*		*19 - 130*	*07/25/19 08:28*	*08/07/19 06:45*	*1*
Terphenyl-d14	*142*	*X*	*33 - 138*	*07/25/19 08:28*	*08/07/19 06:45*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	07/31/19 02:10	1
Benzoic acid	ND		30	7.3	ug/L		07/25/19 08:28	07/31/19 02:10	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/31/19 02:10	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Dibenzofuran	ND		10	0.52	ug/L		07/25/19 08:28	07/31/19 02:10	1
3,3'-Dichlorobenzidine	ND	*	10	2.6	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:10	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/31/19 02:10	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	07/31/19 02:10	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/31/19 02:10	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/25/19 08:28	07/31/19 02:10	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	07/31/19 02:10	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/31/19 02:10	1
Hexachloroethane	ND	*	10	4.2	ug/L		07/25/19 08:28	07/31/19 02:10	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/31/19 02:10	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Nitroaniline	ND	*	10	2.5	ug/L		07/25/19 08:28	07/31/19 02:10	1
Nitrobenzene	ND	*	10	0.55	ug/L		07/25/19 08:28	07/31/19 02:10	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/31/19 02:10	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	07/31/19 02:10	1

Client Sample ID: PD-7-GWP-50-072219-EB
Lab Sample ID: 400-173526-8
Date Collected: 07/22/19 15:45
Matrix: Water
Date Received: 07/23/19 09:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:10	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/31/19 02:10	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	07/31/19 02:10	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/31/19 02:10	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/31/19 02:10	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/31/19 02:10	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
13-Docosenamide, (Z)-	*8.5*	*T J N*	*ug/L*		*11.51*	*112-84-5*	*07/25/19 08:28*	*07/31/19 02:10*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*34 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
2-Fluorophenol	*33*		*10 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
Nitrobenzene-d5	*56*		*27 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
Phenol-d5	*43*		*10 - 120*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
Terphenyl-d14	*89*		*53 - 125*	*07/25/19 08:28*	*07/31/19 02:10*	*1*
2,4,6-Tribromophenol	*93*		*15 - 135*	*07/25/19 08:28*	*07/31/19 02:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/25/19 08:28	08/09/19 22:33	1
Benzyl alcohol	ND		10	2.0	ug/L		07/25/19 08:28	08/09/19 22:33	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/25/19 08:28	08/09/19 22:33	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/25/19 08:28	08/09/19 22:33	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/25/19 08:28	08/09/19 22:33	1
Isophorone	ND		10	0.57	ug/L		07/25/19 08:28	08/09/19 22:33	1
2-Methylphenol	ND		10	1.8	ug/L		07/25/19 08:28	08/09/19 22:33	1
Phenol	ND		10	2.6	ug/L		07/25/19 08:28	08/09/19 22:33	1
Pyridine	ND		10	3.2	ug/L		07/25/19 08:28	08/09/19 22:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	ISTD response or retention time outside acceptable limits
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173526-1	TB-PW-072219-B	95	100	99
400-173526-2	PD-17-GWP-50-072219	100	92	103
400-173526-2 - DL	PD-17-GWP-50-072219	98	95	103
400-173526-3	PD-17-GWP-50-072219-DUP	101	92	102
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	101	93	102
400-173526-4	PD-17-GWP-50-072219-EB	100	95	104
400-173526-4	PD-17-GWP-50-072219-EB	99	96	103
400-173526-5	PD-7-GWP-45-072219	98	94	104
400-173526-5 MS	PD-7-GWP-45-072219	100	95	102
400-173526-5 MSD	PD-7-GWP-45-072219	102	94	103
400-173526-6	PD-7-GWP-50-072219	99	93	103
400-173526-6 - DL	PD-7-GWP-50-072219	99	94	102
400-173526-7	PD-7-GWP-50-072219-DUP	101	92	105
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	97	95	103
400-173526-8	PD-7-GWP-50-072219-EB	99	96	102
400-173526-8	PD-7-GWP-50-072219-EB	100	96	103
LCS 400-449755/1002	Lab Control Sample	96	97	102
LCS 400-449805/1003	Lab Control Sample	100	95	103
LCS 400-449839/1002	Lab Control Sample	100	96	101
LCS 400-449985/1002	Lab Control Sample	94	100	97
MB 400-449755/5	Method Blank	97	97	102
MB 400-449805/5	Method Blank	99	96	102
MB 400-449839/4	Method Blank	99	96	102
MB 400-449985/4	Method Blank	97	99	97

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173526-2	PD-17-GWP-50-072219	51	45	58	57	50 X *	101
400-173526-2 - RA	PD-17-GWP-50-072219	83	37	75	36	69	100
400-173526-3	PD-17-GWP-50-072219-DUP	94	77	62	30	71	109
400-173526-4	PD-17-GWP-50-072219-EB	68	45	58	50	94	107
400-173526-5	PD-7-GWP-45-072219	69	36	57	37	52 X	76
400-173526-5 - RA	PD-7-GWP-45-072219	86	53	81	55	60	71
400-173526-5 MS	PD-7-GWP-45-072219	58	47	84	56	36 X	57
400-173526-5 MSD	PD-7-GWP-45-072219	56	47	80	67	41 X	65
400-173526-6	PD-7-GWP-50-072219	98	0 X	0 X	11	67	101
400-173526-7	PD-7-GWP-50-072219-DUP	48	0.7 X	61	55	44 X *	85
400-173526-7 - RA	PD-7-GWP-50-072219-DUP	65	0 X	68	11	55	82
400-173526-8	PD-7-GWP-50-072219-EB	66	33	56	43	89	93
LCS 400-449448/20-A	Lab Control Sample	54	45	80	67	69	67
LCS 400-449448/22-A	Lab Control Sample	54	26	46	36	76	53

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
LCSD 400-449448/21-A	Lab Control Sample Dup	60	48	81	70	77	71
LCSD 400-449448/23-A	Lab Control Sample Dup	60	29	52	42	83	44
MB 400-449448/1-A	Method Blank	63	35	54	44	84	81

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173526-2	PD-17-GWP-50-072219	54	69	64
400-173526-2 - DL	PD-17-GWP-50-072219	89	73	67
400-173526-3	PD-17-GWP-50-072219-DUP			63
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	127 X	247 X	
400-173526-4	PD-17-GWP-50-072219-EB	106	87	200 X
400-173526-5	PD-7-GWP-45-072219	105	96	74
400-173526-5 MS	PD-7-GWP-45-072219	86	73	51
400-173526-5 MSD	PD-7-GWP-45-072219	81	66	56
400-173526-6	PD-7-GWP-50-072219	82	0 X	63
400-173526-7	PD-7-GWP-50-072219-DUP	42	56	46
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	107	137 X	68
400-173526-8	PD-7-GWP-50-072219-EB	122	80	142 X
LCS 400-449448/20-A	Lab Control Sample	75	73	93
LCSD 400-449448/21-A	Lab Control Sample Dup	82	87	94
MB 400-449448/1-A	Method Blank	86	85	111

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-072219-B

Lab Sample ID: 400-173526-1
Matrix: Water
Date Collected: 07/22/19 00:00
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449985	07/30/19 12:55	AMB	TAL PEN

Client Sample ID: PD-17-GWP-50-072219

Lab Sample ID: 400-173526-2
Matrix: Water
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	449755	07/27/19 17:18	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	449839	07/29/19 20:52	WPD	TAL PEN
Total/NA	Prep	3520C	DL		984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450272	07/31/19 16:43	VC1	TAL PEN
Total/NA	Prep	3520C			984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 02:31	VC1	TAL PEN
Total/NA	Prep	3520C	RA		984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	450762	08/03/19 16:08	VC1	TAL PEN
Total/NA	Prep	3520C			984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 04:30	KJA	TAL PEN
Total/NA	Prep	3520C	DL		984.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			451311	08/07/19 16:52	CAC	TAL PEN

Client Sample ID: PD-17-GWP-50-072219-DUP

Lab Sample ID: 400-173526-3
Matrix: Water
Date Collected: 07/22/19 10:00
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2500	5 mL	5 mL	449755	07/27/19 17:45	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	10000	5 mL	5 mL	449805	07/28/19 16:59	WPD	TAL PEN
Total/NA	Prep	3520C			965.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	450762	08/03/19 16:33	VC1	TAL PEN
Total/NA	Prep	3520C	DL		965.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	50			451504	08/08/19 15:58	KJA	TAL PEN
Total/NA	Prep	3520C			965.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451311	08/07/19 17:11	CAC	TAL PEN

Client Sample ID: PD-17-GWP-50-072219-EB

Lab Sample ID: 400-173526-4
Matrix: Water
Date Collected: 07/22/19 11:15
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 08:37	WPD	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:54	WPD	TAL PEN
Total/NA	Prep	3520C			996 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/31/19 03:14	VC1	TAL PEN
Total/NA	Prep	3520C	RA		996 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			451086	08/06/19 12:03	VC1	TAL PEN

Client Sample ID: PD-17-GWP-50-072219-EB

Lab Sample ID: 400-173526-4

Date Collected: 07/22/19 11:15

Matrix: Water

Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			996 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 05:04	KJA	TAL PEN

Client Sample ID: PD-7-GWP-45-072219

Lab Sample ID: 400-173526-5

Date Collected: 07/22/19 13:45

Matrix: Water

Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	449755	07/27/19 10:16	WPD	TAL PEN
Total/NA	Prep	3520C			997.6 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 01:27	VC1	TAL PEN
Total/NA	Prep	3520C	RA		997.6 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			450762	08/03/19 16:58	VC1	TAL PEN
Total/NA	Prep	3520C			997.6 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 05:21	KJA	TAL PEN

Client Sample ID: PD-7-GWP-50-072219

Lab Sample ID: 400-173526-6

Date Collected: 07/22/19 14:55

Matrix: Water

Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449755	07/27/19 16:29	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	449805	07/28/19 15:42	WPD	TAL PEN
Total/NA	Prep	3520C			992.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		5	0.4 mL	1.0 mL	450762	08/03/19 17:23	VC1	TAL PEN
Total/NA	Prep	3520C	DL		992.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	25			451504	08/08/19 16:16	KJA	TAL PEN
Total/NA	Prep	3520C			992.8 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451311	08/07/19 17:28	CAC	TAL PEN

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7

Date Collected: 07/22/19 14:55

Matrix: Water

Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	449755	07/27/19 16:53	WPD	TAL PEN
Total/NA	Analysis	8260B	DL	2000	5 mL	5 mL	449805	07/28/19 16:07	WPD	TAL PEN
Total/NA	Prep	3520C	DL		980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			450272	07/31/19 17:07	VC1	TAL PEN
Total/NA	Prep	3520C			980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 01:49	VC1	TAL PEN
Total/NA	Prep	3520C	RA		980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	450762	08/03/19 17:47	VC1	TAL PEN
Total/NA	Prep	3520C			980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 06:27	KJA	TAL PEN

Client Sample ID: PD-7-GWP-50-072219-DUP

Lab Sample ID: 400-173526-7

Date Collected: 07/22/19 14:55

Matrix: Water

Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		980 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	7			451311	08/07/19 17:46	CAC	TAL PEN

Client Sample ID: PD-7-GWP-50-072219-EB

Lab Sample ID: 400-173526-8

Date Collected: 07/22/19 15:45

Matrix: Water

Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 09:02	WPD	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:29	WPD	TAL PEN
Total/NA	Prep	3520C			1004.2 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450054	07/31/19 02:10	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1004.2 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			451665	08/09/19 22:33	VC1	TAL PEN
Total/NA	Prep	3520C			1004.2 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			451069	08/07/19 06:45	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449448/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/30/19 22:58	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1000 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			451086	08/06/19 11:42	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			450731	08/02/19 18:25	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449755/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 08:12	WPD	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449805/5

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 09:05	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449839/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:57	WPD	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449985/4
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449985	07/30/19 10:54	AMB	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449448/20-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:17	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 20:45	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:17	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 18:41	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449448/22-A
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/30/19 23:19	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449755/1002
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449755	07/27/19 06:59	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449805/1003
Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449805	07/28/19 08:15	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449839/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449839	07/29/19 10:08	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-449985/1002
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449985	07/30/19 09:48	AMB	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 21:06	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			450731	08/02/19 18:56	KJA	TAL PEN

Client Sample ID: Lab Control Sample Dup
Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCSD 400-449448/23-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449448	07/25/19 16:18	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450054	07/30/19 23:41	VC1	TAL PEN

Client Sample ID: PD-7-GWP-45-072219
Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5 MS
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	449755	07/27/19 11:06	WPD	TAL PEN
Total/NA	Prep	3520C			1008 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 21:27	VC1	TAL PEN
Total/NA	Prep	3520C			1008 mL	1 mL	449448	07/25/19 08:28	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451069	08/07/19 05:38	KJA	TAL PEN

Client Sample ID: PD-7-GWP-45-072219
Date Collected: 07/22/19 13:45
Date Received: 07/23/19 09:09

Lab Sample ID: 400-173526-5 MSD
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	5 mL	5 mL	449755	07/27/19 11:30	WPD	TAL PEN
Total/NA	Prep	3520C			1023 mL	1 mL	449448	07/25/19 21:38	NTH	TAL PEN
Total/NA	Analysis	8270D		1			450203	07/31/19 21:48	VC1	TAL PEN

Client: AECOM Technical Services Inc.
Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-45-072219
Lab Sample ID: 400-173526-5 MSD

Date Collected: 07/22/19 13:45
Matrix: Water
Date Received: 07/23/19 09:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1023 mL	1 mL	449448	07/25/19 21:38	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			451069	08/07/19 05:54	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

GC/MS VOA

Analysis Batch: 449755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	8260B	
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8260B	
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	8260B	
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	8260B	
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8260B	
MB 400-449755/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449755/1002	Lab Control Sample	Total/NA	Water	8260B	
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	8260B	
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	8260B	

Analysis Batch: 449805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8260B	
400-173526-6 - DL	PD-7-GWP-50-072219	Total/NA	Water	8260B	
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	8260B	
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8260B	
MB 400-449805/5	Method Blank	Total/NA	Water	8260B	
LCS 400-449805/1003	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	8260B	
MB 400-449839/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449839/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 449985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-1	TB-PW-072219-B	Total/NA	Water	8260B	
MB 400-449985/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449985/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	3520C	
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	3520C	
400-173526-2 - RA	PD-17-GWP-50-072219	Total/NA	Water	3520C	
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-4 - RA	PD-17-GWP-50-072219-EB	Total/NA	Water	3520C	
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	3520C	
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	3520C	
400-173526-5 - RA	PD-7-GWP-45-072219	Total/NA	Water	3520C	
400-173526-6 - DL	PD-7-GWP-50-072219	Total/NA	Water	3520C	
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	3520C	
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	3520C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

GC/MS Semi VOA (Continued)

Prep Batch: 449448 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-7 - RA	PD-7-GWP-50-072219-DUP	Total/NA	Water	3520C	
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	3520C	
400-173526-8 - RA	PD-7-GWP-50-072219-EB	Total/NA	Water	3520C	
MB 400-449448/1-A	Method Blank	Total/NA	Water	3520C	
MB 400-449448/1-A - RA	Method Blank	Total/NA	Water	3520C	
LCS 400-449448/20-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449448/22-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449448/21-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449448/23-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	3520C	
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	3520C	

Analysis Batch: 450054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8270D	449448
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D	449448
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8270D	449448
MB 400-449448/1-A	Method Blank	Total/NA	Water	8270D	449448
LCS 400-449448/22-A	Lab Control Sample	Total/NA	Water	8270D	449448
LCSD 400-449448/23-A	Lab Control Sample Dup	Total/NA	Water	8270D	449448

Analysis Batch: 450203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-449448/20-A	Lab Control Sample	Total/NA	Water	8270D	449448
LCSD 400-449448/21-A	Lab Control Sample Dup	Total/NA	Water	8270D	449448
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448

Analysis Batch: 450272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D	449448

Analysis Batch: 450731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-449448/1-A	Method Blank	Total/NA	Water	8270D LL	449448
LCS 400-449448/20-A	Lab Control Sample	Total/NA	Water	8270D LL	449448
LCSD 400-449448/21-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449448

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - RA	PD-17-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	8270D	449448
400-173526-5 - RA	PD-7-GWP-45-072219	Total/NA	Water	8270D	449448
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	8270D	449448
400-173526-7 - RA	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D	449448

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

GC/MS Semi VOA

Analysis Batch: 451069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2	PD-17-GWP-50-072219	Total/NA	Water	8270D LL	449448
400-173526-4	PD-17-GWP-50-072219-EB	Total/NA	Water	8270D LL	449448
400-173526-5	PD-7-GWP-45-072219	Total/NA	Water	8270D LL	449448
400-173526-7	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448
400-173526-8	PD-7-GWP-50-072219-EB	Total/NA	Water	8270D LL	449448
400-173526-5 MS	PD-7-GWP-45-072219	Total/NA	Water	8270D LL	449448
400-173526-5 MSD	PD-7-GWP-45-072219	Total/NA	Water	8270D LL	449448

Analysis Batch: 451086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-4 - RA	PD-17-GWP-50-072219-EB	Total/NA	Water	8270D	449448
MB 400-449448/1-A - RA	Method Blank	Total/NA	Water	8270D	449448

Analysis Batch: 451311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-2 - DL	PD-17-GWP-50-072219	Total/NA	Water	8270D LL	449448
400-173526-3	PD-17-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448
400-173526-6	PD-7-GWP-50-072219	Total/NA	Water	8270D LL	449448
400-173526-7 - DL	PD-7-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448

Analysis Batch: 451504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-3 - DL	PD-17-GWP-50-072219-DUP	Total/NA	Water	8270D LL	449448
400-173526-6 - DL	PD-7-GWP-50-072219	Total/NA	Water	8270D LL	449448

Analysis Batch: 451665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173526-8 - RA	PD-7-GWP-50-072219-EB	Total/NA	Water	8270D	449448

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449755/5
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/27/19 08:12	1
Acrolein	ND		20	10	ug/L			07/27/19 08:12	1
Acrylonitrile	ND		10	2.8	ug/L			07/27/19 08:12	1
Benzene	ND		1.0	0.38	ug/L			07/27/19 08:12	1
Bromobenzene	ND		1.0	0.54	ug/L			07/27/19 08:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/27/19 08:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Bromoform	ND		5.0	0.71	ug/L			07/27/19 08:12	1
Bromomethane	ND		1.0	0.98	ug/L			07/27/19 08:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/27/19 08:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Chloroethane	ND		1.0	0.76	ug/L			07/27/19 08:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/27/19 08:12	1
Chloroform	ND		1.0	0.60	ug/L			07/27/19 08:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/27/19 08:12	1
Chloromethane	ND		1.0	0.83	ug/L			07/27/19 08:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/27/19 08:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/27/19 08:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/27/19 08:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/27/19 08:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/27/19 08:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/27/19 08:12	1
2-Hexanone	ND		25	3.1	ug/L			07/27/19 08:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/27/19 08:12	1
Methylene bromide	ND		5.0	0.59	ug/L			07/27/19 08:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/27/19 08:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/27/19 08:12	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/27/19 08:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/27/19 08:12	1
Naphthalene	ND		1.0	1.0	ug/L			07/27/19 08:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/27/19 08:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/27/19 08:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/27/19 08:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449755/5
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/27/19 08:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/27/19 08:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/27/19 08:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/27/19 08:12	1
Styrene	ND		1.0	1.0	ug/L			07/27/19 08:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/27/19 08:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/27/19 08:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/27/19 08:12	1
Toluene	ND		1.0	0.41	ug/L			07/27/19 08:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/27/19 08:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/27/19 08:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/27/19 08:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/27/19 08:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/27/19 08:12	1
Trichloroethene	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/27/19 08:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/27/19 08:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/27/19 08:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/27/19 08:12	1
Vinyl acetate	ND		25	2.0	ug/L			07/27/19 08:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/27/19 08:12	1
Xylenes, Total	ND		10	1.6	ug/L			07/27/19 08:12	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/27/19 08:12*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/27/19 08:12*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/27/19 08:12*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/27/19 08:12*	*1*

Lab Sample ID: LCS 400-449755/1002
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	274		ug/L		137	43 - 160
Acrolein	500	644		ug/L		129	38 - 160
Acrylonitrile	500	636		ug/L		127	64 - 142
Benzene	50.0	53.8		ug/L		108	70 - 130
Bromobenzene	50.0	54.3		ug/L		109	70 - 132
Bromochloromethane	50.0	54.9		ug/L		110	70 - 130
Bromodichloromethane	50.0	53.1		ug/L		106	67 - 133
Bromoform	50.0	62.3		ug/L		125	57 - 140
Bromomethane	50.0	38.3		ug/L		77	10 - 160
2-Butanone (MEK)	200	260		ug/L		130	61 - 145

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449755/1002
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	52.2		ug/L		104	61 - 137
Carbon tetrachloride	50.0	56.9		ug/L		114	61 - 137
Chlorobenzene	50.0	55.4		ug/L		111	70 - 130
Chloroethane	50.0	48.0		ug/L		96	55 - 141
2-Chloroethyl vinyl ether	50.0	51.4		ug/L		103	10 - 160
Chloroform	50.0	52.4		ug/L		105	69 - 130
1-Chlorohexane	50.0	58.7		ug/L		117	69 - 130
Chloromethane	50.0	47.9		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	57.2		ug/L		114	68 - 130
cis-1,3-Dichloropropene	50.0	57.5		ug/L		115	69 - 132
Dibromochloromethane	50.0	61.7		ug/L		123	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	61.0		ug/L		122	54 - 135
1,2-Dichlorobenzene	50.0	56.1		ug/L		112	67 - 130
1,3-Dichlorobenzene	50.0	56.1		ug/L		112	70 - 130
1,4-Dichlorobenzene	50.0	55.7		ug/L		111	70 - 130
Dichlorodifluoromethane	50.0	25.9		ug/L		52	41 - 146
1,1-Dichloroethane	50.0	57.3		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	53.0		ug/L		106	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	57.5		ug/L		115	70 - 130
1,3-Dichloropropane	50.0	58.6		ug/L		117	70 - 130
2,2-Dichloropropane	50.0	53.2		ug/L		106	52 - 135
1,1-Dichloropropene	50.0	52.3		ug/L		105	70 - 130
Ethylbenzene	50.0	55.8		ug/L		112	70 - 130
Ethylene Dibromide	50.0	56.1		ug/L		112	70 - 130
Ethyl methacrylate	50.0	63.6		ug/L		127	68 - 130
Hexachlorobutadiene	50.0	49.3		ug/L		99	53 - 140
2-Hexanone	200	301	*	ug/L		150	65 - 137
Isopropylbenzene	50.0	52.6		ug/L		105	70 - 130
Methylene bromide	50.0	50.7		ug/L		101	70 - 130
Methylene Chloride	50.0	54.5		ug/L		109	66 - 135
4-Methyl-2-pentanone (MIBK)	200	257		ug/L		129	69 - 138
Methyl tert-butyl ether	50.0	49.5		ug/L		99	66 - 130
m-Xylene & p-Xylene	50.0	54.4		ug/L		109	70 - 130
Naphthalene	50.0	54.3		ug/L		109	47 - 149
n-Butylbenzene	50.0	53.0		ug/L		106	67 - 130
N-Propylbenzene	50.0	55.9		ug/L		112	70 - 130
o-Chlorotoluene	50.0	53.9		ug/L		108	70 - 130
o-Xylene	50.0	54.5		ug/L		109	70 - 130
p-Chlorotoluene	50.0	54.8		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	54.7		ug/L		109	65 - 130
sec-Butylbenzene	50.0	53.1		ug/L		106	66 - 130
Styrene	50.0	52.5		ug/L		105	70 - 130
tert-Butylbenzene	50.0	51.8		ug/L		104	64 - 139
1,1,1,2-Tetrachloroethane	50.0	66.6	*	ug/L		133	67 - 131
1,1,2,2-Tetrachloroethane	50.0	59.5		ug/L		119	70 - 131
Tetrachloroethene	50.0	56.4		ug/L		113	65 - 130
Toluene	50.0	55.7		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	53.7		ug/L		107	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449755/1002
Matrix: Water
Analysis Batch: 449755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	62.0		ug/L		124	63 - 130
1,2,3-Trichlorobenzene	50.0	53.1		ug/L		106	60 - 138
1,2,4-Trichlorobenzene	50.0	51.5		ug/L		103	60 - 140
1,1,1-Trichloroethane	50.0	51.6		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	59.3		ug/L		119	70 - 130
Trichloroethene	50.0	53.6		ug/L		107	70 - 130
Trichlorofluoromethane	50.0	41.8		ug/L		84	65 - 138
1,2,3-Trichloropropane	50.0	57.1		ug/L		114	70 - 130
1,2,4-Trimethylbenzene	50.0	52.8		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	52.9		ug/L		106	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	47.2		ug/L		94	59 - 136
Xylenes, Total	100	109		ug/L		109	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		400	490		ug/L		122	43 - 150
Acrolein	ND		1000	1060		ug/L		106	38 - 150
Acrylonitrile	ND		1000	1260		ug/L		126	62 - 149
Benzene	400		100	490		ug/L		93	56 - 142
Bromobenzene	ND		100	118		ug/L		118	59 - 136
Bromochloromethane	ND		100	113		ug/L		113	64 - 140
Bromodichloromethane	ND		100	108		ug/L		108	59 - 143
Bromoform	ND		100	128		ug/L		128	50 - 140
Bromomethane	ND		100	72.2		ug/L		72	10 - 150
2-Butanone (MEK)	ND		400	474		ug/L		119	55 - 150
Carbon disulfide	ND		100	107		ug/L		107	48 - 150
Carbon tetrachloride	ND		100	117		ug/L		117	55 - 145
Chlorobenzene	ND		100	115		ug/L		115	64 - 130
Chloroethane	ND		100	85.7		ug/L		86	50 - 150
2-Chloroethyl vinyl ether	ND		100	93.2		ug/L		93	10 - 150
Chloroform	ND		100	109		ug/L		109	60 - 141
1-Chlorohexane	ND		100	126		ug/L		126	56 - 136
Chloromethane	ND		100	84.2		ug/L		84	49 - 148
cis-1,2-Dichloroethene	ND		100	119		ug/L		119	59 - 143
cis-1,3-Dichloropropene	ND		100	119		ug/L		119	57 - 140
Dibromochloromethane	ND		100	122		ug/L		122	56 - 143
1,2-Dibromo-3-Chloropropane	ND		100	122		ug/L		122	45 - 135
1,2-Dichlorobenzene	ND		100	119		ug/L		119	52 - 137
1,3-Dichlorobenzene	ND		100	119		ug/L		119	54 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	ND		100	117		ug/L		117	53 - 135
Dichlorodifluoromethane	ND		100	46.1		ug/L		46	16 - 150
1,1-Dichloroethane	ND		100	121		ug/L		121	61 - 144
1,2-Dichloroethane	ND		100	118		ug/L		118	60 - 141
1,1-Dichloroethene	ND		100	101		ug/L		101	54 - 147
1,2-Dichloropropane	ND		100	122		ug/L		122	66 - 137
1,3-Dichloropropane	ND		100	119		ug/L		119	66 - 133
2,2-Dichloropropane	ND		100	111		ug/L		111	42 - 144
1,1-Dichloropropene	ND		100	110		ug/L		110	65 - 136
Ethylbenzene	15		100	133		ug/L		118	58 - 131
Ethylene Dibromide	ND		100	115		ug/L		115	64 - 132
Ethyl methacrylate	ND	F1	100	134	F1	ug/L		134	64 - 130
Hexachlorobutadiene	ND		100	103		ug/L		103	31 - 149
2-Hexanone	ND	*	400	534		ug/L		133	65 - 140
Isopropylbenzene	11		100	124		ug/L		113	56 - 133
Methylene bromide	ND		100	103		ug/L		103	63 - 138
Methylene Chloride	ND		100	114		ug/L		114	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		400	493		ug/L		123	63 - 146
Methyl tert-butyl ether	ND		100	103		ug/L		103	59 - 137
m-Xylene & p-Xylene	27		100	142		ug/L		115	57 - 130
Naphthalene	13		100	130		ug/L		117	25 - 150
n-Butylbenzene	ND		100	118		ug/L		118	41 - 142
N-Propylbenzene	17		100	140		ug/L		123	51 - 138
o-Chlorotoluene	ND		100	125		ug/L		125	53 - 134
o-Xylene	ND		100	121		ug/L		121	61 - 130
p-Chlorotoluene	ND		100	119		ug/L		119	54 - 133
p-Isopropyltoluene	7.0		100	129		ug/L		122	48 - 139
sec-Butylbenzene	12		100	129		ug/L		117	50 - 138
Styrene	ND		100	110		ug/L		110	58 - 131
tert-Butylbenzene	ND		100	139		ug/L		139	54 - 146
1,1,1,2-Tetrachloroethane	ND	*	100	136		ug/L		136	59 - 137
1,1,2,2-Tetrachloroethane	ND		100	126		ug/L		126	66 - 135
Tetrachloroethene	ND		100	112		ug/L		112	52 - 133
Toluene	ND		100	117		ug/L		117	65 - 130
trans-1,2-Dichloroethene	ND		100	113		ug/L		113	61 - 143
trans-1,3-Dichloropropene	ND		100	127		ug/L		127	53 - 133
1,2,3-Trichlorobenzene	ND		100	110		ug/L		110	43 - 145
1,2,4-Trichlorobenzene	ND		100	112		ug/L		112	39 - 148
1,1,1-Trichloroethane	ND		100	107		ug/L		107	57 - 142
1,1,2-Trichloroethane	ND		100	121		ug/L		121	66 - 131
Trichloroethene	ND		100	110		ug/L		110	64 - 136
Trichlorofluoromethane	ND		100	73.1		ug/L		73	54 - 150
1,2,3-Trichloropropane	ND		100	118		ug/L		118	65 - 133
1,2,4-Trimethylbenzene	110		100	224		ug/L		114	50 - 139
1,3,5-Trimethylbenzene	26		100	140		ug/L		114	52 - 135
Vinyl acetate	ND		200	192		ug/L		96	26 - 150
Vinyl chloride	ND		100	83.1		ug/L		83	46 - 150
Xylenes, Total	27		200	263		ug/L		118	59 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		400	423		ug/L		106	43 - 150	15	30
Acrolein	ND		1000	1080		ug/L		108	38 - 150	2	31
Acrylonitrile	ND		1000	1180		ug/L		118	62 - 149	7	30
Benzene	400		100	483		ug/L		86	56 - 142	1	30
Bromobenzene	ND		100	104		ug/L		104	59 - 136	13	30
Bromochloromethane	ND		100	106		ug/L		106	64 - 140	6	30
Bromodichloromethane	ND		100	102		ug/L		102	59 - 143	6	30
Bromoform	ND		100	117		ug/L		117	50 - 140	9	30
Bromomethane	ND		100	75.2		ug/L		75	10 - 150	4	50
2-Butanone (MEK)	ND		400	415		ug/L		104	55 - 150	13	30
Carbon disulfide	ND		100	106		ug/L		106	48 - 150	1	30
Carbon tetrachloride	ND		100	111		ug/L		111	55 - 145	5	30
Chlorobenzene	ND		100	103		ug/L		103	64 - 130	10	30
Chloroethane	ND		100	89.9		ug/L		90	50 - 150	5	30
2-Chloroethyl vinyl ether	ND		100	96.1		ug/L		96	10 - 150	3	50
Chloroform	ND		100	104		ug/L		104	60 - 141	4	30
1-Chlorohexane	ND		100	115		ug/L		115	56 - 136	9	30
Chloromethane	ND		100	90.2		ug/L		90	49 - 148	7	31
cis-1,2-Dichloroethene	ND		100	113		ug/L		113	59 - 143	5	30
cis-1,3-Dichloropropene	ND		100	111		ug/L		111	57 - 140	7	30
Dibromochloromethane	ND		100	114		ug/L		114	56 - 143	7	30
1,2-Dibromo-3-Chloropropane	ND		100	113		ug/L		113	45 - 135	8	30
1,2-Dichlorobenzene	ND		100	100		ug/L		100	52 - 137	17	30
1,3-Dichlorobenzene	ND		100	98.4		ug/L		98	54 - 135	19	30
1,4-Dichlorobenzene	ND		100	96.6		ug/L		97	53 - 135	19	30
Dichlorodifluoromethane	ND		100	47.6		ug/L		48	16 - 150	3	31
1,1-Dichloroethane	ND		100	115		ug/L		115	61 - 144	5	30
1,2-Dichloroethane	ND		100	110		ug/L		110	60 - 141	7	30
1,1-Dichloroethene	ND		100	97.5		ug/L		98	54 - 147	3	30
1,2-Dichloropropane	ND		100	116		ug/L		116	66 - 137	5	30
1,3-Dichloropropane	ND		100	113		ug/L		113	66 - 133	5	30
2,2-Dichloropropane	ND		100	109		ug/L		109	42 - 144	2	31
1,1-Dichloropropene	ND		100	104		ug/L		104	65 - 136	5	30
Ethylbenzene	15		100	121		ug/L		106	58 - 131	10	30
Ethylene Dibromide	ND		100	107		ug/L		107	64 - 132	7	30
Ethyl methacrylate	ND	F1	100	129		ug/L		129	64 - 130	4	30
Hexachlorobutadiene	ND		100	80.1		ug/L		80	31 - 149	25	36
2-Hexanone	ND	*	400	485		ug/L		121	65 - 140	9	30
Isopropylbenzene	11		100	109		ug/L		98	56 - 133	13	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 449755

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene bromide	ND		100	95.0		ug/L		95	63 - 138	8	30
Methylene Chloride	ND		100	108		ug/L		108	60 - 146	5	32
4-Methyl-2-pentanone (MIBK)	ND		400	454		ug/L		114	63 - 146	8	30
Methyl tert-butyl ether	ND		100	100		ug/L		100	59 - 137	3	30
m-Xylene & p-Xylene	27		100	127		ug/L		101	57 - 130	11	30
Naphthalene	13		100	120		ug/L		107	25 - 150	8	30
n-Butylbenzene	ND		100	93.9		ug/L		94	41 - 142	23	31
N-Propylbenzene	17		100	121		ug/L		104	51 - 138	14	30
o-Chlorotoluene	ND		100	109		ug/L		109	53 - 134	14	30
o-Xylene	ND		100	107		ug/L		107	61 - 130	12	30
p-Chlorotoluene	ND		100	101		ug/L		101	54 - 133	16	30
p-Isopropyltoluene	7.0		100	108		ug/L		101	48 - 139	18	30
sec-Butylbenzene	12		100	110		ug/L		98	50 - 138	16	30
Styrene	ND		100	95.7		ug/L		96	58 - 131	14	30
tert-Butylbenzene	ND		100	123		ug/L		123	54 - 146	13	30
1,1,1,2-Tetrachloroethane	ND	*	100	124		ug/L		124	59 - 137	9	30
1,1,2,2-Tetrachloroethane	ND		100	116		ug/L		116	66 - 135	9	30
Tetrachloroethene	ND		100	101		ug/L		101	52 - 133	10	30
Toluene	ND		100	109		ug/L		109	65 - 130	7	30
trans-1,2-Dichloroethene	ND		100	107		ug/L		107	61 - 143	6	30
trans-1,3-Dichloropropene	ND		100	121		ug/L		121	53 - 133	5	30
1,2,3-Trichlorobenzene	ND		100	92.6		ug/L		93	43 - 145	17	30
1,2,4-Trichlorobenzene	ND		100	87.9		ug/L		88	39 - 148	24	30
1,1,1-Trichloroethane	ND		100	103		ug/L		103	57 - 142	4	30
1,1,2-Trichloroethane	ND		100	114		ug/L		114	66 - 131	6	30
Trichloroethene	ND		100	103		ug/L		103	64 - 136	7	30
Trichlorofluoromethane	ND		100	75.9		ug/L		76	54 - 150	4	30
1,2,3-Trichloropropane	ND		100	111		ug/L		111	65 - 133	6	30
1,2,4-Trimethylbenzene	110		100	203		ug/L		93	50 - 139	10	30
1,3,5-Trimethylbenzene	26		100	123		ug/L		97	52 - 135	13	30
Vinyl acetate	ND		200	212		ug/L		106	26 - 150	10	33
Vinyl chloride	ND		100	89.3		ug/L		89	46 - 150	7	30
Xylenes, Total	27		200	235		ug/L		104	59 - 130	11	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 400-449805/5
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/28/19 09:05	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/28/19 09:05*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		07/28/19 09:05	1
Dibromofluoromethane	96		81 - 121		07/28/19 09:05	1
Toluene-d8 (Surr)	102		80 - 120		07/28/19 09:05	1

Lab Sample ID: LCS 400-449805/1003
Matrix: Water
Analysis Batch: 449805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	55.4		ug/L		111	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		78 - 118
Dibromofluoromethane	95		81 - 121
Toluene-d8 (Surr)	103		80 - 120

Lab Sample ID: MB 400-449839/4
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.38	ug/L			07/29/19 10:57	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					07/29/19 10:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		07/29/19 10:57	1
Dibromofluoromethane	96		81 - 121		07/29/19 10:57	1
Toluene-d8 (Surr)	102		80 - 120		07/29/19 10:57	1

Lab Sample ID: LCS 400-449839/1002
Matrix: Water
Analysis Batch: 449839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	51.5		ug/L		103	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		78 - 118
Dibromofluoromethane	96		81 - 121
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: MB 400-449985/4
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 10:54	1
Acrolein	ND		20	10	ug/L			07/30/19 10:54	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449985/4
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 10:54	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 10:54	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 10:54	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 10:54	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 10:54	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 10:54	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 10:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 10:54	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 10:54	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 10:54	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 10:54	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 10:54	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:54	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 10:54	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 10:54	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 10:54	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 10:54	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 10:54	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 10:54	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 10:54	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 10:54	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 10:54	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 10:54	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 10:54	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 10:54	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 10:54	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 10:54	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 10:54	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 10:54	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 10:54	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 10:54	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 10:54	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 10:54	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449985/4
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 10:54	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 10:54	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 10:54	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 10:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 10:54	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 10:54	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:54	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 10:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 10:54	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:54	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 10:54	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 10:54	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 10:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 10:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 10:54	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 10:54	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 10:54	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 10:54	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 10:54*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 10:54*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*07/30/19 10:54*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*07/30/19 10:54*	*1*

Lab Sample ID: LCS 400-449985/1002
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	207		ug/L		104	43 - 160
Acrolein	500	544		ug/L		109	38 - 160
Acrylonitrile	500	558		ug/L		112	64 - 142
Benzene	50.0	49.1		ug/L		98	70 - 130
Bromobenzene	50.0	46.8		ug/L		94	70 - 132
Bromochloromethane	50.0	46.9		ug/L		94	70 - 130
Bromodichloromethane	50.0	47.4		ug/L		95	67 - 133
Bromoform	50.0	42.1		ug/L		84	57 - 140
Bromomethane	50.0	44.2		ug/L		88	10 - 160
2-Butanone (MEK)	200	200		ug/L		100	61 - 145
Carbon disulfide	50.0	45.7		ug/L		91	61 - 137
Carbon tetrachloride	50.0	47.9		ug/L		96	61 - 137
Chlorobenzene	50.0	48.8		ug/L		98	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449985/1002
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	50.0	50.3		ug/L		101	55 - 141
2-Chloroethyl vinyl ether	50.0	51.6		ug/L		103	10 - 160
Chloroform	50.0	48.1		ug/L		96	69 - 130
1-Chlorohexane	50.0	51.2		ug/L		102	69 - 130
Chloromethane	50.0	57.2		ug/L		114	58 - 137
cis-1,2-Dichloroethene	50.0	50.3		ug/L		101	68 - 130
cis-1,3-Dichloropropene	50.0	47.4		ug/L		95	69 - 132
Dibromochloromethane	50.0	45.4		ug/L		91	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	44.6		ug/L		89	54 - 135
1,2-Dichlorobenzene	50.0	47.4		ug/L		95	67 - 130
1,3-Dichlorobenzene	50.0	46.4		ug/L		93	70 - 130
1,4-Dichlorobenzene	50.0	47.2		ug/L		94	70 - 130
Dichlorodifluoromethane	50.0	48.0		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	51.0		ug/L		102	70 - 130
1,2-Dichloroethane	50.0	47.9		ug/L		96	69 - 130
1,1-Dichloroethene	50.0	49.1		ug/L		98	63 - 134
1,2-Dichloropropane	50.0	52.1		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	49.8		ug/L		100	70 - 130
2,2-Dichloropropane	50.0	44.4		ug/L		89	52 - 135
1,1-Dichloropropene	50.0	47.7		ug/L		95	70 - 130
Ethylbenzene	50.0	47.6		ug/L		95	70 - 130
Ethylene Dibromide	50.0	48.9		ug/L		98	70 - 130
Ethyl methacrylate	50.0	48.0		ug/L		96	68 - 130
Hexachlorobutadiene	50.0	49.0		ug/L		98	53 - 140
2-Hexanone	200	204		ug/L		102	65 - 137
Isopropylbenzene	50.0	46.7		ug/L		93	70 - 130
Methylene bromide	50.0	50.3		ug/L		101	70 - 130
Methylene Chloride	50.0	44.3		ug/L		89	66 - 135
4-Methyl-2-pentanone (MIBK)	200	225		ug/L		113	69 - 138
Methyl tert-butyl ether	50.0	44.7		ug/L		89	66 - 130
m-Xylene & p-Xylene	50.0	47.8		ug/L		96	70 - 130
Naphthalene	50.0	48.0		ug/L		96	47 - 149
n-Butylbenzene	50.0	47.7		ug/L		95	67 - 130
N-Propylbenzene	50.0	46.5		ug/L		93	70 - 130
o-Chlorotoluene	50.0	46.0		ug/L		92	70 - 130
o-Xylene	50.0	48.2		ug/L		96	70 - 130
p-Chlorotoluene	50.0	47.2		ug/L		94	70 - 130
p-Isopropyltoluene	50.0	46.6		ug/L		93	65 - 130
sec-Butylbenzene	50.0	47.0		ug/L		94	66 - 130
Styrene	50.0	46.2		ug/L		92	70 - 130
tert-Butylbenzene	50.0	45.9		ug/L		92	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.1		ug/L		94	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.5		ug/L		99	70 - 131
Tetrachloroethene	50.0	47.3		ug/L		95	65 - 130
Toluene	50.0	46.7		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	49.4		ug/L		99	70 - 130
trans-1,3-Dichloropropene	50.0	44.9		ug/L		90	63 - 130
1,2,3-Trichlorobenzene	50.0	45.5		ug/L		91	60 - 138
1,2,4-Trichlorobenzene	50.0	48.7		ug/L		97	60 - 140

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449985/1002
Matrix: Water
Analysis Batch: 449985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	47.8		ug/L		96	68 - 130
1,1,2-Trichloroethane	50.0	49.5		ug/L		99	70 - 130
Trichloroethene	50.0	49.2		ug/L		98	70 - 130
Trichlorofluoromethane	50.0	47.7		ug/L		95	65 - 138
1,2,3-Trichloropropane	50.0	47.6		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	50.0	46.5		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	100	102		ug/L		102	26 - 160
Vinyl chloride	50.0	52.6		ug/L		105	59 - 136
Xylenes, Total	100	96.0		ug/L		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
Toluene-d8 (Surr)	*97*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND		10	1.7	ug/L		07/25/19 08:28	07/30/19 22:58	1
Benzoic acid	ND		30	7.3	ug/L		07/25/19 08:28	07/30/19 22:58	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/25/19 08:28	07/30/19 22:58	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Chloroaniline	ND		10	3.4	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Chlorophenol	ND		10	2.2	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
Dibenzofuran	ND		10	0.52	ug/L		07/25/19 08:28	07/30/19 22:58	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
Diethyl phthalate	ND		10	0.70	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/25/19 08:28	07/30/19 22:58	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/25/19 08:28	07/30/19 22:58	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/25/19 08:28	07/30/19 22:58	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/25/19 08:28	07/30/19 22:58	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		07/25/19 08:28	07/30/19 22:58	1
1,4-Dioxane	ND		10	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		10	0.25	ug/L		07/25/19 08:28	07/30/19 22:58	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/25/19 08:28	07/30/19 22:58	1
Hexachloroethane	ND		10	4.2	ug/L		07/25/19 08:28	07/30/19 22:58	1
Indene	ND		10	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Nitroaniline	ND		10	2.2	ug/L		07/25/19 08:28	07/30/19 22:58	1
3-Nitroaniline	ND		10	1.8	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Nitroaniline	ND		10	2.5	ug/L		07/25/19 08:28	07/30/19 22:58	1
Nitrobenzene	ND		10	0.55	ug/L		07/25/19 08:28	07/30/19 22:58	1
2-Nitrophenol	ND		10	0.65	ug/L		07/25/19 08:28	07/30/19 22:58	1
4-Nitrophenol	ND		10	2.1	ug/L		07/25/19 08:28	07/30/19 22:58	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/25/19 08:28	07/30/19 22:58	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/25/19 08:28	07/30/19 22:58	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/25/19 08:28	07/30/19 22:58	1
Pentachlorophenol	ND		20	1.8	ug/L		07/25/19 08:28	07/30/19 22:58	1
Quinoline	ND		10	6.0	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/25/19 08:28	07/30/19 22:58	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/25/19 08:28	07/30/19 22:58	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*				*07/25/19 08:28*	*07/30/19 22:58*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	*63*		*34 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
2-Fluorophenol	*35*		*10 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
Nitrobenzene-d5	*54*		*27 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
Phenol-d5	*44*		*10 - 120*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
Terphenyl-d14	*84*		*53 - 125*	*07/25/19 08:28*	*07/30/19 22:58*	*1*
2,4,6-Tribromophenol	*81*		*15 - 135*	*07/25/19 08:28*	*07/30/19 22:58*	*1*

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	24.0		ug/L		80	29 - 120
Benzoic acid	117	35.1		ug/L		30	10 - 150
Benzyl alcohol	30.0	24.7		ug/L		82	19 - 125
Bis(2-chloroethoxy)methane	30.0	16.6		ug/L		55	45 - 120
Bis(2-chloroethyl)ether	30.0	16.0		ug/L		53	48 - 120
bis (2-chloroisopropyl) ether	30.0	15.2		ug/L		51	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	18.8		ug/L		63	48 - 150
4-Bromophenyl phenyl ether	30.0	18.5		ug/L		62	55 - 122
Butyl benzyl phthalate	30.0	17.4		ug/L		58	46 - 145
4-Chloroaniline	30.0	22.5		ug/L		75	30 - 120
4-Chloro-3-methylphenol	30.0	18.4		ug/L		61	39 - 140
2-Chloronaphthalene	30.0	15.8		ug/L		53	52 - 120
2-Chlorophenol	30.0	17.0		ug/L		57	34 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorophenyl phenyl ether	30.0	17.7		ug/L		59	58 - 124
Dibenz[a,h]acridine	30.0	17.2		ug/L		57	46 - 149
Dibenzofuran	30.0	17.3		ug/L		58	58 - 123
3,3'-Dichlorobenzidine	40.0	38.7		ug/L		97	39 - 135
2,4-Dichlorophenol	30.0	19.8		ug/L		66	39 - 128
Diethyl phthalate	30.0	22.4		ug/L		75	44 - 146
2,4-Dimethylphenol	30.0	22.3		ug/L		74	44 - 120
Dimethyl phthalate	30.0	18.1		ug/L		60	50 - 131
Di-n-butyl phthalate	30.0	21.3		ug/L		71	55 - 131
4,6-Dinitro-ortho-cresol	60.0	50.2		ug/L		84	10 - 150
2,4-Dinitrophenol	60.0	60.7		ug/L		101	10 - 150
2,4-Dinitrotoluene	30.0	16.9	*	ug/L		56	58 - 140
2,6-Dinitrotoluene	30.0	16.4	*	ug/L		55	57 - 130
Di-n-octyl phthalate	30.0	18.6		ug/L		62	50 - 150
1,4-Dioxane	30.0	14.0		ug/L		47	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	21.1		ug/L		70	47 - 123
Hexachlorobenzene	30.0	22.7		ug/L		76	52 - 131
Hexachlorocyclopentadiene	30.0	10.8	J	ug/L		36	10 - 129
Hexachloroethane	30.0	14.8		ug/L		49	41 - 120
Indene	30.0	19.7		ug/L		66	47 - 120
Isophorone	30.0	19.9		ug/L		66	49 - 120
2-Methylphenol	30.0	22.0		ug/L		73	39 - 123
3 & 4 Methylphenol	30.0	23.6		ug/L		79	38 - 121
2-Nitroaniline	30.0	22.8		ug/L		76	47 - 150
3-Nitroaniline	30.0	23.0		ug/L		77	34 - 132
4-Nitroaniline	30.0	21.8		ug/L		73	41 - 135
Nitrobenzene	30.0	21.0		ug/L		70	47 - 120
2-Nitrophenol	30.0	19.2		ug/L		64	28 - 136
4-Nitrophenol	60.0	51.7		ug/L		86	10 - 150
N-Nitrosodimethylamine	30.0	24.9		ug/L		83	22 - 148
N-Nitrosodi-n-propylamine	30.0	27.9		ug/L		93	44 - 120
N-Nitrosodiphenylamine	29.8	17.9		ug/L		60	56 - 120
Pentachlorophenol	60.0	40.8		ug/L		68	15 - 141
Phenol	30.0	17.5		ug/L		58	33 - 120
Pyridine	60.0	32.5		ug/L		54	26 - 120
Quinoline	30.0	18.8		ug/L		63	51 - 129
2,4,5-Trichlorophenol	30.0	18.7		ug/L		62	38 - 147
2,4,6-Trichlorophenol	30.0	19.4		ug/L		65	36 - 139

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*34 - 120*
2-Fluorophenol	*45*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*69*		*53 - 125*
2,4,6-Tribromophenol	*67*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449448/22-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzenethiol			30.0	ND	*	ug/L		1	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*54*		*34 - 120*
2-Fluorophenol	*26*		*10 - 120*
Nitrobenzene-d5	*46*		*27 - 120*
Phenol-d5	*36*		*10 - 120*
Terphenyl-d14	*76*		*53 - 125*
2,4,6-Tribromophenol	*53*		*15 - 135*

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	29.2		ug/L		97	29 - 120	19	30
Benzoic acid			117	48.9	*	ug/L		42	10 - 150	33	30
Benzyl alcohol			30.0	27.9		ug/L		93	19 - 125	12	30
Bis(2-chloroethoxy)methane			30.0	18.5		ug/L		62	45 - 120	11	30
Bis(2-chloroethyl)ether			30.0	16.1		ug/L		54	48 - 120	1	30
bis (2-chloroisopropyl) ether			30.0	17.7		ug/L		59	30 - 125	15	30
Bis(2-ethylhexyl) phthalate			30.0	23.5		ug/L		78	48 - 150	22	30
4-Bromophenyl phenyl ether			30.0	22.5		ug/L		75	55 - 122	19	30
Butyl benzyl phthalate			30.0	20.9		ug/L		70	46 - 145	18	30
4-Chloroaniline			30.0	25.2		ug/L		84	30 - 120	11	30
4-Chloro-3-methylphenol			30.0	20.6		ug/L		69	39 - 140	11	30
2-Chloronaphthalene			30.0	18.3		ug/L		61	52 - 120	15	30
2-Chlorophenol			30.0	20.0		ug/L		67	34 - 120	16	30
4-Chlorophenyl phenyl ether			30.0	20.7		ug/L		69	58 - 124	16	30
Dibenz[a,h]acridine			30.0	19.3		ug/L		64	46 - 149	11	30
Dibenzofuran			30.0	20.4		ug/L		68	58 - 123	16	30
3,3'-Dichlorobenzidine			40.0	42.0		ug/L		105	39 - 135	8	30
2,4-Dichlorophenol			30.0	23.4		ug/L		78	39 - 128	16	30
Diethyl phthalate			30.0	26.1		ug/L		87	44 - 146	16	30
2,4-Dimethylphenol			30.0	26.3		ug/L		88	44 - 120	17	30
Dimethyl phthalate			30.0	21.5		ug/L		72	50 - 131	17	30
Di-n-butyl phthalate			30.0	24.3		ug/L		81	55 - 131	14	30
4,6-Dinitro-ortho-cresol			60.0	58.1		ug/L		97	10 - 150	15	30
2,4-Dinitrophenol			60.0	67.5		ug/L		112	10 - 150	11	30
2,4-Dinitrotoluene			30.0	20.0		ug/L		67	58 - 140	17	30
2,6-Dinitrotoluene			30.0	19.9		ug/L		66	57 - 130	19	30
Di-n-octyl phthalate			30.0	21.7		ug/L		72	50 - 150	16	30
1,4-Dioxane			30.0	16.4		ug/L		55	25 - 120	15	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	25.4		ug/L		85	47 - 123	19	30
Hexachlorobenzene			30.0	27.3		ug/L		91	52 - 131	18	30
Hexachlorocyclopentadiene			30.0	11.6	J	ug/L		39	10 - 129	7	30
Hexachloroethane			30.0	16.4		ug/L		55	41 - 120	10	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water
Analysis Batch: 450203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indene			30.0	19.5		ug/L		65	47 - 120	1	30
Isophorone			30.0	21.9		ug/L		73	49 - 120	9	30
2-Methylphenol			30.0	25.7		ug/L		86	39 - 123	16	30
3 & 4 Methylphenol			30.0	28.1		ug/L		94	38 - 121	18	30
2-Nitroaniline			30.0	27.4		ug/L		91	47 - 150	18	30
3-Nitroaniline			30.0	26.9		ug/L		90	34 - 132	16	30
4-Nitroaniline			30.0	25.9		ug/L		86	41 - 135	17	30
Nitrobenzene			30.0	23.3		ug/L		78	47 - 120	10	30
2-Nitrophenol			30.0	22.6		ug/L		75	28 - 136	16	30
4-Nitrophenol			60.0	56.5		ug/L		94	10 - 150	9	30
N-Nitrosodimethylamine			30.0	29.0		ug/L		97	22 - 148	15	30
N-Nitrosodi-n-propylamine			30.0	31.7		ug/L		106	44 - 120	13	30
N-Nitrosodiphenylamine			29.8	22.4		ug/L		75	56 - 120	22	30
Pentachlorophenol			60.0	48.6		ug/L		81	15 - 141	17	30
Phenol			30.0	20.3		ug/L		68	33 - 120	15	30
Pyridine			60.0	39.3		ug/L		66	26 - 120	19	30
Quinoline			30.0	22.8		ug/L		76	51 - 129	19	30
2,4,5-Trichlorophenol			30.0	22.4		ug/L		75	38 - 147	18	30
2,4,6-Trichlorophenol			30.0	23.5		ug/L		78	36 - 139	19	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*48*		*10 - 120*
Nitrobenzene-d5	*81*		*27 - 120*
Phenol-d5	*70*		*10 - 120*
Terphenyl-d14	*77*		*53 - 125*
2,4,6-Tribromophenol	*71*		*15 - 135*

Lab Sample ID: LCSD 400-449448/23-A
Matrix: Water
Analysis Batch: 450054

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		3	10 - 120	64	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*60*		*34 - 120*
2-Fluorophenol	*29*		*10 - 120*
Nitrobenzene-d5	*52*		*27 - 120*
Phenol-d5	*42*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*44*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.8	22.2		ug/L		75	10 - 143
Benzoic acid	ND	*	116	55.0		ug/L		48	10 - 134
Benzyl alcohol	ND		29.8	27.6		ug/L		93	10 - 154
Bis(2-chloroethoxy)methane	ND	*	29.8	19.1		ug/L		64	14 - 147
Bis(2-chloroethyl)ether	ND	*	29.8	18.8		ug/L		63	28 - 130
bis (2-chloroisopropyl) ether	ND		29.8	17.5		ug/L		59	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.8	21.1		ug/L		71	43 - 160
4-Bromophenyl phenyl ether	ND		29.8	21.1		ug/L		71	26 - 159
Butyl benzyl phthalate	ND		29.8	18.8		ug/L		63	43 - 151
4-Chloroaniline	ND		29.8	23.4		ug/L		79	10 - 152
4-Chloro-3-methylphenol	ND		29.8	18.5		ug/L		62	17 - 156
2-Chloronaphthalene	ND		29.8	18.0		ug/L		60	10 - 155
2-Chlorophenol	ND		29.8	17.9		ug/L		60	19 - 130
4-Chlorophenyl phenyl ether	ND		29.8	19.8		ug/L		66	25 - 161
Dibenz[a,h]acridine	ND		29.8	16.3		ug/L		55	42 - 147
Dibenzofuran	ND		29.8	19.7		ug/L		66	18 - 157
3,3'-Dichlorobenzidine	ND	*	39.7	24.5		ug/L		62	10 - 172
2,4-Dichlorophenol	ND		29.8	20.4		ug/L		69	16 - 147
Diethyl phthalate	ND		29.8	20.7		ug/L		69	23 - 160
2,4-Dimethylphenol	ND		29.8	24.7		ug/L		83	25 - 146
Dimethyl phthalate	ND		29.8	17.7		ug/L		59	11 - 158
Di-n-butyl phthalate	ND		29.8	21.1		ug/L		71	28 - 162
4,6-Dinitro-ortho-cresol	ND		59.5	50.3		ug/L		85	10 - 168
2,4-Dinitrophenol	ND		59.5	62.6		ug/L		105	10 - 166
2,4-Dinitrotoluene	ND	*	29.8	19.2		ug/L		65	26 - 158
2,6-Dinitrotoluene	ND	*	29.8	18.5		ug/L		62	19 - 157
Di-n-octyl phthalate	ND		29.8	20.5		ug/L		69	42 - 150
1,4-Dioxane	ND		29.8	11.2		ug/L		38	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.8	23.3		ug/L		78	19 - 162
Hexachlorobenzene	ND		29.8	28.7		ug/L		96	45 - 145
Hexachlorocyclopentadiene	ND		29.8	11.3	J	ug/L		38	10 - 151
Hexachloroethane	ND	*	29.8	20.4		ug/L		68	29 - 130
Indene	ND		29.8	20.5		ug/L		69	22 - 130
Isophorone	ND	*	29.8	23.0		ug/L		77	24 - 144
2-Methylphenol	ND		29.8	22.9		ug/L		77	22 - 130
3 & 4 Methylphenol	ND		29.8	23.1		ug/L		78	31 - 130
2-Nitroaniline	ND		29.8	26.3		ug/L		88	10 - 162
3-Nitroaniline	ND		29.8	23.7		ug/L		80	10 - 163
4-Nitroaniline	ND	*	29.8	23.1		ug/L		78	10 - 162
Nitrobenzene	ND	*	29.8	25.2		ug/L		85	34 - 135
2-Nitrophenol	ND		29.8	19.3		ug/L		65	27 - 134
4-Nitrophenol	ND		59.5	45.1		ug/L		76	10 - 175
N-Nitrosodimethylamine	ND		29.8	26.7		ug/L		90	10 - 139
N-Nitrosodi-n-propylamine	ND		29.8	32.0		ug/L		108	13 - 147
N-Nitrosodiphenylamine	ND		29.5	19.0		ug/L		64	31 - 150
Pentachlorophenol	ND		59.5	45.2		ug/L		76	10 - 180
Phenol	ND		29.8	18.3		ug/L		62	23 - 130
Pyridine	ND		59.5	35.8		ug/L		60	10 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Quinoline	ND		29.8	14.6		ug/L		49	10 - 180
2,4,5-Trichlorophenol	ND		29.8	18.6		ug/L		63	43 - 137
2,4,6-Trichlorophenol	ND		29.8	18.1		ug/L		61	42 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*58*		*34 - 120*
2-Fluorophenol	*47*		*10 - 120*
Nitrobenzene-d5	*84*		*27 - 120*
Phenol-d5	*56*		*10 - 120*
Terphenyl-d14	*36*	*X*	*53 - 125*
2,4,6-Tribromophenol	*57*		*15 - 135*

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	ND		29.3	19.0		ug/L		65	10 - 143	15	63
Benzoic acid	ND	*	114	70.1		ug/L		62	10 - 134	24	49
Benzyl alcohol	ND		29.3	24.8		ug/L		85	10 - 154	11	37
Bis(2-chloroethoxy)methane	ND	*	29.3	17.0		ug/L		58	14 - 147	12	70
Bis(2-chloroethyl)ether	ND	*	29.3	17.6		ug/L		60	28 - 130	6	42
bis (2-chloroisopropyl) ether	ND		29.3	15.8		ug/L		54	10 - 141	10	41
Bis(2-ethylhexyl) phthalate	ND		29.3	21.9		ug/L		75	43 - 160	4	35
4-Bromophenyl phenyl ether	ND		29.3	21.3		ug/L		72	26 - 159	1	30
Butyl benzyl phthalate	ND		29.3	20.3		ug/L		69	43 - 151	8	32
4-Chloroaniline	ND		29.3	21.6		ug/L		74	10 - 152	8	94
4-Chloro-3-methylphenol	ND		29.3	19.4		ug/L		66	17 - 156	5	40
2-Chloronaphthalene	ND		29.3	18.0		ug/L		61	10 - 155	0	29
2-Chlorophenol	ND		29.3	18.8		ug/L		64	19 - 130	5	42
4-Chlorophenyl phenyl ether	ND		29.3	19.5		ug/L		66	25 - 161	1	27
Dibenz[a,h]acridine	ND		29.3	19.2		ug/L		65	42 - 147	16	40
Dibenzofuran	ND		29.3	19.1		ug/L		65	18 - 157	3	29
3,3'-Dichlorobenzidine	ND	*	39.1	20.9		ug/L		54	10 - 172	16	58
2,4-Dichlorophenol	ND		29.3	22.1		ug/L		75	16 - 147	8	43
Diethyl phthalate	ND		29.3	22.8		ug/L		78	23 - 160	10	40
2,4-Dimethylphenol	ND		29.3	23.9		ug/L		82	25 - 146	3	47
Dimethyl phthalate	ND		29.3	20.3		ug/L		69	11 - 158	14	36
Di-n-butyl phthalate	ND		29.3	22.0		ug/L		75	28 - 162	4	32
4,6-Dinitro-ortho-cresol	ND		58.7	58.8		ug/L		100	10 - 168	15	42
2,4-Dinitrophenol	ND		58.7	68.7		ug/L		117	10 - 166	9	36
2,4-Dinitrotoluene	ND	*	29.3	18.0		ug/L		61	26 - 158	7	28
2,6-Dinitrotoluene	ND	*	29.3	17.3		ug/L		59	19 - 157	7	28
Di-n-octyl phthalate	ND		29.3	21.2		ug/L		72	42 - 150	3	35
1,4-Dioxane	ND		29.3	9.23	J	ug/L		31	10 - 130	19	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.3	23.8		ug/L		81	19 - 162	2	40
Hexachlorobenzene	ND		29.3	26.1		ug/L		89	45 - 145	9	33
Hexachlorocyclopentadiene	ND		29.3	12.2	J	ug/L		41	10 - 151	7	50

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 450203

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachloroethane	ND	*	29.3	23.5		ug/L		80	29 - 130	14	41
Indene	ND		29.3	18.9		ug/L		64	22 - 130	8	40
Isophorone	ND	*	29.3	20.9		ug/L		71	24 - 144	10	33
2-Methylphenol	ND		29.3	23.2		ug/L		79	22 - 130	1	47
3 & 4 Methylphenol	ND		29.3	24.0		ug/L		82	31 - 130	4	47
2-Nitroaniline	ND		29.3	24.3		ug/L		83	10 - 162	8	33
3-Nitroaniline	ND		29.3	22.0		ug/L		75	10 - 163	7	39
4-Nitroaniline	ND	*	29.3	19.8		ug/L		67	10 - 162	16	50
Nitrobenzene	ND	*	29.3	22.9		ug/L		78	34 - 135	10	35
2-Nitrophenol	ND		29.3	20.1		ug/L		68	27 - 134	4	43
4-Nitrophenol	ND		58.7	53.5		ug/L		91	10 - 175	17	82
N-Nitrosodimethylamine	ND		29.3	22.9		ug/L		78	10 - 139	15	62
N-Nitrosodi-n-propylamine	ND		29.3	28.3		ug/L		96	13 - 147	12	36
N-Nitrosodiphenylamine	ND		29.1	20.0		ug/L		69	31 - 150	5	34
Pentachlorophenol	ND		58.7	51.0		ug/L		87	10 - 180	12	42
Phenol	ND		29.3	24.1		ug/L		82	23 - 130	27	52
Pyridine	ND		58.7	32.8		ug/L		56	10 - 130	9	55
Quinoline	ND		29.3	16.0		ug/L		54	10 - 180	9	40
2,4,5-Trichlorophenol	ND		29.3	20.8		ug/L		71	43 - 137	11	42
2,4,6-Trichlorophenol	ND		29.3	21.1		ug/L		72	42 - 135	15	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*56*		*34 - 120*
2-Fluorophenol	*47*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*67*		*10 - 120*
Terphenyl-d14	*41*	*X*	*53 - 125*
2,4,6-Tribromophenol	*65*		*15 - 135*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 451086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline - RA	ND		10	3.8	ug/L		07/25/19 08:28	08/06/19 11:42	1
Benzyl alcohol - RA	ND		10	2.0	ug/L		07/25/19 08:28	08/06/19 11:42	1
Bis(2-chloroethoxy)methane - RA	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 11:42	1
Bis(2-chloroethyl)ether - RA	ND		10	0.74	ug/L		07/25/19 08:28	08/06/19 11:42	1
Butyl benzyl phthalate - RA	ND		10	0.69	ug/L		07/25/19 08:28	08/06/19 11:42	1
Isophorone - RA	ND		10	0.57	ug/L		07/25/19 08:28	08/06/19 11:42	1
2-Methylphenol - RA	ND		10	1.8	ug/L		07/25/19 08:28	08/06/19 11:42	1
Phenol - RA	ND		10	2.6	ug/L		07/25/19 08:28	08/06/19 11:42	1
Pyridine - RA	ND		10	3.2	ug/L		07/25/19 08:28	08/06/19 11:42	1

Tentatively Identified Compound	*Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound - RA	*None*		*ug/L*				*07/25/19 08:28*	*08/06/19 11:42*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449448/1-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Anthracene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Chrysene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
Fluoranthene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Fluorene	ND		0.20	0.021	ug/L		07/25/19 08:28	08/02/19 18:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/25/19 08:28	08/02/19 18:25	1
1-Methylnaphthalene	0.0335	J	0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
2-Methylnaphthalene	0.0549	J	0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Phenanthrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1
Pyrene	ND		0.20	0.020	ug/L		07/25/19 08:28	08/02/19 18:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*15 - 122*	*07/25/19 08:28*	*08/02/19 18:25*	*1*
Nitrobenzene-d5	*85*		*19 - 130*	*07/25/19 08:28*	*08/02/19 18:25*	*1*
Terphenyl-d14	*111*		*33 - 138*	*07/25/19 08:28*	*08/02/19 18:25*	*1*

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	24.5		ug/L		82	41 - 120
Acenaphthylene	30.0	24.0		ug/L		80	44 - 120
Anthracene	30.0	23.8		ug/L		79	49 - 120
Benzo[a]anthracene	30.0	23.5		ug/L		78	61 - 135
Benzo[a]pyrene	30.0	23.7		ug/L		79	52 - 120
Benzo[b]fluoranthene	30.0	23.7		ug/L		79	53 - 134
Benzo[g,h,i]perylene	30.0	23.7		ug/L		79	47 - 133
Benzo[k]fluoranthene	30.0	24.2		ug/L		81	57 - 134
Chrysene	30.0	23.6		ug/L		79	55 - 122
Dibenz(a,h)anthracene	30.0	26.8		ug/L		89	48 - 146
Fluoranthene	30.0	23.8		ug/L		79	54 - 128
Fluorene	30.0	23.8		ug/L		79	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	23.7		ug/L		79	43 - 142
1-Methylnaphthalene	30.0	22.9		ug/L		76	41 - 120
2-Methylnaphthalene	30.0	22.1		ug/L		74	32 - 124
Phenanthrene	30.0	24.1		ug/L		80	48 - 120
Pyrene	30.0	23.9		ug/L		80	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*15 - 122*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449448/20-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449448

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	73		19 - 130
Terphenyl-d14	93		33 - 138

Lab Sample ID: LCSD 400-449448/21-A
Matrix: Water
Analysis Batch: 450731

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449448

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	27.4		ug/L		91	41 - 120	11	56
Acenaphthylene			30.0	26.2		ug/L		87	44 - 120	9	56
Anthracene			30.0	28.9		ug/L		96	49 - 120	19	51
Benzo[a]anthracene			30.0	26.3		ug/L		88	61 - 135	11	49
Benzo[a]pyrene			30.0	25.2		ug/L		84	52 - 120	6	50
Benzo[b]fluoranthene			30.0	26.9		ug/L		90	53 - 134	13	54
Benzo[g,h,i]perylene			30.0	25.5		ug/L		85	47 - 133	7	50
Benzo[k]fluoranthene			30.0	25.4		ug/L		85	57 - 134	5	52
Chrysene			30.0	26.3		ug/L		88	55 - 122	11	50
Dibenz(a,h)anthracene			30.0	29.2		ug/L		97	48 - 146	8	50
Fluoranthene			30.0	27.2		ug/L		91	54 - 128	14	52
Fluorene			30.0	28.2		ug/L		94	45 - 125	17	56
Indeno[1,2,3-cd]pyrene			30.0	25.5		ug/L		85	43 - 142	7	51
1-Methylnaphthalene			30.0	25.4		ug/L		85	41 - 120	10	55
2-Methylnaphthalene			30.0	25.3		ug/L		84	32 - 124	14	57
Phenanthrene			30.0	27.1		ug/L		90	48 - 120	12	56
Pyrene			30.0	27.1		ug/L		90	48 - 132	13	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	82		15 - 122
Nitrobenzene-d5	87		19 - 130
Terphenyl-d14	94		33 - 138

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 451069

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2.0		29.8	29.4		ug/L		92	35 - 113
Acenaphthylene	ND		29.8	26.0		ug/L		87	41 - 118
Anthracene	0.15	J	29.8	27.9		ug/L		93	45 - 122
Benzo[a]anthracene	ND		29.8	23.9		ug/L		80	55 - 133
Benzo[a]pyrene	ND		29.8	23.9		ug/L		80	50 - 108
Benzo[b]fluoranthene	ND		29.8	22.0		ug/L		74	50 - 128
Benzo[g,h,i]perylene	ND	F1	29.8	12.2	F1	ug/L		41	46 - 133
Benzo[k]fluoranthene	ND		29.8	32.8		ug/L		110	52 - 128
Chrysene	ND		29.8	25.5		ug/L		86	52 - 116
Dibenz(a,h)anthracene	ND		29.8	17.4		ug/L		58	52 - 143
Fluoranthene	0.053	J	29.8	26.7		ug/L		90	32 - 150
Fluorene	1.4		29.8	31.0		ug/L		99	15 - 150

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173526-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-173526-5 MS
Matrix: Water
Analysis Batch: 451069

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Indeno[1,2,3-cd]pyrene	ND		29.8	13.9		ug/L		47	41 - 141
1-Methylnaphthalene	4.4	B	29.8	25.4		ug/L		71	10 - 150
2-Methylnaphthalene	2.2	B	29.8	24.0		ug/L		73	10 - 150
Phenanthrene	0.46		29.8	26.3		ug/L		87	36 - 125
Pyrene	0.21		29.8	27.0		ug/L		90	41 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*86*		*15 - 122*
Nitrobenzene-d5	*73*		*19 - 130*
Terphenyl-d14	*51*		*33 - 138*

Lab Sample ID: 400-173526-5 MSD
Matrix: Water
Analysis Batch: 451069

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA
Prep Batch: 449448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	2.0		29.3	28.4		ug/L		90	35 - 113	4	49
Acenaphthylene	ND		29.3	24.7		ug/L		84	41 - 118	5	48
Anthracene	0.15	J	29.3	27.7		ug/L		94	45 - 122	1	56
Benzo[a]anthracene	ND		29.3	23.4		ug/L		80	55 - 133	2	57
Benzo[a]pyrene	ND		29.3	23.5		ug/L		80	50 - 108	2	59
Benzo[b]fluoranthene	ND		29.3	22.9		ug/L		78	50 - 128	4	62
Benzo[g,h,i]perylene	ND	F1	29.3	12.4	F1	ug/L		42	46 - 133	2	58
Benzo[k]fluoranthene	ND		29.3	33.0		ug/L		112	52 - 128	0	58
Chrysene	ND		29.3	24.7		ug/L		84	52 - 116	3	59
Dibenz(a,h)anthracene	ND		29.3	16.8		ug/L		57	52 - 143	4	60
Fluoranthene	0.053	J	29.3	25.6		ug/L		87	32 - 150	4	59
Fluorene	1.4		29.3	29.9		ug/L		97	15 - 150	3	49
Indeno[1,2,3-cd]pyrene	ND		29.3	14.3		ug/L		49	41 - 141	3	58
1-Methylnaphthalene	4.4	B	29.3	25.3		ug/L		71	10 - 150	1	66
2-Methylnaphthalene	2.2	B	29.3	23.6		ug/L		73	10 - 150	2	66
Phenanthrene	0.46		29.3	26.1		ug/L		87	36 - 125	1	69
Pyrene	0.21		29.3	25.5		ug/L		86	41 - 127	6	58

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*81*		*15 - 122*
Nitrobenzene-d5	*66*		*19 - 130*
Terphenyl-d14	*56*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
- ☐ ACCUTEST (_____)
- ☐ CALSCIENCE (_____)
- ☑ TESTAMERICA (Pensacola)
- ☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box:
- ☐ SGW FDG
- ☐ PIPELINE
- ☐ RETAIL
- ☐ CHEMICALS
- ☐ CONSULTANT
- ☐ LUBES
- ☐ TRANSPORTATION
- ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/22/2019
PO #	**GSAP Project ID**	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE		State	AECOM Project / Task Number:
AECOM		170 East Rand Avenue, Hartford	IL	PreDesign Invest. PW

ADDRESS	EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO.	E-MAIL	AECOM Other ID
100 N Broadway, 20th Floor; St. Louis, MO 63102	Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE	FAX	Bill To Contact E-MAIL	SAMPLER NAME(S) (Print)	LAB USE ONLY
314-429-0100	314-429-0462	elizabeth.kunkel@aecom.com	Paul LeFleur	

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- ☑ SHELL CONTRACT RATE APPLIES
- ☐ STATE REIMBURSEMENT RATE APPLIES
- ☐ EDD NOT NEEDED
- ☑ RECEIPT VERIFICATION REQUESTED
- ☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

400-173526 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs	Container PID Readings or Laboratory Notes
	TB-PW-072219-B	7/22/2019	0:00	Water	2					2		x		
	PD-17-GWP-50-072219	7/22/2019	10:00	Water	2			2		4	x	x	x	
	PD-17-GWP-50-072219-DUP	7/22/2019	10:00	Water	2			2		4	x	x	x	
	PD-17-GWP-50-072219-EB	7/22/2019	11:15	Water	2			2		4	x	x	x	
	PD-7-GWP-45-072219	7/22/2019	13:45	Water	2			2		4	x	x	x	
	PD-7-GWP-45-072219-MS	7/22/2019	13:45	Water	2			2		4	x	x	x	
	PD-7-GWP-45-072219-MSD	7/22/2019	13:45	Water	2			2		4	x	x	x	
	PD-7-GWP-50-072219	7/22/2019	14:55	Water	2			2		4	x	x	x	
	PD-7-GWP-50-072219-DUP	7/22/2019	14:55	Water	2			2		4	x	x	x	
	PD-7-GWP-50-072219-EB	7/22/2019	15:45	Water	2			2		4	x	x	x	

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Paul Lafleur	Fedex: 4931 8203 7524; 4931 8203 7351, 4931 8203 7362 ; custody seal: 1011642, 1011643, 1011644, 1011645, 1011646, 1011647	7/22/2019	18:00
	Buyer 1.8c, 2.7C, 2.4C JLE	7/23/2019	9:09

Version: 10May17

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173526-1

Login Number: 173526
List Number: 1
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8°C, 2.7°C, 2.4°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173526-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Groundwater Data Review

Laboratory SDG: 400-173575

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/13/2019

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-PW-072319-B	PD-7-GWP-55-072319
PD-7-GWP-55-072319-EB	PD-3-GWP-45-072319
PD-3-GWP-50-072319	PD-3-GWP-50-072319-DUP
PD-3-GWP-55-072319	PD-3-GWP-60-072319
PD-3-GWP-65-072319	PD-3-GWP-71-072319
PD-3-GWP-50-072319-EB	--

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated the SVOC compound di-n-octyl phthalate was detected in the method blank. VOCs and SVOCs were detected in equipment blanks. SVOC LCS/LCSD recoveries and LCS/LCSD RPDs were outside evaluation criteria. Recoveries of the SVOC surrogate 2-fluorophenol were outside evaluation criteria in samples PD-3-GWP-50-072319 and the method blank. These issues are addressed further in the appropriate sections of this data review.

Additionally, the laboratory case narrative indicated three of the 8260 VOCs (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated equipment blank PD-3-GWP-50-072319-EB was included in the cooler, however not on the COC; the equipment blank was analyzed and reported correctly; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-449716/1-A	SVOCs	di-n-octyl-Phthalate	2.53 µg/L
PD-7-GWP-55-072319-EB	VOCs	Benzene	7.0 µg/L
PD-7-GWP-55-072319-EB	VOCs	2-Butanone	2.6 µg/L
PD-7-GWP-55-072319-EB	SVOCs	di-n-octyl-Phthalate	2.0 µg/L
PD-3-GWP-50-072319-EB	PAHs	di-n-octyl-Phthalate	1.2 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration, ten times (10X) for common laboratory contaminants, did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
PD-7-GWP-55-072319	SVOCs	di-n-octyl-Phthalate	-	**U**
PD-3-GWP-45-072319	SVOCs	di-n-octyl-Phthalate	-	**U**
PD-3-GWP-60-072319	SVOCs	di-n-octyl-Phthalate	-	**U**
PD-3-GWP-65-072319	SVOCs	di-n-octyl-Phthalate	-	**U**
PD-3-GWP-71-072319	SVOCs	di-n-octyl-Phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/ LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
400-449716/14-A	SVOCs	Benzenethiol	**3/3**	3	10-120/30
400-449716/2-A/3-A	SVOCs	Aniline	48/68	**35**	29-120/
400-449716/2-A/3-A	SVOCs	Hexachlorocyclopentadiene	28/45	**46**	10-129/30

Analytical data that required qualification based on LCS/LCSD data are included in the following table. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
PD-7-GWP-55-072319	SVOCs	Benzenethiol	**UJ**
PD-3-GWP-45-072319	SVOCs	Benzenethiol	**UJ**
PD-3-GWP-50-072319	SVOCs	Benzenethiol	**UJ**
PD-3-GWP-50-072319-DUP	SVOCs	Benzenethiol	**UJ**
PD-3-GWP-55-072319	SVOCs	Benzenethiol	**UJ**

Sample ID	Parameter	Analyte	Qualification
PD-3-GWP-60-072319	SVOCs	Benzenethiol	**UJ**
PD-3-GWP-65-072319	SVOCs	Benzenethiol	**UJ**
PD-3-GWP-71-072319	SVOCs	Benzenethiol	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
PD-3-GWP-50-072319	SVOCs	2-Fluorophenol	**0**	10-120
MB 400-449716/1-A	SVOCs	2-Fluorophenol	**9**	10-120

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173575-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/13/2019 1:38:37 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/13/2019

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173575-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173575-1

Comments
No additional comments.

Receipt
The samples were received on 7/24/2019 8:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.2° C, 2.3° C and 2.4° C.

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): PD-3-GWP-50-072319-EB (400-173575-11)

GC/MS VOA
Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-7-GWP-55-072319 (400-173575-2), PD-3-GWP-45-072319 (400-173575-4), PD-3-GWP-50-072319 (400-173575-5), PD-3-GWP-50-072319-DUP (400-173575-6), PD-3-GWP-55-072319 (400-173575-7), PD-3-GWP-60-072319 (400-173575-8), PD-3-GWP-65-072319 (400-173575-9), PD-3-GWP-71-072319 (400-173575-10). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-072319-B (400-173575-1), PD-7-GWP-55-072319 (400-173575-2), PD-7-GWP-55-072319-EB (400-173575-3), PD-3-GWP-45-072319 (400-173575-4), PD-3-GWP-50-072319 (400-173575-5), PD-3-GWP-50-072319-DUP (400-173575-6), PD-3-GWP-55-072319 (400-173575-7), PD-3-GWP-60-072319 (400-173575-8), PD-3-GWP-65-072319 (400-173575-9), PD-3-GWP-71-072319 (400-173575-10) and PD-3-GWP-50-072319-EB (400-173575-11). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: Sample PD-7-GWP-55-072319-EB (400-173575-3) contained Benzene above the reporting limit and 2-Butanone (MEK) above the MDL limit. Reanalysis was performed with concurring results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Dimethyl phthalate, 2-Chloronaphthalene, Diethyl phthalate, 4-Chlorophenyl phenyl ether, 2,4-Dinitrotoluene, Hexachlorocyclopentadiene and Dibenzofuran The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-3-GWP-50-072319 (400-173575-5). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450993 recovered above the upper control limit for 2,4-Dinitrotoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450993 recovered outside acceptance criteria, low biased, for Aniline, 4,6-Dinitro-2-methylphenol and Hexachlorocyclopentadiene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-449716 and analytical batch 400-450897 contained Di-n-octyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Job ID: 400-173575-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449716 and analytical batch 400-450897 recovered outside control limits for the following analytes: Aniline and Hexachlorocyclopentadiene.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449716 and analytical batch 400-450897 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-449716/1-A). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450897 recovered above the upper control limit for 4,6-Dinitro-ortho-cresol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-451066 recovered outside acceptance criteria, low biased, for Benzo[g,h,i]perylene and Indeno[1,2,3-cd]pyrene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173575-1	TB-PW-072319-B	Water	07/23/19 00:00	07/24/19 08:59	
400-173575-2	PD-7-GWP-55-072319	Water	07/23/19 08:30	07/24/19 08:59	
400-173575-3	PD-7-GWP-55-072319-EB	Water	07/23/19 09:00	07/24/19 08:59	
400-173575-4	PD-3-GWP-45-072319	Water	07/23/19 10:10	07/24/19 08:59	
400-173575-5	PD-3-GWP-50-072319	Water	07/23/19 10:55	07/24/19 08:59	
400-173575-6	PD-3-GWP-50-072319-DUP	Water	07/23/19 10:55	07/24/19 08:59	
400-173575-7	PD-3-GWP-55-072319	Water	07/23/19 11:50	07/24/19 08:59	
400-173575-8	PD-3-GWP-60-072319	Water	07/23/19 13:40	07/24/19 08:59	
400-173575-9	PD-3-GWP-65-072319	Water	07/23/19 14:35	07/24/19 08:59	
400-173575-10	PD-3-GWP-71-072319	Water	07/23/19 15:30	07/24/19 08:59	
400-173575-11	PD-3-GWP-50-072319-EB	Water	07/23/19 09:00	07/24/19 08:59	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: TB-PW-072319-B — Lab Sample ID: 400-173575-1

No Detections.

Client Sample ID: PD-7-GWP-55-072319 — Lab Sample ID: 400-173575-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	0.64		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.55		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	15		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	20		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.77		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.15	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Di-n-octyl phthalate	2.3	J B U	10	0.44	ug/L	1		8270D	Total/NA
Pentachlorophenol	2.1	J	20	1.8	ug/L	1		8270D	Total/NA
Phenol - DL	210		50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-7-GWP-55-072319-EB — Lab Sample ID: 400-173575-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.0		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	2.6	J	25	2.6	ug/L	1		8260B	Total/NA
Di-n-octyl phthalate	2.0	J B	9.6	0.42	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-45-072319 — Lab Sample ID: 400-173575-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2500		20	7.6	ug/L	20		8260B	Total/NA
1-Methylnaphthalene	0.021	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.029	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Di-n-octyl phthalate	2.5	J B U	9.7	0.43	ug/L	1		8270D	Total/NA
Phenol	4.6	J	9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-50-072319 — Lab Sample ID: 400-173575-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200000		5000	1900	ug/L	5000		8260B	Total/NA
Toluene	2400	J	5000	2100	ug/L	5000		8260B	Total/NA
Acenaphthene	0.30		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	13		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	17		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.33		0.20	0.020	ug/L	1		8270D LL	Total/NA
3 & 4 Methylphenol	3.5	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	270		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-3-GWP-50-072319-DUP — Lab Sample ID: 400-173575-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200000		5000	1900	ug/L	5000		8260B	Total/NA
Acenaphthene	0.30		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	16		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	21		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.39		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol - DL	230		49	13	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319 — Lab Sample ID: 400-173575-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	680000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	3.3		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	4.4		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.095	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzoic acid	7.4	J	29	7.1	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.3	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	170		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-3-GWP-60-072319 — Lab Sample ID: 400-173575-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	650000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	1.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.99		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	12	J	29	7.1	ug/L	1		8270D	Total/NA
Bis(2-ethylhexyl) phthalate	9.8		9.7	4.9	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	1.3	J B	9.7	0.43	ug/L	1		8270D	Total/NA
Indene	5.9	J	9.7	0.97	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.5	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol	67		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-65-072319 — Lab Sample ID: 400-173575-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	880000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	0.48		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.55		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	16	J	29	7.0	ug/L	1		8270D	Total/NA
Benzyl alcohol	3.3	J	9.6	1.9	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	2.0	J B	9.6	0.42	ug/L	1		8270D	Total/NA
Indene	2.4	J	9.6	0.96	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	2.8	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	150		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-3-GWP-71-072319 — Lab Sample ID: 400-173575-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	1.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.78		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	8.3	J	29	7.1	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	2.5	J B	9.7	0.43	ug/L	1		8270D	Total/NA
Indene	3.1	J	9.7	0.97	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	2.5	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol	89		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-50-072319-EB — Lab Sample ID: 400-173575-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-octyl phthalate	1.2	J B	9.5	0.42	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: TB-PW-072319-B

Date Collected: 07/23/19 00:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/31/19 11:38	1
Acrolein	ND		20	10	ug/L			07/30/19 15:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 15:27	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 15:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 15:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 15:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 15:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 15:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 15:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 15:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 15:27	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 15:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 15:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 15:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 15:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 15:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 15:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 15:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 15:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 15:27	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 15:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 15:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 15:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 15:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 15:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 15:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 15:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 15:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 15:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 15:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 15:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 15:27	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: TB-PW-072319-B

Date Collected: 07/23/19 00:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 15:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 15:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 15:27	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 15:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 15:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 15:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 15:27	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 15:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 15:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 15:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 15:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 15:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 15:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 15:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 15:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 15:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 15:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 15:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*07/30/19 15:27*	*1*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/31/19 11:38*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 15:27*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/31/19 11:38*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/30/19 15:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/31/19 11:38*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319

Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250000	100000	ug/L			07/30/19 20:17	10000
Acrolein	ND		200000	100000	ug/L			07/30/19 20:17	10000
Acrylonitrile	ND		100000	28000	ug/L			07/30/19 20:17	10000
Benzene	**1400000**		10000	3800	ug/L			07/30/19 20:17	10000
Bromobenzene	ND		10000	5400	ug/L			07/30/19 20:17	10000
Bromochloromethane	ND		10000	5200	ug/L			07/30/19 20:17	10000
Bromodichloromethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
Bromoform	ND		50000	7100	ug/L			07/30/19 20:17	10000
Bromomethane	ND		10000	9800	ug/L			07/30/19 20:17	10000
2-Butanone (MEK)	ND		250000	26000	ug/L			07/30/19 20:17	10000
Carbon disulfide	ND		10000	5000	ug/L			07/30/19 20:17	10000
Carbon tetrachloride	ND		10000	5000	ug/L			07/30/19 20:17	10000
Chlorobenzene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Chloroethane	ND		10000	7600	ug/L			07/30/19 20:17	10000
2-Chloroethyl vinyl ether	ND		50000	20000	ug/L			07/30/19 20:17	10000
Chloroform	ND		10000	6000	ug/L			07/30/19 20:17	10000
1-Chlorohexane	ND		10000	7000	ug/L			07/30/19 20:17	10000
Chloromethane	ND		10000	8300	ug/L			07/30/19 20:17	10000
cis-1,2-Dichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
cis-1,3-Dichloropropene	ND		50000	5000	ug/L			07/30/19 20:17	10000
Dibromochloromethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,2-Dibromo-3-Chloropropane	ND		50000	15000	ug/L			07/30/19 20:17	10000
1,2-Dichlorobenzene	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,3-Dichlorobenzene	ND		10000	5400	ug/L			07/30/19 20:17	10000
1,4-Dichlorobenzene	ND		10000	6400	ug/L			07/30/19 20:17	10000
Dichlorodifluoromethane	ND		10000	8500	ug/L			07/30/19 20:17	10000
1,1-Dichloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,2-Dichloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,1-Dichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,2-Dichloropropane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,3-Dichloropropane	ND		10000	5000	ug/L			07/30/19 20:17	10000
2,2-Dichloropropane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,1-Dichloropropene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Ethylbenzene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Ethylene Dibromide	ND		10000	5000	ug/L			07/30/19 20:17	10000
Ethyl methacrylate	ND		10000	6000	ug/L			07/30/19 20:17	10000
Hexachlorobutadiene	ND		50000	9000	ug/L			07/30/19 20:17	10000
2-Hexanone	ND		250000	31000	ug/L			07/30/19 20:17	10000
Isopropylbenzene	ND		10000	5300	ug/L			07/30/19 20:17	10000
Methylene bromide	ND		50000	5900	ug/L			07/30/19 20:17	10000
Methylene Chloride	ND		50000	30000	ug/L			07/30/19 20:17	10000
4-Methyl-2-pentanone (MIBK)	ND		250000	18000	ug/L			07/30/19 20:17	10000
Methyl tert-butyl ether	ND		10000	7400	ug/L			07/30/19 20:17	10000
m-Xylene & p-Xylene	ND		50000	16000	ug/L			07/30/19 20:17	10000
Naphthalene	ND		10000	10000	ug/L			07/30/19 20:17	10000
n-Butylbenzene	ND		10000	7600	ug/L			07/30/19 20:17	10000
N-Propylbenzene	ND		10000	6900	ug/L			07/30/19 20:17	10000
o-Chlorotoluene	ND		10000	5700	ug/L			07/30/19 20:17	10000
o-Xylene	ND		50000	6000	ug/L			07/30/19 20:17	10000

Client Sample ID: PD-7-GWP-55-072319
Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10000	5600	ug/L			07/30/19 20:17	10000
p-Isopropyltoluene	ND		10000	7100	ug/L			07/30/19 20:17	10000
sec-Butylbenzene	ND		10000	7000	ug/L			07/30/19 20:17	10000
Styrene	ND		10000	10000	ug/L			07/30/19 20:17	10000
tert-Butylbenzene	ND		10000	6300	ug/L			07/30/19 20:17	10000
1,1,1,2-Tetrachloroethane	ND		10000	5200	ug/L			07/30/19 20:17	10000
1,1,2,2-Tetrachloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
Tetrachloroethene	ND		10000	5800	ug/L			07/30/19 20:17	10000
Toluene	ND		10000	4100	ug/L			07/30/19 20:17	10000
trans-1,2-Dichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
trans-1,3-Dichloropropene	ND		50000	5000	ug/L			07/30/19 20:17	10000
1,2,3-Trichlorobenzene	ND		10000	7000	ug/L			07/30/19 20:17	10000
1,2,4-Trichlorobenzene	ND		10000	8200	ug/L			07/30/19 20:17	10000
1,1,1-Trichloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,1,2-Trichloroethane	ND		50000	5000	ug/L			07/30/19 20:17	10000
Trichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Trichlorofluoromethane	ND		10000	5200	ug/L			07/30/19 20:17	10000
1,2,3-Trichloropropane	ND		50000	8400	ug/L			07/30/19 20:17	10000
1,2,4-Trimethylbenzene	ND		10000	8200	ug/L			07/30/19 20:17	10000
1,3,5-Trimethylbenzene	ND		10000	5600	ug/L			07/30/19 20:17	10000
Vinyl acetate	ND		250000	20000	ug/L			07/30/19 20:17	10000
Vinyl chloride	ND		10000	5000	ug/L			07/30/19 20:17	10000
Xylenes, Total	ND		100000	16000	ug/L			07/30/19 20:17	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 20:17*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 20:17*	*10000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 20:17*	*10000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 20:17*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.64**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Chrysene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Fluorene	**0.55**		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 16:02	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
1-Methylnaphthalene	**15**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
2-Methylnaphthalene	**20**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Phenanthrene	**0.77**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319

Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**0.15**	**J**	0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:02*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:02*	*1*
Terphenyl-d14	*60*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:02*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		07/26/19 16:12	08/05/19 11:42	1
Benzoic acid	ND		30	7.3	ug/L		07/26/19 16:12	08/05/19 11:42	1
Benzyl alcohol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 11:42	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/26/19 16:12	08/05/19 11:42	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/26/19 16:12	08/05/19 11:42	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/26/19 16:12	08/05/19 11:42	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Chloroaniline	ND		10	3.4	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Chlorophenol	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Dibenzofuran	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 11:42	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Diethyl phthalate	ND		10	0.70	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 11:42	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/26/19 16:12	08/05/19 11:42	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/26/19 16:12	08/05/19 11:42	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 11:42	1
Di-n-octyl phthalate	~~2.3~~	**J B** U	10	0.44	ug/L		07/26/19 16:12	08/05/19 11:42	1
1,4-Dioxane	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/26/19 16:12	08/05/19 11:42	1
Hexachlorocyclopentadiene	ND	*	20	2.6	ug/L		07/26/19 16:12	08/05/19 11:42	1
Hexachloroethane	ND		10	4.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
Indene	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Isophorone	ND		10	0.57	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Methylphenol	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Nitroaniline	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
3-Nitroaniline	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Nitroaniline	ND		10	2.5	ug/L		07/26/19 16:12	08/05/19 11:42	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319

Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Nitrophenol	ND		10	0.65	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Nitrophenol	ND		10	2.1	ug/L		07/26/19 16:12	08/05/19 11:42	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 11:42	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/26/19 16:12	08/05/19 11:42	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/26/19 16:12	08/05/19 11:42	1
Pentachlorophenol	**2.1**	**J**	20	1.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
Pyridine	ND		10	3.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
Quinoline	ND		10	6.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 11:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butenedinitrile, (E)-	*38*	*T J N*	*ug/L*		*3.31*	*764-42-1*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Toluene	*70*	*T J N*	*ug/L*		*4.04*	*108-88-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Ethylbenzene	*100*	*T J N*	*ug/L*		*4.76*	*100-41-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
p-Xylene	*60*	*T J N*	*ug/L*		*4.98*	*106-42-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, (1-methylethyl)-	*13*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, propyl-	*18*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1-ethyl-2-methyl-	*26*	*T J N*	*ug/L*		*5.48*	*611-14-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,2,4-trimethyl-	*100*	*T J N*	*ug/L*		*5.57*	*95-63-6*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,3,5-trimethyl-	*49*	*T J N*	*ug/L*		*5.72*	*108-67-8*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Indane	*14*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,3-diethyl-	*16*	*T J N*	*ug/L*		*5.86*	*141-93-5*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*7.4*	*T J N*	*ug/L*		*5.98*	*527-84-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*11*	*T J N*	*ug/L*		*6.01*	*1758-88-9*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*5.8*	*T J N*	*ug/L*		*6.11*	*527-84-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,2,4,5-tetramethyl-	*7.8*	*T J N*	*ug/L*		*6.18*	*95-93-2*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*14*	*T J N*	*ug/L*		*6.41*	*119-64-2*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene	*32*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 1,2,3,4-tetrahydro-6-methyl-	*6.6*	*T J N*	*ug/L*		*6.83*	*1680-51-9*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzoic acid, 2,3-dimethyl-	*6.7*	*T J N*	*ug/L*		*6.91*	*603-79-2*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 1-methyl-	*20*	*T J N*	*ug/L*		*6.98*	*90-12-0*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 2-methyl-	*23*	*T J N*	*ug/L*		*7.05*	*91-57-6*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzoic acid, 3,4-dimethyl-	*110*	*T J N*	*ug/L*		*7.31*	*619-04-5*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
2-Naphthalenecarboxylic acid	*9.7*	*T J N*	*ug/L*		*8.39*	*93-09-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Octadecanoic acid	*9.6*	*T J N*	*ug/L*		*9.90*	*57-11-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Trifluoroacetic acid, n-octadecyl ester	*6.8*	*T J N*	*ug/L*		*11.03*	*79392-43-1*	*07/26/19 16:12*	*08/05/19 11:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*34 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
2-Fluorophenol	*27*		*10 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Phenol-d5	*41*		*10 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Terphenyl-d14	*55*		*53 - 125*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
2,4,6-Tribromophenol	*75*		*15 - 135*	*07/26/19 16:12*	*08/05/19 11:42*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319
Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	210		50	13	ug/L		07/26/19 16:12	08/07/19 20:16	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 15:53	1
Acrolein	ND		20	10	ug/L			07/30/19 15:53	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 15:53	1
Benzene	7.0		1.0	0.38	ug/L			07/31/19 12:04	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 15:53	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 15:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 15:53	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 15:53	1
2-Butanone (MEK)	2.6	J	25	2.6	ug/L			07/31/19 12:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 15:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 15:53	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 15:53	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 15:53	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 15:53	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:53	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 15:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 15:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 15:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 15:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 15:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 15:53	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 15:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 15:53	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 15:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 15:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 15:53	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 15:53	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 15:53	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 15:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 15:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 15:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 15:53	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 15:53	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 15:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 15:53	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 15:53	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 15:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 15:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 15:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 15:53	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 15:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 15:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 15:53	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 15:53	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 15:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 15:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 15:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 15:53	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 15:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 15:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 15:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/30/19 15:53*	*1*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/31/19 12:04*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*07/30/19 15:53*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/31/19 12:04*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 15:53*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/31/19 12:04*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Chrysene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 16:21	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:21*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:21*	*1*
Terphenyl-d14	*104*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.6	3.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
Benzenethiol	ND	* UJ	9.6	1.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
Benzoic acid	ND		29	7.0	ug/L		07/26/19 16:12	08/05/19 15:37	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/26/19 16:12	08/05/19 15:37	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/26/19 16:12	08/05/19 15:37	1
bis (2-chloroisopropyl) ether	ND		9.6	0.77	ug/L		07/26/19 16:12	08/05/19 15:37	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/26/19 16:12	08/05/19 15:37	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Chloroaniline	ND		9.6	3.2	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Chloro-3-methylphenol	ND		9.6	3.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 15:37	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dimethylphenol	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 15:37	1
Dimethyl phthalate	ND		9.6	0.57	ug/L		07/26/19 16:12	08/05/19 15:37	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dinitrophenol	ND		29	3.2	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 15:37	1
Di-n-octyl phthalate	2.0	J B	9.6	0.42	ug/L		07/26/19 16:12	08/05/19 15:37	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 15:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 15:37	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/26/19 16:12	08/05/19 15:37	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/26/19 16:12	08/05/19 15:37	1
Indene	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 15:37	1
Isophorone	ND		9.6	0.54	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
3 & 4 Methylphenol	ND		19	0.99	ug/L		07/26/19 16:12	08/05/19 15:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-3

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 15:37	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/26/19 16:12	08/05/19 15:37	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Nitrophenol	ND		9.6	0.62	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/26/19 16:12	08/05/19 15:37	1
N-Nitrosodimethylamine	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 15:37	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/26/19 16:12	08/05/19 15:37	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/26/19 16:12	08/05/19 15:37	1
Pentachlorophenol	ND		19	1.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
Phenol	ND		9.6	2.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
Pyridine	ND		9.6	3.1	ug/L		07/26/19 16:12	08/05/19 15:37	1
Quinoline	ND		9.6	5.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4,5-Trichlorophenol	ND		9.6	3.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4,6-Trichlorophenol	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 15:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
13-Docosenamide, (Z)-	*6.2*	*T J N*	*ug/L*		*11.99*	*112-84-5*	*07/26/19 16:12*	*08/05/19 15:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
Phenol-d5	*52*		*10 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
Terphenyl-d14	*85*		*53 - 125*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/26/19 16:12*	*08/05/19 15:37*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-45-072319

Date Collected: 07/23/19 10:10
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	200	ug/L			07/30/19 11:28	20
Acrolein	ND		400	200	ug/L			07/30/19 11:28	20
Acrylonitrile	ND		200	56	ug/L			07/30/19 11:28	20
Benzene	**2500**		20	7.6	ug/L			07/30/19 11:28	20
Bromobenzene	ND		20	11	ug/L			07/30/19 11:28	20
Bromochloromethane	ND		20	10	ug/L			07/30/19 11:28	20
Bromodichloromethane	ND		20	10	ug/L			07/30/19 11:28	20
Bromoform	ND		100	14	ug/L			07/30/19 11:28	20
Bromomethane	ND		20	20	ug/L			07/30/19 11:28	20
2-Butanone (MEK)	ND		500	52	ug/L			07/30/19 11:28	20
Carbon disulfide	ND		20	10	ug/L			07/30/19 11:28	20
Carbon tetrachloride	ND		20	10	ug/L			07/30/19 11:28	20
Chlorobenzene	ND		20	10	ug/L			07/30/19 11:28	20
Chloroethane	ND		20	15	ug/L			07/30/19 11:28	20
2-Chloroethyl vinyl ether	ND		100	40	ug/L			07/30/19 11:28	20
Chloroform	ND		20	12	ug/L			07/30/19 11:28	20
1-Chlorohexane	ND		20	14	ug/L			07/30/19 11:28	20
Chloromethane	ND		20	17	ug/L			07/30/19 11:28	20
cis-1,2-Dichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
cis-1,3-Dichloropropene	ND		100	10	ug/L			07/30/19 11:28	20
Dibromochloromethane	ND		20	10	ug/L			07/30/19 11:28	20
1,2-Dibromo-3-Chloropropane	ND		100	30	ug/L			07/30/19 11:28	20
1,2-Dichlorobenzene	ND		20	10	ug/L			07/30/19 11:28	20
1,3-Dichlorobenzene	ND		20	11	ug/L			07/30/19 11:28	20
1,4-Dichlorobenzene	ND		20	13	ug/L			07/30/19 11:28	20
Dichlorodifluoromethane	ND		20	17	ug/L			07/30/19 11:28	20
1,1-Dichloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,2-Dichloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,1-Dichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
1,2-Dichloropropane	ND		20	10	ug/L			07/30/19 11:28	20
1,3-Dichloropropane	ND		20	10	ug/L			07/30/19 11:28	20
2,2-Dichloropropane	ND		20	10	ug/L			07/30/19 11:28	20
1,1-Dichloropropene	ND		20	10	ug/L			07/30/19 11:28	20
Ethylbenzene	ND		20	10	ug/L			07/30/19 11:28	20
Ethylene Dibromide	ND		20	10	ug/L			07/30/19 11:28	20
Ethyl methacrylate	ND		20	12	ug/L			07/30/19 11:28	20
Hexachlorobutadiene	ND		100	18	ug/L			07/30/19 11:28	20
2-Hexanone	ND		500	62	ug/L			07/30/19 11:28	20
Isopropylbenzene	ND		20	11	ug/L			07/30/19 11:28	20
Methylene bromide	ND		100	12	ug/L			07/30/19 11:28	20
Methylene Chloride	ND		100	60	ug/L			07/30/19 11:28	20
4-Methyl-2-pentanone (MIBK)	ND		500	36	ug/L			07/30/19 11:28	20
Methyl tert-butyl ether	ND		20	15	ug/L			07/30/19 11:28	20
m-Xylene & p-Xylene	ND		100	32	ug/L			07/30/19 11:28	20
Naphthalene	ND		20	20	ug/L			07/30/19 11:28	20
n-Butylbenzene	ND		20	15	ug/L			07/30/19 11:28	20
N-Propylbenzene	ND		20	14	ug/L			07/30/19 11:28	20
o-Chlorotoluene	ND		20	11	ug/L			07/30/19 11:28	20
o-Xylene	ND		100	12	ug/L			07/30/19 11:28	20

Client: AECOM Technical Services Inc. Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-45-072319 **Lab Sample ID: 400-173575-4**
Date Collected: 07/23/19 10:10 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		20	11	ug/L			07/30/19 11:28	20
p-Isopropyltoluene	ND		20	14	ug/L			07/30/19 11:28	20
sec-Butylbenzene	ND		20	14	ug/L			07/30/19 11:28	20
Styrene	ND		20	20	ug/L			07/30/19 11:28	20
tert-Butylbenzene	ND		20	13	ug/L			07/30/19 11:28	20
1,1,1,2-Tetrachloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,1,2,2-Tetrachloroethane	ND		20	10	ug/L			07/30/19 11:28	20
Tetrachloroethene	ND		20	12	ug/L			07/30/19 11:28	20
Toluene	ND		20	8.2	ug/L			07/30/19 11:28	20
trans-1,2-Dichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
trans-1,3-Dichloropropene	ND		100	10	ug/L			07/30/19 11:28	20
1,2,3-Trichlorobenzene	ND		20	14	ug/L			07/30/19 11:28	20
1,2,4-Trichlorobenzene	ND		20	16	ug/L			07/30/19 11:28	20
1,1,1-Trichloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,1,2-Trichloroethane	ND		100	10	ug/L			07/30/19 11:28	20
Trichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
Trichlorofluoromethane	ND		20	10	ug/L			07/30/19 11:28	20
1,2,3-Trichloropropane	ND		100	17	ug/L			07/30/19 11:28	20
1,2,4-Trimethylbenzene	ND		20	16	ug/L			07/30/19 11:28	20
1,3,5-Trimethylbenzene	ND		20	11	ug/L			07/30/19 11:28	20
Vinyl acetate	ND		500	40	ug/L			07/30/19 11:28	20
Vinyl chloride	ND		20	10	ug/L			07/30/19 11:28	20
Xylenes, Total	ND		200	32	ug/L			07/30/19 11:28	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 11:28*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*07/30/19 11:28*	*20*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 11:28*	*20*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 11:28*	*20*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 16:39	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
1-Methylnaphthalene	**0.021**	**J**	0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
2-Methylnaphthalene	**0.029**	**J**	0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1

Client Sample ID: PD-3-GWP-45-072319 **Lab Sample ID: 400-173575-4**
Date Collected: 07/23/19 10:10 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:39*	*1*
Nitrobenzene-d5	*75*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:39*	*1*
Terphenyl-d14	*68*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:55	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/26/19 16:12	08/05/19 14:55	1
Benzoic acid	ND		29	7.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:55	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/26/19 16:12	08/05/19 14:55	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/26/19 16:12	08/05/19 14:55	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/26/19 16:12	08/05/19 14:55	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:55	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:55	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/26/19 16:12	08/05/19 14:55	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/26/19 16:12	08/05/19 14:55	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
Di-n-octyl phthalate	2.5	J B U	9.7	0.43	ug/L		07/26/19 16:12	08/05/19 14:55	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:55	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/26/19 16:12	08/05/19 14:55	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 14:55	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
Indene	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:55	1
Isophorone	ND		9.7	0.55	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/26/19 16:12	08/05/19 14:55	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-45-072319

Date Collected: 07/23/19 10:10
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-4

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/26/19 16:12	08/05/19 14:55	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:55	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/26/19 16:12	08/05/19 14:55	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/26/19 16:12	08/05/19 14:55	1
Pentachlorophenol	ND		19	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
Phenol	**4.6**	**J**	9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:55	1
Pyridine	ND		9.7	3.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
Quinoline	ND		9.7	5.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*11*	*T J N*	*ug/L*		*4.14*	*590-90-9*	*07/26/19 16:12*	*08/05/19 14:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
2-Fluorophenol	*25*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
Nitrobenzene-d5	*68*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
Phenol-d5	*45*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
Terphenyl-d14	*56*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
2,4,6-Tribromophenol	*71*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:55*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319
Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 12:21	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 12:21	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 12:21	5000
Benzene	**1200000**		5000	1900	ug/L			07/30/19 12:21	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 12:21	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 12:21	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 12:21	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 12:21	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 12:21	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 12:21	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 12:21	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 12:21	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 12:21	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 12:21	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 12:21	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 12:21	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:21	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 12:21	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 12:21	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 12:21	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 12:21	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:21	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 12:21	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 12:21	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 12:21	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 12:21	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 12:21	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 12:21	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 12:21	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 12:21	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 12:21	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 12:21	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 12:21	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 12:21	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 12:21	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 12:21	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 12:21	5000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319

Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 12:21	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 12:21	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 12:21	5000
Styrene	ND		5000	5000	ug/L			07/30/19 12:21	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 12:21	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 12:21	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 12:21	5000
Toluene	**2400**	**J**	5000	2100	ug/L			07/30/19 12:21	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:21	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 12:21	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 12:21	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 12:21	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 12:21	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 12:21	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 12:21	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 12:21	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 12:21	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 12:21	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 12:21	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 12:21*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 12:21*	*5000*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 12:21*	*5000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/30/19 12:21*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.30**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Chrysene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Fluorene	**0.38**		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 16:58	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
1-Methylnaphthalene	**13**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
2-Methylnaphthalene	**17**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Phenanthrene	**0.33**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1

Client Sample ID: PD-3-GWP-50-072319 **Lab Sample ID: 400-173575-5**
Date Collected: 07/23/19 10:55 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:58*	*1*
Nitrobenzene-d5	*75*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:58*	*1*
Terphenyl-d14	*64*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.8	3.7	ug/L		07/26/19 16:12	08/03/19 19:51	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/26/19 16:12	08/03/19 19:51	1
Benzoic acid	ND		29	7.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/26/19 16:12	08/03/19 19:51	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/26/19 16:12	08/03/19 19:51	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/26/19 16:12	08/03/19 19:51	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/26/19 16:12	08/03/19 19:51	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/26/19 16:12	08/03/19 19:51	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/03/19 19:51	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/26/19 16:12	08/03/19 19:51	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/26/19 16:12	08/03/19 19:51	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/26/19 16:12	08/03/19 19:51	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/26/19 16:12	08/03/19 19:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/26/19 16:12	08/03/19 19:51	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/26/19 16:12	08/03/19 19:51	1
Hexachlorocyclopentadiene	ND	*	20	2.5	ug/L		07/26/19 16:12	08/03/19 19:51	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/26/19 16:12	08/03/19 19:51	1
Indene	ND		9.8	0.98	ug/L		07/26/19 16:12	08/03/19 19:51	1
Isophorone	ND		9.8	0.56	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/26/19 16:12	08/03/19 19:51	1
3 & 4 Methylphenol	**3.5**	**J**	20	1.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/26/19 16:12	08/03/19 19:51	1

Client Sample ID: PD-3-GWP-50-072319 **Lab Sample ID: 400-173575-5**
Date Collected: 07/23/19 10:55 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.8	0.54	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/26/19 16:12	08/03/19 19:51	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/26/19 16:12	08/03/19 19:51	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/26/19 16:12	08/03/19 19:51	1
Pentachlorophenol	ND		20	1.8	ug/L		07/26/19 16:12	08/03/19 19:51	1
Pyridine	ND		9.8	3.1	ug/L		07/26/19 16:12	08/03/19 19:51	1
Quinoline	ND		9.8	5.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/03/19 19:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*930*	*T J N*	*ug/L*		*2.98*	*71-43-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Toluene	*100*	*T J N*	*ug/L*		*4.14*	*108-88-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*7.2*	*T J*	*ug/L*		*4.25*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*13*	*T J*	*ug/L*		*4.67*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
p-Xylene	*270*	*T J N*	*ug/L*		*4.92*	*106-42-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
p-Xylene	*130*	*T J N*	*ug/L*		*5.07*	*106-42-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, (1-methylethyl)-	*15*	*T J N*	*ug/L*		*5.24*	*98-82-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, propyl-	*19*	*T J N*	*ug/L*		*5.42*	*103-65-1*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1-ethyl-3-methyl-	*48*	*T J N*	*ug/L*		*5.46*	*620-14-4*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzaldehyde	*9.4*	*J*	*ug/L*		*5.48*	*100-52-7*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1-ethyl-2-methyl-	*37*	*T J N*	*ug/L*		*5.57*	*611-14-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*6.5*	*T J*	*ug/L*		*5.74*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,3-trimethyl-	*64*	*T J N*	*ug/L*		*5.81*	*526-73-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Indane	*26*	*T J N*	*ug/L*		*5.89*	*496-11-7*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Acetophenone	*9.3*	*J*	*ug/L*		*6.01*	*98-86-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*7.3*	*T J N*	*ug/L*		*6.05*	*1758-88-9*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1-ethyl-2,4-dimethyl-	*5.8*	*T J N*	*ug/L*		*6.06*	*874-41-9*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,4,5-tetramethyl-	*8.0*	*T J N*	*ug/L*		*6.26*	*95-93-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Naphthalene	*39*		*ug/L*		*6.63*	*91-20-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Sulfolane	*5.0*	*J*	*ug/L*		*6.64*	*126-33-0*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*57*	*T J*	*ug/L*		*6.78*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
2-Methylnaphthalene	*16*		*ug/L*		*7.08*	*91-57-6*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
1-Methylnaphthalene	*13*		*ug/L*		*7.15*	*90-12-0*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
n-Hexadecanoic acid	*7.6*	*T J N*	*ug/L*		*9.33*	*57-10-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*34 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Phenol-d5	*63*		*10 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
2,4,6-Tribromophenol	*100*		*15 - 135*	*07/26/19 16:12*	*08/03/19 19:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**270**		49	13	ug/L		07/26/19 16:12	08/07/19 20:37	5

Client: AECOM Technical Services Inc. Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-50-072319-DUP **Lab Sample ID: 400-173575-6**
Date Collected: 07/23/19 10:55 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 12:48	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 12:48	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 12:48	5000
Benzene	**1200000**		5000	1900	ug/L			07/30/19 12:48	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 12:48	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 12:48	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 12:48	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 12:48	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 12:48	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 12:48	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 12:48	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 12:48	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 12:48	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 12:48	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 12:48	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 12:48	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:48	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 12:48	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 12:48	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 12:48	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 12:48	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:48	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 12:48	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 12:48	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 12:48	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 12:48	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 12:48	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 12:48	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 12:48	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 12:48	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 12:48	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 12:48	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 12:48	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 12:48	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 12:48	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 12:48	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 12:48	5000

Client Sample ID: PD-3-GWP-50-072319-DUP

Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 12:48	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 12:48	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 12:48	5000
Styrene	ND		5000	5000	ug/L			07/30/19 12:48	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 12:48	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 12:48	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 12:48	5000
Toluene	ND		5000	2100	ug/L			07/30/19 12:48	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:48	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 12:48	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 12:48	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 12:48	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 12:48	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 12:48	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 12:48	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 12:48	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 12:48	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 12:48	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 12:48	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 12:48*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/30/19 12:48*	*5000*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 12:48*	*5000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/30/19 12:48*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.30**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Fluorene	**0.38**		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 17:18	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
1-Methylnaphthalene	**16**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
2-Methylnaphthalene	**21**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Phenanthrene	**0.39**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1

Client Sample ID: PD-3-GWP-50-072319-DUP **Lab Sample ID: 400-173575-6**
Date Collected: 07/23/19 10:55 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*15 - 122*	*07/26/19 16:12*	*08/06/19 17:18*	*1*
Nitrobenzene-d5	*72*		*19 - 130*	*07/26/19 16:12*	*08/06/19 17:18*	*1*
Terphenyl-d14	*67*		*33 - 138*	*07/26/19 16:12*	*08/06/19 17:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.7	3.7	ug/L		07/26/19 16:12	08/03/19 20:15	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/26/19 16:12	08/03/19 20:15	1
Benzoic acid	ND		29	7.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/26/19 16:12	08/03/19 20:15	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/26/19 16:12	08/03/19 20:15	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/26/19 16:12	08/03/19 20:15	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/26/19 16:12	08/03/19 20:15	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/26/19 16:12	08/03/19 20:15	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/03/19 20:15	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/26/19 16:12	08/03/19 20:15	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/26/19 16:12	08/03/19 20:15	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/26/19 16:12	08/03/19 20:15	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/26/19 16:12	08/03/19 20:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/26/19 16:12	08/03/19 20:15	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/26/19 16:12	08/03/19 20:15	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/03/19 20:15	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
Indene	ND		9.7	0.97	ug/L		07/26/19 16:12	08/03/19 20:15	1
Isophorone	ND		9.7	0.56	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/26/19 16:12	08/03/19 20:15	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-DUP

Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-6

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.54	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/26/19 16:12	08/03/19 20:15	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/26/19 16:12	08/03/19 20:15	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/26/19 16:12	08/03/19 20:15	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/26/19 16:12	08/03/19 20:15	1
Pentachlorophenol	ND		19	1.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
Pyridine	ND		9.7	3.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
Quinoline	ND		9.7	5.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/03/19 20:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*970*	*T J N*	*ug/L*		*2.98*	*71-43-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene	*320*	*T J N*	*ug/L*		*3.50*	*71-43-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Toluene	*110*	*T J N*	*ug/L*		*4.13*	*108-88-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*15*	*T J*	*ug/L*		*4.26*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*86*	*T J*	*ug/L*		*4.69*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
Ethylbenzene	*160*	*T J N*	*ug/L*		*4.85*	*100-41-4*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
p-Xylene	*130*	*T J N*	*ug/L*		*5.07*	*106-42-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, (1-methylethyl)-	*17*	*T J N*	*ug/L*		*5.25*	*98-82-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, propyl-	*23*	*T J N*	*ug/L*		*5.42*	*103-65-1*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-3-methyl-	*58*	*T J N*	*ug/L*		*5.46*	*620-14-4*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzaldehyde	*11*		*ug/L*		*5.48*	*100-52-7*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-2-methyl-	*43*	*T J N*	*ug/L*		*5.57*	*611-14-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*7.6*	*T J*	*ug/L*		*5.73*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,3-trimethyl-	*73*	*T J N*	*ug/L*		*5.81*	*526-73-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Indane	*30*	*T J N*	*ug/L*		*5.89*	*496-11-7*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Acetophenone	*11*		*ug/L*		*6.01*	*98-86-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-2,4-dimethyl-	*7.8*	*T J N*	*ug/L*		*6.06*	*874-41-9*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*14*	*T J N*	*ug/L*		*6.09*	*933-98-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*5.7*	*T J N*	*ug/L*		*6.20*	*1758-88-9*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,4,5-tetramethyl-	*11*	*T J N*	*ug/L*		*6.27*	*95-93-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Naphthalene	*46*		*ug/L*		*6.63*	*91-20-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*57*	*T J*	*ug/L*		*6.78*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
2-Methylnaphthalene	*21*		*ug/L*		*7.08*	*91-57-6*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
1-Methylnaphthalene	*17*		*ug/L*		*7.15*	*90-12-0*	*07/26/19 16:12*	*08/03/19 20:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*34 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
2-Fluorophenol	*36*		*10 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Phenol-d5	*58*		*10 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Terphenyl-d14	*75*		*53 - 125*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
2,4,6-Tribromophenol	*98*		*15 - 135*	*07/26/19 16:12*	*08/03/19 20:15*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**230**		49	13	ug/L		07/26/19 16:12	08/07/19 20:58	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319

Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 13:14	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 13:14	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 13:14	5000
Benzene	**680000**		5000	1900	ug/L			07/30/19 13:14	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 13:14	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 13:14	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 13:14	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 13:14	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 13:14	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 13:14	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 13:14	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 13:14	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 13:14	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 13:14	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 13:14	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 13:14	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:14	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 13:14	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 13:14	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 13:14	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 13:14	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:14	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 13:14	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 13:14	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 13:14	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 13:14	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 13:14	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 13:14	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 13:14	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 13:14	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 13:14	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 13:14	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 13:14	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 13:14	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 13:14	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 13:14	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 13:14	5000

Client Sample ID: PD-3-GWP-55-072319

Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 13:14	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 13:14	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 13:14	5000
Styrene	ND		5000	5000	ug/L			07/30/19 13:14	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 13:14	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 13:14	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 13:14	5000
Toluene	ND		5000	2100	ug/L			07/30/19 13:14	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:14	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 13:14	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 13:14	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 13:14	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 13:14	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 13:14	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 13:14	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 13:14	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 13:14	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 13:14	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 13:14	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 13:14*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 13:14*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 13:14*	*5000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 13:14*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Chrysene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Fluorene	ND		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 17:37	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
1-Methylnaphthalene	**3.3**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
2-Methylnaphthalene	**4.4**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Phenanthrene	**0.095**	**J**	0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319

Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-7

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*15 - 122*	*07/26/19 16:12*	*08/06/19 17:37*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/26/19 16:12*	*08/06/19 17:37*	*1*
Terphenyl-d14	*72*		*33 - 138*	*07/26/19 16:12*	*08/06/19 17:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.8	3.7	ug/L		07/26/19 16:12	08/05/19 14:18	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		07/26/19 16:12	08/05/19 14:18	1
Benzoic acid	**7.4**	**J**	29	7.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/26/19 16:12	08/05/19 14:18	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/26/19 16:12	08/05/19 14:18	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/26/19 16:12	08/05/19 14:18	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/26/19 16:12	08/05/19 14:18	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/26/19 16:12	08/05/19 14:18	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/05/19 14:18	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/26/19 16:12	08/05/19 14:18	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/26/19 16:12	08/05/19 14:18	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/26/19 16:12	08/05/19 14:18	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/26/19 16:12	08/05/19 14:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/26/19 16:12	08/05/19 14:18	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/26/19 16:12	08/05/19 14:18	1
Hexachlorocyclopentadiene	ND	*	20	2.5	ug/L		07/26/19 16:12	08/05/19 14:18	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
Indene	ND		9.8	0.98	ug/L		07/26/19 16:12	08/05/19 14:18	1
Isophorone	ND		9.8	0.56	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/26/19 16:12	08/05/19 14:18	1
3 & 4 Methylphenol	**1.3**	**J**	20	1.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/26/19 16:12	08/05/19 14:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319

Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-7

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.8	0.54	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/26/19 16:12	08/05/19 14:18	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/26/19 16:12	08/05/19 14:18	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/26/19 16:12	08/05/19 14:18	1
Pentachlorophenol	ND		20	1.8	ug/L		07/26/19 16:12	08/05/19 14:18	1
Pyridine	ND		9.8	3.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
Quinoline	ND		9.8	5.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/05/19 14:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*1100*	*T J N*	*ug/L*		*2.97*	*71-43-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene	*88*	*T J N*	*ug/L*		*3.33*	*71-43-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Toluene	*53*	*T J N*	*ug/L*		*4.08*	*108-88-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2-Butanone, 4-hydroxy-	*6.6*	*T J N*	*ug/L*		*4.23*	*590-90-9*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Methyl methanesulfonate	*12*		*ug/L*		*4.82*	*66-27-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
p-Xylene	*43*	*T J N*	*ug/L*		*5.04*	*106-42-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, (1-methylethyl)-	*4.6*	*T J N*	*ug/L*		*5.23*	*98-82-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, propyl-	*6.0*	*T J N*	*ug/L*		*5.41*	*103-65-1*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1-ethyl-3-methyl-	*14*	*T J N*	*ug/L*		*5.45*	*620-14-4*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzaldehyde	*2.9*	*J*	*ug/L*		*5.47*	*100-52-7*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1-ethyl-4-methyl-	*14*	*T J N*	*ug/L*		*5.55*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1,2,3-trimethyl-	*57*	*T J N*	*ug/L*		*5.64*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1,2,4-trimethyl-	*24*	*T J N*	*ug/L*		*5.80*	*95-63-6*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Indane	*10*	*T J N*	*ug/L*		*5.88*	*496-11-7*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1,2,4,5-tetramethyl-	*5.9*	*T J N*	*ug/L*		*5.94*	*95-93-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Acetophenone	*3.1*	*J*	*ug/L*		*6.00*	*98-86-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Naphthalene	*14*		*ug/L*		*6.62*	*91-20-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Sulfolane	*11*		*ug/L*		*6.64*	*126-33-0*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Unknown	*17*	*T J*	*ug/L*		*6.74*		*07/26/19 16:12*	*08/05/19 14:18*	*1*
2-Methylnaphthalene	*4.8*	*J*	*ug/L*		*7.08*	*91-57-6*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
1-Methylnaphthalene	*3.8*	*J*	*ug/L*		*7.15*	*90-12-0*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2,3-Dinitrotoluene	*17*		*ug/L*		*7.83*	*602-01-7*	*07/26/19 16:12*	*08/05/19 14:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2-Fluorophenol	*39*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Nitrobenzene-d5	*63*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Phenol-d5	*55*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2,4,6-Tribromophenol	*102*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**170**		49	13	ug/L		07/26/19 16:12	08/07/19 21:20	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-60-072319

Date Collected: 07/23/19 13:40
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 13:41	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 13:41	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 13:41	5000
Benzene	**650000**		5000	1900	ug/L			07/30/19 13:41	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 13:41	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 13:41	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 13:41	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 13:41	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 13:41	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 13:41	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 13:41	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 13:41	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 13:41	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 13:41	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 13:41	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 13:41	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:41	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 13:41	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 13:41	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 13:41	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 13:41	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:41	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 13:41	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 13:41	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 13:41	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 13:41	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 13:41	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 13:41	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 13:41	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 13:41	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 13:41	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 13:41	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 13:41	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 13:41	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 13:41	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 13:41	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 13:41	5000

Client Sample ID: PD-3-GWP-60-072319 **Lab Sample ID: 400-173575-8**
Date Collected: 07/23/19 13:40 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 13:41	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 13:41	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 13:41	5000
Styrene	ND		5000	5000	ug/L			07/30/19 13:41	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 13:41	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 13:41	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 13:41	5000
Toluene	ND		5000	2100	ug/L			07/30/19 13:41	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:41	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 13:41	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 13:41	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 13:41	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 13:41	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 13:41	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 13:41	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 13:41	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 13:41	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 13:41	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 13:41	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 13:41*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 13:41*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 13:41*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 13:41*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Anthracene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Chrysene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Fluoranthene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Fluorene	ND		0.19	0.020	ug/L		07/27/19 13:22	08/06/19 18:51	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
1-Methylnaphthalene	**1.2**		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
2-Methylnaphthalene	**0.99**		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Phenanthrene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-60-072319

Date Collected: 07/23/19 13:40
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-8

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/27/19 13:22*	*08/06/19 18:51*	*1*
Nitrobenzene-d5	*58*		*19 - 130*	*07/27/19 13:22*	*08/06/19 18:51*	*1*
Terphenyl-d14	*71*		*33 - 138*	*07/27/19 13:22*	*08/06/19 18:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.7	3.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
Benzoic acid	**12**	**J**	29	7.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/27/19 13:22	08/05/19 15:16	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/27/19 13:22	08/05/19 15:16	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/27/19 13:22	08/05/19 15:16	1
Bis(2-ethylhexyl) phthalate	**9.8**		9.7	4.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/27/19 13:22	08/05/19 15:16	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/27/19 13:22	08/05/19 15:16	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/27/19 13:22	08/05/19 15:16	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/27/19 13:22	08/05/19 15:16	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/27/19 13:22	08/05/19 15:16	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
Di-n-octyl phthalate	**1.3**	**J B** U	9.7	0.43	ug/L		07/27/19 13:22	08/05/19 15:16	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/27/19 13:22	08/05/19 15:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/27/19 13:22	08/05/19 15:16	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/27/19 13:22	08/05/19 15:16	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/27/19 13:22	08/05/19 15:16	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
Indene	**5.9**	**J**	9.7	0.97	ug/L		07/27/19 13:22	08/05/19 15:16	1
Isophorone	ND		9.7	0.55	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
3 & 4 Methylphenol	**1.5**	**J**	19	1.0	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/27/19 13:22	08/05/19 15:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-60-072319

Date Collected: 07/23/19 13:40
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-8

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/27/19 13:22	08/05/19 15:16	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/27/19 13:22	08/05/19 15:16	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/27/19 13:22	08/05/19 15:16	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/27/19 13:22	08/05/19 15:16	1
Pentachlorophenol	ND		19	1.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
Phenol	**67**		9.7	2.5	ug/L		07/27/19 13:22	08/05/19 15:16	1
Pyridine	ND		9.7	3.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
Quinoline	ND		9.7	5.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/27/19 13:22	08/05/19 15:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*38*	*T J N*	*ug/L*		*3.23*	*71-43-2*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
3-Penten-2-one, (E)-	*6.2*	*T J N*	*ug/L*		*3.74*	*3102-33-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Toluene	*340*	*T J N*	*ug/L*		*4.04*	*108-88-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
2-Butanone, 4-hydroxy-	*190*	*T J N*	*ug/L*		*4.21*	*590-90-9*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Ethylbenzene	*200*	*T J N*	*ug/L*		*4.77*	*100-41-4*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
o-Xylene	*130*	*T J N*	*ug/L*		*4.98*	*95-47-6*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, (1-methylethyl)-	*17*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, propyl-	*32*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1-ethyl-2-methyl-	*24*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1-ethyl-2-methyl-	*35*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1,3,5-trimethyl-	*50*	*T J N*	*ug/L*		*5.48*	*108-67-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1,2,4-trimethyl-	*140*	*T J N*	*ug/L*		*5.57*	*95-63-6*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1,3,5-trimethyl-	*52*	*T J N*	*ug/L*		*5.72*	*108-67-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Indane	*59*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*7.2*	*T J N*	*ug/L*		*6.00*	*934-80-5*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*13*	*T J N*	*ug/L*		*6.33*	*2039-89-6*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Naphthalene	*41*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzo[b]thiophene	*6.1*	*T J N*	*ug/L*		*6.56*	*95-15-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
n-Hexadecanoic acid	*16*	*T J N*	*ug/L*		*9.21*	*57-10-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Trichloroacetic acid, hexadecyl ester	*6.0*	*T J N*	*ug/L*		*11.02*	*74339-54-1*	*07/27/19 13:22*	*08/05/19 15:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*34 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
2-Fluorophenol	*23*		*10 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Phenol-d5	*46*		*10 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
2,4,6-Tribromophenol	*77*		*15 - 135*	*07/27/19 13:22*	*08/05/19 15:16*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-65-072319

Date Collected: 07/23/19 14:35
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 19:25	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 19:25	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 19:25	5000
Benzene	**880000**		5000	1900	ug/L			07/30/19 19:25	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 19:25	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 19:25	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 19:25	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 19:25	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 19:25	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 19:25	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 19:25	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 19:25	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 19:25	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 19:25	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 19:25	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 19:25	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:25	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 19:25	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 19:25	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 19:25	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 19:25	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:25	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 19:25	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 19:25	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 19:25	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 19:25	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 19:25	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 19:25	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 19:25	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 19:25	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 19:25	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 19:25	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 19:25	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 19:25	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 19:25	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 19:25	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 19:25	5000

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-65-072319

Date Collected: 07/23/19 14:35
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 19:25	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 19:25	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 19:25	5000
Styrene	ND		5000	5000	ug/L			07/30/19 19:25	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 19:25	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 19:25	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 19:25	5000
Toluene	ND		5000	2100	ug/L			07/30/19 19:25	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:25	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 19:25	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 19:25	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 19:25	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 19:25	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 19:25	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 19:25	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 19:25	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 19:25	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 19:25	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 19:25	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 19:25*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/30/19 19:25*	*5000*
Dibromofluoromethane	*97*		*81 - 121*		*07/30/19 19:25*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 19:25*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 17:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
1-Methylnaphthalene	**0.48**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
2-Methylnaphthalene	**0.55**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-65-072319

Date Collected: 07/23/19 14:35
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-9

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*15 - 122*	*07/26/19 16:12*	*08/06/19 17:57*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/26/19 16:12*	*08/06/19 17:57*	*1*
Terphenyl-d14	*68*		*33 - 138*	*07/26/19 16:12*	*08/06/19 17:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.6	3.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
Benzenethiol	ND	* UJ	9.6	1.6	ug/L		07/26/19 16:12	08/05/19 13:50	1
Benzoic acid	**16**	**J**	29	7.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
Benzyl alcohol	**3.3**	**J**	9.6	1.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 13:50	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/26/19 16:12	08/05/19 13:50	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/26/19 16:12	08/05/19 13:50	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/26/19 16:12	08/05/19 13:50	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 13:50	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/26/19 16:12	08/05/19 13:50	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/26/19 16:12	08/05/19 13:50	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/26/19 16:12	08/05/19 13:50	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
Di-n-octyl phthalate	**2.8**	**J B** UJ	9.6	0.42	ug/L		07/26/19 16:12	08/05/19 13:50	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 13:50	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 13:50	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/26/19 16:12	08/05/19 13:50	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 13:50	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
Indene	**2.4**	**J**	9.6	0.96	ug/L		07/26/19 16:12	08/05/19 13:50	1
Isophorone	ND		9.6	0.55	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
3 & 4 Methylphenol	**2.8**	**J**	19	1.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 13:50	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/26/19 16:12	08/05/19 13:50	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-65-072319

Date Collected: 07/23/19 14:35
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-9

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.6	0.53	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/26/19 16:12	08/05/19 13:50	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/26/19 16:12	08/05/19 13:50	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/26/19 16:12	08/05/19 13:50	1
Pentachlorophenol	ND		19	1.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
Pyridine	ND		9.6	3.1	ug/L		07/26/19 16:12	08/05/19 13:50	1
Quinoline	ND		9.6	5.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/26/19 16:12	08/05/19 13:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butenedinitrile, (E)-	*110*	*T J N*	*ug/L*		*3.27*	*764-42-1*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Toluene	*190*	*T J N*	*ug/L*		*4.03*	*108-88-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2-Butanone, 4-hydroxy-	*28*	*T J N*	*ug/L*		*4.16*	*590-90-9*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Ethylbenzene	*210*	*T J N*	*ug/L*		*4.76*	*100-41-4*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
o-Xylene	*59*	*T J N*	*ug/L*		*4.98*	*95-47-6*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, (1-methylethyl)-	*14*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, propyl-	*22*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1-ethyl-2-methyl-	*18*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1-ethyl-4-methyl-	*40*	*T J N*	*ug/L*		*5.48*	*622-96-8*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1,2,4-trimethyl-	*110*	*T J N*	*ug/L*		*5.56*	*95-63-6*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*5.3*	*T J N*	*ug/L*		*5.76*	*1121-05-7*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Indane	*59*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*6.1*	*T J N*	*ug/L*		*6.00*	*934-80-5*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1-ethenyl-4-ethyl-	*7.5*	*T J N*	*ug/L*		*6.33*	*3454-07-7*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Naphthalene	*29*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzo[b]thiophene	*5.9*	*T J N*	*ug/L*		*6.56*	*95-15-8*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
1H-Benzotriazole, 5-methyl-	*19*	*T J N*	*ug/L*		*7.98*	*136-85-6*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
n-Hexadecanoic acid	*15*	*T J N*	*ug/L*		*9.21*	*57-10-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*34 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Phenol-d5	*64*		*10 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2,4,6-Tribromophenol	*107*		*15 - 135*	*07/26/19 16:12*	*08/05/19 13:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**150**		48	13	ug/L		07/26/19 16:12	08/07/19 21:41	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-71-072319

Date Collected: 07/23/19 15:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 19:51	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 19:51	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 19:51	5000
Benzene	**1200000**		5000	1900	ug/L			07/30/19 19:51	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 19:51	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 19:51	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 19:51	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 19:51	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 19:51	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 19:51	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 19:51	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 19:51	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 19:51	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 19:51	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 19:51	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 19:51	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:51	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 19:51	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 19:51	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 19:51	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 19:51	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:51	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 19:51	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 19:51	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 19:51	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 19:51	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 19:51	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 19:51	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 19:51	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 19:51	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 19:51	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 19:51	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 19:51	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 19:51	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 19:51	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 19:51	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 19:51	5000

Client Sample ID: PD-3-GWP-71-072319 **Lab Sample ID: 400-173575-10**
Date Collected: 07/23/19 15:30 **Matrix: Water**
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 19:51	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 19:51	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 19:51	5000
Styrene	ND		5000	5000	ug/L			07/30/19 19:51	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 19:51	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 19:51	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 19:51	5000
Toluene	ND		5000	2100	ug/L			07/30/19 19:51	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:51	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 19:51	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 19:51	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 19:51	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 19:51	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 19:51	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 19:51	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 19:51	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 19:51	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 19:51	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 19:51	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 19:51*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 19:51*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 19:51*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 19:51*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 18:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
1-Methylnaphthalene	**1.2**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
2-Methylnaphthalene	**0.78**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-71-072319

Date Collected: 07/23/19 15:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-10

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*15 - 122*	*07/26/19 16:12*	*08/06/19 18:16*	*1*
Nitrobenzene-d5	*68*		*19 - 130*	*07/26/19 16:12*	*08/06/19 18:16*	*1*
Terphenyl-d14	*124*		*33 - 138*	*07/26/19 16:12*	*08/06/19 18:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:12	1
Benzenethiol	ND	* UJ	9.7	1.7	ug/L		07/26/19 16:12	08/05/19 14:12	1
Benzoic acid	**8.3**	**J**	29	7.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:12	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/26/19 16:12	08/05/19 14:12	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/26/19 16:12	08/05/19 14:12	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/26/19 16:12	08/05/19 14:12	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:12	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:12	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/26/19 16:12	08/05/19 14:12	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/26/19 16:12	08/05/19 14:12	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
Di-n-octyl phthalate	**2.6**	**J B** U	9.7	0.43	ug/L		07/26/19 16:12	08/05/19 14:12	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:12	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/26/19 16:12	08/05/19 14:12	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 14:12	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
Indene	**3.1**	**J**	9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:12	1
Isophorone	ND		9.7	0.55	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
3 & 4 Methylphenol	**2.5**	**J**	19	1.0	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/26/19 16:12	08/05/19 14:12	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-71-072319

Date Collected: 07/23/19 15:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-10

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/26/19 16:12	08/05/19 14:12	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:12	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/26/19 16:12	08/05/19 14:12	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/26/19 16:12	08/05/19 14:12	1
Pentachlorophenol	ND		19	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
Phenol	**89**		9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:12	1
Pyridine	ND		9.7	3.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
Quinoline	ND		9.7	5.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*93*	*T J N*	*ug/L*		*3.28*	*71-43-2*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Toluene	*300*	*T J N*	*ug/L*		*4.04*	*108-88-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Cyclopentanol, 1-methyl-	*5.0*	*T J N*	*ug/L*		*4.23*	*1462-03-9*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Ethylbenzene	*180*	*T J N*	*ug/L*		*4.76*	*100-41-4*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
p-Xylene	*67*	*T J N*	*ug/L*		*4.98*	*106-42-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, (1-methylethyl)-	*11*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, propyl-	*24*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1-ethyl-4-methyl-	*14*	*T J N*	*ug/L*		*5.39*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1-ethyl-4-methyl-	*36*	*T J N*	*ug/L*		*5.48*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1,2,3-trimethyl-	*96*	*T J N*	*ug/L*		*5.56*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1,2,3-trimethyl-	*23*	*T J N*	*ug/L*		*5.72*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Indane	*47*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*11*	*T J N*	*ug/L*		*6.00*	*934-80-5*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1,2,3,4-tetramethyl-	*4.4*	*T J N*	*ug/L*		*6.16*	*488-23-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*14*	*T J N*	*ug/L*		*6.33*	*2039-89-6*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*4.1*	*T J N*	*ug/L*		*6.41*	*119-64-2*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Naphthalene	*36*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
2-Benzothiophene #	*4.1*	*T J N*	*ug/L*		*6.56*	*270-82-6*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Propanedioic acid, phenyl-	*18*	*T J N*	*ug/L*		*6.65*	*2613-89-0*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
4-Ethylbenzoic acid	*4.0*	*T J N*	*ug/L*		*7.13*	*619-64-7*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
n-Hexadecanoic acid	*17*	*T J N*	*ug/L*		*9.21*	*57-10-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Phenol-d5	*61*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
2,4,6-Tribromophenol	*95*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:12*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 16:20	1
Acrolein	ND		20	10	ug/L			07/30/19 16:20	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 16:20	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 16:20	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 16:20	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 16:20	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 16:20	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 16:20	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 16:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 16:20	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 16:20	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 16:20	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 16:20	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 16:20	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 16:20	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 16:20	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 16:20	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 16:20	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 16:20	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 16:20	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 16:20	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 16:20	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 16:20	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 16:20	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 16:20	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 16:20	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 16:20	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 16:20	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 16:20	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 16:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 16:20	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 16:20	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 16:20	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 16:20	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 16:20	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 16:20	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 16:20	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 16:20	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 16:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 16:20	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 16:20	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 16:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 16:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 16:20	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 16:20	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 16:20	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 16:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 16:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 16:20	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 16:20	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 16:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 16:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 16:20*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 16:20*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 16:20*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Chrysene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 18:35	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-11

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*15 - 122*	*07/26/19 16:12*	*08/06/19 18:35*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/26/19 16:12*	*08/06/19 18:35*	*1*
Terphenyl-d14	*99*		*33 - 138*	*07/26/19 16:12*	*08/06/19 18:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.5	3.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
Benzenethiol	ND	* UJ	9.5	1.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
Benzoic acid	ND		29	6.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Benzyl alcohol	ND		9.5	1.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Bis(2-chloroethoxy)methane	ND		9.5	0.66	ug/L		07/26/19 16:12	08/05/19 14:33	1
Bis(2-chloroethyl)ether	ND		9.5	0.70	ug/L		07/26/19 16:12	08/05/19 14:33	1
bis (2-chloroisopropyl) ether	ND		9.5	0.77	ug/L		07/26/19 16:12	08/05/19 14:33	1
Bis(2-ethylhexyl) phthalate	ND		9.5	4.8	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Bromophenyl phenyl ether	ND		9.5	0.30	ug/L		07/26/19 16:12	08/05/19 14:33	1
Butyl benzyl phthalate	ND		9.5	0.66	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Chloroaniline	ND		9.5	3.2	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Chloro-3-methylphenol	ND		9.5	3.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Chloronaphthalene	ND		9.5	0.49	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Chlorophenol	ND		9.5	2.1	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Chlorophenyl phenyl ether	ND		9.5	1.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Dibenz[a,h]acridine	ND		9.5	2.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Dibenzofuran	ND		9.5	0.49	ug/L		07/26/19 16:12	08/05/19 14:33	1
3,3'-Dichlorobenzidine	ND		9.5	2.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dichlorophenol	ND		9.5	2.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Diethyl phthalate	ND		9.5	0.67	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dimethylphenol	ND		9.5	3.3	ug/L		07/26/19 16:12	08/05/19 14:33	1
Dimethyl phthalate	ND		9.5	0.57	ug/L		07/26/19 16:12	08/05/19 14:33	1
Di-n-butyl phthalate	ND		9.5	2.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
4,6-Dinitro-ortho-cresol	ND		9.5	1.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dinitrophenol	ND		29	3.2	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dinitrotoluene	ND		9.5	1.8	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,6-Dinitrotoluene	ND		9.5	1.8	ug/L		07/26/19 16:12	08/05/19 14:33	1
Di-n-octyl phthalate	**1.2**	**J B**	9.5	0.42	ug/L		07/26/19 16:12	08/05/19 14:33	1
1,4-Dioxane	ND		9.5	0.95	ug/L		07/26/19 16:12	08/05/19 14:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.5	0.95	ug/L		07/26/19 16:12	08/05/19 14:33	1
Hexachlorobenzene	ND		9.5	0.24	ug/L		07/26/19 16:12	08/05/19 14:33	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
Hexachloroethane	ND		9.5	4.0	ug/L		07/26/19 16:12	08/05/19 14:33	1
Indene	ND		9.5	0.95	ug/L		07/26/19 16:12	08/05/19 14:33	1
Isophorone	ND		9.5	0.54	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Methylphenol	ND		9.5	1.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
3 & 4 Methylphenol	ND		19	0.99	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Nitroaniline	ND		9.5	2.1	ug/L		07/26/19 16:12	08/05/19 14:33	1
3-Nitroaniline	ND		9.5	1.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Nitroaniline	ND		9.5	2.4	ug/L		07/26/19 16:12	08/05/19 14:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-11

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.5	0.52	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Nitrophenol	ND		9.5	0.62	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Nitrophenol	ND		9.5	2.0	ug/L		07/26/19 16:12	08/05/19 14:33	1
N-Nitrosodimethylamine	ND		9.5	3.3	ug/L		07/26/19 16:12	08/05/19 14:33	1
N-Nitrosodi-n-propylamine	ND		9.5	3.1	ug/L		07/26/19 16:12	08/05/19 14:33	1
N-Nitrosodiphenylamine	ND		9.5	0.45	ug/L		07/26/19 16:12	08/05/19 14:33	1
Pentachlorophenol	ND		19	1.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
Phenol	ND		9.5	2.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
Pyridine	ND		9.5	3.0	ug/L		07/26/19 16:12	08/05/19 14:33	1
Quinoline	ND		9.5	5.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4,5-Trichlorophenol	ND		9.5	3.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4,6-Trichlorophenol	ND		9.5	3.3	ug/L		07/26/19 16:12	08/05/19 14:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butanone, 4-hydroxy-	*180*	*T J N*	*ug/L*		*4.20*	*590-90-9*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
5-Eicosene, (E)-	*4.2*	*T J N*	*ug/L*		*11.02*	*74685-30-6*	*07/26/19 16:12*	*08/05/19 14:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
2-Fluorophenol	*25*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
Phenol-d5	*52*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
Terphenyl-d14	*84*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
2,4,6-Tribromophenol	*72*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:33*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-173575-1	TB-PW-072319-B	96	96	102
400-173575-1	TB-PW-072319-B	98	98	101
400-173575-2	PD-7-GWP-55-072319	97	96	100
400-173575-3	PD-7-GWP-55-072319-EB	100	95	101
400-173575-3	PD-7-GWP-55-072319-EB	99	98	101
400-173575-4	PD-3-GWP-45-072319	96	94	100
400-173575-5	PD-3-GWP-50-072319	97	94	102
400-173575-6	PD-3-GWP-50-072319-DUP	98	94	102
400-173575-7	PD-3-GWP-55-072319	97	96	100
400-173575-8	PD-3-GWP-60-072319	97	96	101
400-173575-9	PD-3-GWP-65-072319	98	97	101
400-173575-10	PD-3-GWP-71-072319	97	96	101
400-173575-11	PD-3-GWP-50-072319-EB	97	96	100
LCS 400-449979/1002	Lab Control Sample	98	97	100
LCS 400-450148/1002	Lab Control Sample	98	96	99
MB 400-449979/4	Method Blank	97	97	101
MB 400-450148/4	Method Blank	99	97	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-173575-2	PD-7-GWP-55-072319	60	27	59	41	55	75
400-173575-3	PD-7-GWP-55-072319-EB	69	37	70	52	85	65
400-173575-4	PD-3-GWP-45-072319	68	25	68	45	56	71
400-173575-5	PD-3-GWP-50-072319	81	0 X	69	63	69	100
400-173575-6	PD-3-GWP-50-072319-DUP	81	36	69	58	75	98
400-173575-7	PD-3-GWP-55-072319	80	39	63	55	70	102
400-173575-8	PD-3-GWP-60-072319	73	23	60	46	66	77
400-173575-9	PD-3-GWP-65-072319	77	49	75	64	69	107
400-173575-10	PD-3-GWP-71-072319	70	53	69	61	59	95
400-173575-11	PD-3-GWP-50-072319-EB	70	25	70	52	84	72
LCS 400-449716/14-A	Lab Control Sample	72	61	71	69	83	69
LCS 400-449716/2-A	Lab Control Sample	64	44	63	56	70	65
LCSD 400-449716/15-A	Lab Control Sample Dup	78	64	78	75	93	75
LCSD 400-449716/3-A	Lab Control Sample Dup	78	35	80	59	82	73
MB 400-449716/1-A	Method Blank	80	9 X	81	26	96	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (15-122)	NBZ (19-130)	TPHL (33-138)
400-173575-2	PD-7-GWP-55-072319	58	65	60
400-173575-3	PD-7-GWP-55-072319-EB	72	77	104
400-173575-4	PD-3-GWP-45-072319	76	75	68
400-173575-5	PD-3-GWP-50-072319	70	75	64
400-173575-6	PD-3-GWP-50-072319-DUP	69	72	67
400-173575-7	PD-3-GWP-55-072319	70	69	72
400-173575-8	PD-3-GWP-60-072319	77	58	71
400-173575-9	PD-3-GWP-65-072319	65	70	68
400-173575-10	PD-3-GWP-71-072319	60	68	124
400-173575-11	PD-3-GWP-50-072319-EB	79	77	99
LCS 400-449716/2-A	Lab Control Sample	63	68	71
LCSD 400-449716/3-A	Lab Control Sample Dup	74	78	82
MB 400-449716/1-A	Method Blank	84	84	116

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-072319-B

Lab Sample ID: 400-173575-1

Date Collected: 07/23/19 00:00

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 15:27	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 11:38	WPD	TAL PEN

Client Sample ID: PD-7-GWP-55-072319

Lab Sample ID: 400-173575-2

Date Collected: 07/23/19 08:30

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449979	07/30/19 20:17	RS	TAL PEN
Total/NA	Prep	3520C			998.8 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450897	08/05/19 11:42	VC1	TAL PEN
Total/NA	Prep	3520C	DL		998.8 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 20:16	VC1	TAL PEN
Total/NA	Prep	3520C			998.8 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:02	KJA	TAL PEN

Client Sample ID: PD-7-GWP-55-072319-EB

Lab Sample ID: 400-173575-3

Date Collected: 07/23/19 09:00

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 15:53	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 12:04	WPD	TAL PEN
Total/NA	Prep	3520C			1046.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 15:37	VC1	TAL PEN
Total/NA	Prep	3520C			1046.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:21	KJA	TAL PEN

Client Sample ID: PD-3-GWP-45-072319

Lab Sample ID: 400-173575-4

Date Collected: 07/23/19 10:10

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	449979	07/30/19 11:28	RS	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 14:55	VC1	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:39	KJA	TAL PEN

Client Sample ID: PD-3-GWP-50-072319

Lab Sample ID: 400-173575-5

Date Collected: 07/23/19 10:55

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 12:21	RS	TAL PEN

Client Sample ID: PD-3-GWP-50-072319 — Lab Sample ID: 400-173575-5

Date Collected: 07/23/19 10:55 **Matrix: Water**
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		1020.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 20:37	VC1	TAL PEN
Total/NA	Prep	3520C			1020.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 19:51	VC1	TAL PEN
Total/NA	Prep	3520C			1020.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:58	KJA	TAL PEN

Client Sample ID: PD-3-GWP-50-072319-DUP — Lab Sample ID: 400-173575-6

Date Collected: 07/23/19 10:55 **Matrix: Water**
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 12:48	RS	TAL PEN
Total/NA	Prep	3520C	DL		1027 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 20:58	VC1	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450762	08/03/19 20:15	VC1	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 17:18	KJA	TAL PEN

Client Sample ID: PD-3-GWP-55-072319 — Lab Sample ID: 400-173575-7

Date Collected: 07/23/19 11:50 **Matrix: Water**
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 13:14	RS	TAL PEN
Total/NA	Prep	3520C	DL		1024.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 21:20	VC1	TAL PEN
Total/NA	Prep	3520C			1024.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450993	08/05/19 14:18	VC1	TAL PEN
Total/NA	Prep	3520C			1024.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 17:37	KJA	TAL PEN

Client Sample ID: PD-3-GWP-60-072319 — Lab Sample ID: 400-173575-8

Date Collected: 07/23/19 13:40 **Matrix: Water**
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 13:41	RS	TAL PEN
Total/NA	Prep	3520C			1029 mL	1 mL	449716	07/27/19 13:22	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 15:16	VC1	TAL PEN
Total/NA	Prep	3520C			1029 mL	1 mL	449716	07/27/19 13:22	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 18:51	KJA	TAL PEN

Client Sample ID: PD-3-GWP-65-072319
Date Collected: 07/23/19 14:35
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 19:25	RS	TAL PEN
Total/NA	Prep	3520C			1037.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 13:50	VC1	TAL PEN
Total/NA	Prep	3520C	DL		1037.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 21:41	VC1	TAL PEN
Total/NA	Prep	3520C			1037.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 17:57	KJA	TAL PEN

Client Sample ID: PD-3-GWP-71-072319
Date Collected: 07/23/19 15:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 19:51	RS	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 14:12	VC1	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 18:16	KJA	TAL PEN

Client Sample ID: PD-3-GWP-50-072319-EB
Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 16:20	RS	TAL PEN
Total/NA	Prep	3520C			1052.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 14:33	VC1	TAL PEN
Total/NA	Prep	3520C			1052.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 18:35	KJA	TAL PEN

Client Sample ID: Method Blank
Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-449716/1-A
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 09:55	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 15:06	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449979/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 10:36	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450148/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 11:12	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449716/14-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:31	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 10:59	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449716/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 10:16	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			451066	08/06/19 15:25	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449979/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 09:34	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450148/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 10:20	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-449716/15-A

Date Collected: N/A — **Matrix: Water**

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:31	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 11:20	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 400-449716/3-A

Date Collected: N/A — **Matrix: Water**

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 10:38	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			451066	08/06/19 15:44	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

GC/MS VOA

Analysis Batch: 449979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-1	TB-PW-072319-B	Total/NA	Water	8260B	
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	8260B	
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8260B	
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	8260B	
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	8260B	
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	8260B	
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	8260B	
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	8260B	
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	8260B	
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	8260B	
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	8260B	
MB 400-449979/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449979/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 450148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-1	TB-PW-072319-B	Total/NA	Water	8260B	
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8260B	
MB 400-450148/4	Method Blank	Total/NA	Water	8260B	
LCS 400-450148/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2 - DL	PD-7-GWP-55-072319	Total/NA	Water	3520C	
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	3520C	
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	3520C	
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	3520C	
400-173575-5 - DL	PD-3-GWP-50-072319	Total/NA	Water	3520C	
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	3520C	
400-173575-6 - DL	PD-3-GWP-50-072319-DUP	Total/NA	Water	3520C	
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	3520C	
400-173575-7 - DL	PD-3-GWP-55-072319	Total/NA	Water	3520C	
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	3520C	
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	3520C	
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	3520C	
400-173575-9 - DL	PD-3-GWP-65-072319	Total/NA	Water	3520C	
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	3520C	
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	3520C	
MB 400-449716/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449716/14-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449716/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449716/15-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449716/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	8270D	449716
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	8270D	449716

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

GC/MS Semi VOA

Analysis Batch: 450897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	8270D	449716
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8270D	449716
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	8270D	449716
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	8270D	449716
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	8270D	449716
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	8270D	449716
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	8270D	449716
MB 400-449716/1-A	Method Blank	Total/NA	Water	8270D	449716
LCS 400-449716/14-A	Lab Control Sample	Total/NA	Water	8270D	449716
LCS 400-449716/2-A	Lab Control Sample	Total/NA	Water	8270D	449716
LCSD 400-449716/15-A	Lab Control Sample Dup	Total/NA	Water	8270D	449716
LCSD 400-449716/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449716

Analysis Batch: 450993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	8270D	449716

Analysis Batch: 451066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	8270D LL	449716
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8270D LL	449716
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	8270D LL	449716
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	8270D LL	449716
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	8270D LL	449716
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	8270D LL	449716
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	8270D LL	449716
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	8270D LL	449716
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	8270D LL	449716
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	8270D LL	449716
MB 400-449716/1-A	Method Blank	Total/NA	Water	8270D LL	449716
LCS 400-449716/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449716
LCSD 400-449716/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449716

Analysis Batch: 451290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2 - DL	PD-7-GWP-55-072319	Total/NA	Water	8270D	449716
400-173575-5 - DL	PD-3-GWP-50-072319	Total/NA	Water	8270D	449716
400-173575-6 - DL	PD-3-GWP-50-072319-DUP	Total/NA	Water	8270D	449716
400-173575-7 - DL	PD-3-GWP-55-072319	Total/NA	Water	8270D	449716
400-173575-9 - DL	PD-3-GWP-65-072319	Total/NA	Water	8270D	449716

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 10:36	1
Acrolein	ND		20	10	ug/L			07/30/19 10:36	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 10:36	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 10:36	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 10:36	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 10:36	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 10:36	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 10:36	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 10:36	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 10:36	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 10:36	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 10:36	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 10:36	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 10:36	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 10:36	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 10:36	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 10:36	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 10:36	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 10:36	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 10:36	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 10:36	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 10:36	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 10:36	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 10:36	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 10:36	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 10:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 10:36	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 10:36	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 10:36	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 10:36	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 10:36	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 10:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 10:36	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 10:36	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 10:36*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 10:36*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/30/19 10:36*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 10:36*	*1*

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	275		ug/L		138	43 - 160
Acrolein	500	660		ug/L		132	38 - 160
Acrylonitrile	500	613		ug/L		123	64 - 142
Benzene	50.0	52.5		ug/L		105	70 - 130
Bromobenzene	50.0	50.7		ug/L		101	70 - 132
Bromochloromethane	50.0	52.2		ug/L		104	70 - 130
Bromodichloromethane	50.0	50.6		ug/L		101	67 - 133
Bromoform	50.0	57.1		ug/L		114	57 - 140
Bromomethane	50.0	42.7		ug/L		85	10 - 160
2-Butanone (MEK)	200	246		ug/L		123	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449979/1002 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 449979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.1		ug/L		100	61 - 137
Carbon tetrachloride	50.0	55.0		ug/L		110	61 - 137
Chlorobenzene	50.0	52.4		ug/L		105	70 - 130
Chloroethane	50.0	54.3		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	47.4		ug/L		95	10 - 160
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	55.6		ug/L		111	69 - 130
Chloromethane	50.0	64.4		ug/L		129	58 - 137
cis-1,2-Dichloroethene	50.0	55.4		ug/L		111	68 - 130
cis-1,3-Dichloropropene	50.0	53.7		ug/L		107	69 - 132
Dibromochloromethane	50.0	55.6		ug/L		111	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	55.8		ug/L		112	54 - 135
1,2-Dichlorobenzene	50.0	53.4		ug/L		107	67 - 130
1,3-Dichlorobenzene	50.0	53.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130
Dichlorodifluoromethane	50.0	50.8		ug/L		102	41 - 146
1,1-Dichloroethane	50.0	55.6		ug/L		111	70 - 130
1,2-Dichloroethane	50.0	48.6		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	46.9		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	55.4		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	51.3		ug/L		103	52 - 135
1,1-Dichloropropene	50.0	51.8		ug/L		104	70 - 130
Ethylbenzene	50.0	52.8		ug/L		106	70 - 130
Ethylene Dibromide	50.0	51.3		ug/L		103	70 - 130
Ethyl methacrylate	50.0	57.2		ug/L		114	68 - 130
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	271		ug/L		136	65 - 137
Isopropylbenzene	50.0	49.7		ug/L		99	70 - 130
Methylene bromide	50.0	47.6		ug/L		95	70 - 130
Methylene Chloride	50.0	52.2		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	244		ug/L		122	69 - 138
Methyl tert-butyl ether	50.0	46.2		ug/L		92	66 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/L		103	70 - 130
Naphthalene	50.0	50.3		ug/L		101	47 - 149
n-Butylbenzene	50.0	52.6		ug/L		105	67 - 130
N-Propylbenzene	50.0	54.4		ug/L		109	70 - 130
o-Chlorotoluene	50.0	51.7		ug/L		103	70 - 130
o-Xylene	50.0	51.0		ug/L		102	70 - 130
p-Chlorotoluene	50.0	52.1		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	53.0		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.2		ug/L		102	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	49.8		ug/L		100	64 - 139
1,1,1,2-Tetrachloroethane	50.0	61.8		ug/L		124	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	70 - 131
Tetrachloroethene	50.0	54.6		ug/L		109	65 - 130
Toluene	50.0	52.8		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/L		105	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	56.9		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	50.3		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	50.2		ug/L		100	68 - 130
1,1,2-Trichloroethane	50.0	54.5		ug/L		109	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	46.3		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	50.7		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	51.0		ug/L		102	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	58.9		ug/L		118	59 - 136
Xylenes, Total	100	103		ug/L		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-450148/4
Matrix: Water
Analysis Batch: 450148

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/31/19 11:12	1
Benzene	ND		1.0	0.38	ug/L			07/31/19 11:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/31/19 11:12	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/31/19 11:12*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/31/19 11:12*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/31/19 11:12*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/31/19 11:12*	*1*

Lab Sample ID: LCS 400-450148/1002
Matrix: Water
Analysis Batch: 450148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	263		ug/L		132	43 - 160
Benzene	50.0	49.8		ug/L		100	70 - 130
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450148/1002
Matrix: Water
Analysis Batch: 450148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449716/1-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
Benzenethiol	ND		10	1.7	ug/L		07/26/19 16:12	08/05/19 09:55	1
Benzoic acid	ND		30	7.3	ug/L		07/26/19 16:12	08/05/19 09:55	1
Benzyl alcohol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 09:55	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/26/19 16:12	08/05/19 09:55	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/26/19 16:12	08/05/19 09:55	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/26/19 16:12	08/05/19 09:55	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Chloroaniline	ND		10	3.4	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Chlorophenol	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Dibenzofuran	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 09:55	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Diethyl phthalate	ND		10	0.70	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 09:55	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/26/19 16:12	08/05/19 09:55	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/26/19 16:12	08/05/19 09:55	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 09:55	1
Di-n-octyl phthalate	2.53	J	10	0.44	ug/L		07/26/19 16:12	08/05/19 09:55	1
1,4-Dioxane	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/26/19 16:12	08/05/19 09:55	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/26/19 16:12	08/05/19 09:55	1
Hexachloroethane	ND		10	4.2	ug/L		07/26/19 16:12	08/05/19 09:55	1
Indene	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Isophorone	ND		10	0.57	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Methylphenol	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Nitroaniline	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 09:55	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449716/1-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Nitroaniline	ND		10	2.5	ug/L		07/26/19 16:12	08/05/19 09:55	1
Nitrobenzene	ND		10	0.55	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Nitrophenol	ND		10	0.65	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Nitrophenol	ND		10	2.1	ug/L		07/26/19 16:12	08/05/19 09:55	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 09:55	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/26/19 16:12	08/05/19 09:55	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/26/19 16:12	08/05/19 09:55	1
Pentachlorophenol	ND		20	1.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
Phenol	ND		10	2.6	ug/L		07/26/19 16:12	08/05/19 09:55	1
Pyridine	ND		10	3.2	ug/L		07/26/19 16:12	08/05/19 09:55	1
Quinoline	ND		10	6.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 09:55	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/26/19 16:12*	*08/05/19 09:55*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
2-Fluorophenol	*9*	*X*	*10 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
Nitrobenzene-d5	*81*		*27 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
Phenol-d5	*26*		*10 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
Terphenyl-d14	*96*		*53 - 125*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
2,4,6-Tribromophenol	*56*		*15 - 135*	*07/26/19 16:12*	*08/05/19 09:55*	*1*

Lab Sample ID: LCS 400-449716/14-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*71*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*69*		*15 - 135*

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	14.3		ug/L		48	29 - 120
Benzoic acid	117	68.4		ug/L		59	10 - 150

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzyl alcohol	30.0	20.9		ug/L		70	19 - 125
Bis(2-chloroethoxy)methane	30.0	18.8		ug/L		63	45 - 120
Bis(2-chloroethyl)ether	30.0	22.1		ug/L		74	48 - 120
bis (2-chloroisopropyl) ether	30.0	19.2		ug/L		64	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	23.8		ug/L		79	48 - 150
4-Bromophenyl phenyl ether	30.0	19.6		ug/L		65	55 - 122
Butyl benzyl phthalate	30.0	19.9		ug/L		66	46 - 145
4-Chloroaniline	30.0	17.4		ug/L		58	30 - 120
4-Chloro-3-methylphenol	30.0	20.4		ug/L		68	39 - 140
2-Chloronaphthalene	30.0	19.4		ug/L		65	52 - 120
2-Chlorophenol	30.0	17.6		ug/L		59	34 - 120
4-Chlorophenyl phenyl ether	30.0	20.3		ug/L		68	58 - 124
Dibenz[a,h]acridine	30.0	20.8		ug/L		69	46 - 149
Dibenzofuran	30.0	20.7		ug/L		69	58 - 123
3,3'-Dichlorobenzidine	40.0	48.9		ug/L		122	39 - 135
2,4-Dichlorophenol	30.0	19.1		ug/L		64	39 - 128
Diethyl phthalate	30.0	22.3		ug/L		74	44 - 146
2,4-Dimethylphenol	30.0	19.5		ug/L		65	44 - 120
Dimethyl phthalate	30.0	21.5		ug/L		72	50 - 131
Di-n-butyl phthalate	30.0	20.5		ug/L		68	55 - 131
4,6-Dinitro-ortho-cresol	60.0	57.6		ug/L		96	10 - 150
2,4-Dinitrophenol	60.0	68.9		ug/L		115	10 - 150
2,4-Dinitrotoluene	30.0	21.2		ug/L		71	58 - 140
2,6-Dinitrotoluene	30.0	20.5		ug/L		68	57 - 130
Di-n-octyl phthalate	30.0	21.5		ug/L		72	50 - 150
1,4-Dioxane	30.0	13.8		ug/L		46	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.0		ug/L		67	47 - 123
Hexachlorobenzene	30.0	18.6		ug/L		62	52 - 131
Hexachlorocyclopentadiene	30.0	8.53	J	ug/L		28	10 - 129
Hexachloroethane	30.0	13.9		ug/L		46	41 - 120
Indene	30.0	16.8		ug/L		56	47 - 120
Isophorone	30.0	19.7		ug/L		66	49 - 120
2-Methylphenol	30.0	19.3		ug/L		64	39 - 123
3 & 4 Methylphenol	30.0	19.2	J	ug/L		64	38 - 121
2-Nitroaniline	30.0	20.1		ug/L		67	47 - 150
3-Nitroaniline	30.0	18.3		ug/L		61	34 - 132
4-Nitroaniline	30.0	20.9		ug/L		70	41 - 135
Nitrobenzene	30.0	19.0		ug/L		63	47 - 120
2-Nitrophenol	30.0	19.5		ug/L		65	28 - 136
4-Nitrophenol	60.0	44.8		ug/L		75	10 - 150
N-Nitrosodimethylamine	30.0	17.6		ug/L		59	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.2		ug/L		67	44 - 120
N-Nitrosodiphenylamine	29.8	20.2		ug/L		68	56 - 120
Pentachlorophenol	60.0	50.1		ug/L		83	15 - 141
Phenol	30.0	17.3		ug/L		58	33 - 120
Pyridine	60.0	34.4		ug/L		57	26 - 120
Quinoline	30.0	18.5		ug/L		62	51 - 129
2,4,5-Trichlorophenol	30.0	19.8		ug/L		66	38 - 147

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,4,6-Trichlorophenol			30.0	19.5		ug/L		65	36 - 139		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*63*		*27 - 120*
Phenol-d5	*56*		*10 - 120*
Terphenyl-d14	*70*		*53 - 125*
2,4,6-Tribromophenol	*65*		*15 - 135*

Lab Sample ID: LCSD 400-449716/15-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		3	10 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*34 - 120*
2-Fluorophenol	*64*		*10 - 120*
Nitrobenzene-d5	*78*		*27 - 120*
Phenol-d5	*75*		*10 - 120*
Terphenyl-d14	*93*		*53 - 125*
2,4,6-Tribromophenol	*75*		*15 - 135*

Lab Sample ID: LCSD 400-449716/3-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	20.4	*	ug/L		68	29 - 120	35	30
Benzoic acid			117	87.0		ug/L		75	10 - 150	24	30
Benzyl alcohol			30.0	24.6		ug/L		82	19 - 125	16	30
Bis(2-chloroethoxy)methane			30.0	22.9		ug/L		76	45 - 120	20	30
Bis(2-chloroethyl)ether			30.0	21.3		ug/L		71	48 - 120	4	30
bis (2-chloroisopropyl) ether			30.0	20.6		ug/L		69	30 - 125	7	30
Bis(2-ethylhexyl) phthalate			30.0	23.3		ug/L		78	48 - 150	2	30
4-Bromophenyl phenyl ether			30.0	25.4		ug/L		85	55 - 122	26	30
Butyl benzyl phthalate			30.0	23.5		ug/L		78	46 - 145	16	30
4-Chloroaniline			30.0	19.0		ug/L		63	30 - 120	9	30
4-Chloro-3-methylphenol			30.0	24.6		ug/L		82	39 - 140	19	30
2-Chloronaphthalene			30.0	24.6		ug/L		82	52 - 120	24	30
2-Chlorophenol			30.0	17.7		ug/L		59	34 - 120	1	30
4-Chlorophenyl phenyl ether			30.0	25.9		ug/L		86	58 - 124	24	30
Dibenz[a,h]acridine			30.0	18.9		ug/L		63	46 - 149	9	30
Dibenzofuran			30.0	24.9		ug/L		83	58 - 123	19	30
3,3'-Dichlorobenzidine			40.0	52.5	E	ug/L		131	39 - 135	7	30
2,4-Dichlorophenol			30.0	22.7		ug/L		76	39 - 128	17	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449716/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 450897 **Prep Batch: 449716**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diethyl phthalate	30.0	25.9		ug/L		86	44 - 146	15	30
2,4-Dimethylphenol	30.0	24.4		ug/L		81	44 - 120	22	30
Dimethyl phthalate	30.0	25.7		ug/L		86	50 - 131	18	30
Di-n-butyl phthalate	30.0	23.3		ug/L		78	55 - 131	13	30
4,6-Dinitro-ortho-cresol	60.0	62.9		ug/L		105	10 - 150	9	30
2,4-Dinitrophenol	60.0	76.1		ug/L		127	10 - 150	10	30
2,4-Dinitrotoluene	30.0	25.8		ug/L		86	58 - 140	20	30
2,6-Dinitrotoluene	30.0	25.0		ug/L		83	57 - 130	20	30
Di-n-octyl phthalate	30.0	24.4		ug/L		81	50 - 150	13	30
1,4-Dioxane	30.0	15.0		ug/L		50	25 - 120	8	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	23.1		ug/L		77	47 - 123	14	30
Hexachlorobenzene	30.0	23.6		ug/L		79	52 - 131	24	30
Hexachlorocyclopentadiene	30.0	13.6	J *	ug/L		45	10 - 129	46	30
Hexachloroethane	30.0	17.5		ug/L		58	41 - 120	23	30
Indene	30.0	19.1		ug/L		64	47 - 120	13	30
Isophorone	30.0	23.7		ug/L		79	49 - 120	19	30
2-Methylphenol	30.0	21.8		ug/L		73	39 - 123	12	30
3 & 4 Methylphenol	30.0	21.5		ug/L		72	38 - 121	11	30
2-Nitroaniline	30.0	24.6		ug/L		82	47 - 150	20	30
3-Nitroaniline	30.0	19.0		ug/L		63	34 - 132	3	30
4-Nitroaniline	30.0	22.6		ug/L		75	41 - 135	8	30
Nitrobenzene	30.0	23.4		ug/L		78	47 - 120	21	30
2-Nitrophenol	30.0	23.0		ug/L		77	28 - 136	16	30
4-Nitrophenol	60.0	49.7		ug/L		83	10 - 150	10	30
N-Nitrosodimethylamine	30.0	22.1		ug/L		74	22 - 148	23	30
N-Nitrosodi-n-propylamine	30.0	23.7		ug/L		79	44 - 120	16	30
N-Nitrosodiphenylamine	29.8	24.5		ug/L		82	56 - 120	19	30
Pentachlorophenol	60.0	59.5		ug/L		99	15 - 141	17	30
Phenol	30.0	18.5		ug/L		62	33 - 120	7	30
Pyridine	60.0	38.0		ug/L		63	26 - 120	10	30
Quinoline	30.0	23.0		ug/L		77	51 - 129	22	30
2,4,5-Trichlorophenol	30.0	23.4		ug/L		78	38 - 147	17	30
2,4,6-Trichlorophenol	30.0	23.3		ug/L		78	36 - 139	18	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*34 - 120*
2-Fluorophenol	*35*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*59*		*10 - 120*
Terphenyl-d14	*82*		*53 - 125*
2,4,6-Tribromophenol	*73*		*15 - 135*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449716/1-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Chrysene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Fluorene	ND		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 15:06	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Phenanthrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Pyrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*15 - 122*	*07/26/19 16:12*	*08/06/19 15:06*	*1*
Nitrobenzene-d5	*84*		*19 - 130*	*07/26/19 16:12*	*08/06/19 15:06*	*1*
Terphenyl-d14	*116*		*33 - 138*	*07/26/19 16:12*	*08/06/19 15:06*	*1*

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	22.6		ug/L		75	41 - 120
Acenaphthylene	30.0	22.5		ug/L		75	44 - 120
Anthracene	30.0	21.7		ug/L		72	49 - 120
Benzo[a]anthracene	30.0	19.0		ug/L		63	61 - 135
Benzo[a]pyrene	30.0	18.5		ug/L		62	52 - 120
Benzo[b]fluoranthene	30.0	19.8		ug/L		66	53 - 134
Benzo[g,h,i]perylene	30.0	14.8		ug/L		49	47 - 133
Benzo[k]fluoranthene	30.0	21.9		ug/L		73	57 - 134
Chrysene	30.0	19.8		ug/L		66	55 - 122
Dibenz(a,h)anthracene	30.0	19.3		ug/L		64	48 - 146
Fluoranthene	30.0	20.5		ug/L		68	54 - 128
Fluorene	30.0	23.7		ug/L		79	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	15.9		ug/L		53	43 - 142
1-Methylnaphthalene	30.0	19.0		ug/L		63	41 - 120
2-Methylnaphthalene	30.0	19.3		ug/L		64	32 - 124
Phenanthrene	30.0	21.2		ug/L		71	48 - 120
Pyrene	30.0	18.9		ug/L		63	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*15 - 122*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	68		19 - 130
Terphenyl-d14	71		33 - 138

Lab Sample ID: LCSD 400-449716/3-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	26.3		ug/L		88	41 - 120	15	56
Acenaphthylene			30.0	25.9		ug/L		86	44 - 120	14	56
Anthracene			30.0	25.1		ug/L		84	49 - 120	15	51
Benzo[a]anthracene			30.0	22.4		ug/L		75	61 - 135	17	49
Benzo[a]pyrene			30.0	22.6		ug/L		75	52 - 120	20	50
Benzo[b]fluoranthene			30.0	23.6		ug/L		79	53 - 134	18	54
Benzo[g,h,i]perylene			30.0	14.9		ug/L		50	47 - 133	1	50
Benzo[k]fluoranthene			30.0	27.2		ug/L		91	57 - 134	22	52
Chrysene			30.0	22.6		ug/L		75	55 - 122	13	50
Dibenz(a,h)anthracene			30.0	19.0		ug/L		63	48 - 146	2	50
Fluoranthene			30.0	23.3		ug/L		78	54 - 128	13	52
Fluorene			30.0	28.0		ug/L		93	45 - 125	17	56
Indeno[1,2,3-cd]pyrene			30.0	15.9		ug/L		53	43 - 142	0	51
1-Methylnaphthalene			30.0	21.6		ug/L		72	41 - 120	13	55
2-Methylnaphthalene			30.0	22.2		ug/L		74	32 - 124	14	57
Phenanthrene			30.0	25.4		ug/L		85	48 - 120	18	56
Pyrene			30.0	23.2		ug/L		77	48 - 132	20	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	74		15 - 122
Nitrobenzene-d5	78		19 - 130
Terphenyl-d14	82		33 - 138

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

- [ ] ACCUTEST (_____)
- [ ] CALSCIENCE (_____)
- [x] TESTAMERICA (Pensacola)
- [ ] Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)

Lab Vendor # Dropdown

Please Check Appropriate Box;

- [ ] SGW FDG
- [ ] PIPELINE
- [ ] RETAIL
- [ ] CHEMICALS
- [ ] CONSULTANT
- [ ] LUBES
- [ ] TRANSPORTATION
- [ ] OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	[ ] CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/23/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY	LOG CODE	State	AECOM Project / Task Number:
AECOM		IL	PreDesign Invest. PW

170 East Rand Avenue, Hartford

ADDRESS	
100 N Broadway, 20th Floor; St. Louis, MO 63102	

EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO.	E-MAIL	AECOM Other ID
Elizabeth Kunkel	3144290100	elizabeth.kunkel@aecom.com	

PROJECT CONTACT (Hardcopy or PDF Report to)			SAMPLER NAME(S) (Print)
Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell			Paul LeFleur
TELEPHONE: 314-429-0100	FAX: 314-429-0462	Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com	LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS)

- [x] STANDARD (14 DAY)
- [ ] 5 DAYS
- [ ] 3 DAYS
- [ ] 2 DAYS
- [ ] 24 HOURS
- [ ] RESULTS NEEDED ON WEEKEND

- [ ] LA - RWQCB REPORT FORMAT
- [ ] UST AGENCY:

DELIVERABLES

- [ ] LEVEL 1
- [x] LEVEL 2
- [ ] LEVEL 3
- [x] LEVEL 4
- [x] OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°	Cooler #1	Cooler #2	Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :

Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

- [x] SHELL CONTRACT RATE APPLIES
- [ ] STATE REIMBURSEMENT RATE APPLIES
- [ ] EDD NOT NEEDED
- [x] RECEIPT VERIFICATION REQUESTED
- [ ] PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 / NON-UNIT COST 60592794 - 1.24.050

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

400-173575 COC

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-072319-B	7/23/2019	0:00	Water	2					2		x	
	PD-7-GWP-55-072319	7/23/2019	8:30	Water	2			2		4	x	x	x
	PD-7-GWP-55-072319-EB	7/23/2019	9:00	Water	2			2		4	x	x	x
	PD-3-GWP-45-072319	7/23/2019	10:10	Water	2			2		4	x	x	x
	PD-3-GWP-50-072319	7/23/2019	10:55	Water	2			2		4	x	x	x
	PD-3-GWP-50-072319-DUP	7/23/2019	10:55	Water	2			2		4	x	x	x
	PD-3-GWP-55-072319	7/23/2019	11:50	Water	2			2		4	x	x	x
	PD-3-GWP-60-072319	7/23/2019	13:40	Water	2			2		4	x	x	x
	PD-3-GWP-65-072319	7/23/2019	14:35	Water	2			2		4	x	x	x
	PD-3-GWP-71-072319	7/23/2019	15:30	Water	2			2		4	x	x	x

Relinquished by (Signature)	Received by (Signature)	Date	Time
	Fedex: 4931 8203 7557; 4931 8203 7568; 4931 8203 7579 custody seals: 1011637 1011636 1011638 1011639 622045 622044	7/23/2019	18:00
Relinquished by (Signature)	Received by (Signature)	Date	Time
Relinquished by (Signature)	Received by (Signature)	Date: 7-24-19	Time: 8:59

Version 10May17

0.2°, 2.4°, 2.3° IR8

8/13/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173575-1

Login Number: 173575
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1011637,1011636, 1011638,1011639, 622045, 622044
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2°C, 2.4°C, 2.3°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State		40150	07-01-20
Alabama	State Program	4	40150	06-30-20
ANAB	ISO/IEC 17025		L2471	02-22-20
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State		AZ0710	01-12-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-20
Florida	NELAP	4	E81010	06-30-20
Florida	NELAP		E81010	06-30-20
Georgia	State Program	4	E81010 (FL)	06-30-20
Illinois	NELAP	5	200041	10-09-19
Illinois	NELAP		004586	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-20
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-20
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-20
Massachusetts	State Program	1	M-FL094	06-30-20
Michigan	State		9912	05-06-20
Michigan	State Program	5	9912	05-06-20
New Jersey	NELAP	2	FL006	06-30-20
New Jersey	NELAP		FL006	07-30-20
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State		9810-186	08-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Pennsylvania	NELAP		68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19 *
Tennessee	State Program	4	TN02907	06-30-20
Texas	NELAP	6	T104704286-18-15	09-30-19
Texas	NELAP		T104704286	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-20
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-20
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-173575-1
Client Project/Site: PreDesign Invest PW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
10/22/2019 10:50:42 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 400-173575-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-173575-1

Comments
Revised Report
Report revised to correct TIC reporting for the SVOC analysis due to evaluation error.
Supersedes report dated 8-13-19.

Receipt
The samples were received on 7/24/2019 8:59 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 2.3º C and 2.4º C.

Receipt Exceptions

The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): PD-3-GWP-50-072319-EB (400-173575-11)

GC/MS VOA
Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: PD-7-GWP-55-072319 (400-173575-2), PD-3-GWP-45-072319 (400-173575-4), PD-3-GWP-50-072319 (400-173575-5), PD-3-GWP-50-072319-DUP (400-173575-6), PD-3-GWP-55-072319 (400-173575-7), PD-3-GWP-60-072319 (400-173575-8), PD-3-GWP-65-072319 (400-173575-9), PD-3-GWP-71-072319 (400-173575-10). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-PW-072319-B (400-173575-1), PD-7-GWP-55-072319 (400-173575-2), PD-7-GWP-55-072319-EB (400-173575-3), PD-3-GWP-45-072319 (400-173575-4), PD-3-GWP-50-072319 (400-173575-5), PD-3-GWP-50-072319-DUP (400-173575-6), PD-3-GWP-55-072319 (400-173575-7), PD-3-GWP-60-072319 (400-173575-8), PD-3-GWP-65-072319 (400-173575-9), PD-3-GWP-71-072319 (400-173575-10) and PD-3-GWP-50-072319-EB (400-173575-11). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: Sample PD-7-GWP-55-072319-EB (400-173575-3) contained Benzene above the reporting limit and 2-Butanone (MEK) above the MDL limit. Reanalysis was performed with concurring results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450762 recovered above the upper control limit for Dimethyl phthalate, 2-Chloronaphthalene, Diethyl phthalate, 4-Chlorophenyl phenyl ether, 2,4-Dinitrotoluene, Hexachlorocyclopentadiene and Dibenzofuran The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: PD-3-GWP-50-072319 (400-173575-5). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450993 recovered above the upper control limit for 2,4-Dinitrotoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450993 recovered outside acceptance criteria, low biased, for Aniline, 4,6-Dinitro-2-methylphenol and Hexachlorocyclopentadiene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The method blank for preparation batch 400-449716 and analytical batch 400-450897 contained Di-n-octyl phthalate

Job ID: 400-173575-1 (Continued)

Laboratory: Eurofins TestAmerica, Pensacola (Continued)

above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-449716 and analytical batch 400-450897 recovered outside control limits for the following analytes: Aniline and Hexachlorocyclopentadiene.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-449716 and analytical batch 400-450897 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 400-449716/1-A). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-450897 recovered above the upper control limit for 4,6-Dinitro-ortho-cresol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-451066 recovered outside acceptance criteria, low biased, for Benzo[g,h,i]perylene and Indeno[1,2,3-cd]pyrene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-173575-1	TB-PW-072319-B	Water	07/23/19 00:00	07/24/19 08:59	
400-173575-2	PD-7-GWP-55-072319	Water	07/23/19 08:30	07/24/19 08:59	
400-173575-3	PD-7-GWP-55-072319-EB	Water	07/23/19 09:00	07/24/19 08:59	
400-173575-4	PD-3-GWP-45-072319	Water	07/23/19 10:10	07/24/19 08:59	
400-173575-5	PD-3-GWP-50-072319	Water	07/23/19 10:55	07/24/19 08:59	
400-173575-6	PD-3-GWP-50-072319-DUP	Water	07/23/19 10:55	07/24/19 08:59	
400-173575-7	PD-3-GWP-55-072319	Water	07/23/19 11:50	07/24/19 08:59	
400-173575-8	PD-3-GWP-60-072319	Water	07/23/19 13:40	07/24/19 08:59	
400-173575-9	PD-3-GWP-65-072319	Water	07/23/19 14:35	07/24/19 08:59	
400-173575-10	PD-3-GWP-71-072319	Water	07/23/19 15:30	07/24/19 08:59	
400-173575-11	PD-3-GWP-50-072319-EB	Water	07/23/19 09:00	07/24/19 08:59	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: TB-PW-072319-B — Lab Sample ID: 400-173575-1

No Detections.

Client Sample ID: PD-7-GWP-55-072319 — Lab Sample ID: 400-173575-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1400000		10000	3800	ug/L	10000		8260B	Total/NA
Acenaphthene	0.64		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.55		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	15		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	20		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.77		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.15	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Di-n-octyl phthalate	2.3	J B	10	0.44	ug/L	1		8270D	Total/NA
Pentachlorophenol	2.1	J	20	1.8	ug/L	1		8270D	Total/NA
Phenol - DL	210		50	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-7-GWP-55-072319-EB — Lab Sample ID: 400-173575-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.0		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	2.6	J	25	2.6	ug/L	1		8260B	Total/NA
Di-n-octyl phthalate	2.0	J B	9.6	0.42	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-45-072319 — Lab Sample ID: 400-173575-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2500		20	7.6	ug/L	20		8260B	Total/NA
1-Methylnaphthalene	0.021	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.029	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
Di-n-octyl phthalate	2.5	J B	9.7	0.43	ug/L	1		8270D	Total/NA
Phenol	4.6	J	9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-50-072319 — Lab Sample ID: 400-173575-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200000		5000	1900	ug/L	5000		8260B	Total/NA
Toluene	2400	J	5000	2100	ug/L	5000		8260B	Total/NA
Acenaphthene	0.30		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.20	0.021	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	13		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	17		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.33		0.20	0.020	ug/L	1		8270D LL	Total/NA
3 & 4 Methylphenol	3.5	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	270		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-3-GWP-50-072319-DUP — Lab Sample ID: 400-173575-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200000		5000	1900	ug/L	5000		8260B	Total/NA
Acenaphthene	0.30		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	0.38		0.19	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	16		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	21		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.39		0.19	0.019	ug/L	1		8270D LL	Total/NA
Phenol - DL	230		49	13	ug/L	5		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319 — Lab Sample ID: 400-173575-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	680000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	3.3		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	4.4		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.095	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Benzoic acid	7.4	J	29	7.1	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.3	J	20	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	170		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-3-GWP-60-072319 — Lab Sample ID: 400-173575-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	650000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	1.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.99		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	12	J	29	7.1	ug/L	1		8270D	Total/NA
Bis(2-ethylhexyl) phthalate	9.8		9.7	4.9	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	1.3	J B	9.7	0.43	ug/L	1		8270D	Total/NA
Indene	5.9	J	9.7	0.97	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.5	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol	67		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-65-072319 — Lab Sample ID: 400-173575-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	880000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	0.48		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.55		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	16	J	29	7.0	ug/L	1		8270D	Total/NA
Benzyl alcohol	3.3	J	9.6	1.9	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	2.0	J B	9.6	0.42	ug/L	1		8270D	Total/NA
Indene	2.4	J	9.6	0.96	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	2.8	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol - DL	150		48	13	ug/L	5		8270D	Total/NA

Client Sample ID: PD-3-GWP-71-072319 — Lab Sample ID: 400-173575-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200000		5000	1900	ug/L	5000		8260B	Total/NA
1-Methylnaphthalene	1.2		0.19	0.019	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.78		0.19	0.019	ug/L	1		8270D LL	Total/NA
Benzoic acid	8.3	J	29	7.1	ug/L	1		8270D	Total/NA
Di-n-octyl phthalate	2.5	J B	9.7	0.43	ug/L	1		8270D	Total/NA
Indene	3.1	J	9.7	0.97	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	2.5	J	19	1.0	ug/L	1		8270D	Total/NA
Phenol	89		9.7	2.5	ug/L	1		8270D	Total/NA

Client Sample ID: PD-3-GWP-50-072319-EB — Lab Sample ID: 400-173575-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Di-n-octyl phthalate	1.2	J B	9.5	0.42	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: TB-PW-072319-B

Date Collected: 07/23/19 00:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/31/19 11:38	1
Acrolein	ND		20	10	ug/L			07/30/19 15:27	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 15:27	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 15:27	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 15:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 15:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 15:27	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 15:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 15:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 15:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 15:27	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 15:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 15:27	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 15:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 15:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 15:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 15:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 15:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 15:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 15:27	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 15:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 15:27	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 15:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 15:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 15:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 15:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 15:27	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 15:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 15:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 15:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 15:27	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 15:27	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: TB-PW-072319-B

Date Collected: 07/23/19 00:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 15:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 15:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 15:27	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 15:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 15:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 15:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 15:27	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 15:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 15:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 15:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 15:27	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 15:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 15:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 15:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 15:27	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 15:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 15:27	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 15:27	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 15:27*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*07/30/19 15:27*	*1*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/31/19 11:38*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 15:27*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/31/19 11:38*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/30/19 15:27*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/31/19 11:38*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319

Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250000	100000	ug/L			07/30/19 20:17	10000
Acrolein	ND		200000	100000	ug/L			07/30/19 20:17	10000
Acrylonitrile	ND		100000	28000	ug/L			07/30/19 20:17	10000
Benzene	**1400000**		10000	3800	ug/L			07/30/19 20:17	10000
Bromobenzene	ND		10000	5400	ug/L			07/30/19 20:17	10000
Bromochloromethane	ND		10000	5200	ug/L			07/30/19 20:17	10000
Bromodichloromethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
Bromoform	ND		50000	7100	ug/L			07/30/19 20:17	10000
Bromomethane	ND		10000	9800	ug/L			07/30/19 20:17	10000
2-Butanone (MEK)	ND		250000	26000	ug/L			07/30/19 20:17	10000
Carbon disulfide	ND		10000	5000	ug/L			07/30/19 20:17	10000
Carbon tetrachloride	ND		10000	5000	ug/L			07/30/19 20:17	10000
Chlorobenzene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Chloroethane	ND		10000	7600	ug/L			07/30/19 20:17	10000
2-Chloroethyl vinyl ether	ND		50000	20000	ug/L			07/30/19 20:17	10000
Chloroform	ND		10000	6000	ug/L			07/30/19 20:17	10000
1-Chlorohexane	ND		10000	7000	ug/L			07/30/19 20:17	10000
Chloromethane	ND		10000	8300	ug/L			07/30/19 20:17	10000
cis-1,2-Dichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
cis-1,3-Dichloropropene	ND		50000	5000	ug/L			07/30/19 20:17	10000
Dibromochloromethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,2-Dibromo-3-Chloropropane	ND		50000	15000	ug/L			07/30/19 20:17	10000
1,2-Dichlorobenzene	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,3-Dichlorobenzene	ND		10000	5400	ug/L			07/30/19 20:17	10000
1,4-Dichlorobenzene	ND		10000	6400	ug/L			07/30/19 20:17	10000
Dichlorodifluoromethane	ND		10000	8500	ug/L			07/30/19 20:17	10000
1,1-Dichloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,2-Dichloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,1-Dichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,2-Dichloropropane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,3-Dichloropropane	ND		10000	5000	ug/L			07/30/19 20:17	10000
2,2-Dichloropropane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,1-Dichloropropene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Ethylbenzene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Ethylene Dibromide	ND		10000	5000	ug/L			07/30/19 20:17	10000
Ethyl methacrylate	ND		10000	6000	ug/L			07/30/19 20:17	10000
Hexachlorobutadiene	ND		50000	9000	ug/L			07/30/19 20:17	10000
2-Hexanone	ND		250000	31000	ug/L			07/30/19 20:17	10000
Isopropylbenzene	ND		10000	5300	ug/L			07/30/19 20:17	10000
Methylene bromide	ND		50000	5900	ug/L			07/30/19 20:17	10000
Methylene Chloride	ND		50000	30000	ug/L			07/30/19 20:17	10000
4-Methyl-2-pentanone (MIBK)	ND		250000	18000	ug/L			07/30/19 20:17	10000
Methyl tert-butyl ether	ND		10000	7400	ug/L			07/30/19 20:17	10000
m-Xylene & p-Xylene	ND		50000	16000	ug/L			07/30/19 20:17	10000
Naphthalene	ND		10000	10000	ug/L			07/30/19 20:17	10000
n-Butylbenzene	ND		10000	7600	ug/L			07/30/19 20:17	10000
N-Propylbenzene	ND		10000	6900	ug/L			07/30/19 20:17	10000
o-Chlorotoluene	ND		10000	5700	ug/L			07/30/19 20:17	10000
o-Xylene	ND		50000	6000	ug/L			07/30/19 20:17	10000

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-55-072319
Lab Sample ID: 400-173575-2
Date Collected: 07/23/19 08:30
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		10000	5600	ug/L			07/30/19 20:17	10000
p-Isopropyltoluene	ND		10000	7100	ug/L			07/30/19 20:17	10000
sec-Butylbenzene	ND		10000	7000	ug/L			07/30/19 20:17	10000
Styrene	ND		10000	10000	ug/L			07/30/19 20:17	10000
tert-Butylbenzene	ND		10000	6300	ug/L			07/30/19 20:17	10000
1,1,1,2-Tetrachloroethane	ND		10000	5200	ug/L			07/30/19 20:17	10000
1,1,2,2-Tetrachloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
Tetrachloroethene	ND		10000	5800	ug/L			07/30/19 20:17	10000
Toluene	ND		10000	4100	ug/L			07/30/19 20:17	10000
trans-1,2-Dichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
trans-1,3-Dichloropropene	ND		50000	5000	ug/L			07/30/19 20:17	10000
1,2,3-Trichlorobenzene	ND		10000	7000	ug/L			07/30/19 20:17	10000
1,2,4-Trichlorobenzene	ND		10000	8200	ug/L			07/30/19 20:17	10000
1,1,1-Trichloroethane	ND		10000	5000	ug/L			07/30/19 20:17	10000
1,1,2-Trichloroethane	ND		50000	5000	ug/L			07/30/19 20:17	10000
Trichloroethene	ND		10000	5000	ug/L			07/30/19 20:17	10000
Trichlorofluoromethane	ND		10000	5200	ug/L			07/30/19 20:17	10000
1,2,3-Trichloropropane	ND		50000	8400	ug/L			07/30/19 20:17	10000
1,2,4-Trimethylbenzene	ND		10000	8200	ug/L			07/30/19 20:17	10000
1,3,5-Trimethylbenzene	ND		10000	5600	ug/L			07/30/19 20:17	10000
Vinyl acetate	ND		250000	20000	ug/L			07/30/19 20:17	10000
Vinyl chloride	ND		10000	5000	ug/L			07/30/19 20:17	10000
Xylenes, Total	ND		100000	16000	ug/L			07/30/19 20:17	10000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 20:17*	*10000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 20:17*	*10000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 20:17*	*10000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 20:17*	*10000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.64**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Chrysene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Fluorene	**0.55**		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 16:02	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 16:02	1
1-Methylnaphthalene	**15**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
2-Methylnaphthalene	**20**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1
Phenanthrene	**0.77**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319

Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	**0.15**	**J**	0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*58*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:02*	*1*
Nitrobenzene-d5	*65*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:02*	*1*
Terphenyl-d14	*60*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:02*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
Benzenethiol	ND	*	10	1.7	ug/L		07/26/19 16:12	08/05/19 11:42	1
Benzoic acid	ND		30	7.3	ug/L		07/26/19 16:12	08/05/19 11:42	1
Benzyl alcohol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 11:42	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/26/19 16:12	08/05/19 11:42	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/26/19 16:12	08/05/19 11:42	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/26/19 16:12	08/05/19 11:42	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Chloroaniline	ND		10	3.4	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Chlorophenol	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Dibenzofuran	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 11:42	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Diethyl phthalate	ND		10	0.70	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 11:42	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/26/19 16:12	08/05/19 11:42	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/26/19 16:12	08/05/19 11:42	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 11:42	1
Di-n-octyl phthalate	**2.3**	**J B**	10	0.44	ug/L		07/26/19 16:12	08/05/19 11:42	1
1,4-Dioxane	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/26/19 16:12	08/05/19 11:42	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/26/19 16:12	08/05/19 11:42	1
Hexachloroethane	ND		10	4.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
Indene	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
Isophorone	ND		10	0.57	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Methylphenol	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Nitroaniline	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
3-Nitroaniline	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Nitroaniline	ND		10	2.5	ug/L		07/26/19 16:12	08/05/19 11:42	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319

Date Collected: 07/23/19 08:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-2

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		10	0.55	ug/L		07/26/19 16:12	08/05/19 11:42	1
2-Nitrophenol	ND		10	0.65	ug/L		07/26/19 16:12	08/05/19 11:42	1
4-Nitrophenol	ND		10	2.1	ug/L		07/26/19 16:12	08/05/19 11:42	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 11:42	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/26/19 16:12	08/05/19 11:42	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/26/19 16:12	08/05/19 11:42	1
Pentachlorophenol	**2.1**	**J**	20	1.8	ug/L		07/26/19 16:12	08/05/19 11:42	1
Pyridine	ND		10	3.2	ug/L		07/26/19 16:12	08/05/19 11:42	1
Quinoline	ND		10	6.0	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/26/19 16:12	08/05/19 11:42	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 11:42	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butenedinitrile, (E)-	*38*	*T J N*	*ug/L*		*3.31*	*764-42-1*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Toluene	*70*	*T J N*	*ug/L*		*4.04*	*108-88-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Ethylbenzene	*100*	*T J N*	*ug/L*		*4.76*	*100-41-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
p-Xylene	*60*	*T J N*	*ug/L*		*4.98*	*106-42-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, (1-methylethyl)-	*13*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, propyl-	*18*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1-ethyl-2-methyl-	*26*	*T J N*	*ug/L*		*5.48*	*611-14-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,2,4-trimethyl-	*100*	*T J N*	*ug/L*		*5.57*	*95-63-6*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,3,5-trimethyl-	*49*	*T J N*	*ug/L*		*5.72*	*108-67-8*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Indane	*14*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,3-diethyl-	*16*	*T J N*	*ug/L*		*5.86*	*141-93-5*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1-methyl-2-(1-methylethyl)-	*7.4*	*T J N*	*ug/L*		*5.98*	*527-84-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*11*	*T J N*	*ug/L*		*6.01*	*1758-88-9*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzene, 1,2,4,5-tetramethyl-	*7.8*	*T J N*	*ug/L*		*6.18*	*95-93-2*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Unknown	*19*	*T J*	*ug/L*		*6.33*		*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*14*	*T J N*	*ug/L*		*6.41*	*119-64-2*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene	*32*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Unknown	*15*	*T J*	*ug/L*		*6.63*		*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 1-methyl-	*20*	*T J N*	*ug/L*		*6.98*	*90-12-0*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Naphthalene, 2-methyl-	*23*	*T J N*	*ug/L*		*7.05*	*91-57-6*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Benzoic acid, 3,4-dimethyl-	*110*	*T J N*	*ug/L*		*7.31*	*619-04-5*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Unknown	*8.8*	*T J*	*ug/L*		*7.55*		*07/26/19 16:12*	*08/05/19 11:42*	*1*
2-Naphthalenecarboxylic acid	*9.7*	*T J N*	*ug/L*		*8.39*	*93-09-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Octadecanoic acid	*9.6*	*T J N*	*ug/L*		*9.90*	*57-11-4*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*12.09*		*07/26/19 16:12*	*08/05/19 11:42*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*34 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
2-Fluorophenol	*27*		*10 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Nitrobenzene-d5	*59*		*27 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Phenol-d5	*41*		*10 - 120*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
Terphenyl-d14	*55*		*53 - 125*	*07/26/19 16:12*	*08/05/19 11:42*	*1*
2,4,6-Tribromophenol	*75*		*15 - 135*	*07/26/19 16:12*	*08/05/19 11:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**210**		50	13	ug/L		07/26/19 16:12	08/07/19 20:16	5

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-55-072319-EB
Lab Sample ID: 400-173575-3
Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 15:53	1
Acrolein	ND		20	10	ug/L			07/30/19 15:53	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 15:53	1
Benzene	**7.0**		1.0	0.38	ug/L			07/31/19 12:04	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 15:53	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 15:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 15:53	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 15:53	1
2-Butanone (MEK)	**2.6**	**J**	25	2.6	ug/L			07/31/19 12:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 15:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 15:53	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 15:53	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 15:53	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 15:53	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:53	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 15:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 15:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 15:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 15:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 15:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 15:53	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 15:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 15:53	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 15:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 15:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 15:53	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 15:53	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 15:53	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 15:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 15:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 15:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 15:53	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 15:53	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319-EB

Lab Sample ID: 400-173575-3

Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 15:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 15:53	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 15:53	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 15:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 15:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 15:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 15:53	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 15:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 15:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 15:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 15:53	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 15:53	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 15:53	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 15:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 15:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 15:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 15:53	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 15:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 15:53	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 15:53	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 15:53*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*07/30/19 15:53*	*1*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/31/19 12:04*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*07/30/19 15:53*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*07/31/19 12:04*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 15:53*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/31/19 12:04*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Chrysene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 16:21	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 16:21	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-7-GWP-55-072319-EB

Date Collected: 07/23/19 09:00
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-3

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:21*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:21*	*1*
Terphenyl-d14	*104*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:21*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.6	3.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
Benzoic acid	ND		29	7.0	ug/L		07/26/19 16:12	08/05/19 15:37	1
Benzyl alcohol	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Bis(2-chloroethoxy)methane	ND		9.6	0.66	ug/L		07/26/19 16:12	08/05/19 15:37	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/26/19 16:12	08/05/19 15:37	1
bis (2-chloroisopropyl) ether	ND		9.6	0.77	ug/L		07/26/19 16:12	08/05/19 15:37	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/26/19 16:12	08/05/19 15:37	1
Butyl benzyl phthalate	ND		9.6	0.66	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Chloroaniline	ND		9.6	3.2	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Chloro-3-methylphenol	ND		9.6	3.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 15:37	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dimethylphenol	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 15:37	1
Dimethyl phthalate	ND		9.6	0.57	ug/L		07/26/19 16:12	08/05/19 15:37	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/26/19 16:12	08/05/19 15:37	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dinitrophenol	ND		29	3.2	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 15:37	1
Di-n-octyl phthalate	**2.0**	**J B**	9.6	0.42	ug/L		07/26/19 16:12	08/05/19 15:37	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 15:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 15:37	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/26/19 16:12	08/05/19 15:37	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/26/19 16:12	08/05/19 15:37	1
Indene	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 15:37	1
Isophorone	ND		9.6	0.54	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
3 & 4 Methylphenol	ND		19	0.99	ug/L		07/26/19 16:12	08/05/19 15:37	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-7-GWP-55-072319-EB
Lab Sample ID: 400-173575-3
Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 15:37	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/26/19 16:12	08/05/19 15:37	1
Nitrobenzene	ND		9.6	0.53	ug/L		07/26/19 16:12	08/05/19 15:37	1
2-Nitrophenol	ND		9.6	0.62	ug/L		07/26/19 16:12	08/05/19 15:37	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/26/19 16:12	08/05/19 15:37	1
N-Nitrosodimethylamine	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 15:37	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/26/19 16:12	08/05/19 15:37	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/26/19 16:12	08/05/19 15:37	1
Pentachlorophenol	ND		19	1.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
Phenol	ND		9.6	2.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
Pyridine	ND		9.6	3.1	ug/L		07/26/19 16:12	08/05/19 15:37	1
Quinoline	ND		9.6	5.7	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4,5-Trichlorophenol	ND		9.6	3.5	ug/L		07/26/19 16:12	08/05/19 15:37	1
2,4,6-Trichlorophenol	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 15:37	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
13-Docosenamide, (Z)-	*6.2*	*T J N*	*ug/L*		*11.99*	*112-84-5*	*07/26/19 16:12*	*08/05/19 15:37*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*34 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
2-Fluorophenol	*37*		*10 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
Phenol-d5	*52*		*10 - 120*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
Terphenyl-d14	*85*		*53 - 125*	*07/26/19 16:12*	*08/05/19 15:37*	*1*
2,4,6-Tribromophenol	*65*		*15 - 135*	*07/26/19 16:12*	*08/05/19 15:37*	*1*

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-45-072319

Date Collected: 07/23/19 10:10
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	200	ug/L			07/30/19 11:28	20
Acrolein	ND		400	200	ug/L			07/30/19 11:28	20
Acrylonitrile	ND		200	56	ug/L			07/30/19 11:28	20
Benzene	**2500**		20	7.6	ug/L			07/30/19 11:28	20
Bromobenzene	ND		20	11	ug/L			07/30/19 11:28	20
Bromochloromethane	ND		20	10	ug/L			07/30/19 11:28	20
Bromodichloromethane	ND		20	10	ug/L			07/30/19 11:28	20
Bromoform	ND		100	14	ug/L			07/30/19 11:28	20
Bromomethane	ND		20	20	ug/L			07/30/19 11:28	20
2-Butanone (MEK)	ND		500	52	ug/L			07/30/19 11:28	20
Carbon disulfide	ND		20	10	ug/L			07/30/19 11:28	20
Carbon tetrachloride	ND		20	10	ug/L			07/30/19 11:28	20
Chlorobenzene	ND		20	10	ug/L			07/30/19 11:28	20
Chloroethane	ND		20	15	ug/L			07/30/19 11:28	20
2-Chloroethyl vinyl ether	ND		100	40	ug/L			07/30/19 11:28	20
Chloroform	ND		20	12	ug/L			07/30/19 11:28	20
1-Chlorohexane	ND		20	14	ug/L			07/30/19 11:28	20
Chloromethane	ND		20	17	ug/L			07/30/19 11:28	20
cis-1,2-Dichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
cis-1,3-Dichloropropene	ND		100	10	ug/L			07/30/19 11:28	20
Dibromochloromethane	ND		20	10	ug/L			07/30/19 11:28	20
1,2-Dibromo-3-Chloropropane	ND		100	30	ug/L			07/30/19 11:28	20
1,2-Dichlorobenzene	ND		20	10	ug/L			07/30/19 11:28	20
1,3-Dichlorobenzene	ND		20	11	ug/L			07/30/19 11:28	20
1,4-Dichlorobenzene	ND		20	13	ug/L			07/30/19 11:28	20
Dichlorodifluoromethane	ND		20	17	ug/L			07/30/19 11:28	20
1,1-Dichloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,2-Dichloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,1-Dichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
1,2-Dichloropropane	ND		20	10	ug/L			07/30/19 11:28	20
1,3-Dichloropropane	ND		20	10	ug/L			07/30/19 11:28	20
2,2-Dichloropropane	ND		20	10	ug/L			07/30/19 11:28	20
1,1-Dichloropropene	ND		20	10	ug/L			07/30/19 11:28	20
Ethylbenzene	ND		20	10	ug/L			07/30/19 11:28	20
Ethylene Dibromide	ND		20	10	ug/L			07/30/19 11:28	20
Ethyl methacrylate	ND		20	12	ug/L			07/30/19 11:28	20
Hexachlorobutadiene	ND		100	18	ug/L			07/30/19 11:28	20
2-Hexanone	ND		500	62	ug/L			07/30/19 11:28	20
Isopropylbenzene	ND		20	11	ug/L			07/30/19 11:28	20
Methylene bromide	ND		100	12	ug/L			07/30/19 11:28	20
Methylene Chloride	ND		100	60	ug/L			07/30/19 11:28	20
4-Methyl-2-pentanone (MIBK)	ND		500	36	ug/L			07/30/19 11:28	20
Methyl tert-butyl ether	ND		20	15	ug/L			07/30/19 11:28	20
m-Xylene & p-Xylene	ND		100	32	ug/L			07/30/19 11:28	20
Naphthalene	ND		20	20	ug/L			07/30/19 11:28	20
n-Butylbenzene	ND		20	15	ug/L			07/30/19 11:28	20
N-Propylbenzene	ND		20	14	ug/L			07/30/19 11:28	20
o-Chlorotoluene	ND		20	11	ug/L			07/30/19 11:28	20
o-Xylene	ND		100	12	ug/L			07/30/19 11:28	20

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-45-072319
Lab Sample ID: 400-173575-4
Date Collected: 07/23/19 10:10
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		20	11	ug/L			07/30/19 11:28	20
p-Isopropyltoluene	ND		20	14	ug/L			07/30/19 11:28	20
sec-Butylbenzene	ND		20	14	ug/L			07/30/19 11:28	20
Styrene	ND		20	20	ug/L			07/30/19 11:28	20
tert-Butylbenzene	ND		20	13	ug/L			07/30/19 11:28	20
1,1,1,2-Tetrachloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,1,2,2-Tetrachloroethane	ND		20	10	ug/L			07/30/19 11:28	20
Tetrachloroethene	ND		20	12	ug/L			07/30/19 11:28	20
Toluene	ND		20	8.2	ug/L			07/30/19 11:28	20
trans-1,2-Dichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
trans-1,3-Dichloropropene	ND		100	10	ug/L			07/30/19 11:28	20
1,2,3-Trichlorobenzene	ND		20	14	ug/L			07/30/19 11:28	20
1,2,4-Trichlorobenzene	ND		20	16	ug/L			07/30/19 11:28	20
1,1,1-Trichloroethane	ND		20	10	ug/L			07/30/19 11:28	20
1,1,2-Trichloroethane	ND		100	10	ug/L			07/30/19 11:28	20
Trichloroethene	ND		20	10	ug/L			07/30/19 11:28	20
Trichlorofluoromethane	ND		20	10	ug/L			07/30/19 11:28	20
1,2,3-Trichloropropane	ND		100	17	ug/L			07/30/19 11:28	20
1,2,4-Trimethylbenzene	ND		20	16	ug/L			07/30/19 11:28	20
1,3,5-Trimethylbenzene	ND		20	11	ug/L			07/30/19 11:28	20
Vinyl acetate	ND		500	40	ug/L			07/30/19 11:28	20
Vinyl chloride	ND		20	10	ug/L			07/30/19 11:28	20
Xylenes, Total	ND		200	32	ug/L			07/30/19 11:28	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 11:28*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*07/30/19 11:28*	*20*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 11:28*	*20*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 11:28*	*20*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 16:39	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 16:39	1
1-Methylnaphthalene	**0.021**	**J**	0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
2-Methylnaphthalene	**0.029**	**J**	0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-45-072319

Date Collected: 07/23/19 10:10
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-4

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:39*	*1*
Nitrobenzene-d5	*75*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:39*	*1*
Terphenyl-d14	*68*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:55	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/26/19 16:12	08/05/19 14:55	1
Benzoic acid	ND		29	7.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:55	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/26/19 16:12	08/05/19 14:55	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/26/19 16:12	08/05/19 14:55	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/26/19 16:12	08/05/19 14:55	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:55	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:55	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/26/19 16:12	08/05/19 14:55	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/26/19 16:12	08/05/19 14:55	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
Di-n-octyl phthalate	**2.5**	**J B**	9.7	0.43	ug/L		07/26/19 16:12	08/05/19 14:55	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:55	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/26/19 16:12	08/05/19 14:55	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/26/19 16:12	08/05/19 14:55	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
Indene	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:55	1
Isophorone	ND		9.7	0.55	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/26/19 16:12	08/05/19 14:55	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-45-072319
Lab Sample ID: 400-173575-4

Date Collected: 07/23/19 10:10
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/26/19 16:12	08/05/19 14:55	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/26/19 16:12	08/05/19 14:55	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/26/19 16:12	08/05/19 14:55	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:55	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/26/19 16:12	08/05/19 14:55	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/26/19 16:12	08/05/19 14:55	1
Pentachlorophenol	ND		19	1.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
Phenol	**4.6**	**J**	9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:55	1
Pyridine	ND		9.7	3.1	ug/L		07/26/19 16:12	08/05/19 14:55	1
Quinoline	ND		9.7	5.8	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/26/19 16:12	08/05/19 14:55	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:55	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/26/19 16:12*	*08/05/19 14:55*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
2-Fluorophenol	*25*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
Nitrobenzene-d5	*68*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
Phenol-d5	*45*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
Terphenyl-d14	*56*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:55*	*1*
2,4,6-Tribromophenol	*71*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:55*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319

Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 12:21	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 12:21	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 12:21	5000
Benzene	**1200000**		5000	1900	ug/L			07/30/19 12:21	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 12:21	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 12:21	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 12:21	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 12:21	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 12:21	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 12:21	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 12:21	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 12:21	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 12:21	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 12:21	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 12:21	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 12:21	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:21	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 12:21	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 12:21	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 12:21	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 12:21	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:21	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 12:21	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 12:21	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 12:21	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 12:21	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 12:21	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 12:21	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 12:21	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 12:21	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 12:21	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 12:21	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 12:21	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 12:21	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 12:21	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 12:21	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 12:21	5000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319

Lab Sample ID: 400-173575-5

Date Collected: 07/23/19 10:55

Matrix: Water

Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 12:21	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 12:21	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 12:21	5000
Styrene	ND		5000	5000	ug/L			07/30/19 12:21	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 12:21	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 12:21	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 12:21	5000
Toluene	**2400**	**J**	5000	2100	ug/L			07/30/19 12:21	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:21	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 12:21	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 12:21	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 12:21	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 12:21	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 12:21	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 12:21	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 12:21	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 12:21	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 12:21	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 12:21	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 12:21	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 12:21	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 12:21*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 12:21*	*5000*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 12:21*	*5000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/30/19 12:21*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.30**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Chrysene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Fluorene	**0.38**		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 16:58	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 16:58	1
1-Methylnaphthalene	**13**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
2-Methylnaphthalene	**17**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1
Phenanthrene	**0.33**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319

Lab Sample ID: 400-173575-5

Date Collected: 07/23/19 10:55

Matrix: Water

Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*15 - 122*	*07/26/19 16:12*	*08/06/19 16:58*	*1*
Nitrobenzene-d5	*75*		*19 - 130*	*07/26/19 16:12*	*08/06/19 16:58*	*1*
Terphenyl-d14	*64*		*33 - 138*	*07/26/19 16:12*	*08/06/19 16:58*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.8	3.7	ug/L		07/26/19 16:12	08/03/19 19:51	1
Benzenethiol	ND		9.8	1.7	ug/L		07/26/19 16:12	08/03/19 19:51	1
Benzoic acid	ND		29	7.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		07/26/19 16:12	08/03/19 19:51	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		07/26/19 16:12	08/03/19 19:51	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/26/19 16:12	08/03/19 19:51	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/26/19 16:12	08/03/19 19:51	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Chlorophenol	ND		9.8	2.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/26/19 16:12	08/03/19 19:51	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
Diethyl phthalate	ND		9.8	0.69	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/03/19 19:51	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/26/19 16:12	08/03/19 19:51	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/26/19 16:12	08/03/19 19:51	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/26/19 16:12	08/03/19 19:51	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/26/19 16:12	08/03/19 19:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/26/19 16:12	08/03/19 19:51	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/26/19 16:12	08/03/19 19:51	1
Hexachlorocyclopentadiene	ND	*	20	2.5	ug/L		07/26/19 16:12	08/03/19 19:51	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/26/19 16:12	08/03/19 19:51	1
Indene	ND		9.8	0.98	ug/L		07/26/19 16:12	08/03/19 19:51	1
Isophorone	ND		9.8	0.56	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/26/19 16:12	08/03/19 19:51	1
3 & 4 Methylphenol	**3.5**	**J**	20	1.0	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Nitroaniline	ND		9.8	2.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/26/19 16:12	08/03/19 19:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319

Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-5

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.8	0.54	ug/L		07/26/19 16:12	08/03/19 19:51	1
2-Nitrophenol	ND		9.8	0.64	ug/L		07/26/19 16:12	08/03/19 19:51	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/26/19 16:12	08/03/19 19:51	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/26/19 16:12	08/03/19 19:51	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/26/19 16:12	08/03/19 19:51	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/26/19 16:12	08/03/19 19:51	1
Pentachlorophenol	ND		20	1.8	ug/L		07/26/19 16:12	08/03/19 19:51	1
Pyridine	ND		9.8	3.1	ug/L		07/26/19 16:12	08/03/19 19:51	1
Quinoline	ND		9.8	5.9	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/26/19 16:12	08/03/19 19:51	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/03/19 19:51	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*930*	*T J N*	*ug/L*		*2.98*	*71-43-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Toluene	*100*	*T J N*	*ug/L*		*4.14*	*108-88-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Ethylbenzene	*150*	*T J N*	*ug/L*		*4.85*	*100-41-4*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
p-Xylene	*270*	*T J N*	*ug/L*		*4.92*	*106-42-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
p-Xylene	*130*	*T J N*	*ug/L*		*5.07*	*106-42-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, (1-methylethyl)-	*15*	*T J N*	*ug/L*		*5.24*	*98-82-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, propyl-	*19*	*T J N*	*ug/L*		*5.42*	*103-65-1*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1-ethyl-3-methyl-	*48*	*T J N*	*ug/L*		*5.46*	*620-14-4*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,3-trimethyl-	*16*	*T J N*	*ug/L*		*5.48*	*526-73-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,3-trimethyl-	*37*	*T J N*	*ug/L*		*5.57*	*526-73-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,3-trimethyl-	*120*	*T J N*	*ug/L*		*5.66*	*526-73-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*6.5*	*T J*	*ug/L*		*5.74*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,3-trimethyl-	*64*	*T J N*	*ug/L*		*5.81*	*526-73-8*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Indane	*26*	*T J N*	*ug/L*		*5.89*	*496-11-7*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*7.3*	*T J N*	*ug/L*		*6.05*	*1758-88-9*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*11*	*T J N*	*ug/L*		*6.09*	*933-98-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Benzene, 1,2,4,5-tetramethyl-	*8.0*	*T J N*	*ug/L*		*6.26*	*95-93-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*20*	*T J*	*ug/L*		*6.42*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*11*	*T J N*	*ug/L*		*6.50*	*119-64-2*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Naphthalene	*44*	*T J N*	*ug/L*		*6.63*	*91-20-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*57*	*T J*	*ug/L*		*6.78*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
Naphthalene, 2-methyl-	*16*	*T J N*	*ug/L*		*7.08*	*91-57-6*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Naphthalene, 2-methyl-	*12*	*T J N*	*ug/L*		*7.15*	*91-57-6*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Unknown	*6.9*	*T J*	*ug/L*		*7.38*		*07/26/19 16:12*	*08/03/19 19:51*	*1*
n-Hexadecanoic acid	*7.6*	*T J N*	*ug/L*		*9.33*	*57-10-3*	*07/26/19 16:12*	*08/03/19 19:51*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*34 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
2-Fluorophenol	*0*	*X*	*10 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Phenol-d5	*63*		*10 - 120*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/26/19 16:12*	*08/03/19 19:51*	*1*
2,4,6-Tribromophenol	*100*		*15 - 135*	*07/26/19 16:12*	*08/03/19 19:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**270**		49	13	ug/L		07/26/19 16:12	08/07/19 20:37	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-DUP

Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 12:48	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 12:48	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 12:48	5000
Benzene	**1200000**		5000	1900	ug/L			07/30/19 12:48	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 12:48	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 12:48	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 12:48	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 12:48	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 12:48	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 12:48	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 12:48	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 12:48	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 12:48	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 12:48	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 12:48	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 12:48	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:48	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 12:48	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 12:48	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 12:48	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 12:48	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:48	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 12:48	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 12:48	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 12:48	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 12:48	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 12:48	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 12:48	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 12:48	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 12:48	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 12:48	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 12:48	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 12:48	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 12:48	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 12:48	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 12:48	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 12:48	5000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-50-072319-DUP

Lab Sample ID: 400-173575-6

Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 12:48	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 12:48	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 12:48	5000
Styrene	ND		5000	5000	ug/L			07/30/19 12:48	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 12:48	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 12:48	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 12:48	5000
Toluene	ND		5000	2100	ug/L			07/30/19 12:48	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 12:48	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 12:48	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 12:48	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 12:48	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 12:48	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 12:48	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 12:48	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 12:48	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 12:48	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 12:48	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 12:48	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 12:48	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 12:48	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 12:48*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/30/19 12:48*	*5000*
Dibromofluoromethane	*94*		*81 - 121*		*07/30/19 12:48*	*5000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*07/30/19 12:48*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.30**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Fluorene	**0.38**		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 17:18	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:18	1
1-Methylnaphthalene	**16**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
2-Methylnaphthalene	**21**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1
Phenanthrene	**0.39**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-50-072319-DUP
Lab Sample ID: 400-173575-6
Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*15 - 122*	*07/26/19 16:12*	*08/06/19 17:18*	*1*
Nitrobenzene-d5	*72*		*19 - 130*	*07/26/19 16:12*	*08/06/19 17:18*	*1*
Terphenyl-d14	*67*		*33 - 138*	*07/26/19 16:12*	*08/06/19 17:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.7	3.7	ug/L		07/26/19 16:12	08/03/19 20:15	1
Benzenethiol	ND		9.7	1.7	ug/L		07/26/19 16:12	08/03/19 20:15	1
Benzoic acid	ND		29	7.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/26/19 16:12	08/03/19 20:15	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/26/19 16:12	08/03/19 20:15	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/26/19 16:12	08/03/19 20:15	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/26/19 16:12	08/03/19 20:15	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/26/19 16:12	08/03/19 20:15	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/03/19 20:15	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/26/19 16:12	08/03/19 20:15	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/26/19 16:12	08/03/19 20:15	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		07/26/19 16:12	08/03/19 20:15	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		07/26/19 16:12	08/03/19 20:15	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/26/19 16:12	08/03/19 20:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/26/19 16:12	08/03/19 20:15	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/26/19 16:12	08/03/19 20:15	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/03/19 20:15	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
Indene	ND		9.7	0.97	ug/L		07/26/19 16:12	08/03/19 20:15	1
Isophorone	ND		9.7	0.56	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/26/19 16:12	08/03/19 20:15	1

Client Sample ID: PD-3-GWP-50-072319-DUP
Lab Sample ID: 400-173575-6
Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.54	ug/L		07/26/19 16:12	08/03/19 20:15	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/26/19 16:12	08/03/19 20:15	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/26/19 16:12	08/03/19 20:15	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/26/19 16:12	08/03/19 20:15	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/26/19 16:12	08/03/19 20:15	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/26/19 16:12	08/03/19 20:15	1
Pentachlorophenol	ND		19	1.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
Pyridine	ND		9.7	3.1	ug/L		07/26/19 16:12	08/03/19 20:15	1
Quinoline	ND		9.7	5.8	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/26/19 16:12	08/03/19 20:15	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/03/19 20:15	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*970*	*T J N*	*ug/L*		*2.98*	*71-43-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene	*320*	*T J N*	*ug/L*		*3.50*	*71-43-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Toluene	*110*	*T J N*	*ug/L*		*4.13*	*108-88-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Ethylbenzene	*160*	*T J N*	*ug/L*		*4.85*	*100-41-4*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
p-Xylene	*130*	*T J N*	*ug/L*		*5.07*	*106-42-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, (1-methylethyl)-	*17*	*T J N*	*ug/L*		*5.25*	*98-82-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, propyl-	*23*	*T J N*	*ug/L*		*5.42*	*103-65-1*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-3-methyl-	*58*	*T J N*	*ug/L*		*5.46*	*620-14-4*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,3-trimethyl-	*21*	*T J N*	*ug/L*		*5.48*	*526-73-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,3-trimethyl-	*43*	*T J N*	*ug/L*		*5.57*	*526-73-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,3-trimethyl-	*140*	*T J N*	*ug/L*		*5.66*	*526-73-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*7.6*	*T J*	*ug/L*		*5.73*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,3-trimethyl-	*73*	*T J N*	*ug/L*		*5.81*	*526-73-8*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Indane	*30*	*T J N*	*ug/L*		*5.89*	*496-11-7*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-3,5-dimethyl-	*14*	*T J N*	*ug/L*		*5.95*	*934-74-7*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 2-ethyl-1,4-dimethyl-	*9.1*	*T J N*	*ug/L*		*6.05*	*1758-88-9*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-2,4-dimethyl-	*7.8*	*T J N*	*ug/L*		*6.06*	*874-41-9*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1-ethyl-2,3-dimethyl-	*14*	*T J N*	*ug/L*		*6.09*	*933-98-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Benzene, 1,2,4,5-tetramethyl-	*11*	*T J N*	*ug/L*		*6.27*	*95-93-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*23*	*T J*	*ug/L*		*6.42*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*14*	*T J N*	*ug/L*		*6.50*	*119-64-2*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Naphthalene	*54*	*T J N*	*ug/L*		*6.63*	*91-20-3*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Unknown	*57*	*T J*	*ug/L*		*6.78*		*07/26/19 16:12*	*08/03/19 20:15*	*1*
Naphthalene, 2-methyl-	*22*	*T J N*	*ug/L*		*7.08*	*91-57-6*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Naphthalene, 1-methyl-	*15*	*T J N*	*ug/L*		*7.15*	*90-12-0*	*07/26/19 16:12*	*08/03/19 20:15*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*34 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
2-Fluorophenol	*36*		*10 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Phenol-d5	*58*		*10 - 120*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
Terphenyl-d14	*75*		*53 - 125*	*07/26/19 16:12*	*08/03/19 20:15*	*1*
2,4,6-Tribromophenol	*98*		*15 - 135*	*07/26/19 16:12*	*08/03/19 20:15*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**230**		49	13	ug/L		07/26/19 16:12	08/07/19 20:58	5

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319

Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 13:14	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 13:14	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 13:14	5000
Benzene	**680000**		5000	1900	ug/L			07/30/19 13:14	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 13:14	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 13:14	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 13:14	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 13:14	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 13:14	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 13:14	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 13:14	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 13:14	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 13:14	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 13:14	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 13:14	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 13:14	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:14	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 13:14	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 13:14	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 13:14	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 13:14	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:14	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 13:14	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 13:14	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 13:14	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 13:14	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 13:14	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 13:14	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 13:14	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 13:14	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 13:14	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 13:14	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 13:14	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 13:14	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 13:14	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 13:14	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 13:14	5000

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319

Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 13:14	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 13:14	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 13:14	5000
Styrene	ND		5000	5000	ug/L			07/30/19 13:14	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 13:14	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 13:14	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 13:14	5000
Toluene	ND		5000	2100	ug/L			07/30/19 13:14	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:14	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 13:14	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 13:14	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 13:14	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 13:14	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 13:14	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 13:14	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 13:14	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 13:14	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 13:14	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 13:14	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 13:14	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 13:14	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 13:14*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 13:14*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 13:14*	*5000*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 13:14*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Chrysene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Fluorene	ND		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 17:37	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		07/26/19 16:12	08/06/19 17:37	1
1-Methylnaphthalene	**3.3**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
2-Methylnaphthalene	**4.4**		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1
Phenanthrene	**0.095**	**J**	0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-55-072319

Lab Sample ID: 400-173575-7

Date Collected: 07/23/19 11:50

Matrix: Water

Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*15 - 122*	*07/26/19 16:12*	*08/06/19 17:37*	*1*
Nitrobenzene-d5	*69*		*19 - 130*	*07/26/19 16:12*	*08/06/19 17:37*	*1*
Terphenyl-d14	*72*		*33 - 138*	*07/26/19 16:12*	*08/06/19 17:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.8	3.7	ug/L		07/26/19 16:12	08/05/19 14:18	1
Benzenethiol	ND		9.8	1.7	ug/L		07/26/19 16:12	08/05/19 14:18	1
Benzoic acid	**7.4**	**J**	29	7.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
Benzyl alcohol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		07/26/19 16:12	08/05/19 14:18	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		07/26/19 16:12	08/05/19 14:18	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		07/26/19 16:12	08/05/19 14:18	1
Bis(2-ethylhexyl) phthalate	ND		9.8	4.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		07/26/19 16:12	08/05/19 14:18	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Chloroaniline	ND		9.8	3.3	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Chlorophenol	ND		9.8	2.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
Dibenzofuran	ND		9.8	0.51	ug/L		07/26/19 16:12	08/05/19 14:18	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
Diethyl phthalate	ND		9.8	0.68	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/05/19 14:18	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		07/26/19 16:12	08/05/19 14:18	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		07/26/19 16:12	08/05/19 14:18	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		07/26/19 16:12	08/05/19 14:18	1
1,4-Dioxane	ND		9.8	0.98	ug/L		07/26/19 16:12	08/05/19 14:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		07/26/19 16:12	08/05/19 14:18	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		07/26/19 16:12	08/05/19 14:18	1
Hexachlorocyclopentadiene	ND	*	20	2.5	ug/L		07/26/19 16:12	08/05/19 14:18	1
Hexachloroethane	ND		9.8	4.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
Indene	ND		9.8	0.98	ug/L		07/26/19 16:12	08/05/19 14:18	1
Isophorone	ND		9.8	0.56	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Methylphenol	ND		9.8	1.8	ug/L		07/26/19 16:12	08/05/19 14:18	1
3 & 4 Methylphenol	**1.3**	**J**	20	1.0	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Nitroaniline	ND		9.8	2.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
3-Nitroaniline	ND		9.8	1.8	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Nitroaniline	ND		9.8	2.4	ug/L		07/26/19 16:12	08/05/19 14:18	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-55-072319
Lab Sample ID: 400-173575-7
Date Collected: 07/23/19 11:50
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.8	0.54	ug/L		07/26/19 16:12	08/05/19 14:18	1
2-Nitrophenol	ND		9.8	0.63	ug/L		07/26/19 16:12	08/05/19 14:18	1
4-Nitrophenol	ND		9.8	2.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		07/26/19 16:12	08/05/19 14:18	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		07/26/19 16:12	08/05/19 14:18	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		07/26/19 16:12	08/05/19 14:18	1
Pentachlorophenol	ND		20	1.8	ug/L		07/26/19 16:12	08/05/19 14:18	1
Pyridine	ND		9.8	3.1	ug/L		07/26/19 16:12	08/05/19 14:18	1
Quinoline	ND		9.8	5.9	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		07/26/19 16:12	08/05/19 14:18	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		07/26/19 16:12	08/05/19 14:18	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*1100*	*T J N*	*ug/L*		*2.97*	*71-43-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene	*88*	*T J N*	*ug/L*		*3.33*	*71-43-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Toluene	*53*	*T J N*	*ug/L*		*4.08*	*108-88-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2-Butanone, 4-hydroxy-	*6.6*	*T J N*	*ug/L*		*4.23*	*590-90-9*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Ethylbenzene	*53*	*T J N*	*ug/L*		*4.82*	*100-41-4*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
p-Xylene	*43*	*T J N*	*ug/L*		*5.04*	*106-42-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, (1-methylethyl)-	*4.6*	*T J N*	*ug/L*		*5.23*	*98-82-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, propyl-	*6.0*	*T J N*	*ug/L*		*5.41*	*103-65-1*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1-ethyl-3-methyl-	*14*	*T J N*	*ug/L*		*5.45*	*620-14-4*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1-ethyl-4-methyl-	*12*	*T J N*	*ug/L*		*5.47*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1-ethyl-4-methyl-	*14*	*T J N*	*ug/L*		*5.55*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1,2,3-trimethyl-	*57*	*T J N*	*ug/L*		*5.64*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1,2,3-trimethyl-	*24*	*T J N*	*ug/L*		*5.80*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Indane	*10*	*T J N*	*ug/L*		*5.88*	*496-11-7*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 1,2,4,5-tetramethyl-	*5.9*	*T J N*	*ug/L*		*5.94*	*95-93-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*4.3*	*T J N*	*ug/L*		*6.19*	*934-80-5*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Unknown	*11*	*T J*	*ug/L*		*6.42*		*07/26/19 16:12*	*08/05/19 14:18*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*4.8*	*T J N*	*ug/L*		*6.50*	*119-64-2*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Unknown	*17*	*T J*	*ug/L*		*6.74*		*07/26/19 16:12*	*08/05/19 14:18*	*1*
Naphthalene, 1-methyl-	*5.2*	*T J N*	*ug/L*		*7.08*	*90-12-0*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Naphthalene, 1-methyl-	*4.2*	*T J N*	*ug/L*		*7.15*	*90-12-0*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
n-Hexadecanoic acid	*6.7*	*T J N*	*ug/L*		*9.32*	*57-10-3*	*07/26/19 16:12*	*08/05/19 14:18*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2-Fluorophenol	*39*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Nitrobenzene-d5	*63*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Phenol-d5	*55*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
Terphenyl-d14	*70*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:18*	*1*
2,4,6-Tribromophenol	*102*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**170**		49	13	ug/L		07/26/19 16:12	08/07/19 21:20	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-60-072319

Date Collected: 07/23/19 13:40
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 13:41	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 13:41	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 13:41	5000
Benzene	**650000**		5000	1900	ug/L			07/30/19 13:41	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 13:41	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 13:41	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 13:41	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 13:41	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 13:41	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 13:41	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 13:41	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 13:41	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 13:41	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 13:41	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 13:41	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 13:41	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:41	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 13:41	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 13:41	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 13:41	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 13:41	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:41	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 13:41	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 13:41	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 13:41	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 13:41	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 13:41	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 13:41	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 13:41	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 13:41	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 13:41	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 13:41	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 13:41	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 13:41	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 13:41	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 13:41	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 13:41	5000

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-60-072319
Lab Sample ID: 400-173575-8
Date Collected: 07/23/19 13:40
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 13:41	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 13:41	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 13:41	5000
Styrene	ND		5000	5000	ug/L			07/30/19 13:41	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 13:41	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 13:41	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 13:41	5000
Toluene	ND		5000	2100	ug/L			07/30/19 13:41	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 13:41	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 13:41	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 13:41	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 13:41	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 13:41	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 13:41	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 13:41	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 13:41	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 13:41	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 13:41	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 13:41	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 13:41	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 13:41	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 13:41*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 13:41*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 13:41*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 13:41*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Anthracene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Chrysene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
Fluoranthene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Fluorene	ND		0.19	0.020	ug/L		07/27/19 13:22	08/06/19 18:51	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/27/19 13:22	08/06/19 18:51	1
1-Methylnaphthalene	**1.2**		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
2-Methylnaphthalene	**0.99**		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1
Phenanthrene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-60-072319

Date Collected: 07/23/19 13:40
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-8

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/27/19 13:22	08/06/19 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*15 - 122*	*07/27/19 13:22*	*08/06/19 18:51*	*1*
Nitrobenzene-d5	*58*		*19 - 130*	*07/27/19 13:22*	*08/06/19 18:51*	*1*
Terphenyl-d14	*71*		*33 - 138*	*07/27/19 13:22*	*08/06/19 18:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
Benzoic acid	**12**	**J**	29	7.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/27/19 13:22	08/05/19 15:16	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/27/19 13:22	08/05/19 15:16	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/27/19 13:22	08/05/19 15:16	1
Bis(2-ethylhexyl) phthalate	**9.8**		9.7	4.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/27/19 13:22	08/05/19 15:16	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/27/19 13:22	08/05/19 15:16	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/27/19 13:22	08/05/19 15:16	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/27/19 13:22	08/05/19 15:16	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/27/19 13:22	08/05/19 15:16	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
Di-n-octyl phthalate	**1.3**	**J B**	9.7	0.43	ug/L		07/27/19 13:22	08/05/19 15:16	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/27/19 13:22	08/05/19 15:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/27/19 13:22	08/05/19 15:16	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/27/19 13:22	08/05/19 15:16	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/27/19 13:22	08/05/19 15:16	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
Indene	**5.9**	**J**	9.7	0.97	ug/L		07/27/19 13:22	08/05/19 15:16	1
Isophorone	ND		9.7	0.55	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Methylphenol	ND		9.7	1.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
3 & 4 Methylphenol	**1.5**	**J**	19	1.0	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
3-Nitroaniline	ND		9.7	1.7	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/27/19 13:22	08/05/19 15:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-60-072319

Lab Sample ID: 400-173575-8

Date Collected: 07/23/19 13:40

Matrix: Water

Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/27/19 13:22	08/05/19 15:16	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/27/19 13:22	08/05/19 15:16	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/27/19 13:22	08/05/19 15:16	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/27/19 13:22	08/05/19 15:16	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/27/19 13:22	08/05/19 15:16	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/27/19 13:22	08/05/19 15:16	1
Pentachlorophenol	ND		19	1.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
Phenol	**67**		9.7	2.5	ug/L		07/27/19 13:22	08/05/19 15:16	1
Pyridine	ND		9.7	3.1	ug/L		07/27/19 13:22	08/05/19 15:16	1
Quinoline	ND		9.7	5.8	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/27/19 13:22	08/05/19 15:16	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/27/19 13:22	08/05/19 15:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*38*	*T J N*	*ug/L*		*3.23*	*71-43-2*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
3-Penten-2-one, (E)-	*6.2*	*T J N*	*ug/L*		*3.74*	*3102-33-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Unknown	*6.3*	*T J*	*ug/L*		*3.90*		*07/27/19 13:22*	*08/05/19 15:16*	*1*
Toluene	*340*	*T J N*	*ug/L*		*4.04*	*108-88-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
2-Butanone, 4-hydroxy-	*190*	*T J N*	*ug/L*		*4.21*	*590-90-9*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Ethylbenzene	*200*	*T J N*	*ug/L*		*4.77*	*100-41-4*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Unknown	*4.4*	*T J*	*ug/L*		*4.94*		*07/27/19 13:22*	*08/05/19 15:16*	*1*
o-Xylene	*130*	*T J N*	*ug/L*		*4.98*	*95-47-6*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, (1-methylethyl)-	*17*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, propyl-	*32*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1-ethyl-2-methyl-	*24*	*T J N*	*ug/L*		*5.38*	*611-14-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1-ethyl-2-methyl-	*35*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1,3,5-trimethyl-	*50*	*T J N*	*ug/L*		*5.48*	*108-67-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1,2,4-trimethyl-	*140*	*T J N*	*ug/L*		*5.57*	*95-63-6*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 1,3,5-trimethyl-	*52*	*T J N*	*ug/L*		*5.72*	*108-67-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Indane	*59*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*7.2*	*T J N*	*ug/L*		*6.00*	*934-80-5*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Unknown	*4.8*	*T J*	*ug/L*		*6.10*		*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*13*	*T J N*	*ug/L*		*6.33*	*2039-89-6*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Naphthalene	*41*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Benzo[b]thiophene	*6.1*	*T J N*	*ug/L*		*6.56*	*95-15-8*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Unknown	*18*	*T J*	*ug/L*		*6.64*		*07/27/19 13:22*	*08/05/19 15:16*	*1*
Unknown	*8.3*	*T J*	*ug/L*		*6.89*		*07/27/19 13:22*	*08/05/19 15:16*	*1*
n-Hexadecanoic acid	*16*	*T J N*	*ug/L*		*9.21*	*57-10-3*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Trichloroacetic acid, hexadecyl ester	*6.0*	*T J N*	*ug/L*		*11.02*	*74339-54-1*	*07/27/19 13:22*	*08/05/19 15:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*34 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
2-Fluorophenol	*23*		*10 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Nitrobenzene-d5	*60*		*27 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Phenol-d5	*46*		*10 - 120*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
Terphenyl-d14	*66*		*53 - 125*	*07/27/19 13:22*	*08/05/19 15:16*	*1*
2,4,6-Tribromophenol	*77*		*15 - 135*	*07/27/19 13:22*	*08/05/19 15:16*	*1*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-65-072319

Date Collected: 07/23/19 14:35
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 19:25	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 19:25	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 19:25	5000
Benzene	**880000**		5000	1900	ug/L			07/30/19 19:25	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 19:25	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 19:25	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 19:25	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 19:25	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 19:25	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 19:25	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 19:25	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 19:25	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 19:25	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 19:25	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 19:25	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 19:25	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:25	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 19:25	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 19:25	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 19:25	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 19:25	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:25	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 19:25	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 19:25	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 19:25	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 19:25	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 19:25	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 19:25	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 19:25	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 19:25	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 19:25	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 19:25	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 19:25	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 19:25	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 19:25	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 19:25	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 19:25	5000

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-65-072319
Lab Sample ID: 400-173575-9
Date Collected: 07/23/19 14:35
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 19:25	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 19:25	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 19:25	5000
Styrene	ND		5000	5000	ug/L			07/30/19 19:25	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 19:25	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 19:25	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 19:25	5000
Toluene	ND		5000	2100	ug/L			07/30/19 19:25	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:25	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 19:25	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 19:25	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 19:25	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 19:25	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 19:25	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 19:25	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 19:25	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 19:25	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 19:25	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 19:25	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 19:25	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 19:25	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 19:25*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*07/30/19 19:25*	*5000*
Dibromofluoromethane	*97*		*81 - 121*		*07/30/19 19:25*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 19:25*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 17:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 17:57	1
1-Methylnaphthalene	**0.48**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
2-Methylnaphthalene	**0.55**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-65-072319

Lab Sample ID: 400-173575-9

Date Collected: 07/23/19 14:35

Matrix: Water

Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*15 - 122*	*07/26/19 16:12*	*08/06/19 17:57*	*1*
Nitrobenzene-d5	*70*		*19 - 130*	*07/26/19 16:12*	*08/06/19 17:57*	*1*
Terphenyl-d14	*68*		*33 - 138*	*07/26/19 16:12*	*08/06/19 17:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.6	3.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
Benzenethiol	ND	*	9.6	1.6	ug/L		07/26/19 16:12	08/05/19 13:50	1
Benzoic acid	**16**	**J**	29	7.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
Benzyl alcohol	**3.3**	**J**	9.6	1.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Bis(2-chloroethoxy)methane	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 13:50	1
Bis(2-chloroethyl)ether	ND		9.6	0.71	ug/L		07/26/19 16:12	08/05/19 13:50	1
bis (2-chloroisopropyl) ether	ND		9.6	0.78	ug/L		07/26/19 16:12	08/05/19 13:50	1
Bis(2-ethylhexyl) phthalate	ND		9.6	4.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Bromophenyl phenyl ether	ND		9.6	0.31	ug/L		07/26/19 16:12	08/05/19 13:50	1
Butyl benzyl phthalate	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Chloroaniline	ND		9.6	3.3	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Chloro-3-methylphenol	ND		9.6	3.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Chloronaphthalene	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Chlorophenol	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Chlorophenyl phenyl ether	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Dibenz[a,h]acridine	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Dibenzofuran	ND		9.6	0.50	ug/L		07/26/19 16:12	08/05/19 13:50	1
3,3'-Dichlorobenzidine	ND		9.6	2.5	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dichlorophenol	ND		9.6	2.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
Diethyl phthalate	ND		9.6	0.67	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dimethylphenol	ND		9.6	3.4	ug/L		07/26/19 16:12	08/05/19 13:50	1
Dimethyl phthalate	ND		9.6	0.58	ug/L		07/26/19 16:12	08/05/19 13:50	1
Di-n-butyl phthalate	ND		9.6	2.6	ug/L		07/26/19 16:12	08/05/19 13:50	1
4,6-Dinitro-ortho-cresol	ND		9.6	1.9	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,6-Dinitrotoluene	ND		9.6	1.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
Di-n-octyl phthalate	**2.0**	**J B**	9.6	0.42	ug/L		07/26/19 16:12	08/05/19 13:50	1
1,4-Dioxane	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 13:50	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	0.96	ug/L		07/26/19 16:12	08/05/19 13:50	1
Hexachlorobenzene	ND		9.6	0.24	ug/L		07/26/19 16:12	08/05/19 13:50	1
Hexachlorocyclopentadiene	ND	*	19	2.5	ug/L		07/26/19 16:12	08/05/19 13:50	1
Hexachloroethane	ND		9.6	4.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
Indene	**2.4**	**J**	9.6	0.96	ug/L		07/26/19 16:12	08/05/19 13:50	1
Isophorone	ND		9.6	0.55	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Methylphenol	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
3 & 4 Methylphenol	**2.8**	**J**	19	1.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Nitroaniline	ND		9.6	2.1	ug/L		07/26/19 16:12	08/05/19 13:50	1
3-Nitroaniline	ND		9.6	1.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Nitroaniline	ND		9.6	2.4	ug/L		07/26/19 16:12	08/05/19 13:50	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-65-072319
Lab Sample ID: 400-173575-9
Date Collected: 07/23/19 14:35
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.6	0.53	ug/L		07/26/19 16:12	08/05/19 13:50	1
2-Nitrophenol	ND		9.6	0.63	ug/L		07/26/19 16:12	08/05/19 13:50	1
4-Nitrophenol	ND		9.6	2.0	ug/L		07/26/19 16:12	08/05/19 13:50	1
N-Nitrosodimethylamine	ND		9.6	3.4	ug/L		07/26/19 16:12	08/05/19 13:50	1
N-Nitrosodi-n-propylamine	ND		9.6	3.2	ug/L		07/26/19 16:12	08/05/19 13:50	1
N-Nitrosodiphenylamine	ND		9.6	0.45	ug/L		07/26/19 16:12	08/05/19 13:50	1
Pentachlorophenol	ND		19	1.7	ug/L		07/26/19 16:12	08/05/19 13:50	1
Pyridine	ND		9.6	3.1	ug/L		07/26/19 16:12	08/05/19 13:50	1
Quinoline	ND		9.6	5.8	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4,5-Trichlorophenol	ND		9.6	3.6	ug/L		07/26/19 16:12	08/05/19 13:50	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		07/26/19 16:12	08/05/19 13:50	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
2-Butenedinitrile, (E)-	*110*	*T J N*	*ug/L*		*3.27*	*764-42-1*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Toluene	*190*	*T J N*	*ug/L*		*4.03*	*108-88-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2-Butanone, 4-hydroxy-	*28*	*T J N*	*ug/L*		*4.16*	*590-90-9*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Ethylbenzene	*210*	*T J N*	*ug/L*		*4.76*	*100-41-4*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
o-Xylene	*59*	*T J N*	*ug/L*		*4.98*	*95-47-6*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, (1-methylethyl)-	*14*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, propyl-	*22*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1-ethyl-2-methyl-	*18*	*T J N*	*ug/L*		*5.39*	*611-14-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1-ethyl-4-methyl-	*40*	*T J N*	*ug/L*		*5.48*	*622-96-8*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1,2,4-trimethyl-	*110*	*T J N*	*ug/L*		*5.56*	*95-63-6*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2-Cyclopenten-1-one, 2,3-dimethyl-	*5.3*	*T J N*	*ug/L*		*5.76*	*1121-05-7*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Indane	*59*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*6.1*	*T J N*	*ug/L*		*6.00*	*934-80-5*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzene, 1-ethenyl-4-ethyl-	*7.5*	*T J N*	*ug/L*		*6.33*	*3454-07-7*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Naphthalene	*29*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Benzo[b]thiophene	*5.9*	*T J N*	*ug/L*		*6.56*	*95-15-8*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
1H-Benzotriazole, 5-methyl-	*19*	*T J N*	*ug/L*		*7.98*	*136-85-6*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
n-Hexadecanoic acid	*15*	*T J N*	*ug/L*		*9.21*	*57-10-3*	*07/26/19 16:12*	*08/05/19 13:50*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*34 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2-Fluorophenol	*49*		*10 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Nitrobenzene-d5	*75*		*27 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Phenol-d5	*64*		*10 - 120*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
Terphenyl-d14	*69*		*53 - 125*	*07/26/19 16:12*	*08/05/19 13:50*	*1*
2,4,6-Tribromophenol	*107*		*15 - 135*	*07/26/19 16:12*	*08/05/19 13:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	**150**		48	13	ug/L		07/26/19 16:12	08/07/19 21:41	5

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-71-072319

Date Collected: 07/23/19 15:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			07/30/19 19:51	5000
Acrolein	ND		100000	50000	ug/L			07/30/19 19:51	5000
Acrylonitrile	ND		50000	14000	ug/L			07/30/19 19:51	5000
Benzene	**1200000**		5000	1900	ug/L			07/30/19 19:51	5000
Bromobenzene	ND		5000	2700	ug/L			07/30/19 19:51	5000
Bromochloromethane	ND		5000	2600	ug/L			07/30/19 19:51	5000
Bromodichloromethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
Bromoform	ND		25000	3600	ug/L			07/30/19 19:51	5000
Bromomethane	ND		5000	4900	ug/L			07/30/19 19:51	5000
2-Butanone (MEK)	ND		130000	13000	ug/L			07/30/19 19:51	5000
Carbon disulfide	ND		5000	2500	ug/L			07/30/19 19:51	5000
Carbon tetrachloride	ND		5000	2500	ug/L			07/30/19 19:51	5000
Chlorobenzene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Chloroethane	ND		5000	3800	ug/L			07/30/19 19:51	5000
2-Chloroethyl vinyl ether	ND		25000	10000	ug/L			07/30/19 19:51	5000
Chloroform	ND		5000	3000	ug/L			07/30/19 19:51	5000
1-Chlorohexane	ND		5000	3500	ug/L			07/30/19 19:51	5000
Chloromethane	ND		5000	4200	ug/L			07/30/19 19:51	5000
cis-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
cis-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:51	5000
Dibromochloromethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,2-Dibromo-3-Chloropropane	ND		25000	7500	ug/L			07/30/19 19:51	5000
1,2-Dichlorobenzene	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,3-Dichlorobenzene	ND		5000	2700	ug/L			07/30/19 19:51	5000
1,4-Dichlorobenzene	ND		5000	3200	ug/L			07/30/19 19:51	5000
Dichlorodifluoromethane	ND		5000	4300	ug/L			07/30/19 19:51	5000
1,1-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,2-Dichloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,1-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,3-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:51	5000
2,2-Dichloropropane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,1-Dichloropropene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Ethylbenzene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Ethylene Dibromide	ND		5000	2500	ug/L			07/30/19 19:51	5000
Ethyl methacrylate	ND		5000	3000	ug/L			07/30/19 19:51	5000
Hexachlorobutadiene	ND		25000	4500	ug/L			07/30/19 19:51	5000
2-Hexanone	ND		130000	16000	ug/L			07/30/19 19:51	5000
Isopropylbenzene	ND		5000	2700	ug/L			07/30/19 19:51	5000
Methylene bromide	ND		25000	3000	ug/L			07/30/19 19:51	5000
Methylene Chloride	ND		25000	15000	ug/L			07/30/19 19:51	5000
4-Methyl-2-pentanone (MIBK)	ND		130000	9000	ug/L			07/30/19 19:51	5000
Methyl tert-butyl ether	ND		5000	3700	ug/L			07/30/19 19:51	5000
m-Xylene & p-Xylene	ND		25000	8000	ug/L			07/30/19 19:51	5000
Naphthalene	ND		5000	5000	ug/L			07/30/19 19:51	5000
n-Butylbenzene	ND		5000	3800	ug/L			07/30/19 19:51	5000
N-Propylbenzene	ND		5000	3500	ug/L			07/30/19 19:51	5000
o-Chlorotoluene	ND		5000	2900	ug/L			07/30/19 19:51	5000
o-Xylene	ND		25000	3000	ug/L			07/30/19 19:51	5000

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-71-072319
Lab Sample ID: 400-173575-10
Date Collected: 07/23/19 15:30
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		5000	2800	ug/L			07/30/19 19:51	5000
p-Isopropyltoluene	ND		5000	3600	ug/L			07/30/19 19:51	5000
sec-Butylbenzene	ND		5000	3500	ug/L			07/30/19 19:51	5000
Styrene	ND		5000	5000	ug/L			07/30/19 19:51	5000
tert-Butylbenzene	ND		5000	3200	ug/L			07/30/19 19:51	5000
1,1,1,2-Tetrachloroethane	ND		5000	2600	ug/L			07/30/19 19:51	5000
1,1,2,2-Tetrachloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
Tetrachloroethene	ND		5000	2900	ug/L			07/30/19 19:51	5000
Toluene	ND		5000	2100	ug/L			07/30/19 19:51	5000
trans-1,2-Dichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
trans-1,3-Dichloropropene	ND		25000	2500	ug/L			07/30/19 19:51	5000
1,2,3-Trichlorobenzene	ND		5000	3500	ug/L			07/30/19 19:51	5000
1,2,4-Trichlorobenzene	ND		5000	4100	ug/L			07/30/19 19:51	5000
1,1,1-Trichloroethane	ND		5000	2500	ug/L			07/30/19 19:51	5000
1,1,2-Trichloroethane	ND		25000	2500	ug/L			07/30/19 19:51	5000
Trichloroethene	ND		5000	2500	ug/L			07/30/19 19:51	5000
Trichlorofluoromethane	ND		5000	2600	ug/L			07/30/19 19:51	5000
1,2,3-Trichloropropane	ND		25000	4200	ug/L			07/30/19 19:51	5000
1,2,4-Trimethylbenzene	ND		5000	4100	ug/L			07/30/19 19:51	5000
1,3,5-Trimethylbenzene	ND		5000	2800	ug/L			07/30/19 19:51	5000
Vinyl acetate	ND		130000	10000	ug/L			07/30/19 19:51	5000
Vinyl chloride	ND		5000	2500	ug/L			07/30/19 19:51	5000
Xylenes, Total	ND		50000	8000	ug/L			07/30/19 19:51	5000

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 19:51*	*5000*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 19:51*	*5000*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 19:51*	*5000*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 19:51*	*5000*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Chrysene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 18:16	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		07/26/19 16:12	08/06/19 18:16	1
1-Methylnaphthalene	**1.2**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
2-Methylnaphthalene	**0.78**		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Client Sample ID: PD-3-GWP-71-072319

Date Collected: 07/23/19 15:30
Date Received: 07/24/19 08:59

Lab Sample ID: 400-173575-10

Matrix: Water

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*60*		*15 - 122*	*07/26/19 16:12*	*08/06/19 18:16*	*1*
Nitrobenzene-d5	*68*		*19 - 130*	*07/26/19 16:12*	*08/06/19 18:16*	*1*
Terphenyl-d14	*124*		*33 - 138*	*07/26/19 16:12*	*08/06/19 18:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:12	1
Benzenethiol	ND	*	9.7	1.7	ug/L		07/26/19 16:12	08/05/19 14:12	1
Benzoic acid	**8.3**	**J**	29	7.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
Benzyl alcohol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:12	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		07/26/19 16:12	08/05/19 14:12	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		07/26/19 16:12	08/05/19 14:12	1
Bis(2-ethylhexyl) phthalate	ND		9.7	4.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		07/26/19 16:12	08/05/19 14:12	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Chloroaniline	ND		9.7	3.3	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Chlorophenol	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Dibenzofuran	ND		9.7	0.51	ug/L		07/26/19 16:12	08/05/19 14:12	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
Diethyl phthalate	ND		9.7	0.68	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:12	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		07/26/19 16:12	08/05/19 14:12	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		07/26/19 16:12	08/05/19 14:12	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
Di-n-octyl phthalate	**2.5**	**J B**	9.7	0.43	ug/L		07/26/19 16:12	08/05/19 14:12	1
1,4-Dioxane	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:12	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		07/26/19 16:12	08/05/19 14:12	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/26/19 16:12	08/05/19 14:12	1
Hexachloroethane	ND		9.7	4.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
Indene	**3.1**	**J**	9.7	0.97	ug/L		07/26/19 16:12	08/05/19 14:12	1
Isophorone	ND		9.7	0.55	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Methylphenol	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
3 & 4 Methylphenol	**2.5**	**J**	19	1.0	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Nitroaniline	ND		9.7	2.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
3-Nitroaniline	ND		9.7	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Nitroaniline	ND		9.7	2.4	ug/L		07/26/19 16:12	08/05/19 14:12	1

Client Sample ID: PD-3-GWP-71-072319
Lab Sample ID: 400-173575-10
Date Collected: 07/23/19 15:30
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.7	0.53	ug/L		07/26/19 16:12	08/05/19 14:12	1
2-Nitrophenol	ND		9.7	0.63	ug/L		07/26/19 16:12	08/05/19 14:12	1
4-Nitrophenol	ND		9.7	2.0	ug/L		07/26/19 16:12	08/05/19 14:12	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:12	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		07/26/19 16:12	08/05/19 14:12	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		07/26/19 16:12	08/05/19 14:12	1
Pentachlorophenol	ND		19	1.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
Phenol	**89**		9.7	2.5	ug/L		07/26/19 16:12	08/05/19 14:12	1
Pyridine	ND		9.7	3.1	ug/L		07/26/19 16:12	08/05/19 14:12	1
Quinoline	ND		9.7	5.8	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		07/26/19 16:12	08/05/19 14:12	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		07/26/19 16:12	08/05/19 14:12	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Benzene	*93*	*T J N*	*ug/L*		*3.28*	*71-43-2*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Toluene	*300*	*T J N*	*ug/L*		*4.04*	*108-88-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Cyclopentanol, 1-methyl-	*5.0*	*T J N*	*ug/L*		*4.23*	*1462-03-9*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Ethylbenzene	*180*	*T J N*	*ug/L*		*4.76*	*100-41-4*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
p-Xylene	*67*	*T J N*	*ug/L*		*4.98*	*106-42-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, (1-methylethyl)-	*11*	*T J N*	*ug/L*		*5.16*	*98-82-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, propyl-	*24*	*T J N*	*ug/L*		*5.34*	*103-65-1*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1-ethyl-4-methyl-	*14*	*T J N*	*ug/L*		*5.39*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1-ethyl-4-methyl-	*36*	*T J N*	*ug/L*		*5.48*	*622-96-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1,2,3-trimethyl-	*96*	*T J N*	*ug/L*		*5.56*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1,2,3-trimethyl-	*23*	*T J N*	*ug/L*		*5.72*	*526-73-8*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Indane	*47*	*T J N*	*ug/L*		*5.80*	*496-11-7*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 4-ethyl-1,2-dimethyl-	*11*	*T J N*	*ug/L*		*6.00*	*934-80-5*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 1,2,3,4-tetramethyl-	*4.4*	*T J N*	*ug/L*		*6.16*	*488-23-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Benzene, 2-ethenyl-1,4-dimethyl-	*14*	*T J N*	*ug/L*		*6.33*	*2039-89-6*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Unknown	*7.7*	*T J*	*ug/L*		*6.36*		*07/26/19 16:12*	*08/05/19 14:12*	*1*
Naphthalene, 1,2,3,4-tetrahydro-	*4.1*	*T J N*	*ug/L*		*6.41*	*119-64-2*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Naphthalene	*36*	*T J N*	*ug/L*		*6.53*	*91-20-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Propanedioic acid, phenyl-	*18*	*T J N*	*ug/L*		*6.65*	*2613-89-0*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Unknown	*9.2*	*T J*	*ug/L*		*6.79*		*07/26/19 16:12*	*08/05/19 14:12*	*1*
Unknown	*4.5*	*T J*	*ug/L*		*7.10*		*07/26/19 16:12*	*08/05/19 14:12*	*1*
Unknown	*6.2*	*T J*	*ug/L*		*7.41*		*07/26/19 16:12*	*08/05/19 14:12*	*1*
Unknown	*7.1*	*T J*	*ug/L*		*8.03*		*07/26/19 16:12*	*08/05/19 14:12*	*1*
n-Hexadecanoic acid	*17*	*T J N*	*ug/L*		*9.21*	*57-10-3*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Unknown	*9.6*	*T J*	*ug/L*		*12.09*		*07/26/19 16:12*	*08/05/19 14:12*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
2-Fluorophenol	*53*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Nitrobenzene-d5	*69*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Phenol-d5	*61*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
Terphenyl-d14	*59*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:12*	*1*
2,4,6-Tribromophenol	*95*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:12*	*1*

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-50-072319-EB
Lab Sample ID: 400-173575-11

Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 16:20	1
Acrolein	ND		20	10	ug/L			07/30/19 16:20	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 16:20	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 16:20	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 16:20	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 16:20	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 16:20	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 16:20	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 16:20	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 16:20	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 16:20	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 16:20	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 16:20	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 16:20	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 16:20	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 16:20	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 16:20	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 16:20	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 16:20	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 16:20	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 16:20	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 16:20	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 16:20	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 16:20	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 16:20	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 16:20	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 16:20	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 16:20	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 16:20	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 16:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 16:20	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 16:20	1
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 16:20	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-50-072319-EB
Lab Sample ID: 400-173575-11
Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 16:20	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 16:20	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 16:20	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 16:20	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 16:20	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 16:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 16:20	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 16:20	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 16:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 16:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 16:20	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 16:20	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 16:20	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 16:20	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 16:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 16:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 16:20	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 16:20	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 16:20	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 16:20	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 16:20*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 16:20*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*07/30/19 16:20*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/30/19 16:20*	*1*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Acenaphthylene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Anthracene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[a]anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[a]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[b]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[g,h,i]perylene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Benzo[k]fluoranthene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Chrysene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Dibenz(a,h)anthracene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
Fluoranthene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Fluorene	ND		0.19	0.020	ug/L		07/26/19 16:12	08/06/19 18:35	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.038	ug/L		07/26/19 16:12	08/06/19 18:35	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1
Phenanthrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1

Client Sample ID: PD-3-GWP-50-072319-EB
Lab Sample ID: 400-173575-11
Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.19	0.019	ug/L		07/26/19 16:12	08/06/19 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*15 - 122*	*07/26/19 16:12*	*08/06/19 18:35*	*1*
Nitrobenzene-d5	*77*		*19 - 130*	*07/26/19 16:12*	*08/06/19 18:35*	*1*
Terphenyl-d14	*99*		*33 - 138*	*07/26/19 16:12*	*08/06/19 18:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.5	3.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
Benzenethiol	ND	*	9.5	1.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
Benzoic acid	ND		29	6.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Benzyl alcohol	ND		9.5	1.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Bis(2-chloroethoxy)methane	ND		9.5	0.66	ug/L		07/26/19 16:12	08/05/19 14:33	1
Bis(2-chloroethyl)ether	ND		9.5	0.70	ug/L		07/26/19 16:12	08/05/19 14:33	1
bis (2-chloroisopropyl) ether	ND		9.5	0.77	ug/L		07/26/19 16:12	08/05/19 14:33	1
Bis(2-ethylhexyl) phthalate	ND		9.5	4.8	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Bromophenyl phenyl ether	ND		9.5	0.30	ug/L		07/26/19 16:12	08/05/19 14:33	1
Butyl benzyl phthalate	ND		9.5	0.66	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Chloroaniline	ND		9.5	3.2	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Chloro-3-methylphenol	ND		9.5	3.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Chloronaphthalene	ND		9.5	0.49	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Chlorophenol	ND		9.5	2.1	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Chlorophenyl phenyl ether	ND		9.5	1.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Dibenz[a,h]acridine	ND		9.5	2.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Dibenzofuran	ND		9.5	0.49	ug/L		07/26/19 16:12	08/05/19 14:33	1
3,3'-Dichlorobenzidine	ND		9.5	2.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dichlorophenol	ND		9.5	2.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
Diethyl phthalate	ND		9.5	0.67	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dimethylphenol	ND		9.5	3.3	ug/L		07/26/19 16:12	08/05/19 14:33	1
Dimethyl phthalate	ND		9.5	0.57	ug/L		07/26/19 16:12	08/05/19 14:33	1
Di-n-butyl phthalate	ND		9.5	2.6	ug/L		07/26/19 16:12	08/05/19 14:33	1
4,6-Dinitro-ortho-cresol	ND		9.5	1.9	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dinitrophenol	ND		29	3.2	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4-Dinitrotoluene	ND		9.5	1.8	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,6-Dinitrotoluene	ND		9.5	1.8	ug/L		07/26/19 16:12	08/05/19 14:33	1
Di-n-octyl phthalate	**1.2**	**J B**	9.5	0.42	ug/L		07/26/19 16:12	08/05/19 14:33	1
1,4-Dioxane	ND		9.5	0.95	ug/L		07/26/19 16:12	08/05/19 14:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.5	0.95	ug/L		07/26/19 16:12	08/05/19 14:33	1
Hexachlorobenzene	ND		9.5	0.24	ug/L		07/26/19 16:12	08/05/19 14:33	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
Hexachloroethane	ND		9.5	4.0	ug/L		07/26/19 16:12	08/05/19 14:33	1
Indene	ND		9.5	0.95	ug/L		07/26/19 16:12	08/05/19 14:33	1
Isophorone	ND		9.5	0.54	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Methylphenol	ND		9.5	1.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
3 & 4 Methylphenol	ND		19	0.99	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Nitroaniline	ND		9.5	2.1	ug/L		07/26/19 16:12	08/05/19 14:33	1
3-Nitroaniline	ND		9.5	1.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Nitroaniline	ND		9.5	2.4	ug/L		07/26/19 16:12	08/05/19 14:33	1

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Client Sample ID: PD-3-GWP-50-072319-EB
Lab Sample ID: 400-173575-11

Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.5	0.52	ug/L		07/26/19 16:12	08/05/19 14:33	1
2-Nitrophenol	ND		9.5	0.62	ug/L		07/26/19 16:12	08/05/19 14:33	1
4-Nitrophenol	ND		9.5	2.0	ug/L		07/26/19 16:12	08/05/19 14:33	1
N-Nitrosodimethylamine	ND		9.5	3.3	ug/L		07/26/19 16:12	08/05/19 14:33	1
N-Nitrosodi-n-propylamine	ND		9.5	3.1	ug/L		07/26/19 16:12	08/05/19 14:33	1
N-Nitrosodiphenylamine	ND		9.5	0.45	ug/L		07/26/19 16:12	08/05/19 14:33	1
Pentachlorophenol	ND		19	1.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
Phenol	ND		9.5	2.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
Pyridine	ND		9.5	3.0	ug/L		07/26/19 16:12	08/05/19 14:33	1
Quinoline	ND		9.5	5.7	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4,5-Trichlorophenol	ND		9.5	3.5	ug/L		07/26/19 16:12	08/05/19 14:33	1
2,4,6-Trichlorophenol	ND		9.5	3.3	ug/L		07/26/19 16:12	08/05/19 14:33	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
5-Eicosene, (E)-	*4.2*	*T J N*	*ug/L*		*11.02*	*74685-30-6*	*07/26/19 16:12*	*08/05/19 14:33*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*34 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
2-Fluorophenol	*25*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
Nitrobenzene-d5	*70*		*27 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
Phenol-d5	*52*		*10 - 120*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
Terphenyl-d14	*84*		*53 - 125*	*07/26/19 16:12*	*08/05/19 14:33*	*1*
2,4,6-Tribromophenol	*72*		*15 - 135*	*07/26/19 16:12*	*08/05/19 14:33*	*1*

Definitions/Glossary

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(78-118)	(81-121)	(80-120)
400-173575-1	TB-PW-072319-B	96	96	102
400-173575-1	TB-PW-072319-B	98	98	101
400-173575-2	PD-7-GWP-55-072319	97	96	100
400-173575-3	PD-7-GWP-55-072319-EB	100	95	101
400-173575-3	PD-7-GWP-55-072319-EB	99	98	101
400-173575-4	PD-3-GWP-45-072319	96	94	100
400-173575-5	PD-3-GWP-50-072319	97	94	102
400-173575-6	PD-3-GWP-50-072319-DUP	98	94	102
400-173575-7	PD-3-GWP-55-072319	97	96	100
400-173575-8	PD-3-GWP-60-072319	97	96	101
400-173575-9	PD-3-GWP-65-072319	98	97	101
400-173575-10	PD-3-GWP-71-072319	97	96	101
400-173575-11	PD-3-GWP-50-072319-EB	97	96	100
LCS 400-449979/1002	Lab Control Sample	98	97	100
LCS 400-450148/1002	Lab Control Sample	98	96	99
MB 400-449979/4	Method Blank	97	97	101
MB 400-450148/4	Method Blank	99	97	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-120)	(10-120)	(27-120)	(10-120)	(53-125)	(15-135)
400-173575-2	PD-7-GWP-55-072319	60	27	59	41	55	75
400-173575-3	PD-7-GWP-55-072319-EB	69	37	70	52	85	65
400-173575-4	PD-3-GWP-45-072319	68	25	68	45	56	71
400-173575-5	PD-3-GWP-50-072319	81	0 X	69	63	69	100
400-173575-6	PD-3-GWP-50-072319-DUP	81	36	69	58	75	98
400-173575-7	PD-3-GWP-55-072319	80	39	63	55	70	102
400-173575-8	PD-3-GWP-60-072319	73	23	60	46	66	77
400-173575-9	PD-3-GWP-65-072319	77	49	75	64	69	107
400-173575-10	PD-3-GWP-71-072319	70	53	69	61	59	95
400-173575-11	PD-3-GWP-50-072319-EB	70	25	70	52	84	72
LCS 400-449716/14-A	Lab Control Sample	72	61	71	69	83	69
LCS 400-449716/2-A	Lab Control Sample	64	44	63	56	70	65
LCSD 400-449716/15-A	Lab Control Sample Dup	78	64	78	75	93	75
LCSD 400-449716/3-A	Lab Control Sample Dup	78	35	80	59	82	73
MB 400-449716/1-A	Method Blank	80	9 X	81	26	96	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: AECOM Technical Services Inc.
Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(15-122)	(19-130)	(33-138)
400-173575-2	PD-7-GWP-55-072319	58	65	60
400-173575-3	PD-7-GWP-55-072319-EB	72	77	104
400-173575-4	PD-3-GWP-45-072319	76	75	68
400-173575-5	PD-3-GWP-50-072319	70	75	64
400-173575-6	PD-3-GWP-50-072319-DUP	69	72	67
400-173575-7	PD-3-GWP-55-072319	70	69	72
400-173575-8	PD-3-GWP-60-072319	77	58	71
400-173575-9	PD-3-GWP-65-072319	65	70	68
400-173575-10	PD-3-GWP-71-072319	60	68	124
400-173575-11	PD-3-GWP-50-072319-EB	79	77	99
LCS 400-449716/2-A	Lab Control Sample	63	68	71
LCSD 400-449716/3-A	Lab Control Sample Dup	74	78	82
MB 400-449716/1-A	Method Blank	84	84	116

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHL = Terphenyl-d14

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Client Sample ID: TB-PW-072319-B
Lab Sample ID: 400-173575-1
Date Collected: 07/23/19 00:00
Matrix: Water
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 15:27	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 11:38	WPD	TAL PEN

Client Sample ID: PD-7-GWP-55-072319
Lab Sample ID: 400-173575-2
Date Collected: 07/23/19 08:30
Matrix: Water
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	5 mL	5 mL	449979	07/30/19 20:17	RS	TAL PEN
Total/NA	Prep	3520C			998.8 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450897	08/05/19 11:42	VC1	TAL PEN
Total/NA	Prep	3520C	DL		998.8 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 20:16	VC1	TAL PEN
Total/NA	Prep	3520C			998.8 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:02	KJA	TAL PEN

Client Sample ID: PD-7-GWP-55-072319-EB
Lab Sample ID: 400-173575-3
Date Collected: 07/23/19 09:00
Matrix: Water
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 15:53	RS	TAL PEN
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 12:04	WPD	TAL PEN
Total/NA	Prep	3520C			1046.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 15:37	VC1	TAL PEN
Total/NA	Prep	3520C			1046.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:21	KJA	TAL PEN

Client Sample ID: PD-3-GWP-45-072319
Lab Sample ID: 400-173575-4
Date Collected: 07/23/19 10:10
Matrix: Water
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	449979	07/30/19 11:28	RS	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450897	08/05/19 14:55	VC1	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:39	KJA	TAL PEN

Client Sample ID: PD-3-GWP-50-072319
Lab Sample ID: 400-173575-5
Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 12:21	RS	TAL PEN

Client Sample ID: PD-3-GWP-50-072319

Lab Sample ID: 400-173575-5
Matrix: Water
Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		1020.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 20:37	VC1	TAL PEN
Total/NA	Prep	3520C			1020.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450762	08/03/19 19:51	VC1	TAL PEN
Total/NA	Prep	3520C			1020.6 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 16:58	KJA	TAL PEN

Client Sample ID: PD-3-GWP-50-072319-DUP

Lab Sample ID: 400-173575-6
Matrix: Water
Date Collected: 07/23/19 10:55
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 12:48	RS	TAL PEN
Total/NA	Prep	3520C	DL		1027 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 20:58	VC1	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450762	08/03/19 20:15	VC1	TAL PEN
Total/NA	Prep	3520C			1027 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 17:18	KJA	TAL PEN

Client Sample ID: PD-3-GWP-55-072319

Lab Sample ID: 400-173575-7
Matrix: Water
Date Collected: 07/23/19 11:50
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 13:14	RS	TAL PEN
Total/NA	Prep	3520C	DL		1024.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 21:20	VC1	TAL PEN
Total/NA	Prep	3520C			1024.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450993	08/05/19 14:18	VC1	TAL PEN
Total/NA	Prep	3520C			1024.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 17:37	KJA	TAL PEN

Client Sample ID: PD-3-GWP-60-072319

Lab Sample ID: 400-173575-8
Matrix: Water
Date Collected: 07/23/19 13:40
Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 13:41	RS	TAL PEN
Total/NA	Prep	3520C			1029 mL	1 mL	449716	07/27/19 13:22	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450897	08/05/19 15:16	VC1	TAL PEN
Total/NA	Prep	3520C			1029 mL	1 mL	449716	07/27/19 13:22	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 18:51	KJA	TAL PEN

Client Sample ID: PD-3-GWP-65-072319

Lab Sample ID: 400-173575-9

Date Collected: 07/23/19 14:35

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 19:25	RS	TAL PEN
Total/NA	Prep	3520C			1037.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 13:50	VC1	TAL PEN
Total/NA	Prep	3520C	DL		1037.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D	DL	5			451290	08/07/19 21:41	VC1	TAL PEN
Total/NA	Prep	3520C			1037.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 17:57	KJA	TAL PEN

Client Sample ID: PD-3-GWP-71-072319

Lab Sample ID: 400-173575-10

Date Collected: 07/23/19 15:30

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5000	5 mL	5 mL	449979	07/30/19 19:51	RS	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450897	08/05/19 14:12	VC1	TAL PEN
Total/NA	Prep	3520C			1028.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 18:16	KJA	TAL PEN

Client Sample ID: PD-3-GWP-50-072319-EB

Lab Sample ID: 400-173575-11

Date Collected: 07/23/19 09:00

Matrix: Water

Date Received: 07/24/19 08:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 16:20	RS	TAL PEN
Total/NA	Prep	3520C			1052.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	450897	08/05/19 14:33	VC1	TAL PEN
Total/NA	Prep	3520C			1052.2 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 18:35	KJA	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-449716/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 09:55	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		1			451066	08/06/19 15:06	KJA	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-449979/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 10:36	RS	TAL PEN

Client Sample ID: Method Blank
Lab Sample ID: MB 400-450148/4

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 11:12	WPD	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449716/14-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:31	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 10:59	VC1	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449716/2-A

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 10:16	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			451066	08/06/19 15:25	KJA	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-449979/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	449979	07/30/19 09:34	RS	TAL PEN

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 400-450148/1002

Date Collected: N/A
Matrix: Water
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	450148	07/31/19 10:20	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-449716/15-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:31	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 11:20	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-449716/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D		1			450897	08/05/19 10:38	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1 mL	449716	07/26/19 16:12	HAD	TAL PEN
Total/NA	Analysis	8270D LL		5			451066	08/06/19 15:44	KJA	TAL PEN

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

GC/MS VOA

Analysis Batch: 449979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-1	TB-PW-072319-B	Total/NA	Water	8260B	
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	8260B	
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8260B	
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	8260B	
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	8260B	
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	8260B	
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	8260B	
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	8260B	
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	8260B	
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	8260B	
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	8260B	
MB 400-449979/4	Method Blank	Total/NA	Water	8260B	
LCS 400-449979/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 450148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-1	TB-PW-072319-B	Total/NA	Water	8260B	
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8260B	
MB 400-450148/4	Method Blank	Total/NA	Water	8260B	
LCS 400-450148/1002	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 449716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2 - DL	PD-7-GWP-55-072319	Total/NA	Water	3520C	
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	3520C	
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	3520C	
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	3520C	
400-173575-5 - DL	PD-3-GWP-50-072319	Total/NA	Water	3520C	
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	3520C	
400-173575-6 - DL	PD-3-GWP-50-072319-DUP	Total/NA	Water	3520C	
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	3520C	
400-173575-7 - DL	PD-3-GWP-55-072319	Total/NA	Water	3520C	
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	3520C	
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	3520C	
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	3520C	
400-173575-9 - DL	PD-3-GWP-65-072319	Total/NA	Water	3520C	
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	3520C	
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	3520C	
MB 400-449716/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-449716/14-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-449716/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-449716/15-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-449716/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 450762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	8270D	449716
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	8270D	449716

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

GC/MS Semi VOA

Analysis Batch: 450897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	8270D	449716
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8270D	449716
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	8270D	449716
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	8270D	449716
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	8270D	449716
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	8270D	449716
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	8270D	449716
MB 400-449716/1-A	Method Blank	Total/NA	Water	8270D	449716
LCS 400-449716/14-A	Lab Control Sample	Total/NA	Water	8270D	449716
LCS 400-449716/2-A	Lab Control Sample	Total/NA	Water	8270D	449716
LCSD 400-449716/15-A	Lab Control Sample Dup	Total/NA	Water	8270D	449716
LCSD 400-449716/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	449716

Analysis Batch: 450993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	8270D	449716

Analysis Batch: 451066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2	PD-7-GWP-55-072319	Total/NA	Water	8270D LL	449716
400-173575-3	PD-7-GWP-55-072319-EB	Total/NA	Water	8270D LL	449716
400-173575-4	PD-3-GWP-45-072319	Total/NA	Water	8270D LL	449716
400-173575-5	PD-3-GWP-50-072319	Total/NA	Water	8270D LL	449716
400-173575-6	PD-3-GWP-50-072319-DUP	Total/NA	Water	8270D LL	449716
400-173575-7	PD-3-GWP-55-072319	Total/NA	Water	8270D LL	449716
400-173575-8	PD-3-GWP-60-072319	Total/NA	Water	8270D LL	449716
400-173575-9	PD-3-GWP-65-072319	Total/NA	Water	8270D LL	449716
400-173575-10	PD-3-GWP-71-072319	Total/NA	Water	8270D LL	449716
400-173575-11	PD-3-GWP-50-072319-EB	Total/NA	Water	8270D LL	449716
MB 400-449716/1-A	Method Blank	Total/NA	Water	8270D LL	449716
LCS 400-449716/2-A	Lab Control Sample	Total/NA	Water	8270D LL	449716
LCSD 400-449716/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	449716

Analysis Batch: 451290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-173575-2 - DL	PD-7-GWP-55-072319	Total/NA	Water	8270D	449716
400-173575-5 - DL	PD-3-GWP-50-072319	Total/NA	Water	8270D	449716
400-173575-6 - DL	PD-3-GWP-50-072319-DUP	Total/NA	Water	8270D	449716
400-173575-7 - DL	PD-3-GWP-55-072319	Total/NA	Water	8270D	449716
400-173575-9 - DL	PD-3-GWP-65-072319	Total/NA	Water	8270D	449716

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/30/19 10:36	1
Acrolein	ND		20	10	ug/L			07/30/19 10:36	1
Acrylonitrile	ND		10	2.8	ug/L			07/30/19 10:36	1
Benzene	ND		1.0	0.38	ug/L			07/30/19 10:36	1
Bromobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1
Bromochloromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
Bromodichloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Bromoform	ND		5.0	0.71	ug/L			07/30/19 10:36	1
Bromomethane	ND		1.0	0.98	ug/L			07/30/19 10:36	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/30/19 10:36	1
Carbon disulfide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Chloroethane	ND		1.0	0.76	ug/L			07/30/19 10:36	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			07/30/19 10:36	1
Chloroform	ND		1.0	0.60	ug/L			07/30/19 10:36	1
1-Chlorohexane	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Chloromethane	ND		1.0	0.83	ug/L			07/30/19 10:36	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Dibromochloromethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0	1.5	ug/L			07/30/19 10:36	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			07/30/19 10:36	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			07/30/19 10:36	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			07/30/19 10:36	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylbenzene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethylene Dibromide	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			07/30/19 10:36	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			07/30/19 10:36	1
2-Hexanone	ND		25	3.1	ug/L			07/30/19 10:36	1
Isopropylbenzene	ND		1.0	0.53	ug/L			07/30/19 10:36	1
Methylene bromide	ND		5.0	0.59	ug/L			07/30/19 10:36	1
Methylene Chloride	ND		5.0	3.0	ug/L			07/30/19 10:36	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			07/30/19 10:36	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			07/30/19 10:36	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			07/30/19 10:36	1
Naphthalene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
n-Butylbenzene	ND		1.0	0.76	ug/L			07/30/19 10:36	1
N-Propylbenzene	ND		1.0	0.69	ug/L			07/30/19 10:36	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			07/30/19 10:36	1

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449979/4
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.0	0.60	ug/L			07/30/19 10:36	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			07/30/19 10:36	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
Styrene	ND		1.0	1.0	ug/L			07/30/19 10:36	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			07/30/19 10:36	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Tetrachloroethene	ND		1.0	0.58	ug/L			07/30/19 10:36	1
Toluene	ND		1.0	0.41	ug/L			07/30/19 10:36	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			07/30/19 10:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			07/30/19 10:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			07/30/19 10:36	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			07/30/19 10:36	1
Trichloroethene	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			07/30/19 10:36	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			07/30/19 10:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			07/30/19 10:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			07/30/19 10:36	1
Vinyl acetate	ND		25	2.0	ug/L			07/30/19 10:36	1
Vinyl chloride	ND		1.0	0.50	ug/L			07/30/19 10:36	1
Xylenes, Total	ND		10	1.6	ug/L			07/30/19 10:36	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/30/19 10:36*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*07/30/19 10:36*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/30/19 10:36*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*07/30/19 10:36*	*1*

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	275		ug/L		138	43 - 160
Acrolein	500	660		ug/L		132	38 - 160
Acrylonitrile	500	613		ug/L		123	64 - 142
Benzene	50.0	52.5		ug/L		105	70 - 130
Bromobenzene	50.0	50.7		ug/L		101	70 - 132
Bromochloromethane	50.0	52.2		ug/L		104	70 - 130
Bromodichloromethane	50.0	50.6		ug/L		101	67 - 133
Bromoform	50.0	57.1		ug/L		114	57 - 140
Bromomethane	50.0	42.7		ug/L		85	10 - 160
2-Butanone (MEK)	200	246		ug/L		123	61 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon disulfide	50.0	50.1		ug/L		100	61 - 137
Carbon tetrachloride	50.0	55.0		ug/L		110	61 - 137
Chlorobenzene	50.0	52.4		ug/L		105	70 - 130
Chloroethane	50.0	54.3		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	47.4		ug/L		95	10 - 160
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	55.6		ug/L		111	69 - 130
Chloromethane	50.0	64.4		ug/L		129	58 - 137
cis-1,2-Dichloroethene	50.0	55.4		ug/L		111	68 - 130
cis-1,3-Dichloropropene	50.0	53.7		ug/L		107	69 - 132
Dibromochloromethane	50.0	55.6		ug/L		111	67 - 135
1,2-Dibromo-3-Chloropropane	50.0	55.8		ug/L		112	54 - 135
1,2-Dichlorobenzene	50.0	53.4		ug/L		107	67 - 130
1,3-Dichlorobenzene	50.0	53.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	52.8		ug/L		106	70 - 130
Dichlorodifluoromethane	50.0	50.8		ug/L		102	41 - 146
1,1-Dichloroethane	50.0	55.6		ug/L		111	70 - 130
1,2-Dichloroethane	50.0	48.6		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	46.9		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	55.4		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	53.5		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	51.3		ug/L		103	52 - 135
1,1-Dichloropropene	50.0	51.8		ug/L		104	70 - 130
Ethylbenzene	50.0	52.8		ug/L		106	70 - 130
Ethylene Dibromide	50.0	51.3		ug/L		103	70 - 130
Ethyl methacrylate	50.0	57.2		ug/L		114	68 - 130
Hexachlorobutadiene	50.0	49.1		ug/L		98	53 - 140
2-Hexanone	200	271		ug/L		136	65 - 137
Isopropylbenzene	50.0	49.7		ug/L		99	70 - 130
Methylene bromide	50.0	47.6		ug/L		95	70 - 130
Methylene Chloride	50.0	52.2		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	244		ug/L		122	69 - 138
Methyl tert-butyl ether	50.0	46.2		ug/L		92	66 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/L		103	70 - 130
Naphthalene	50.0	50.3		ug/L		101	47 - 149
n-Butylbenzene	50.0	52.6		ug/L		105	67 - 130
N-Propylbenzene	50.0	54.4		ug/L		109	70 - 130
o-Chlorotoluene	50.0	51.7		ug/L		103	70 - 130
o-Xylene	50.0	51.0		ug/L		102	70 - 130
p-Chlorotoluene	50.0	52.1		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	53.0		ug/L		106	65 - 130
sec-Butylbenzene	50.0	51.2		ug/L		102	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	49.8		ug/L		100	64 - 139
1,1,1,2-Tetrachloroethane	50.0	61.8		ug/L		124	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.8		ug/L		108	70 - 131
Tetrachloroethene	50.0	54.6		ug/L		109	65 - 130
Toluene	50.0	52.8		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	52.6		ug/L		105	70 - 130

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449979/1002
Matrix: Water
Analysis Batch: 449979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,3-Dichloropropene	50.0	56.9		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	50.3		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	50.2		ug/L		100	68 - 130
1,1,2-Trichloroethane	50.0	54.5		ug/L		109	70 - 130
Trichloroethene	50.0	51.7		ug/L		103	70 - 130
Trichlorofluoromethane	50.0	46.3		ug/L		93	65 - 138
1,2,3-Trichloropropane	50.0	50.7		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	50.7		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	50.0	51.0		ug/L		102	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	58.9		ug/L		118	59 - 136
Xylenes, Total	100	103		ug/L		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 400-450148/4
Matrix: Water
Analysis Batch: 450148

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			07/31/19 11:12	1
Benzene	ND		1.0	0.38	ug/L			07/31/19 11:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			07/31/19 11:12	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*07/31/19 11:12*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*07/31/19 11:12*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*07/31/19 11:12*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*07/31/19 11:12*	*1*

Lab Sample ID: LCS 400-450148/1002
Matrix: Water
Analysis Batch: 450148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	263		ug/L		132	43 - 160
Benzene	50.0	49.8		ug/L		100	70 - 130
2-Butanone (MEK)	200	261		ug/L		130	61 - 145

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-450148/1002
Matrix: Water
Analysis Batch: 450148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Dibromofluoromethane	*96*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-449716/1-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
Benzenethiol	ND		10	1.7	ug/L		07/26/19 16:12	08/05/19 09:55	1
Benzoic acid	ND		30	7.3	ug/L		07/26/19 16:12	08/05/19 09:55	1
Benzyl alcohol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 09:55	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		07/26/19 16:12	08/05/19 09:55	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		07/26/19 16:12	08/05/19 09:55	1
Bis(2-ethylhexyl) phthalate	ND		10	5.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		07/26/19 16:12	08/05/19 09:55	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Chloroaniline	ND		10	3.4	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Chloronaphthalene	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Chlorophenol	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Dibenzofuran	ND		10	0.52	ug/L		07/26/19 16:12	08/05/19 09:55	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Diethyl phthalate	ND		10	0.70	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 09:55	1
Dimethyl phthalate	ND		10	0.60	ug/L		07/26/19 16:12	08/05/19 09:55	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		07/26/19 16:12	08/05/19 09:55	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		07/26/19 16:12	08/05/19 09:55	1
Di-n-octyl phthalate	2.53	J	10	0.44	ug/L		07/26/19 16:12	08/05/19 09:55	1
1,4-Dioxane	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Hexachlorobenzene	ND		10	0.25	ug/L		07/26/19 16:12	08/05/19 09:55	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		07/26/19 16:12	08/05/19 09:55	1
Hexachloroethane	ND		10	4.2	ug/L		07/26/19 16:12	08/05/19 09:55	1
Indene	ND		10	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
Isophorone	ND		10	0.57	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Methylphenol	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Nitroaniline	ND		10	2.2	ug/L		07/26/19 16:12	08/05/19 09:55	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-449716/1-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	ND		10	1.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Nitroaniline	ND		10	2.5	ug/L		07/26/19 16:12	08/05/19 09:55	1
Nitrobenzene	ND		10	0.55	ug/L		07/26/19 16:12	08/05/19 09:55	1
2-Nitrophenol	ND		10	0.65	ug/L		07/26/19 16:12	08/05/19 09:55	1
4-Nitrophenol	ND		10	2.1	ug/L		07/26/19 16:12	08/05/19 09:55	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 09:55	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		07/26/19 16:12	08/05/19 09:55	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		07/26/19 16:12	08/05/19 09:55	1
Pentachlorophenol	ND		20	1.8	ug/L		07/26/19 16:12	08/05/19 09:55	1
Phenol	ND		10	2.6	ug/L		07/26/19 16:12	08/05/19 09:55	1
Pyridine	ND		10	3.2	ug/L		07/26/19 16:12	08/05/19 09:55	1
Quinoline	ND		10	6.0	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		07/26/19 16:12	08/05/19 09:55	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		07/26/19 16:12	08/05/19 09:55	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*				*07/26/19 16:12*	*08/05/19 09:55*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*34 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
2-Fluorophenol	*9*	*X*	*10 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
Nitrobenzene-d5	*81*		*27 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
Phenol-d5	*26*		*10 - 120*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
Terphenyl-d14	*96*		*53 - 125*	*07/26/19 16:12*	*08/05/19 09:55*	*1*
2,4,6-Tribromophenol	*56*		*15 - 135*	*07/26/19 16:12*	*08/05/19 09:55*	*1*

Lab Sample ID: LCS 400-449716/14-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*72*		*34 - 120*
2-Fluorophenol	*61*		*10 - 120*
Nitrobenzene-d5	*71*		*27 - 120*
Phenol-d5	*69*		*10 - 120*
Terphenyl-d14	*83*		*53 - 125*
2,4,6-Tribromophenol	*69*		*15 - 135*

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	14.3		ug/L		48	29 - 120
Benzoic acid	117	68.4		ug/L		59	10 - 150

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzyl alcohol	30.0	20.9		ug/L		70	19 - 125
Bis(2-chloroethoxy)methane	30.0	18.8		ug/L		63	45 - 120
Bis(2-chloroethyl)ether	30.0	22.1		ug/L		74	48 - 120
bis (2-chloroisopropyl) ether	30.0	19.2		ug/L		64	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	23.8		ug/L		79	48 - 150
4-Bromophenyl phenyl ether	30.0	19.6		ug/L		65	55 - 122
Butyl benzyl phthalate	30.0	19.9		ug/L		66	46 - 145
4-Chloroaniline	30.0	17.4		ug/L		58	30 - 120
4-Chloro-3-methylphenol	30.0	20.4		ug/L		68	39 - 140
2-Chloronaphthalene	30.0	19.4		ug/L		65	52 - 120
2-Chlorophenol	30.0	17.6		ug/L		59	34 - 120
4-Chlorophenyl phenyl ether	30.0	20.3		ug/L		68	58 - 124
Dibenz[a,h]acridine	30.0	20.8		ug/L		69	46 - 149
Dibenzofuran	30.0	20.7		ug/L		69	58 - 123
3,3'-Dichlorobenzidine	40.0	48.9		ug/L		122	39 - 135
2,4-Dichlorophenol	30.0	19.1		ug/L		64	39 - 128
Diethyl phthalate	30.0	22.3		ug/L		74	44 - 146
2,4-Dimethylphenol	30.0	19.5		ug/L		65	44 - 120
Dimethyl phthalate	30.0	21.5		ug/L		72	50 - 131
Di-n-butyl phthalate	30.0	20.5		ug/L		68	55 - 131
4,6-Dinitro-ortho-cresol	60.0	57.6		ug/L		96	10 - 150
2,4-Dinitrophenol	60.0	68.9		ug/L		115	10 - 150
2,4-Dinitrotoluene	30.0	21.2		ug/L		71	58 - 140
2,6-Dinitrotoluene	30.0	20.5		ug/L		68	57 - 130
Di-n-octyl phthalate	30.0	21.5		ug/L		72	50 - 150
1,4-Dioxane	30.0	13.8		ug/L		46	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.0		ug/L		67	47 - 123
Hexachlorobenzene	30.0	18.6		ug/L		62	52 - 131
Hexachlorocyclopentadiene	30.0	8.53	J	ug/L		28	10 - 129
Hexachloroethane	30.0	13.9		ug/L		46	41 - 120
Indene	30.0	16.8		ug/L		56	47 - 120
Isophorone	30.0	19.7		ug/L		66	49 - 120
2-Methylphenol	30.0	19.3		ug/L		64	39 - 123
3 & 4 Methylphenol	30.0	19.2	J	ug/L		64	38 - 121
2-Nitroaniline	30.0	20.1		ug/L		67	47 - 150
3-Nitroaniline	30.0	18.3		ug/L		61	34 - 132
4-Nitroaniline	30.0	20.9		ug/L		70	41 - 135
Nitrobenzene	30.0	19.0		ug/L		63	47 - 120
2-Nitrophenol	30.0	19.5		ug/L		65	28 - 136
4-Nitrophenol	60.0	44.8		ug/L		75	10 - 150
N-Nitrosodimethylamine	30.0	17.6		ug/L		59	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.2		ug/L		67	44 - 120
N-Nitrosodiphenylamine	29.8	20.2		ug/L		68	56 - 120
Pentachlorophenol	60.0	50.1		ug/L		83	15 - 141
Phenol	30.0	17.3		ug/L		58	33 - 120
Pyridine	60.0	34.4		ug/L		57	26 - 120
Quinoline	30.0	18.5		ug/L		62	51 - 129
2,4,5-Trichlorophenol	30.0	19.8		ug/L		66	38 - 147

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,4,6-Trichlorophenol			30.0	19.5		ug/L		65	36 - 139		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*34 - 120*
2-Fluorophenol	*44*		*10 - 120*
Nitrobenzene-d5	*63*		*27 - 120*
Phenol-d5	*56*		*10 - 120*
Terphenyl-d14	*70*		*53 - 125*
2,4,6-Tribromophenol	*65*		*15 - 135*

Lab Sample ID: LCSD 400-449716/15-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol			30.0	ND	*	ug/L		3	10 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*34 - 120*
2-Fluorophenol	*64*		*10 - 120*
Nitrobenzene-d5	*78*		*27 - 120*
Phenol-d5	*75*		*10 - 120*
Terphenyl-d14	*93*		*53 - 125*
2,4,6-Tribromophenol	*75*		*15 - 135*

Lab Sample ID: LCSD 400-449716/3-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline			30.0	20.4	*	ug/L		68	29 - 120	35	30
Benzoic acid			117	87.0		ug/L		75	10 - 150	24	30
Benzyl alcohol			30.0	24.6		ug/L		82	19 - 125	16	30
Bis(2-chloroethoxy)methane			30.0	22.9		ug/L		76	45 - 120	20	30
Bis(2-chloroethyl)ether			30.0	21.3		ug/L		71	48 - 120	4	30
bis (2-chloroisopropyl) ether			30.0	20.6		ug/L		69	30 - 125	7	30
Bis(2-ethylhexyl) phthalate			30.0	23.3		ug/L		78	48 - 150	2	30
4-Bromophenyl phenyl ether			30.0	25.4		ug/L		85	55 - 122	26	30
Butyl benzyl phthalate			30.0	23.5		ug/L		78	46 - 145	16	30
4-Chloroaniline			30.0	19.0		ug/L		63	30 - 120	9	30
4-Chloro-3-methylphenol			30.0	24.6		ug/L		82	39 - 140	19	30
2-Chloronaphthalene			30.0	24.6		ug/L		82	52 - 120	24	30
2-Chlorophenol			30.0	17.7		ug/L		59	34 - 120	1	30
4-Chlorophenyl phenyl ether			30.0	25.9		ug/L		86	58 - 124	24	30
Dibenz[a,h]acridine			30.0	18.9		ug/L		63	46 - 149	9	30
Dibenzofuran			30.0	24.9		ug/L		83	58 - 123	19	30
3,3'-Dichlorobenzidine			40.0	52.5	E	ug/L		131	39 - 135	7	30
2,4-Dichlorophenol			30.0	22.7		ug/L		76	39 - 128	17	30

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-449716/3-A
Matrix: Water
Analysis Batch: 450897

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diethyl phthalate			30.0	25.9		ug/L		86	44 - 146	15	30
2,4-Dimethylphenol			30.0	24.4		ug/L		81	44 - 120	22	30
Dimethyl phthalate			30.0	25.7		ug/L		86	50 - 131	18	30
Di-n-butyl phthalate			30.0	23.3		ug/L		78	55 - 131	13	30
4,6-Dinitro-ortho-cresol			60.0	62.9		ug/L		105	10 - 150	9	30
2,4-Dinitrophenol			60.0	76.1		ug/L		127	10 - 150	10	30
2,4-Dinitrotoluene			30.0	25.8		ug/L		86	58 - 140	20	30
2,6-Dinitrotoluene			30.0	25.0		ug/L		83	57 - 130	20	30
Di-n-octyl phthalate			30.0	24.4		ug/L		81	50 - 150	13	30
1,4-Dioxane			30.0	15.0		ug/L		50	25 - 120	8	30
1,2-Diphenylhydrazine (as Azobenzene)			30.0	23.1		ug/L		77	47 - 123	14	30
Hexachlorobenzene			30.0	23.6		ug/L		79	52 - 131	24	30
Hexachlorocyclopentadiene			30.0	13.6	J *	ug/L		45	10 - 129	46	30
Hexachloroethane			30.0	17.5		ug/L		58	41 - 120	23	30
Indene			30.0	19.1		ug/L		64	47 - 120	13	30
Isophorone			30.0	23.7		ug/L		79	49 - 120	19	30
2-Methylphenol			30.0	21.8		ug/L		73	39 - 123	12	30
3 & 4 Methylphenol			30.0	21.5		ug/L		72	38 - 121	11	30
2-Nitroaniline			30.0	24.6		ug/L		82	47 - 150	20	30
3-Nitroaniline			30.0	19.0		ug/L		63	34 - 132	3	30
4-Nitroaniline			30.0	22.6		ug/L		75	41 - 135	8	30
Nitrobenzene			30.0	23.4		ug/L		78	47 - 120	21	30
2-Nitrophenol			30.0	23.0		ug/L		77	28 - 136	16	30
4-Nitrophenol			60.0	49.7		ug/L		83	10 - 150	10	30
N-Nitrosodimethylamine			30.0	22.1		ug/L		74	22 - 148	23	30
N-Nitrosodi-n-propylamine			30.0	23.7		ug/L		79	44 - 120	16	30
N-Nitrosodiphenylamine			29.8	24.5		ug/L		82	56 - 120	19	30
Pentachlorophenol			60.0	59.5		ug/L		99	15 - 141	17	30
Phenol			30.0	18.5		ug/L		62	33 - 120	7	30
Pyridine			60.0	38.0		ug/L		63	26 - 120	10	30
Quinoline			30.0	23.0		ug/L		77	51 - 129	22	30
2,4,5-Trichlorophenol			30.0	23.4		ug/L		78	38 - 147	17	30
2,4,6-Trichlorophenol			30.0	23.3		ug/L		78	36 - 139	18	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*34 - 120*
2-Fluorophenol	*35*		*10 - 120*
Nitrobenzene-d5	*80*		*27 - 120*
Phenol-d5	*59*		*10 - 120*
Terphenyl-d14	*82*		*53 - 125*
2,4,6-Tribromophenol	*73*		*15 - 135*

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 400-173575-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-449716/1-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 449716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Acenaphthylene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Anthracene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Chrysene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
Fluoranthene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Fluorene	ND		0.20	0.021	ug/L		07/26/19 16:12	08/06/19 15:06	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		07/26/19 16:12	08/06/19 15:06	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Phenanthrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1
Pyrene	ND		0.20	0.020	ug/L		07/26/19 16:12	08/06/19 15:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*15 - 122*	*07/26/19 16:12*	*08/06/19 15:06*	*1*
Nitrobenzene-d5	*84*		*19 - 130*	*07/26/19 16:12*	*08/06/19 15:06*	*1*
Terphenyl-d14	*116*		*33 - 138*	*07/26/19 16:12*	*08/06/19 15:06*	*1*

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	22.6		ug/L		75	41 - 120
Acenaphthylene	30.0	22.5		ug/L		75	44 - 120
Anthracene	30.0	21.7		ug/L		72	49 - 120
Benzo[a]anthracene	30.0	19.0		ug/L		63	61 - 135
Benzo[a]pyrene	30.0	18.5		ug/L		62	52 - 120
Benzo[b]fluoranthene	30.0	19.8		ug/L		66	53 - 134
Benzo[g,h,i]perylene	30.0	14.8		ug/L		49	47 - 133
Benzo[k]fluoranthene	30.0	21.9		ug/L		73	57 - 134
Chrysene	30.0	19.8		ug/L		66	55 - 122
Dibenz(a,h)anthracene	30.0	19.3		ug/L		64	48 - 146
Fluoranthene	30.0	20.5		ug/L		68	54 - 128
Fluorene	30.0	23.7		ug/L		79	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	15.9		ug/L		53	43 - 142
1-Methylnaphthalene	30.0	19.0		ug/L		63	41 - 120
2-Methylnaphthalene	30.0	19.3		ug/L		64	32 - 124
Phenanthrene	30.0	21.2		ug/L		71	48 - 120
Pyrene	30.0	18.9		ug/L		63	48 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*15 - 122*

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-449716/2-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 449716

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*68*		*19 - 130*
Terphenyl-d14	*71*		*33 - 138*

Lab Sample ID: LCSD 400-449716/3-A
Matrix: Water
Analysis Batch: 451066

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 449716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			30.0	26.3		ug/L		88	41 - 120	15	56
Acenaphthylene			30.0	25.9		ug/L		86	44 - 120	14	56
Anthracene			30.0	25.1		ug/L		84	49 - 120	15	51
Benzo[a]anthracene			30.0	22.4		ug/L		75	61 - 135	17	49
Benzo[a]pyrene			30.0	22.6		ug/L		75	52 - 120	20	50
Benzo[b]fluoranthene			30.0	23.6		ug/L		79	53 - 134	18	54
Benzo[g,h,i]perylene			30.0	14.9		ug/L		50	47 - 133	1	50
Benzo[k]fluoranthene			30.0	27.2		ug/L		91	57 - 134	22	52
Chrysene			30.0	22.6		ug/L		75	55 - 122	13	50
Dibenz(a,h)anthracene			30.0	19.0		ug/L		63	48 - 146	2	50
Fluoranthene			30.0	23.3		ug/L		78	54 - 128	13	52
Fluorene			30.0	28.0		ug/L		93	45 - 125	17	56
Indeno[1,2,3-cd]pyrene			30.0	15.9		ug/L		53	43 - 142	0	51
1-Methylnaphthalene			30.0	21.6		ug/L		72	41 - 120	13	55
2-Methylnaphthalene			30.0	22.2		ug/L		74	32 - 124	14	57
Phenanthrene			30.0	25.4		ug/L		85	48 - 120	18	56
Pyrene			30.0	23.2		ug/L		77	48 - 132	20	52

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*15 - 122*
Nitrobenzene-d5	*78*		*19 - 130*
Terphenyl-d14	*82*		*33 - 138*

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)
☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (Pensacola)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/23/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com
TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051: 8270 SIM PAH

NON-UNIT COST 60592794 - 1.24.050: 8260 Project list VOCs +TICs; 8270 Project List SVOCs +TICs

400-173575 COC

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	8270 SIM PAH	8260 Project list VOCs +TICs	8270 Project List SVOCs +TICs
	TB-PW-072319-B	7/23/2019	0:00	Water	2					2		x	
	PD-7-GWP-55-072319	7/23/2019	8:30	Water	2			2		4	x	x	x
	PD-7-GWP-55-072319-EB	7/23/2019	9:00	Water	2			2		4	x	x	x
	PD-3-GWP-45-072319	7/23/2019	10:10	Water	2			2		4	x	x	x
	PD-3-GWP-50-072319	7/23/2019	10:55	Water	2			2		4	x	x	x
	PD-3-GWP-50-072319-DUP	7/23/2019	10:55	Water	2			2		4	x	x	x
	PD-3-GWP-55-072319	7/23/2019	11:50	Water	2			2		4	x	x	x
	PD-3-GWP-60-072319	7/23/2019	13:40	Water	2			2		4	x	x	x
	PD-3-GWP-65-072319	7/23/2019	14:35	Water	2			2		4	x	x	x
	PD-3-GWP-71-072319	7/23/2019	15:30	Water	2			2		4	x	x	x

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	Fedex: 4931 8203 7557; 4931 8203 7568; 4931 8203 7579 custody seals: 1011637 1011636 1011638 1011639 622045 622044	7/23/2019	18:00
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	7-24-19	8:59

Version: 10May17

0.2°, 2.4°, 2.3° IR8

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10/22/2019 (Rev. 1)

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-173575-1

Login Number: 173575
List Number: 1
Creator: Perez, Trina M

List Source: Eurofins TestAmerica, Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1011637,1011636, 1011638,1011639, 622045, 622044
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2°C, 2.4°C, 2.3°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 400-173575-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	07-01-20
ANAB	ISO/IEC 17025	L2471	02-22-20
Arizona	State	AZ0710	01-12-20
California	State	2510	07-01-20
Florida	NELAP	E81010	06-30-20
Georgia	State	E81010(FL)	06-30-20
Illinois	NELAP	200041	10-09-19 *
Illinois	NELAP	004586	10-09-19
Iowa	State	367	08-01-20
Iowa	State Program	367	08-01-20
Kentucky (UST)	State Program	53	06-30-20
Kentucky (WW)	State	KY98030	12-30-19
Louisiana	NELAP	30976	06-30-20
Louisiana (DW)	NELAP	LA017	12-31-19
Maryland	State	233	09-30-20
Massachusetts	State	M-FL094	06-30-20
Michigan	State	9912	05-06-20
Minnesota	NELAP	012-999-481	12-31-19
New Jersey	NELAP	FL006	07-30-20
North Carolina (WW/SW)	State Program	314	12-31-19
Oklahoma	State	9810-186	08-31-19
Pennsylvania	NELAP	68-00467	01-31-20
Rhode Island	State	LAO00307	12-30-19
Rhode Island	State Program	LAO00307	12-30-19
South Carolina	State Program	96026	06-30-20
Tennessee	State	TN02907	06-30-20
Texas	NELAP	T104704286	09-30-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
USDA	Federal	P330-18-00148	05-17-21
Virginia	NELAP	460166	06-14-20
Washington	State	C915	05-15-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Water Quality Data Review

Laboratory SDG: 500-165969

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 7/29/2019

Guidance: USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review 2017

Sample Identification
PD-8-GWP-35-062819

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, ferrous iron, total residual chlorine and pH were analyzed outside the EPA recommended analysis holding time of 15 minutes and results should be considered approximate.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes, with the exceptions of ferrous iron, total residual chlorine and pH discussed in section 2.0 of this data review.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Samples were analyzed for total and dissolved ICP metals, hardness as calcium carbonate, sulfate, nitrate, alkalinity, total dissolved solids, ferrous iron, chloride, chlorine, nitrite, phosphate and pH. Surrogates are not required for these analyses.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-165969-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/17/2019 1:59:10 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

Reviewed on 7/23/2019

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Job ID: 500-165969-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-165969-1

Comments
No additional comments.

Receipt
The sample was received on 6/29/2019 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Client Sample ID: PD-8-GWP-35-062819

Lab Sample ID: 500-165969-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	150		0.20	0.053	mg/L	1		6010B	Total/NA
Iron	100		0.20	0.082	mg/L	1		6010B	Total/NA
Potassium	5.4		0.50	0.066	mg/L	1		6010B	Total/NA
Magnesium	58		0.10	0.049	mg/L	1		6010B	Total/NA
Manganese	1.6		0.010	0.0023	mg/L	1		6010B	Total/NA
Sodium	140		1.0	0.097	mg/L	1		6010B	Total/NA
Iron	39		0.20	0.082	mg/L	1		6010B	Dissolved
Calcium hardness as CaCO3	260		0.50	0.25	mg/L	1		SM 2340B	Total Recoverable
Sulfate	0.25		0.20	0.095	mg/L	1		300.0	Total/NA
Total Alkalinity	430		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	830		10	4.3	mg/L	1		SM 2540C	Total/NA
Chloride	170		10	5.0	mg/L	5		SM 4500 Cl- E	Total/NA
pH	6.9	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA
Phosphate as PO4	6.2		0.77	0.37	mg/L	5		SM 4500 P E	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2320B	Alkalinity	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 3500 Fe B	Iron, Ferrous	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 Cl F	Chlorine, Residual	SM	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-165969-1	PD-8-GWP-35-062819	Water	06/28/19 11:45	06/29/19 09:40	

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Client Sample ID: PD-8-GWP-35-062819
Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:40

Lab Sample ID: 500-165969-1
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	150		0.20	0.053	mg/L		06/29/19 16:20	07/01/19 15:39	1
Iron	100		0.20	0.082	mg/L		06/29/19 16:20	07/01/19 15:39	1
Potassium	5.4		0.50	0.066	mg/L		06/29/19 16:20	07/01/19 15:39	1
Magnesium	58		0.10	0.049	mg/L		06/29/19 16:20	07/01/19 15:39	1
Manganese	1.6		0.010	0.0023	mg/L		06/29/19 16:20	07/01/19 15:39	1
Sodium	140		1.0	0.097	mg/L		06/29/19 16:20	07/01/19 15:39	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	39		0.20	0.082	mg/L		07/09/19 15:46	07/10/19 12:22	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium hardness as CaCO3	260		0.50	0.25	mg/L		06/29/19 16:22	07/03/19 19:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.25		0.20	0.095	mg/L			07/16/19 12:24	1
Nitrogen, Nitrate	ND		0.10	0.041	mg/L			07/12/19 13:27	1
Total Alkalinity	430		5.0	3.7	mg/L			07/02/19 12:02	1
Total Dissolved Solids	830		10	4.3	mg/L			07/03/19 09:46	1
Ferrous Iron	ND	HF	0.050	0.050	mg/L			07/05/19 09:59	1
Chloride	170		10	5.0	mg/L			07/02/19 16:53	5
Chlorine, Total Residual	ND	HF	0.20	0.20	mg/L			07/01/19 14:03	1
pH	6.9	HF	0.2	0.2	SU			07/12/19 14:42	1
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			06/29/19 12:41	1
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			07/12/19 10:25	1
Phosphate as PO4	6.2		0.77	0.37	mg/L		07/03/19 08:05	07/03/19 14:11	5

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Metals

Prep Batch: 492735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	3010A	
MB 500-492735/1-A	Method Blank	Total/NA	Water	3010A	
LCS 500-492735/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 492736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total Recoverable	Water	3005A	

Analysis Batch: 493001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	6010B	492735
MB 500-492735/1-A	Method Blank	Total/NA	Water	6010B	492735
LCS 500-492735/2-A	Lab Control Sample	Total/NA	Water	6010B	492735

Analysis Batch: 493381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total Recoverable	Water	SM 2340B	492736

Prep Batch: 494017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Dissolved	Water	3005A	
MB 500-494017/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-494017/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-165969-1 MS	PD-8-GWP-35-062819	Dissolved	Water	3005A	
500-165969-1 MSD	PD-8-GWP-35-062819	Dissolved	Water	3005A	
500-165969-1 DU	PD-8-GWP-35-062819	Dissolved	Water	3005A	

Analysis Batch: 494207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Dissolved	Water	6010B	494017
MB 500-494017/1-A	Method Blank	Total Recoverable	Water	6010B	494017
LCS 500-494017/2-A	Lab Control Sample	Total Recoverable	Water	6010B	494017
500-165969-1 MS	PD-8-GWP-35-062819	Dissolved	Water	6010B	494017
500-165969-1 MSD	PD-8-GWP-35-062819	Dissolved	Water	6010B	494017
500-165969-1 DU	PD-8-GWP-35-062819	Dissolved	Water	6010B	494017

General Chemistry

Analysis Batch: 492928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 Cl F	
MB 500-492928/1	Method Blank	Total/NA	Water	SM 4500 Cl F	
LCS 500-492928/2	Lab Control Sample	Total/NA	Water	SM 4500 Cl F	

Analysis Batch: 493073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 NO2 B	
MB 500-493073/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	
LCS 500-493073/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
500-165969-1 MS	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 NO2 B	
500-165969-1 MSD	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 NO2 B	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

General Chemistry

Analysis Batch: 493145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 Cl- E	
MB 500-493145/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-493145/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 493152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 2320B	
MB 500-493152/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-493152/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Prep Batch: 493214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 P B	
MB 500-493214/1-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 500-493214/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Analysis Batch: 493243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 2540C	
MB 500-493243/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-493243/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 493338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 P E	493214
MB 500-493214/1-A	Method Blank	Total/NA	Water	SM 4500 P E	493214
LCS 500-493214/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P E	493214

Analysis Batch: 493519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 3500 Fe B	
MB 500-493519/1	Method Blank	Total/NA	Water	SM 3500 Fe B	
LCS 500-493519/2	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	
500-165969-1 MS	PD-8-GWP-35-062819	Total/NA	Water	SM 3500 Fe B	
500-165969-1 MSD	PD-8-GWP-35-062819	Total/NA	Water	SM 3500 Fe B	

Analysis Batch: 494606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 H+ B	
LCS 500-494606/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-494606/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-165969-1 DU	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 494619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	SM 4500 NO3 F	
MB 500-494619/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	
LCS 500-494619/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

General Chemistry

Analysis Batch: 494651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	Nitrate by calc	

Analysis Batch: 495098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165969-1	PD-8-GWP-35-062819	Total/NA	Water	300.0	
MB 500-495098/3	Method Blank	Total/NA	Water	300.0	
LCS 500-495098/4	Lab Control Sample	Total/NA	Water	300.0	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-492735/1-A
Matrix: Water
Analysis Batch: 493001

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492735

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.20	0.053	mg/L		06/29/19 16:20	07/01/19 13:54	1
Iron	ND		0.20	0.082	mg/L		06/29/19 16:20	07/01/19 13:54	1
Potassium	ND		0.50	0.066	mg/L		06/29/19 16:20	07/01/19 13:54	1
Magnesium	ND		0.10	0.049	mg/L		06/29/19 16:20	07/01/19 13:54	1
Manganese	ND		0.010	0.0023	mg/L		06/29/19 16:20	07/01/19 13:54	1
Sodium	ND		1.0	0.097	mg/L		06/29/19 16:20	07/01/19 13:54	1

Lab Sample ID: LCS 500-492735/2-A
Matrix: Water
Analysis Batch: 493001

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492735

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.60		mg/L		96	80 - 120
Iron	1.00	1.07		mg/L		107	80 - 120
Potassium	10.0	10.3		mg/L		103	80 - 120
Magnesium	10.0	9.53		mg/L		95	80 - 120
Manganese	0.500	0.489		mg/L		98	80 - 120
Sodium	10.0	10.7		mg/L		107	80 - 120

Lab Sample ID: MB 500-494017/1-A
Matrix: Water
Analysis Batch: 494207

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 494017

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.082	mg/L		07/09/19 15:46	07/10/19 12:14	1

Lab Sample ID: LCS 500-494017/2-A
Matrix: Water
Analysis Batch: 494207

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 494017

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: 500-165969-1 MS
Matrix: Water
Analysis Batch: 494207

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Dissolved
Prep Batch: 494017

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	39		1.00	40.9	4	mg/L		198	75 - 125

Lab Sample ID: 500-165969-1 MSD
Matrix: Water
Analysis Batch: 494207

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Dissolved
Prep Batch: 494017

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	39		1.00	40.9	4	mg/L		205	75 - 125	0	20

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-165969-1 DU
Matrix: Water
Analysis Batch: 494207

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Dissolved
Prep Batch: 494017

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Iron	39		39.7		mg/L		2	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-495098/3
Matrix: Water
Analysis Batch: 495098

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.20	0.095	mg/L			07/16/19 11:59	1

Lab Sample ID: LCS 500-495098/4
Matrix: Water
Analysis Batch: 495098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.04		mg/L		101	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-493152/3
Matrix: Water
Analysis Batch: 493152

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	3.7	mg/L			07/02/19 09:51	1

Lab Sample ID: LCS 500-493152/4
Matrix: Water
Analysis Batch: 493152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	102		mg/L		102	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-493243/1
Matrix: Water
Analysis Batch: 493243

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.3	mg/L			07/03/19 09:05	1

Lab Sample ID: LCS 500-493243/2
Matrix: Water
Analysis Batch: 493243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	270		mg/L		108	80 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 500-493519/1
Matrix: Water
Analysis Batch: 493519

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.050	0.050	mg/L			07/05/19 09:55	1

Lab Sample ID: LCS 500-493519/2
Matrix: Water
Analysis Batch: 493519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.500		mg/L		100	80 - 120

Lab Sample ID: 500-165969-1 MS
Matrix: Water
Analysis Batch: 493519

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	0.500	0.560		mg/L		112	75 - 125

Lab Sample ID: 500-165969-1 MSD
Matrix: Water
Analysis Batch: 493519

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	0.500	0.560		mg/L		112	75 - 125	0	20

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-493145/12
Matrix: Water
Analysis Batch: 493145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	1.0	mg/L			07/02/19 15:59	1

Lab Sample ID: LCS 500-493145/13
Matrix: Water
Analysis Batch: 493145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.1		mg/L		102	85 - 115

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 500-492928/1
Matrix: Water
Analysis Batch: 492928

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.20	0.20	mg/L			07/01/19 13:50	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Method: SM 4500 Cl F - Chlorine, Residual (Continued)

Lab Sample ID: LCS 500-492928/2
Matrix: Water
Analysis Batch: 492928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorine, Total Residual	28.3	32.0		mg/L		113	80 - 120

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-165969-1 DU
Matrix: Water
Analysis Batch: 494606

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9	HF	6.9		SU		0.3	

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-493073/3
Matrix: Water
Analysis Batch: 493073

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			06/29/19 12:40	1

Lab Sample ID: LCS 500-493073/4
Matrix: Water
Analysis Batch: 493073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.0999		mg/L		100	80 - 120

Lab Sample ID: 500-165969-1 MS
Matrix: Water
Analysis Batch: 493073

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	ND		0.100	0.0979		mg/L		98	75 - 125

Lab Sample ID: 500-165969-1 MSD
Matrix: Water
Analysis Batch: 493073

Client Sample ID: PD-8-GWP-35-062819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	ND		0.100	0.0999		mg/L		100	75 - 125	2	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-494619/12
Matrix: Water
Analysis Batch: 494619

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			07/12/19 09:47	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: LCS 500-494619/13
Matrix: Water
Analysis Batch: 494619

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.919		mg/L		92	80 - 120

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 500-493214/1-A
Matrix: Water
Analysis Batch: 493338

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphate as PO4	ND		0.15	0.073	mg/L		07/03/19 08:05	07/03/19 14:05	1

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Client Sample ID: PD-8-GWP-35-062819

Date Collected: 06/28/19 11:45
Date Received: 06/29/19 09:40

Lab Sample ID: 500-165969-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			494017	07/09/19 15:46	BDE	TAL CHI
Dissolved	Analysis	6010B		1	494207	07/10/19 12:22	JEF	TAL CHI
Total/NA	Prep	3010A			492735	06/29/19 16:20	BDE	TAL CHI
Total/NA	Analysis	6010B		1	493001	07/01/19 15:39	EEN	TAL CHI
Total Recoverable	Prep	3005A			492736	06/29/19 16:22	BDE	TAL CHI
Total Recoverable	Analysis	SM 2340B		1	493381	07/03/19 19:47	FXG	TAL CHI
Total/NA	Analysis	300.0		1	495098	07/16/19 12:24	EAT	TAL CHI
Total/NA	Analysis	Nitrate by calc		1	494651	07/12/19 13:27	PFK	TAL CHI
Total/NA	Analysis	SM 2320B		1	493152	07/02/19 12:02	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	493243	07/03/19 09:46	CLB	TAL CHI
Total/NA	Analysis	SM 3500 Fe B		1	493519	07/05/19 09:59	MTB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	493145	07/02/19 16:53	EAT	TAL CHI
Total/NA	Analysis	SM 4500 Cl F		1	492928	07/01/19 14:03	MTB	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	494606		SMO	TAL CHI
					(Start)	07/12/19 14:42		
					(End)	07/12/19 14:46		
Total/NA	Analysis	SM 4500 NO2 B		1	493073		EAT	TAL CHI
					(Start)	06/29/19 12:41		
					(End)	06/29/19 12:42		
Total/NA	Analysis	SM 4500 NO3 F		1	494619	07/12/19 10:25	PFK	TAL CHI
Total/NA	Prep	SM 4500 P B			493214	07/03/19 08:05	BSW	TAL CHI
Total/NA	Analysis	SM 4500 P E		5	493338		BSW	TAL CHI
					(Start)	07/03/19 14:11		
					(End)	07/03/19 14:12		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-165969-1

Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2903	04-30-19 *
Georgia	State Program	4	N/A	04-30-20
Hawaii	State Program	9	N/A	04-30-20
Illinois	NELAP	5	100201	04-30-20
Indiana	State Program	5	C-IL-02	06-30-19 *
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-19 *
Kentucky (UST)	State Program	4	66	06-30-19 *
Kentucky (WW)	State Program	4	KY90023	12-31-19
Louisiana	NELAP	6	30720	06-30-20
Mississippi	State Program	4	N/A	06-30-19 *
New York	NELAP	2	12019	04-01-20
North Carolina (WW/SW)	State Program	4	291	12-31-19
North Dakota	State Program	8	R-194	05-30-19 *
Oklahoma	State		8908	08-31-19
Oklahoma	State Program	6	8908	08-31-19 *
South Carolina	State Program	4	77001	05-30-19 *
Wisconsin	State Program	5	999580010	08-31-19 *
Wyoming	State Program	8	8TMS-Q	04-30-19 *

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200041	10-09-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

500 - 165969

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (__Pensacola__)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:

☐GW FDG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☐OTHER _____

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 6/28/2019
PO #	GSAP Project ID	PAGE: 1 of 1
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDP DELIVERABLE TO (Name, Company, Off ce Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID
SAMPLER NAME(S) (Print): James Ragatz
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS): ☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND
☐LA - RWQCB REPORT FORMAT ☐UST AGENCY:
DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com, james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDO DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	4500_CL_F mod Alkalinity	3500 Fe2 B TDS	sm4500 H+ pH	SM4500 NO2_B	4500 PE MOD	SM 4500 MOD P_E	SM23400 Total Hardness	6010 B MOD Ca, Mn, Na, Fe	6010 B MOD Dissolved Iron	SM4500 SO4_E	sm4500 NO3_F	FIELD NOTES:
1	PD-8-GWP-35-062819	6/28/2019	11:45	Water		x	x	x		5	x	x	x	x	x	x	x	x	x	x	x	TEMPERATURE ON RECEIPT C°: 2.1

500-165969 COC

Container PID Readings or Laboratory Notes

Sulfuric Acid, Nitric Acid (preservatives)

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
		6/28/2019	1700
Relinquished by: (Signature)	Received by: (Signature) Paula Buckley TACHI	Date: 6/29/19	Time: 0940
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

TRK# 790867190584

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 500-165969-1

Login Number: 165969
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Roxana Predesign Water Quality Data Review

Laboratory SDG: 500-166405

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/9/2019

Guidance: USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review 2017

Sample Identification
PD-13-GWP-46-070819

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, ferrous iron, total residual chlorine and pH were analyzed outside the EPA recommended analysis holding time of 15 minutes and results should be considered approximate. Initial volumes used for sample PD-13-GWP-46-070819 were outside those used by standard procedure due to matrix interference; reporting limits were adjusted accordingly and no qualification of data was required.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes, with the exceptions of ferrous iron, total residual chlorine and pH discussed in section 2.0 of this data review.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Samples were analyzed for total and dissolved ICP metals, hardness as calcium carbonate, sulfate, nitrate, alkalinity, total dissolved solids, ferrous iron, chloride, chlorine, nitrite, phosphate and pH. Surrogates are not required for these analyses.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166405-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/29/2019 9:40:56 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/29/2019

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Laboratory Job ID: 500-166405-1

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Job ID: 500-166405-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-166405-1

Comments
No additional comments.

Receipt
The sample was received on 7/10/2019 9:10 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

Metals
Method(s) 3005A: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: PD-13-GWP-46-070819 (500-166405-1). The reporting limits (RLs) have been adjusted proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) SM 4500 NO2 B: The continuing calibration verification (CCV) associated with batch 500-494220 recovered above the upper control limit for Nitrogen, Nitrite at 112%. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: PD-13-GWP-46-070819 (500-166405-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166405-1	PD-13-GWP-46-070819	Water	07/08/19 12:15	07/10/19 09:10	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Client Sample ID: PD-13-GWP-46-070819

Lab Sample ID: 500-166405-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	520		2.0	0.53	mg/L	10		6010B	Total/NA
Iron	22		2.0	0.82	mg/L	10		6010B	Total/NA
Potassium	690		5.0	0.66	mg/L	10		6010B	Total/NA
Magnesium	250		1.0	0.49	mg/L	10		6010B	Total/NA
Manganese	0.79		0.10	0.023	mg/L	10		6010B	Total/NA
Sodium	3100	B	10	0.97	mg/L	10		6010B	Total/NA
Iron	23	B	0.20	0.082	mg/L	1		6010B	Dissolved
Calcium hardness as CaCO3	1900		5.0	2.5	mg/L	1		SM 2340B	Total Recoverable
Sulfate	0.41		0.20	0.095	mg/L	1		300.0	Total/NA
Total Alkalinity	440		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	700		10	4.3	mg/L	1		SM 2540C	Total/NA
Ferrous Iron	0.10	HF	0.050	0.050	mg/L	1		SM 3500 Fe B	Total/NA
Chloride	120		10	5.0	mg/L	5		SM 4500 Cl- E	Total/NA
pH	7.0	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA
Phosphate as PO4	12		1.5	0.73	mg/L	1		SM 4500 P E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Client Sample ID: PD-13-GWP-46-070819
Date Collected: 07/08/19 12:15
Date Received: 07/10/19 09:10

Lab Sample ID: 500-166405-1
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	520		2.0	0.53	mg/L		07/10/19 15:45	07/11/19 20:20	10
Iron	22		2.0	0.82	mg/L		07/10/19 15:45	07/11/19 20:20	10
Potassium	690		5.0	0.66	mg/L		07/10/19 15:45	07/11/19 20:20	10
Magnesium	250		1.0	0.49	mg/L		07/10/19 15:45	07/11/19 20:20	10
Manganese	0.79		0.10	0.023	mg/L		07/10/19 15:45	07/11/19 20:20	10
Sodium	3100	B	10	0.97	mg/L		07/10/19 15:45	07/11/19 20:20	10

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	23	B	0.20	0.082	mg/L		07/11/19 07:42	07/11/19 22:11	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium hardness as CaCO3	1900		5.0	2.5	mg/L		07/11/19 07:42	07/12/19 07:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.41		0.20	0.095	mg/L			07/20/19 00:49	1
Nitrogen, Nitrate	ND		0.10	0.041	mg/L			07/24/19 07:07	1
Total Alkalinity	440		5.0	3.7	mg/L			07/15/19 11:05	1
Total Dissolved Solids	700		10	4.3	mg/L			07/11/19 02:16	1
Ferrous Iron	0.10	HF	0.050	0.050	mg/L			07/17/19 09:25	1
Chloride	120		10	5.0	mg/L			07/26/19 14:39	5
Chlorine, Total Residual	ND	HF	0.20	0.20	mg/L			07/11/19 08:47	1
pH	7.0	HF	0.2	0.2	SU			07/12/19 15:10	1
Nitrogen, Nitrite	ND	^	0.020	0.0054	mg/L			07/10/19 12:07	1
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			07/24/19 09:51	1
Phosphate as PO4	12		1.5	0.73	mg/L		07/22/19 11:00	07/25/19 14:01	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2320B	Alkalinity	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 3500 Fe B	Iron, Ferrous	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 Cl F	Chlorine, Residual	SM	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Client Sample ID: PD-13-GWP-46-070819

Date Collected: 07/08/19 12:15
Date Received: 07/10/19 09:10

Lab Sample ID: 500-166405-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			494325	07/11/19 07:42	SAH	TAL CHI
Dissolved	Analysis	6010B		1	494502	07/11/19 22:11	JEF	TAL CHI
Total/NA	Prep	3010A			494259	07/10/19 15:45	BDE	TAL CHI
Total/NA	Analysis	6010B		10	494503	07/11/19 20:20	JEF	TAL CHI
Total Recoverable	Prep	3005A			494325	07/11/19 07:42	SAH	TAL CHI
Total Recoverable	Analysis	SM 2340B		1	494522	07/12/19 07:55	JEF	TAL CHI
Total/NA	Analysis	300.0		1	495801	07/20/19 00:49	EAT	TAL CHI
Total/NA	Analysis	Nitrate by calc		1	496298	07/24/19 07:07	PFK	TAL CHI
Total/NA	Analysis	SM 2320B		1	495010	07/15/19 11:05	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	494310	07/11/19 02:16	CLB	TAL CHI
Total/NA	Analysis	SM 3500 Fe B		1	495295	07/17/19 09:25	MTB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	496903	07/26/19 14:39	EAT	TAL CHI
Total/NA	Analysis	SM 4500 Cl F		1	494358	07/11/19 08:47	MTB	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	494606		SMO	TAL CHI
					(Start)	07/12/19 15:10		
					(End)	07/12/19 15:15		
Total/NA	Analysis	SM 4500 NO2 B		1	494220		PFK	TAL CHI
					(Start)	07/10/19 12:07		
					(End)	07/10/19 12:08		
Total/NA	Analysis	SM 4500 NO3 F		1	496403	07/24/19 09:51	PFK	TAL CHI
Total/NA	Prep	SM 4500 P B			495970	07/22/19 11:00	AS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	496651		PFK	TAL CHI
					(Start)	07/25/19 14:01		
					(End)	07/25/19 14:02		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Metals

Prep Batch: 494259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	3010A	
MB 500-494259/1-A	Method Blank	Total/NA	Water	3010A	
LCS 500-494259/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 494325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Dissolved	Water	3005A	
500-166405-1	PD-13-GWP-46-070819	Total Recoverable	Water	3005A	
MB 500-494325/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-494325/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 494502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Dissolved	Water	6010B	494325
MB 500-494325/1-A	Method Blank	Total Recoverable	Water	6010B	494325
LCS 500-494325/2-A	Lab Control Sample	Total Recoverable	Water	6010B	494325

Analysis Batch: 494503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	6010B	494259
MB 500-494259/1-A	Method Blank	Total/NA	Water	6010B	494259
LCS 500-494259/2-A	Lab Control Sample	Total/NA	Water	6010B	494259

Analysis Batch: 494522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total Recoverable	Water	SM 2340B	494325

General Chemistry

Analysis Batch: 494220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 NO2 B	
MB 500-494220/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	
LCS 500-494220/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
500-166405-1 MS	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 NO2 B	
500-166405-1 MSD	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 494310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 2540C	
MB 500-494310/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-494310/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-166405-1 MS	PD-13-GWP-46-070819	Total/NA	Water	SM 2540C	
500-166405-1 DU	PD-13-GWP-46-070819	Total/NA	Water	SM 2540C	

Analysis Batch: 494358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 Cl F	
MB 500-494358/1	Method Blank	Total/NA	Water	SM 4500 Cl F	
LCS 500-494358/2	Lab Control Sample	Total/NA	Water	SM 4500 Cl F	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

General Chemistry

Analysis Batch: 494606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 H+ B	
LCS 500-494606/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-494606/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-166405-1 DU	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 495010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 2320B	
MB 500-495010/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-495010/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 495295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 3500 Fe B	
MB 500-495295/1	Method Blank	Total/NA	Water	SM 3500 Fe B	
LCS 500-495295/2	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	
500-166405-1 MS	PD-13-GWP-46-070819	Total/NA	Water	SM 3500 Fe B	
500-166405-1 MSD	PD-13-GWP-46-070819	Total/NA	Water	SM 3500 Fe B	

Analysis Batch: 495801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	300.0	
MB 500-495801/9	Method Blank	Total/NA	Water	300.0	
LCS 500-495801/10	Lab Control Sample	Total/NA	Water	300.0	
500-166405-1 MS	PD-13-GWP-46-070819	Total/NA	Water	300.0	
500-166405-1 MSD	PD-13-GWP-46-070819	Total/NA	Water	300.0	

Prep Batch: 495970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 P B	
MB 500-495970/1-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 500-495970/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Analysis Batch: 496298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	Nitrate by calc	

Analysis Batch: 496403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 NO3 F	
MB 500-496403/64	Method Blank	Total/NA	Water	SM 4500 NO3 F	
LCS 500-496403/65	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 496651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 P E	495970
MB 500-495970/1-A	Method Blank	Total/NA	Water	SM 4500 P E	495970
LCS 500-495970/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P E	495970

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

General Chemistry

Analysis Batch: 496903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166405-1	PD-13-GWP-46-070819	Total/NA	Water	SM 4500 Cl- E	
MB 500-496903/50	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-496903/51	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-494259/1-A
Matrix: Water
Analysis Batch: 494503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494259

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.20	0.053	mg/L		07/10/19 15:45	07/11/19 16:48	1
Iron	ND		0.20	0.082	mg/L		07/10/19 15:45	07/11/19 16:48	1
Manganese	ND		0.010	0.0023	mg/L		07/10/19 15:45	07/11/19 16:48	1
Sodium	0.117	J	1.0	0.097	mg/L		07/10/19 15:45	07/11/19 16:48	1

Lab Sample ID: LCS 500-494259/2-A
Matrix: Water
Analysis Batch: 494503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494259

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.94		mg/L		99	80 - 120
Iron	1.00	1.08		mg/L		108	80 - 120
Manganese	0.500	0.498		mg/L		100	80 - 120
Sodium	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: MB 500-494325/1-A
Matrix: Water
Analysis Batch: 494502

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 494325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.108	J	0.20	0.082	mg/L		07/11/19 07:42	07/11/19 21:47	1

Lab Sample ID: LCS 500-494325/2-A
Matrix: Water
Analysis Batch: 494502

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 494325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.17		mg/L		117	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-495801/9
Matrix: Water
Analysis Batch: 495801

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.20	0.095	mg/L			07/19/19 19:26	1

Lab Sample ID: LCS 500-495801/10
Matrix: Water
Analysis Batch: 495801

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.01		mg/L		100	90 - 110

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 500-166405-1 MS
Matrix: Water
Analysis Batch: 495801

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	0.41		2.50	2.90		mg/L		100	80 - 120

Lab Sample ID: 500-166405-1 MSD
Matrix: Water
Analysis Batch: 495801

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	0.41		2.50	2.94		mg/L		101	80 - 120	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-495010/3
Matrix: Water
Analysis Batch: 495010

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	3.7	mg/L			07/15/19 10:21	1

Lab Sample ID: LCS 500-495010/4
Matrix: Water
Analysis Batch: 495010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	96.9		mg/L		97	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-494310/1
Matrix: Water
Analysis Batch: 494310

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.3	mg/L			07/11/19 02:11	1

Lab Sample ID: LCS 500-494310/2
Matrix: Water
Analysis Batch: 494310

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	274		mg/L		110	80 - 120

Lab Sample ID: 500-166405-1 MS
Matrix: Water
Analysis Batch: 494310

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	700		250	1000		mg/L		118	75 - 125

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 500-166405-1 DU
Matrix: Water
Analysis Batch: 494310

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	700		700		mg/L		0.6	5

Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 500-495295/1
Matrix: Water
Analysis Batch: 495295

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.050	0.050	mg/L			07/17/19 09:15	1

Lab Sample ID: LCS 500-495295/2
Matrix: Water
Analysis Batch: 495295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.500		mg/L		100	80 - 120

Lab Sample ID: 500-166405-1 MS
Matrix: Water
Analysis Batch: 495295

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.10	HF	0.500	0.540		mg/L		88	75 - 125

Lab Sample ID: 500-166405-1 MSD
Matrix: Water
Analysis Batch: 495295

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	0.10	HF	0.500	0.520		mg/L		84	75 - 125	4	20

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-496903/50
Matrix: Water
Analysis Batch: 496903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	1.0	mg/L			07/26/19 14:24	1

Lab Sample ID: LCS 500-496903/51
Matrix: Water
Analysis Batch: 496903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.8		mg/L		108	85 - 115

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 500-494358/1
Matrix: Water
Analysis Batch: 494358

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.20	0.20	mg/L			07/11/19 08:45	1

Lab Sample ID: LCS 500-494358/2
Matrix: Water
Analysis Batch: 494358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorine, Total Residual	28.3	30.0		mg/L		106	80 - 120

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-166405-1 DU
Matrix: Water
Analysis Batch: 494606

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	HF	7.0		SU		0.3	

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-494220/3
Matrix: Water
Analysis Batch: 494220

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	ND	^	0.020	0.0054	mg/L			07/10/19 12:06	1

Lab Sample ID: LCS 500-494220/4
Matrix: Water
Analysis Batch: 494220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.100	^	mg/L		100	80 - 120

Lab Sample ID: 500-166405-1 MS
Matrix: Water
Analysis Batch: 494220

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	ND	^	0.100	0.100	^	mg/L		100	75 - 125

Lab Sample ID: 500-166405-1 MSD
Matrix: Water
Analysis Batch: 494220

Client Sample ID: PD-13-GWP-46-070819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	ND	^	0.100	0.100	^	mg/L		100	75 - 125	0	20

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-496403/64
Matrix: Water
Analysis Batch: 496403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			07/24/19 09:46	1

Lab Sample ID: LCS 500-496403/65
Matrix: Water
Analysis Batch: 496403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.998		mg/L		100	80 - 120

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 500-495970/1-A
Matrix: Water
Analysis Batch: 496651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphate as PO4	ND		0.15	0.073	mg/L		07/22/19 11:00	07/25/19 14:00	1

Lab Sample ID: LCS 500-495970/2-A
Matrix: Water
Analysis Batch: 496651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphate as PO4	1.53	1.52		mg/L		99	80 - 120

500-166405

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (___Pensacola_____)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐ GW FDG	☐ PIPELINE	☐ RETAIL
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES
☐ TRANSPORTATION	☐ OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐ CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/9/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM — LOG CODE:

ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell

TELEPHONE: 314-429-0100 — FAX: 314-429-0462 — Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

170 East Rand Avenue, Hartford	State: IL	AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel	PHONE NO.: 3144290100	E-MAIL: elizabeth.kunkel@aecom.com — AECOM Other ID
SAMPLER NAME(S) (Print): James Ragatz		LAB USE ONLY

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	4500_Cl_F mod Alkalinity	3500 (+2 B TDS	sm4500 H+ pH	SIM4500 NO2_B	4500 PE MOD	SM 4500 MOD P_E	SM2340B Total Hardness	6010 B MOD Ca, Mn, Na, Fe	6010 B MOD Dissolved Iron	SIM4500 S04_E	sm4500 NO3_F	Container PID Readings or Laboratory Notes
1	PD-13-GWP-46-070819	7/8/2019	12:15	Water		x	x	x		5	x	x	x	x	x	x	x	x	x	x	x	Sulfuric Acid, Nitric Acid (preservatives)

500-166405 COC

FIELD NOTES:

TEMPERATURE ON RECEIPT C° 0.2-1.7

Relinquished by: (Signature)	Received by: (Signature) Fed Ex 7909 6719 0600	Date: 7/8/2019	Time: 17:45
Relinquished by: (Signature)	Received by: (Signature) Paula Buckley TA CIH	Date: 7/10/19	Time: 0910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 1DMay17

CS 1003222
CS 1003223

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 500-166405-1

Login Number: 166405
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166405-1

Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2903	04-30-19 *
Georgia	State Program	4	N/A	04-30-20
Georgia	State Program	4	939	04-30-20
Hawaii	State Program	9	N/A	04-30-20
Illinois	NELAP	5	100201	04-30-20
Indiana	State Program	5	C-IL-02	04-30-20
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-19 *
Kentucky (UST)	State Program	4	66	04-30-20
Kentucky (WW)	State Program	4	KY90023	12-31-19
Louisiana	NELAP	6	30720	06-30-20
Mississippi	State Program	4	N/A	06-30-19 *
New York	NELAP	2	12019	04-01-20
New York	NELAP		12019	04-01-20
North Carolina (WW/SW)	State Program	4	291	12-31-19
North Dakota	State Program	8	R-194	05-30-19 *
Oklahoma	State		8908	08-31-19
Oklahoma	State Program	6	8908	08-31-19 *
South Carolina	State Program	4	77001	05-30-19 *
Wisconsin	State Program	5	999580010	08-31-19 *
Wyoming	State Program	8	8TMS-Q	04-30-20

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200041	10-09-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Water Quality Data Review

Laboratory SDG: 500-166811

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/9/2019

Guidance: USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review 2017

Sample Identification
PD-4-GWP-60-071619

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, ferrous iron, total residual chlorine and pH were analyzed outside the EPA recommended analysis holding time of 15 minutes and results should be considered approximate.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes, with the exceptions of ferrous iron, total residual chlorine and pH discussed in section 2.0 of this data review.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Samples were analyzed for total and dissolved ICP metals, hardness as calcium carbonate, sulfate, nitrate, alkalinity, total dissolved solids, ferrous iron, chloride, chlorine, nitrite, phosphate and pH. Surrogates are not required for these analyses.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166811-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
7/31/2019 2:27:50 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 7/31/2019

LINKS

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Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Laboratory Job ID: 500-166811-1

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Job ID: 500-166811-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-166811-1

Comments
No additional comments.

Receipt
The sample was received on 7/17/2019 11:12 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166811-1	PD-4-GWP-60-071619	Water	07/16/19 10:30	07/17/19 11:12	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Client Sample ID: PD-4-GWP-60-071619

Lab Sample ID: 500-166811-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	320	B	0.20	0.053	mg/L	1		6010B	Total/NA
Iron	74		0.20	0.082	mg/L	1		6010B	Total/NA
Potassium	12		0.50	0.066	mg/L	1		6010B	Total/NA
Magnesium	66		0.10	0.049	mg/L	1		6010B	Total/NA
Manganese	4.8		0.010	0.0023	mg/L	1		6010B	Total/NA
Sodium	74	B	1.0	0.097	mg/L	1		6010B	Total/NA
Iron	11		0.20	0.082	mg/L	1		6010B	Dissolved
Calcium hardness as CaCO3	900		0.50	0.25	mg/L	1		SM 2340B	Total Recoverable
Sulfate	84		4.0	1.9	mg/L	20		300.0	Total/NA
Total Alkalinity	450		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	940		10	4.3	mg/L	1		SM 2540C	Total/NA
Ferrous Iron	3.2	HF	0.10	0.10	mg/L	2		SM 3500 Fe B	Total/NA
Chloride	130		10	5.0	mg/L	5		SM 4500 Cl- E	Total/NA
pH	7.2	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 11:12

Lab Sample ID: 500-166811-1
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	320	B	0.20	0.053	mg/L		07/18/19 07:42	07/18/19 15:58	1
Iron	74		0.20	0.082	mg/L		07/18/19 07:42	07/18/19 15:58	1
Potassium	12		0.50	0.066	mg/L		07/18/19 07:42	07/18/19 15:58	1
Magnesium	66		0.10	0.049	mg/L		07/18/19 07:42	07/18/19 15:58	1
Manganese	4.8		0.010	0.0023	mg/L		07/18/19 07:42	07/18/19 15:58	1
Sodium	74	B	1.0	0.097	mg/L		07/18/19 07:42	07/18/19 15:58	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11		0.20	0.082	mg/L		07/18/19 07:41	07/18/19 14:25	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium hardness as CaCO3	900		0.50	0.25	mg/L		07/18/19 07:41	07/19/19 08:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	84		4.0	1.9	mg/L			07/23/19 21:39	20
Nitrogen, Nitrate	ND		0.10	0.041	mg/L			07/30/19 06:43	1
Total Alkalinity	450		5.0	3.7	mg/L			07/23/19 11:46	1
Total Dissolved Solids	940		10	4.3	mg/L			07/18/19 08:14	1
Ferrous Iron	3.2	HF	0.10	0.10	mg/L			07/17/19 11:50	2
Chloride	130		10	5.0	mg/L			07/22/19 15:34	5
Chlorine, Total Residual	ND	HF	0.20	0.20	mg/L			07/19/19 07:42	1
pH	7.2	HF	0.2	0.2	SU			07/30/19 16:22	1
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			07/18/19 00:13	1
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			07/26/19 08:43	1
Phosphate as PO4	ND		0.15	0.073	mg/L		07/29/19 12:00	07/30/19 16:39	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2320B	Alkalinity	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 3500 Fe B	Iron, Ferrous	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 Cl F	Chlorine, Residual	SM	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Client Sample ID: PD-4-GWP-60-071619

Date Collected: 07/16/19 10:30
Date Received: 07/17/19 11:12

Lab Sample ID: 500-166811-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			495403	07/18/19 07:41	SAH	TAL CHI
Dissolved	Analysis	6010B		1	495604	07/18/19 14:25	EEN	TAL CHI
Total/NA	Prep	3010A			495404	07/18/19 07:42	SAH	TAL CHI
Total/NA	Analysis	6010B		1	495604	07/18/19 15:58	EEN	TAL CHI
Total Recoverable	Prep	3005A			495403	07/18/19 07:41	SAH	TAL CHI
Total Recoverable	Analysis	SM 2340B		1	495651	07/19/19 08:55	EEN	TAL CHI
Total/NA	Analysis	300.0		20	496212	07/23/19 21:39	EAT	TAL CHI
Total/NA	Analysis	Nitrate by calc		1	497238	07/30/19 06:43	JMP	TAL CHI
Total/NA	Analysis	SM 2320B		1	496242	07/23/19 11:46	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	495462	07/18/19 08:14	CLB	TAL CHI
Total/NA	Analysis	SM 3500 Fe B		2	495295	07/17/19 11:50	MTB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	496035	07/22/19 15:34	EAT	TAL CHI
Total/NA	Analysis	SM 4500 Cl F		1	495760	07/19/19 07:42	MTB	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	497319		SMO	TAL CHI
					(Start)	07/30/19 16:22		
					(End)	07/30/19 16:24		
Total/NA	Analysis	SM 4500 NO2 B		1	495480		PFK	TAL CHI
					(Start)	07/18/19 00:13		
					(End)	07/18/19 00:13		
Total/NA	Analysis	SM 4500 NO3 F		1	496870	07/26/19 08:43	PFK	TAL CHI
Total/NA	Prep	SM 4500 P B			497152	07/29/19 12:00	AS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	497417		PFK	TAL CHI
					(Start)	07/30/19 16:39		
					(End)	07/30/19 16:39		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Metals

Prep Batch: 495403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Dissolved	Water	3005A	
500-166811-1	PD-4-GWP-60-071619	Total Recoverable	Water	3005A	
MB 500-495403/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-495403/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 495404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	3010A	
MB 500-495404/1-A	Method Blank	Total/NA	Water	3010A	
LCS 500-495404/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 500-495404/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	

Analysis Batch: 495604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Dissolved	Water	6010B	495403
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	6010B	495404
MB 500-495403/1-A	Method Blank	Total Recoverable	Water	6010B	495403
MB 500-495404/1-A	Method Blank	Total/NA	Water	6010B	495404
LCS 500-495403/2-A	Lab Control Sample	Total Recoverable	Water	6010B	495403
LCS 500-495404/2-A	Lab Control Sample	Total/NA	Water	6010B	495404
LCSD 500-495404/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	495404

Analysis Batch: 495651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total Recoverable	Water	SM 2340B	495403

General Chemistry

Analysis Batch: 495295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 3500 Fe B	
MB 500-495295/1	Method Blank	Total/NA	Water	SM 3500 Fe B	
LCS 500-495295/2	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	

Analysis Batch: 495462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 2540C	
MB 500-495462/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-495462/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-166811-1 MS	PD-4-GWP-60-071619	Total/NA	Water	SM 2540C	
500-166811-1 DU	PD-4-GWP-60-071619	Total/NA	Water	SM 2540C	

Analysis Batch: 495480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 NO2 B	
MB 500-495480/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	
LCS 500-495480/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 495760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 Cl F	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

General Chemistry (Continued)

Analysis Batch: 495760 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-495760/1	Method Blank	Total/NA	Water	SM 4500 Cl F	
500-166811-1 DU	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 Cl F	

Analysis Batch: 496035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 Cl- E	
MB 500-496035/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-496035/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 496212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	300.0	
MB 500-496212/3	Method Blank	Total/NA	Water	300.0	
LCS 500-496212/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 496242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 2320B	
MB 500-496242/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-496242/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 496870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 NO3 F	
MB 500-496870/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	
LCS 500-496870/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	

Prep Batch: 497152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 P B	
MB 500-497152/1-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 500-497152/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Analysis Batch: 497238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	Nitrate by calc	

Analysis Batch: 497319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 H+ B	
LCS 500-497319/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-497319/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-166811-1 DU	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 497417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166811-1	PD-4-GWP-60-071619	Total/NA	Water	SM 4500 P E	497152
MB 500-497152/1-A	Method Blank	Total/NA	Water	SM 4500 P E	497152
LCS 500-497152/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P E	497152

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-495404/1-A
Matrix: Water
Analysis Batch: 495604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495404

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.0929	J	0.20	0.053	mg/L		07/18/19 07:42	07/18/19 15:12	1
Iron	ND		0.20	0.082	mg/L		07/18/19 07:42	07/18/19 15:12	1
Potassium	ND		0.50	0.066	mg/L		07/18/19 07:42	07/18/19 15:12	1
Magnesium	ND		0.10	0.049	mg/L		07/18/19 07:42	07/18/19 15:12	1
Manganese	ND		0.010	0.0023	mg/L		07/18/19 07:42	07/18/19 15:12	1
Sodium	0.105	J	1.0	0.097	mg/L		07/18/19 07:42	07/18/19 15:12	1

Lab Sample ID: LCS 500-495404/2-A
Matrix: Water
Analysis Batch: 495604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495404

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.94		mg/L		99	80 - 120
Iron	1.00	0.963		mg/L		96	80 - 120
Potassium	10.0	9.69		mg/L		97	80 - 120
Magnesium	10.0	10.0		mg/L		100	80 - 120
Manganese	0.500	0.461		mg/L		92	80 - 120
Sodium	10.0	9.75		mg/L		98	80 - 120

Lab Sample ID: LCSD 500-495404/3-A
Matrix: Water
Analysis Batch: 495604

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495404

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	10.0	10.4		mg/L		104	80 - 120	5	20
Iron	1.00	1.00		mg/L		100	80 - 120	4	20
Potassium	10.0	10.1		mg/L		101	80 - 120	4	20
Magnesium	10.0	10.5		mg/L		105	80 - 120	5	20
Manganese	0.500	0.481		mg/L		96	80 - 120	4	20
Sodium	10.0	10.2		mg/L		102	80 - 120	4	20

Lab Sample ID: MB 500-495403/1-A
Matrix: Water
Analysis Batch: 495604

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 495403

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.082	mg/L		07/18/19 07:41	07/18/19 14:12	1

Lab Sample ID: LCS 500-495403/2-A
Matrix: Water
Analysis Batch: 495604

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 495403

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.06		mg/L		106	80 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-496212/3
Matrix: Water
Analysis Batch: 496212

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.20	0.095	mg/L			07/23/19 15:08	1

Lab Sample ID: LCS 500-496212/4
Matrix: Water
Analysis Batch: 496212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.08		mg/L		102	90 - 110

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-496242/3
Matrix: Water
Analysis Batch: 496242

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	3.7	mg/L			07/23/19 10:10	1

Lab Sample ID: LCS 500-496242/4
Matrix: Water
Analysis Batch: 496242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	98.6		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-495462/1
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.3	mg/L			07/18/19 08:03	1

Lab Sample ID: LCS 500-495462/2
Matrix: Water
Analysis Batch: 495462

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	286		mg/L		114	80 - 120

Lab Sample ID: 500-166811-1 MS
Matrix: Water
Analysis Batch: 495462

Client Sample ID: PD-4-GWP-60-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	940		250	1170		mg/L		93	75 - 125

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 500-166811-1 DU
Matrix: Water
Analysis Batch: 495462

Client Sample ID: PD-4-GWP-60-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	940		952		mg/L		1	5

Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 500-495295/1
Matrix: Water
Analysis Batch: 495295

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.050	0.050	mg/L			07/17/19 09:15	1

Lab Sample ID: LCS 500-495295/2
Matrix: Water
Analysis Batch: 495295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.500		mg/L		100	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-496035/12
Matrix: Water
Analysis Batch: 496035

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	1.0	mg/L			07/22/19 14:42	1

Lab Sample ID: LCS 500-496035/13
Matrix: Water
Analysis Batch: 496035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	85 - 115

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 500-495760/1
Matrix: Water
Analysis Batch: 495760

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.20	0.20	mg/L			07/19/19 07:40	1

Lab Sample ID: 500-166811-1 DU
Matrix: Water
Analysis Batch: 495760

Client Sample ID: PD-4-GWP-60-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chlorine, Total Residual	ND	HF	ND		mg/L		NC	20

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166811-1

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-166811-1 DU
Matrix: Water
Analysis Batch: 497319

Client Sample ID: PD-4-GWP-60-071619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	HF	7.2		SU		0	

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-495480/3
Matrix: Water
Analysis Batch: 495480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			07/18/19 00:05	1

Lab Sample ID: LCS 500-495480/4
Matrix: Water
Analysis Batch: 495480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.107		mg/L		107	80 - 120

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-496870/12
Matrix: Water
Analysis Batch: 496870

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			07/26/19 08:32	1

Lab Sample ID: LCS 500-496870/13
Matrix: Water
Analysis Batch: 496870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.994		mg/L		99	80 - 120

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 500-497152/1-A
Matrix: Water
Analysis Batch: 497417

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497152

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphate as PO4	ND		0.15	0.073	mg/L		07/29/19 12:00	07/30/19 16:30	1

Lab Sample ID: LCS 500-497152/2-A
Matrix: Water
Analysis Batch: 497417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 497152

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphate as PO4	1.53	1.35		mg/L		88	80 - 120

500-166811

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (___Chicago___)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: James Carrino
PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060
PlaNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02
☐ CHECK IF NO INCIDENT # APPLIES
DATE 7/16/2019
PAGE 1 of 1

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0462 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:
SAMPLER NAME(S) (print): Paul LeFleur
LAB USE ONLY

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com, Bob.billman@aecom.com; james.carrino@aecom.com, brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

| LAB USE ONLY | Field Sample Identification | SAMPLING DATE | SAMPLING TIME | MATRIX | PRESERVATIVE HCL | HNO3 | H2SO4 | NONE | OTHER | NO. OF CONT. | 4500 _CL_F mod Alkalinity | 3500 Fe+2 B TDS | sm4500 H+ pH | SM4500 NO2_B | 4500 PE MOD | SM 4500 MOD P_E | SM2340B Total hardness | 6010 B MOD Ca, Mn, Na, Fe | 6010 B MOD Dissolved Iron | SM4500 S04_E | sm4500 NO3_F | | |

ORIGIN ID:BLVA (618) 254-6153
JAMES CARRINO
AECOM
170 EAST RAND AVENUE

HARTFORD, IL 62048
UNITED STATES US

SHIP DATE: 28JUN19
ACTWGT: 30.00 LB
CAD: 107202118/INET4100

TO SAMPLE RECEIVING CHICAGO
EUROFINS TEST AMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484
(708) 534-5200 REF:
INV:
PO: DEPT.

565J1/0210/23AD

RMA:

FedEx Express

RETURNS MON-SAT
PRIORITY OVERNIGHT

TRK# 0221 7909 6719 0621

60484

IL-US

500-166811 Waybill

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line
2. Place label in shipping pouch and affix it to your shipment.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 500-166811-1

Login Number: 166811
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 500-166811-1
Project/Site: PreDesign Invest PW

Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2903	04-30-20
Georgia	State Program	4	N/A	04-30-20
Georgia	State Program	4	939	04-30-20
Hawaii	State Program	9	N/A	04-30-20
Illinois	NELAP	5	100201	04-30-20
Indiana	State Program	5	C-IL-02	04-30-20
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-19 *
Kentucky (UST)	State Program	4	66	04-30-20
Kentucky (WW)	State Program	4	KY90023	12-31-19
Louisiana	NELAP	6	30720	06-30-20
Mississippi	State Program	4	N/A	04-30-20
New York	NELAP	2	12019	04-01-20
New York	NELAP		12019	04-01-20
North Carolina (WW/SW)	State Program	4	291	12-31-19
North Dakota	State Program	8	R-194	05-30-19 *
Oklahoma	State		8908	08-31-19
Oklahoma	State Program	6	8908	08-31-19 *
South Carolina	State Program	4	77001	04-30-20
Wisconsin	State Program	5	999580010	08-31-19 *
Wyoming	State Program	8	8TMS-Q	04-30-20

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200041	10-09-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Water Quality Data Review

Laboratory SDG: 500-166907

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/9/2019

Guidance: USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review 2017

Sample Identification
PD-14-GWP-70-071719

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, ferrous iron, total residual chlorine and pH were analyzed outside the EPA recommended analysis holding time of 15 minutes and results should be considered approximate.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes, with the exceptions of ferrous iron, total residual chlorine and pH discussed in section 2.0 of this data review.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Samples were analyzed for total and dissolved ICP metals, hardness as calcium carbonate, sulfate, nitrate, alkalinity, total dissolved solids, ferrous iron, chloride, chlorine, nitrite, phosphate and pH. Surrogates are not required for these analyses.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166907-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/1/2019 3:06:20 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/1/2019

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166907-1	PD-14-GWP-70-071719	Water	07/17/19 15:30	07/18/19 09:30	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Client Sample ID: PD-14-GWP-70-071719

Lab Sample ID: 500-166907-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	240	B	0.20	0.053	mg/L	1		6010B	Total/NA
Iron	60	B	0.20	0.082	mg/L	1		6010B	Total/NA
Potassium	12		0.50	0.066	mg/L	1		6010B	Total/NA
Magnesium	57		0.10	0.049	mg/L	1		6010B	Total/NA
Manganese	3.9		0.010	0.0023	mg/L	1		6010B	Total/NA
Sodium	99		1.0	0.097	mg/L	1		6010B	Total/NA
Iron	7.4		0.20	0.082	mg/L	1		6010B	Dissolved
Calcium hardness as CaCO3	660		0.50	0.25	mg/L	1		SM 2340B	Total Recoverable
Sulfate	77		4.0	1.9	mg/L	20		300.0	Total/NA
Total Alkalinity	330		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	800		10	4.3	mg/L	1		SM 2540C	Total/NA
Chloride	140		10	5.0	mg/L	5		SM 4500 Cl- E	Total/NA
pH	7.2	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA
Nitrogen, Nitrite	0.0064	J	0.020	0.0054	mg/L	1		SM 4500 NO2 B	Total/NA
Phosphate as PO4	0.69		0.15	0.073	mg/L	1		SM 4500 P E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Client Sample ID: PD-14-GWP-70-071719

Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:30

Lab Sample ID: 500-166907-1
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	240	B	0.20	0.053	mg/L		07/18/19 15:44	07/19/19 11:03	1
Iron	60	B	0.20	0.082	mg/L		07/18/19 15:44	07/19/19 11:03	1
Potassium	12		0.50	0.066	mg/L		07/18/19 15:44	07/19/19 11:03	1
Magnesium	57		0.10	0.049	mg/L		07/18/19 15:44	07/19/19 11:03	1
Manganese	3.9		0.010	0.0023	mg/L		07/18/19 15:44	07/19/19 11:03	1
Sodium	99		1.0	0.097	mg/L		07/18/19 15:44	07/19/19 11:03	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.4		0.20	0.082	mg/L		07/19/19 07:58	07/20/19 00:27	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium hardness as CaCO3	660		0.50	0.25	mg/L		07/19/19 07:58	07/22/19 08:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	77		4.0	1.9	mg/L			07/25/19 21:04	20
Nitrogen, Nitrate	ND		0.10	0.041	mg/L			08/01/19 13:38	1
Total Alkalinity	330		5.0	3.7	mg/L			07/23/19 11:38	1
Total Dissolved Solids	800		10	4.3	mg/L			07/19/19 08:59	1
Ferrous Iron	ND	HF	0.050	0.050	mg/L			07/19/19 07:26	1
Chloride	140		10	5.0	mg/L			07/22/19 15:35	5
Chlorine, Total Residual	ND	HF	0.20	0.20	mg/L			07/19/19 07:46	1
pH	7.2	HF	0.2	0.2	SU			07/30/19 16:27	1
Nitrogen, Nitrite	0.0064	J	0.020	0.0054	mg/L			07/18/19 17:22	1
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			08/01/19 09:56	1
Phosphate as PO4	0.69		0.15	0.073	mg/L		07/29/19 12:00	07/30/19 20:10	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2320B	Alkalinity	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 3500 Fe B	Iron, Ferrous	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 Cl F	Chlorine, Residual	SM	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Client Sample ID: PD-14-GWP-70-071719

Date Collected: 07/17/19 15:30
Date Received: 07/18/19 09:30

Lab Sample ID: 500-166907-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			495621	07/19/19 07:58	SAH	TAL CHI
Dissolved	Analysis	6010B		1	495906	07/20/19 00:27	EEN	TAL CHI
Total/NA	Prep	3010A			495546	07/18/19 15:44	BDE	TAL CHI
Total/NA	Analysis	6010B		1	495739	07/19/19 11:03	EEN	TAL CHI
Total Recoverable	Prep	3005A			495621	07/19/19 07:58	SAH	TAL CHI
Total Recoverable	Analysis	SM 2340B		1	495918	07/22/19 08:15	EEN	TAL CHI
Total/NA	Analysis	300.0		20	496660	07/25/19 21:04	EAT	TAL CHI
Total/NA	Analysis	Nitrate by calc		1	497814	08/01/19 13:38	TAP	TAL CHI
Total/NA	Analysis	SM 2320B		1	496242	07/23/19 11:38	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	495671	07/19/19 08:59	CLB	TAL CHI
Total/NA	Analysis	SM 3500 Fe B		1	495756	07/19/19 07:26	MTB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	496035	07/22/19 15:35	EAT	TAL CHI
Total/NA	Analysis	SM 4500 Cl F		1	495760	07/19/19 07:46	MTB	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	497319		SMO	TAL CHI
					(Start)	07/30/19 16:27		
					(End)	07/30/19 16:29		
Total/NA	Analysis	SM 4500 NO2 B		1	495988		EAT	TAL CHI
					(Start)	07/18/19 17:22		
					(End)	07/18/19 17:22		
Total/NA	Analysis	SM 4500 NO3 F		1	497807	08/01/19 09:56	PFK	TAL CHI
Total/NA	Prep	SM 4500 P B			497153	07/29/19 12:00	AS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	497440		PFK	TAL CHI
					(Start)	07/30/19 20:10		
					(End)	07/30/19 20:30		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Metals

Prep Batch: 495546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	3010A	
MB 500-495546/1-A	Method Blank	Total/NA	Water	3010A	
LCS 500-495546/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 495621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Dissolved	Water	3005A	
500-166907-1	PD-14-GWP-70-071719	Total Recoverable	Water	3005A	
MB 500-495621/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-495621/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 495739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	6010B	495546
MB 500-495546/1-A	Method Blank	Total/NA	Water	6010B	495546
LCS 500-495546/2-A	Lab Control Sample	Total/NA	Water	6010B	495546

Analysis Batch: 495906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Dissolved	Water	6010B	495621
MB 500-495621/1-A	Method Blank	Total Recoverable	Water	6010B	495621
LCS 500-495621/2-A	Lab Control Sample	Total Recoverable	Water	6010B	495621

Analysis Batch: 495918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total Recoverable	Water	SM 2340B	495621

General Chemistry

Analysis Batch: 495671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 2540C	
MB 500-495671/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-495671/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-166907-1 MS	PD-14-GWP-70-071719	Total/NA	Water	SM 2540C	
500-166907-1 DU	PD-14-GWP-70-071719	Total/NA	Water	SM 2540C	

Analysis Batch: 495756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 3500 Fe B	
MB 500-495756/1	Method Blank	Total/NA	Water	SM 3500 Fe B	
LCS 500-495756/2	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	
500-166907-1 MS	PD-14-GWP-70-071719	Total/NA	Water	SM 3500 Fe B	
500-166907-1 MSD	PD-14-GWP-70-071719	Total/NA	Water	SM 3500 Fe B	

Analysis Batch: 495760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 Cl F	
MB 500-495760/1	Method Blank	Total/NA	Water	SM 4500 Cl F	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

General Chemistry

Analysis Batch: 495988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 NO2 B	
MB 500-495988/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	
LCS 500-495988/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
500-166907-1 MS	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 NO2 B	
500-166907-1 MSD	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 496035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 Cl- E	
MB 500-496035/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-496035/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 496242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 2320B	
MB 500-496242/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-496242/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 496660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	300.0	
MB 500-496660/3	Method Blank	Total/NA	Water	300.0	
LCS 500-496660/4	Lab Control Sample	Total/NA	Water	300.0	

Prep Batch: 497153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 P B	
MB 500-497153/1-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 500-497153/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Analysis Batch: 497319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 H+ B	
LCS 500-497319/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-497319/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-166907-1 DU	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 497440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 P E	497153
MB 500-497153/1-A	Method Blank	Total/NA	Water	SM 4500 P E	497153
LCS 500-497153/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P E	497153

Analysis Batch: 497807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	SM 4500 NO3 F	
MB 500-497807/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	
LCS 500-497807/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

General Chemistry

Analysis Batch: 497814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166907-1	PD-14-GWP-70-071719	Total/NA	Water	Nitrate by calc	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-495546/1-A
Matrix: Water
Analysis Batch: 495739

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495546

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.0555	J	0.20	0.053	mg/L		07/18/19 15:44	07/19/19 10:01	1
Iron	0.151	J	0.20	0.082	mg/L		07/18/19 15:44	07/19/19 10:01	1
Potassium	ND		0.50	0.066	mg/L		07/18/19 15:44	07/19/19 10:01	1
Magnesium	ND		0.10	0.049	mg/L		07/18/19 15:44	07/19/19 10:01	1
Manganese	ND		0.010	0.0023	mg/L		07/18/19 15:44	07/19/19 10:01	1
Sodium	ND		1.0	0.097	mg/L		07/18/19 15:44	07/19/19 10:01	1

Lab Sample ID: LCS 500-495546/2-A
Matrix: Water
Analysis Batch: 495739

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495546

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.51		mg/L		95	80 - 120
Iron	1.00	1.08		mg/L		108	80 - 120
Potassium	10.0	9.65		mg/L		96	80 - 120
Magnesium	10.0	9.75		mg/L		98	80 - 120
Manganese	0.500	0.494		mg/L		99	80 - 120
Sodium	10.0	10.2		mg/L		102	80 - 120

Lab Sample ID: MB 500-495621/1-A
Matrix: Water
Analysis Batch: 495906

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 495621

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.082	mg/L		07/19/19 07:58	07/20/19 00:19	1

Lab Sample ID: LCS 500-495621/2-A
Matrix: Water
Analysis Batch: 495906

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 495621

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.05		mg/L		105	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-496660/3
Matrix: Water
Analysis Batch: 496660

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.20	0.095	mg/L			07/25/19 15:32	1

Lab Sample ID: LCS 500-496660/4
Matrix: Water
Analysis Batch: 496660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.27		mg/L		105	90 - 110

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-496242/3
Matrix: Water
Analysis Batch: 496242

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	3.7	mg/L			07/23/19 10:10	1

Lab Sample ID: LCS 500-496242/4
Matrix: Water
Analysis Batch: 496242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	98.6		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-495671/1
Matrix: Water
Analysis Batch: 495671

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.3	mg/L			07/19/19 08:50	1

Lab Sample ID: LCS 500-495671/2
Matrix: Water
Analysis Batch: 495671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	280		mg/L		112	80 - 120

Lab Sample ID: 500-166907-1 MS
Matrix: Water
Analysis Batch: 495671

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	800		250	1050		mg/L		99	75 - 125

Lab Sample ID: 500-166907-1 DU
Matrix: Water
Analysis Batch: 495671

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	800		792		mg/L		2	5

Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 500-495756/1
Matrix: Water
Analysis Batch: 495756

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.050	0.050	mg/L			07/19/19 07:20	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Method: SM 3500 Fe B - Iron, Ferrous (Continued)

Lab Sample ID: LCS 500-495756/2
Matrix: Water
Analysis Batch: 495756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.500		mg/L		100	80 - 120

Lab Sample ID: 500-166907-1 MS
Matrix: Water
Analysis Batch: 495756

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	0.500	0.500		mg/L		100	75 - 125

Lab Sample ID: 500-166907-1 MSD
Matrix: Water
Analysis Batch: 495756

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	0.500	0.500		mg/L		100	75 - 125	0	20

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-496035/12
Matrix: Water
Analysis Batch: 496035

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	1.0	mg/L			07/22/19 14:42	1

Lab Sample ID: LCS 500-496035/13
Matrix: Water
Analysis Batch: 496035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	85 - 115

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 500-495760/1
Matrix: Water
Analysis Batch: 495760

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.20	0.20	mg/L			07/19/19 07:40	1

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-166907-1 DU
Matrix: Water
Analysis Batch: 497319

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	HF	7.2		SU		0.1	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-495988/3
Matrix: Water
Analysis Batch: 495988

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			07/18/19 17:21	1

Lab Sample ID: LCS 500-495988/4
Matrix: Water
Analysis Batch: 495988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: 500-166907-1 MS
Matrix: Water
Analysis Batch: 495988

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.0064	J	0.100	0.101		mg/L		95	75 - 125

Lab Sample ID: 500-166907-1 MSD
Matrix: Water
Analysis Batch: 495988

Client Sample ID: PD-14-GWP-70-071719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	0.0064	J	0.100	0.103		mg/L		97	75 - 125	2	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-497807/12
Matrix: Water
Analysis Batch: 497807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			08/01/19 09:30	1

Lab Sample ID: LCS 500-497807/13
Matrix: Water
Analysis Batch: 497807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.960		mg/L		96	80 - 120

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 500-497153/1-A
Matrix: Water
Analysis Batch: 497440

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497153

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphate as PO4	ND		0.15	0.073	mg/L		07/29/19 12:00	07/30/19 20:10	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Method: SM 4500 P E - Phosphorus (Continued)

Lab Sample ID: LCS 500-497153/2-A
Matrix: Water
Analysis Batch: 497440

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 497153

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphate as PO4	1.53	1.34		mg/L		87	80 - 120

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (___Chicago_____)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: James Carrino
PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060
PeNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02
☐ CHECK IF NO INCIDENT # APPLIES
DATE 7/17/2019
PAGE ___1___ of ___1___

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor, St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW
LAB DELIVERABLE to (Phone, Company, Office, contact): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID:
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY: 500-166907

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com, Bob.billman@aecom.com, james.carrino@aecom.com, brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS
UNIT COST 60592794 - 1.24.051 | NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	4500 _CL_F mod Alkalinity	3500 Fe2 B TDS	sm4500 H+ pH	SM4500 NO2_B	4500 PE MOD	SM 4500 MOD P_E	SM2340B Total hardness	6010 B MOD Ca, Mn, Na, Fe	6010 B MOD Dissolved Iron	SM4500 SO4_E	sm4500 NO3_F	500-166907 COC	FIELD NOTES:
	PD-14-GWP-70-071719	7/17/2019	15:30	Water		x	x	x		5	x	x	x	x	x	x	x	x	x	x	x		Sulfuric Acid, Nitric Acid (preservatives)

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
	Fedex: 7909 6719 0632 Custody Seal #: 1011634, 1011635	7/17/2019	18:00
Relinquished by: (Signature)	Received by: (Signature)	Date: 7/18/19	Time: 0930
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version 10May17

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 500-166907-1

Login Number: 166907
List Number: 1
Creator: James, Jeff A

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166907-1

Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2903	04-30-20
California	State Program	9	2903	04-30-20
Georgia	State Program	4	N/A	04-30-20
Georgia	State Program	4	939	04-30-20
Hawaii	State Program	9	N/A	04-30-20
Illinois	NELAP	5	100201	04-30-20
Indiana	State Program	5	C-IL-02	04-30-20
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-19 *
Kentucky (UST)	State Program	4	66	04-30-20
Kentucky (WW)	State Program	4	KY90023	12-31-19
Louisiana	NELAP	6	30720	06-30-20
Mississippi	State Program	4	N/A	04-30-20
New York	NELAP	2	12019	04-01-20
New York	NELAP		12019	04-01-20
North Carolina (WW/SW)	State Program	4	291	12-31-19
North Dakota	State Program	8	R-194	04-30-20
Oklahoma	State		8908	08-31-19
Oklahoma	State Program	6	8908	08-31-19 *
South Carolina	State Program	4	77001	04-30-20
Wisconsin	State Program	5	999580010	08-31-19 *
Wyoming	State Program	8	8TMS-Q	04-30-20

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200041	10-09-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Water Quality Data Review

Laboratory SDG: 500-166958

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/9/2019

Guidance: USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review 2017

Sample Identification
PD-2-GWP-50-071719

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, ferrous iron, total residual chlorine and pH were analyzed outside the EPA recommended analysis holding time of 15 minutes and results should be considered approximate.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes, with the exceptions of ferrous iron, total residual chlorine and pH discussed in section 2.0 of this data review.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Samples were analyzed for total and dissolved ICP metals, hardness as calcium carbonate, sulfate, nitrate, alkalinity, total dissolved solids, ferrous iron, chloride, chlorine, nitrite, phosphate and pH. Surrogates are not required for these analyses.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166958-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/2/2019 10:57:51 AM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/2/2019

LINKS

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166958-1	PD-2-GWP-50-071819	Water	07/18/19 14:10	07/19/19 09:20	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Client Sample ID: PD-2-GWP-50-071819

Lab Sample ID: 500-166958-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	280		0.20	0.053	mg/L	1		6010B	Total/NA
Iron	45		0.20	0.082	mg/L	1		6010B	Total/NA
Potassium	8.3		0.50	0.066	mg/L	1		6010B	Total/NA
Magnesium	56		0.10	0.049	mg/L	1		6010B	Total/NA
Manganese	1.9		0.010	0.0023	mg/L	1		6010B	Total/NA
Sodium	99	B	1.0	0.097	mg/L	1		6010B	Total/NA
Iron	19		0.20	0.082	mg/L	1		6010B	Dissolved
Calcium hardness as CaCO3	670		0.50	0.25	mg/L	1		SM 2340B	Total Recoverable
Sulfate	150		10	4.8	mg/L	50		300.0	Total/NA
Total Alkalinity	480		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		10	4.3	mg/L	1		SM 2540C	Total/NA
Ferrous Iron	9.5	HF	0.25	0.25	mg/L	5		SM 3500 Fe B	Total/NA
Chloride	130		10	5.0	mg/L	5		SM 4500 Cl- E	Total/NA
pH	7.0	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA
Nitrogen, Nitrite	0.0073	J	0.020	0.0054	mg/L	1		SM 4500 NO2 B	Total/NA
Phosphate as PO4	0.61		0.15	0.073	mg/L	1		SM 4500 P E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Client Sample ID: PD-2-GWP-50-071819

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:20

Lab Sample ID: 500-166958-1
Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	280		0.20	0.053	mg/L		07/20/19 09:17	07/22/19 16:44	1
Iron	45		0.20	0.082	mg/L		07/20/19 09:17	07/22/19 16:44	1
Potassium	8.3		0.50	0.066	mg/L		07/20/19 09:17	07/22/19 16:44	1
Magnesium	56		0.10	0.049	mg/L		07/20/19 09:17	07/22/19 16:44	1
Manganese	1.9		0.010	0.0023	mg/L		07/20/19 09:17	07/22/19 16:44	1
Sodium	99	B	1.0	0.097	mg/L		07/20/19 09:17	07/22/19 16:44	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	19		0.20	0.082	mg/L		07/23/19 08:19	07/24/19 03:38	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium hardness as CaCO3	670		0.50	0.25	mg/L		07/23/19 08:19	07/24/19 08:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	150		10	4.8	mg/L			07/22/19 21:43	50
Nitrogen, Nitrate	ND		0.10	0.041	mg/L			08/01/19 13:42	1
Total Alkalinity	480		5.0	3.7	mg/L			07/23/19 11:27	1
Total Dissolved Solids	1100		10	4.3	mg/L			07/22/19 08:44	1
Ferrous Iron	9.5	HF	0.25	0.25	mg/L			07/19/19 12:10	5
Chloride	130		10	5.0	mg/L			07/22/19 15:35	5
Chlorine, Total Residual	ND	HF	0.20	0.20	mg/L			07/19/19 12:05	1
pH	7.0	HF	0.2	0.2	SU			08/01/19 16:24	1
Nitrogen, Nitrite	0.0073	J	0.020	0.0054	mg/L			07/19/19 10:05	1
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			08/01/19 09:57	1
Phosphate as PO4	0.61		0.15	0.073	mg/L		07/29/19 12:00	07/30/19 20:57	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2320B	Alkalinity	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 3500 Fe B	Iron, Ferrous	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 Cl F	Chlorine, Residual	SM	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Client Sample ID: PD-2-GWP-50-071819

Date Collected: 07/18/19 14:10
Date Received: 07/19/19 09:20

Lab Sample ID: 500-166958-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			496101	07/23/19 08:19	SAH	TAL CHI
Dissolved	Analysis	6010B		1	496296	07/24/19 03:38	JEF	TAL CHI
Total/NA	Prep	3010A			495809	07/20/19 09:17	BDE	TAL CHI
Total/NA	Analysis	6010B		1	496071	07/22/19 16:44	EEN	TAL CHI
Total Recoverable	Prep	3005A			496101	07/23/19 08:19	SAH	TAL CHI
Total Recoverable	Analysis	SM 2340B		1	496330	07/24/19 08:18	JEF	TAL CHI
Total/NA	Analysis	300.0		50	496061	07/22/19 21:43	EAT	TAL CHI
Total/NA	Analysis	Nitrate by calc		1	497814	08/01/19 13:42	TAP	TAL CHI
Total/NA	Analysis	SM 2320B		1	496242	07/23/19 11:27	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	495925	07/22/19 08:44	CLB	TAL CHI
Total/NA	Analysis	SM 3500 Fe B		5	495756	07/19/19 12:10	MTB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	496035	07/22/19 15:35	EAT	TAL CHI
Total/NA	Analysis	SM 4500 Cl F		1	495760	07/19/19 12:05	MTB	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	497770		SMO	TAL CHI
					(Start)	08/01/19 16:24		
					(End)	08/01/19 16:26		
Total/NA	Analysis	SM 4500 NO2 B		1	495993		EAT	TAL CHI
					(Start)	07/19/19 10:05		
					(End)	07/19/19 10:05		
Total/NA	Analysis	SM 4500 NO3 F		1	497807	08/01/19 09:57	PFK	TAL CHI
Total/NA	Prep	SM 4500 P B			497154	07/29/19 12:00	AS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	497441		SA	TAL CHI
					(Start)	07/30/19 20:57		
					(End)	07/30/19 21:10		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Metals

Prep Batch: 495809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	3010A	
MB 500-495809/1-A	Method Blank	Total/NA	Water	3010A	
LCS 500-495809/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 496071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	6010B	495809
MB 500-495809/1-A	Method Blank	Total/NA	Water	6010B	495809
LCS 500-495809/2-A	Lab Control Sample	Total/NA	Water	6010B	495809

Prep Batch: 496101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Dissolved	Water	3005A	
500-166958-1	PD-2-GWP-50-071819	Total Recoverable	Water	3005A	
MB 500-496101/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-496101/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 496296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Dissolved	Water	6010B	496101
MB 500-496101/1-A	Method Blank	Total Recoverable	Water	6010B	496101
LCS 500-496101/2-A	Lab Control Sample	Total Recoverable	Water	6010B	496101

Analysis Batch: 496330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total Recoverable	Water	SM 2340B	496101

General Chemistry

Analysis Batch: 495756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 3500 Fe B	
MB 500-495756/1	Method Blank	Total/NA	Water	SM 3500 Fe B	
LCS 500-495756/2	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	

Analysis Batch: 495760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 Cl F	
MB 500-495760/1	Method Blank	Total/NA	Water	SM 4500 Cl F	

Analysis Batch: 495925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 2540C	
MB 500-495925/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-495925/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-166958-1 MS	PD-2-GWP-50-071819	Total/NA	Water	SM 2540C	
500-166958-1 DU	PD-2-GWP-50-071819	Total/NA	Water	SM 2540C	

Analysis Batch: 495993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 NO2 B	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

General Chemistry (Continued)

Analysis Batch: 495993 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-495993/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	
LCS 500-495993/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
500-166958-1 MS	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 NO2 B	
500-166958-1 MSD	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 496035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 Cl- E	
MB 500-496035/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-496035/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 496061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	300.0	
MB 500-496061/3	Method Blank	Total/NA	Water	300.0	
LCS 500-496061/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 496242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 2320B	
MB 500-496242/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-496242/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Prep Batch: 497154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 P B	
MB 500-497154/1-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 500-497154/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Analysis Batch: 497441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 P E	497154
MB 500-497154/1-A	Method Blank	Total/NA	Water	SM 4500 P E	497154
LCS 500-497154/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P E	497154

Analysis Batch: 497770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 H+ B	
LCS 500-497770/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-497770/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-166958-1 DU	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 497807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	SM 4500 NO3 F	
MB 500-497807/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	
LCS 500-497807/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 497814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166958-1	PD-2-GWP-50-071819	Total/NA	Water	Nitrate by calc	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-495809/1-A
Matrix: Water
Analysis Batch: 496071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495809

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.20	0.053	mg/L		07/20/19 09:17	07/22/19 16:00	1
Iron	ND		0.20	0.082	mg/L		07/20/19 09:17	07/22/19 16:00	1
Potassium	ND		0.50	0.066	mg/L		07/20/19 09:17	07/22/19 16:00	1
Magnesium	ND		0.10	0.049	mg/L		07/20/19 09:17	07/22/19 16:00	1
Manganese	ND		0.010	0.0023	mg/L		07/20/19 09:17	07/22/19 16:00	1
Sodium	0.118	J	1.0	0.097	mg/L		07/20/19 09:17	07/22/19 16:00	1

Lab Sample ID: LCS 500-495809/2-A
Matrix: Water
Analysis Batch: 496071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495809

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.91		mg/L		99	80 - 120
Iron	1.00	1.07		mg/L		107	80 - 120
Potassium	10.0	9.43		mg/L		94	80 - 120
Magnesium	10.0	9.88		mg/L		99	80 - 120
Manganese	0.500	0.506		mg/L		101	80 - 120
Sodium	10.0	9.65		mg/L		97	80 - 120

Lab Sample ID: MB 500-496101/1-A
Matrix: Water
Analysis Batch: 496296

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 496101

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.082	mg/L		07/23/19 08:19	07/24/19 03:30	1

Lab Sample ID: LCS 500-496101/2-A
Matrix: Water
Analysis Batch: 496296

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 496101

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.03		mg/L		103	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-496061/3
Matrix: Water
Analysis Batch: 496061

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.20	0.095	mg/L			07/22/19 21:18	1

Lab Sample ID: LCS 500-496061/4
Matrix: Water
Analysis Batch: 496061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.06		mg/L		101	90 - 110

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-496242/3
Matrix: Water
Analysis Batch: 496242

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	3.7	mg/L			07/23/19 10:10	1

Lab Sample ID: LCS 500-496242/4
Matrix: Water
Analysis Batch: 496242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	98.6		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-495925/1
Matrix: Water
Analysis Batch: 495925

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.3	mg/L			07/22/19 08:39	1

Lab Sample ID: LCS 500-495925/2
Matrix: Water
Analysis Batch: 495925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	280		mg/L		112	80 - 120

Lab Sample ID: 500-166958-1 MS
Matrix: Water
Analysis Batch: 495925

Client Sample ID: PD-2-GWP-50-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1100		250	1340	4	mg/L		116	75 - 125

Lab Sample ID: 500-166958-1 DU
Matrix: Water
Analysis Batch: 495925

Client Sample ID: PD-2-GWP-50-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1100		1070		mg/L		2	5

Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 500-495756/1
Matrix: Water
Analysis Batch: 495756

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.050	0.050	mg/L			07/19/19 07:20	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Method: SM 3500 Fe B - Iron, Ferrous (Continued)

Lab Sample ID: LCS 500-495756/2
Matrix: Water
Analysis Batch: 495756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.500		mg/L		100	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-496035/12
Matrix: Water
Analysis Batch: 496035

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	1.0	mg/L			07/22/19 14:42	1

Lab Sample ID: LCS 500-496035/13
Matrix: Water
Analysis Batch: 496035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.6		mg/L		99	85 - 115

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 500-495760/1
Matrix: Water
Analysis Batch: 495760

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.20	0.20	mg/L			07/19/19 07:40	1

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-166958-1 DU
Matrix: Water
Analysis Batch: 497770

Client Sample ID: PD-2-GWP-50-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	HF	7.0		SU		0.3	

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-495993/3
Matrix: Water
Analysis Batch: 495993

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			07/19/19 10:04	1

Lab Sample ID: LCS 500-495993/4
Matrix: Water
Analysis Batch: 495993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.101		mg/L		101	80 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: 500-166958-1 MS
Matrix: Water
Analysis Batch: 495993

Client Sample ID: PD-2-GWP-50-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.0073	J	0.100	0.0931		mg/L		86	75 - 125

Lab Sample ID: 500-166958-1 MSD
Matrix: Water
Analysis Batch: 495993

Client Sample ID: PD-2-GWP-50-071819
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	0.0073	J	0.100	0.0971		mg/L		90	75 - 125	4	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-497807/12
Matrix: Water
Analysis Batch: 497807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			08/01/19 09:30	1

Lab Sample ID: LCS 500-497807/13
Matrix: Water
Analysis Batch: 497807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.960		mg/L		96	80 - 120

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 500-497154/1-A
Matrix: Water
Analysis Batch: 497441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497154

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphate as PO4	ND		0.15	0.073	mg/L		07/29/19 12:00	07/30/19 20:57	1

Lab Sample ID: LCS 500-497154/2-A
Matrix: Water
Analysis Batch: 497441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 497154

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphate as PO4	1.53	1.44		mg/L		94	80 - 120

Shell Oil Products US Chain Of Custody Record

AECOM

LAB (LOCATION)

☐ACCUTEST (_____)
☐CALSCIENCE (_____)
☑TESTAMERICA (___Chicago_____)
☐Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Please Check Appropriate Box:

☐SGW FDG	☐PIPELINE	☐RETAIL
☐CHEMICALS	☐CONSULTANT	☐LUBES
☐TRANSPORTATION	☐OTHER _____	

Print Bill To Contact Name:	PlaNet Site or Project ID	☐CHECK IF NO INCIDENT # APPLIES
James Carrino	25278	DATE 7/18/2019
PO #	GSAP Project ID	PAGE: ___1___ of ___1___
60592794 - 1.24.061 / 60592794 - 1.24.060	USPC/00114/R/02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100 FAX: 314-429-0482 Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford | State: IL | AECOM Project / Task Number: PreDesign Invest. PW

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel | PHONE NO.: 3144290100 | E-MAIL: elizabeth.kunkel@aecom.com | AECOM Other ID:

SAMPLER NAME(S) (Print): Brett Howell

LAB USE ONLY: 500-166958

TURNAROUND TIME (CALENDAR DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐LEVEL 1 ☑LEVEL 2 ☐LEVEL 3 ☑LEVEL 4 ☑OTHER (SPECIFY) ___EDD_____

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com; Bob.billman@aecom.com; james.carrino@aecom.com; brett.howell@aecom.com

☑SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐EDD NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

REQUESTED ANALYSIS

UNIT COST 60592794 - 1.24.051 / NON-UNIT COST 60592794 - 1.24.050

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	4500_CL_F mod Alkalinity	3500 f+2 B TDS	sm4500 H+ pH	SM4500 NO2_B	4500 PE MOD	SM 4500 MOD P_E	SM2340B Total hardness	6010 B MOD Ca, Mn, Na, Fe	6010 B MOD Dissolved Iron	SM4500 SO4_E	sm4500 NO3_F	FIELD NOTES:
1	PD-2-GWP-50-071819	7/18/2019	14:10	Water		x	x	x		5	x	x	x	x	x	x	x	x	x	x	x	Sulfuric Acid, Nitric Acid (preservatives)

500-166958 COC

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature) Fedex: 7909 6719 0643	Date: 7/18/2019	Time: 18:00
Relinquished by: (Signature)	Received by: (Signature) James TH	Date: 7/19/19	Time: 0920
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Version: 10May17

Custody 1011653 1011652

1.4 -> 2.9

8/2/2019

CONFIDENTIAL SETTLEMENT COMMUNICATION

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 500-166958-1

Login Number: 166958
List Number: 1
Creator: James, Jeff A

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-166958-1

Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2903	04-30-20
California	State Program	9	2903	04-30-20
Georgia	State Program	4	N/A	04-30-20
Georgia	State Program	4	939	04-30-20
Hawaii	State Program	9	N/A	04-30-20
Illinois	NELAP	5	100201	04-30-20
Indiana	State Program	5	C-IL-02	04-30-20
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-19 *
Kentucky (UST)	State Program	4	66	04-30-20
Kentucky (WW)	State Program	4	KY90023	12-31-19
Louisiana	NELAP	6	30720	06-30-20
Mississippi	State Program	4	N/A	04-30-20
New York	NELAP	2	12019	04-01-20
New York	NELAP		12019	04-01-20
North Carolina (WW/SW)	State Program	4	291	12-31-19
North Dakota	State Program	8	R-194	04-30-20
Oklahoma	State		8908	08-31-19
Oklahoma	State Program	6	8908	08-31-19 *
South Carolina	State Program	4	77001	04-30-20
Wisconsin	State Program	5	999580010	08-31-19 *
Wyoming	State Program	8	8TMS-Q	04-30-20

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200041	10-09-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Roxana Predesign Water Quality Data Review

Laboratory SDG: 500-167098

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Jeff Aust

Date Reviewed: 8/9/2019

Guidance: USEPA National Functional Guidelines for Superfund Inorganic Methods Data Review 2017

Sample Identification
PD-7-GWP-45-072219

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Although not indicated in the laboratory case narrative, ferrous iron, total residual chlorine and pH were analyzed outside the EPA recommended analysis holding time of 15 minutes and results should be considered approximate.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes, with the exceptions of ferrous iron, total residual chlorine and pH discussed in section 2.0 of this data review.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Samples were analyzed for total and dissolved ICP metals, hardness as calcium carbonate, sulfate, nitrate, alkalinity, total dissolved solids, ferrous iron, chloride, chlorine, nitrite, phosphate and pH. Surrogates are not required for these analyses.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-167098-1
Client Project/Site: PreDesign Invest PW

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Elizabeth Kunkel

Authorized for release by:
8/6/2019 3:35:14 PM

Leah Klingensmith, Senior Project Manager
(615)301-5038
leah.klingensmith@testamericainc.com

Reviewed on 8/6/2019



LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Job ID: 500-167098-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-167098-1

Comments
No additional comments.

Receipt
The sample was received on 7/23/2019 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-167098-1	PD-7-GWP-45-072219	Water	07/22/19 13:45	07/23/19 10:00	

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Client Sample ID: PD-7-GWP-45-072219

Lab Sample ID: 500-167098-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	290		0.20	0.053	mg/L	1		6010B	Total/NA
Iron	27		0.20	0.082	mg/L	1		6010B	Total/NA
Potassium	5.9		0.50	0.066	mg/L	1		6010B	Total/NA
Magnesium	45		0.10	0.049	mg/L	1		6010B	Total/NA
Manganese	0.85		0.010	0.0023	mg/L	1		6010B	Total/NA
Sodium	48		1.0	0.097	mg/L	1		6010B	Total/NA
Iron	1.9		0.20	0.082	mg/L	1		6010B	Dissolved
Calcium hardness as CaCO3	760		0.50	0.25	mg/L	1		SM 2340B	Total Recoverable
Sulfate	210		20	9.5	mg/L	100		300.0	Total/NA
Total Alkalinity	320		5.0	3.7	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	770		10	4.3	mg/L	1		SM 2540C	Total/NA
Chloride	32		2.0	1.0	mg/L	1		SM 4500 Cl- E	Total/NA
pH	7.8	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA
Phosphate as PO4	0.13	J	0.15	0.073	mg/L	1		SM 4500 P E	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 10:00

Lab Sample ID: 500-167098-1

Matrix: Water

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	290		0.20	0.053	mg/L		07/23/19 16:19	07/24/19 15:40	1
Iron	27		0.20	0.082	mg/L		07/23/19 16:19	07/24/19 15:40	1
Potassium	5.9		0.50	0.066	mg/L		07/23/19 16:19	07/24/19 15:40	1
Magnesium	45		0.10	0.049	mg/L		07/23/19 16:19	07/24/19 15:40	1
Manganese	0.85		0.010	0.0023	mg/L		07/23/19 16:19	07/24/19 15:40	1
Sodium	48		1.0	0.097	mg/L		07/23/19 16:19	07/24/19 15:40	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.9		0.20	0.082	mg/L		07/25/19 07:59	07/26/19 02:24	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium hardness as CaCO3	760		0.50	0.25	mg/L		07/25/19 07:59	07/26/19 08:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	210		20	9.5	mg/L			07/30/19 17:04	100
Nitrogen, Nitrate	ND		0.10	0.041	mg/L			08/06/19 07:25	1
Total Alkalinity	320		5.0	3.7	mg/L			07/30/19 08:20	1
Total Dissolved Solids	770		10	4.3	mg/L			07/24/19 08:13	1
Ferrous Iron	ND	HF	0.050	0.050	mg/L			07/23/19 13:36	1
Chloride	32		2.0	1.0	mg/L			07/26/19 14:37	1
Chlorine, Total Residual	ND	HF	0.20	0.20	mg/L			07/23/19 13:33	1
pH	7.8	HF	0.2	0.2	SU			08/05/19 15:36	1
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			07/23/19 16:52	1
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			08/05/19 13:36	1
Phosphate as PO4	0.13	J	0.15	0.073	mg/L		08/01/19 14:45	08/05/19 13:57	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2320B	Alkalinity	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 3500 Fe B	Iron, Ferrous	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 Cl F	Chlorine, Residual	SM	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI
SM 4500 P E	Phosphorus	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI
SM 4500 P B	Phosphorous, Total and Ortho	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Client Sample ID: PD-7-GWP-45-072219

Date Collected: 07/22/19 13:45
Date Received: 07/23/19 10:00

Lab Sample ID: 500-167098-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			496532	07/25/19 07:59	SAH	TAL CHI
Dissolved	Analysis	6010B		1	496753	07/26/19 02:24	JEF	TAL CHI
Total/NA	Prep	3010A			496234	07/23/19 16:19	BDE	TAL CHI
Total/NA	Analysis	6010B		1	496512	07/24/19 15:40	EEN	TAL CHI
Total Recoverable	Prep	3005A			496532	07/25/19 07:59	SAH	TAL CHI
Total Recoverable	Analysis	SM 2340B		1	496803	07/26/19 08:58	JEF	TAL CHI
Total/NA	Analysis	300.0		100	497315	07/30/19 17:04	EAT	TAL CHI
Total/NA	Analysis	Nitrate by calc		1	498293	08/06/19 07:25	TAP	TAL CHI
Total/NA	Analysis	SM 2320B		1	497266	07/30/19 08:20	SMO	TAL CHI
Total/NA	Analysis	SM 2540C		1	496319	07/24/19 08:13	CLB	TAL CHI
Total/NA	Analysis	SM 3500 Fe B		1	496195	07/23/19 13:36	MTB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	496903	07/26/19 14:37	EAT	TAL CHI
Total/NA	Analysis	SM 4500 Cl F		1	496196	07/23/19 13:33	MTB	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	498199		SMO	TAL CHI
					(Start)	08/05/19 15:36		
					(End)	08/05/19 15:38		
Total/NA	Analysis	SM 4500 NO2 B		1	496463		EAT	TAL CHI
					(Start)	07/23/19 16:52		
					(End)	07/23/19 16:52		
Total/NA	Analysis	SM 4500 NO3 F		1	498234	08/05/19 13:36	PFK	TAL CHI
Total/NA	Prep	SM 4500 P B			497926	08/01/19 14:45	AS	TAL CHI
Total/NA	Analysis	SM 4500 P E		1	498237		PFK	TAL CHI
					(Start)	08/05/19 13:57		
					(End)	08/05/19 13:57		

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Metals

Prep Batch: 496234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	3010A	
MB 500-496234/1-A	Method Blank	Total/NA	Water	3010A	
LCS 500-496234/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 496512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	6010B	496234
MB 500-496234/1-A	Method Blank	Total/NA	Water	6010B	496234
LCS 500-496234/2-A	Lab Control Sample	Total/NA	Water	6010B	496234

Prep Batch: 496532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Dissolved	Water	3005A	
500-167098-1	PD-7-GWP-45-072219	Total Recoverable	Water	3005A	
MB 500-496532/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-496532/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 496753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Dissolved	Water	6010B	496532
MB 500-496532/1-A	Method Blank	Total Recoverable	Water	6010B	496532
LCS 500-496532/2-A	Lab Control Sample	Total Recoverable	Water	6010B	496532

Analysis Batch: 496803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total Recoverable	Water	SM 2340B	496532

General Chemistry

Analysis Batch: 496195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 3500 Fe B	
MB 500-496195/1	Method Blank	Total/NA	Water	SM 3500 Fe B	
LCS 500-496195/5	Lab Control Sample	Total/NA	Water	SM 3500 Fe B	
500-167098-1 MS	PD-7-GWP-45-072219	Total/NA	Water	SM 3500 Fe B	
500-167098-1 MSD	PD-7-GWP-45-072219	Total/NA	Water	SM 3500 Fe B	

Analysis Batch: 496196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 Cl F	
MB 500-496196/1	Method Blank	Total/NA	Water	SM 4500 Cl F	
500-167098-1 DU	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 Cl F	

Analysis Batch: 496319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 2540C	
MB 500-496319/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-496319/2	Lab Control Sample	Total/NA	Water	SM 2540C	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

General Chemistry

Analysis Batch: 496463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 NO2 B	
MB 500-496463/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	
LCS 500-496463/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
500-167098-1 MS	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 NO2 B	
500-167098-1 MSD	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 496903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 Cl- E	
MB 500-496903/50	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-496903/51	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 497266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 2320B	
MB 500-497266/2	Method Blank	Total/NA	Water	SM 2320B	
LCS 500-497266/3	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 497315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	300.0	
MB 500-497315/3	Method Blank	Total/NA	Water	300.0	
LCS 500-497315/35	Lab Control Sample	Total/NA	Water	300.0	

Prep Batch: 497926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 P B	
MB 500-497926/1-A	Method Blank	Total/NA	Water	SM 4500 P B	
LCS 500-497926/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P B	

Analysis Batch: 498199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 H+ B	
LCS 500-498199/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-498199/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-167098-1 DU	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 498234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 NO3 F	
MB 500-498234/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	
LCS 500-498234/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 498237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	SM 4500 P E	497926
MB 500-497926/1-A	Method Blank	Total/NA	Water	SM 4500 P E	497926
LCS 500-497926/2-A	Lab Control Sample	Total/NA	Water	SM 4500 P E	497926

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

General Chemistry

Analysis Batch: 498293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167098-1	PD-7-GWP-45-072219	Total/NA	Water	Nitrate by calc	

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-496234/1-A
Matrix: Water
Analysis Batch: 496512

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 496234

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.20	0.053	mg/L		07/23/19 16:19	07/24/19 14:35	1
Iron	ND		0.20	0.082	mg/L		07/23/19 16:19	07/24/19 14:35	1
Potassium	ND		0.50	0.066	mg/L		07/23/19 16:19	07/24/19 14:35	1
Magnesium	ND		0.10	0.049	mg/L		07/23/19 16:19	07/24/19 14:35	1
Manganese	ND		0.010	0.0023	mg/L		07/23/19 16:19	07/24/19 14:35	1
Sodium	ND		1.0	0.097	mg/L		07/23/19 16:19	07/24/19 14:35	1

Lab Sample ID: LCS 500-496234/2-A
Matrix: Water
Analysis Batch: 496512

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 496234

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.50		mg/L		95	80 - 120
Iron	1.00	1.12		mg/L		112	80 - 120
Potassium	10.0	9.32		mg/L		93	80 - 120
Magnesium	10.0	9.33		mg/L		93	80 - 120
Manganese	0.500	0.486		mg/L		97	80 - 120
Sodium	10.0	9.85		mg/L		99	80 - 120

Lab Sample ID: MB 500-496532/1-A
Matrix: Water
Analysis Batch: 496753

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 496532

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.082	mg/L		07/25/19 07:59	07/26/19 02:16	1

Lab Sample ID: LCS 500-496532/2-A
Matrix: Water
Analysis Batch: 496753

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 496532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.07		mg/L		107	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-497315/3
Matrix: Water
Analysis Batch: 497315

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.20	0.095	mg/L			07/30/19 10:34	1

Lab Sample ID: LCS 500-497315/35
Matrix: Water
Analysis Batch: 497315

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.15		mg/L		103	90 - 110

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 500-497266/2
Matrix: Water
Analysis Batch: 497266

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		5.0	3.7	mg/L			07/30/19 08:20	1

Lab Sample ID: LCS 500-497266/3
Matrix: Water
Analysis Batch: 497266

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity	100	98.9		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-496319/1
Matrix: Water
Analysis Batch: 496319

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	4.3	mg/L			07/24/19 07:43	1

Lab Sample ID: LCS 500-496319/2
Matrix: Water
Analysis Batch: 496319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	282		mg/L		113	80 - 120

Method: SM 3500 Fe B - Iron, Ferrous

Lab Sample ID: MB 500-496195/1
Matrix: Water
Analysis Batch: 496195

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.050	0.050	mg/L			07/23/19 13:36	1

Lab Sample ID: LCS 500-496195/5
Matrix: Water
Analysis Batch: 496195

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.500	0.500		mg/L		100	80 - 120

Lab Sample ID: 500-167098-1 MS
Matrix: Water
Analysis Batch: 496195

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	0.500	0.500		mg/L		100	75 - 125

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Method: SM 3500 Fe B - Iron, Ferrous (Continued)

Lab Sample ID: 500-167098-1 MSD
Matrix: Water
Analysis Batch: 496195

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	0.500	0.500		mg/L		100	75 - 125	0	20

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-496903/50
Matrix: Water
Analysis Batch: 496903

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	1.0	mg/L			07/26/19 14:24	1

Lab Sample ID: LCS 500-496903/51
Matrix: Water
Analysis Batch: 496903

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.8		mg/L		108	85 - 115

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 500-496196/1
Matrix: Water
Analysis Batch: 496196

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.20	0.20	mg/L			07/23/19 13:30	1

Lab Sample ID: 500-167098-1 DU
Matrix: Water
Analysis Batch: 496196

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chlorine, Total Residual	ND	HF	ND		mg/L		NC	20

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-167098-1 DU
Matrix: Water
Analysis Batch: 498199

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0	

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-496463/3
Matrix: Water
Analysis Batch: 496463

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	ND		0.020	0.0054	mg/L			07/23/19 16:51	1

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: LCS 500-496463/4
Matrix: Water
Analysis Batch: 496463

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.0991		mg/L		99	80 - 120

Lab Sample ID: 500-167098-1 MS
Matrix: Water
Analysis Batch: 496463

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	ND		0.100	0.101		mg/L		101	75 - 125

Lab Sample ID: 500-167098-1 MSD
Matrix: Water
Analysis Batch: 496463

Client Sample ID: PD-7-GWP-45-072219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	ND		0.100	0.101		mg/L		101	75 - 125	0	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-498234/12
Matrix: Water
Analysis Batch: 498234

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	ND		0.10	0.041	mg/L			08/05/19 12:48	1

Lab Sample ID: LCS 500-498234/13
Matrix: Water
Analysis Batch: 498234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.956		mg/L		96	80 - 120

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 500-497926/1-A
Matrix: Water
Analysis Batch: 498237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphate as PO4	ND		0.15	0.073	mg/L		08/01/19 14:45	08/05/19 13:56	1

Lab Sample ID: LCS 500-497926/2-A
Matrix: Water
Analysis Batch: 498237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 497926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphate as PO4	1.53	1.48		mg/L		97	80 - 120

LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☑ TESTAMERICA (___Chicago_____)
☐ Other (Teklab; 5445 Horseshoe Lake Rd; Collinsville, IL)
Lab Vendor # Dropdown

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:
☐ SGW FDG ☐ PIPELINE ☐ RETAIL
☐ CHEMICALS ☐ CONSULTANT ☐ LUBES
☐ TRANSPORTATION ☐ OTHER _____

Print Bill To Contact Name: James Carrino
PlaNet Site or Project ID: 25278
☐ CHECK IF NO INCIDENT # APPLIES
DATE 7/22/2019
PAGE: ___1___ of ___1___
PO #: 60592794 - 1.24.061 | 60592794 - 1.24.060
GSAP Project ID: USPC/00114/R/02

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 N Broadway, 20th Floor; St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Bob Billman, James Carrino, Brett Howell
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: elizabeth.kunkel@aecom.com

170 East Rand Avenue, Hartford
State: IL
AECOM Project / Task Number: PreDesign Invest. PW
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel
PHONE NO.: 3144290100
E-MAIL: elizabeth.kunkel@aecom.com
AECOM Other ID
SAMPLER NAME(S) (Print): Paul LeFleur
LAB USE ONLY: 500-167098

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) ___EDD_____
TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
Email reports to: elizabeth.kunkel@aecom.com, Bob.billman@aecom.com, james.carrino@aecom.com, brett.howell@aecom.com

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	4500_CL_F mod Alkalinity	3500 (+2 B TDS	sm4500 H+ pH	SM4500 NO3_B	4500 PE MOD	SM 4500 MOD P_E	SM2340B Total hardness	6010 B MOD Ca, Mn, Na, Fe	6010 B MOD Dissolved Iron	SM4500 SO4_E	sm4500 NO3_F	500-167098 COC	FIELD NOTES:
					UNIT COST 60592794 - 1.24.061																	NON-UNIT COST 60592794 - 1.24.060	TEMPERATURE ON RECEIPT C°
	PD-7-GWP-45-072219	7/22/2019	13:45	Water		x	x	x		5	x	x	x	x	x	x	x	x	x	x	x		Sulfuric Acid, Nitric Acid (preservatives)

Container PID Readings or Laboratory Notes

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	Fedex 7758 8459 3830 custody seals: 1011640, 1011641	7/22/2019	18:00
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 7/23/19	Time: 1000

Version: 16May17

2.1°C

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 500-167098-1

Login Number: 167098
List Number: 1
Creator: James, Jeff A

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: PreDesign Invest PW

Job ID: 500-167098-1

Laboratory: Eurofins TestAmerica, Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2903	04-30-20
California	State Program	9	2903	04-30-20
Georgia	State Program	4	N/A	04-30-20
Georgia	State Program	4	939	04-30-20
Hawaii	State Program	9	N/A	04-30-20
Illinois	NELAP	5	100201	04-30-20
Indiana	State Program	5	C-IL-02	04-30-20
Iowa	State Program	7	82	05-01-20
Kansas	NELAP	7	E-10161	10-31-19 *
Kentucky (UST)	State Program	4	66	04-30-20
Kentucky (WW)	State Program	4	KY90023	12-31-19
Louisiana	NELAP	6	30720	06-30-20
Mississippi	State Program	4	N/A	04-30-20
New York	NELAP	2	12019	04-01-20
New York	NELAP		12019	04-01-20
North Carolina (WW/SW)	State Program	4	291	12-31-19
North Dakota	State Program	8	R-194	04-30-20
Oklahoma	State		8908	08-31-19
Oklahoma	State Program	6	8908	08-31-19 *
South Carolina	State Program	4	77001	04-30-20
Wisconsin	State Program	5	999580010	08-31-19 *
Wyoming	State Program	8	8TMS-Q	04-30-20

Laboratory: Eurofins TestAmerica, Pensacola

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200041	10-09-19

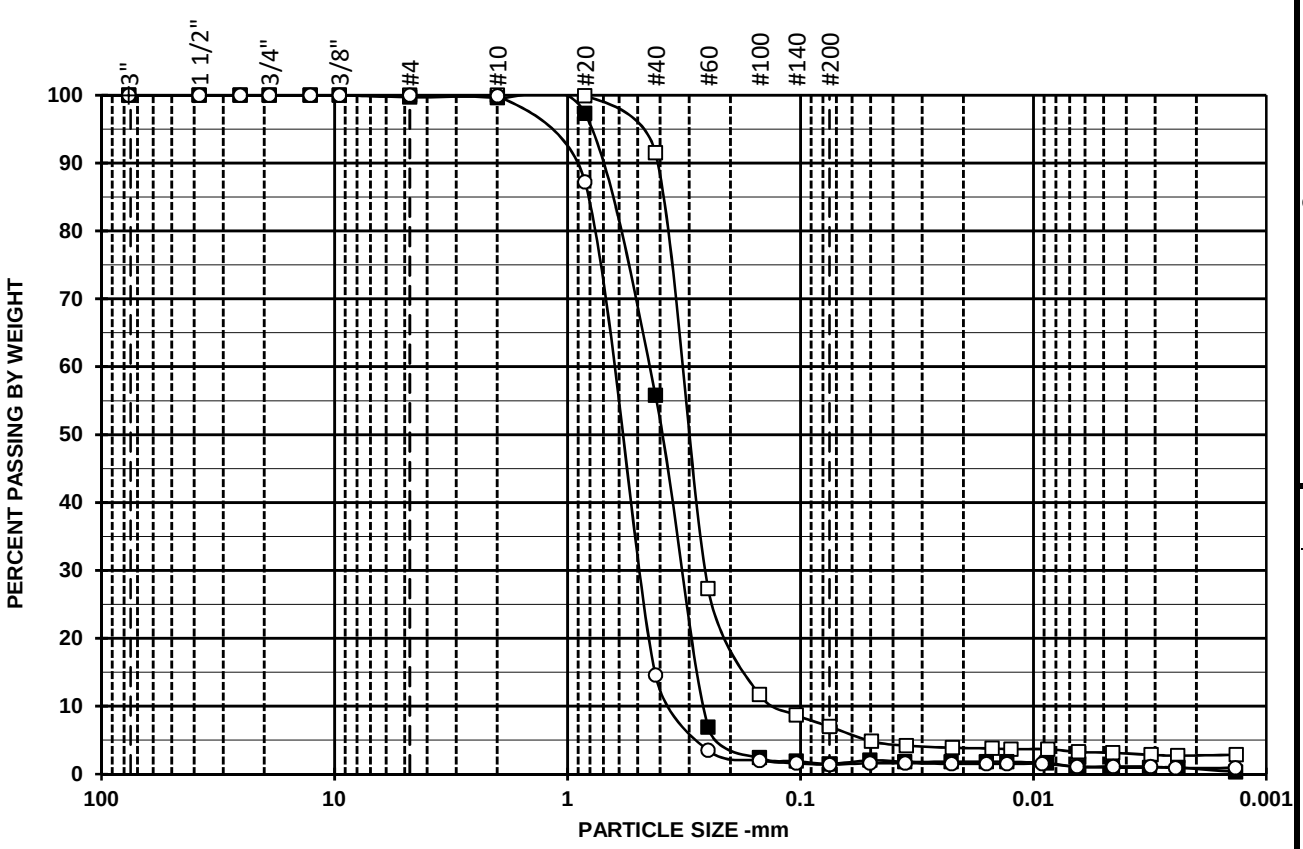
* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Appendix F – Physical Properties Report

AECOM #60592794
Roxana PreDesign Invest. Site 25278
LABORATORY TESTING DATA SUMMARY

BORING NO.	SAMPLE NO.	DEPTH (ft)	USCS SYMB. (1)	SIEVE MINUS NO. 200 (%)	HYDROMETER % MINUS 2 μm (%)	PERMEABILITY TEST ID	WATER CONTENT (%)	TOTAL UNIT WEIGHT (pcf)	DRY UNIT WEIGHT (pcf)	FLOW ORIENTATION	HYDRAULIC CONDUCTIVITY (cm/sec)	REMARKS
PD-1-SB-51	061819	51	SP-SM	7.0	3	P11573	15.8	131.3	113.4	Vertical	3.0E-05	
PD-1-SB-51	061819	51				P11577	16.4	128.8	110.7	Horizontal	2.9E-03	
PD-4-SB-33	062119	33	SP	1.5	1	P11568	15.5	119.8	103.7	Vertical	1.0E-02	
PD-4-SB-33	062119	33				P11590	17.1	124.8	106.6	Horizontal	2.4E-02	
PD-4-SB-60	062119	60	SP	1.4	1	P11576	17.0	127.1	108.6	Vertical	2.9E-03	
PD-4-SB-60	062119	60				P11580	17.1	118.8	101.5	Horizontal	2.4E-02	
PD-5-SB-45	061419	45	SP	4.3	3	P11572	18.6	127.1	107.1	Vertical	6.5E-05	
PD-5-SB-45	061419	45				P11584	19.5	127.4	106.6	Horizontal	1.0E-02	
PD-5-SB-57	061419	57	SP	3.7	3	P11575	16.6	126.9	108.8	Vertical	2.1E-04	
PD-5-SB-57	061419	57				P11582	14.1	118.1	103.5	Horizontal	5.2E-03	
PD-6-SB-41	071119	41	SP	1.6	1	P11569	18.8	126.2	106.2	Vertical	2.8E-02	
PD-6-SB-41	071119	41				P11592	21.0	120.3	99.4	Horizontal	2.3E-02	
PD-7-SB-43	071819	43	SP	2.7	2	P11570	18.8	125.9	105.9	Vertical	1.9E-03	
PD-7-SB-43	071819	43				P11588	19.6	125.5	104.9	Horizontal	1.5E-02	
PD-7-SB-53	071819	53	SP	4.0	3	P11574	18.6	129.7	109.3	Vertical	4.6E-05	
PD-7-SB-53	071819	53				P11578	18.5	130.8	110.4	Horizontal	2.0E-03	
PD-10-SB-44	061219	44	SP	3.7	2	P11571	20.3	127.4	105.9	Vertical	1.6E-03	
PD-10-SB-44	061219	44				P11586	16.7	127.8	109.5	Horizontal	2.2E-02	

Note: (1) USCS symbol based on visual observation and Sieve results reported.



Symbol	□	■	○
Boring	PD-1-SB-51	PD-4-SB-33	PD-4-SB-60
Sample	061819	062119	062119
Depth	51	33	60
% +3"	0.0	0.0	0.0
% Gravel	0.0	0.3	0.0
% SAND	93.0	98.2	98.6
%C SAND	0.0	0.1	0.1
%M SAND	8.5	43.8	85.3
%F SAND	84.5	54.3	13.2
% FINES	7.0	1.5	1.4
D_{100} (mm)	4.750	9.530	4.750
D_{60} (mm)	0.325	0.450	0.648
D_{30} (mm)	0.254	0.318	0.486
D_{10} (mm)	0.122	0.257	0.338
Cc	1.600	0.900	1.100
Cu	2.7	1.7	1.9

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	100.0
4"	100.0	100.0	100.0
3"	100.0	100.0	100.0
1 1/2"	100.0	100.0	100.0
1"	100.0	100.0	100.0
3/4"	100.0	100.0	100.0
1/2"	100.0	100.0	100.0
3/8"	100.0	100.0	100.0
#4	100.0	99.7	100.0
#10	100.0	99.6	99.9
#20	99.9	97.3	87.2
#40	91.5	55.8	14.6
#60	27.3	6.9	3.5
#100	11.7	2.4	2.0
#140	8.7	1.9	1.6
#200	7.0	1.5	1.4
5μ m	3	2	1
2μ m	3	1	1
1μ m	3		1

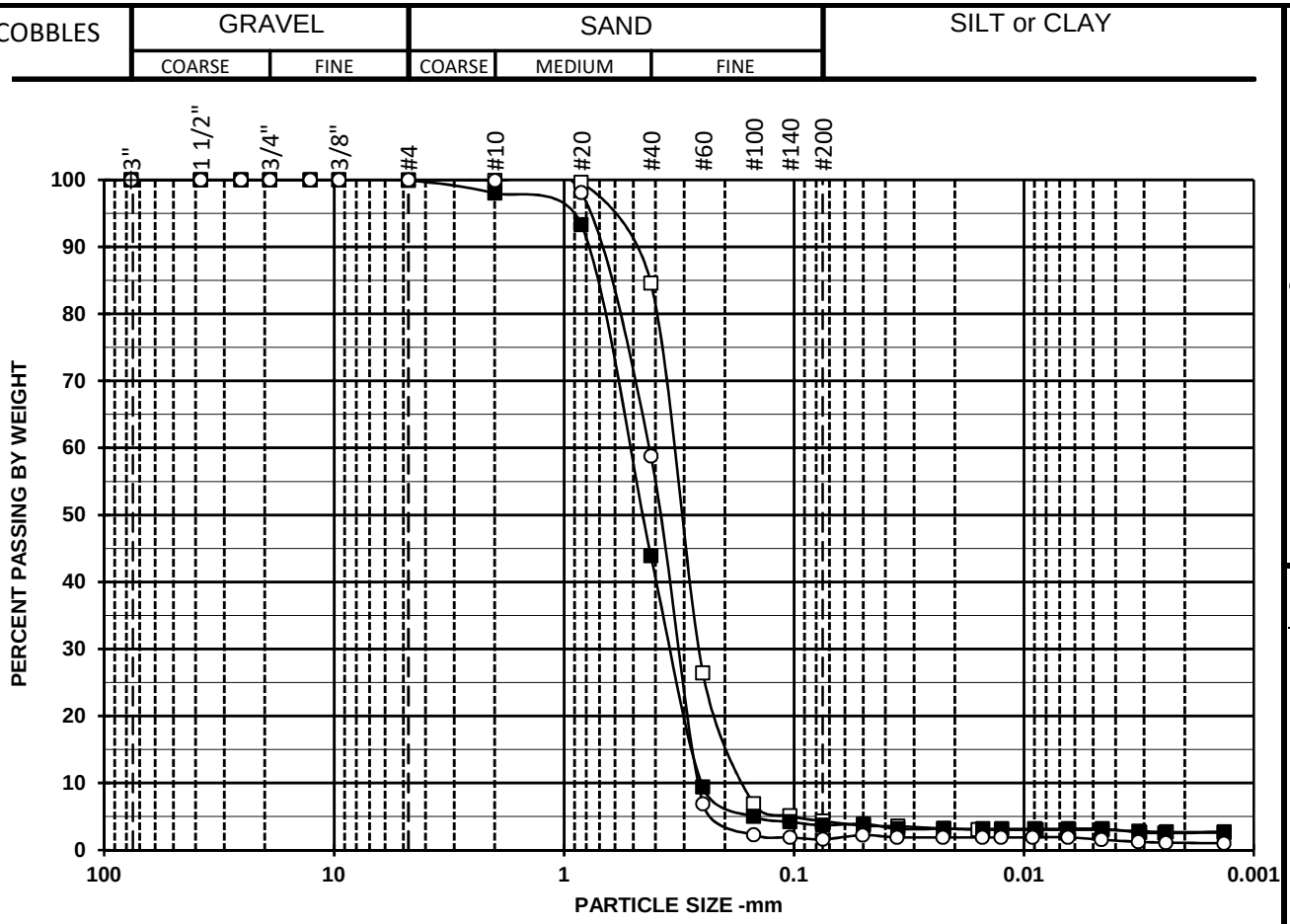
SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□					SP-SM		Brown, Poorly graded sand with silt	08/05/19
■					SP		Brown, Poorly graded sand	08/01/19
○					SP		Brown gray, Poorly graded sand	08/06/19

AECOM #60592794

TerraSense, LLC #T60592794

Roxana
PreDesign Invest. Site 25278

PARTICLE SIZE DISTRIBUTION



Symbol	□	■	○
Boring	PD-5-SB-45	PD-5-SB-57	PD-6-SB-41
Sample	061419	061419	071119
Depth	45	57	41
% +3"	0.0	0.0	0.0
% Gravel	0.0	0.1	0.0
% SAND	95.7	96.2	98.4
%C SAND	0.1	1.9	0.1
%M SAND	15.3	54.1	41.1
%F SAND	80.3	40.2	57.2
% FINES	4.3	3.7	1.6
D_{100} (mm)	4.750	9.530	4.750
D_{60} (mm)	0.336	0.526	0.428
D_{30} (mm)	0.257	0.340	0.314
D_{10} (mm)	0.162	0.251	0.257
Cc	1.200	0.900	0.900
Cu	2.1	2.1	1.7

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	100.0
4"	100.0	100.0	100.0
3"	100.0	100.0	100.0
1 1/2"	100.0	100.0	100.0
1"	100.0	100.0	100.0
3/4"	100.0	100.0	100.0
1/2"	100.0	100.0	100.0
3/8"	100.0	100.0	100.0
#4	100.0	99.9	100.0
#10	99.9	98.0	99.9
#20	99.6	93.3	98.1
#40	84.6	43.9	58.8
#60	26.4	9.4	6.9
#100	6.9	5.0	2.3
#140	5.1	4.2	1.9
#200	4.3	3.7	1.6
5μ m	3	2	2
2μ m	3	3	1
1μ m	3	3	1

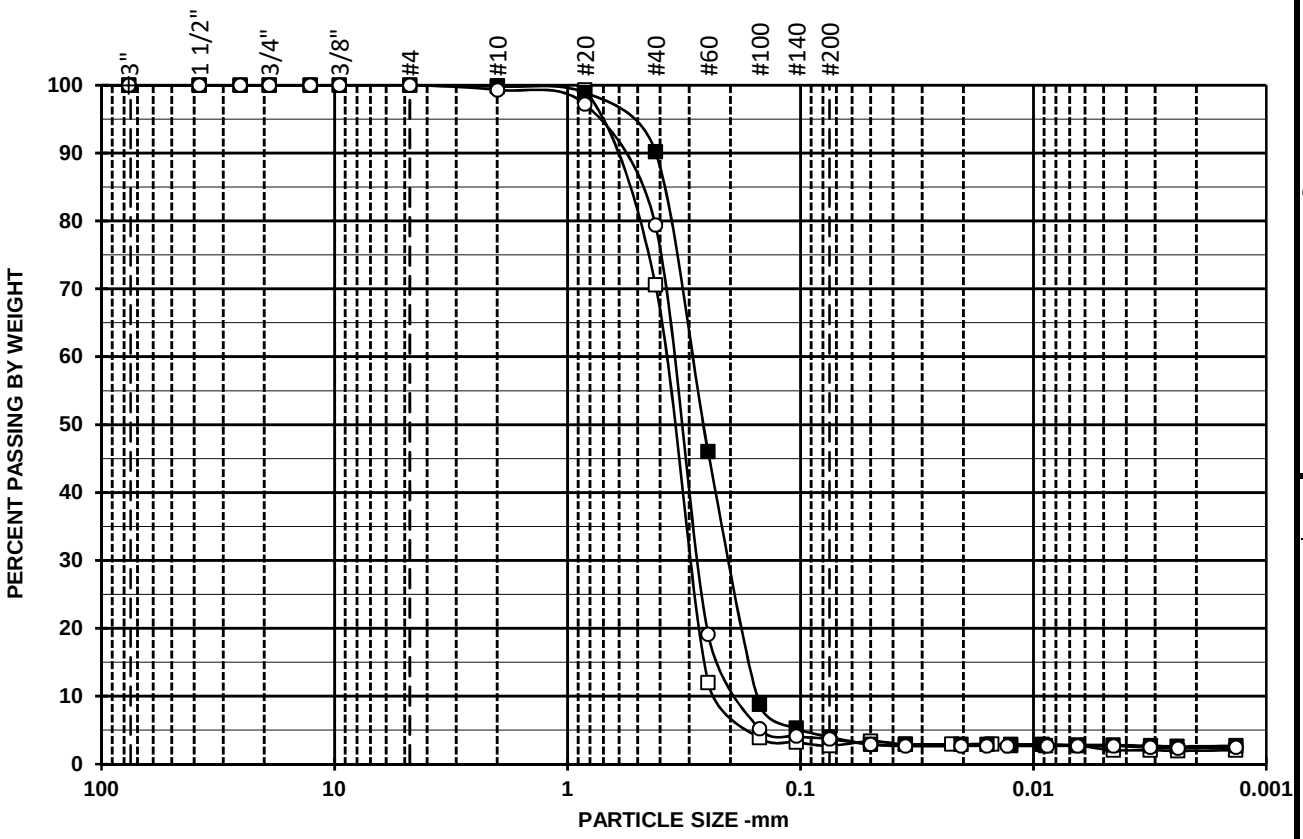
SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□					SP		Gray-brown, Poorly graded sand	08/05/19
■					SP		Gray-brown, Poorly graded sand	08/05/19
○					SP		Brown, Poorly graded sand	08/05/19

AECOM #60592794

TerraSense, LLC #T60592794

Roxana
PreDesign Invest. Site 25278

PARTICLE SIZE DISTRIBUTION



Symbol	□	■	○
Boring	PD-7-SB-43	PD-7-SB-53	PD-10-SB-44
Sample	071819	071819	061219
Depth	43	53	44
% +3"	0.0	0.0	0.0
% Gravel	0.0	0.0	0.0
% SAND	97.3	96.0	96.3
%C SAND	0.1	0.2	0.7
%M SAND	29.3	9.6	19.9
%F SAND	67.9	86.2	75.7
% FINES	2.7	4.0	3.7
D_{100} (mm)	4.750	4.750	4.750
D_{60} (mm)	0.381	0.294	0.354
D_{30} (mm)	0.292	0.200	0.274
D_{10} (mm)	0.220	0.152	0.179
Cc	1.000	0.900	1.200
Cu	1.7	1.9	2.0

Sieve Size/ID #	Percent Finer Data		
6"	100.0	100.0	100.0
4"	100.0	100.0	100.0
3"	100.0	100.0	100.0
1 1/2"	100.0	100.0	100.0
1"	100.0	100.0	100.0
3/4"	100.0	100.0	100.0
1/2"	100.0	100.0	100.0
3/8"	100.0	100.0	100.0
#4	100.0	100.0	100.0
#10	99.9	99.8	99.3
#20	99.3	98.9	97.2
#40	70.6	90.2	79.4
#60	12.0	46.0	19.1
#100	3.9	8.8	5.2
#140	3.2	5.3	4.1
#200	2.7	4.0	3.7
5μ m	2	3	3
2μ m	2	3	2
1μ m	2	3	3

SYMBOL	w (%)	LL	PL	PI	USCS	AASHTO	USCS DESCRIPTION AND REMARKS	DATE
□					SP		Light gray, Poorly graded sand	08/05/19
■					SP		Brown, Poorly graded sand	08/05/19
○					SP		Gray, Poorly graded sand	08/05/19

AECOM #60592794

TerraSense, LLC #T60592794

Roxana
PreDesign Invest. Site 25278

PARTICLE SIZE DISTRIBUTION

PERMEABILITY TEST: FALLING HEAD - CONSTANT VOLUME U-TUBE
ASTM D 5084 - Method F

Project No.: T60592794 | BORING: PD-1-SB-51 | Test No.: P11573
Project Name: Roxana PreDesign Invest. Site 25278 | SAMPLE: 061819 | DEPTH (ft): 51
Specimen - Apparatus set-up - Test Information | Cell No. P-3 | Apparatus No. 3 | Stage No.: 6

Preliminary Length/Area Calculations

Lo =	3.985	in	Lo=	10.123	cm
dLc=	0.013	in	Ao =	40.92	cm^2
Lc=	3.972	in	Vo =	414.25	cm^3
			Lc=	10.090	cm
dVc = 3 Vo * (dLc/Lo)			dVc=	4.05	cm^3
			Vc =	410.19	cm^3
Sc =	0.248	cm^{-1}	Ac=	40.654	cm^2

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or					
	x	with stones or		Stones with filter paper or		top + bottom			
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination					
3) During saturation: Water flushed up sides of specimen to remove ai			x	No		Yes			
4) During consolidation:	x	Top and bottom drainage or		Top		Bottom only			
5) Direction of permeant :	x	Up during or		Down during permeation					
6) Permeant: water used	x	Tap		Distilled					
or		Demineralized		0.005 N calcium sulfate (CaSO4)					

Equations Used
Kt = - 0.0000755 * Sc/dT(min) * ln (ho/hf)
RT = (-0.02452*(ave. temp in C) + 1.495)
K @ 20 ºC = RT * Kt TubeC= 1.3132

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	Time min	Time sec	Initial σ_c psi	Initial Ub psi	U-tube Reading Head (cm) (cc)	U-tube Reading Tail (cm) (cc)	Flow in/out gradient	Preliminary Final at 20ºC cm/sec Dev. from Ave.
initial	22.0	8/5/19	00	00	00	133.0	90.0	55.00	50.10	1.01	2.98E-05
final	22.0	8/5/19	00	00	29			53.00	50.72		2.90E-05
1	RT = 0.956	dT =		0.48 min		σ'_c =	6.2 ksf	0.149	0.148	io= 6.1	-3%
initial	22.0	8/5/19	00	00	00	133.0	90.0	55.00	50.10	1.01	3.08E-05
final	22.0	8/5/19	00	00	28			53.00	50.72		3.01E-05
2	RT = 0.956	dT =		0.47 min		σ'_c =	6.2 ksf	0.149	0.148	io= 6.1	1%
initial	22.0	8/5/19	00	00	00	133.0	90.0	55.00	50.10	1.01	3.08E-05
final	22.0	8/5/19	00	00	28			53.00	50.72		3.01E-05
3	RT = 0.956	dT =		0.47 min		σ'_c =	6.2 ksf	0.149	0.148	io= 6.1	1%
initial	22.0	8/5/19	00	00	00	133.0	90.0	55.00	50.10	1.01	3.08E-05
final	22.0	8/5/19	00	00	28			53.00	50.72		3.01E-05
4	RT = 0.956	dT =		0.47 min		σ'_c =	6.2 ksf	0.149	0.148	io= 6.1	1%
initial											
final											
5											
initial											
final											
6											

TEST SUMMARY

Final Specimen and Test Conditions

Lc =	10.090	cm	ε_{axial} =	0.3%	
Ac =	39.806	cm^2			
Vc=	401.63	cm^3	ε_{vol} =	3.0%	
Sc =	0.253	cm^{-1}	Sc = Lc / Ac , final		

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	15.78	131.3	113.4	87.7
PreTest	16.32	136.1	117.0	100.0

HYDRAULIC CONDUCTIVITY SUMMARY

Averages for trials: 1-4
ave K @ 20 ºC: **2.98E-05** cm/sec
(i_o)ave = 6.1

Tested By: BB Reviewed By: G. Thomas

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-1-SB-51
Project Name: **Roxana** SAMPLE: 061819 DEPTH (ft): 51 Test No.: **P11577**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 5

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:					x	No
						Yes
4) During consolidation:	x	Top and bottom drainage or				Top
						Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	21.1	8/26/19	00	00	00	93.0	50.0				6.40	90.992	45.00	40.70	4.30		
final	21.3	8/26/19	00	46	12						10.80	0.0328	45.00	40.70	0.23		2.98E-03
1	RT = 0.970	dT =		46.20 min		σ'_c =	6.2 ksf						45	40.7	4.07	0.57	2.92E-03
initial	21.3	8/26/19	00	00	00	93.0	50.0				4.40	41.36	45.05	42.65	2.40		
final	21.5	8/26/19	00	37	30						6.40	0.0184	45.05	42.65	0.13		2.99E-03
2	RT = 0.965	dT =		37.50 min		σ'_c =	6.2 ksf						45.05	42.65	2.27	0.32	2.91E-03
initial	21.5	8/26/19	00	00	00	93.0	50.0				4.50	35.156	45.05	42.65	2.40		
final	21.5	8/26/19	00	32	00						6.20	0.0183	45.05	42.65	0.13		2.98E-03
3	RT = 0.963	dT =		32.00 min		σ'_c =	6.2 ksf						45.05	42.65	2.27	0.32	2.89E-03
initial	21.5	8/26/19	00	00	00	93.0	50.0				5.40	70.312	45.05	41.30	3.75		
final	21.5	8/26/19	00	39	00						8.80	0.0300	45.05	41.30	0.21		3.14E-03
4	RT = 0.963	dT =		39.00 min		σ'_c =	6.2 ksf						45.05	41.3	3.54	0.50	3.05E-03
initial	21.5	8/26/19	00	00	00	93.0	50.0				5.20	64.108	45.05	40.40	4.65		
final	21.7	8/26/19	00	29	24						8.30	0.0363	45.05	40.40	0.25		3.05E-03
5	RT = 0.961	dT =		29.40 min		σ'_c =	6.2 ksf						45.05	40.4	4.40	0.62	2.96E-03
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	2.791	in	Lo=	7.088	cm
Ao=	2.972	in^2	Ao =	19.18	cm^2
Vo=	8.294	in^3	Vo =	135.92	cm^3
Lc =	2.791	in	Lc =	7.088	cm
Ac=	2.972	in^2	Ac=	19.175	cm^2
Vc =	8.294	in^3	Vc =	135.92	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc =	7.088	cm	ε_{axial} =	0.0%	
Ac =	19.008	cm^2			
Vc=	134.73	cm^3	ε_{vol} =	0.9%	

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	16.38	128.8	110.7	71.0
PreTest	22.59	136.9	111.6	100.0

Project No. T60592794
Project Name: Roxana
PreDesign Invest.
BORING: PD-1-SB-51
SAMPLE: 061819 Depth: 51

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-5
ave K @ 20 ºC: **2.95E-03** cm/sec
(i_o)ave = 0.47

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-4-SB-33

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 062119 DEPTH (ft): 33 Test No.: **P11568**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. P-3 STONE Stage 6

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	23.5	7/31/19	00	00	00	128.0	100.0				5.10	39.292	47.05	46.55	0.50		
final	23.5	7/31/19	00	31	44						7.00	0.0206	47.05	46.55	0.06		1.20E-02
1	RT = 0.919	dT =		31.73 min		σ'_c =	4.0 ksf						47.05	46.55	0.44	0.04	1.10E-02
initial	23.5	7/31/19	00	00	00	128.0	100.0				4.30	49.632	47.05	46.55	0.50		
final	23.5	7/31/19	00	41	54						6.70	0.0197	47.05	46.55	0.06		1.14E-02
2	RT = 0.919	dT =		41.90 min		σ'_c =	4.0 ksf						47.05	46.55	0.44	0.04	1.05E-02
initial	23.5	7/31/19	00	00	00	128.0	100.0				4.00	41.36	47.05	46.55	0.50		
final	23.5	7/31/19	00	35	21						6.00	0.0195	47.05	46.55	0.06		1.12E-02
3	RT = 0.919	dT =		35.35 min		σ'_c =	4.0 ksf						47.05	46.55	0.44	0.04	1.03E-02
initial	23.5	7/31/19	00	00	00	128.0	100.0				4.60	35.156	47.05	46.55	0.50		
final	23.5	7/31/19	00	31	42						6.30	0.0185	47.05	46.55	0.06		1.05E-02
4	RT = 0.919	dT =		31.70 min		σ'_c =	4.0 ksf						47.05	46.55	0.44	0.04	9.72E-03
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	4.010	in	Lo=	10.186	cm
Ao=	6.274	in^2	Ao =	40.48	cm^2
Vo=	25.161	in^3	Vo =	412.31	cm^3
Lc =	3.995	in	Lc =	10.148	cm
Ac=	6.227	in^2	Ac=	40.173	cm^2
Vc =	24.878	in^3	Vc =	407.69	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 10.148 cm ε_{axial} = 0.4%

Ac = 40.076 cm^2

Vc= 406.70 cm^3 ε_{vol} = 1.4%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	15.52	119.8	103.7	67.0
PreTest	22.34	128.6	105.1	100.0

Project No. T60592794

Project Name: Roxana PreDesign Invest. Site 25278

BORING: PD-4-SB-33

SAMPLE: 062119 Depth: 33

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4

ave K @ 20 ºC: **1.04E-02** cm/sec

(i_o)ave = 0.04

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-4-SB-33

Project Name: **Roxana** SAMPLE: 062119 DEPTH (ft): 33 Test No.: **P11590**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 5

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:					x	No / Yes
4) During consolidation:	x	Top and bottom drainage or				Top / Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	22.0	9/5/19	00	00	00	78.0	50.0				4.30	84.788	47.20	46.35	0.85		
final	23.0	9/5/19	00	43	45						8.40	0.0323	47.20	46.35	0.22		1.67E-02
1	RT = 0.941	dT =		43.75 min		σ'_c =	4.0 ksf						47.2	46.35	0.63	0.10	1.56E-02
initial	23.0	9/5/19	00	00	00	78.0	50.0				4.30	66.176	47.20	46.35	0.85		
final	23.3	9/5/19	00	25	12						7.50	0.0438	47.20	46.35	0.30		2.59E-02
2	RT = 0.926	dT =		25.20 min		σ'_c =	4.0 ksf						47.2	46.35	0.55	0.09	2.39E-02
initial	23.3	9/5/19	00	00	00	78.0	50.0				4.50	74.448	47.20	45.85	1.35		
final	22.8	9/5/19	00	16	09						8.10	0.0768	47.20	45.85	0.53		3.04E-02
3	RT = 0.929	dT =		16.15 min		σ'_c =	4.0 ksf						47.2	45.85	0.82	0.13	2.82E-02
initial	22.8	9/5/19	00	00	00	78.0	50.0				4.00	78.584	47.20	45.85	1.35		
final	23.0	9/5/19	00	16	41						7.80	0.0785	47.20	45.85	0.54		3.15E-02
4	RT = 0.932	dT =		16.68 min		σ'_c =	4.0 ksf				7.8		47.2	45.85	0.81	0.13	2.93E-02
initial	22.0	9/5/19	00	00	00	78.0	50.0				4.20	61.006	47.20	46.80	0.40		
final	23.1	9/5/19	00	48	45						7.15	0.0209	47.20	46.80	0.14		2.64E-02
5	RT = 0.940	dT =		48.75 min		σ'_c =	4.0 ksf						47.2	46.8	0.26	0.04	2.47E-02
initial	23.1	9/5/19	00	00	00	78.0	50.0				4.00	55.836	47.20	46.80	0.40		
final	23.0	9/5/19	00	45	22						6.70	0.0205	47.20	46.80	0.14		2.57E-02
6	RT = 0.929	dT =		45.37 min		σ'_c =	4.0 ksf						47.2	46.8	0.26	0.04	2.38E-02

Preliminary Length/Area Calculations

Lo =	2.407	in	Lo=	6.113	cm
Ao=	2.940	in^2	Ao =	18.97	cm^2
Vo=	7.075	in^3	Vo =	115.94	cm^3
Lc =	2.403	in	Lc =	6.103	cm
Ac=	2.930	in^2	Ac=	18.904	cm^2
Vc =	7.040	in^3	Vc =	115.36	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.103 cm ε_{axial} = 0.2%

Ac = 18.936 cm^2

Vc= 115.56 cm^3 ε_{vol} = 0.3%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	17.07	124.8	106.6	74.8
PreTest	22.64	131.2	107.0	100.0

Project No. T60592794

Project Name: Roxana

PreDesign Invest.

BORING: PD-4-SB-33

SAMPLE: 062119 Depth: 33

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6

ave K @ 20 ºC: **2.43E-02** cm/sec

(i_o)ave = 0.09

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-4-SB-60

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 062119 DEPTH (ft): 60 Test No.: **P11576**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. P-3 Fabric Stage 7

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. °C	Date	Time hr	Time min	Time sec	Initial σ_c psi	Initial Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Pressure Head Reading Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Fluid Head Reading Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20°C cm/sec
initial	22.5	8/6/19	00	00	00	140.0	90.0				4.50	64.108	48.85	46.45	2.40		
final	22.5	8/6/19	00	39	39						7.60	0.0269	48.85	46.45	0.08		2.95E-03
1	RT = 0.941	dT =		39.65 min		σ'_c =	7.2 ksf						48.85	46.45	2.32	0.23	2.78E-03
initial	22.5	8/6/19	00	00	00	140.0	100.0				4.00	140.624	48.85	46.45	2.40		
final	22.7	8/6/19	00	85	52						10.80	0.0273	48.85	46.45	0.08		2.99E-03
2	RT = 0.938	dT =		85.87 min		σ'_c =	5.8 ksf						48.85	46.45	2.32	0.23	2.81E-03
initial	22.7	8/6/19	00	00	00	140.0	100.0				4.30	74.448	48.85	46.45	2.40		
final	22.7	8/6/19	00	42	42						7.90	0.0291	48.85	46.45	0.09		3.19E-03
3	RT = 0.936	dT =		42.70 min		σ'_c =	5.8 ksf						48.85	46.45	2.31	0.23	2.99E-03
initial	22.7	8/6/19	00	00	00	140.0	100.0				4.50	51.7	48.85	46.45	2.40		
final	22.7	8/6/19	00	29	38						7.00	0.0291	48.85	46.45	0.09		3.19E-03
4	RT = 0.936	dT =		29.63 min		σ'_c =	5.8 ksf						48.85	46.45	2.31	0.23	3.00E-03
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	4.049	in	Lo=	10.285	cm
Ao=	6.309	in^2	Ao =	40.71	cm^2
Vo=	25.550	in^3	Vo =	418.68	cm^3
Lc =	4.032	in	Lc =	10.242	cm
Ac=	6.256	in^2	Ac=	40.363	cm^2
Vc =	25.228	in^3	Vc =	413.41	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 10.242 cm ε_{axial} = 0.4%

Ac = 40.287 cm^2

Vc= 412.63 cm^3 ε_{vol} = 1.4%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	17.03	127.1	108.6	83.2
PreTest	19.64	131.8	110.2	100.0

Project No. T60592794

Project Name: Roxana PreDesign Invest. Site 25278

BORING: PD-4-SB-60

SAMPLE: 062119 Depth: 60

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4

ave K @ 20 °C: **2.90E-03** cm/sec

(i_o)ave = 0.23

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-4-SB-60
Project Name: **Roxana** SAMPLE: 062119 DEPTH (ft): 60 Test No.: **P11580**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 5

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:					x No / Yes
4) During consolidation:	x	Top and bottom drainage or			Top / Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage-Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	21.7	8/28/19	00	00	00	100.0	50.0				4.80	51.7	45.05	44.40	0.65		
final	22.0	8/28/19	00	30	33						7.30	0.0282	45.05	44.40	0.20		2.21E-02
1	RT = 0.955	dT =		30.55 min		σ'_c =	7.2 ksf						45.05	44.4	0.45	0.07	2.17E-02
initial	22.0	8/28/19	00	00	00	100.0	50.0				4.20	78.584	45.05	44.40	0.65		
final	22.3	8/28/19	00	46	25						8.00	0.0282	45.05	44.40	0.20		2.21E-02
2	RT = 0.948	dT =		46.42 min		σ'_c =	7.2 ksf						45.05	44.4	0.45	0.07	2.16E-02
initial	22.3	8/28/19	00	00	00	100.0	50.0				5.40	99.264	45.05	44.05	1.00		
final	22.5	8/28/19	00	32	38						10.20	0.0507	45.05	44.05	0.35		2.78E-02
3	RT = 0.943	dT =		32.63 min		σ'_c =	7.2 ksf						45.05	44.05	0.65	0.10	2.70E-02
initial	22.5	8/28/19	00	00	00	100.0	50.0				4.10	64.108	45.05	44.05	1.00		
final	22.5	8/28/19	00	20	54						7.20	0.0511	45.05	44.05	0.35		2.82E-02
4	RT = 0.941	dT =		20.90 min		σ'_c =	7.2 ksf						45.05	44.05	0.65	0.10	2.73E-02
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	2.664	in	Lo=	6.767	cm
Ao=	2.954	in^2	Ao =	19.06	cm^2
Vo=	7.871	in^3	Vo =	128.98	cm^3
Lc =	2.660	in	Lc =	6.757	cm
Ac=	2.946	in^2	Ac=	19.003	cm^2
Vc =	7.836	in^3	Vc =	128.40	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc =	6.757	cm	ε_{axial} =	0.2%
Ac =	18.441	cm^2		
Vc=	124.60	cm^3	ε_{vol} =	3.4%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	17.07	118.8	101.5	58.4
PreTest	27.16	133.6	105.1	100.0

Project No. T60592794
Project Name: Roxana
PreDesign Invest.
BORING: PD-4-SB-60
SAMPLE: 062119 Depth: 60

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4
ave K @ 20 ºC: **2.44E-02** cm/sec
(i_o)ave = 0.08

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-5-SB-45

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 061419 DEPTH (ft): 45 Test No.: **P11572**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. CH Fabric Stage 6

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	23.3	8/2/19	00	00	00	138.0	100.0				4.70	28.952	68.70	36.75	31.95		
final	23.4	8/2/19	00	54	00						6.10	0.0089	68.70	36.75	0.06		7.03E-05
1	RT = 0.922	dT =		54.00 min		σ'_c =	5.5 ksf						68.7	36.75	31.89	3.24	6.51E-05
initial	23.4	8/2/19	00	00	00	138.0	100.0				4.10	41.36	68.70	36.75	31.95		
final	23.4	8/2/19	00	76	12						6.10	0.0090	68.70	36.75	0.06		7.12E-05
2	RT = 0.921	dT =		76.20 min		σ'_c =	5.5 ksf						68.7	36.75	31.89	3.24	6.59E-05
initial	23.4	8/2/19	00	00	00	138.0	100.0				4.10	41.36	68.70	36.75	31.95		
final	23.5	8/2/19	00	77	05						6.10	0.0089	68.70	36.75	0.06		7.04E-05
3	RT = 0.920	dT =		77.08 min		σ'_c =	5.5 ksf						68.7	36.75	31.89	3.24	6.50E-05
initial	23.5	8/2/19	00	00	00	138.0	100.0				4.70	26.884	68.70	36.75	31.95		
final	23.5	8/2/19	00	51	00						6.00	0.0088	68.70	36.75	0.06		6.91E-05
4	RT = 0.919	dT =		51.00 min		σ'_c =	5.5 ksf						68.7	36.75	31.89	3.24	6.38E-05
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	3.905	in	Lo=	9.918	cm
Ao=	6.177	in^2	Ao =	39.85	cm^2
Vo=	24.121	in^3	Vo =	395.28	cm^3
Lc =	3.873	in	Lc =	9.837	cm
Ac=	6.075	in^2	Ac=	39.195	cm^2
Vc =	23.528	in^3	Vc =	385.56	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc =	9.837	cm	ε_{axial} =	0.8%	
Ac =	39.019	cm^2			
Vc=	383.82	cm^3	ε_{vol} =	2.9%	

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	18.64	127.1	107.1	87.8
PreTest	19.55	131.9	110.3	100.0

Project No. T60592794

Project Name: Roxana PreDesign Invest. Site 25278

BORING: PD-5-SB-45

SAMPLE: 061419 Depth: 45

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4

ave K @ 20 ºC: **6.50E-05** cm/sec

(i_o)ave = 3.24

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-5-SB-45
Project Name: **Roxana** SAMPLE: 061419 DEPTH (ft): 45 Test No.: **P11584**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Fabric Stage 5

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	21.5	8/30/19	00	00	00	88.0	50.0				5.20	97.196	47.00	45.25	1.75		
final	21.5	8/30/19	00	35	54						9.90	0.0451	47.00	45.25	0.31		9.97E-03
1	RT = 0.963	dT =		35.90 min		σ'_c =	5.5 ksf						47	45.25	1.44	0.24	9.74E-03
initial	21.5	8/30/19	00	00	00	88.0	50.0				4.60	86.856	47.00	45.25	1.75		
final	21.7	8/30/19	00	31	21						8.80	0.0462	47.00	45.25	0.32		1.03E-02
2	RT = 0.961	dT =		31.35 min		σ'_c =	5.5 ksf						47	45.25	1.43	0.24	9.99E-03
initial	21.7	8/30/19	00	00	00	88.0	50.0				4.10	153.032	47.00	44.75	2.25		
final	22.0	8/30/19	00	43	12						11.50	0.0590	47.00	44.75	0.41		1.02E-02
3	RT = 0.955	dT =		43.20 min		σ'_c =	5.5 ksf						47	44.75	1.84	0.30	9.87E-03
initial	22.0	8/30/19	00	00	00	88.0	50.0				4.20	99.264	47.00	44.75	2.25		
final	22.4	8/30/19	00	26	11						9.00	0.0632	47.00	44.75	0.44		1.11E-02
4	RT = 0.947	dT =		26.18 min		σ'_c =	5.5 ksf						47	44.75	1.81	0.30	1.06E-02
initial	22.4	8/30/19	00	00	00	88.0	50.0				4.50	142.692	47.00	44.25	2.75		
final	22.8	8/30/19	00	30	11						11.40	0.0788	47.00	44.25	0.55		1.14E-02
5	RT = 0.938	dT =		30.18 min		σ'_c =	5.5 ksf						47	44.25	2.20	0.36	1.08E-02
initial	22.8	8/30/19	00	00	00	88.0	50.0				4.60	128.216	47.00	44.25	2.75		
final	23.1	8/30/19	00	28	03						10.80	0.0762	47.00	44.25	0.53		1.09E-02
6	RT = 0.931	dT =		28.05 min		σ'_c =	5.5 ksf						47	44.25	2.22	0.37	1.03E-02

Preliminary Length/Area Calculations

Lo =	2.392	in	Lo=	6.076	cm
Ao=	2.970	in^2	Ao =	19.16	cm^2
Vo=	7.106	in^3	Vo =	116.44	cm^3
Lc =	2.388	in	Lc =	6.066	cm
Ac=	2.960	in^2	Ac=	19.100	cm^2
Vc =	7.070	in^3	Vc =	115.86	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.066 cm ε_{axial} = 0.2%
Ac = 18.838 cm^2
Vc= 114.27 cm^3 ε_{vol} = 1.9%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	19.49	127.4	106.6	87.8
PreTest	21.10	131.6	108.6	100.0

Project No. T60592794
Project Name: Roxana
PreDesign Invest.
BORING: PD-5-SB-45
SAMPLE: 061419 Depth: 45

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6
ave K @ 20 ºC: **1.02E-02** cm/sec
(i_o)ave = 0.30

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-5-SB-57

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 061419 DEPTH (ft): 57 Test No.: **P11575**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. CH Fabric Stage 7

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	Time min	Time sec	Initial σ_c psi	Initial Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Pressure Head Reading Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Fluid Head Reading Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	22.4	8/5/19	00	00	00	138.0	90.0				4.10	80.652	68.80	36.75	32.05		
final	22.5	8/5/19	00	46	08						8.00	0.0291	68.80	36.75	0.19		2.30E-04
1	RT = 0.942	dT =		46.13 min		σ'_c =	6.9 ksf						68.8	36.75	31.86	3.14	2.17E-04
initial	22.5	8/5/19	00	00	00	138.0	100.0				4.40	72.38	68.80	36.75	32.05		
final	22.5	8/5/19	00	41	30						7.90	0.0291	68.80	36.75	0.19		2.30E-04
2	RT = 0.941	dT =		41.50 min		σ'_c =	5.5 ksf						68.8	36.75	31.86	3.14	2.16E-04
initial	22.5	8/5/19	00	00	00	138.0	100.0				4.40	76.516	68.80	36.75	32.05		
final	22.7	8/5/19	00	44	25						8.10	0.0287	68.80	36.75	0.19		2.27E-04
3	RT = 0.938	dT =		44.42 min		σ'_c =	5.5 ksf						68.8	36.75	31.86	3.14	2.13E-04
initial	22.7	8/5/19	00	00	00	138.0	100.0				4.50	59.972	68.80	36.75	32.05		
final	22.8	8/5/19	00	35	00						7.40	0.0286	68.80	36.75	0.19		2.25E-04
4	RT = 0.935	dT =		35.00 min		σ'_c =	5.5 ksf						68.8	36.75	31.86	3.14	2.11E-04
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	4.033	in	Lo=	10.243	cm
Ao=	6.364	in^2	Ao =	41.06	cm^2
Vo=	25.667	in^3	Vo =	420.60	cm^3
Lc =	4.000	in	Lc =	10.159	cm
Ac=	6.259	in^2	Ac=	40.384	cm^2
Vc =	25.037	in^3	Vc =	410.28	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc =	10.159	cm	ε_{axial} =	0.8%	
Ac =	40.372	cm^2			
Vc=	410.16	cm^3	ε_{vol} =	2.5%	

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	16.62	126.9	108.8	81.6
PreTest	18.93	132.7	111.6	100.0

Project No. T60592794

Project Name: Roxana PreDesign Invest. Site 25278

BORING: PD-5-SB-57

SAMPLE: 061419 Depth: 57

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4

ave K @ 20 ºC: **2.14E-04** cm/sec

(i_o)ave = 3.14

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-5-SB-57

Project Name: **Roxana** SAMPLE: 061419 DEPTH (ft): 57 Test No.: **P11582**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 5

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:			x	No		Yes
4) During consolidation:	x	Top and bottom drainage or		Top		Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	21.7	8/29/19	00	00	00	98.0	50.0				4.00	55.836	45.05	43.90	1.15		
final	22.0	8/29/19	00	58	30						6.70	0.0159	45.05	43.90	0.11		5.16E-03
1	RT = 0.955	dT =		58.50 min		σ'_c =	6.9 ksf						45.05	43.9	1.04	0.16	4.98E-03
initial	22.0	8/29/19	00	00	00	98.0	50.0				4.20	43.428	45.05	43.90	1.15		
final	22.2	8/29/19	00	43	43						6.30	0.0166	45.05	43.90	0.11		5.39E-03
2	RT = 0.949	dT =		43.72 min		σ'_c =	6.9 ksf						45.05	43.9	1.04	0.16	5.18E-03
initial	22.2	8/29/19	00	00	00	98.0	50.0				4.60	49.632	45.05	42.95	2.10		
final	22.5	8/29/19	00	26	54						7.00	0.0308	45.05	42.95	0.21		5.50E-03
3	RT = 0.944	dT =		26.90 min		σ'_c =	6.9 ksf						45.05	42.95	1.89	0.29	5.25E-03
initial	22.5	8/29/19	00	00	00	98.0	50.0				3.85	77.55	45.05	42.95	2.10		
final	23.0	8/29/19	00	41	45						7.60	0.0310	45.05	42.95	0.21		5.54E-03
4	RT = 0.935	dT =		41.75 min		σ'_c =	6.9 ksf						45.05	42.95	1.89	0.29	5.24E-03
initial	23.0	8/29/19	00	00	00	98.0	50.0				5.20	53.768	45.05	41.75	3.30		
final	23.2	8/29/19	00	18	36						7.80	0.0482	45.05	41.75	0.33		5.48E-03
5	RT = 0.928	dT =		18.60 min		σ'_c =	6.9 ksf						45.05	41.75	2.97	0.45	5.14E-03
initial	23.2	8/29/19	00	00	00	98.0	50.0				4.20	64.108	45.05	41.70	3.35		
final	23.2	8/29/19	00	21	33						7.30	0.0496	45.05	41.70	0.34		5.56E-03
6	RT = 0.925	dT =		21.55 min		σ'_c =	6.9 ksf						45.05	41.7	3.01	0.46	5.21E-03

Preliminary Length/Area Calculations

Lo =	2.582	in	Lo=	6.559	cm
Ao=	3.017	in^2	Ao =	19.46	cm^2
Vo=	7.790	in^3	Vo =	127.66	cm^3
Lc =	2.580	in	Lc =	6.554	cm
Ac=	3.012	in^2	Ac=	19.432	cm^2
Vc =	7.772	in^3	Vc =	127.36	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.554 cm ε_{axial} = 0.1%

Ac = 19.218 cm^2

Vc= 125.96 cm^3 ε_{vol} = 1.3%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	14.09	118.1	103.5	58.8
PreTest	23.14	129.2	104.9	100.0

Project No. T60592794

Project Name: Roxana

PreDesign Invest.

BORING: PD-5-SB-57

SAMPLE: 061419 Depth: 57

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6

ave K @ 20 ºC: **5.17E-03** cm/sec

(i_o)ave = 0.30

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-6-SB-41

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 071119 DEPTH (ft): 41 Test No.: **P11569**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. CH FABRIC Stage 6

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage-Trial No.	Temp. ºC	Date	Time hr	Time min	Time sec	Initial σ_c psi	Initial Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Pressure Head Reading Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Fluid Head Reading Tail (cm)	Total Head Uncorrected / Correction / Corrected (cm)	Gradient	Permeability Preliminary / Final at 20ºC cm/sec
initial	22.1	8/1/19	00	00	00	134.0	100.0				4.40	51.7	47.10	46.60	0.50		
final	22.1	8/1/19	00	24	54						6.90	0.0346	47.10	46.60	0.22		2.95E-02
1	RT = 0.949	dT =		24.90 min		σ'_c =	4.9 ksf						47.1	46.6	0.28	0.03	2.78E-02
initial	22.1	8/1/19	00	00	00	134.0	100.0				4.40	45.496	47.10	46.60	0.50		
final	22.1	8/1/19	00	21	44						6.60	0.0349	47.10	46.60	0.23		3.00E-02
2	RT = 0.949	dT =		21.73 min		σ'_c =	4.9 ksf						47.1	46.6	0.27	0.03	2.82E-02
initial	22.1	8/1/19	00	00	00	134.0	100.0				4.40	59.972	47.10	46.60	0.50		
final	22.2	8/1/19	00	28	33						7.30	0.0350	47.10	46.60	0.23		3.02E-02
3	RT = 0.948	dT =		28.55 min		σ'_c =	4.9 ksf						47.1	46.6	0.27	0.03	2.83E-02
initial	22.2	8/1/19	00	00	00	134.0	100.0				4.50	88.924	47.10	46.60	0.50		
final	22.2	8/1/19	00	42	00						8.80	0.0353	47.10	46.60	0.23		3.06E-02
4	RT = 0.947	dT =		42.00 min		σ'_c =	4.9 ksf						47.1	46.6	0.27	0.03	2.87E-02
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	3.710	in	Lo=	9.423	cm
Ao=	6.281	in^2	Ao =	40.52	cm^2
Vo=	23.300	in^3	Vo =	381.81	cm^3
Lc =	3.677	in	Lc =	9.339	cm
Ac=	6.168	in^2	Ac=	39.792	cm^2
Vc =	22.678	in^3	Vc =	371.62	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 9.339 cm ε_{axial} = 0.9%

Ac = 40.161 cm^2

Vc= 375.06 cm^3 ε_{vol} = 1.8%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	18.79	126.2	106.2	81.5
PreTest	22.01	132.0	108.1	100.0

Project No. T60592794
Project Name: Roxana
PreDesign Invest. Site 25278
BORING: PD-6-SB-41
SAMPLE: 071119 Depth: 41

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4
ave K @ 20 ºC: **2.83E-02** cm/sec
(i_o)ave = 0.03

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-6-SB-41

Project Name: **Roxana** SAMPLE: 071119 DEPTH (ft): 41 Test No.: **P11592**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 7

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:					x	No / Yes
4) During consolidation:	x	Top and bottom drainage or				Top / Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	21.2	9/6/19	00	00	00	84.0	50.0				3.80	68.244	47.30	46.85	0.45		
final	21.6	9/6/19	00	59	00						7.10	0.0193	47.30	46.85	0.13		1.99E-02
1	RT = 0.965	dT =		59.00 min		σ'_c =	4.9 ksf						47.3	46.85	0.32	0.05	2.00E-02
initial	21.6	9/6/19	00	00	00	84.0	50.0				4.00	51.7	47.30	46.85	0.45		
final	21.6	9/6/19	00	46	00						6.50	0.0187	47.30	46.85	0.13		1.91E-02
2	RT = 0.961	dT =		46.00 min		σ'_c =	4.9 ksf						47.3	46.85	0.32	0.05	1.91E-02
initial	21.6	9/6/19	00	00	00	84.0	50.0				4.70	72.38	47.25	46.65	0.60		
final	21.7	9/6/19	00	42	08						8.20	0.0286	47.25	46.65	0.20		2.32E-02
3	RT = 0.960	dT =		42.13 min		σ'_c =	4.9 ksf						47.25	46.65	0.40	0.06	2.33E-02
initial	21.7	9/6/19	00	00	00	84.0	50.0				3.80	68.244	47.25	46.65	0.60		
final	22.0	9/6/19	00	39	55						7.10	0.0285	47.25	46.65	0.20		2.31E-02
4	RT = 0.955	dT =		39.92 min		σ'_c =	4.9 ksf				7.8		47.25	46.65	0.40	0.06	2.30E-02
initial	22.0	9/6/19	00	00	00	84.0	50.0				4.80	57.904	47.20	46.10	1.10		
final	22.0	9/6/19	00	17	12						7.60	0.0561	47.20	46.10	0.39		2.57E-02
5	RT = 0.952	dT =		17.20 min		σ'_c =	4.9 ksf						47.2	46.1	0.71	0.11	2.55E-02
initial	22.0	9/6/19	00	00	00	84.0	50.0				5.10	84.788	47.20	46.10	1.10		
final	21.8	9/6/19	00	25	36						9.20	0.0552	47.20	46.10	0.38		2.51E-02
6	RT = 0.954	dT =		25.60 min		σ'_c =	4.9 ksf						47.2	46.1	0.72	0.11	2.50E-02

Preliminary Length/Area Calculations

Lo =	2.464	in	Lo=	6.258	cm
Ao=	2.981	in^2	Ao =	19.23	cm^2
Vo=	7.344	in^3	Vo =	120.35	cm^3
Lc =	2.462	in	Lc =	6.253	cm
Ac=	2.976	in^2	Ac=	19.200	cm^2
Vc =	7.326	in^3	Vc =	120.06	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.253 cm ε_{axial} = 0.1%

Ac = 18.394 cm^2

Vc= 115.02 cm^3 ε_{vol} = 4.4%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	20.99	120.3	99.4	74.1
PreTest	25.54	130.6	104.0	100.0

Project No. T60592794

Project Name: Roxana

PreDesign Invest.

BORING: PD-6-SB-41

SAMPLE: 071119 Depth: 41

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6

ave K @ 20 ºC: **2.27E-02** cm/sec

(i_o)ave = 0.08

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-7-SB-43

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 071819 DEPTH (ft): 43 Test No.: **P11570**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. P-3 Fabric Stage 6

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. °C	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20°C cm/sec
initial	22.5	8/1/19	00	00	00	136.0	100.0				4.70	84.788	52.50	43.70	8.80		
final	22.5	8/1/19	00	21	54						8.80	0.0645	52.50	43.70	0.20		1.81E-03
1	RT = 0.941	dT =		21.90 min		σ'_c =	5.2 ksf						52.5	43.7	8.60	0.88	1.72E-03
initial	22.5	8/1/19	00	00	00	136.0	100.0				4.30	99.264	52.50	43.70	8.80		
final	22.7	8/1/19	00	23	24						9.10	0.0707	52.50	43.70	0.22		1.98E-03
2	RT = 0.938	dT =		23.40 min		σ'_c =	5.2 ksf						52.5	43.7	8.58	0.88	1.89E-03
initial	22.7	8/1/19	00	00	00	136.0	100.0				4.80	113.74	52.50	43.70	8.80		
final	22.7	8/1/19	00	24	12						10.30	0.0783	52.50	43.70	0.24		2.20E-03
3	RT = 0.936	dT =		24.20 min		σ'_c =	5.2 ksf						52.5	43.7	8.56	0.88	2.09E-03
initial	22.7	8/1/19	00	00	00	136.0	100.0				4.10	97.196	52.50	43.70	8.80		
final	22.7	8/1/19	00	21	39						8.80	0.0748	52.50	43.70	0.23		2.10E-03
4	RT = 0.936	dT =		21.65 min		σ'_c =	5.2 ksf						52.5	43.7	8.57	0.88	1.99E-03
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	3.863	in	Lo=	9.812	cm
Ao=	6.347	in^2	Ao =	40.95	cm^2
Vo=	24.517	in^3	Vo =	401.76	cm^3
Lc =	3.846	in	Lc =	9.769	cm
Ac=	6.291	in^2	Ac=	40.584	cm^2
Vc =	24.193	in^3	Vc =	396.46	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc =	9.769	cm	ε_{axial} =	0.4%	
Ac =	40.054	cm^2			
Vc=	391.28	cm^3	ε_{vol} =	2.6%	

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	18.84	125.9	105.9	86.0
PreTest	20.37	130.9	108.7	100.0

Project No. T60592794
Project Name: Roxana PreDesign Invest. Site 25278
BORING: PD-7-SB-43
SAMPLE: 071819 Depth: 43

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4
ave K @ 20 °C: **1.92E-03** cm/sec
(i_o)ave = 0.88

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST
ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-7-SB-43
Project Name: **Roxana** SAMPLE: 071819 DEPTH (ft): 43 Test No.: **P11588**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 8

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:					x	No / Yes
4) During consolidation:	x	Top and bottom drainage or				Top / Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage-Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	22.0	9/4/19	00	00	00	86.0	50.0				4.80	43.428	47.20	46.75	0.45		
final	22.7	9/4/19	00	44	35						6.90	0.0162	47.20	46.75	0.11		1.62E-02
1	RT = 0.944	dT =		44.58 min		σ'_c =	5.2 ksf						47.2	46.75	0.34	0.05	1.43E-02
initial	22.7	9/4/19	00	00	00	86.0	50.0				3.50	69.278	47.20	46.75	0.45		
final	23.5	9/4/19	00	69	19						6.85	0.0166	47.20	46.75	0.12		1.67E-02
2	RT = 0.928	dT =		69.51 min		σ'_c =	5.2 ksf						47.2	46.75	0.33	0.05	1.45E-02
initial	23.5	9/4/19	00	00	00	86.0	50.0				3.90	101.332	47.20	46.30	0.90		
final	24.0	9/4/19	00	48	47						8.80	0.0346	47.20	46.30	0.24		1.76E-02
3	RT = 0.914	dT =		48.78 min		σ'_c =	5.2 ksf						47.2	46.3	0.66	0.11	1.51E-02
initial	22.4	9/4/19	00	00	00	86.0	50.0				4.10	90.992	47.20	46.30	0.90		
final	23.0	9/4/19	00	44	00						8.50	0.0345	47.20	46.30	0.24		1.75E-02
4	RT = 0.936	dT =		44.00 min		σ'_c =	5.2 ksf						47.2	46.3	0.66	0.11	1.54E-02
initial	23.0	9/4/19	00	00	00	86.0	50.0				4.40	93.06	47.20	45.90	1.30		
final	23.3	9/4/19	00	30	45						8.90	0.0504	47.20	45.90	0.35		1.78E-02
5	RT = 0.926	dT =		30.75 min		σ'_c =	5.2 ksf						47.2	45.9	0.95	0.15	1.55E-02
initial	23.3	9/4/19	00	00	00	86.0	50.0				4.70	80.652	47.20	45.90	1.30		
final	23.4	9/4/19	00	26	22						8.60	0.0510	47.20	45.90	0.35		1.81E-02
6	RT = 0.922	dT =		26.37 min		σ'_c =	5.2 ksf						47.2	45.9	0.95	0.15	1.57E-02

Preliminary Length/Area Calculations

Lo =	2.466	in	Lo=	6.263	cm
Ao=	2.898	in^2	Ao =	18.70	cm^2
Vo=	7.145	in^3	Vo =	117.09	cm^3
Lc =	2.459	in	Lc =	6.245	cm
Ac=	2.881	in^2	Ac=	18.589	cm^2
Vc =	7.085	in^3	Vc =	116.10	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.245 cm ε_{axial} = 0.3%
Ac = 19.829 cm^2
Vc= 123.84 cm^3 ε_{vol} = -5.8%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	19.63	125.5	104.9	87.3
PreTest	25.91	124.9	99.2	100.0

Project No. T60592794
Project Name: Roxana
PreDesign Invest.
BORING: PD-7-SB-43
SAMPLE: 071819 Depth: 43

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6
ave K @ 20 ºC: **1.51E-02** cm/sec
(i_o)ave = 0.10

PERMEABILITY TEST: FALLING HEAD - CONSTANT VOLUME U-TUBE
ASTM D 5084 - Method F

Project No.: T60592794 | BORING: PD-7-SB-53 | Test No.: P11574
Project Name: **Roxana PreDesign Invest. Site 25278** | SAMPLE: 071819 | DEPTH (ft): 53
Specimen - Apparatus set-up - Test Information | Cell No. P-1 | Apparatus No. 2 | Stage No.: 6

Preliminary Length/Area Calculations

Lo =	4.003	in	Lo=	10.168	cm	
dLc=	0.020	in	Ao =	40.85	cm^2	
Lc=	3.983	in	Vo =	415.30	cm^3	
			Lc=	10.117	cm	
dVc = 3 Vo * (dLc/Lo)			dVc=	6.22	cm^3	
			Vc =	409.07	cm^3	
Sc =	0.250	cm^{-1}	Ac=	40.435	cm^2	

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
	x	with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove ai			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
or		Demineralized		0.005 N calcium sulfate (CaSO4)	

Equations Used
Kt = - 0.0000746 * Sc/dT(min) * ln (ho/hf)
RT = (-0.02452*(ave. temp in C) + 1.495)
K @ 20 ºC = RT * Kt TubeC= 1.3214

TEST SUMMARY

Final Specimen and Test Conditions

Lc = 10.117 cm ε_{axial} = 0.5%
Ac = 40.546 cm^2
Vc= 410.19 cm^3 ε_{vol} = 1.2%
Sc = 0.250 cm^{-1} Sc = Lc / Ac , final

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	18.64	129.7	109.3	92.8
PreTest	19.38	132.1	110.7	100.0

HYDRAULIC CONDUCTIVITY SUMMARY
Averages for trials: 1-4
ave K @ 20 ºC: **4.61E-05** cm/sec
(i_o)ave = 5.4

Tested By: BB Reviewed By: G. Thomas

Consol Stage-Trial No.	Temp. ºC	Date	Time hr	Time min	Time sec	Initial σ_c psi	Initial Ub psi	U-tube Reading Head (cm) (cc)	U-tube Reading Tail (cm) (cc)	Flow in/out gradient	Permeability Preliminary Final at 20ºC cm/sec Dev. from Ave.
initial	22.0	8/5/19	00	00	00	134.0	90.0	45.00	40.63	0.99	4.73E-05
final	22.0	8/5/19	00	00	22			43.00	41.28		4.51E-05
1	RT = 0.956	dT =		0.37 min		σ'_c =	6.3 ksf	0.149	0.150	io= 5.4	-2%
initial	22.0	8/5/19	00	00	00	134.0	90.0	45.00	40.63	0.99	4.95E-05
final	22.0	8/5/19	00	00	21			43.00	41.28		4.72E-05
2	RT = 0.956	dT =		0.35 min		σ'_c =	6.3 ksf	0.149	0.150	io= 5.4	2%
initial	22.0	8/5/19	00	00	00	134.0	90.0	45.00	40.63	0.99	4.95E-05
final	22.0	8/5/19	00	00	21			43.00	41.28		4.72E-05
3	RT = 0.956	dT =		0.35 min		σ'_c =	6.3 ksf	0.149	0.150	io= 5.4	2%
initial	22.0	8/5/19	00	00	00	134.0	90.0	45.00	40.63	0.99	4.73E-05
final	22.0	8/5/19	00	00	22			43.00	41.28		4.51E-05
4	RT = 0.956	dT =		0.37 min		σ'_c =	6.3 ksf	0.149	0.150	io= 5.4	-2%
initial											
final											
5											
initial											
final											
6											

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-7-SB-53

Project Name: **Roxana** SAMPLE: 071819 DEPTH (ft): 53 Test No.: **P11578**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 5

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:					x	No / Yes
4) During consolidation:	x	Top and bottom drainage or				Top / Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	20.7	8/27/19	00	00	00	94.0	50.0				4.70	52.734	45.05	42.30	2.75		
final	21.2	8/27/19	00	50	10						7.25	0.0175	45.05	42.30	0.12		2.18E-03
1	RT = 0.976	dT =		50.17 min		σ'_c =	6.3 ksf						45.05	42.3	2.63	0.43	2.14E-03
initial	21.2	8/27/19	00	00	00	94.0	50.0				4.60	53.768	45.05	42.30	2.75		
final	21.5	8/27/19	00	56	38						7.20	0.0158	45.05	42.30	0.11		1.96E-03
2	RT = 0.967	dT =		56.63 min		σ'_c =	6.3 ksf						45.05	42.3	2.64	0.43	1.91E-03
initial	21.5	8/27/19	00	00	00	94.0	50.0				4.40	45.496	45.05	41.60	3.45		
final	21.5	8/27/19	00	35	00						6.60	0.0217	45.05	41.60	0.15		2.15E-03
3	RT = 0.963	dT =		35.00 min		σ'_c =	6.3 ksf						45.05	41.6	3.30	0.54	2.08E-03
initial	21.5	8/27/19	00	00	00	94.0	50.0				4.40	43.428	45.05	41.60	3.45		
final	21.7	8/27/19	00	32	49						6.50	0.0221	45.05	41.60	0.15		2.19E-03
4	RT = 0.961	dT =		32.82 min		σ'_c =	6.3 ksf						45.05	41.6	3.30	0.53	2.11E-03
initial	21.7	8/27/19	00	00	00	94.0	50.0				4.70	39.292	45.05	40.75	4.30		
final	21.7	8/27/19	00	24	50						6.60	0.0264	45.05	40.75	0.18		2.09E-03
5	RT = 0.959	dT =		24.83 min		σ'_c =	6.3 ksf						45.05	40.75	4.12	0.67	2.02E-03
initial	21.7	8/27/19	00	00	00	94.0	50.0				4.00	68.244	45.05	40.75	4.30		
final	22.0	8/27/19	00	42	40						7.30	0.0267	45.05	40.75	0.19		2.12E-03
6	RT = 0.955	dT =		42.67 min		σ'_c =	6.3 ksf						45.05	40.75	4.11	0.67	2.04E-03

Preliminary Length/Area Calculations

Lo =	2.433	in	Lo=	6.180	cm
Ao=	2.935	in^2	Ao =	18.94	cm^2
Vo=	7.141	in^3	Vo =	117.02	cm^3
Lc =	2.428	in	Lc =	6.167	cm
Ac=	2.923	in^2	Ac=	18.858	cm^2
Vc =	7.097	in^3	Vc =	116.30	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.167 cm ε_{axial} = 0.2%

Ac = 18.743 cm^2

Vc= 115.59 cm^3 ε_{vol} = 1.2%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	18.52	130.8	110.4	86.2
PreTest	20.78	135.0	111.7	100.0

Project No. T60592794

Project Name: Roxana

PreDesign Invest.

BORING: PD-7-SB-53

SAMPLE: 071819 Depth: 53

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6

ave K @ 20 ºC: **2.05E-03** cm/sec

(i_o)ave = 0.54

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-10-SB-44

Project Name: **Roxana PreDesign Invest. Site 25278** SAMPLE: 061219 DEPTH (ft): 44 Test No.: **P11571**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. P-1 STONE Stage 6

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or	
		with stones or		Stones with filter paper or	top + bottom
2) Specimen orientation for:	x	Vertical or		Horizontal permeability determination	
3) During saturation: Water flushed up sides of specimen to remove air:			x	No	Yes
4) During consolidation:	x	Top and bottom drainage or		Top	Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation	
6) Permeant: water used	x	Tap		Distilled	
		Demineralized		0.005 N calcium sulfate (CaSO4)	

Consol Stage- Trial No.	Temp. ° C	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	22.3	8/2/19	00	00	00	137.0	100.0				5.10	45.496	48.10	44.25	3.85		
final	22.5	8/2/19	00	31	26						7.30	0.0241	48.10	44.25	0.48		1.61E-03
1	RT = 0.943	dT =		31.43 min		σ'_c =	5.3 ksf						48.1	44.25	3.37	0.36	1.54E-03
initial	22.5	8/2/19	00	00	00	137.0	100.0				4.30	62.04	48.10	44.25	3.85		
final	22.5	8/2/19	00	42	43						7.30	0.0242	48.10	44.25	0.48		1.62E-03
2	RT = 0.941	dT =		42.72 min		σ'_c =	5.3 ksf						48.1	44.25	3.37	0.36	1.54E-03
initial	22.5	8/2/19	00	00	00	137.0	100.0				4.30	66.176	48.10	44.25	3.85		
final	22.7	8/2/19	00	44	56						7.50	0.0245	48.10	44.25	0.49		1.64E-03
3	RT = 0.938	dT =		44.93 min		σ'_c =	5.3 ksf						48.1	44.25	3.36	0.36	1.57E-03
initial	22.7	8/2/19	00	00	00	137.0	100.0				4.40	47.564	48.10	44.25	3.85		
final	22.8	8/2/19	00	32	23						6.70	0.0245	48.10	44.25	0.49		1.64E-03
4	RT = 0.935	dT =		32.38 min		σ'_c =	5.3 ksf						48.1	44.25	3.36	0.36	1.56E-03
initial																	
final																	
5																	
initial																	
final																	
6																	

Preliminary Length/Area Calculations

Lo =	3.655	in	Lo=	9.283	cm
Ao=	6.423	in^2	Ao =	41.44	cm^2
Vo=	23.477	in^3	Vo =	384.71	cm^3
Lc =	3.638	in	Lc =	9.240	cm
Ac=	6.363	in^2	Ac=	41.054	cm^2
Vc =	23.149	in^3	Vc =	379.34	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc =	9.240	cm	ε_{axial} =	0.5%
Ac =	40.435	cm^2		
Vc=	373.62	cm^3	ε_{vol} =	2.9%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	20.26	127.4	105.9	92.4
PreTest	20.21	131.1	109.0	100.0

Project No. T60592794

Project Name: Roxana PreDesign Invest. Site 25278

BORING: PD-10-SB-44

SAMPLE: 061219 Depth: 44

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-4

ave K @ 20 ºC: **1.55E-03** cm/sec

(i_o)ave = 0.36

CONSTANT HEAD HYDRAULIC CONDUCTIVITY TEST

ASTM D 5084 - 90

Project No. **T60592794** BORING: PD-10-SB-44

Project Name: **Roxana** SAMPLE: 061219 DEPTH (ft): 44 Test No.: **P11586**

Specimen - Apparatus set-up - Test Information Apparatus No. C-2 Cell No. BLK#5 Stage 8

1) Specimen Tested in :	x	Triaxial Cell or		Compaction Mold or		
		with stones or		Stones with filter paper or		top + bottom
2) Specimen orientation for:		Vertical or	X	Horizontal permeability determination		
3) During saturation: Water flushed up sides of specimen to remove air:			x	No		Yes
4) During consolidation:	x	Top and bottom drainage or		Top		Bottom only
5) Direction of permeant :	x	Up during or		Down during permeation		
6) Permeant: water used	x	Tap		Distilled		
		Demineralized		0.005 N calcium sulfate (CaSO4)		

Consol Stage- Trial No.	Temp. ºC	Date	Time hr	min	sec	Initial σ_c psi	Ub psi	Dial Indicator in	Pressure Head Reading Mercury (inch)	Gage (psi)	Flow Reading (cm)	Flow Vol (cm3) Rate (cm3/sec)	Fluid Head Reading Head (cm)	Tail (cm)	Total Head Uncorrected Correction Corrected (cm)	Gradient	Permeability Preliminary Final at 20ºC cm/sec
initial	21.5	9/3/19	00	00	00	87.0	50.0				4.90	49.632	47.10	46.75	0.35		
final	22.0	9/3/19	00	55	30						7.30	0.0149	47.10	46.75	0.10		2.15E-02
1	RT = 0.957	dT =		55.50 min		σ'_c =	5.3 ksf						47.1	46.75	0.25	0.04	2.07E-02
initial	22.0	9/3/19	00	00	00	87.0	50.0				4.40	39.292	47.10	46.75	0.35		
final	22.0	9/3/19	00	40	49						6.30	0.0160	47.10	46.75	0.11		2.39E-02
2	RT = 0.952	dT =		40.82 min		σ'_c =	5.3 ksf						47.1	46.75	0.24	0.04	2.29E-02
initial	22.0	9/3/19	00	00	00	87.0	50.0				4.30	68.244	47.10	46.40	0.70		
final	22.4	9/3/19	00	35	41						7.60	0.0319	47.10	46.40	0.22		2.37E-02
3	RT = 0.947	dT =		35.68 min		σ'_c =	5.3 ksf						47.1	46.4	0.48	0.07	2.26E-02
initial	22.4	9/3/19	00	00	00	87.0	50.0				4.30	78.584	47.10	46.40	0.70		
final	22.7	9/3/19	00	41	02						8.10	0.0319	47.10	46.40	0.22		2.37E-02
4	RT = 0.940	dT =		41.03 min		σ'_c =	5.3 ksf						47.1	46.4	0.48	0.07	2.24E-02
initial	22.7	9/3/19	00	00	00	87.0	50.0				4.10	109.604	47.10	45.65	1.45		
final	22.7	9/3/19	00	29	38						9.40	0.0616	47.10	45.65	0.43		2.14E-02
5	RT = 0.936	dT =		29.63 min		σ'_c =	5.3 ksf						47.1	45.65	1.02	0.15	2.02E-02
initial	22.7	9/3/19	00	00	00	87.0	50.0				4.60	105.468	47.10	45.65	1.45		
final	23.0	9/3/19	00	27	48						9.70	0.0632	47.10	45.65	0.44		2.22E-02
6	RT = 0.933	dT =		27.80 min		σ'_c =	5.3 ksf						47.1	45.65	1.01	0.15	2.09E-02

Preliminary Length/Area Calculations

Lo =	2.628	in	Lo=	6.675	cm
Ao=	2.916	in^2	Ao =	18.82	cm^2
Vo=	7.664	in^3	Vo =	125.59	cm^3
Lc =	2.623	in	Lc =	6.662	cm
Ac=	2.905	in^2	Ac=	18.744	cm^2
Vc =	7.620	in^3	Vc =	124.87	cm^3

Tested By: BB Reviewed By: G. Thomas

TEST CONDITIONS

Final Specimen and Test Conditions

Lc = 6.662 cm ε_{axial} = 0.2%

Ac = 18.621 cm^2

Vc= 124.05 cm^3 ε_{vol} = 1.2%

	w (%)	γ_τ (pcf)	γ_d (pcf)	S (%)
Initial	16.68	127.8	109.5	83.5
PreTest	19.27	132.2	110.9	100.0

Project No. T60592794

Project Name: Roxana

PreDesign Invest.

BORING: PD-10-SB-44

SAMPLE: 061219 Depth: 44

HYDRAULIC CONDUCTIVITY TEST SUMMARY

Averages for trials: 1-6

ave K @ 20 ºC: **2.16E-02** cm/sec

(i_o)ave = 0.09

Appendix G – Summary of Soil VOC and SVOC TIC Analytical Detections

Location	Sample ID	Depth	Sample Date	1,2,3-Trimethylbenzene	1,3-dimethyl-,cis-Cyclopentane	1-Chlorohexane	1H-Indene, 2,3-dihydro-1,1-dimethyl-	1H-Indene, 2,3-dihydro-4,7-dimethyl-	1-methyl-4-Benzene	1-Pentene, 2-methyl-	2,3-dihydro-4,7-1H-Indene	2-ethyl-Naphthalene	2-Ethyltoluene
				Analytical Results (mg/kg)									
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019							0.17925898 T J			
	PD-1-SB-55-061819	55 ft	6/18/2019										
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019			<4.4							
	PD-2-SB-52-070919	52 ft	7/9/2019			<6							
	PD-2-SB-60-070919	60 ft	7/9/2019			<1.2							
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019			<1.2							
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019										
	PD-4-SB-41-062419	41 ft	6/24/2019			<0.005							
	PD-4-SB-53-062419	53 ft	6/24/2019	39		<5.8							33
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019										
	PD-5-SB-43-061419	43 ft	6/14/2019										
	PD-5-SB-53-061419	53 ft	6/14/2019		54.73253688 T J			3.7788 T J					243.09479124 T J
	PD-5-SB-62-061419	62 ft	6/14/2019	0.19461304 T J									0.17584936 T J
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019	0.67 T J N		<0.66							
	PD-6-SB-46-071119	46 ft	7/11/2019	4.7 J		<5.2							3 J
	PD-6-SB-51-071119	51 ft	7/11/2019	3.1		<2.7							2.4 J
	PD-6-SB-54-071119	54 ft	7/11/2019			<0.28							
	PD-6-SB-63-071219	63 ft	7/12/2019			<0.25							
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019			<0.0071							
	PD-7-SB-43-071819	43 ft	7/18/2019	0.64		<0.31							
	PD-7-SB-51-071819	51 ft	7/18/2019	18 J		<67							
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	16 J		<60							
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	0.91 J		<3.2							0.86 J
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	1.6 T J N		<3.2							
	PD-8-SB-40-062519	40 ft	6/25/2019	6.9 J		<15							5.5 J
	PD-8-SB-51-062619	51 ft	6/26/2019	91		<5.4							71
	PD-8-SB-62-062619	62 ft	6/26/2019			<0.0049							

Location	Sample ID	Depth	Sample Date	1,2,3-Trimethylbenzene	1,3-dimethyl-,cis-Cyclopentane	1-Chlorohexane	1H-Indene, 2,3-dihydro-1,1-dimethyl-	1H-Indene, 2,3-dihydro-4,7-dimethyl-	1-methyl-4-Benzene	1-Pentene, 2-methyl-	2,3-dihydro-4,7-1H-Indene	2-ethyl-Naphthalene	2-Ethyltoluene
				Analytical Results (mg/kg)									
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019			<0.0048							
	PD-9-SB-43-062819	43 ft	6/28/2019			<1.5							
	PD-9-SB-54-062819	54 ft	6/28/2019			<5.7							
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	7.4 T J N		<5.6							
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019				3.08116482 T J	4.04283942 T J	5.2371936 T J		2.31943734 T J	2.31892986 T J	
	PD-10-SB-46-061219	46 ft	6/12/2019										
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	55		<5.3							33
	PD-11-SB-45-070219	45 ft	7/2/2019	4.6 T J N		<1							
	PD-11-SB-57-070219	57 ft	7/2/2019			<0.65							
	PD-11-SB-61-070219	61 ft	7/2/2019			<0.27							
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019			<0.37							
	PD-12-SB-55-070819	55 ft	7/8/2019	1.4 J		<1.9							1.2 J
	PD-12-SB-59-070819	59 ft	7/8/2019			<0.26							
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019			<11							
	PD-14-SB-49-072219	49 ft	7/22/2019			<49							
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019			<56							
	PD-14-SB-55-072219	55 ft	7/22/2019			<0.26							
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019			<0.26							
	PD-17-SB-55-071519	55 ft	7/15/2019	0.32 J		<1.1							0.22 J

Location	Sample ID	Depth	Sample Date	2-methyl-1-Pentanol	2-Methyl-2-propanol	2-Propanol	3-Phenylbut-1-ene	4-methylpentyl ester Dichloroacetic acid	9-Octadecyne	Benzene, (2-methyl-1-butenyl)-	Benzene, 1,2,3,4-tetramethyl-	Benzene, 1,2,3,5-tetramethyl-	Benzene, 1,2,4,5-tetramethyl-	Benzene, 1-butenyl-, (E)-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019	0.12488222 T J										
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019		2.1 J									
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019					82.47995112 T J						4.9872 T J
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019											
	PD-6-SB-54-071119	54 ft	7/11/2019		0.5 J *									
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019											
	PD-7-SB-51-071819	51 ft	7/18/2019											
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019											
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019										0.35 T J N	
	PD-8-SB-40-062519	40 ft	6/25/2019										2 T J N	
	PD-8-SB-51-062619	51 ft	6/26/2019								22 T J N		22 T J N	
	PD-8-SB-62-062619	62 ft	6/26/2019			0.071 J								

Location	Sample ID	Depth	Sample Date	2-methyl-1-Pentanol	2-Methyl-2-propanol	2-Propanol	3-Phenylbut-1-ene	4-methylpentyl ester Dichloroacetic acid	9-Octadecyne	Benzene, (2-methyl-1-butenyl)-	Benzene, 1,2,3,4-tetramethyl-	Benzene, 1,2,3,5-tetramethyl-	Benzene, 1,2,4,5-tetramethyl-	Benzene, 1-butenyl-, (E)-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019											
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019										5.5 T J N	
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019				2.67721074 T J			2.64295584 T J	1.9208118 T J			
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019									66 T J N		
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019								1.7 T J N			
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019						0.42 T J N			0.91 T J N		
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethenyl-3-ethyl-	Benzene, 1-ethyl-2,3-dimethyl-	Benzene, 1-ethyl-2,4-dimethyl-	Benzene, 1-ethyl-2,4-dimethyl-A	Benzene, 1-ethyl-2,4-dimethyl-B	Benzene, 1-ethyl-2-methyl-	Benzene, 1-ethyl-3,5-dimethyl-	Benzene, 1-ethyl-3-methyl-	Benzene, 1-ethyl-4-(1-methylethyl)-	Benzene, 1-ethyl-4-methyl-	Benzene, 1-methyl-2-(1-methylethyl)-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019											
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019								0.59 T J N			
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019			36 T J N					110			
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019											
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019								7.5			
	PD-6-SB-51-071119	51 ft	7/11/2019								7.7			
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019		3.4 T J N				4.8 T J N		0.69			
	PD-7-SB-51-071819	51 ft	7/18/2019						3 T J N		22 J			
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019											
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019								3.1 J			0.39 T J N
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019								0.67 J			
	PD-8-SB-40-062519	40 ft	6/25/2019								23			17 T J N
	PD-8-SB-51-062619	51 ft	6/26/2019			42 T J N			18 T J N	35 T J N	150			
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethenyl-3-ethyl-	Benzene, 1-ethyl-2,3-dimethyl-	Benzene, 1-ethyl-2,4-dimethyl-	Benzene, 1-ethyl-2,4-dimethyl-A	Benzene, 1-ethyl-2,4-dimethyl-B	Benzene, 1-ethyl-2-methyl-	Benzene, 1-ethyl-3,5-dimethyl-	Benzene, 1-ethyl-3-methyl-	Benzene, 1-ethyl-4-(1-methylethyl)-	Benzene, 1-ethyl-4-methyl-	Benzene, 1-methyl-2-(1-methylethyl)-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019				18 T J N	12 T J N	15 T J N	12 T J N	45		15 T J N	13 T J N
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	4 T J N	6 T J N					9.3 T J N	43			3.9 T J N
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019									2.42397822 T J		
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019						3.5 T J N		120			
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019	1.8 T J N							5.3			
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019								0.088 J			
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019								0.29 J			

Location	Sample ID	Depth	Sample Date	Benzene, 1-methyl-2-(1-methylethyl)-A	Benzene, 1-methyl-2-(2-propenyl)-	Benzene, 1-methyl-2-propyl-	Benzene, 1-methyl-3-(1-methylethyl)-	Benzene, 1-methyl-3-propyl-	Benzene, 1-methyl-4-(2-propenyl)-	Benzene, 2-ethenyl-1,4-dimethyl-	Benzene, 2-ethyl-1,3-dimethyl-	Benzene, 2-ethyl-1,4-dimethyl-	Benzene, 2-ethyl-1,4-dimethyl-B	Benzene, 4-ethyl-1,2-dimethyl-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019											
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019		53.89401612 T J			3.1152 T J				57.40055748 T J		
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019											
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019	1.3 T J N		0.82 T J N								
	PD-7-SB-51-071819	51 ft	7/18/2019											
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019											
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019		0.77 T J N			0.58 T J N						0.72 T J N
	PD-8-SB-40-062519	40 ft	6/25/2019					2.2 T J N					26 T J N	
	PD-8-SB-51-062619	51 ft	6/26/2019	19 T J N				18 T J N	49 T J N			34 T J N		27 T J N
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	Benzene, 1-methyl-2-(1-methylethyl)-A	Benzene, 1-methyl-2-(2-propenyl)-	Benzene, 1-methyl-2-propyl-	Benzene, 1-methyl-3-(1-methylethyl)-	Benzene, 1-methyl-3-propyl-	Benzene, 1-methyl-4-(2-propenyl)-	Benzene, 2-ethenyl-1,4-dimethyl-	Benzene, 2-ethyl-1,3-dimethyl-	Benzene, 2-ethyl-1,4-dimethyl-	Benzene, 2-ethyl-1,4-dimethyl-B	Benzene, 4-ethyl-1,2-dimethyl-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019		13 T J N			13 T J N				33 T J N		13 T J N
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019		4.4 T J N		14 T J N	6.5 T J N						3.8 T J N
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019							5.18314698 T J				
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019		64 T J N						52 T J N	33 T J N		3.9 T J N
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019	1.9 T J N			2.7 T J N	2.1 T J N						1.7 T J N
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Benzene, cyclopropyl-	Benzocycloheptatriene	Benzocycloheptene	Butane, 2,2,3,3-tetramethyl-	Butane, 2,2-dimethyl-	Butane, 2,3-dimethyl-	Butane	Butyl methacrylate	Carbon Dioxide	Cycloheptane	Cyclohexane, 1,1,3-trimethyl-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019				57.85234 T J				<0			
	PD-1-SB-55-061819	55 ft	6/18/2019				56.55594 T J				<0			
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019				25.58143 T J				<0	0.54258336 T J		
	PD-4-SB-41-062419	41 ft	6/24/2019					0.048 T J N	0.3 T J N					0.087 T J N
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019				14.7693 T J				<0	1.11064064 T J		
	PD-5-SB-43-061419	43 ft	6/14/2019								<0			
	PD-5-SB-53-061419	53 ft	6/14/2019	90.10286712 T J						59.30628648 T J	<0			
	PD-5-SB-62-061419	62 ft	6/14/2019								<0	0.17488712 T J		
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019											
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019											
	PD-7-SB-51-071819	51 ft	7/18/2019											
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019		6.5 T J N									
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019											
	PD-8-SB-40-062519	40 ft	6/25/2019											
	PD-8-SB-51-062619	51 ft	6/26/2019											
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	Benzene, cyclopropyl-	Benzocycloheptatriene	Benzocycloheptene	Butane, 2,2,3,3-tetramethyl-	Butane, 2,2-dimethyl-	Butane, 2,3-dimethyl-	Butane	Butyl methacrylate	Carbon Dioxide	Cycloheptane	Cyclohexane, 1,1,3-trimethyl-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019		14 T J N									
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019										19 T J N	
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019			6.83626308 T J					<0			
	PD-10-SB-46-061219	46 ft	6/12/2019				0.03702 T J				<0	0.79547 T J		
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019											
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019											
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019							61 T J N				
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Cyclohexane, 1,2-dimethyl-, trans-	Cyclohexane, methyl-	Cyclohexane, propyl-	Cyclohexane	Cyclohexasiloxane, dodecamethyl-	Cyclopentane, 1,2,4-trimethyl-, (1alpha,2beta,4alpha)-	Cyclopentane, 1,2-dimethyl-, trans-	Cyclopentane, methyl-	Cyclotetrasiloxane, octamethyl-	Cyclotrisiloxane, hexamethyl-	Decane, 4-methyl-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019		0.19677014 T J									
	PD-1-SB-55-061819	55 ft	6/18/2019		0.07950228 T J									
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019										0.00705408 T J	
	PD-4-SB-41-062419	41 ft	6/24/2019	0.045 T J N					0.053 T J N					
	PD-4-SB-53-062419	53 ft	6/24/2019		110		93				23 T J N			
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019										125.48123 T J	
	PD-5-SB-53-061419	53 ft	6/14/2019		183.86473392 T J					63.88003608 T J	187.98110856 T J		113.04784428 T J	
	PD-5-SB-62-061419	62 ft	6/14/2019		0.16742976 T J						0.20279208 T J		0.47173816 T J	
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019				0.8 J							
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019											4.5 T J N
	PD-7-SB-51-071819	51 ft	7/18/2019											3 T J N
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019											6.8 T J N
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019		1.1 J		0.65 J							
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019											
	PD-8-SB-40-062519	40 ft	6/25/2019		8 J		3.7 J							
	PD-8-SB-51-062619	51 ft	6/26/2019		23									
	PD-8-SB-62-062619	62 ft	6/26/2019		0.14		0.078		0.035 T J N	0.039 T J N	0.15 T J N			

Location	Sample ID	Depth	Sample Date	Cyclohexane, 1,2-dimethyl-, trans-	Cyclohexane, methyl-	Cyclohexane, propyl-	Cyclohexane	Cyclohexasiloxane, dodecamethyl-	Cyclopentane, 1,2,4-trimethyl-, (1alpha,2beta,4alpha)-	Cyclopentane, 1,2-dimethyl-, trans-	Cyclopentane, methyl-	Cyclotetrasiloxane, octamethyl-	Cyclotrisiloxane, hexamethyl-	Decane, 4-methyl-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019		32		20			24 T J N	33 T J N			
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	12 T J N	33		22				36 T J N			
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019											
	PD-10-SB-46-061219	46 ft	6/12/2019										0.01085 T J	
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019		33	3.3 T J N								
	PD-11-SB-45-070219	45 ft	7/2/2019					2.5 T J N				1.5 T J N		
	PD-11-SB-57-070219	57 ft	7/2/2019									4.5 T J N		
	PD-11-SB-61-070219	61 ft	7/2/2019		0.098 J		0.1 J					0.43 T J N		
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019				0.22 J				0.41 T J N			
	PD-12-SB-55-070819	55 ft	7/8/2019		5.6		4.4				9.6 T J N			
	PD-12-SB-59-070819	59 ft	7/8/2019		0.12 J		0.12 J							
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019		0.099 J		0.07 J				0.39 T J N			
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Dibromomethane	Dodecane	Ethanol	Heptadecane, 2,6-dimethyl-	Heptane, 2,5-dimethyl-	Heptane, 2,6-dimethyl-	Heptane, 2-methyl-	Heptane, 3-methyl-	Heptane	hex-1-Enylbenzene	Hexane, 3-methyl-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019				3.74035 T J							
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019	<4.4										
	PD-2-SB-52-070919	52 ft	7/9/2019	<6										
	PD-2-SB-60-070919	60 ft	7/9/2019	<1.2										
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019	<1.2										
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019	<0.005				0.045 T J N	0.044 T J N					
	PD-4-SB-53-062419	53 ft	6/24/2019	<5.8							15 T J N	150		
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019		5.9232 T J					77.52505572 T J	104.12903256 T J			108.39786552 T J
	PD-5-SB-62-061419	62 ft	6/14/2019								0.14601992 T J			
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019	<0.66		11 J								
	PD-6-SB-46-071119	46 ft	7/11/2019	<5.2	6.9 T J N									
	PD-6-SB-51-071119	51 ft	7/11/2019	<2.7	0.4 T J N									
	PD-6-SB-54-071119	54 ft	7/11/2019	<0.28										
	PD-6-SB-63-071219	63 ft	7/12/2019	<0.25		5.7								
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019	<0.0071										
	PD-7-SB-43-071819	43 ft	7/18/2019	<0.31	7.2 T J N									0.56 T J N
	PD-7-SB-51-071819	51 ft	7/18/2019	<67	9 T J N									
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	<60	13 T J N									
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	<3.2	0.36 T J N					3.5 T J N	3.2 T J N			
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	<3.2	0.88 T J N									
	PD-8-SB-40-062519	40 ft	6/25/2019	<15	4.5 T J N					26 T J N	22 T J N	7.8 J		
	PD-8-SB-51-062619	51 ft	6/26/2019	<5.4	35 T J N						41 T J N	18		
	PD-8-SB-62-062619	62 ft	6/26/2019	<0.0049				0.037 T J N				0.22		0.15 T J N

Location	Sample ID	Depth	Sample Date	Dibromomethane	Dodecane	Ethanol	Heptadecane, 2,6-dimethyl-	Heptane, 2,5-dimethyl-	Heptane, 2,6-dimethyl-	Heptane, 2-methyl-	Heptane, 3-methyl-	Heptane	hex-1-Enylbenzene	Hexane, 3-methyl-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019	<0.0048										
	PD-9-SB-43-062819	43 ft	6/28/2019	<1.5										
	PD-9-SB-54-062819	54 ft	6/28/2019	<5.7	16 T J N					34 T J N		43		25 T J N
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	<5.6	5.1 T J N					36 T J N	30 T J N	48		27 T J N
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019										2.00784462 T J	
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	<5.3										
	PD-11-SB-45-070219	45 ft	7/2/2019	<1	5.8 T J N									
	PD-11-SB-57-070219	57 ft	7/2/2019	<0.65										
	PD-11-SB-61-070219	61 ft	7/2/2019	<0.27		7.1								
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019	<0.37		5.5 J								
	PD-12-SB-55-070819	55 ft	7/8/2019	<1.9	2.3 T J N					5.9 T J N	5 T J N	7.6		5.4 T J N
	PD-12-SB-59-070819	59 ft	7/8/2019	<0.26										
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019	<11										
	PD-14-SB-49-072219	49 ft	7/22/2019	<49										
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019	<56										
	PD-14-SB-55-072219	55 ft	7/22/2019	<0.26								0.14 J		
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019	<0.26										
	PD-17-SB-55-071519	55 ft	7/15/2019	<1.1										

Location	Sample ID	Depth	Sample Date	Hexane	Indane	Isobutanol (Isobutyl alcohol)	Isooctane	Isopentane	Isopropylcyclobutane	Naphthalene, 1,2,3,4-tetrahydro- A	Naphthalene, 1,2,3,4-tetrahydro- B	Naphthalene, 1,2,3,4-tetrahydro- C	Naphthalene, 1,2,3,4-tetrahydro-	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019											
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019		0.01717056 T J			0.00556512 T J						
	PD-4-SB-41-062419	41 ft	6/24/2019				0.053							
	PD-4-SB-53-062419	53 ft	6/24/2019	20 T J N		4300 E *	40							
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019					93.45695016 T J						
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019										1.8 T J N	
	PD-6-SB-51-071119	51 ft	7/11/2019											
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019	0.0018 J										
	PD-7-SB-43-071819	43 ft	7/18/2019				0.56							
	PD-7-SB-51-071819	51 ft	7/18/2019	35 J *			26 J							
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	34 J *			26 J							
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019	1.2 J										
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019											
	PD-8-SB-40-062519	40 ft	6/25/2019	4.2 J										
	PD-8-SB-51-062619	51 ft	6/26/2019		15 T J N	510 *								
	PD-8-SB-62-062619	62 ft	6/26/2019	0.37 E			0.094	0.081 T J N						

Location	Sample ID	Depth	Sample Date	Hexane	Indane	Isobutanol (Isobutyl alcohol)	Isooctane	Isopentane	Isopropylcyclobutane	Naphthalene, 1,2,3,4-tetrahydro- A	Naphthalene, 1,2,3,4-tetrahydro- B	Naphthalene, 1,2,3,4-tetrahydro- C	Naphthalene, 1,2,3,4-tetrahydro-	Naphthalene, 1,2,3,4-tetrahydro-5-methyl-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019	44	14 T J N									
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019	48	4.1 T J N			12 T J N	15 T J N					
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019							3.50491062 T J	3.86471394 T J	8.38280838 T J		
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019				39						47 T J N	29 T J N
	PD-11-SB-45-070219	45 ft	7/2/2019										1.7 T J N	
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019				0.13 J	0.89 T J N						
	PD-12-SB-55-070819	55 ft	7/8/2019	13	1.6 T J N		1.4 J	4.4 T J N						
	PD-12-SB-59-070819	59 ft	7/8/2019	0.21 J										
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019	0.26										
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019				0.14 J							
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Naphthalene, 1-ethyl-	Nonane, 4-methyl-	Nonane	Octane, 2,6-dimethyl-	Octane, 3-methyl-	Octane	p-Diethylbenzene	Pentane, 2,3,3-trimethyl-	Pentane, 2,3,4-trimethyl-	Pentane, 2,3-dimethyl-	Pentane, 2,4-dimethyl-
				Analytical Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019						0.16405192 T J					
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019				0.083 T J N						0.093 T J N	0.047 T J N
	PD-4-SB-53-062419	53 ft	6/24/2019							36				
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019					109.08392796 T J	305.60270244 T J					
	PD-5-SB-62-061419	62 ft	6/14/2019						0.26533768 T J					
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019											
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019		1.1 T J N		0.56 T J N	0.39 T J N		0.52		0.57 T J N		
	PD-7-SB-51-071819	51 ft	7/18/2019											
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019											
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019											
	PD-8-SB-40-062519	40 ft	6/25/2019					21 T J N	37 T J N	7.5 J				
	PD-8-SB-51-062619	51 ft	6/26/2019			24 T J N				82				
	PD-8-SB-62-062619	62 ft	6/26/2019					0.05 T J N						0.05 T J N

Location	Sample ID	Depth	Sample Date	Naphthalene, 1-ethyl-	Nonane, 4-methyl-	Nonane	Octane, 2,6-dimethyl-	Octane, 3-methyl-	Octane	p-Diethylbenzene	Pentane, 2,3,3-trimethyl-	Pentane, 2,3,4-trimethyl-	Pentane, 2,3-dimethyl-	Pentane, 2,4-dimethyl-
				Analytical Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019					22 T J N		12				
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019					21 T J N	55 T J N					
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019											
	PD-10-SB-46-061219	46 ft	6/12/2019									0.02126 T J	0.01059 T J	0.00698 T J
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	25 T J N		4.2 T J N				29		45 T J N		
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019						7.9 T J N	1.4 J				
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019								0.27 T J N			
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Pentane, 2-methyl-	Pentane, 3-methyl-	Pentane	p-Xylenes	Sulfur dioxide	TIC-Unknown Hydrocarbon	TIC-Unknown Hydrocarbon-2	TIC-Unknown Hydrocarbon-3	TIC-Unknown Hydrocarbon-4
				Analytical Results (mg/kg)								
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019		0.14308461 T J	0.20483449 T J						
	PD-1-SB-55-061819	55 ft	6/18/2019									
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019				0.48 T J N					
	PD-2-SB-52-070919	52 ft	7/9/2019									
	PD-2-SB-60-070919	60 ft	7/9/2019									
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019									
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019									
	PD-4-SB-41-062419	41 ft	6/24/2019		0.29 T J N							
	PD-4-SB-53-062419	53 ft	6/24/2019	25 T J N	12 T J N							
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019									
	PD-5-SB-43-061419	43 ft	6/14/2019									
	PD-5-SB-53-061419	53 ft	6/14/2019		138.58461288 T J	131.8764468 T J						
	PD-5-SB-62-061419	62 ft	6/14/2019		0.17007592 T J							
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019									
	PD-6-SB-46-071119	46 ft	7/11/2019			5.9 T J N						
	PD-6-SB-51-071119	51 ft	7/11/2019			2.8 T J N						
	PD-6-SB-54-071119	54 ft	7/11/2019									
	PD-6-SB-63-071219	63 ft	7/12/2019									
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019									
	PD-7-SB-43-071819	43 ft	7/18/2019									
	PD-7-SB-51-071819	51 ft	7/18/2019									
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019									
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019									
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019				0.85 T J N					
	PD-8-SB-40-062519	40 ft	6/25/2019									
	PD-8-SB-51-062619	51 ft	6/26/2019				62 T J N					
	PD-8-SB-62-062619	62 ft	6/26/2019	0.31 T J N	0.16 T J N	0.1 T J N						

Location	Sample ID	Depth	Sample Date	Pentane, 2-methyl-	Pentane, 3-methyl-	Pentane	p-Xylenes	Sulfur dioxide	TIC-Unknown Hydrocarbon	TIC-Unknown Hydrocarbon-2	TIC-Unknown Hydrocarbon-3	TIC-Unknown Hydrocarbon-4
				Analytical Results (mg/kg)								
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019									
	PD-9-SB-43-062819	43 ft	6/28/2019									
	PD-9-SB-54-062819	54 ft	6/28/2019		20 T J N	16 T J N	15 T J N					
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019		21 T J N	18 T J N	9.3 T J N					
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019						120 T	155 T	160 T	101 T
	PD-10-SB-46-061219	46 ft	6/12/2019					0.00569 T J				
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019									
	PD-11-SB-45-070219	45 ft	7/2/2019									
	PD-11-SB-57-070219	57 ft	7/2/2019									
	PD-11-SB-61-070219	61 ft	7/2/2019									
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019		0.66 T J N							
	PD-12-SB-55-070819	55 ft	7/8/2019		6.4 T J N	6.8 T J N	8.6 T J N					
	PD-12-SB-59-070819	59 ft	7/8/2019									
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019									
	PD-14-SB-49-072219	49 ft	7/22/2019			77 T J N						
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019									
	PD-14-SB-55-072219	55 ft	7/22/2019		0.3 T J N	0.53 T J N						
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019									
	PD-17-SB-55-071519	55 ft	7/15/2019									

Location	Sample ID	Depth	Sample Date	TIC-Unknown Hydrocarbon-5	TIC-Unknown Hydrocarbon-6	TIC-Unknown Hydrocarbon-7	trans-Decalin, 2-methyl-	Undecane, 2,6-dimethyl-	Undecane, 2-methyl-	Undecane	Unknown
				Analytical Results (mg/kg)							
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019								
	PD-1-SB-55-061819	55 ft	6/18/2019								
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019								
	PD-2-SB-52-070919	52 ft	7/9/2019								
	PD-2-SB-60-070919	60 ft	7/9/2019								
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019								
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019								
	PD-4-SB-41-062419	41 ft	6/24/2019					0.045 T J N			
	PD-4-SB-53-062419	53 ft	6/24/2019								
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019								
	PD-5-SB-43-061419	43 ft	6/14/2019								
	PD-5-SB-53-061419	53 ft	6/14/2019								
	PD-5-SB-62-061419	62 ft	6/14/2019								
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019								
	PD-6-SB-46-071119	46 ft	7/11/2019					3.4 T J N			
	PD-6-SB-51-071119	51 ft	7/11/2019							0.62 T J N	
	PD-6-SB-54-071119	54 ft	7/11/2019								
	PD-6-SB-63-071219	63 ft	7/12/2019								
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019								
	PD-7-SB-43-071819	43 ft	7/18/2019					7.3 T J N			
	PD-7-SB-51-071819	51 ft	7/18/2019					5.1 T J N		89 T J N	
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019						5.7 T J N	86 T J N	
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019								
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019								6.7 T J
	PD-8-SB-40-062519	40 ft	6/25/2019							29 T J N	
	PD-8-SB-51-062619	51 ft	6/26/2019								
	PD-8-SB-62-062619	62 ft	6/26/2019								

Location	Sample ID	Depth	Sample Date	TIC-Unknown Hydrocarbon-5	TIC-Unknown Hydrocarbon-6	TIC-Unknown Hydrocarbon-7	trans-Decalin, 2-methyl-	Undecane, 2,6-dimethyl-	Undecane, 2-methyl-	Undecane	Unknown
				Analytical Results (mg/kg)							
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019								
	PD-9-SB-43-062819	43 ft	6/28/2019								
	PD-9-SB-54-062819	54 ft	6/28/2019								
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019								
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	130 T	129 T	175 T					
	PD-10-SB-46-061219	46 ft	6/12/2019								
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019								
	PD-11-SB-45-070219	45 ft	7/2/2019					3.3 T J N			
	PD-11-SB-57-070219	57 ft	7/2/2019								
	PD-11-SB-61-070219	61 ft	7/2/2019								
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019								
	PD-12-SB-55-070819	55 ft	7/8/2019								
	PD-12-SB-59-070819	59 ft	7/8/2019								
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019								
	PD-14-SB-49-072219	49 ft	7/22/2019								
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019								
	PD-14-SB-55-072219	55 ft	7/22/2019								
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019				0.65 T J N				
	PD-17-SB-55-071519	55 ft	7/15/2019								1.2 T J

Notes:

1. Values are only reported if a TIC is identified
2. The number of significant figures is laboratory-specific.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

T = Result is a tentatively identified compound (TIC) and an estimated value.

N - Presumptive evidence of material.

<#.## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

Location	Sample ID	Depth	Sample Date	1-(2-methoxy-1-2-Propanol)	1,1'-Biphenyl, 4-fluoro-	1,2,3-TrimethylbenzeneA	1,2,3-TrimethylbenzeneB	1,3,5-TrimethylbenzeneA	1,3,5-TrimethylbenzeneB	13-Docosenamide, (Z)-	1H-Indene, 1-ethylidene-	1-Methyldecahydronaphthalene	1-MethylnaphthaleneA	1-MethylnaphthaleneB
				Analyte Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019											
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019								0.83 T J N			
	PD-2-SB-52-070919	52 ft	7/9/2019							0.81 T J N				
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019											
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019							0.39 T J N				
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019							0.52 T J N			0.39 T J N	0.33 T J N
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019									3.4 T J N	4.1 T J N	5.1 T J N
	PD-7-SB-51-071819	51 ft	7/18/2019			2.9 T J N	7.3 T J N							
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019			6.1 T J N	7.3 T J N							
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019											
	PD-8-SB-40-062519	40 ft	6/25/2019											
	PD-8-SB-51-062619	51 ft	6/26/2019					31 T J N	51 T J N					
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	1-(2-methoxy-1-2-Propanol)	1,1'-Biphenyl, 4-fluoro-	1,2,3-TrimethylbenzeneA	1,2,3-TrimethylbenzeneB	1,3,5-TrimethylbenzeneA	1,3,5-TrimethylbenzeneB	13-Docosenamide, (Z)-	1H-Indene, 1-ethylidene-	1-Methyldecahydronaphthalene	1-MethylnaphthaleneA	1-MethylnaphthaleneB
				Analyte Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019											
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019											
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	114.82405 T J										
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019											
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019					5.9 T J N	12 T J N					
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019		0.36 T J N									

Location	Sample ID	Depth	Sample Date	2,8-Dimethyldibenzo(b,d)thiophene	2-methyl-8-propyl-Dodecane	2-nonyl-4,6-diphenylpyrimidine	3-Penten-2-ol	4-methyl-Dodecane	4-methyl-Phenanthrene	7,12-Dimethylbenz(a)anthracene	9H-Fluorene, 2,3-dimethyl-	9H-Fluorene, 2-methyl-	9-Octadecenamide, (Z)-	9-Octadecenamide, (Z)-A
				Analyte Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019		8.23594 T J									
	PD-1-SB-55-061819	55 ft	6/18/2019				1.1781 T J							
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019											
	PD-2-SB-52-070919	52 ft	7/9/2019										0.64 T J N	
	PD-2-SB-60-070919	60 ft	7/9/2019										0.7 T J N	
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019					4.8444 T J						
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019										0.69 T J N	
	PD-6-SB-46-071119	46 ft	7/11/2019											
	PD-6-SB-51-071119	51 ft	7/11/2019										0.9 T J N	
	PD-6-SB-54-071119	54 ft	7/11/2019										0.53 T J N	
	PD-6-SB-63-071219	63 ft	7/12/2019											0.5 T J N
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019											
	PD-7-SB-51-071819	51 ft	7/18/2019											
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019											
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019											
	PD-8-SB-40-062519	40 ft	6/25/2019											
	PD-8-SB-51-062619	51 ft	6/26/2019											
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	2,8-Dimethyldibenzo(b,d)thiophene	2-methyl-8-propyl-Dodecane	2-nonyl-4,6-diphenylpyrimidine	3-Penten-2-ol	4-methyl-Dodecane	4-methyl-Phenanthrene	7,12-Dimethylbenz(a)anthracene	9H-Fluorene, 2,3-dimethyl-	9H-Fluorene, 2-methyl-	9-Octadecenamide, (Z)-	9-Octadecenamide, (Z)-A
				Analyte Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019											
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019											
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019			128.94035 T J			120.33285 T J					
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	3.2 T J N							8.5 T J N	4.6 T J N		
	PD-11-SB-45-070219	45 ft	7/2/2019											
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019							0.14 J F1 *				
	PD-12-SB-55-070819	55 ft	7/8/2019											
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	9-Octadecenamide, (Z)-B	Anthracene, 2-methyl-	Azulene	Benzene, 1,2,4,5-tetramethyl-A	Benzene, 1,2,4,5-tetramethyl-B	Benzene, 1,2-diethyl-	Benzene, 1,3-diethyl-	Benzene, 1,3-dimethyl-	Benzene, 1,4-diethyl-	Benzene, 1-ethyl-2-methyl-A	Benzene, 1-ethyl-2-methyl-B
				Analyte Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019											
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019		0.65 T J N							0.64 T J N		
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019									6.7404 T J		
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019											
	PD-6-SB-46-071119	46 ft	7/11/2019									2.7 T J N	2.4 T J N	2.6 T J N
	PD-6-SB-51-071119	51 ft	7/11/2019										0.43 T J N	0.58 T J N
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019	0.94 T J N										
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019									5.7 T J N		
	PD-7-SB-51-071819	51 ft	7/18/2019									4 T J N		
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019			7.3 T J N								
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019						1.1 T J N				0.75 T J N	0.57 T J N
	PD-8-SB-40-062519	40 ft	6/25/2019								4 T J N	4.3 T J N	3.6 T J N	2.8 T J N
	PD-8-SB-51-062619	51 ft	6/26/2019											
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	9-Octadecenamide, (Z)-B	Anthracene, 2-methyl-	Azulene	Benzene, 1,2,4,5-tetramethyl-A	Benzene, 1,2,4,5-tetramethyl-B	Benzene, 1,2-diethyl-	Benzene, 1,3-diethyl-	Benzene, 1,3-dimethyl-	Benzene, 1,4-diethyl-	Benzene, 1-ethyl-2-methyl-A	Benzene, 1-ethyl-2-methyl-B
				Analyte Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019				12 T J N	18 T J N	12 T J N					
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019						4.4 T J N					
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019											
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019											
	PD-11-SB-45-070219	45 ft	7/2/2019							1.8 T J N				
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019							3.9 T J N				
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethyl-2-methyl-C	Benzene, 1-ethyl-3-methyl-A	Benzene, 1-ethyl-3-methyl-B	Benzene, 1-ethyl-4-methyl-A	Benzene, 1-ethyl-4-methyl-B	Benzene, 1-methyl-2-(1-methylethyl)-B	Benzene, 2-butenyl-	Benzene, 2-ethyl-1,4-dimethyl-A	Benzenethiol	Benzidine	Butane, 2-methoxy-2-methyl-
				Analyte Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019											
	PD-1-SB-55-061819	55 ft	6/18/2019											
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019				0.64 T J N	0.61 T J N				<0.38 UJ		
	PD-2-SB-52-070919	52 ft	7/9/2019									<0.39 UJ		0.8 T J N
	PD-2-SB-60-070919	60 ft	7/9/2019									<0.4 UJ		
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019									<0.38 UJ		
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019											
	PD-4-SB-41-062419	41 ft	6/24/2019									<0.42 UJ		
	PD-4-SB-53-062419	53 ft	6/24/2019									<0.4 UJ		
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019											
	PD-5-SB-43-061419	43 ft	6/14/2019											
	PD-5-SB-53-061419	53 ft	6/14/2019											
	PD-5-SB-62-061419	62 ft	6/14/2019											
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019									<0.38 UJ		
	PD-6-SB-46-071119	46 ft	7/11/2019									<0.37 UJ		
	PD-6-SB-51-071119	51 ft	7/11/2019	0.62 T J N								<0.38 UJ		
	PD-6-SB-54-071119	54 ft	7/11/2019									<0.38 UJ		
	PD-6-SB-63-071219	63 ft	7/12/2019									<0.37 UJ		
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019									<0.42 UJ		
	PD-7-SB-43-071819	43 ft	7/18/2019						0.48 T J N			<0.42		
	PD-7-SB-51-071819	51 ft	7/18/2019									<0.44		
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019									<0.41		
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019									<0.4 UJ		
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019	0.51 T J N								<0.41 UJ		
	PD-8-SB-40-062519	40 ft	6/25/2019								2.7 T J N	<0.38 UJ		
	PD-8-SB-51-062619	51 ft	6/26/2019						15 T J N	38 T J N		<1.9 UJ		
	PD-8-SB-62-062619	62 ft	6/26/2019									<0.41 UJ		

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethyl-2-methyl-C	Benzene, 1-ethyl-3-methyl-A	Benzene, 1-ethyl-3-methyl-B	Benzene, 1-ethyl-4-methyl-A	Benzene, 1-ethyl-4-methyl-B	Benzene, 1-methyl-2-(1-methylethyl)-B	Benzene, 2-butenyl-	Benzene, 2-ethyl-1,4-dimethyl-A	Benzenethiol	Benzidine	Butane, 2-methoxy-2-methyl-
				Analyte Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019									<0.41 UJ		
	PD-9-SB-43-062819	43 ft	6/28/2019									<0.4 UJ		
	PD-9-SB-54-062819	54 ft	6/28/2019									<0.39 UJ		
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019				4.5 T J N	4.8 T J N				<0.38 UJ		
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019											
	PD-10-SB-46-061219	46 ft	6/12/2019											
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019									<0.38		
	PD-11-SB-45-070219	45 ft	7/2/2019									<0.38		
	PD-11-SB-57-070219	57 ft	7/2/2019									<0.41		
	PD-11-SB-61-070219	61 ft	7/2/2019									<0.39		
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019									<0.42	0.33 J	
	PD-12-SB-55-070819	55 ft	7/8/2019		1.8 T J N	5.4 T J N			2.2 T J N			<0.48		
	PD-12-SB-59-070819	59 ft	7/8/2019									<0.39		
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019									<0.39 UJ		
	PD-14-SB-49-072219	49 ft	7/22/2019									<0.37		
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019									<0.39		
	PD-14-SB-55-072219	55 ft	7/22/2019									<0.39		
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019									<0.38		
	PD-17-SB-55-071519	55 ft	7/15/2019									<0.39		

Location	Sample ID	Depth	Sample Date	Butyl Acrylate	Decane, 2-methyl-	Decane	Dibenzothiophene, 3-methyl-	Dibenzothiophene, 4-methyl-	di-p-Tolylacetylene	Dodecane, 2,6,10-trimethyl-	Dodecane, 2-methyl-	Heneicosane	Hexadecane, 2,6,10,14-tetramethyl-	Hexadecane
				Analyte Results (mg/kg)										
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019	<0								3.60412 T J		6.34067 T J
	PD-1-SB-55-061819	55 ft	6/18/2019	<0										
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019			0.8 T J N	0.78 T J N		1 T J N					0.82 T J N
	PD-2-SB-52-070919	52 ft	7/9/2019											
	PD-2-SB-60-070919	60 ft	7/9/2019											
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019											
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019	<0										
	PD-4-SB-41-062419	41 ft	6/24/2019											
	PD-4-SB-53-062419	53 ft	6/24/2019											
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019	<0										
	PD-5-SB-43-061419	43 ft	6/14/2019	<0										
	PD-5-SB-53-061419	53 ft	6/14/2019	<0										3.1836 T J
	PD-5-SB-62-061419	62 ft	6/14/2019	<0										
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019			0.11 J								
	PD-6-SB-46-071119	46 ft	7/11/2019			2.3 T J N					1.8 T J N			1.5 T J N
	PD-6-SB-51-071119	51 ft	7/11/2019											
	PD-6-SB-54-071119	54 ft	7/11/2019											
	PD-6-SB-63-071219	63 ft	7/12/2019											
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019											
	PD-7-SB-43-071819	43 ft	7/18/2019			4.7 T J N								
	PD-7-SB-51-071819	51 ft	7/18/2019			5.9 T J N					2.3 T J N			2.7 T J N
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019			7.9 T J N				7.6 T J N				5.8 T J N
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019											
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019			0.4 T J N								
	PD-8-SB-40-062519	40 ft	6/25/2019			1.8 T J N							2.2 T J N	
	PD-8-SB-51-062619	51 ft	6/26/2019			20 T J N								
	PD-8-SB-62-062619	62 ft	6/26/2019											

Location	Sample ID	Depth	Sample Date	Butyl Acrylate	Decane, 2-methyl-	Decane	Dibenzothiophene, 3-methyl-	Dibenzothiophene, 4-methyl-	di-p-Tolylacetylene	Dodecane, 2,6,10-trimethyl-	Dodecane, 2-methyl-	Heneicosane	Hexadecane, 2,6,10,14-tetramethyl-	Hexadecane
				Analyte Results (mg/kg)										
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019											
	PD-9-SB-43-062819	43 ft	6/28/2019											
	PD-9-SB-54-062819	54 ft	6/28/2019			15 T J N								
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019			5.1 T J N								
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	<0			103.39329 T J							
	PD-10-SB-46-061219	46 ft	6/12/2019	<0										
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019					7.2 T J N						
	PD-11-SB-45-070219	45 ft	7/2/2019		2.7 T J N	2.6 T J N								
	PD-11-SB-57-070219	57 ft	7/2/2019											
	PD-11-SB-61-070219	61 ft	7/2/2019											
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019											
	PD-12-SB-55-070819	55 ft	7/8/2019			2.1 T J N								
	PD-12-SB-59-070819	59 ft	7/8/2019											
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019											
	PD-14-SB-49-072219	49 ft	7/22/2019											
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019											
	PD-14-SB-55-072219	55 ft	7/22/2019											
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019											
	PD-17-SB-55-071519	55 ft	7/15/2019											

Location	Sample ID	Depth	Sample Date	Indan, 1-methyl-A	Indan, 1-methyl-B	Naphthalene, 1,4,6-trimethyl-	Naphthalene, 1,6-dimethyl-	Naphthalene, 1,7-dimethyl-	Naphthalene, 2,3,6-trimethyl-A	Naphthalene, 2,3,6-trimethyl-B	Naphthalene, 2,3,6-trimethyl-C	Naphthalene, 2,3-dimethyl-	Naphthalene, 2,6-dimethyl-
				Analyte Results (mg/kg)									
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019										3.47745 T J
	PD-1-SB-55-061819	55 ft	6/18/2019										
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019			0.44 T J N							0.44 T J N
	PD-2-SB-52-070919	52 ft	7/9/2019										
	PD-2-SB-60-070919	60 ft	7/9/2019										
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019										
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019										
	PD-4-SB-41-062419	41 ft	6/24/2019										
	PD-4-SB-53-062419	53 ft	6/24/2019										
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019										
	PD-5-SB-43-061419	43 ft	6/14/2019										
	PD-5-SB-53-061419	53 ft	6/14/2019										
	PD-5-SB-62-061419	62 ft	6/14/2019										
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019										0.34 T J N
	PD-6-SB-46-071119	46 ft	7/11/2019									1.8 T J N	
	PD-6-SB-51-071119	51 ft	7/11/2019				0.32 T J N						
	PD-6-SB-54-071119	54 ft	7/11/2019										
	PD-6-SB-63-071219	63 ft	7/12/2019										
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019										
	PD-7-SB-43-071819	43 ft	7/18/2019				4.3 T J N						
	PD-7-SB-51-071819	51 ft	7/18/2019				2.8 T J N					3.9 T J N	
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019										
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019										
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019										
	PD-8-SB-40-062519	40 ft	6/25/2019										1.6 T J N
	PD-8-SB-51-062619	51 ft	6/26/2019	14 T J N	15 T J N								
	PD-8-SB-62-062619	62 ft	6/26/2019										

Location	Sample ID	Depth	Sample Date	Indan, 1-methyl-A	Indan, 1-methyl-B	Naphthalene, 1,4,6-trimethyl-	Naphthalene, 1,6-dimethyl-	Naphthalene, 1,7-dimethyl-	Naphthalene, 2,3,6-trimethyl-A	Naphthalene, 2,3,6-trimethyl-B	Naphthalene, 2,3,6-trimethyl-C	Naphthalene, 2,3-dimethyl-	Naphthalene, 2,6-dimethyl-
				Analyte Results (mg/kg)									
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019										
	PD-9-SB-43-062819	43 ft	6/28/2019										
	PD-9-SB-54-062819	54 ft	6/28/2019										
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019										
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019				3.34657686 T J	2.60032752 T J					
	PD-10-SB-46-061219	46 ft	6/12/2019										
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019			6.3 T J N			4.9 T J N	4.7 T J N	4.9 T J N	72 T J N	
	PD-11-SB-45-070219	45 ft	7/2/2019									2 T J N	2.8 T J N
	PD-11-SB-57-070219	57 ft	7/2/2019										
	PD-11-SB-61-070219	61 ft	7/2/2019										
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019										
	PD-12-SB-55-070819	55 ft	7/8/2019										
	PD-12-SB-59-070819	59 ft	7/8/2019										
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019										
	PD-14-SB-49-072219	49 ft	7/22/2019										
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019										
	PD-14-SB-55-072219	55 ft	7/22/2019										
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019										
	PD-17-SB-55-071519	55 ft	7/15/2019				1.9 T J N						

Location	Sample ID	Depth	Sample Date	Naphthalene, 2,7-dimethyl-	Naphthalene, 2-methyl-1-propyl-	n-Hexadecanoic acid	N-phenyl-1,4-Benzenediamine	o-XylenesA	o-XylenesB	Pentadecane, 4-methyl-	Pentadecane	Phenanthrene, 1-methyl-	Phenanthrene, 2,5-dimethyl- cis
				Analyte Results (mg/kg)									
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019								6.38608 T J		
	PD-1-SB-55-061819	55 ft	6/18/2019										
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019										
	PD-2-SB-52-070919	52 ft	7/9/2019			0.68 T J N							
	PD-2-SB-60-070919	60 ft	7/9/2019			0.47 T J N							
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019			0.59 T J N							
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019										
	PD-4-SB-41-062419	41 ft	6/24/2019										
	PD-4-SB-53-062419	53 ft	6/24/2019										
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019										
	PD-5-SB-43-061419	43 ft	6/14/2019										
	PD-5-SB-53-061419	53 ft	6/14/2019								4.6584 T J		
	PD-5-SB-62-061419	62 ft	6/14/2019										
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019			0.42 T J N							
	PD-6-SB-46-071119	46 ft	7/11/2019	1.4 T J N							1.9 T J N		
	PD-6-SB-51-071119	51 ft	7/11/2019					0.41 T J N	0.46 T J N				
	PD-6-SB-54-071119	54 ft	7/11/2019										
	PD-6-SB-63-071219	63 ft	7/12/2019			0.99 T J N							
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019										
	PD-7-SB-43-071819	43 ft	7/18/2019	3.5 T J N									
	PD-7-SB-51-071819	51 ft	7/18/2019							3.3 T J N	4.7 T J N		
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019								7.3 T J N		
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019										
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019										
	PD-8-SB-40-062519	40 ft	6/25/2019								1.8 T J N		
	PD-8-SB-51-062619	51 ft	6/26/2019										
	PD-8-SB-62-062619	62 ft	6/26/2019										

Location	Sample ID	Depth	Sample Date	Naphthalene, 2,7-dimethyl-	Naphthalene, 2-methyl-1-propyl-	n-Hexadecanoic acid	N-phenyl-1,4-Benzenediamine	o-XylenesA	o-XylenesB	Pentadecane, 4-methyl-	Pentadecane	Phenanthrene, 1-methyl-	Phenanthrene, 2,5-dimethyl- cis
				Analyte Results (mg/kg)									
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019										
	PD-9-SB-43-062819	43 ft	6/28/2019										
	PD-9-SB-54-062819	54 ft	6/28/2019										
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019										
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019				467.31839 T J					154.96943 T J	159.7552 T J
	PD-10-SB-46-061219	46 ft	6/12/2019										
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	49 T J N	8.4 T J N								
	PD-11-SB-45-070219	45 ft	7/2/2019								1.6 T J N		
	PD-11-SB-57-070219	57 ft	7/2/2019										
	PD-11-SB-61-070219	61 ft	7/2/2019										
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019										
	PD-12-SB-55-070819	55 ft	7/8/2019										
	PD-12-SB-59-070819	59 ft	7/8/2019										
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019										
	PD-14-SB-49-072219	49 ft	7/22/2019										
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019										
	PD-14-SB-55-072219	55 ft	7/22/2019										
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019										
	PD-17-SB-55-071519	55 ft	7/15/2019										

Location	Sample ID	Depth	Sample Date	Phenanthrene, 2,5-dimethyl-trans	Phenanthrene, 2,5-dimethyl-	Phenanthrene, 2-methyl-	Phenanthrene, 3,6-dimethyl-	p-Methylstyrene	Pyrene, 1-methyl-	Pyrene, 4-methyl-	Tetradecane	TIC-Unknown SVOC	TIC-Unknown SVOC-2
				Analyte Results (mg/kg)									
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019					<0			5.29146 T J		
	PD-1-SB-55-061819	55 ft	6/18/2019					<0					
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019						0.49 T J N				
	PD-2-SB-52-070919	52 ft	7/9/2019										
	PD-2-SB-60-070919	60 ft	7/9/2019										
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019										
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019					<0					
	PD-4-SB-41-062419	41 ft	6/24/2019										
	PD-4-SB-53-062419	53 ft	6/24/2019										
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019					<0					
	PD-5-SB-43-061419	43 ft	6/14/2019					<0					
	PD-5-SB-53-061419	53 ft	6/14/2019					<0					
	PD-5-SB-62-061419	62 ft	6/14/2019					<0					
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019										
	PD-6-SB-46-071119	46 ft	7/11/2019										
	PD-6-SB-51-071119	51 ft	7/11/2019		0.31 T J N								
	PD-6-SB-54-071119	54 ft	7/11/2019										
	PD-6-SB-63-071219	63 ft	7/12/2019										
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019										
	PD-7-SB-43-071819	43 ft	7/18/2019										
	PD-7-SB-51-071819	51 ft	7/18/2019										
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019										
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019										
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019										
	PD-8-SB-40-062519	40 ft	6/25/2019								2.7 T J N		
	PD-8-SB-51-062619	51 ft	6/26/2019										
	PD-8-SB-62-062619	62 ft	6/26/2019										

Location	Sample ID	Depth	Sample Date	Phenanthrene, 2,5-dimethyl-trans	Phenanthrene, 2,5-dimethyl-	Phenanthrene, 2-methyl-	Phenanthrene, 3,6-dimethyl-	p-Methylstyrene	Pyrene, 1-methyl-	Pyrene, 4-methyl-	Tetradecane	TIC-Unknown SVOC	TIC-Unknown SVOC-2
				Analyte Results (mg/kg)									
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019										
	PD-9-SB-43-062819	43 ft	6/28/2019										
	PD-9-SB-54-062819	54 ft	6/28/2019										
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019								4.5 T J N		
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	175.45528 T J			101.25863 T J	<0		130.24869 T J		115 T	103 T
	PD-10-SB-46-061219	46 ft	6/12/2019					<0					
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019			7.1 T J N							
	PD-11-SB-45-070219	45 ft	7/2/2019		1.7 T J N	1.4 T J N							
	PD-11-SB-57-070219	57 ft	7/2/2019										
	PD-11-SB-61-070219	61 ft	7/2/2019										
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019										
	PD-12-SB-55-070819	55 ft	7/8/2019								1.8 T J N		
	PD-12-SB-59-070819	59 ft	7/8/2019										
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019										
	PD-14-SB-49-072219	49 ft	7/22/2019										
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019										
	PD-14-SB-55-072219	55 ft	7/22/2019										
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019										
	PD-17-SB-55-071519	55 ft	7/15/2019										

Location	Sample ID	Depth	Sample Date	TIC-Unknown SVOC-3	Tridecane, 2-methyl-	Tridecane	Tridecanoic acid	UnknownA	UnknownB	UnknownC	UnknownD	UnknownE
				Analyte Results (mg/kg)								
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019			9.61019 T J						
	PD-1-SB-55-061819	55 ft	6/18/2019									
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019					1.7 T J	0.55 T J	1.2 T J	0.54 T J	1.7 T J
	PD-2-SB-52-070919	52 ft	7/9/2019									
	PD-2-SB-60-070919	60 ft	7/9/2019									
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019									
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019									
	PD-4-SB-41-062419	41 ft	6/24/2019					0.069 T J	0.077 T J	0.045 T J	0.057 T J	0.11 T J
	PD-4-SB-53-062419	53 ft	6/24/2019					15 T J	74 T J	35 T J	57 T J	25 T J
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019									
	PD-5-SB-43-061419	43 ft	6/14/2019									
	PD-5-SB-53-061419	53 ft	6/14/2019			7.5576 T J						
	PD-5-SB-62-061419	62 ft	6/14/2019									
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019									
	PD-6-SB-46-071119	46 ft	7/11/2019			6.1 T J N		3.4 T J	1.8 T J	1.3 T J	3.4 T J	1.5 T J
	PD-6-SB-51-071119	51 ft	7/11/2019			0.39 T J N	0.52 T J N					
	PD-6-SB-54-071119	54 ft	7/11/2019									
	PD-6-SB-63-071219	63 ft	7/12/2019									
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019									
	PD-7-SB-43-071819	43 ft	7/18/2019		3.9 T J N	5.5 T J N		6.4 T J	3.8 T J	5.2 T J	3.5 T J	4.2 T J
	PD-7-SB-51-071819	51 ft	7/18/2019		2.7 T J N	7.7 T J N		2.6 T J	2.3 T J	4.6 T J	2.9 T J	4.1 T J
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019			11 T J N		4.7 T J	8.7 T J	4.2 T J	4.1 T J	4.5 T J
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019					3.3 T J	3.3 T J	5 T J	3.9 T J	
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019			0.54 T J N		0.49 T J	0.49 T J	0.44 T J	0.35 T J	
	PD-8-SB-40-062519	40 ft	6/25/2019			3 T J N		24 T J	22 T J	4.2 T J	1.7 T J	2.3 T J
	PD-8-SB-51-062619	51 ft	6/26/2019			22 T J N		49 T J	64 T J	68 T J	30 T J	27 T J
	PD-8-SB-62-062619	62 ft	6/26/2019					0.08 T J	0.027 T J	0.084 T J	0.12 T J	0.034 T J

Location	Sample ID	Depth	Sample Date	TIC-Unknown SVOC-3	Tridecane, 2-methyl-	Tridecane	Tridecanoic acid	UnknownA	UnknownB	UnknownC	UnknownD	UnknownE
				Analyte Results (mg/kg)								
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019									
	PD-9-SB-43-062819	43 ft	6/28/2019									
	PD-9-SB-54-062819	54 ft	6/28/2019			13 T J N		26 T J	13 T J	14 T J	31 T J	13 T J
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019			4.3 T J N		4.1 T J	30 T J	12 T J	13 T J	22 T J
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019	467 T								
	PD-10-SB-46-061219	46 ft	6/12/2019									
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019					71 T J	6.2 T J	6.4 T J	46 T J	4 T J
	PD-11-SB-45-070219	45 ft	7/2/2019		1.6 T J N	4.9 T J N		1.8 T J	2.8 T J	1.5 T J	2.1 T J	1.5 T J
	PD-11-SB-57-070219	57 ft	7/2/2019									
	PD-11-SB-61-070219	61 ft	7/2/2019									
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019									
	PD-12-SB-55-070819	55 ft	7/8/2019			1.8 T J N		2.6 T J	2.2 T J	2.6 T J	1.9 T J	
	PD-12-SB-59-070819	59 ft	7/8/2019									
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019									
	PD-14-SB-49-072219	49 ft	7/22/2019									
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019									
	PD-14-SB-55-072219	55 ft	7/22/2019									
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019					0.6 T J	0.4 T J			
	PD-17-SB-55-071519	55 ft	7/15/2019							2.2 T J	1.5 T J	

Location	Sample ID	Depth	Sample Date	UnknownF	UnknownG	UnknownH	UnknownI	UnknownJ	UnknownK	UnknownL	Unknown-G
				Analyte Results (mg/kg)							
PD-01	PD-1-SB-53-061819	53 ft	6/18/2019								
	PD-1-SB-55-061819	55 ft	6/18/2019								
PD-02	PD-2-SB-50-070919	50 ft	7/9/2019	0.61 T J	0.77 T J	0.52 T J					
	PD-2-SB-52-070919	52 ft	7/9/2019								
	PD-2-SB-60-070919	60 ft	7/9/2019								
	PD-2-SB-60-070919-DUP	60 ft	7/9/2019								
PD-04	PD-4-SB-35-062119	35 ft	6/21/2019								
	PD-4-SB-41-062419	41 ft	6/24/2019	0.085 T J	0.055 T J	0.079 T J	0.055 T J	0.063 T J	0.07 T J		
	PD-4-SB-53-062419	53 ft	6/24/2019	16 T J	51 T J	31 T J					
PD-05	PD-5-SB-17-061319	17 ft	6/13/2019								
	PD-5-SB-43-061419	43 ft	6/14/2019								
	PD-5-SB-53-061419	53 ft	6/14/2019								
	PD-5-SB-62-061419	62 ft	6/14/2019								
PD-06	PD-6-SB-45-071119	45 ft	7/11/2019								
	PD-6-SB-46-071119	46 ft	7/11/2019	3.3 T J	2.4 T J	2.2 T J					
	PD-6-SB-51-071119	51 ft	7/11/2019								
	PD-6-SB-54-071119	54 ft	7/11/2019								
	PD-6-SB-63-071219	63 ft	7/12/2019								
PD-07	PD-7-SB-27-071619	27 ft	7/16/2019								
	PD-7-SB-43-071819	43 ft	7/18/2019	5.2 T J	3.5 T J	3.8 T J	1 T J	0.74 T J			
	PD-7-SB-51-071819	51 ft	7/18/2019	4.1 T J							
	PD-7-SB-51-071819-DUP	51 ft	7/18/2019	6.4 T J		5.4 T J	5.7 T J	5.3 T J	5.1 T J	8.5 T J	5.6 T J
PD-08	PD-8-SB-37-062519	37 ft	6/25/2019								
	PD-8-SB-37-062519-DUP	37 ft	6/25/2019								
	PD-8-SB-40-062519	40 ft	6/25/2019	2.6 T J							
	PD-8-SB-51-062619	51 ft	6/26/2019	35 T J	36 T J						
	PD-8-SB-62-062619	62 ft	6/26/2019	0.072 T J	0.037 T J						

Location	Sample ID	Depth	Sample Date	UnknownF	UnknownG	UnknownH	UnknownI	UnknownJ	UnknownK	UnknownL	Unknown-G
				Analyte Results (mg/kg)							
PD-09	PD-9-SB-41-062819	41 ft	6/28/2019								
	PD-9-SB-43-062819	43 ft	6/28/2019								
	PD-9-SB-54-062819	54 ft	6/28/2019	14 T J	51 T J	29 T J					
	PD-9-SB-54-062819-DUP	54 ft	6/28/2019								
PD-10	PD-10-SB-19-061119	19 ft	6/11/2019								
	PD-10-SB-46-061219	46 ft	6/12/2019								
PD-11	PD-11-SB-37-070119	37 ft	7/1/2019	37 T J	4.9 T J						
	PD-11-SB-45-070219	45 ft	7/2/2019	2.9 T J	1.6 T J	1.4 T J					
	PD-11-SB-57-070219	57 ft	7/2/2019								
	PD-11-SB-61-070219	61 ft	7/2/2019								
PD-12	PD-12-SB-52-070819	52 ft	7/8/2019								
	PD-12-SB-55-070819	55 ft	7/8/2019								
	PD-12-SB-59-070819	59 ft	7/8/2019								
PD-14	PD-14-SB-45-072219	45 ft	7/22/2019								
	PD-14-SB-49-072219	49 ft	7/22/2019								
	PD-14-SB-49-072219-DUP	49 ft	7/22/2019								
	PD-14-SB-55-072219	55 ft	7/22/2019								
PD-17	PD-17-SB-45-071519	45 ft	7/15/2019								
	PD-17-SB-55-071519	55 ft	7/15/2019								

Notes:

1. Values are only reported if a TIC is identified
2. The number of significant figures is laboratory-specific.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

T = Result is a tentatively identified compound (TIC) and an estimated value.

N - Presumptive evidence of material.

<#.## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

Appendix H – Summary of Groundwater VOC and SVOC TIC Analytical Detections

Location	Sample ID	Depth	Sample Date	(2-Methyl-prop-2-enyloxyl)-trimethyl silane	1,2,3-Trimethylbenzene	1,4-Difluorobenzene	1,4-Pentadiene, 2,3,3-trimethyl-	1,5-Hexadiyne	1H-Indene, 2,3-dihydro-1,1-dimethyl-	1H-Indene, 2,3-dihydro-1,6-dimethyl-	1H-Indene, 2,3-dihydro-4-methyl-	1H-Indene, 2,3-dihydro-5-methyl-	1-Pentene	1-Phenyl-1-butene	1-Phenyl-1-buteneA	2,4-Dimethylstyrene
				Analytical Results (mg/L)												
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019													
	PD-1-GWP-53-062519	53 ft	6/25/2019													
	PD-1-GWP-60-062619	60 ft	6/26/2019			0.05031 T J										
	PD-1-GWP-69-062619	69 ft	6/26/2019													
	PD-1-GWP-75-062619	75 ft	6/26/2019													
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019													
	PD-2-GWP-50-071819	50 ft	7/18/2019													
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019													
	PD-2-GWP-59-071819	59 ft	7/18/2019													0.0054 T J N
	PD-2-GWP-70-071919	70 ft	7/19/2019													
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019													
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019													
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019													
	PD-3-GWP-55-072319	55 ft	7/23/2019													
	PD-3-GWP-60-072319	60 ft	7/23/2019													
	PD-3-GWP-65-072319	65 ft	7/23/2019													
	PD-3-GWP-71-072319	71 ft	7/23/2019													
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019													
	PD-4-GWP-41-071519	41 ft	7/15/2019		0.021 T J N											
	PD-4-GWP-43-071519	43 ft	7/15/2019		0.056											
	PD-4-GWP-50-071519	50 ft	7/15/2019		0.015 T J N										0.11 T J N	
	PD-4-GWP-53-071619	53 ft	7/16/2019											0.12 T J N		
	PD-4-GWP-60-071619	60 ft	7/16/2019		0.0011 J		0.0059 T J N									
	PD-4-GWP-70-071619	70 ft	7/16/2019		0.0023 J											
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019		0.0021 J											
	PD-4-GWP-80-071619	80 ft	7/16/2019													
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019													
	PD-5-GWP-42-062719	42 ft	6/27/2019					3.3858 T J J								
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019													
	PD-5-GWP-48-062719	48 ft	6/27/2019			1.0268 T J J					0.0249 T J					
	PD-5-GWP-54-062719	54 ft	6/27/2019			0.9694 T J										
	PD-5-GWP-62-062719	62 ft	6/27/2019	0.00948 T J												
	PD-5-GWP-80-062819	80 ft	6/28/2019													
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019		0.031											
	PD-7-GWP-50-072219	50 ft	7/22/2019													
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019													
	PD-7-GWP-55-072319	55 ft	7/23/2019													
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019		0.12 J J											
	PD-8-GWP-46-062819	46 ft	6/28/2019		0.039 T J N						0.032 T J N		0.47 T J N			
	PD-8-GWP-52-062819	52 ft	6/28/2019													
	PD-8-GWP-57-070119	57 ft	7/1/2019													
	PD-8-GWP-62-070119	62 ft	7/1/2019													
	PD-8-GWP-70-070119	70 ft	7/1/2019		0.033							0.02 T J N				
	PD-8-GWP-80-070119	80 ft	7/1/2019													

Location	Sample ID	Depth	Sample Date	(2-Methyl-prop-2-enyloxyl)-trimethyl silane	1,2,3-Trimethylbenzene	1,4-Difluorobenzene	1,4-Pentadiene, 2,3,3-trimethyl-	1,5-Hexadiyne	1H-Indene, 2,3-dihydro-1,1-dimethyl-	1H-Indene, 2,3-dihydro-1,6-dimethyl-	1H-Indene, 2,3-dihydro-4-methyl-	1H-Indene, 2,3-dihydro-5-methyl-	1-Pentene	1-Phenyl-1-butene	1-Phenyl-1-buteneA	2,4-Dimethylstyrene
				Analytical Results (mg/L)												
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019													
	PD-9-GWP-40-070919	40 ft	7/9/2019									0.027 T J N				
	PD-9-GWP-45-070919	45 ft	7/9/2019		0.74 T J N											
	PD-9-GWP-54-071019	54 ft	7/10/2019		0.49 J											
	PD-9-GWP-60-071019	60 ft	7/10/2019											0.0051 T J N		
	PD-9-GWP-70-071019	70 ft	7/10/2019		0.024 J									0.019 T J N		
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019											0.012 T J N		
	PD-9-GWP-80-071019	80 ft	7/10/2019													
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019		0.001 J				0.0064 T J N							
	PD-11-GWP-37-071119	37 ft	7/11/2019		0.15											
	PD-11-GWP-43-071119	43 ft	7/11/2019		0.13 T J N											
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019													
	PD-11-GWP-50-071119	50 ft	7/11/2019		0.011 T J N											
	PD-11-GWP-56-071119	56 ft	7/11/2019		0.0066 J											
	PD-11-GWP-60-071119	60 ft	7/11/2019													
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019													
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019		0.0014 J											
	PD-12-GWP-45-071219	45 ft	7/12/2019													
	PD-12-GWP-50-071219	50 ft	7/12/2019													
	PD-12-GWP-55-071219	55 ft	7/12/2019													
	PD-12-GWP-60-071219	60 ft	7/12/2019													
	PD-12-GWP-70-071519	70 ft	7/15/2019													
	PD-12-GWP-73-071519	73 ft	7/15/2019													
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019													
	PD-13-GWP-46-070819	46 ft	7/8/2019							0.0082 T J N				0.0061 T J N		
	PD-13-GWP-50-070819	50 ft	7/8/2019				0.0093 T J N									
	PD-13-GWP-59-070819	59 ft	7/8/2019													
	PD-13-GWP-65-070919	65 ft	7/9/2019													
	PD-13-GWP-70-070919	70 ft	7/9/2019													
	PD-13-GWP-80-070919	80 ft	7/9/2019													
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019													
	PD-14-GWP-45-071719	45 ft	7/17/2019		0.013 T J N											
	PD-14-GWP-50-071719	50 ft	7/17/2019		0.007 T J N											
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019		0.0058 T J N											
	PD-14-GWP-53-071719	53 ft	7/17/2019											0.046 T J N		
	PD-14-GWP-60-071719	60 ft	7/17/2019		0.12 T J N							0.084 T J N				
	PD-14-GWP-70-071719	70 ft	7/17/2019													
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019		0.0071 T J N											
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019													
	PD-17-GWP-50-072219	50 ft	7/22/2019		0.13 T J N											
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019		0.53 T J N											

Location	Sample ID	Depth	Sample Date	2-Butene, 2,3-dimethyl-	2-Butenedinitrile, (E)-	2-Ethyltoluene	2-Methyl-1-butene	2-Methyl-2-propanol	2-Pentene, (E)-	2-Pentene, 2-methyl-	2-Pentene, 3-methyl-, (Z)-	2-Pentene, 3-methyl-	2-Pentene, 4-methyl-	2-Propanol	3,4-dihydro-1,2,4-Triazin-5(2H)-one	3,5-Dimethylcyclopentene	3-Phenylbut-1-ene
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019						0.01369 T J								
	PD-1-GWP-53-062519	53 ft	6/25/2019			0.13106 T J											
	PD-1-GWP-60-062619	60 ft	6/26/2019														
	PD-1-GWP-69-062619	69 ft	6/26/2019											0.00726 T J			
	PD-1-GWP-75-062619	75 ft	6/26/2019											0.00787 T J	0.00786 T J		
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019														
	PD-2-GWP-50-071819	50 ft	7/18/2019														
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019														
	PD-2-GWP-59-071819	59 ft	7/18/2019														
	PD-2-GWP-70-071919	70 ft	7/19/2019					0.005 J						0.1 J			
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019					0.01						0.064 J			
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019														
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019														
	PD-3-GWP-55-072319	55 ft	7/23/2019														
	PD-3-GWP-60-072319	60 ft	7/23/2019														
	PD-3-GWP-65-072319	65 ft	7/23/2019		0.11 T J N												
	PD-3-GWP-71-072319	71 ft	7/23/2019														
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	0.0076 T J N				0.75						0.018 J			
	PD-4-GWP-41-071519	41 ft	7/15/2019														
	PD-4-GWP-43-071519	43 ft	7/15/2019			0.05		0.41						0.19 J			
	PD-4-GWP-50-071519	50 ft	7/15/2019					0.69		0.11 T J N		0.11 T J N					
	PD-4-GWP-53-071619	53 ft	7/16/2019														
	PD-4-GWP-60-071619	60 ft	7/16/2019			0.00091 J		0.34						0.079 J			
	PD-4-GWP-70-071619	70 ft	7/16/2019			0.0018		0.057						0.065 J			
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019			0.0018		0.065						0.086 J			
	PD-4-GWP-80-071619	80 ft	7/16/2019					0.19						0.11 J			
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019														
	PD-5-GWP-42-062719	42 ft	6/27/2019														
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019			0.00898 T J											0.0135 T J
	PD-5-GWP-48-062719	48 ft	6/27/2019			0.13102 T J											
	PD-5-GWP-54-062719	54 ft	6/27/2019														
	PD-5-GWP-62-062719	62 ft	6/27/2019														
	PD-5-GWP-80-062819	80 ft	6/28/2019											0.058 J			
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019			0.018								0.057 J			
	PD-7-GWP-50-072219	50 ft	7/22/2019														
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019														
	PD-7-GWP-55-072319	55 ft	7/23/2019		0.038 T J N												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019			0.11 J					0.16 T J N J						
	PD-8-GWP-46-062819	46 ft	6/28/2019							0.16 T J N	0.13 T J N			0.13 J		0.079 T J N	
	PD-8-GWP-52-062819	52 ft	6/28/2019					0.022 J						0.19 J J			
	PD-8-GWP-57-070119	57 ft	7/1/2019					0.025						0.062 J			
	PD-8-GWP-62-070119	62 ft	7/1/2019					0.027						0.018 J			
	PD-8-GWP-70-070119	70 ft	7/1/2019			0.024		0.021						0.13 J			0.0092 T J N
	PD-8-GWP-80-070119	80 ft	7/1/2019					0.018 J									

Location	Sample ID	Depth	Sample Date	2-Butene, 2,3-dimethyl-	2-Butenedinitrile, (E)-	2-Ethyltoluene	2-Methyl-1-butene	2-Methyl-2-propanol	2-Pentene, (E)-	2-Pentene, 2-methyl-	2-Pentene, 3-methyl-, (Z)-	2-Pentene, 3-methyl-	2-Pentene, 4-methyl-	2-Propanol	3,4-dihydro-1,2,4-Triazin-5(2H)-one	3,5-Dimethylcyclopentene	3-Phenylbut-1-ene
				Analytical Results (mg/L)													
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019														
	PD-9-GWP-40-070919	40 ft	7/9/2019														
	PD-9-GWP-45-070919	45 ft	7/9/2019														
	PD-9-GWP-54-071019	54 ft	7/10/2019	0.63 T J N		0.39	1 T J N										
	PD-9-GWP-60-071019	60 ft	7/10/2019											0.22 J			
	PD-9-GWP-70-071019	70 ft	7/10/2019			0.021											0.01 T J N
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019														
	PD-9-GWP-80-071019	80 ft	7/10/2019											0.12 J			
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019											0.051 J			
	PD-11-GWP-37-071119	37 ft	7/11/2019			0.088											
	PD-11-GWP-43-071119	43 ft	7/11/2019														
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019														
	PD-11-GWP-50-071119	50 ft	7/11/2019											0.18 J			
	PD-11-GWP-56-071119	56 ft	7/11/2019											0.15 J			
	PD-11-GWP-60-071119	60 ft	7/11/2019														
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019											0.14 J			
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019			0.00087 J		0.65						0.015 J			
	PD-12-GWP-45-071219	45 ft	7/12/2019		0.32 T H J N												
	PD-12-GWP-50-071219	50 ft	7/12/2019														
	PD-12-GWP-55-071219	55 ft	7/12/2019														
	PD-12-GWP-60-071219	60 ft	7/12/2019			0.021		1.1			0.032 T J N	0.051 T J N	0.061 T J N			0.026 T J N	
	PD-12-GWP-70-071519	70 ft	7/15/2019					0.17						0.073 J			
	PD-12-GWP-73-071519	73 ft	7/15/2019					0.074						0.11 J			
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019			0.00041 J		0.51						0.074 J			
	PD-13-GWP-46-070819	46 ft	7/8/2019					0.12						0.081 J			
	PD-13-GWP-50-070819	50 ft	7/8/2019									0.012 T J N	0.011 T J N	0.086 J		0.014 T J N	
	PD-13-GWP-59-070819	59 ft	7/8/2019					0.91						0.1 J			
	PD-13-GWP-65-070919	65 ft	7/9/2019											0.071 J			
	PD-13-GWP-70-070919	70 ft	7/9/2019					0.057 *						0.19 J			
	PD-13-GWP-80-070919	80 ft	7/9/2019					0.032 *						0.091 J			
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019														
	PD-14-GWP-45-071719	45 ft	7/17/2019														
	PD-14-GWP-50-071719	50 ft	7/17/2019														
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019														
	PD-14-GWP-53-071719	53 ft	7/17/2019														
	PD-14-GWP-60-071719	60 ft	7/17/2019			0.32 J											
	PD-14-GWP-70-071719	70 ft	7/17/2019					0.073						0.08 J			
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019			0.00054 J		0.098						0.11 J			
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019		1.5 T J N												
	PD-17-GWP-50-072219	50 ft	7/22/2019														
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019														

Location	Sample ID	Depth	Sample Date	9-Octadecenamide, (Z)-	Benzene, (1-methyl-1-butenyl)-	Benzene, (1-methyl-1-propenyl)-, (Z)-	Benzene, (2-methyl-1-butenyl)-	Benzene, (2-methyl-1-propenyl)-	Benzene, 1,2,3,4-tetramethyl-	Benzene, 1,2,3,4-tetramethyl-A	Benzene, 1,2,3,5-tetramethyl-	Benzene, 1,2,4,5-tetramethyl-	Benzene, 1,3-diethyl-5-methyl-	Benzene, 1-ethenyl-3-ethyl-	Benzene, 1-ethenyl-4-ethyl-	Benzene, 1-ethyl-2,3-dimethyl-	Benzene, 1-ethyl-2,4-dimethyl-
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019														
	PD-1-GWP-53-062519	53 ft	6/25/2019														
	PD-1-GWP-60-062619	60 ft	6/26/2019														
	PD-1-GWP-69-062619	69 ft	6/26/2019														
	PD-1-GWP-75-062619	75 ft	6/26/2019														
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019														
	PD-2-GWP-50-071819	50 ft	7/18/2019														
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019														
	PD-2-GWP-59-071819	59 ft	7/18/2019														
	PD-2-GWP-70-071919	70 ft	7/19/2019														
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019														
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019									0.008 T J N				0.011 T J N	
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019									0.011 T J N				0.014 T J N	0.0078 T J N
	PD-3-GWP-55-072319	55 ft	7/23/2019									0.0059 T J N					
	PD-3-GWP-60-072319	60 ft	7/23/2019														
	PD-3-GWP-65-072319	65 ft	7/23/2019												0.0075 T J N		
	PD-3-GWP-71-072319	71 ft	7/23/2019						0.0044 T J N								
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019														
	PD-4-GWP-41-071519	41 ft	7/15/2019									0.018 T J N			0.014 T J N		
	PD-4-GWP-43-071519	43 ft	7/15/2019													0.014 T J N	
	PD-4-GWP-50-071519	50 ft	7/15/2019		0.024 T J N						0.013 T J N	0.034 T J N			0.035 T J N		
	PD-4-GWP-53-071619	53 ft	7/16/2019		0.13 T J N			0.078 T J N									0.059 T J N
	PD-4-GWP-60-071619	60 ft	7/16/2019													0.0043 T J N	
	PD-4-GWP-70-071619	70 ft	7/16/2019														
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019														
	PD-4-GWP-80-071619	80 ft	7/16/2019														
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019														
	PD-5-GWP-42-062719	42 ft	6/27/2019														
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019														
	PD-5-GWP-48-062719	48 ft	6/27/2019									0.0235 T J					
	PD-5-GWP-54-062719	54 ft	6/27/2019			0.01056 T J											
	PD-5-GWP-62-062719	62 ft	6/27/2019														
	PD-5-GWP-80-062819	80 ft	6/28/2019														
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019				0.013 T J N			0.042 T J N			0.01 T J N				
	PD-7-GWP-50-072219	50 ft	7/22/2019														
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019														
	PD-7-GWP-55-072319	55 ft	7/23/2019									0.0078 T J N					
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019						0.031 T J N							0.047 T J N	
	PD-8-GWP-46-062819	46 ft	6/28/2019						0.021 T J N			0.01 T J N		0.07 T J N	0.064 T J N		
	PD-8-GWP-52-062819	52 ft	6/28/2019														
	PD-8-GWP-57-070119	57 ft	7/1/2019														
	PD-8-GWP-62-070119	62 ft	7/1/2019														
	PD-8-GWP-70-070119	70 ft	7/1/2019		0.024 T J N			0.016 T J N		0.012 T J N	0.0077 T J N	0.016 T J N			0.022 T J N	0.046 T J N	
	PD-8-GWP-80-070119	80 ft	7/1/2019														

Location	Sample ID	Depth	Sample Date	9-Octadecenamide, (Z)-	Benzene, (1-methyl-1-butenyl)-	Benzene, (1-methyl-1-propenyl)-, (Z)-	Benzene, (2-methyl-1-butenyl)-	Benzene, (2-methyl-1-propenyl)-	Benzene, 1,2,3,4-tetramethyl-	Benzene, 1,2,3,4-tetramethyl-A	Benzene, 1,2,3,5-tetramethyl-	Benzene, 1,2,4,5-tetramethyl-	Benzene, 1,3-diethyl-5-methyl-	Benzene, 1-ethenyl-3-ethyl-	Benzene, 1-ethenyl-4-ethyl-	Benzene, 1-ethyl-2,3-dimethyl-	Benzene, 1-ethyl-2,4-dimethyl-
				Analytical Results (mg/L)													
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019	0.018 T J N													
	PD-9-GWP-40-070919	40 ft	7/9/2019								0.036 T J N	0.034 T J N					
	PD-9-GWP-45-070919	45 ft	7/9/2019		0.021 T J N										0.041 T J N	0.05 T J N	
	PD-9-GWP-54-071019	54 ft	7/10/2019														
	PD-9-GWP-60-071019	60 ft	7/10/2019														
	PD-9-GWP-70-071019	70 ft	7/10/2019		0.011 T J N							0.011 T J N					
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019		0.006 T J N							0.0071 T J N			0.0066 T J N		
	PD-9-GWP-80-071019	80 ft	7/10/2019														
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019				0.0095 T J N		0.0087 T J N								
	PD-11-GWP-37-071119	37 ft	7/11/2019														
	PD-11-GWP-43-071119	43 ft	7/11/2019														
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019														
	PD-11-GWP-50-071119	50 ft	7/11/2019														
	PD-11-GWP-56-071119	56 ft	7/11/2019														
	PD-11-GWP-60-071119	60 ft	7/11/2019													0.0046 T H J N	
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019														
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019														
	PD-12-GWP-45-071219	45 ft	7/12/2019													0.028 T H J N	
	PD-12-GWP-50-071219	50 ft	7/12/2019														
	PD-12-GWP-55-071219	55 ft	7/12/2019									0.054 T H J N					
	PD-12-GWP-60-071219	60 ft	7/12/2019						0.012 T H J N		0.013 T H J N						
	PD-12-GWP-70-071519	70 ft	7/15/2019														
	PD-12-GWP-73-071519	73 ft	7/15/2019														
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019	0.01 T J N													
	PD-13-GWP-46-070819	46 ft	7/8/2019	0.011 T J N						0.014 T J N							
	PD-13-GWP-50-070819	50 ft	7/8/2019	0.0083 T J N					0.01 T J N		0.01 T J N						
	PD-13-GWP-59-070819	59 ft	7/8/2019	0.0067 T J N													
	PD-13-GWP-65-070919	65 ft	7/9/2019	0.0041 T J N													
	PD-13-GWP-70-070919	70 ft	7/9/2019	0.0084 T J N													
	PD-13-GWP-80-070919	80 ft	7/9/2019														
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019														
	PD-14-GWP-45-071719	45 ft	7/17/2019														
	PD-14-GWP-50-071719	50 ft	7/17/2019														
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019													0.0056 T J N	
	PD-14-GWP-53-071719	53 ft	7/17/2019									0.021 T J N			0.019 T J N		
	PD-14-GWP-60-071719	60 ft	7/17/2019				0.051 T J N		0.073 T J N								
	PD-14-GWP-70-071719	70 ft	7/17/2019														
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019														
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019				0.0041 T J N										
	PD-17-GWP-50-072219	50 ft	7/22/2019														
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019														

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethyl-2-methyl-	Benzene, 1-ethyl-3,5-dimethyl-	Benzene, 1-ethyl-3-methyl-	Benzene, 1-ethyl-4-methyl-	Benzene, 1-methyl-2-(1-methyl-2-propenyl)-	Benzene, 1-methyl-2-(1-methylethyl)-	Benzene, 1-methyl-3-(1-methylethyl)-	Benzene, 1-methyl-3-propyl-	Benzene, 1-methyl-4-(1-methylethyl)-	Benzene, 1-methyl-4-(2-propenyl)-	Benzene, 1-methyl-4-propyl-	Benzene, 2-ethenyl-1,4-dimethyl-	Benzene, 2-ethyl-1,3-dimethyl-	Benzene, 2-ethyl-1,3-dimethyl-B
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019														
	PD-1-GWP-53-062519	53 ft	6/25/2019										0.08592 T J		0.05152 T J		
	PD-1-GWP-60-062619	60 ft	6/26/2019														
	PD-1-GWP-69-062619	69 ft	6/26/2019														
	PD-1-GWP-75-062619	75 ft	6/26/2019														
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019														
	PD-2-GWP-50-071819	50 ft	7/18/2019	0.01 T H J N		0.018 T H J N				0.0096 T H J N							
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	0.0082 T J N		0.012 T J N	0.0065 T J N										
	PD-2-GWP-59-071819	59 ft	7/18/2019	0.0074 T J N		0.0072 T J N	0.014 T J N										
	PD-2-GWP-70-071919	70 ft	7/19/2019														
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019														
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019			0.048 T J N											
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019		0.014 T J N	0.058 T J N											
	PD-3-GWP-55-072319	55 ft	7/23/2019			0.014 T J N											
	PD-3-GWP-60-072319	60 ft	7/23/2019												0.013 T J N		
	PD-3-GWP-65-072319	65 ft	7/23/2019	0.018 T J N			0.04 T J N										
	PD-3-GWP-71-072319	71 ft	7/23/2019												0.014 T J N		
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019														
	PD-4-GWP-41-071519	41 ft	7/15/2019							0.027 T J N							
	PD-4-GWP-43-071519	43 ft	7/15/2019			0.065											
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.019 T J N						0.1 T J N				0.013 T J N	0.14 T J N		
	PD-4-GWP-53-071619	53 ft	7/16/2019	0.061 T J N	0.07 T J N												
	PD-4-GWP-60-071619	60 ft	7/16/2019			0.0011							0.0052 T J N				
	PD-4-GWP-70-071619	70 ft	7/16/2019	0.004 T J N		0.0023							0.0042 T J N				
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019			0.0021							0.0044 T J N				
	PD-4-GWP-80-071619	80 ft	7/16/2019														
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019														
	PD-5-GWP-42-062719	42 ft	6/27/2019														
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019														
	PD-5-GWP-48-062719	48 ft	6/27/2019												0.06168 T J		
	PD-5-GWP-54-062719	54 ft	6/27/2019														
	PD-5-GWP-62-062719	62 ft	6/27/2019														
	PD-5-GWP-80-062819	80 ft	6/28/2019			0.0015											
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.0049 T J N		0.046											0.048 T J N
	PD-7-GWP-50-072219	50 ft	7/22/2019			0.34 T J N											
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019		0.062 T J N	0.12 T J N											
	PD-7-GWP-55-072319	55 ft	7/23/2019	0.026 T J N					0.0074 T J N								
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019			0.22 J							0.072 T J N			0.021 T J N	
	PD-8-GWP-46-062819	46 ft	6/28/2019											0.012 T J N	0.085 T J N		
	PD-8-GWP-52-062819	52 ft	6/28/2019														
	PD-8-GWP-57-070119	57 ft	7/1/2019														
	PD-8-GWP-62-070119	62 ft	7/1/2019														
	PD-8-GWP-70-070119	70 ft	7/1/2019		0.04 T J N	0.046				0.016 T J N	0.017 T J N		0.037 T J N			0.023 T J N	
	PD-8-GWP-80-070119	80 ft	7/1/2019														

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethyl-2-methyl-	Benzene, 1-ethyl-3,5-dimethyl-	Benzene, 1-ethyl-3-methyl-	Benzene, 1-ethyl-4-methyl-	Benzene, 1-methyl-2-(1-methyl-2-propenyl)-	Benzene, 1-methyl-2-(1-methylethyl)-	Benzene, 1-methyl-3-(1-methylethyl)-	Benzene, 1-methyl-3-propyl-	Benzene, 1-methyl-4-(1-methylethyl)-	Benzene, 1-methyl-4-(2-propenyl)-	Benzene, 1-methyl-4-propyl-	Benzene, 2-ethenyl-1,4-dimethyl-	Benzene, 2-ethyl-1,3-dimethyl-	Benzene, 2-ethyl-1,3-dimethyl-B
				Analytical Results (mg/L)													
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019														
	PD-9-GWP-40-070919	40 ft	7/9/2019						0.068 T J N						0.049 T J N		
	PD-9-GWP-45-070919	45 ft	7/9/2019			0.21 T J N									0.099 T J N		
	PD-9-GWP-54-071019	54 ft	7/10/2019		2.3 T J N	1.3			1.1 T J N		1.2 T J N		2.7 T J N				
	PD-9-GWP-60-071019	60 ft	7/10/2019	0.0057 T J N		0.0062											
	PD-9-GWP-70-071019	70 ft	7/10/2019			0.075			0.0093 T J N		0.013 T J N	0.015 T J N					
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019		0.018 T J N	0.029 T J N			0.0086 T J N		0.0067 T J N						
	PD-9-GWP-80-071019	80 ft	7/10/2019														
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019			0.002		0.0063 T J N	0.0059 T J N								
	PD-11-GWP-37-071119	37 ft	7/11/2019			0.093			0.059 T J N								
	PD-11-GWP-43-071119	43 ft	7/11/2019														
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	0.098 T J N		0.13 T J N											
	PD-11-GWP-50-071119	50 ft	7/11/2019														
	PD-11-GWP-56-071119	56 ft	7/11/2019			0.0084											
	PD-11-GWP-60-071119	60 ft	7/11/2019	0.012 T H J N			0.0091 T J N										
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019														
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019			0.0014											
	PD-12-GWP-45-071219	45 ft	7/12/2019											0.0057 T H J N			
	PD-12-GWP-50-071219	50 ft	7/12/2019				0.006 T H J N										
	PD-12-GWP-55-071219	55 ft	7/12/2019									0.043 T H J N		0.052 T H J N			
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.013 T H J N		0.015									0.029 T J N		
	PD-12-GWP-70-071519	70 ft	7/15/2019														
	PD-12-GWP-73-071519	73 ft	7/15/2019														
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019														
	PD-13-GWP-46-070819	46 ft	7/8/2019						0.024 T J N							0.014 T J N	
	PD-13-GWP-50-070819	50 ft	7/8/2019	0.0047 T J N													
	PD-13-GWP-59-070819	59 ft	7/8/2019														
	PD-13-GWP-65-070919	65 ft	7/9/2019														
	PD-13-GWP-70-070919	70 ft	7/9/2019														
	PD-13-GWP-80-070919	80 ft	7/9/2019														
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019														
	PD-14-GWP-45-071719	45 ft	7/17/2019	0.019 T J N													
	PD-14-GWP-50-071719	50 ft	7/17/2019				0.0068 T J N										
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019	0.0077 T J N			0.0056 T J N										
	PD-14-GWP-53-071719	53 ft	7/17/2019			0.11 T J N			0.038 T J N								
	PD-14-GWP-60-071719	60 ft	7/17/2019	0.12 T J N		1.2											
	PD-14-GWP-70-071719	70 ft	7/17/2019														
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019			0.0019											
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019				0.004 T J N							0.014 T J N			
	PD-17-GWP-50-072219	50 ft	7/22/2019	0.1 T J N	0.038 T J N	0.14 T J N	0.06 T J N										
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019				0.27 T J N										

Location	Sample ID	Depth	Sample Date	Benzene, 2-ethyl-1,4-dimethyl-	Benzene, 4-ethyl-1,2-dimethyl-	Bicyclo310hexane, 1,5-dimethyl-	Butane, 2,2-dimethyl-	Butane, 2,3-dimethyl-	Butane	Carbon Dioxide	Cyclobutane, (1-methylethylidene)-	Cyclohexane, 1,2-dimethyl-, trans-	Cyclohexane, 1,3-dimethyl-, trans-	Cyclohexane, methyl-	Cyclohexane	Cyclohexene, 1-methyl-	Cyclohexene, 1-methyl-B
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019				0.02576 T J	0.04785 T J	0.05099 T J					0.02942 T J	0.02305 T J		
	PD-1-GWP-53-062519	53 ft	6/25/2019	0.10346 T J					1.591 T J								
	PD-1-GWP-60-062619	60 ft	6/26/2019							0.07699 T J							
	PD-1-GWP-69-062619	69 ft	6/26/2019														
	PD-1-GWP-75-062619	75 ft	6/26/2019														
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019														
	PD-2-GWP-50-071819	50 ft	7/18/2019														
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019														
	PD-2-GWP-59-071819	59 ft	7/18/2019														
	PD-2-GWP-70-071919	70 ft	7/19/2019														
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019														
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019	0.0073 T J N													
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	0.0091 T J N													
	PD-3-GWP-55-072319	55 ft	7/23/2019		0.0043 T J N												
	PD-3-GWP-60-072319	60 ft	7/23/2019		0.0072 T J N												
	PD-3-GWP-65-072319	65 ft	7/23/2019		0.0061 T J N												
	PD-3-GWP-71-072319	71 ft	7/23/2019		0.011 T J N												
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019												0.00071 J		
	PD-4-GWP-41-071519	41 ft	7/15/2019		0.029 T J N										0.17 J		
	PD-4-GWP-43-071519	43 ft	7/15/2019										0.021 T J N	0.28	0.63 E		
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.07 T J N	0.014 T J N						0.22 T J N			0.26	0.32		0.13 T J N
	PD-4-GWP-53-071619	53 ft	7/16/2019	0.052 T J N	0.13 T J N										1.1		
	PD-4-GWP-60-071619	60 ft	7/16/2019		0.006 T J N		0.03 T J N							0.0051	0.012	0.0061 T J N	
	PD-4-GWP-70-071619	70 ft	7/16/2019											0.0014	0.0016		
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019											0.0012	0.0014		
	PD-4-GWP-80-071619	80 ft	7/16/2019											0.00057 J	0.00067 J		
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019														
	PD-5-GWP-42-062719	42 ft	6/27/2019														
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019														
	PD-5-GWP-48-062719	48 ft	6/27/2019	0.02918 T J					1.2212 T J J	0.2414 T J J							
	PD-5-GWP-54-062719	54 ft	6/27/2019							0.205 T J							
	PD-5-GWP-62-062719	62 ft	6/27/2019														
	PD-5-GWP-80-062819	80 ft	6/28/2019											0.0017	0.0018		
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.042 T J N								0.011 T J N		0.0089			
	PD-7-GWP-50-072219	50 ft	7/22/2019														
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019		0.038 T J N												
	PD-7-GWP-55-072319	55 ft	7/23/2019	0.011 T J N													
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	0.022 T J N										0.12 J	0.4 J		
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.068 T J N							0.087 T J N			0.072	0.45		0.061 T J N
	PD-8-GWP-52-062819	52 ft	6/28/2019														
	PD-8-GWP-57-070119	57 ft	7/1/2019														
	PD-8-GWP-62-070119	62 ft	7/1/2019														
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.021 T J N										0.0045	0.0042		
	PD-8-GWP-80-070119	80 ft	7/1/2019														

Location	Sample ID	Depth	Sample Date	Benzene, 2-ethyl-1,4-dimethyl-	Benzene, 4-ethyl-1,2-dimethyl-	Bicyclo310hexane, 1,5-dimethyl-	Butane, 2,2-dimethyl-	Butane, 2,3-dimethyl-	Butane	Carbon Dioxide	Cyclobutane, (1-methylethylidene)-	Cyclohexane, 1,2-dimethyl-, trans-	Cyclohexane, 1,3-dimethyl-, trans-	Cyclohexane, methyl-	Cyclohexane	Cyclohexene, 1-methyl-	Cyclohexene, 1-methyl-B
				Analytical Results (mg/L)													
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019														
	PD-9-GWP-40-070919	40 ft	7/9/2019	0.035 T J N													
	PD-9-GWP-45-070919	45 ft	7/9/2019														
	PD-9-GWP-54-071019	54 ft	7/10/2019	1.8 T J N	0.99 T J N									0.49	1.5		
	PD-9-GWP-60-071019	60 ft	7/10/2019											0.004 J	0.0057		
	PD-9-GWP-70-071019	70 ft	7/10/2019											0.055	0.067		
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019		0.0048 T J N												
	PD-9-GWP-80-071019	80 ft	7/10/2019														
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019														
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.077 T J N										0.031			
	PD-11-GWP-43-071119	43 ft	7/11/2019		0.047 T J N												
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019														
	PD-11-GWP-50-071119	50 ft	7/11/2019														
	PD-11-GWP-56-071119	56 ft	7/11/2019														
	PD-11-GWP-60-071119	60 ft	7/11/2019														
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019														
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019														
	PD-12-GWP-45-071219	45 ft	7/12/2019														
	PD-12-GWP-50-071219	50 ft	7/12/2019														
	PD-12-GWP-55-071219	55 ft	7/12/2019											0.086 T H J N			
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.028 T H J N	0.016 T J N		0.025 T J N				0.044 T J N			0.041	0.31 T J N	0.05 T J N	
	PD-12-GWP-70-071519	70 ft	7/15/2019														
	PD-12-GWP-73-071519	73 ft	7/15/2019														
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019				0.018 T J N							0.0013	0.02		
	PD-13-GWP-46-070819	46 ft	7/8/2019				0.023 T J N				0.0088 T J N			0.034	0.01	0.0091 T J N	
	PD-13-GWP-50-070819	50 ft	7/8/2019			0.0091 T J N	0.037 T J N							0.047	0.025		0.027 T J N
	PD-13-GWP-59-070819	59 ft	7/8/2019														
	PD-13-GWP-65-070919	65 ft	7/9/2019														
	PD-13-GWP-70-070919	70 ft	7/9/2019														
	PD-13-GWP-80-070919	80 ft	7/9/2019														
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019														
	PD-14-GWP-45-071719	45 ft	7/17/2019		0.013 T J N												
	PD-14-GWP-50-071719	50 ft	7/17/2019		0.0051 T J N												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019														
	PD-14-GWP-53-071719	53 ft	7/17/2019														
	PD-14-GWP-60-071719	60 ft	7/17/2019											0.49 J	1.2		
	PD-14-GWP-70-071719	70 ft	7/17/2019														
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019											0.001	0.0014		
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019														
	PD-17-GWP-50-072219	50 ft	7/22/2019		0.024 T J N												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	0.23 T J N													

Location	Sample ID	Depth	Sample Date	Cyclohexene, 4-methyl-	Cyclopentane, 1,1-dimethyl-	Cyclopentane, 1,2-dimethyl-, trans-	Cyclopentane, ethyl-	Cyclopentane, methyl-	Cyclopentene, 1-methyl-	Cyclopropane, 1,1-dimethyl-	Cyclopropane, 1,2-dimethyl-, cis-	Diisopropyl Ether	Ethanol	Goitrin	Heptane, 2-methyl-	Heptane	Hexane, 1-(hexyloxy)-3-methyl-
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019			0.01899 T J		0.03417 T J									
	PD-1-GWP-53-062519	53 ft	6/25/2019					1.5715 T J		2.3325 T J							
	PD-1-GWP-60-062619	60 ft	6/26/2019														
	PD-1-GWP-69-062619	69 ft	6/26/2019											0.00849 T J			
	PD-1-GWP-75-062619	75 ft	6/26/2019														
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019														
	PD-2-GWP-50-071819	50 ft	7/18/2019														
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019														
	PD-2-GWP-59-071819	59 ft	7/18/2019														
	PD-2-GWP-70-071919	70 ft	7/19/2019														
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019														
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019														
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019														
	PD-3-GWP-55-072319	55 ft	7/23/2019														
	PD-3-GWP-60-072319	60 ft	7/23/2019														
	PD-3-GWP-65-072319	65 ft	7/23/2019														
	PD-3-GWP-71-072319	71 ft	7/23/2019														
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019		0.0051 T J N												
	PD-4-GWP-41-071519	41 ft	7/15/2019														
	PD-4-GWP-43-071519	43 ft	7/15/2019					0.053 T J N			0.021 T J N		0.057 J			0.077	
	PD-4-GWP-50-071519	50 ft	7/15/2019				0.09 T J N	0.59 T J N	0.082 T J N		0.18 T J N						
	PD-4-GWP-53-071619	53 ft	7/16/2019												0.053 T J N		
	PD-4-GWP-60-071619	60 ft	7/16/2019													0.0033	
	PD-4-GWP-70-071619	70 ft	7/16/2019													0.00078 J	
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019														
	PD-4-GWP-80-071619	80 ft	7/16/2019													0.0015	
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019														
	PD-5-GWP-42-062719	42 ft	6/27/2019														
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019														
	PD-5-GWP-48-062719	48 ft	6/27/2019								0.7292 T J J						
	PD-5-GWP-54-062719	54 ft	6/27/2019												0.00826 T J		0.00896 T J
	PD-5-GWP-62-062719	62 ft	6/27/2019														
	PD-5-GWP-80-062819	80 ft	6/28/2019													0.0011	
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019														
	PD-7-GWP-50-072219	50 ft	7/22/2019														
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019														
	PD-7-GWP-55-072319	55 ft	7/23/2019														
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019						0.32 T J N J		0.93 T J N J					0.038 J	
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.053 T J N				0.36 T J N	0.26 T J N		0.95 T J N						
	PD-8-GWP-52-062819	52 ft	6/28/2019														
	PD-8-GWP-57-070119	57 ft	7/1/2019														
	PD-8-GWP-62-070119	62 ft	7/1/2019														
	PD-8-GWP-70-070119	70 ft	7/1/2019					0.0064 T J N								0.00078 J	
	PD-8-GWP-80-070119	80 ft	7/1/2019														

Location	Sample ID	Depth	Sample Date	Cyclohexene, 4-methyl-	Cyclopentane, 1,1-dimethyl-	Cyclopentane, 1,2-dimethyl-, trans-	Cyclopentane, ethyl-	Cyclopentane, methyl-	Cyclopentene, 1-methyl-	Cyclopropane, 1,1-dimethyl-	Cyclopropane, 1,2-dimethyl-, cis-	Diisopropyl Ether	Ethanol	Goitrin	Heptane, 2-methyl-	Heptane	Hexane, 1-(hexyloxy)-3-methyl-
				Analytical Results (mg/L)													
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019														
	PD-9-GWP-40-070919	40 ft	7/9/2019														
	PD-9-GWP-45-070919	45 ft	7/9/2019														
	PD-9-GWP-54-071019	54 ft	7/10/2019						0.99 T J N		3.2 T J N					0.31	
	PD-9-GWP-60-071019	60 ft	7/10/2019														
	PD-9-GWP-70-071019	70 ft	7/10/2019					0.12 T J N									
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019														
	PD-9-GWP-80-071019	80 ft	7/10/2019														
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019														
	PD-11-GWP-37-071119	37 ft	7/11/2019														
	PD-11-GWP-43-071119	43 ft	7/11/2019														
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019														
	PD-11-GWP-50-071119	50 ft	7/11/2019														
	PD-11-GWP-56-071119	56 ft	7/11/2019														
	PD-11-GWP-60-071119	60 ft	7/11/2019														
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019														
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019														
	PD-12-GWP-45-071219	45 ft	7/12/2019														
	PD-12-GWP-50-071219	50 ft	7/12/2019														
	PD-12-GWP-55-071219	55 ft	7/12/2019														
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.026 T J N				0.23 T J N			0.068 T J N						
	PD-12-GWP-70-071519	70 ft	7/15/2019														
	PD-12-GWP-73-071519	73 ft	7/15/2019														
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019									0.00093 J					
	PD-13-GWP-46-070819	46 ft	7/8/2019														
	PD-13-GWP-50-070819	50 ft	7/8/2019	0.014 T J N	0.039 T J N						0.012 T J N						
	PD-13-GWP-59-070819	59 ft	7/8/2019														
	PD-13-GWP-65-070919	65 ft	7/9/2019														
	PD-13-GWP-70-070919	70 ft	7/9/2019														
	PD-13-GWP-80-070919	80 ft	7/9/2019														
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019														
	PD-14-GWP-45-071719	45 ft	7/17/2019														
	PD-14-GWP-50-071719	50 ft	7/17/2019														
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019														
	PD-14-GWP-53-071719	53 ft	7/17/2019														
	PD-14-GWP-60-071719	60 ft	7/17/2019													0.39 J	
	PD-14-GWP-70-071719	70 ft	7/17/2019														
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019														
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019														
	PD-17-GWP-50-072219	50 ft	7/22/2019														
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019														

Location	Sample ID	Depth	Sample Date	Hexane	Indane	Isobutanol (Isobutyl alcohol)	Isooctane	Isopentane	Methyl-Cyclobutane	Naphthalene, 1,2,3,4-tetrahydro-	Naphthalene, 1,2,3,4-tetrahydro-B	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-A	Naphthalene, 1,6,7-trimethyl-	Naphthalene, 2,3-dimethyl-	Naphthalene, 2,6-dimethyl-	n-Butyl acetate
				Analytical Results (mg/L)													
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019					0.10415 T J									
	PD-1-GWP-53-062519	53 ft	6/25/2019		0.17854 T J			1.7945 T J	2.233 T J								
	PD-1-GWP-60-062619	60 ft	6/26/2019														
	PD-1-GWP-69-062619	69 ft	6/26/2019														
	PD-1-GWP-75-062619	75 ft	6/26/2019														
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019		0.0041 T J N												
	PD-2-GWP-50-071819	50 ft	7/18/2019							0.0046 T H J N							
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019														
	PD-2-GWP-59-071819	59 ft	7/18/2019		0.02 T J N												
	PD-2-GWP-70-071919	70 ft	7/19/2019														
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019														
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019		0.026 T J N					0.011 T J N							
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019		0.03 T J N					0.014 T J N							
	PD-3-GWP-55-072319	55 ft	7/23/2019		0.01 T J N					0.0048 T J N							
	PD-3-GWP-60-072319	60 ft	7/23/2019		0.059 T J N												
	PD-3-GWP-65-072319	65 ft	7/23/2019		0.059 T J N												
	PD-3-GWP-71-072319	71 ft	7/23/2019		0.047 T J N					0.0041 T J N							
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019				0.002 J										
	PD-4-GWP-41-071519	41 ft	7/15/2019		0.13 T J N										0.018 T J N	0.014 T J N	
	PD-4-GWP-43-071519	43 ft	7/15/2019	0.17	0.097 T J N		0.091	0.053 T J N							0.012 T J N		
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.12	0.099 T J N			0.84 T J N									
	PD-4-GWP-53-071619	53 ft	7/16/2019	1	0.12 T J N												
	PD-4-GWP-60-071619	60 ft	7/16/2019	0.0058			0.0019 J	0.07 T J N									
	PD-4-GWP-70-071619	70 ft	7/16/2019	0.0016													
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019	0.0014													0.0012
	PD-4-GWP-80-071619	80 ft	7/16/2019	0.001													
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019														
	PD-5-GWP-42-062719	42 ft	6/27/2019														
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019														
	PD-5-GWP-48-062719	48 ft	6/27/2019														
	PD-5-GWP-54-062719	54 ft	6/27/2019														
	PD-5-GWP-62-062719	62 ft	6/27/2019														
	PD-5-GWP-80-062819	80 ft	6/28/2019	0.0023													
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019				0.022					0.012 T J N					
	PD-7-GWP-50-072219	50 ft	7/22/2019							0.55 T J N							
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019														
	PD-7-GWP-55-072319	55 ft	7/23/2019		0.014 T J N					0.014 T J N							
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	0.25 J	0.15 T J N			0.32 T J N J									
	PD-8-GWP-46-062819	46 ft	6/28/2019		0.13 T J N			0.48 T J N									
	PD-8-GWP-52-062819	52 ft	6/28/2019														
	PD-8-GWP-57-070119	57 ft	7/1/2019														
	PD-8-GWP-62-070119	62 ft	7/1/2019														
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.0016	0.025 T J N												
	PD-8-GWP-80-070119	80 ft	7/1/2019														

Location	Sample ID	Depth	Sample Date	Hexane	Indane	Isobutanol (Isobutyl alcohol)	Isooctane	Isopentane	Methyl-Cyclobutane	Naphthalene, 1,2,3,4-tetrahydro-	Naphthalene, 1,2,3,4-tetrahydro-B	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-A	Naphthalene, 1,6,7-trimethyl-	Naphthalene, 2,3-dimethyl-	Naphthalene, 2,6-dimethyl-	n-Butyl acetate
				Analytical Results (mg/L)													
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019		0.014 T J N												
	PD-9-GWP-40-070919	40 ft	7/9/2019		0.095 T J N												
	PD-9-GWP-45-070919	45 ft	7/9/2019		0.18 T J N												
	PD-9-GWP-54-071019	54 ft	7/10/2019	1.4	1.7 T J N			3 T J N									
	PD-9-GWP-60-071019	60 ft	7/10/2019	0.0069													
	PD-9-GWP-70-071019	70 ft	7/10/2019	0.094	0.015 T J N												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019		0.012 T J N												
	PD-9-GWP-80-071019	80 ft	7/10/2019														
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019				0.02						0.0084 T J N	0.012 T J N			
	PD-11-GWP-37-071119	37 ft	7/11/2019		0.052 T J N		0.038 J				0.059 T J N				0.055 T J N		
	PD-11-GWP-43-071119	43 ft	7/11/2019							0.038 T J N					0.038 T J N		
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019													0.079 T J N	
	PD-11-GWP-50-071119	50 ft	7/11/2019														
	PD-11-GWP-56-071119	56 ft	7/11/2019														
	PD-11-GWP-60-071119	60 ft	7/11/2019														
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019														
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019														
	PD-12-GWP-45-071219	45 ft	7/12/2019		0.068 T H J N										0.009 T H J N		
	PD-12-GWP-50-071219	50 ft	7/12/2019		0.02 T H J N			0.35 T J N									
	PD-12-GWP-55-071219	55 ft	7/12/2019		0.066 T H J N												
	PD-12-GWP-60-071219	60 ft	7/12/2019		0.088 T H J N			0.29 T J N									
	PD-12-GWP-70-071519	70 ft	7/15/2019														
	PD-12-GWP-73-071519	73 ft	7/15/2019														
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019		0.025 T J N												
	PD-13-GWP-46-070819	46 ft	7/8/2019		0.027 T J N			0.064 T J N									
	PD-13-GWP-50-070819	50 ft	7/8/2019		0.057 T J N			0.18 T J N									
	PD-13-GWP-59-070819	59 ft	7/8/2019														
	PD-13-GWP-65-070919	65 ft	7/9/2019														
	PD-13-GWP-70-070919	70 ft	7/9/2019														
	PD-13-GWP-80-070919	80 ft	7/9/2019														
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	1.7		50		7.9 T J N									
	PD-14-GWP-45-071719	45 ft	7/17/2019		0.045 T J N												
	PD-14-GWP-50-071719	50 ft	7/17/2019		0.012 T J N												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019		0.011 T J N												
	PD-14-GWP-53-071719	53 ft	7/17/2019		0.098 T J N												
	PD-14-GWP-60-071719	60 ft	7/17/2019	0.9	0.1 T J N	21											
	PD-14-GWP-70-071719	70 ft	7/17/2019														
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019	0.0012		0.032											
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019										0.0049 T J N		0.0059 T J N		
	PD-17-GWP-50-072219	50 ft	7/22/2019							0.028 T J N							
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019											0.17 T J N			

Location	Sample ID	Depth	Sample Date	Octane, 2,6-dimethyl-	Octane	o-diethylbenzene	p-Diethylbenzene	Pentane, 2,3,4-trimethyl-	Pentane, 2,3-dimethyl-	Pentane, 2,4-dimethyl-	Pentane, 2-methyl-	Pentane, 3-methyl-	Pentane	p-Xylenes	Sulfur dioxide	t-Amyl alcohol	Tetrahydrofuran	Undecane, 2,6-dimethyl-
				Analytical Results (mg/L)														
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019						0.01313 T J		0.067 T J		0.03131 T J					
	PD-1-GWP-53-062519	53 ft	6/25/2019															
	PD-1-GWP-60-062619	60 ft	6/26/2019															
	PD-1-GWP-69-062619	69 ft	6/26/2019															
	PD-1-GWP-75-062619	75 ft	6/26/2019															
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019															
	PD-2-GWP-50-071819	50 ft	7/18/2019															
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019															
	PD-2-GWP-59-071819	59 ft	7/18/2019															
	PD-2-GWP-70-071919	70 ft	7/19/2019															
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019															
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019															
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019											0.13 T J N				
	PD-3-GWP-55-072319	55 ft	7/23/2019											0.043 T J N				
	PD-3-GWP-60-072319	60 ft	7/23/2019															
	PD-3-GWP-65-072319	65 ft	7/23/2019															
	PD-3-GWP-71-072319	71 ft	7/23/2019											0.067 T J N				
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019													0.088		
	PD-4-GWP-41-071519	41 ft	7/15/2019											0.12 T J N				
	PD-4-GWP-43-071519	43 ft	7/15/2019													0.1		
	PD-4-GWP-50-071519	50 ft	7/15/2019									0.44 T J N	0.29 T J N		0.24 T J N			
	PD-4-GWP-53-071619	53 ft	7/16/2019		0.057 T J N									0.17 T J N				
	PD-4-GWP-60-071619	60 ft	7/16/2019													0.045		
	PD-4-GWP-70-071619	70 ft	7/16/2019													0.011		
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019													0.011		
	PD-4-GWP-80-071619	80 ft	7/16/2019															
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019											0.17 T J N				
	PD-5-GWP-42-062719	42 ft	6/27/2019											0.13954 T J				
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019															
	PD-5-GWP-48-062719	48 ft	6/27/2019											2.17288 T J				
	PD-5-GWP-54-062719	54 ft	6/27/2019															
	PD-5-GWP-62-062719	62 ft	6/27/2019															
	PD-5-GWP-80-062819	80 ft	6/28/2019															
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019			0.0056 J	0.016			0.013 T J N		0.018 T J N						
	PD-7-GWP-50-072219	50 ft	7/22/2019															0.75 T J N
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.063 T J N										0.069 T J N				
	PD-7-GWP-55-072319	55 ft	7/23/2019											0.06 T J N				
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019										0.47 T J N J	0.15 T J N				
	PD-8-GWP-46-062819	46 ft	6/28/2019									0.1 T J N						
	PD-8-GWP-52-062819	52 ft	6/28/2019															
	PD-8-GWP-57-070119	57 ft	7/1/2019															
	PD-8-GWP-62-070119	62 ft	7/1/2019															
	PD-8-GWP-70-070119	70 ft	7/1/2019				0.0078											
	PD-8-GWP-80-070119	80 ft	7/1/2019															

Location	Sample ID	Depth	Sample Date	Octane, 2,6-dimethyl-	Octane	o-diethylbenzene	p-Diethylbenzene	Pentane, 2,3,4-trimethyl-	Pentane, 2,3-dimethyl-	Pentane, 2,4-dimethyl-	Pentane, 2-methyl-	Pentane, 3-methyl-	Pentane	p-Xylenes	Sulfur dioxide	t-Amyl alcohol	Tetrahydrofuran	Undecane, 2,6-dimethyl-
				Analytical Results (mg/L)														
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019															
	PD-9-GWP-40-070919	40 ft	7/9/2019											0.14 T J N				
	PD-9-GWP-45-070919	45 ft	7/9/2019															
	PD-9-GWP-54-071019	54 ft	7/10/2019		2 T J N		0.11 J					0.92 T J N	3.9 T J N	2.8 T J N				
	PD-9-GWP-60-071019	60 ft	7/10/2019															
	PD-9-GWP-70-071019	70 ft	7/10/2019										0.12 T J N					
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019															
	PD-9-GWP-80-071019	80 ft	7/10/2019															
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019			0.0078	0.0066	0.013 T J N	0.042 T J N									
	PD-11-GWP-37-071119	37 ft	7/11/2019			0.011 J	0.033 J											
	PD-11-GWP-43-071119	43 ft	7/11/2019															0.042 T J N
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019															
	PD-11-GWP-50-071119	50 ft	7/11/2019														0.041 J	
	PD-11-GWP-56-071119	56 ft	7/11/2019														0.031	
	PD-11-GWP-60-071119	60 ft	7/11/2019															
	PD-11-GWP-66.7-071219	66.7 ft	7/12/2019															
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019															
	PD-12-GWP-45-071219	45 ft	7/12/2019															
	PD-12-GWP-50-071219	50 ft	7/12/2019															
	PD-12-GWP-55-071219	55 ft	7/12/2019										3.5 T J N					
	PD-12-GWP-60-071219	60 ft	7/12/2019									0.11 T J N	0.092 T J N	0.017 T H J N		0.11		
	PD-12-GWP-70-071519	70 ft	7/15/2019															
	PD-12-GWP-73-071519	73 ft	7/15/2019															
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019															
	PD-13-GWP-46-070819	46 ft	7/8/2019									0.065 T J N						
	PD-13-GWP-50-070819	50 ft	7/8/2019									0.13 T J N						
	PD-13-GWP-59-070819	59 ft	7/8/2019													0.056		
	PD-13-GWP-65-070919	65 ft	7/9/2019															
	PD-13-GWP-70-070919	70 ft	7/9/2019															
	PD-13-GWP-80-070919	80 ft	7/9/2019															
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019										5.1 T J N					
	PD-14-GWP-45-071719	45 ft	7/17/2019											0.05 T J N				
	PD-14-GWP-50-071719	50 ft	7/17/2019															
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019															
	PD-14-GWP-53-071719	53 ft	7/17/2019															
	PD-14-GWP-60-071719	60 ft	7/17/2019															
	PD-14-GWP-70-071719	70 ft	7/17/2019															
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019											0.0059 T J N				
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019															
	PD-17-GWP-50-072219	50 ft	7/22/2019															
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	0.18 T J N										0.4 T J N				

Notes:

1. Values are only reported if a TIC is identified
2. The number of significant figures is laboratory-specific.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

T = Result is a tentatively identified compound (TIC) and an estimated value.

N - Presumptive evidence of material.

H = Sample was prepared or analyzed beyond the specified holding time

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

Location	Sample ID	Depth	Sample Date	1,2,3-Trimethylbenzene A	1,2,3-Trimethylbenzene B	1,2,3-Trimethylbenzene C	1,2,3-Trimethylbenzene D	1,3,5-Trimethylbenzene A	1,3,5-Trimethylbenzene B	1,3-Cyclopentadiene, 1,2,3,4-tetramethyl-5-methylene-	1,3-Dimethylcyclopentanol	13-Docosenamide, (Z)-	1-Docosene	1H-Benzotriazole, 5-methyl-	1-Heneicosyl formate
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019								0.00806 T J				
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	0.011 T J N	0.05 T J N										
	PD-2-GWP-59-071819	59 ft	7/18/2019	0.016 T J N	0.042 T J N										
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019	0.064 T J N	0.037 T J N	0.016 T J N	0.12 T J N								
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	0.021 T J N	0.073 T J N	0.043 T J N	0.14 T J N								
	PD-3-GWP-55-072319	55 ft	7/23/2019	0.024 T J N	0.057 T J N										
	PD-3-GWP-60-072319	60 ft	7/23/2019					0.05 T J N	0.052 T J N						
	PD-3-GWP-65-072319	65 ft	7/23/2019											0.019 T J N	
	PD-3-GWP-71-072319	71 ft	7/23/2019	0.096 T J N	0.023 T J N										
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019								0.0057 T J N				
	PD-4-GWP-41-071519	41 ft	7/15/2019												
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019								0.012 T J N				
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019	0.011 T J N	0.0047 T J N										
	PD-4-GWP-70-071619	70 ft	7/16/2019	0.0053 T J N	0.012 T J N										
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019	0.02 T J N	0.043 T J N										
	PD-5-GWP-42-062719	42 ft	6/27/2019												
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019								0.01294 T J				
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019	0.75 T J N	0.54 T J N					0.48 T J N					
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.34 T J N	0.11 T J N										
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	0.12 T J N	0.21 T J N										
	PD-8-GWP-46-062819	46 ft	6/28/2019								0.01 T J N				
	PD-8-GWP-52-062819	52 ft	6/28/2019												0.0057 T J N
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	1,2,3-TrimethylbenzeneA	1,2,3-TrimethylbenzeneB	1,2,3-TrimethylbenzeneC	1,2,3-TrimethylbenzeneD	1,3,5-TrimethylbenzeneA	1,3,5-TrimethylbenzeneB	1,3-Cyclopentadiene, 1,2,3,4-tetramethyl-5-methylene-	1,3-Dimethylcyclopentanol	13-Docosenamide, (Z)-	1-Docosene	1H-Benzotriazole, 5-methyl-	1-Heneicosyl formate
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019									0.015 T J N			
	PD-9-GWP-40-070919	40 ft	7/9/2019	0.21 T J N	0.066 T J N										
	PD-9-GWP-45-070919	45 ft	7/9/2019												
	PD-9-GWP-54-071019	54 ft	7/10/2019					2.5 T J N	2.6 T J N						
	PD-9-GWP-60-071019	60 ft	7/10/2019	0.0041 T J N	0.015 T J N										
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	0.02 T J N	0.058 T J N										
	PD-9-GWP-80-071019	80 ft	7/10/2019										0.0044 T J N		
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019												
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.11 T J N	0.27 T J N										
	PD-11-GWP-43-071119	43 ft	7/11/2019												
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	0.11 T J N	0.066 T J N										
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019	0.0054 T J N	0.019 T J N										
	PD-11-GWP-60-071119	60 ft	7/11/2019	0.0087 T H J N	0.0042 T J N	0.0051 T H J N									
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												0.0042 T J N
	PD-12-GWP-45-071219	45 ft	7/12/2019	0.0086 T H J N	0.0083 T H J N	0.0097 T H J N									
	PD-12-GWP-50-071219	50 ft	7/12/2019								0.007 T H J N				
	PD-12-GWP-55-071219	55 ft	7/12/2019												
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.0088 T H J N	0.026 T H J N	0.019 T H J N	0.034 T H J N				0.0096 T H J N				
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019									0.013 T J N			0.0064 T J N
	PD-13-GWP-46-070819	46 ft	7/8/2019									0.014 T J N			0.0055 T J N
	PD-13-GWP-50-070819	50 ft	7/8/2019									0.01 T J N			
	PD-13-GWP-59-070819	59 ft	7/8/2019									0.0054 T J N			
	PD-13-GWP-65-070919	65 ft	7/9/2019									0.0059 T J N			
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019												
	PD-14-GWP-45-071719	45 ft	7/17/2019								0.017 T J N				
	PD-14-GWP-50-071719	50 ft	7/17/2019												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019								0.015 T J N				
	PD-14-GWP-53-071719	53 ft	7/17/2019	0.24 T J N	0.098 T J N						0.015 T J N				
	PD-14-GWP-60-071719	60 ft	7/17/2019												
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019												

Location	Sample ID	Depth	Sample Date	1H-Inden-1-one, 2,3-dihydro-	1H-Indene, 2,3-dihydro-2-methyl-	1H-Indene,2,3-dihydro-2,2-dimethyl-	1-methoxy-4-methyl-2-(1-methylethyl)-Benzene	1-Methylcyclohexanol	1-MethylnaphthaleneA	1-MethylnaphthaleneB	1-Phenyl-1-buteneB	1-Propene, 1,2,3-trichloro-, (E)-	2-Benzothiophene	2-Butanone, 4-hydroxy-	2-Butanone, 4-hydroxy-A
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019											0.029 T J N	
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019						0.0042 T J N	0.0052 T J N				0.0066 T J N	
	PD-3-GWP-60-072319	60 ft	7/23/2019											0.19 T J N	
	PD-3-GWP-65-072319	65 ft	7/23/2019											0.028 T J N	
	PD-3-GWP-71-072319	71 ft	7/23/2019												
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019					0.0051 T J N						0.011 T J N	
	PD-4-GWP-41-071519	41 ft	7/15/2019											0.012 T J N	
	PD-4-GWP-43-071519	43 ft	7/15/2019											0.022 T J N	
	PD-4-GWP-50-071519	50 ft	7/15/2019								0.071 T J N				
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019										0.014 T J N		
	PD-5-GWP-42-062719	42 ft	6/27/2019					0.00892 T J							
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019				0.01122 T J								
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019											0.0081 T J N	
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019												
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019		0.034 T J N										
	PD-8-GWP-46-062819	46 ft	6/28/2019			0.01 T J N			0.048 T J N	0.039 T J N				0.027 T J N	
	PD-8-GWP-52-062819	52 ft	6/28/2019											0.019 T J N	
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	1H-Inden-1-one, 2,3-dihydro-	1H-Indene, 2,3-dihydro-2-methyl-	1H-Indene,2,3-dihydro-2,2-dimethyl-	1-methoxy-4-methyl-2-(1-methylethyl)-Benzene	1-Methylcyclohexanol	1-MethylnaphthaleneA	1-MethylnaphthaleneB	1-Phenyl-1-buteneB	1-Propene, 1,2,3-trichloro-, (E)-	2-Benzothiophene	2-Butanone, 4-hydroxy-	2-Butanone, 4-hydroxy-A
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019											0.0043 T J N	
	PD-9-GWP-40-070919	40 ft	7/9/2019	0.047 T J N											
	PD-9-GWP-45-070919	45 ft	7/9/2019												
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019											0.011 T J N	
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019											0.027 T J N	
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019											0.016 T J N	
	PD-11-GWP-37-071119	37 ft	7/11/2019											0.14 T J N	
	PD-11-GWP-43-071119	43 ft	7/11/2019											0.083 T J N	
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019												
	PD-11-GWP-50-071119	50 ft	7/11/2019											0.09 T J N	
	PD-11-GWP-56-071119	56 ft	7/11/2019											0.28 T J N	
	PD-11-GWP-60-071119	60 ft	7/11/2019												0.16 T H J N
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019									0.0043 T J N			
	PD-12-GWP-45-071219	45 ft	7/12/2019					0.0074 T H J N						0.048 T H J N	
	PD-12-GWP-50-071219	50 ft	7/12/2019					0.006 T H J N						0.043 T H J N	
	PD-12-GWP-55-071219	55 ft	7/12/2019												
	PD-12-GWP-60-071219	60 ft	7/12/2019											0.023 T H J N	
	PD-12-GWP-70-071519	70 ft	7/15/2019											0.0098 T J N	
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019												
	PD-13-GWP-50-070819	50 ft	7/8/2019												
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019					0.0069 T J N							
	PD-14-GWP-45-071719	45 ft	7/17/2019					0.0093 T J N						0.2 T J N	
	PD-14-GWP-50-071719	50 ft	7/17/2019					0.0062 T J N							
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019					0.007 T J N							
	PD-14-GWP-53-071719	53 ft	7/17/2019											0.078 T J N	
	PD-14-GWP-60-071719	60 ft	7/17/2019						0.047 T J N	0.067 T J N					
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019											0.011 T J N	
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019												

Location	Sample ID	Depth	Sample Date	2-Butanone, 4-hydroxy-, TB	2-Cyclopenten-1-one, 2,3-dimethyl-	2-Cyclopenten-1-one, 3,4,4-trimethyl-	2-methyl-2-Pentanol	2-Methylindene	2-MethylnaphthaleneA	2-MethylnaphthaleneB	2-Naphthalenecarboxylic acid	2-Pentene, 3-methyl-, (E)-	2-Thiophenecarboxylic acid, 5-ethyl-	3-Eicosene, (E)-
				Analytical Results (mg/L)										
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019				0.01352 T J							
	PD-1-GWP-53-062519	53 ft	6/25/2019				0.0441 T J							
	PD-1-GWP-60-062619	60 ft	6/26/2019											
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019											
	PD-2-GWP-50-071819	50 ft	7/18/2019		0.011 T H J N									
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019		0.0085 T J N									
	PD-2-GWP-59-071819	59 ft	7/18/2019											
	PD-2-GWP-70-071919	70 ft	7/19/2019											
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019											
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019						0.012 T J N	0.016 T J N				
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019											
	PD-3-GWP-55-072319	55 ft	7/23/2019											
	PD-3-GWP-60-072319	60 ft	7/23/2019											
	PD-3-GWP-65-072319	65 ft	7/23/2019		0.0053 T J N									
	PD-3-GWP-71-072319	71 ft	7/23/2019											
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019											
	PD-4-GWP-41-071519	41 ft	7/15/2019											
	PD-4-GWP-43-071519	43 ft	7/15/2019											
	PD-4-GWP-50-071519	50 ft	7/15/2019											
	PD-4-GWP-53-071619	53 ft	7/16/2019						0.11 T J N	0.09 T J N				
	PD-4-GWP-60-071619	60 ft	7/16/2019											
	PD-4-GWP-70-071619	70 ft	7/16/2019											
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019											
	PD-4-GWP-80-071619	80 ft	7/16/2019											
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019		0.009 T J N								0.015 T J N	
	PD-5-GWP-42-062719	42 ft	6/27/2019				0.01002 T J							
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019				0.01112 T J							
	PD-5-GWP-48-062719	48 ft	6/27/2019											
	PD-5-GWP-54-062719	54 ft	6/27/2019											
	PD-5-GWP-80-062819	80 ft	6/28/2019											
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019											
	PD-7-GWP-50-072219	50 ft	7/22/2019											
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019											
	PD-7-GWP-55-072319	55 ft	7/23/2019								0.0097 T J N			
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019											
	PD-8-GWP-46-062819	46 ft	6/28/2019					0.0077 T J N				0.079 T J N		
	PD-8-GWP-52-062819	52 ft	6/28/2019											
	PD-8-GWP-57-070119	57 ft	7/1/2019											0.0063 T J N
	PD-8-GWP-62-070119	62 ft	7/1/2019											
	PD-8-GWP-70-070119	70 ft	7/1/2019											
	PD-8-GWP-80-070119	80 ft	7/1/2019											

Location	Sample ID	Depth	Sample Date	2-Butanone, 4-hydroxy-, TB	2-Cyclopenten-1-one, 2,3-dimethyl-	2-Cyclopenten-1-one, 3,4,4-trimethyl-	2-methyl-2-Pentanol	2-Methylindene	2-MethylnaphthaleneA	2-MethylnaphthaleneB	2-Naphthalenecarboxylic acid	2-Pentene, 3-methyl-, (E)-	2-Thiophenecarboxylic acid, 5-ethyl-	3-Eicosene, (E)-
				Analytical Results (mg/L)										
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019											
	PD-9-GWP-40-070919	40 ft	7/9/2019											
	PD-9-GWP-45-070919	45 ft	7/9/2019											
	PD-9-GWP-54-071019	54 ft	7/10/2019											
	PD-9-GWP-60-071019	60 ft	7/10/2019											0.0042 T J N
	PD-9-GWP-70-071019	70 ft	7/10/2019											
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019											
	PD-9-GWP-80-071019	80 ft	7/10/2019											
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019											
	PD-11-GWP-37-071119	37 ft	7/11/2019											
	PD-11-GWP-43-071119	43 ft	7/11/2019						0.056 T J N	0.055 T J N				
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019											
	PD-11-GWP-50-071119	50 ft	7/11/2019											
	PD-11-GWP-56-071119	56 ft	7/11/2019											
	PD-11-GWP-60-071119	60 ft	7/11/2019	0.024 T J N										
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019											
	PD-12-GWP-45-071219	45 ft	7/12/2019											
	PD-12-GWP-50-071219	50 ft	7/12/2019											
	PD-12-GWP-55-071219	55 ft	7/12/2019											
	PD-12-GWP-60-071219	60 ft	7/12/2019											
	PD-12-GWP-70-071519	70 ft	7/15/2019											
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019											
	PD-13-GWP-46-070819	46 ft	7/8/2019											
	PD-13-GWP-50-070819	50 ft	7/8/2019											
	PD-13-GWP-59-070819	59 ft	7/8/2019											
	PD-13-GWP-65-070919	65 ft	7/9/2019											
	PD-13-GWP-70-070919	70 ft	7/9/2019											
	PD-13-GWP-80-070919	80 ft	7/9/2019											
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019										0.015 T J N	
	PD-14-GWP-45-071719	45 ft	7/17/2019		0.015 T J N									
	PD-14-GWP-50-071719	50 ft	7/17/2019		0.0077 T J N	0.0069 T J N								
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019		0.0076 T J N	0.012 T J N								
	PD-14-GWP-53-071719	53 ft	7/17/2019											
	PD-14-GWP-60-071719	60 ft	7/17/2019											
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019											
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019											
	PD-17-GWP-50-072219	50 ft	7/22/2019											
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019											

Location	Sample ID	Depth	Sample Date	3-Penten-2-one, (E)-	3-Penten-2-one, 4-methyl-	4-(1-methylethyl)-Benzoic acid	4-Octanone	5-Eicosene, (E)-	7-Methylindan-1-one	9H-Fluorene, 9-methyl-	9-Octadecenamide, (Z)-A	9-Octadecenamide, (Z)-B	Anthracene, 2-methyl-	Benzene, (1-methyl-1-propenyl)-, (E)-	Benzene, (1-methylpropyl)-
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019												
	PD-3-GWP-60-072319	60 ft	7/23/2019	0.0062 T J N											
	PD-3-GWP-65-072319	65 ft	7/23/2019												
	PD-3-GWP-71-072319	71 ft	7/23/2019												
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019						0.012 T J N						
	PD-4-GWP-41-071519	41 ft	7/15/2019												
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019												
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019												
	PD-5-GWP-42-062719	42 ft	6/27/2019			0.01128 T J	0.0123 T J								
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019												
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019												
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019												
	PD-8-GWP-46-062819	46 ft	6/28/2019												
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019					0.0043 T J N							
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	3-Penten-2-one, (E)-	3-Penten-2-one, 4-methyl-	4-(1-methylethyl)-Benzoic acid	4-Octanone	5-Eicosene, (E)-	7-Methylindan-1-one	9H-Fluorene, 9-methyl-	9-Octadecenamide, (Z)-A	9-Octadecenamide, (Z)-B	Anthracene, 2-methyl-	Benzene, (1-methyl-1-propenyl)-, (E)-	Benzene, (1-methylpropyl)-
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019												
	PD-9-GWP-45-070919	45 ft	7/9/2019												
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019							0.016 T J N					0.018 T J N
	PD-11-GWP-37-071119	37 ft	7/11/2019												
	PD-11-GWP-43-071119	43 ft	7/11/2019												
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019										0.063 T J N		
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019												
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019												
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019												
	PD-12-GWP-60-071219	60 ft	7/12/2019												
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019												
	PD-13-GWP-50-070819	50 ft	7/8/2019											0.0069 T J N	0.0047 T J N
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019								0.012 T J N	0.0076 T J N			
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019												
	PD-14-GWP-45-071719	45 ft	7/17/2019												
	PD-14-GWP-50-071719	50 ft	7/17/2019												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												
	PD-14-GWP-53-071719	53 ft	7/17/2019												
	PD-14-GWP-60-071719	60 ft	7/17/2019												
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019		0.64 T J N										

Location	Sample ID	Depth	Sample Date	Benzene, 1,2,3,4-tetramethyl-B	Benzene, 1,2,4,5-tetramethyl-A	Benzene, 1,2,4,5-tetramethyl-B	Benzene, 1,2-diethyl-	Benzene, 1,3-diethyl-	Benzene, 1,3-dimethyl-	Benzene, 1,4-diethyl-	Benzene, 1,4-diethyl-A	Benzene, 1,4-diethyl-B	Benzene, 1-ethyl-2,3-dimethyl-A	Benzene, 1-ethyl-2,3-dimethyl-B	Benzene, 1-ethyl-2-methyl-A
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019						0.01374 T J						
	PD-1-GWP-53-062519	53 ft	6/25/2019						1.66536 T J						
	PD-1-GWP-60-062619	60 ft	6/26/2019						0.014 T J						
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019					0.0073 T H J N							
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019						0.013 T J N						
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019												
	PD-3-GWP-60-072319	60 ft	7/23/2019												0.035 T J N
	PD-3-GWP-65-072319	65 ft	7/23/2019												
	PD-3-GWP-71-072319	71 ft	7/23/2019												
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019												
	PD-4-GWP-41-071519	41 ft	7/15/2019							0.015 T J N					0.022 T J N
	PD-4-GWP-43-071519	43 ft	7/15/2019					0.013 T J N	0.059 T J N						0.025 T J N
	PD-4-GWP-50-071519	50 ft	7/15/2019							0.047 T J N					
	PD-4-GWP-53-071619	53 ft	7/16/2019		0.1 T J N	0.064 T J N									
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019							0.0043 T J N					
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019												0.0073 T J N
	PD-5-GWP-42-062719	42 ft	6/27/2019						0.0594 T J						
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019						0.1357 T J						
	PD-5-GWP-48-062719	48 ft	6/27/2019						0.6842 T J						
	PD-5-GWP-54-062719	54 ft	6/27/2019						0.02626 T J	0.01374 T J					
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.0057 T J N	0.048 T J N	0.062 T J N									
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019												0.11 T J N
	PD-7-GWP-55-072319	55 ft	7/23/2019					0.016 T J N							
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019					0.026 J J	0.13 T J N	0.057 T J N					0.11 T J N
	PD-8-GWP-46-062819	46 ft	6/28/2019				0.02 T J N								0.056 T J N
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.024 T J N				0.0026 J							0.049 T J N
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	Benzene, 1,2,3,4-tetramethyl-B	Benzene, 1,2,4,5-tetramethyl-A	Benzene, 1,2,4,5-tetramethyl-B	Benzene, 1,2-diethyl-	Benzene, 1,3-diethyl-	Benzene, 1,3-dimethyl-	Benzene, 1,4-diethyl-	Benzene, 1,4-diethyl-A	Benzene, 1,4-diethyl-B	Benzene, 1-ethyl-2,3-dimethyl-A	Benzene, 1-ethyl-2,3-dimethyl-B	Benzene, 1-ethyl-2-methyl-A
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019				0.036 T J N								0.025 T J N
	PD-9-GWP-45-070919	45 ft	7/9/2019		0.036 T J N	0.022 T J N									0.12 T J N
	PD-9-GWP-54-071019	54 ft	7/10/2019		1.4 T J N	1.6 T J N		0.16 J	3.4 T J N						
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019										0.029 T J N	0.0082 T J N	0.015 T J N
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												0.02 T J N
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019				0.011 T J N			0.012 T J N					
	PD-11-GWP-37-071119	37 ft	7/11/2019					0.018 J	0.072 T J N	0.047 T J N					0.098 T J N
	PD-11-GWP-43-071119	43 ft	7/11/2019						0.14 T J N						0.078 T J N
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019							0.078 T J N					
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019												
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019		0.019 T H J N	0.0093 T H J N		0.021 T H J N							
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019												
	PD-12-GWP-60-071219	60 ft	7/12/2019												
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019	0.012 T J N											
	PD-13-GWP-50-070819	50 ft	7/8/2019				0.0048 T J N								
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019												
	PD-14-GWP-45-071719	45 ft	7/17/2019												
	PD-14-GWP-50-071719	50 ft	7/17/2019												0.0082 T J N
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												
	PD-14-GWP-53-071719	53 ft	7/17/2019												0.098 T J N
	PD-14-GWP-60-071719	60 ft	7/17/2019		0.065 T J N	0.043 T J N									
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019		0.012 T J N	0.01 T J N					0.0041 T J N	0.0049 T J N			
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019												

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethyl-2-methyl-B	Benzene, 1-ethyl-2-methyl-C	Benzene, 1-ethyl-4-methyl-A	Benzene, 1-ethyl-4-methyl-B	Benzene, 1-methyl-2-(1-methylethyl)-A	Benzene, 1-methyl-2-(1-methylethyl)-B	Benzene, 2-butenyl-	Benzene, 2-ethenyl-1,4-dimethyl-A	Benzene, 2-ethenyl-1,4-dimethyl-B	Benzene, 2-ethyl-1,3-dimethyl-A	Benzene, 2-ethyl-1,4-dimethyl-A	Benzene, 2-ethyl-1,4-dimethyl-B
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019			0.014 T J N	0.012 T J N								
	PD-3-GWP-60-072319	60 ft	7/23/2019	0.024 T J N											
	PD-3-GWP-65-072319	65 ft	7/23/2019												
	PD-3-GWP-71-072319	71 ft	7/23/2019			0.014 T J N	0.036 T J N								
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019												
	PD-4-GWP-41-071519	41 ft	7/15/2019	0.021 T J N	0.018 T J N										
	PD-4-GWP-43-071519	43 ft	7/15/2019	0.026 T J N	0.04 T J N					0.034 T J N					
	PD-4-GWP-50-071519	50 ft	7/15/2019												
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019	0.011 T J N											
	PD-5-GWP-42-062719	42 ft	6/27/2019												
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019												
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019										0.0057 T J N		
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.051 T J N											
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	0.1 T J N	0.12 T J N										
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.058 T J N											
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019	0.037 T J N	0.031 T J N			0.012 T J N	0.01 T J N						
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	Benzene, 1-ethyl-2-methyl-B	Benzene, 1-ethyl-2-methyl-C	Benzene, 1-ethyl-4-methyl-A	Benzene, 1-ethyl-4-methyl-B	Benzene, 1-methyl-2-(1-methylethyl)-A	Benzene, 1-methyl-2-(1-methylethyl)-B	Benzene, 2-butenyl-	Benzene, 2-ethenyl-1,4-dimethyl-A	Benzene, 2-ethenyl-1,4-dimethyl-B	Benzene, 2-ethyl-1,3-dimethyl-A	Benzene, 2-ethyl-1,4-dimethyl-A	Benzene, 2-ethyl-1,4-dimethyl-B
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019	0.048 T J N	0.084 T J N										
	PD-9-GWP-45-070919	45 ft	7/9/2019	0.13 T J N											
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019	0.034 T J N	0.019 T J N										
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	0.015 T J N											
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019												
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.064 T J N	0.08 T J N										
	PD-11-GWP-43-071119	43 ft	7/11/2019	0.11 T J N	0.055 T J N										
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019												
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019												
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019												
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019												
	PD-12-GWP-60-071219	60 ft	7/12/2019								0.034 T H J N	0.019 T H J N			
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019								0.023 T J N	0.022 T J N			
	PD-13-GWP-50-070819	50 ft	7/8/2019					0.013 T J N	0.05 T J N		0.026 T J N	0.022 T J N			
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019												
	PD-14-GWP-45-071719	45 ft	7/17/2019												
	PD-14-GWP-50-071719	50 ft	7/17/2019	0.0058 T J N											
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												
	PD-14-GWP-53-071719	53 ft	7/17/2019	0.088 T J N										0.049 T J N	0.018 T J N
	PD-14-GWP-60-071719	60 ft	7/17/2019					0.1 T J N	0.045 T J N						
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019												

Location	Sample ID	Depth	Sample Date	BenzeneA	BenzeneB	Benzeneacetic acid, alpha-methyl-	Benzobthiophene	Benzoic acid, 2,4-dimethyl-	Benzoic acid, 2,6-dimethyl-	Benzoic acid, 2-methyl-	Benzoic acid, 3,4-dimethyl-	Benzoic acid, 3-methyl-	Cyclohexene, 1-methyl-A	Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	Cyclopentadecane
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019								0.0056 T J N	0.0051 T J N			
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	0.32 T J N	0.97 T J N										
	PD-3-GWP-55-072319	55 ft	7/23/2019	1.1 T J N	0.088 T J N										
	PD-3-GWP-60-072319	60 ft	7/23/2019				0.0061 T J N								
	PD-3-GWP-65-072319	65 ft	7/23/2019				0.0059 T J N								
	PD-3-GWP-71-072319	71 ft	7/23/2019												
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019												
	PD-4-GWP-41-071519	41 ft	7/15/2019												
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019										0.018 T J N		
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019			0.014 T J N				0.072 T J N					
	PD-5-GWP-42-062719	42 ft	6/27/2019							0.02698 T J		0.01914 T J			
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019							0.02326 T J					
	PD-5-GWP-48-062719	48 ft	6/27/2019				0.02584 T J								
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019												
	PD-7-GWP-55-072319	55 ft	7/23/2019								0.11 T J N				
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019												
	PD-8-GWP-46-062819	46 ft	6/28/2019										0.014 T J N		
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												0.0048 T J N

Location	Sample ID	Depth	Sample Date	BenzeneA	BenzeneB	Benzeneacetic acid, alpha-methyl-	Benzobthiophene	Benzoic acid, 2,4-dimethyl-	Benzoic acid, 2,6-dimethyl-	Benzoic acid, 2-methyl-	Benzoic acid, 3,4-dimethyl-	Benzoic acid, 3-methyl-	Cyclohexene, 1-methyl-A	Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	Cyclopentadecane
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019												
	PD-9-GWP-45-070919	45 ft	7/9/2019				0.022 T J N								
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019												
	PD-11-GWP-37-071119	37 ft	7/11/2019												
	PD-11-GWP-43-071119	43 ft	7/11/2019								0.055 T J N				
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019												
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019												
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019												
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019	0.75 T H J N	0.079 T H J N										
	PD-12-GWP-60-071219	60 ft	7/12/2019												
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019												
	PD-13-GWP-50-070819	50 ft	7/8/2019										0.0053 T J N		0.0044 T J N
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019					0.009 T J N	0.0042 T J N					0.0061 T J N	
	PD-14-GWP-45-071719	45 ft	7/17/2019						0.012 T J N						
	PD-14-GWP-50-071719	50 ft	7/17/2019												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												
	PD-14-GWP-53-071719	53 ft	7/17/2019												
	PD-14-GWP-60-071719	60 ft	7/17/2019				0.05 T J N								
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019												

Location	Sample ID	Depth	Sample Date	Cyclopentanol, 1-methyl-	decamethyl-Cyclopentasiloxane	Decane	Dibenzothiophene, 3-methyl-	Dibenzothiophene, 4-methyl-	Dodecane, 2,6,10-trimethyl-	Dodecane, 4,6-dimethyl-	Dodecane	EthylbenzeneA	EthylbenzeneB	Hexadecane	Indan, 1-methyl-
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019		0.00918 T J										
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019	0.01 T H J N											
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019	0.0042 T J N											
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019												
	PD-3-GWP-60-072319	60 ft	7/23/2019												
	PD-3-GWP-65-072319	65 ft	7/23/2019												
	PD-3-GWP-71-072319	71 ft	7/23/2019	0.005 T J N											
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	0.0045 T J N											
	PD-4-GWP-41-071519	41 ft	7/15/2019												
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019												
	PD-4-GWP-53-071619	53 ft	7/16/2019								0.089 T J N				
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019	0.025 T J N											
	PD-5-GWP-42-062719	42 ft	6/27/2019	0.01352 T J											
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019	0.0123 T J											
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019			0.3 T J N					1.1 T J N				
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019			0.089 T J N			0.04 T J N		0.13 T J N				
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019	0.041 T J N							0.024 T J N				
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.038 T J N											
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	Cyclopentanol, 1-methyl-	decamethyl-Cyclopentasiloxane	Decane	Dibenzothiophene, 3-methyl-	Dibenzothiophene, 4-methyl-	Dodecane, 2,6,10-trimethyl-	Dodecane, 4,6-dimethyl-	Dodecane	EthylbenzeneA	EthylbenzeneB	Hexadecane	Indan, 1-methyl-
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019												
	PD-9-GWP-45-070919	45 ft	7/9/2019												
	PD-9-GWP-54-071019	54 ft	7/10/2019			2.1 T J N					1.8 T J N				1.1 T J N
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019				0.014 T J N	0.017 T J N							
	PD-11-GWP-37-071119	37 ft	7/11/2019					0.035 T J N							
	PD-11-GWP-43-071119	43 ft	7/11/2019			0.039 T J N					0.056 T J N				
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019			0.11 T J N					0.14 T J N			0.062 T J N	
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019									0.011 T H J N	0.008 T J N		
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019												
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019								0.088 T H J N			0.067 T H J N	
	PD-12-GWP-60-071219	60 ft	7/12/2019												0.036 T J N
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019												0.028 T J N
	PD-13-GWP-50-070819	50 ft	7/8/2019												0.028 T J N
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	0.017 T J N											
	PD-14-GWP-45-071719	45 ft	7/17/2019	0.05 T J N											
	PD-14-GWP-50-071719	50 ft	7/17/2019												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												
	PD-14-GWP-53-071719	53 ft	7/17/2019	0.022 T J N											
	PD-14-GWP-60-071719	60 ft	7/17/2019			0.054 T J N					0.052 T J N				
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019			0.039 T J N				0.02 T J N	0.062 T J N				
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019								0.28 T J N			0.27 T J N	

Location	Sample ID	Depth	Sample Date	IndaneA	IndaneB	Isopropylbenzene (Cumene)A	Isopropylbenzene (Cumene)B	Methylcarbazole	Naphthalene, 1,2,3,4-tetrahydro-A	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-B	Naphthalene, 1,3-dimethyl-	Naphthalene, 1,4-dimethyl-	Naphthalene, 1,5-dimethyl-	Naphthalene, 1,6-dimethyl-	Naphthalene, 1,6-dimethyl-A
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019	0.11388 T J	0.08346 T J										
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019												
	PD-3-GWP-60-072319	60 ft	7/23/2019												
	PD-3-GWP-65-072319	65 ft	7/23/2019												
	PD-3-GWP-71-072319	71 ft	7/23/2019												
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	0.028 T J N	0.024 T J N										
	PD-4-GWP-41-071519	41 ft	7/15/2019											0.011 T J N	
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019												
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019												
	PD-5-GWP-42-062719	42 ft	6/27/2019												
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019												
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019									0.34 T J N			
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019												0.068 T J N
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019									0.027 T J N			
	PD-8-GWP-46-062819	46 ft	6/28/2019												
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	IndaneA	IndaneB	Isopropylbenzene (Cumene)A	Isopropylbenzene (Cumene)B	Methylcarbazole	Naphthalene, 1,2,3,4-tetrahydro-A	Naphthalene, 1,2,3,4-tetrahydro-2-methyl-B	Naphthalene, 1,3-dimethyl-	Naphthalene, 1,4-dimethyl-	Naphthalene, 1,5-dimethyl-	Naphthalene, 1,6-dimethyl-	Naphthalene, 1,6-dimethyl-A
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019												
	PD-9-GWP-45-070919	45 ft	7/9/2019												
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019					0.02 T J N		0.01 T J N	0.017 T J N				
	PD-11-GWP-37-071119	37 ft	7/11/2019						0.036 T J N						
	PD-11-GWP-43-071119	43 ft	7/11/2019												
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019												
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019	0.019 T H J N	0.018 T J N	0.005 T J N	0.0064 T H J N								
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019									0.006 T H J N			
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019										0.033 T H J N		
	PD-12-GWP-60-071219	60 ft	7/12/2019												
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019												
	PD-13-GWP-50-070819	50 ft	7/8/2019												
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019												
	PD-14-GWP-45-071719	45 ft	7/17/2019												
	PD-14-GWP-50-071719	50 ft	7/17/2019												
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												
	PD-14-GWP-53-071719	53 ft	7/17/2019												
	PD-14-GWP-60-071719	60 ft	7/17/2019												
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019								0.02 T J N				
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019												

Location	Sample ID	Depth	Sample Date	Naphthalene, 1,6-dimethyl-B	Naphthalene, 1,7-dimethyl-	Naphthalene, 2,3,6-trimethyl-	Naphthalene, 2,7-dimethyl-	n-Hexadecanoic acid	n-PropylbenzeneA	n-PropylbenzeneB	Octadecanoic acid	o-XylenesA	o-XylenesB	p-Benzoquinone	Pentadecane, 2,6,10-trimethyl-
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019					0.00918 T J							
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019					0.0085 T J N							
	PD-2-GWP-50-071819	50 ft	7/18/2019												
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019					0.011 T J N							
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019					0.0043 T J N							
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019					0.0076 T J N							
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019					0.0067 T J N							
	PD-3-GWP-60-072319	60 ft	7/23/2019					0.016 T J N							
	PD-3-GWP-65-072319	65 ft	7/23/2019					0.015 T J N							
	PD-3-GWP-71-072319	71 ft	7/23/2019					0.017 T J N							
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019					0.012 T J N							
	PD-4-GWP-41-071519	41 ft	7/15/2019					0.013 T J N							
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019												
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019					0.015 T J N							
	PD-5-GWP-42-062719	42 ft	6/27/2019												
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019												
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.04 T J N											
	PD-7-GWP-55-072319	55 ft	7/23/2019								0.0096 T J N				
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019												
	PD-8-GWP-46-062819	46 ft	6/28/2019												
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019								0.013 T J N				
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	Naphthalene, 1,6-dimethyl-B	Naphthalene, 1,7-dimethyl-	Naphthalene, 2,3,6-trimethyl-	Naphthalene, 2,7-dimethyl-	n-Hexadecanoic acid	n-PropylbenzeneA	n-PropylbenzeneB	Octadecanoic acid	o-XylenesA	o-XylenesB	p-Benzoquinone	Pentadecane, 2,6,10-trimethyl-
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019												
	PD-9-GWP-45-070919	45 ft	7/9/2019									0.45 T J N	2.1 T J N		
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019					0.014 T J N							
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019					0.0099 T J N							
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019		0.015 T J N	0.01 T J N									
	PD-11-GWP-37-071119	37 ft	7/11/2019				0.044 T J N								
	PD-11-GWP-43-071119	43 ft	7/11/2019												
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019												
	PD-11-GWP-50-071119	50 ft	7/11/2019					0.0065 T J N							
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019						0.013 T H J N	0.0094 T J N		0.0058 T H J N	0.0042 T J N		
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019											0.0059 T H J N	
	PD-12-GWP-50-071219	50 ft	7/12/2019					0.0065 T H J N							
	PD-12-GWP-55-071219	55 ft	7/12/2019												0.038 T H J N
	PD-12-GWP-60-071219	60 ft	7/12/2019												
	PD-12-GWP-70-071519	70 ft	7/15/2019					0.013 T J N							
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019								0.0064 T J N				
	PD-13-GWP-46-070819	46 ft	7/8/2019								0.0068 T J N				
	PD-13-GWP-50-070819	50 ft	7/8/2019								0.0056 T J N				
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019					0.014 T J N							
	PD-14-GWP-45-071719	45 ft	7/17/2019					0.012 T J N							
	PD-14-GWP-50-071719	50 ft	7/17/2019					0.0082 T J N							
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019					0.0087 T J N				0.033 T J N	0.068 T J N		
	PD-14-GWP-53-071719	53 ft	7/17/2019												
	PD-14-GWP-60-071719	60 ft	7/17/2019												
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019					0.0046 T J N							
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019												
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019			0.21 T J N									0.34 T J N

Location	Sample ID	Depth	Sample Date	Pentadecane	Phenanthrene, 1-methyl-	Phenanthrene, 2,3,5-trimethyl-	Phenanthrene, 2,5-dimethyl-	Phenanthrene, 2,5-dimethyl-A	Phenanthrene, 2,5-dimethyl-B	Phenanthrene, 2-methyl-	Phenol, 2,3-dimethyl-	Phenol, 2,5-dimethyl-	Phenol, 2,6-dimethyl-	p-menth-1-en-8-ol	Propanedioic acid, phenyl-
				Analytical Results (mg/L)											
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019												
	PD-1-GWP-53-062519	53 ft	6/25/2019												
	PD-1-GWP-60-062619	60 ft	6/26/2019												
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019												
	PD-2-GWP-50-071819	50 ft	7/18/2019										0.0047 T H J N	0.0043 T H J N	
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												
	PD-2-GWP-59-071819	59 ft	7/18/2019												
	PD-2-GWP-70-071919	70 ft	7/19/2019												
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019												
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019												
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												
	PD-3-GWP-55-072319	55 ft	7/23/2019												
	PD-3-GWP-60-072319	60 ft	7/23/2019												
	PD-3-GWP-65-072319	65 ft	7/23/2019												
	PD-3-GWP-71-072319	71 ft	7/23/2019												0.018 T J N
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019												
	PD-4-GWP-41-071519	41 ft	7/15/2019												
	PD-4-GWP-43-071519	43 ft	7/15/2019												
	PD-4-GWP-50-071519	50 ft	7/15/2019												
	PD-4-GWP-53-071619	53 ft	7/16/2019												
	PD-4-GWP-60-071619	60 ft	7/16/2019												
	PD-4-GWP-70-071619	70 ft	7/16/2019												
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019												
	PD-4-GWP-80-071619	80 ft	7/16/2019												
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019								0.0083 T J N				
	PD-5-GWP-42-062719	42 ft	6/27/2019												
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019												
	PD-5-GWP-48-062719	48 ft	6/27/2019												
	PD-5-GWP-54-062719	54 ft	6/27/2019												
	PD-5-GWP-80-062819	80 ft	6/28/2019												
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												
	PD-7-GWP-50-072219	50 ft	7/22/2019												
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019	0.06 T J N											
	PD-7-GWP-55-072319	55 ft	7/23/2019												
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019												
	PD-8-GWP-46-062819	46 ft	6/28/2019												
	PD-8-GWP-52-062819	52 ft	6/28/2019												
	PD-8-GWP-57-070119	57 ft	7/1/2019												
	PD-8-GWP-62-070119	62 ft	7/1/2019												
	PD-8-GWP-70-070119	70 ft	7/1/2019												
	PD-8-GWP-80-070119	80 ft	7/1/2019												

Location	Sample ID	Depth	Sample Date	Pentadecane	Phenanthrene, 1-methyl-	Phenanthrene, 2,3,5-trimethyl-	Phenanthrene, 2,5-dimethyl-	Phenanthrene, 2,5-dimethyl-A	Phenanthrene, 2,5-dimethyl-B	Phenanthrene, 2-methyl-	Phenol, 2,3-dimethyl-	Phenol, 2,5-dimethyl-	Phenol, 2,6-dimethyl-	p-menth-1-en-8-ol	Propanedioic acid, phenyl-
				Analytical Results (mg/L)											
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												
	PD-9-GWP-40-070919	40 ft	7/9/2019										0.014 T J N		
	PD-9-GWP-45-070919	45 ft	7/9/2019												
	PD-9-GWP-54-071019	54 ft	7/10/2019												
	PD-9-GWP-60-071019	60 ft	7/10/2019												
	PD-9-GWP-70-071019	70 ft	7/10/2019												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												
	PD-9-GWP-80-071019	80 ft	7/10/2019												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019					0.031 T J N	0.015 T J N						
	PD-11-GWP-37-071119	37 ft	7/11/2019		0.039 T J N		0.064 T J N			0.05 T J N					
	PD-11-GWP-43-071119	43 ft	7/11/2019												
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	0.075 T J N		0.11 T J N	0.06 T J N								
	PD-11-GWP-50-071119	50 ft	7/11/2019												
	PD-11-GWP-56-071119	56 ft	7/11/2019												
	PD-11-GWP-60-071119	60 ft	7/11/2019												
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019												
	PD-12-GWP-45-071219	45 ft	7/12/2019												
	PD-12-GWP-50-071219	50 ft	7/12/2019												
	PD-12-GWP-55-071219	55 ft	7/12/2019	0.057 T H J N											
	PD-12-GWP-60-071219	60 ft	7/12/2019												
	PD-12-GWP-70-071519	70 ft	7/15/2019												
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												
	PD-13-GWP-46-070819	46 ft	7/8/2019												
	PD-13-GWP-50-070819	50 ft	7/8/2019												
	PD-13-GWP-59-070819	59 ft	7/8/2019												
	PD-13-GWP-65-070919	65 ft	7/9/2019												
	PD-13-GWP-70-070919	70 ft	7/9/2019												
	PD-13-GWP-80-070919	80 ft	7/9/2019												
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019										0.016 T J N		
	PD-14-GWP-45-071719	45 ft	7/17/2019									0.0089 T J N			
	PD-14-GWP-50-071719	50 ft	7/17/2019												0.018 T J N
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												0.017 T J N
	PD-14-GWP-53-071719	53 ft	7/17/2019												
	PD-14-GWP-60-071719	60 ft	7/17/2019												
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019												
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019												
	PD-17-GWP-50-072219	50 ft	7/22/2019	0.019 T J N											
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019				0.16 T J N								

Location	Sample ID	Depth	Sample Date	p-XylenesA	p-XylenesB	Pyrene, 1-methyl-	Pyrene, 4-methyl-	Sulfolane	Tetradecane	Thiophene, tetrahydro-, 1,1-dioxide	Trichloroacetic acid, hexadecyl ester	Tricyclo3100(2,4)hex-3-ene-3-carbonitrile	Tridecane	Unknown	UnknownA	UnknownB
				Analytical Results (mg/L)												
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019													
	PD-1-GWP-53-062519	53 ft	6/25/2019													
	PD-1-GWP-60-062619	60 ft	6/26/2019													
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019													
	PD-2-GWP-50-071819	50 ft	7/18/2019												0.016 T H J	0.0057 T H J
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019												0.0039 T J	0.0056 T J
	PD-2-GWP-59-071819	59 ft	7/18/2019													
	PD-2-GWP-70-071919	70 ft	7/19/2019												0.004 T J	0.0078 T J
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019													
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019	0.13 T J N	0.27 T J N										0.0069 T J	0.02 T J
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019												0.0076 T J	0.057 T J
	PD-3-GWP-55-072319	55 ft	7/23/2019												0.017 T J	0.011 T J
	PD-3-GWP-60-072319	60 ft	7/23/2019								0.006 T J N				0.018 T J	0.0063 T J
	PD-3-GWP-65-072319	65 ft	7/23/2019													
	PD-3-GWP-71-072319	71 ft	7/23/2019												0.0045 T J	0.0092 T J
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019												0.0084 T J	0.0056 T J
	PD-4-GWP-41-071519	41 ft	7/15/2019												0.011 T J	0.018 T J
	PD-4-GWP-43-071519	43 ft	7/15/2019												0.023 T J	0.026 T J
	PD-4-GWP-50-071519	50 ft	7/15/2019												0.068 T J	0.44 T J
	PD-4-GWP-53-071619	53 ft	7/16/2019												0.059 T J	0.069 T J
	PD-4-GWP-60-071619	60 ft	7/16/2019											0.004 T J		
	PD-4-GWP-70-071619	70 ft	7/16/2019													
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019													
	PD-4-GWP-80-071619	80 ft	7/16/2019					0.0011 J								
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019									0.0083 T J N	0.01 T J N			
	PD-5-GWP-42-062719	42 ft	6/27/2019													
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019													
	PD-5-GWP-48-062719	48 ft	6/27/2019													
	PD-5-GWP-54-062719	54 ft	6/27/2019													
	PD-5-GWP-80-062819	80 ft	6/28/2019					0.0014 J						0.028 T J		
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019												0.022 T J	0.053 T J
	PD-7-GWP-50-072219	50 ft	7/22/2019	0.42 T J N	0.85 T J N								0.93 T J N			
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019						0.087 T J N				0.1 T J N		0.043 T J	0.066 T J
	PD-7-GWP-55-072319	55 ft	7/23/2019												0.0088 T J	0.0069 T J
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019											0.024 T J	0.55 T J J	0.46 T J J
	PD-8-GWP-46-062819	46 ft	6/28/2019												0.41 T J	0.11 T J
	PD-8-GWP-52-062819	52 ft	6/28/2019											0.0063 T J J		
	PD-8-GWP-57-070119	57 ft	7/1/2019												0.0058 T J	0.0056 T J
	PD-8-GWP-62-070119	62 ft	7/1/2019							0.0066 T J N				0.0045 T J		
	PD-8-GWP-70-070119	70 ft	7/1/2019										0.0097 T J N	0.011 T J		
	PD-8-GWP-80-070119	80 ft	7/1/2019													

Location	Sample ID	Depth	Sample Date	p-XylenesA	p-XylenesB	Pyrene, 1-methyl-	Pyrene, 4-methyl-	Sulfolane	Tetradecane	Thiophene, tetrahydro-, 1,1-dioxide	Trichloroacetic acid, hexadecyl ester	Tricyclo3100(2,4)hex-3-ene-3-carbonitrile	Tridecane	Unknown	UnknownA	UnknownB
				Analytical Results (mg/L)												
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019												0.0088 T J	0.0047 T J
	PD-9-GWP-40-070919	40 ft	7/9/2019												0.017 T J	0.018 T J
	PD-9-GWP-45-070919	45 ft	7/9/2019												0.48 T J	0.031 T J
	PD-9-GWP-54-071019	54 ft	7/10/2019										1.4 T J N		1.1 T J	1.8 T J
	PD-9-GWP-60-071019	60 ft	7/10/2019												0.0048 T J	0.0058 T J
	PD-9-GWP-70-071019	70 ft	7/10/2019												0.0063 T J	0.0068 T J
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019												0.0059 T J	0.0052 T J
	PD-9-GWP-80-071019	80 ft	7/10/2019												0.0046 T J	0.046 T J
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019			0.012 T J N									0.021 T J	0.023 T J
	PD-11-GWP-37-071119	37 ft	7/11/2019												0.087 T J	0.053 T J
	PD-11-GWP-43-071119	43 ft	7/11/2019										0.05 T J N		0.045 T J	0.055 T J
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	0.2 T J N	0.11 T J N	0.12 T J N	0.078 T J N						0.087 T J N		0.074 T J	0.15 T J
	PD-11-GWP-50-071119	50 ft	7/11/2019													
	PD-11-GWP-56-071119	56 ft	7/11/2019												0.0087 T J	0.0042 T J
	PD-11-GWP-60-071119	60 ft	7/11/2019												0.004 T H J	0.004 T H J
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019													
	PD-12-GWP-45-071219	45 ft	7/12/2019												0.013 T H J	0.017 T H J
	PD-12-GWP-50-071219	50 ft	7/12/2019												0.0056 T H J	0.0048 T H J
	PD-12-GWP-55-071219	55 ft	7/12/2019												0.062 T H J	0.062 T H J
	PD-12-GWP-60-071219	60 ft	7/12/2019												0.057 T J	0.047 T J
	PD-12-GWP-70-071519	70 ft	7/15/2019							0.0059 T J N						
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019												0.005 T J	0.011 T J
	PD-13-GWP-46-070819	46 ft	7/8/2019												0.007 T J	0.012 T J
	PD-13-GWP-50-070819	50 ft	7/8/2019												0.014 T J	0.024 T J
	PD-13-GWP-59-070819	59 ft	7/8/2019							0.0057 T J N				0.068 T J	0.0069 T J	0.0048 T J
	PD-13-GWP-65-070919	65 ft	7/9/2019											0.0067 T J		
	PD-13-GWP-70-070919	70 ft	7/9/2019												0.0046 T J	0.0061 T J
	PD-13-GWP-80-070919	80 ft	7/9/2019												0.0093 T J	0.017 T J
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019												0.0045 T J	0.0046 T J
	PD-14-GWP-45-071719	45 ft	7/17/2019									0.01 T J N			0.016 T J	0.017 T J
	PD-14-GWP-50-071719	50 ft	7/17/2019												0.013 T J	0.04 T J
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019												0.027 T J	0.0095 T J
	PD-14-GWP-53-071719	53 ft	7/17/2019												0.018 T J	0.016 T J
	PD-14-GWP-60-071719	60 ft	7/17/2019										0.057 T J N		0.057 T J	0.038 T J
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019											0.004 T J		
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019													
	PD-17-GWP-50-072219	50 ft	7/22/2019						0.024 T J N				0.033 T J N		0.054 T J	0.054 T J
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019													

Location	Sample ID	Depth	Sample Date	UnknownC	UnknownD	UnknownE	UnknownF	UnknownG	UnknownH	UnknownI	UnknownJ	UnknownK	UnknownL	UnknownM	UnknownN	UnknownO
				Analytical Results (mg/L)												
PD-01	PD-1-GWP-44-062519	44 ft	6/25/2019													
	PD-1-GWP-53-062519	53 ft	6/25/2019													
	PD-1-GWP-60-062619	60 ft	6/26/2019													
PD-02	PD-2-GWP-44-071819	44 ft	7/18/2019													
	PD-2-GWP-50-071819	50 ft	7/18/2019	0.07 T H J	0.0091 T H J	0.0075 T H J	0.0052 T H J									
	PD-2-GWP-50-071819-DUP	50 ft	7/18/2019	0.06 T J	0.0088 T J	0.0082 T J	0.004 T J	0.004 T J	0.016 T J	0.0046 T J	0.0092 T J	0.0079 T J				
	PD-2-GWP-59-071819	59 ft	7/18/2019													
	PD-2-GWP-70-071919	70 ft	7/19/2019													
	PD-2-GWP-74.5-071919	74.5 ft	7/19/2019													
PD-03	PD-3-GWP-50-072319	50 ft	7/23/2019	0.057 T J	0.0065 T J											
	PD-3-GWP-50-072319-DUP	50 ft	7/23/2019	0.023 T J												
	PD-3-GWP-55-072319	55 ft	7/23/2019													
	PD-3-GWP-60-072319	60 ft	7/23/2019	0.0044 T J	0.0048 T J	0.0083 T J										
	PD-3-GWP-65-072319	65 ft	7/23/2019													
	PD-3-GWP-71-072319	71 ft	7/23/2019	0.0077 T J	0.0096 T J	0.0071 T J	0.0062 T J									
PD-04	PD-4-GWP-35-071519	35 ft	7/15/2019	0.0051 T J	0.013 T J	0.0043 T J	0.012 T J	0.0044 T J	0.0073 T J							
	PD-4-GWP-41-071519	41 ft	7/15/2019													
	PD-4-GWP-43-071519	43 ft	7/15/2019	0.022 T J	0.044 T J	0.04 T J	0.057 T J									
	PD-4-GWP-50-071519	50 ft	7/15/2019	0.085 T J	0.072 T J	0.074 T J	0.014 T J	0.018 T J	0.013 T J	0.025 T J						
	PD-4-GWP-53-071619	53 ft	7/16/2019	0.079 T J												
	PD-4-GWP-60-071619	60 ft	7/16/2019													
	PD-4-GWP-70-071619	70 ft	7/16/2019													
	PD-4-GWP-70-071619-DUP	70 ft	7/16/2019													
	PD-4-GWP-80-071619	80 ft	7/16/2019													
PD-05	PD-5-GWP-35-062819	35 ft	6/28/2019													
	PD-5-GWP-42-062719	42 ft	6/27/2019													
	PD-5-GWP-42-062719-DUP	42 ft	6/27/2019													
	PD-5-GWP-48-062719	48 ft	6/27/2019													
	PD-5-GWP-54-062719	54 ft	6/27/2019													
	PD-5-GWP-80-062819	80 ft	6/28/2019													
PD-07	PD-7-GWP-45-072219	45 ft	7/22/2019	0.03 T J	0.015 T J	0.0071 T J	0.0076 T J	0.0045 T J								
	PD-7-GWP-50-072219	50 ft	7/22/2019	0.63 T J	0.4 T J	0.52 T J	0.97 T J	0.37 T J	0.54 T J	0.71 T J						
	PD-7-GWP-50-072219-DUP	50 ft	7/22/2019													
	PD-7-GWP-55-072319	55 ft	7/23/2019	0.015 T J	0.019 T J											
PD-08	PD-8-GWP-41-062819	41 ft	6/28/2019													
	PD-8-GWP-46-062819	46 ft	6/28/2019	0.088 T J	0.24 T J	0.15 T J										
	PD-8-GWP-52-062819	52 ft	6/28/2019													
	PD-8-GWP-57-070119	57 ft	7/1/2019	0.0076 T J												
	PD-8-GWP-62-070119	62 ft	7/1/2019													
	PD-8-GWP-70-070119	70 ft	7/1/2019													
	PD-8-GWP-80-070119	80 ft	7/1/2019													

Location	Sample ID	Depth	Sample Date	UnknownC	UnknownD	UnknownE	UnknownF	UnknownG	UnknownH	UnknownI	UnknownJ	UnknownK	UnknownL	UnknownM	UnknownN	UnknownO
				Analytical Results (mg/L)												
PD-09	PD-9-GWP-35-070919	35 ft	7/9/2019	0.0079 T J												
	PD-9-GWP-40-070919	40 ft	7/9/2019	0.019 T J												
	PD-9-GWP-45-070919	45 ft	7/9/2019	0.066 T J	0.021 T J	0.16 T J										
	PD-9-GWP-54-071019	54 ft	7/10/2019	2.9 T J	0.96 T J											
	PD-9-GWP-60-071019	60 ft	7/10/2019	0.0043 T J	0.0048 T J											
	PD-9-GWP-70-071019	70 ft	7/10/2019	0.0091 T J												
	PD-9-GWP-70-071019-DUP	70 ft	7/10/2019	0.0059 T J												
	PD-9-GWP-80-071019	80 ft	7/10/2019	0.0053 T J												
PD-11	PD-11-GWP-35-071019	35 ft	7/10/2019	0.011 T J	0.023 T J	0.013 T J	0.013 T J									
	PD-11-GWP-37-071119	37 ft	7/11/2019	0.11 T J	0.053 T J											
	PD-11-GWP-43-071119	43 ft	7/11/2019	0.05 T J	0.053 T J											
	PD-11-GWP-43-071119-DUP	43 ft	7/11/2019	0.074 T J	0.082 T J											
	PD-11-GWP-50-071119	50 ft	7/11/2019													
	PD-11-GWP-56-071119	56 ft	7/11/2019													
	PD-11-GWP-60-071119	60 ft	7/11/2019													
PD-12	PD-12-GWP-35-070119	35 ft	7/1/2019													
	PD-12-GWP-45-071219	45 ft	7/12/2019	0.0066 T H J												
	PD-12-GWP-50-071219	50 ft	7/12/2019	0.012 T H J	0.0042 T H J	0.037 T H J	0.029 T H J	0.012 T H J								
	PD-12-GWP-55-071219	55 ft	7/12/2019	0.036 T H J	0.054 T H J	0.032 T H J	0.041 T H J	0.046 T H J	0.031 T H J							
	PD-12-GWP-60-071219	60 ft	7/12/2019	0.012 T H J	0.016 T H J	0.038 T H J	0.017 T H J									
	PD-12-GWP-70-071519	70 ft	7/15/2019													
PD-13	PD-13-GWP-40-070819	40 ft	7/8/2019	0.1 T J	0.015 T J	0.0046 T J	0.0069 T J	0.0049 T J	0.0072 T J	0.0069 T J	0.0074 T J	0.0046 T J	0.0057 T J	0.007 T J		
	PD-13-GWP-46-070819	46 ft	7/8/2019	0.0063 T J	0.0089 T J	0.0066 T J	0.0064 T J	0.0062 T J	0.099 T J	0.008 T J	0.0044 T J	0.0091 T J	0.0049 T J			
	PD-13-GWP-50-070819	50 ft	7/8/2019	0.058 T J	0.017 T J	0.056 T J	0.0048 T J	0.0054 T J	0.0095 T J	0.0068 T J	0.0051 T J	0.0047 T J	0.0054 T J	0.0053 T J	0.007 T J	
	PD-13-GWP-59-070819	59 ft	7/8/2019													
	PD-13-GWP-65-070919	65 ft	7/9/2019													
	PD-13-GWP-70-070919	70 ft	7/9/2019	0.0095 T J												
	PD-13-GWP-80-070919	80 ft	7/9/2019													
PD-14	PD-14-GWP-40-071719	40 ft	7/17/2019	0.02 T J	0.025 T J	0.0048 T J	0.0077 T J	0.014 T J	0.014 T J	0.0046 T J	0.0071 T J	0.021 T J	0.0043 T J	0.0067 T J	0.024 T J	0.005 T J
	PD-14-GWP-45-071719	45 ft	7/17/2019	0.023 T J	0.015 T J	0.026 T J										
	PD-14-GWP-50-071719	50 ft	7/17/2019	0.0078 T J	0.01 T J	0.0061 T J	0.0086 T J	0.0054 T J	0.0062 T J	0.006 T J						
	PD-14-GWP-50-071719-DUP	50 ft	7/17/2019	0.0068 T J	0.0057 T J	0.0055 T J	0.0062 T J	0.0072 T J	0.0082 T J	0.033 T J						
	PD-14-GWP-53-071719	53 ft	7/17/2019	0.016 T J												
	PD-14-GWP-60-071719	60 ft	7/17/2019	0.1 T J	0.043 T J											
	PD-14-GWP-78.5-071819	78.5 ft	7/18/2019													
PD-17	PD17-GWP-45-071919	45 ft	7/19/2019													
	PD-17-GWP-50-072219	50 ft	7/22/2019													
	PD-17-GWP-50-072219-DUP	50 ft	7/22/2019	0.18 T J	0.16 T J	0.4 T J	0.28 T J	0.42 T J	0.41 T J	0.22 T J	0.33 T J	0.32 T J				

Notes:

1. Values are only reported if a TIC is identified
2. The number of significant figures is laboratory-specific.

Compound was not detected, tentatively identified compound (TIC) search was performed.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

T = Result is a tentatively identified compound (TIC) and an estimated value.

N - Presumptive evidence of material.

H = Sample was prepared or analyzed beyond the specified holding time

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

Appendix I – Summary of Westhollow Results

PWY Soil and Water Samples

OBSERVATIONS

- separate phase(NAPL) not observed in liquid samples
- all samples extracted with methylene chloride upon arrival to the lab (entire sample extracted)

RESULTS

- 15 of 19 liquid samples contain benzene
- none of the 11 soil samples contained benzene above the reporting limit
- 4 liquid and 2 soil samples contain gasoline range and kerosene range material at low levels

CONTENTS

Page 2: Mapped benzene data
Page 3: Mapped chromatography
Page 4: Stacked chromatograms for samples (4 liquid, 2 soil) containing gasoline range material and kerosene range material
Pages 5-10: Individual chromatograms of samples containing gasoline range material and kerosene range material [PD 11-39 and PD 11-40 may also contain material heavier than kerosene]
Pages 11-13: Soil sample chromatographs
Pages 14-17: Liquid sample chromatographs.'
Pages 18-21: COCs

WESTHOLLOW SAMPLE RESULTS

LEGEND
- INVESTIGATION LOCATIONS, NO DYELIF RESPONSE
- INVESTIGATION LOCATIONS, DYELIF RESPONSE

NOTES:
1) LOCATIONS SHOWN ARE APPROXIMATE
2) * – UNABLE TO ACHIEVE TARGET DEPTH

8th Street

S. Chaffer Ave

S. Old Edwardsville Rd

SVE SYSTEM

PD-12
Benzene (mg/L)
55’ = 171
(mainly B, trace gasoline range, trace kerosene range)

Benzene (mg/L)
50’ = 1408

PD-2

Benzene (mg/L)
50’ = 399

PD-3

PD-14
Benzene (mg/L)
54’ = 1048

PD-1
Benzene (mg/L)
53’ = <1 (ND)
(trace gasoline range, trace kerosene range)

PD-13
Benzene (mg/L)
53’ = 187
(B, gasoline range, some kerosene range)

PD-4

PD-6

PD-7
Benzene (mg/L)
50’ = 181

Benzene (mg/L)
*42’ (pre) = 3378
*42’ (post) = 2231
48’ (pre) = 205
48’ (post) = 6
54’ = 3.3

PD-5

PD-15

PD-16

PD-17
Benzene (mg/L)
50’ = 404

*PD-5-42 vials not identified with "Pre" and "Post" (randomly assigned)

PD-19
Benzene (mg/L)
37’ = <1 (ND)
40’ = 482
43’ = 743
(mainly B, trace gasoline range, some kerosene & heavier)

PD-8
Benzene (mg/L)
41’ = 6
52’ = <1 (ND)
(mainly B, trace kerosene range)

PD-9

PD-10

PD-11

B, gasoline range, kerosene range, some heavier

B, gasoline range, some kerosene range

0 40
SCALE FEET

N

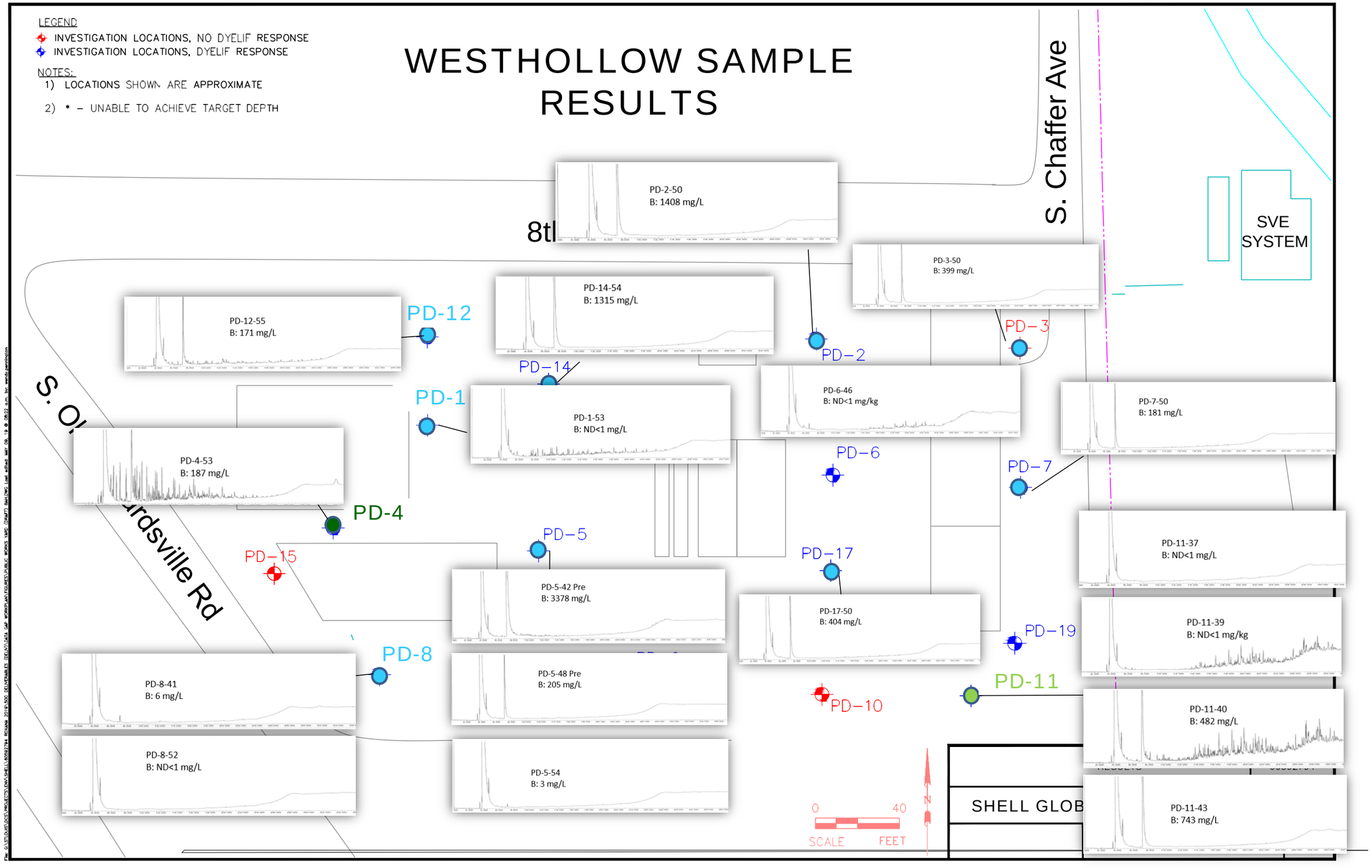
RESULTS	PROJECT NO. 60592794
SHELL GLOBAL SOLUTIONS (US) INC.	
Public Works Yard Proposec Investigatior Locctions	

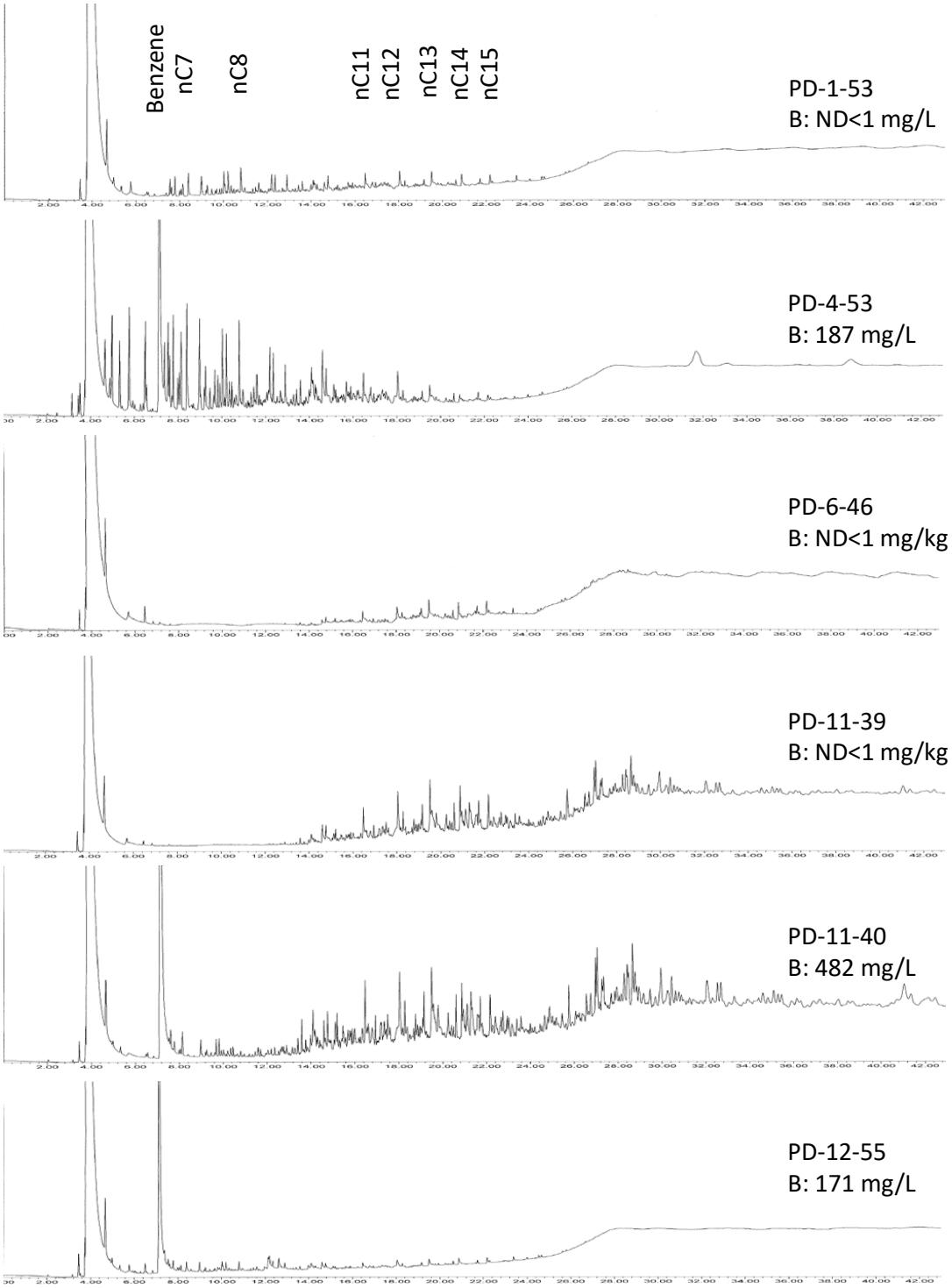
NOTES: gasoline (or kerosene) range does not necessarily mean gasoline (or kerosene) is present; toluene is not present
Benzene concentrations generally ND in soil (< 1mg/kg)

WESTHOLLOW SAMPLE RESULTS

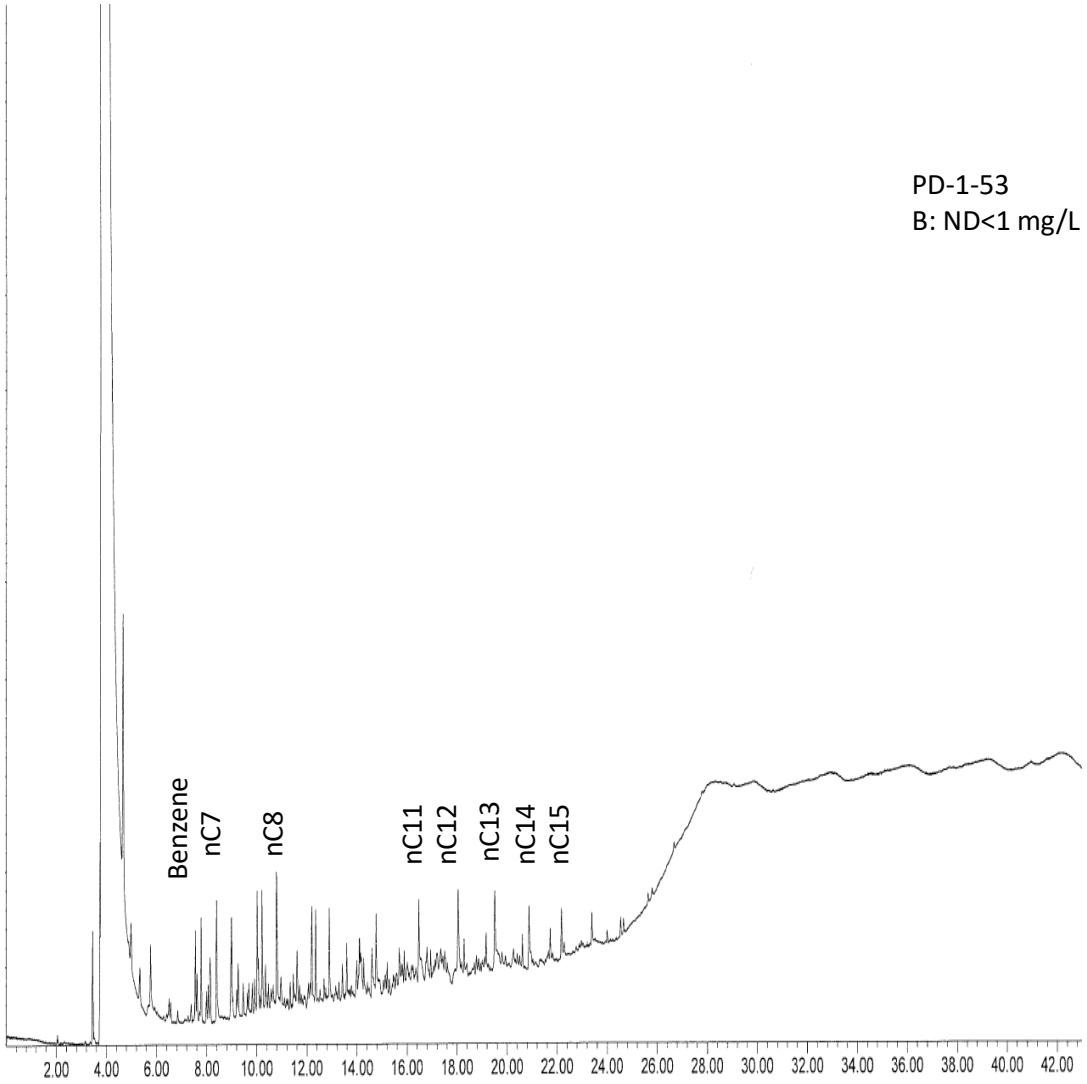
LEGEND
- INVESTIGATION LOCATIONS, NO DYELIF RESPONSE
- INVESTIGATION LOCATIONS, DYELIF RESPONSE

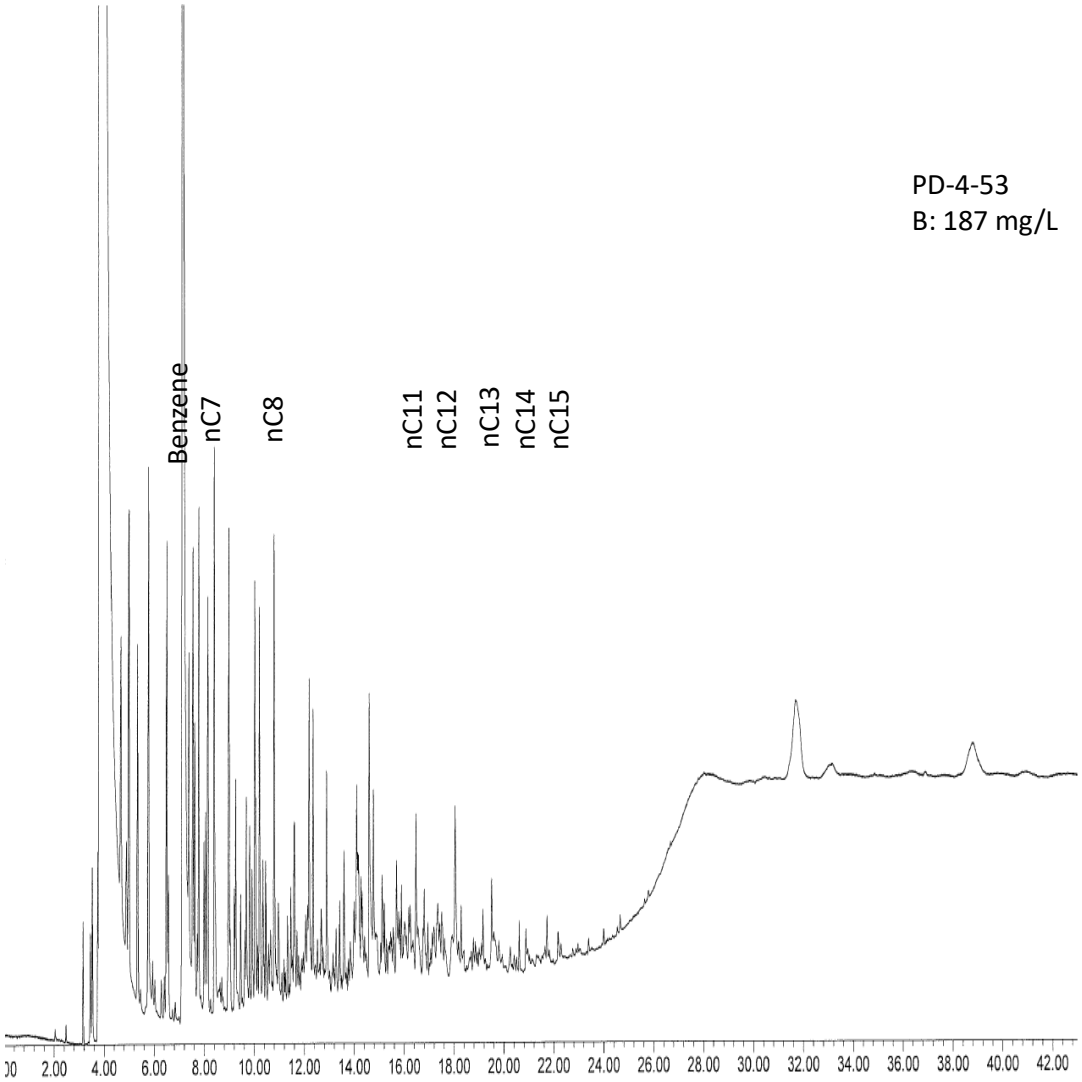
NOTES:
1) LOCATIONS SHOWN ARE APPROXIMATE
2) * – UNABLE TO ACHIEVE TARGET DEPTH

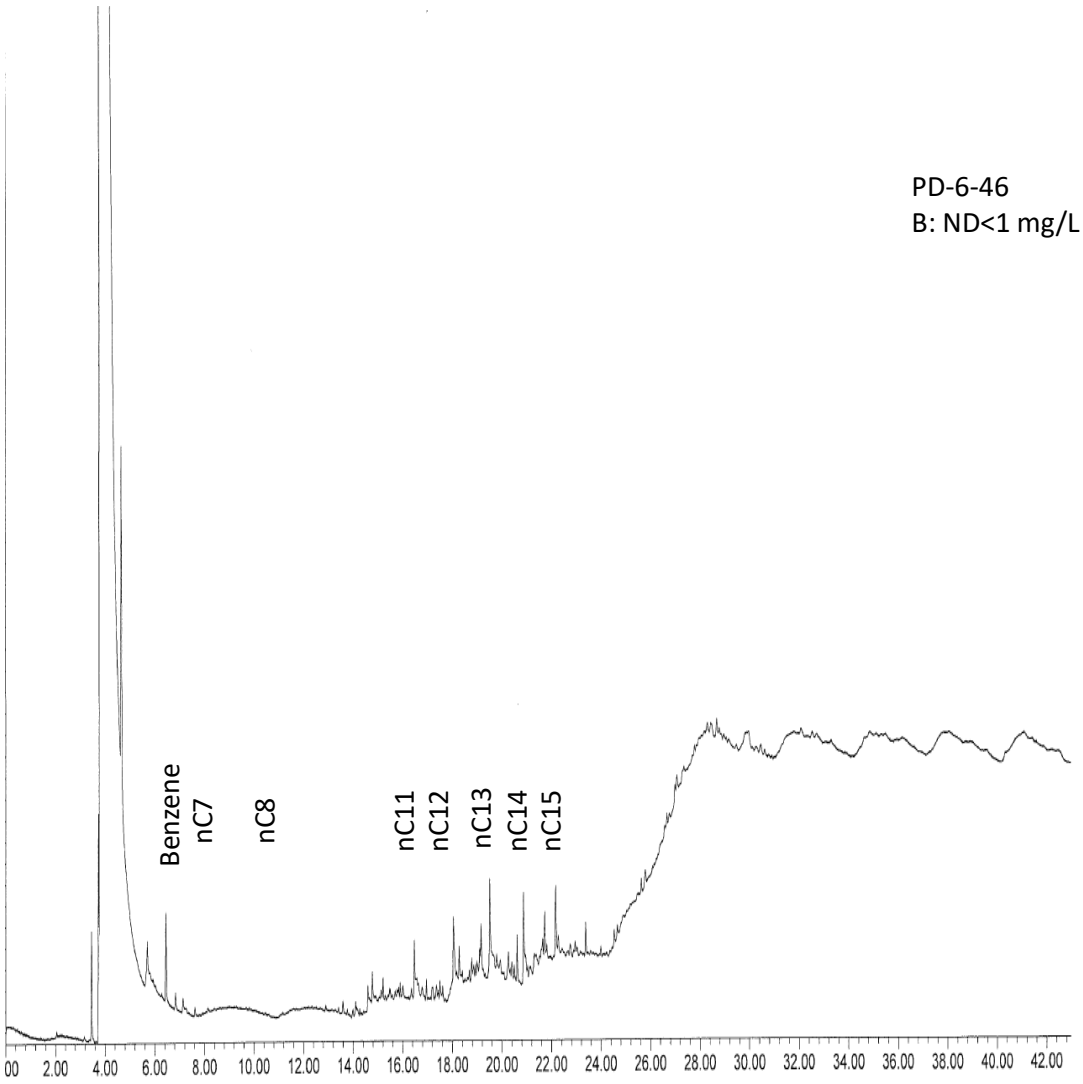



Benzene
nC7
nC8
nC11
nC12
nC13
nC14
nC15
PD-1-53
B: ND<1 mg/L
PD-4-53
B: 187 mg/L
PD-6-46
B: ND<1 mg/kg
PD-11-39
B: ND<1 mg/kg
PD-11-40
B: 482 mg/L
PD-12-55
B: 171 mg/L

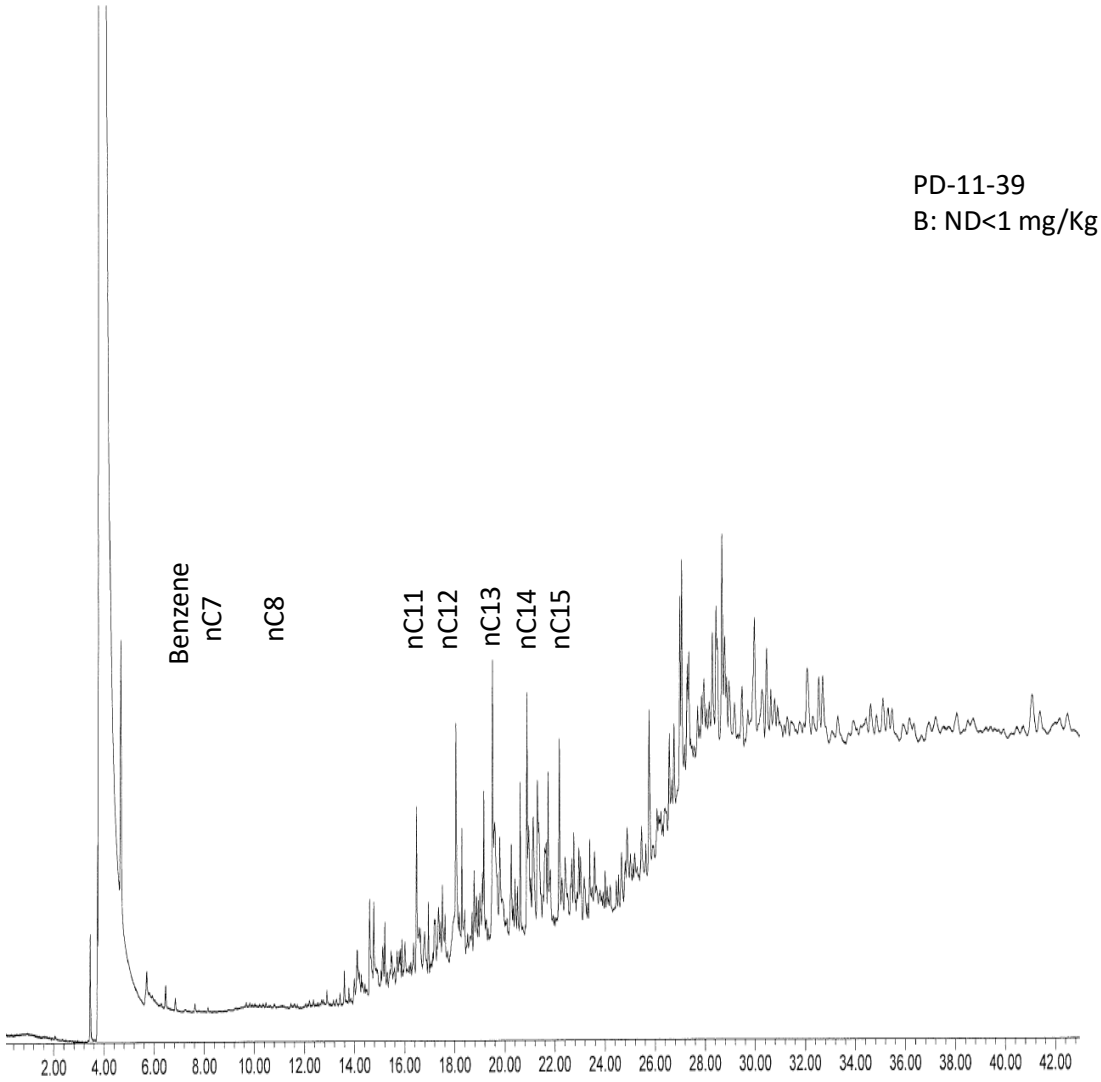
PD-1-53
B: ND<1 mg/L

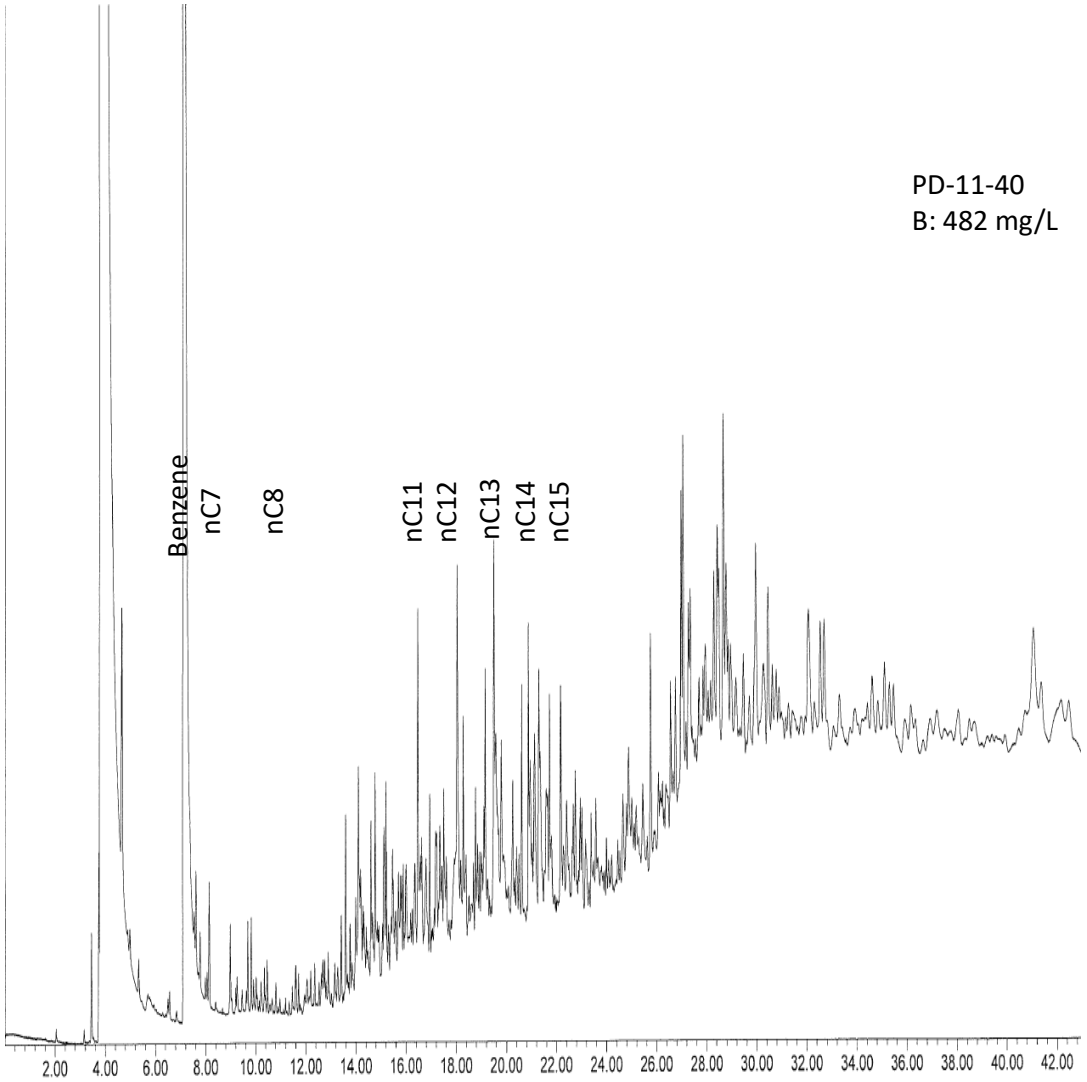



PD-4-53
B: 187 mg/L
Benzene
nC7
nC8
nC11
nC12
nC13
nC14
nC15
00 2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 36.00 38.00 40.00 42.00


PD-6-46
B: ND<1 mg/L
Benzene
nC7
nC8
nC11
nC12
nC13
nC14
nC15
00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
18.00
20.00
22.00
24.00
26.00
28.00
30.00
32.00
34.00
36.00
38.00
40.00
42.00

PD-11-39
B: ND<1 mg/Kg




PD-11-40
B: 482 mg/L
Benzene
nC7
nC8
nC11
nC12
nC13
nC14
nC15
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
18.00
20.00
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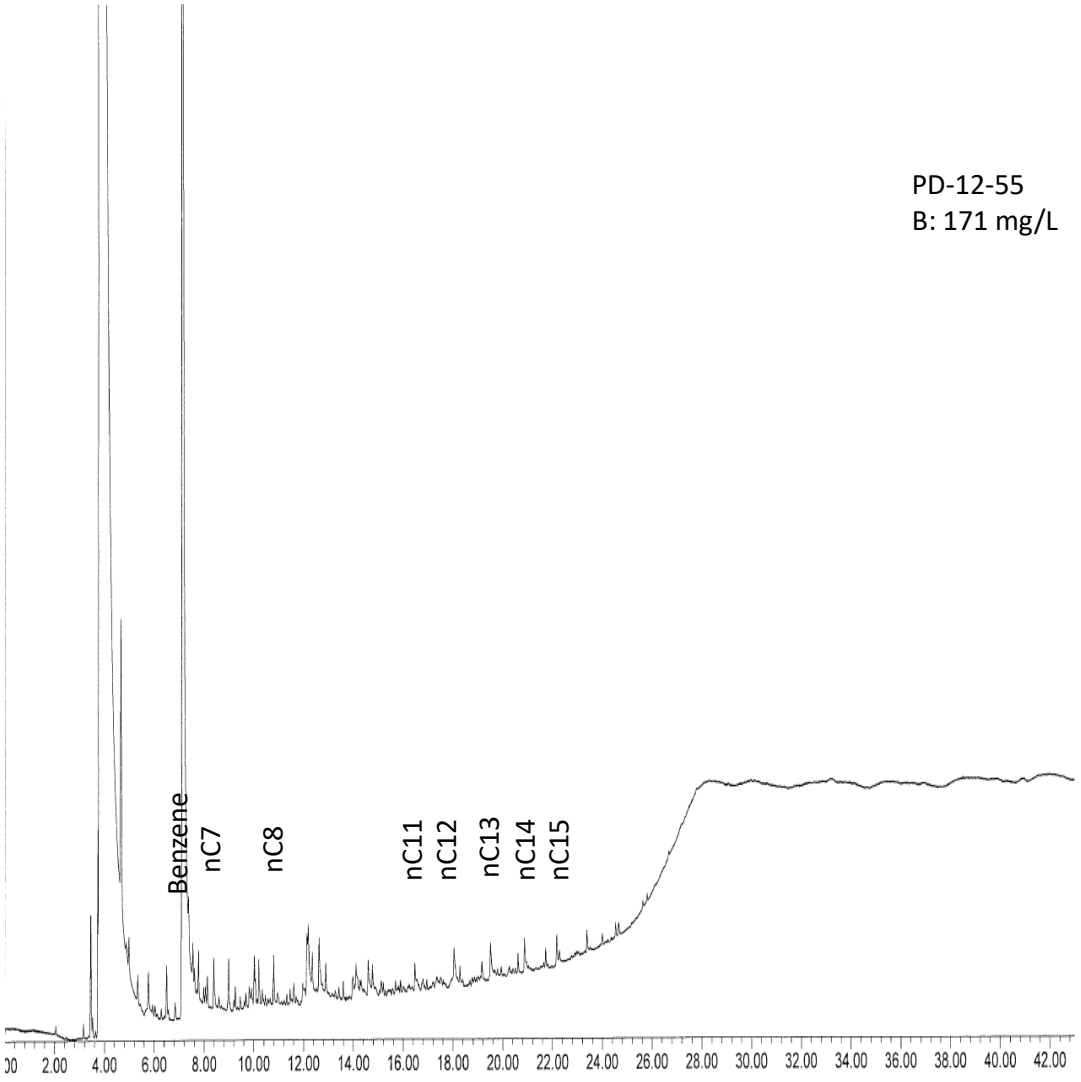
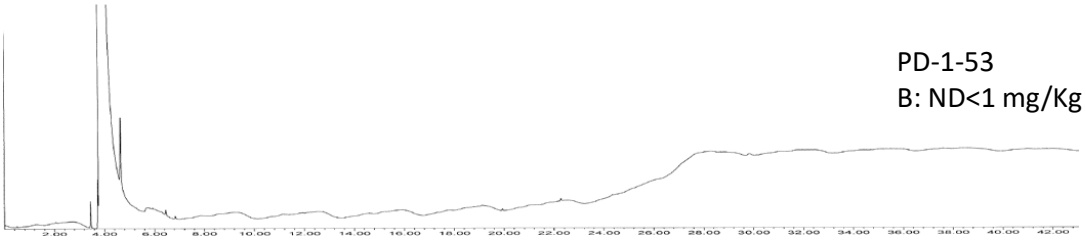
34.00
36.00
38.00
40.00
42.00

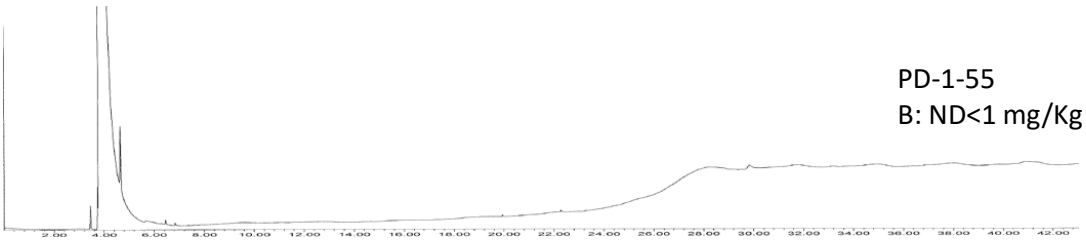

PD-12-55
B: 171 mg/L
Benzene
nC7
nC8
nC11
nC12
nC13
nC14
nC15
00 2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00 32.00 34.00 36.00 38.00 40.00 42.00

Soil Samples

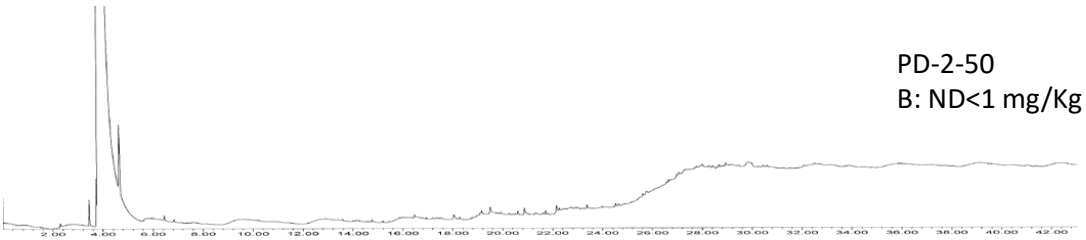
No trace of hydrocarbons, except for PD-6 (Pages 2 and 7)



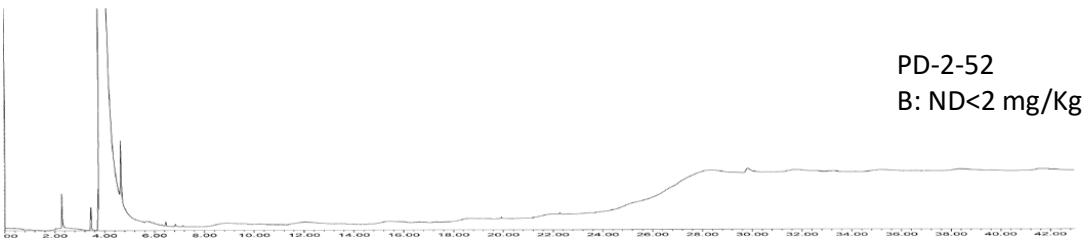
PD-1-53
B: ND<1 mg/Kg



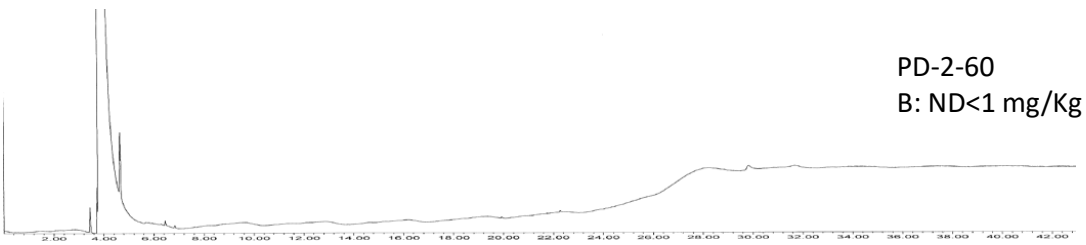
PD-1-55
B: ND<1 mg/Kg



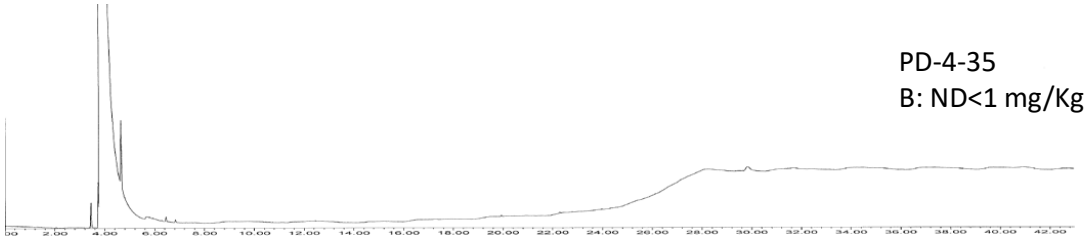
PD-2-50
B: ND<1 mg/Kg



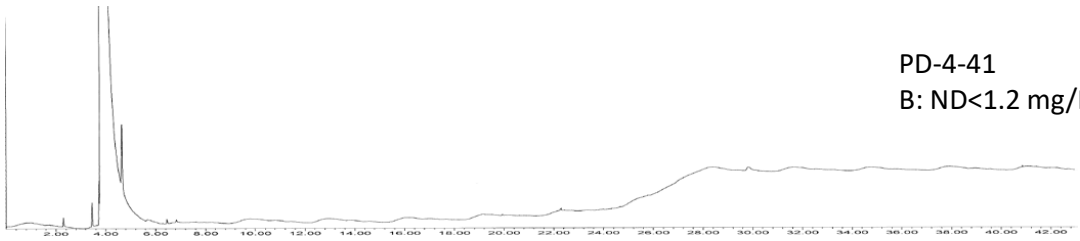
PD-2-52
B: ND<2 mg/Kg



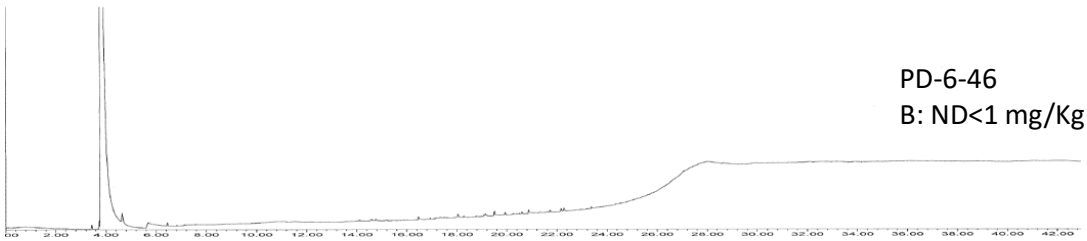
PD-2-60
B: ND<1 mg/Kg



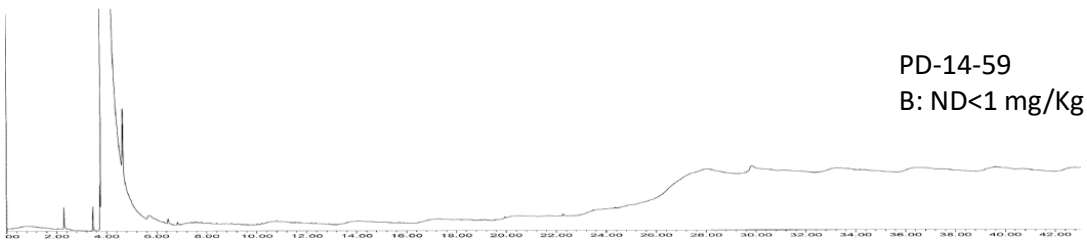
PD-4-35
B: ND<1 mg/Kg



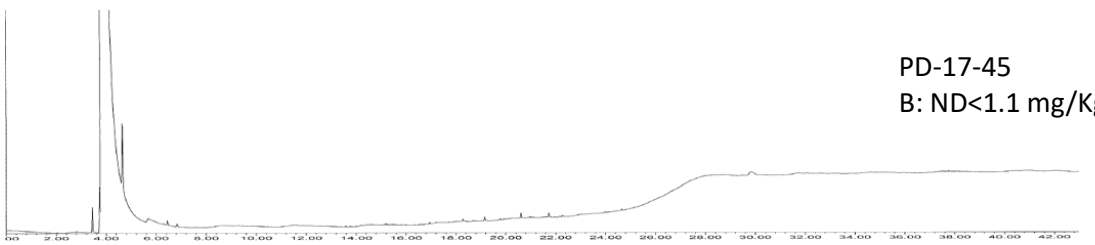
PD-4-41
B: ND<1.2 mg/Kg



PD-6-46
B: ND<1 mg/Kg



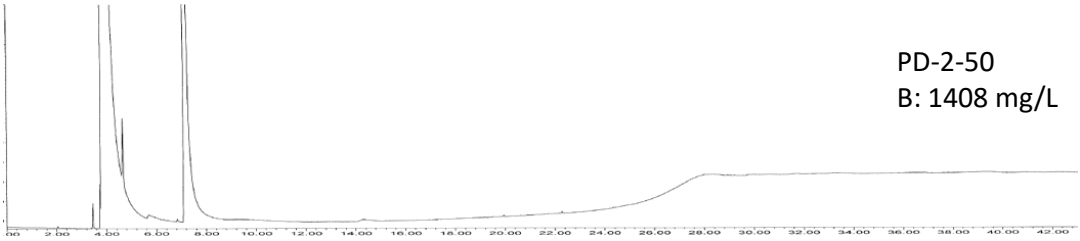
PD-14-59
B: ND<1 mg/Kg

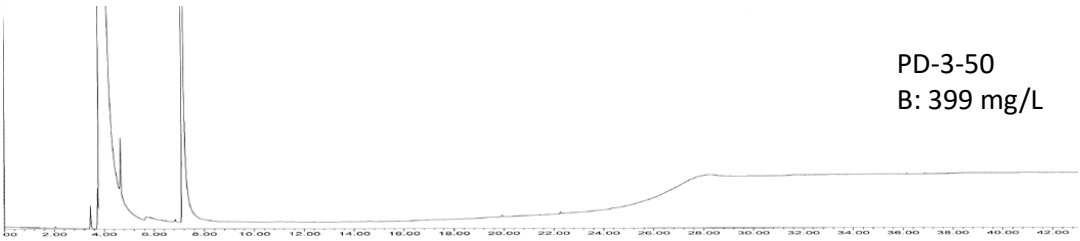


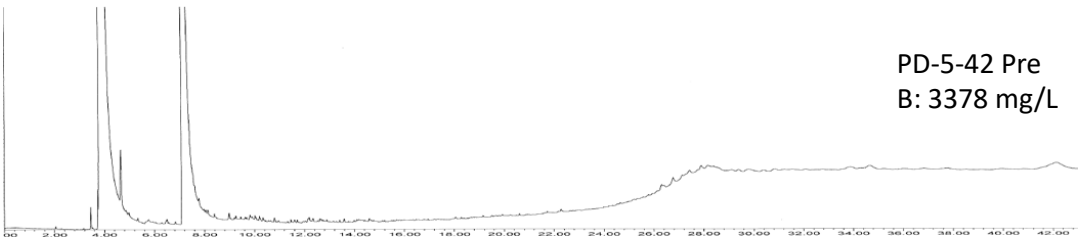
PD-17-45
B: ND<1.1 mg/Kg

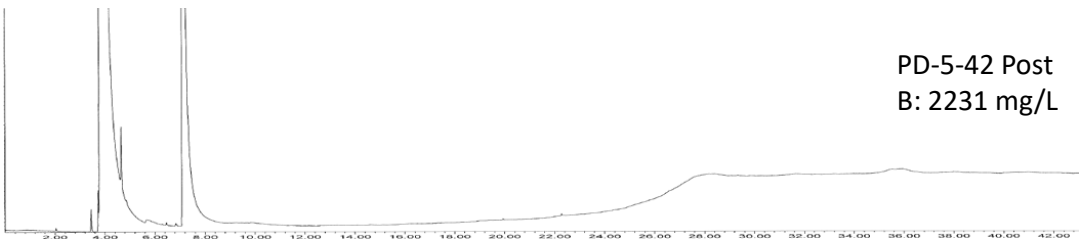
Liquid Samples

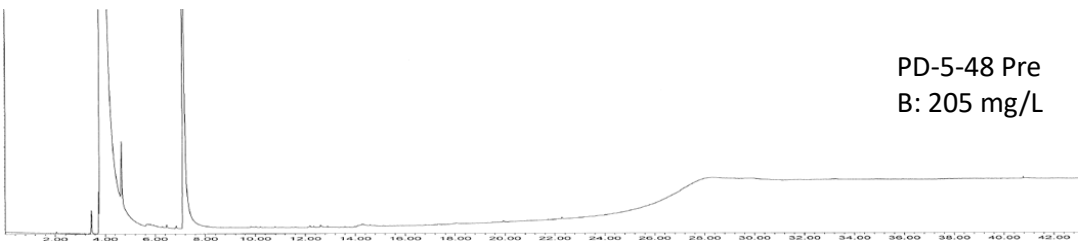
Primarily contain benzene
(Refer to pages 3-9 for five samples containing gasoline range and kerosene range material.)

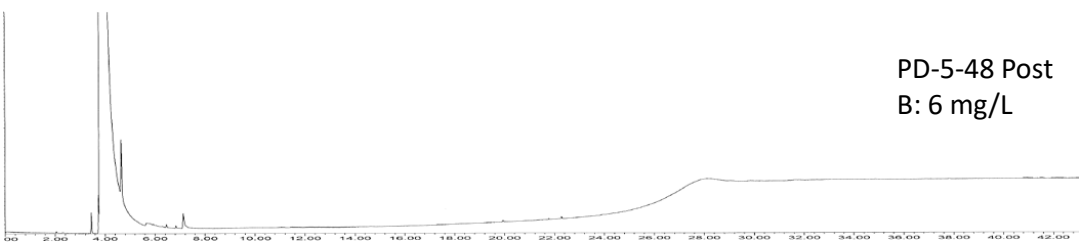

PD-2-50
B: 1408 mg/L

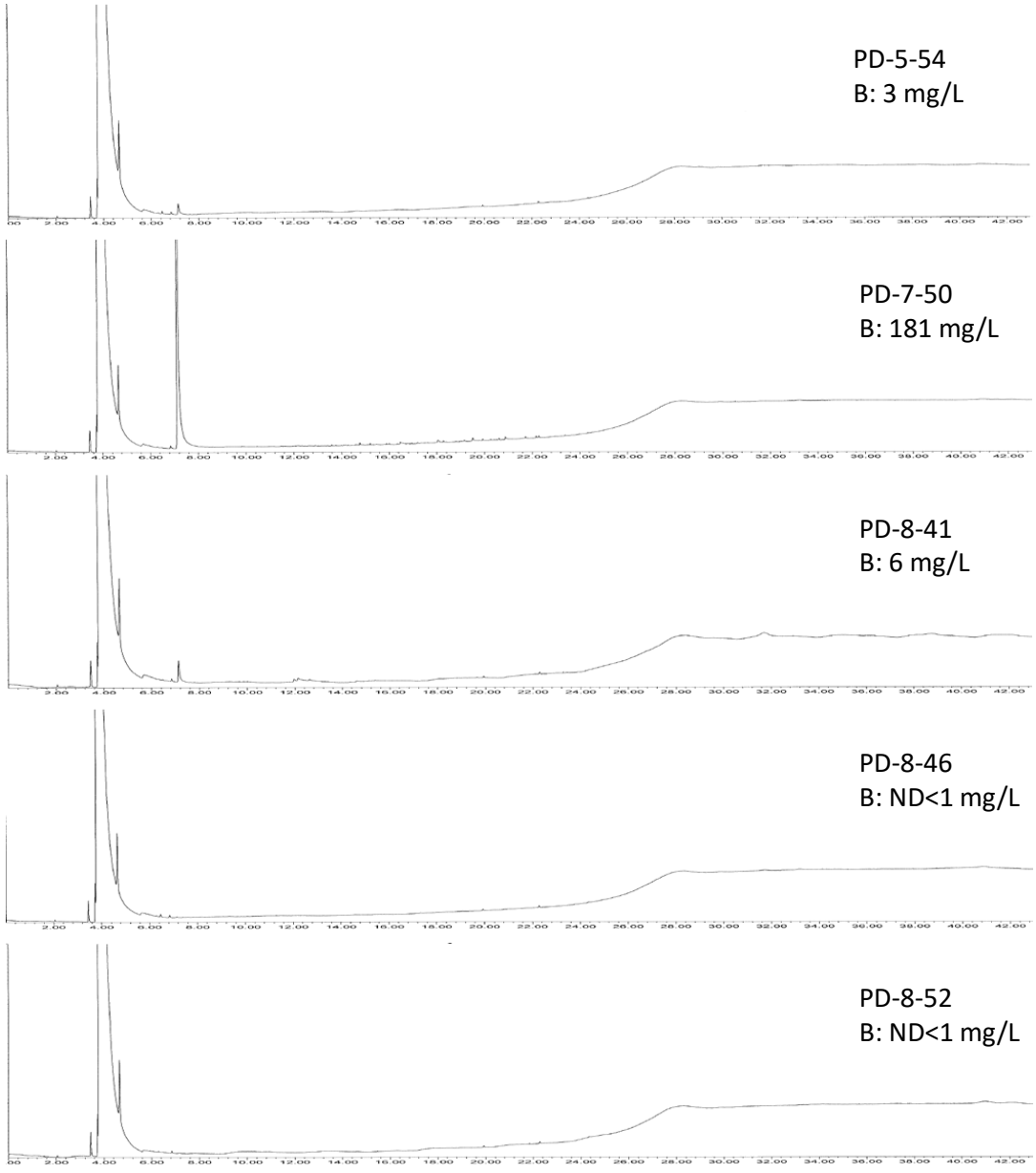

PD-3-50
B: 399 mg/L

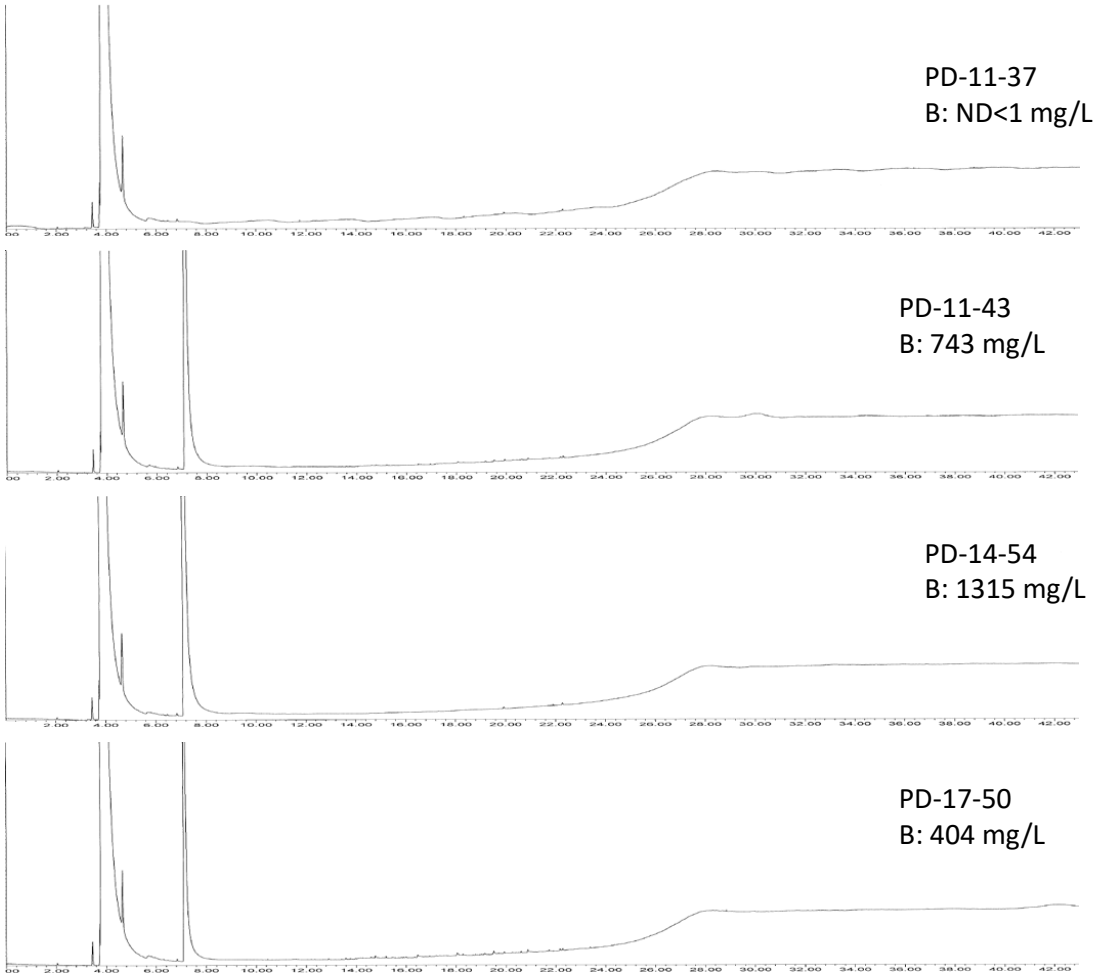

PD-5-42 Pre
B: 3378 mg/L

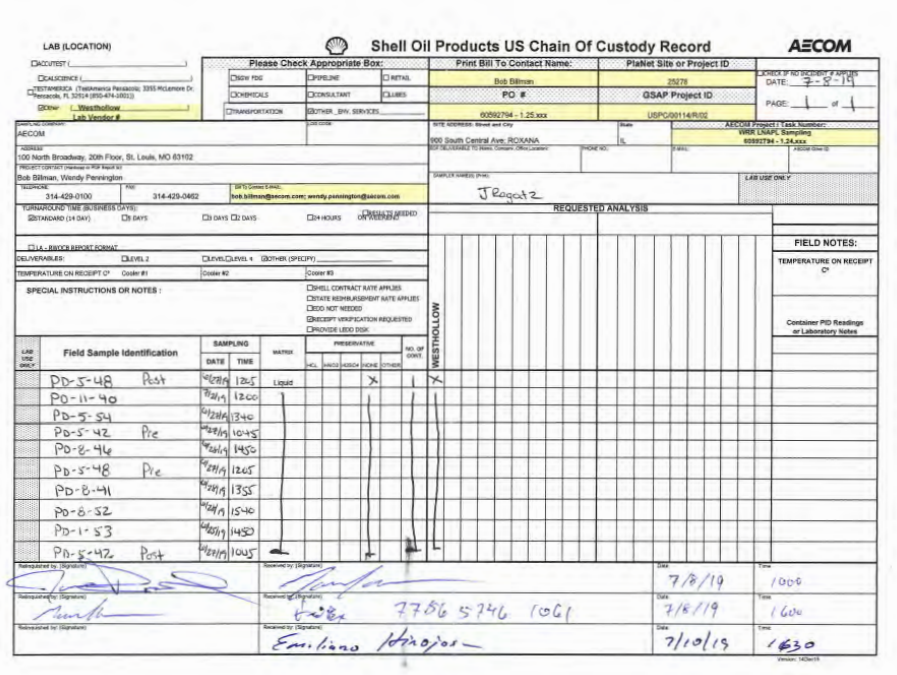

PD-5-42 Post
B: 2231 mg/L


PD-5-48 Pre
B: 205 mg/L


PD-5-48 Post
B: 6 mg/L


PD-5-54
B: 3 mg/L
PD-7-50
B: 181 mg/L
PD-8-41
B: 6 mg/L
PD-8-46
B: ND<1 mg/L
PD-8-52
B: ND<1 mg/L


PD-11-37
B: ND<1 mg/L
PD-11-43
B: 743 mg/L
PD-14-54
B: 1315 mg/L
PD-17-50
B: 404 mg/L



LAB (LOCATION)

☐ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (Testamerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))
☑ Other: Westhollow Lab Vendor #

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:			Print Bill To Contact Name:	PlaNet Site or Project ID	
☐ NEW FOG	☐ PIPELINE	☐ RETAIL	Bob Billman	25278	☐ CHECK IF NO INCIDENT IF APPLIES DATE: 7-8-19
☐ CHEMICALS	☐ CONSULTANT	☐ LUBES	PO #	GSAP Project ID	PAGE: 1 of 1
☐ TRANSPORTATION	☑ OTHER _ ENV. SERVICES		60592794 - 1.25.xxx	USPC00114/R02	

SAMPLING COMPANY: AECOM
LOG CODE:
ADDRESS: 100 North Broadway, 20th Floor, St. Louis, MO 63102
PROJECT CONTACT (Hardcopy or PDF Report to): Bob Billman, Wendy Pennington
TELEPHONE: 314-429-0100
FAX: 314-429-0462
BIR To Contact E-MAIL: bob.billman@aecom.com; wendy.pennington@aecom.com

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
AECOM Project / Task Number: WRR LNAPL Sampling 60592794 - 1.24.xxx
BOX DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
AECOM Sheet ID:
SAMPLER NAMES (Print): J Regatz
LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): ☑ STANDARD (14 DAY) ☐ 8 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT
DELIVERABLES: ☐ LEVEL 2 ☐ LEVEL ☐ LEVEL 4 ☑ OTHER (SPECIFY) _____
TEMPERATURE ON RECEIPT C°: Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
☐ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

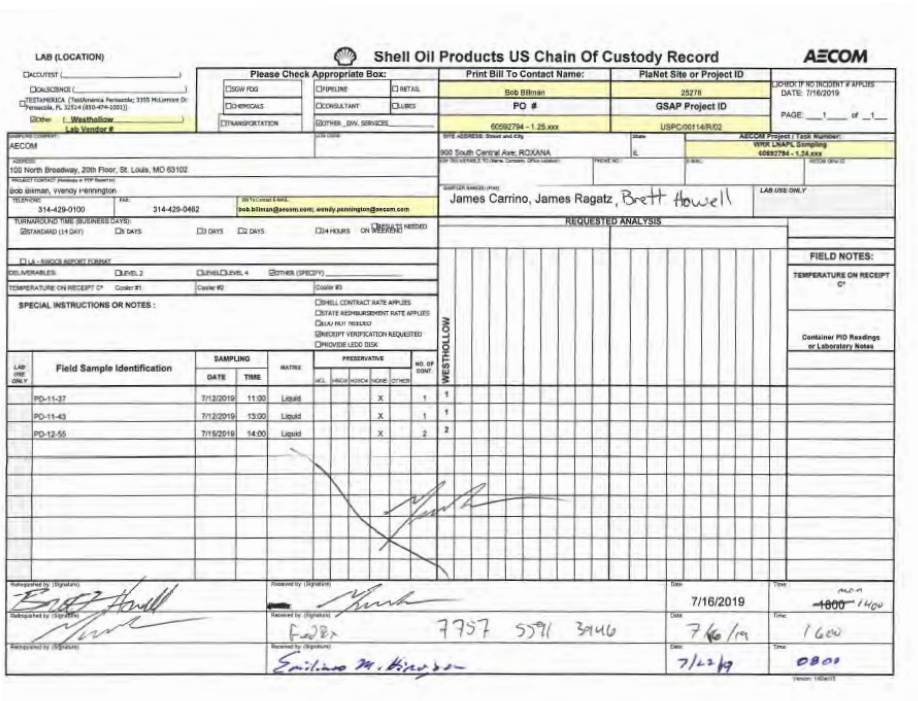
LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	WESTHOLLOW
	PD-5-48 Post	6/27/19	1205	Liquid				X		1	X
	PD-11-40	7/21/19	1200								
	PD-5-54	6/27/19	1340								
	PD-5-42 Pre	6/27/19	1045								
	PD-8-46	6/26/19	1450								
	PD-5-48 Pre	6/27/19	1205								
	PD-8-41	6/27/19	1355								
	PD-8-52	6/27/19	1540								
	PD-1-53	6/25/19	1450								
	PD-5-42 Post	6/27/19	1045								

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	[signature]	7/8/19	1000
[signature]	[signature] 7786 5746 1061	7/8/19	1600
	Emiliano Hinojosa	7/10/19	1630

Version: 140ec19

LAB (LOCATION)

☐ACCUTEST (_____)
☐ALSCIENCE (_____)
☐TESTAMERICA (Testamerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))
☑Other (Westhollow) Lab Vendor #



Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:
☐SGW FOG ☐PIPELINE ☐RETAIL
☐CHEMICALS ☐CONSULTANT ☐LUBES
☐TRANSPORTATION ☑OTHER _SIV, SERVICES_____

Print Bill To Contact Name: Bob Bilman
PO # 60592794 - 1.25.xxx

PlaNet Site or Project ID: 25278
GSAP Project ID: USPC/00114/R/02

☐CHECK IF NO INCIDENT # APPLIES
DATE: 7/16/2019
PAGE: 1 of 1

SAMPLING COMPANY: AECOM
LOG CODE:
SITE ADDRESS: Street and City: 900 South Central Ave, ROXANA
State: IL
AECOM Project / Task Number: WRR LNAPL Sampling 60592794 - 1.24.xxx
ADDRESS: 100 North Broadway, 20th Floor, St. Louis, MO 63102
TOP DISCHARGE TO Name, Company, Office Location:
PHONE NO.:
E-MAIL:
AECOM OFFICE ID:
PROJECT CONTACT (Hardware PDF Report to): Bob Bilman, Wendy Pennington
TELEPHONE: 314-429-0100
FAX: 314-429-0462
BILL TO Contact E-MAIL: bob.bilman@aecom.com; wendy.pennington@aecom.com
SAMPLER NAMES (PRINT): James Carrino, James Ragatz, Brett Howell
LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS):
☑STANDARD (14 DAY) ☐5 DAYS ☐3 DAYS ☐2 DAYS ☐24 HOURS ☐SHIELD TO BE NEEDED ON WEEKEND

☐LA - SWOCS REPORT FORMAT
DELIVERABLES: ☐LEVEL 2 ☐LEVEL ☐LEVEL 4 ☑OTHER (SPECIFY) _____
TEMPERATURE ON RECEIPT C°: Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
☐SHELL CONTRACT RATE APPLIES
☐STATE REIMBURSEMENT RATE APPLIES
☐LOU NOT NEEDED
☑RECEIPT VERIFICATION REQUESTED
☐PROVIDE LEDD DISK

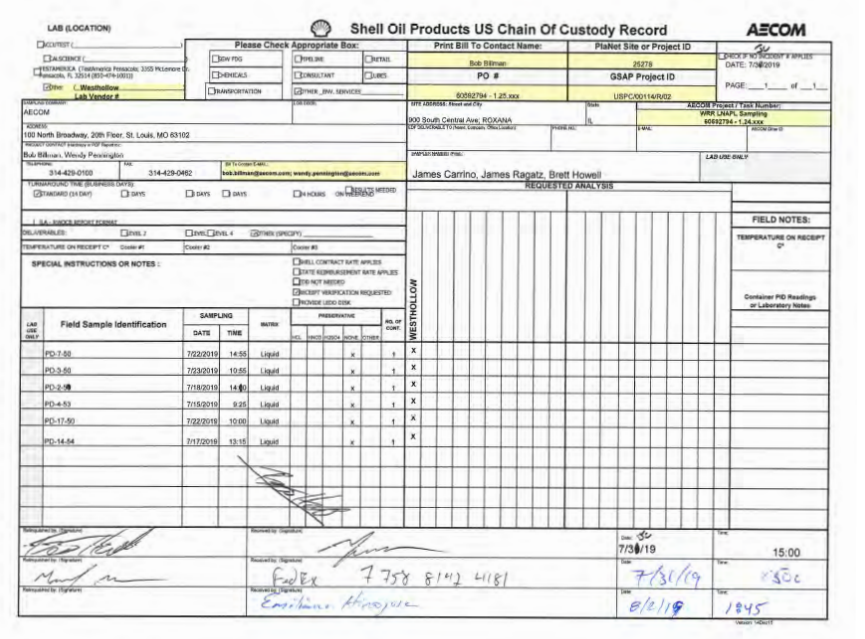
REQUESTED ANALYSIS

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE MCL	PRESERVATIVE HNO3	PRESERVATIVE H2SO4	PRESERVATIVE NONE	PRESERVATIVE OTHER	NO. OF CONT.	WESTHOLLOW
	PD-11-37	7/12/2019	11:00	Liquid				X		1	1
	PD-11-43	7/12/2019	13:00	Liquid				X		1	1
	PD-12-55	7/15/2019	14:00	Liquid				X		2	2

Relinquished by (Signature)	Received by (Signature)	Date	Time
Brett Howell	[signature]	7/16/2019	~~1800~~ 1400
[signature]	FedEx 7757 5591 3946	7/16/19	1600
	Emiliano M. Hinojosa	7/22/19	0800

Version: 140ac15



LAB (LOCATION)

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:

Print Bill To Contact Name: Bob Billman

PlaNet Site or Project ID: 25278

PO #: 60592794 - 1.25.xxx

GSAP Project ID: USPC/00114/R02

DATE: 7/30/2019

PAGE: 1 of 1

AECOM

100 North Broadway, 20th Floor, St. Louis, MO 63102

Bob Billman, Wendy Pennington

314-429-0100 | 314-429-0462

bob.billman@aecom.com; wendy.pennington@aecom.com

James Carrino, James Ragatz, Brett Howell

REQUESTED ANALYSIS

WESTHOLLOW

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container P/D Readings or Laboratory Notes

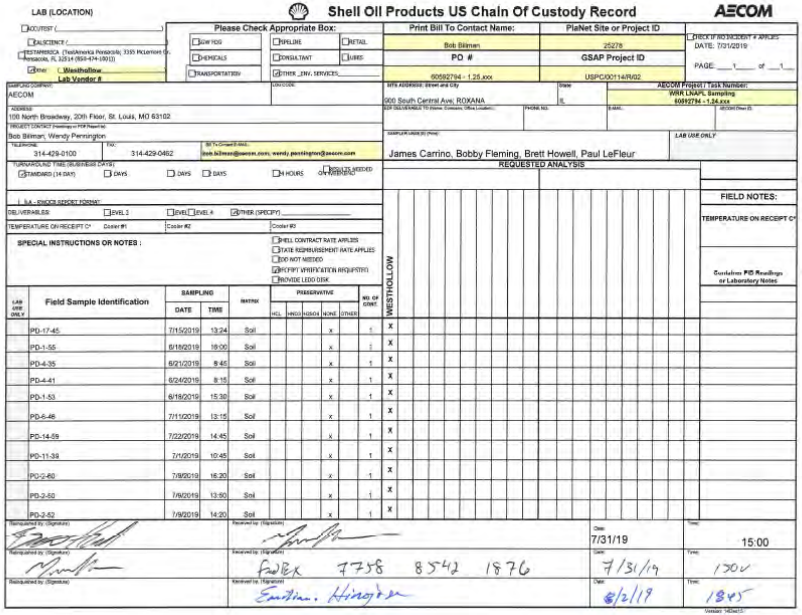
SPECIAL INSTRUCTIONS OR NOTES :

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	WESTHOLLOW
	PD-7-50	7/22/2019	14:55	Liquid	x	1	x
	PD-3-50	7/23/2019	10:55	Liquid	x	1	x
	PD-2-50	7/18/2019	14:00	Liquid	x	1	x
	PD-4-53	7/15/2019	9:25	Liquid	x	1	x
	PD-17-50	7/22/2019	10:00	Liquid	x	1	x
	PD-14-54	7/17/2019	13:15	Liquid	x	1	x

Relinquished by (Signature) — Received by (Signature) — Date: 7/30/19 — Time: 15:00

Relinquished by (Signature) — Received by (Signature): FedEx 7758 8142 4181 — Date: 7/31/19 — Time: 0800

Relinquished by (Signature) — Received by (Signature): Emiliano Hinojosa — Date: 8/1/19 — Time: 1845



LAB (LOCATION)

Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:

Print Bill To Contact Name: Bob Billman

PO #: 60592794 - 1.26.xxx

PlaNet Site or Project ID: 25276

GSAP Project ID: USPC/00114/R/02

DATE: 7/31/2019

PAGE: 1 of 1

Lab Vendor #

AECOM

100 North Broadway, 20th Floor, St. Louis, MO 63102

Bob Billman, Wendy Pennington

314-429-0100 FAX: 314-429-0462

bob.billman@aecom.com; wendy.pennington@aecom.com

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

State: IL

AECOM Project / Task Number: WRK LNAPL Sampling 60592794 - 1.04.xxx

SAMPLER'S NAME(S) (Print): James Carrino, Bobby Fleming, Brett Howell, Paul LeFleur

LAB USE ONLY

TURNAROUND TIME (BUSINESS DAYS): STANDARD (14 DAY) 7 DAYS 5 DAYS 3 DAYS 24 HOURS RESULTS NEEDED ON WEEKENDS

REQUESTED ANALYSIS

WESTHOLLOW

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container P/O Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	NaOH	NONE	OTHER	NO. OF CONT.	
	PD-17-45	7/15/2019	13:24	Soil				x		1	x
	PD-1-55	6/18/2019	16:00	Soil				x		1	x
	PD-4-35	6/21/2019	9:45	Soil				x		1	x
	PD-4-41	6/24/2019	8:15	Soil				x		1	x
	PD-1-53	6/18/2019	15:30	Soil				x		1	x
	PD-5-46	7/11/2019	13:15	Soil				x		1	x
	PD-14-59	7/22/2019	14:45	Soil				x		1	x
	PD-11-39	7/1/2019	10:45	Soil				x		1	x
	PD-2-60	7/9/2019	16:20	Soil				x		1	x
	PD-2-50	7/9/2019	13:50	Soil				x		1	x
	PD-2-52	7/9/2019	14:20	Soil				x		1	x

SPECIAL INSTRUCTIONS OR NOTES :

- SHELL CONTRACT RATE APPLIES
- RATE REIMBURSEMENT RATE APPLIES
- DOD NOT NEEDED
- [x] RECEIPT VERIFICATION REQUIRED
- PROVIDE LEDD DISK

Relinquished by (Signature)	Received by (Signature)	Date	Time
		7/31/19	15:00
	FedEx 7758 8542 1876	7/31/19	1500
	Emily Hinojosa	8/2/19	1845

Attachment B
Final SEE Design

PREPARED FOR:

AECOM

100% Remedial Design Report
Revision C3

Roxana Public Works Yard
Roxana, Illinois

PREPARED BY:



100% Remedial Design Report
Revision C3
Roxana Public Works Yard
Roxana, Illinois

PREPARED FOR:

AECOM

January 27th, 2022

Prepared by:

Clayton Campbell

McMillan-McGee Corp.
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Email: brent.winder@mcmillan-mcgee.com

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CREATORS OF ET-DSP™

Engineering Certification

This document, *100% Remedial Design Report for the Roxana Public Works Site* in *Roxana, Illinois* is being issued as a final design report and is intended for construction. The work and professional opinions rendered in this report were conducted or developed in accordance with commonly accepted protocols and procedures. This design takes into consideration information received up to December 27, 2021. If conditions are discovered that differ from those described, the undersigned engineer should be notified to evaluate the effects of any additional information on the assessment and recommendations in this document. This document was prepared to provide information for the Roxana Public Works site, located in Roxana, Illinois, and should not be construed to apply to any other site.

Note that Alberta engineering regulations require the final document to be sealed by an Alberta-registered professional engineer, since the design was performed in Alberta, even though the project site is in the United Stated. This in no way is intended to infringe upon American engineering laws and regulations, or those of any other jurisdiction. Please be aware that this document requires further engineering review and certification in accordance with local State and Provincial laws and regulations.

PERMIT TO PRACTICE
McMILLAN-McGEE CORP
RM SIGNATURE:
RM APEGA ID #: 187182
DATE: January 27th, 2022
PERMIT NUMBER: P09178
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

Prepared by Clayton Campbell:

PROFESSIONAL ENGINEER
CLAYTON F. CAMPBELL
PROVINCE OF ALBERTA

Jan 27th 2022

Clayton Campbell, P. Eng.

Association of Professional Engineers and Geoscientists of Alberta member 187182

Through the engineering business of McMillan-McGee Corporation, APEGA Permit to Practice P09178

Executive Summary

McMillan-McGee (Mc^2) has prepared this report to describe the details of the in-situ thermal remediation process that will be implemented at the Roxana Public Works site, located in Roxana, Illinois (Site). The remedial goals for the Site will be achieved using steam injection with a Site-specific multi-phase extraction and treatment system.

The Site is divided into two adjacent thermal treatment zones (TTZ): Areas A and B. The Area A heated area is approximately 28,000 square feet (ft^2) with a treatment interval between 397 and 378 feet above mean seal level (ft amsl); Area B is approximately 20,150 ft^2 with a treatment interval between 395 and 389 ft amsl. The heated area is defined as the area that extends 3 feet (ft) beyond the perimeter steam injection well locations. The treatment area is defined as any zone within the perimeter steam injection wells that is within the defined treatment interval for TTZ Area A and B. These areas and intervals correspond to a heated volume of approximately 18,700 cubic yards (yd^3) for Area A and 4,475 yd^3 for Area B.

During remedial activities, 81 single-screen steam injection wells will heat the treatment volume, to a minimum target temperature of 176.3 degrees Fahrenheit (°F) [80.2 degrees Celsius (°C)] or greater, corresponding to the minimum depth-dependent co-boiling temperature of benzene and water. The cumulative energy input to the steam injection wells has been conservatively estimated to be 9,087 megawatt-hours (MWh). Injection to individual steam injection wells will be approximately 61 to 125 pounds per hour (lbs/hr) for a total injection of approximately 5,000 to 10,000 lbs/hr. Operations will run for approximately 180 days.

There will be 36 multiphase extraction (MPE) wells completed with downhole pneumatic pumps. The treatment system is designed for a maximum total field vapor flow of 1,799 standard cubic feet per minute (SCFM) at a maximum vacuum of 12 inches of mercury (inHg), and an estimated total liquid extraction rate from all the wells between 20.0 and 40.2 gallons per minute (GPM).

Performance monitoring of the steam enhanced extraction (SEE) system will include the deployment of 120 digital temperature acquisition module (digiTAM™) sensors in 16 locations, measurements of fluid flow and input energy, and continuous monitoring of volatile organic compounds in the vapor stream. All data will be available on a secure webpage for remote monitoring.

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Acronyms

amsl	Above Mean Sea Level
AS	Air Stripper
B	Vacuum Blower
BF	Bag Filter
BGS	Below Ground Surface
°C	Degrees Celsius
cm	Centimeter
COC	Contaminant of Concern
cis-1,2-DCE	cis-1,2-Dichloroethene
digiTAM™	Digital temperature acquisition module
DNAPL	Dense Non-Aqueous Phase Liquids
EPA	Environmental Protection Agency
ESL	Electrical Single Line
°F	Degrees Fahrenheit
ft	Foot
ft^2	Square Feet
GPM	Gallons per Minute
HE	Heat Exchanger
Hg	Mercury
in	Inch
ISTT	In-Situ Thermal Treatment
Kg	Kilograms
kWhr	Kilowatt Hour
kW	Kilowatt
KO	Knock Out Tank
LGAC	Liquid Granular Activated Carbon
LAN	Local Area Network
lb	Pounds
LNAPL	Light Non-Aqueous Phase Liquids
Mc^2	McMillan-McGee Crop.
mg	milligram
MPE	Multiphase extraction
MWh	Megawatt-hour
NAPL	Non-Aqueous Phase Liquids
NIST	National Institute of Standards and Technology
NPT	National Pipe Thread
OD	Outside Diameter
O&M	Operations and Maintenance
PCE	Tetrachloroethene
PDP	Power Distribution Panel
PFD	Process Flow Diagram
PID	Photo-Ionization Detector

PSI	Pounds per Square Inch
PTFE	Polytetrafluoroethylene
PVC	Polyvinyl chloride
PWY	Public Works Yard
RAID	Redundant Array of Independent Devices
RFP	Request for Proposal
RTO	Regenerative Thermal Oxidizer
S	Second
SEE	Steam Enhanced Extraction
SMS	Short Message Service
SS	Stainless Steel
SVOC	Semi Volatile Organic Compound
T	Tank
TCE	Trichloroethene
TTZ	Treatment Zone
µg	Microgram
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
VC	Vinyl Chloride
VGAC	Vapor Granular Activated Carbon
VPN	Virtual Private Network
WCD	Well Completion Detail
WFL	Well Field Layout
WHD	Wellhead Detail
WRR	Wood River Refinery
yd	Yard
yd^3	Cubic Yard

1. Introduction

The following Remedial Design Report, prepared by Mc^2, describes the in-situ thermal treatment (ISTT) process to be deployed at the Roxana Public Works Yard (PWY).

1.1. Treatment Site Description and Location

The PWY is located in a mixed use area surrounded by industrial users, primarily petroleum refining and storage facilities. The Site is bounded by Old Edwardsville Road to the west, East Eighth Street to the north, a rail corridor to the south, the Phillips 66 Wood River Refinery (WRR) directly to the east (See Figure 1). The nearest residential properties are located on the north side of East Eighth Street approximately 80 feet from TTZ Area A.

The property has an areal extent of approximately 2.4 acres, approximately 0.4 acres of which is covered or obstructed buildings or structures (AECOM, 2019). The TTZ is approximately 48,000 ft^2.



Figure 1: Aerial photograph of site

1.2. Site Geology and Hydrology

The geology of the Site, within the TTZ, generally consists of medium to course grained sand with interbedded silty zones that are relatively thin and discontinuous (AECOM, 2020). A full description of the subsurface is described in

Table 1 below:

Table 1: Geology (AECOM, 2020)

Thickness (ft)	Material	Description
0 to 5	Fill	Clay, gravel, cinders. Discontinuous across the site.
3 to 15	Silty Clay	Silty clay. Area B is generally thinner (~5 ft); Area A is generally thicker (up to 15 ft).
~45	Medium Sand	Primarily medium grained sand down to approximately 60 ft below ground surface (ft BGS).
>30	Medium/Course Sand	Transition to medium/course grained sand to depths of 93 ft BGS.

Groundwater within the TTZ ranges between 28 and 37 ft BGS, depending on where it is measured on site and of course precipitation and flow conditions in the Mississippi River. Groundwater flow direction, which was once toward the Mississippi (toward the west), is now toward the industrial pumping wells operated by WRR east of the Site.

With regards to thermal treatment, the geology (and hydrogeology) is excellent for steam injection. The Environmental Protection Agency (EPA) recommends hydraulic conductivities greater than 10^{-4} centimeters per second (cm/s) for steam injection (EPA, 2015). The average horizontal hydraulic conductivity of the formation within the TTZ is 1.24 x 10^{-2} cm/s. Even with the high permeability and relatively high pumping rate from the WRR (minimum 3000 gallons per minute (GPM) (AECOM, 2019)), the groundwater velocities reported in the RFP are relatively low at 0.1 to 0.3 feet per day (ft/day). This means that the energy losses associated with groundwater influx are anticipated to be relatively low.

1.3. Contaminant Distribution and Remedial Goals

The primary contaminant of concern (COC) at the site is benzene. However, a total of 142 volatile and semi volatile organic compounds (VOC and SVOC) were analyzed for in both the soil and groundwater at the Site and a number of other VOCs and SVOCs were identified to be present. Benzene was the mostly commonly encountered contaminant while 1-methylnapthalene was the second most commonly encountered contaminant in both soil and groundwater (AECOM, 2019). Kerosene is present in a localized area.

The primary remedial objective for the thermal treatment is to reduce the mass of COCs within the treatment area. In achievement of the primary remedial objective, the secondary remedial objectives are as follows:

1. Achievement of the average temperatures within the heated volume of at least 176.3 degrees Fahrenheit (°F) [80.2°C]. Targeting this temperature at the actual temperature sensors, which are primarily located at the centroids of triangles formed by three steam injection wells, will result in higher temperatures than measured by these sensors in the majority of the SEE zone. It should be noted that

each temperature sensor is located greater than or equal to 8 ft away from the nearest steam injection location. Most regions of the heated volume are expected to have higher temperatures than those measured at the sensor locations. This means that achievement of target temperatures at the sensors indicates that temperatures in most other areas of the treatment zone will be at or above the design temperature;

   a. Note that the thermal system will approach average temperatures within the heated volume of approximately 212°C [100°C].

2. Achievement of asymptotic conditions. Typically, the cumulative contaminant mass recovery curve at an in-situ thermal remediation site follows a sigmoid shape, with maximum recovery rates (indicated by the steepest slope) towards the middle part of the project. Logistic functions are often used to model phenomena that exhibit a sigmoid curve. Because the slope of the sigmoid shape, Gaussian functions can be used to approximate mass recovery rates (or concentrations, assuming vapor flow rates are constant).

   An asymptotic trend in the cumulative mass removal curve often indicates when continued thermal operations may be providing diminishing returns in mass removal, and can be used to help schedule confirmation soil and/or groundwater sampling activities. This trend in cumulative mass recovery typically refers to the time period when contaminant mass recovery rates have diminished to the point that further mass recovery increases very slowly in comparison to the midpoint of the remediation. The precise value at which this occurs must be defined; typically 10% of the peak performance when evaluating concentration data.

   Once the temperature performance goals have been achieved and the cumulative mass curve appears to reach asymptotic conditions, the following steps will be used to determine if the total COC mass recovery rates (i.e., pounds per day (lbs/day)) are at asymptotic levels:

   a. Verify that temperature performance goals have been achieved;

   b. Verify that the system volumetric flow rate is not less than 70 percent of the average. If volumetric flow rate is unusually low, troubleshoot field operations. Correct any operational issues; and,

   c. Determine the mass recovery rate for at least four consecutive sampling events over a period of 14 days. Treatment goals have been achieved when mass recovery rates remain below 10% of the peak recovery rate (i.e., from 1,000 lbs/day [peak] to 100 lbs/day [asymptotic]), or statistical trend analysis (Mann-Kendall test) of the data show a linear mass recovery curve (linear mass recovery

indicates steady mass flux from the outside of the treatment volume; exponentially decaying mass recovery indicates continued volatilization of mass from inside of the treatment volume).

3. Pneumatic and hydraulic control of the treatment area shall be maintained during the length of remedial activities; and,
4. All recovered groundwater and soil vapor shall be treated to meet applicable discharge permit stipulations.

1.4. Project Team

The project team, shown in Table 2 is primarily comprised of personnel from AECOM and Mc^2.

Table 2: Project Organization

Organization and Role	Contact Names	Role	Contact Information
Shell	Leroy (Buddy) Bealer	Project Manager	leroy.bealer@shell.com
			-
	Cristin Bruce	Technical Lead	Cristin.Bruce@shell.com
			-
AECOM – Thermal Consultant	Wendy Pennington	Project Manager	wendy.pennington@aecom.com
			+1 (314) 452-8929
	Peter Stumpf	SEE Lead	peter.stumpf@aecom.com
			+1 (714) 689-7187
	David Macone	SEE Specialist	david.macone@aecom.com
			+1 (978) 905-2538
	Brett Howell	Local Contact	brett.howell@aecom.com
			+1 (309) 530-5666
	Bob Billman	Local Contact	bob.billman@aecom.com
			+1 (314) 308-2877
McMillan-McGee Corp. Thermal Contactor	Clayton Campbell	Project Engineer	ccampbell@mcmillan-mcgee.com
			+1 (403) 569-5104
			+1 (403) 660-8561
	David Rountree	Technical Review	drountree@mcmillan-mcgee.com
			+1 (403) 569-5116
			+1 (403) 921-0848
	Wayne Robella	Engineering Support	wrobella@mcmillan-mcgee.com
			+1 (403) 569-5106
			+1 (403) 461-1669

1.5. Project Schedule

Please refer to Table 3 for approximate durations of different phases of the project, and to Appendix E for a responsibility matrix outlining the responsibilities of the various organizations in the Project Team.

Table 3: Roxana Project Phases and Approximate Duration

Item	Duration	Notes
Equipment Procurement	12-16 weeks	
Installation	12-14 weeks	Drilling, civil work, surface connections
Acceptance Testing	1-2 weeks	
Operations & Maintenance	~6 months	Initial estimate based on supplied information. Final determination after the numerical simulation.
Demobilization	3-4 weeks	Subsurface wells to be abandoned in place and all other recoverable equipment is removed.
Operational Data Delivery	4-6 weeks	AECOM responsible for the final report, but Mc^2 would provide all relevant SEE operations data.

1.6. Schedule Constraints

The regenerative thermal oxidizer (RTO) media will be changed out in spring 2020, prior to start-up.

2. Treatment Technology

The remediation will incorporate the use of steam enhanced extraction. Efficient recovery of VOCs in the vapor phase is applicable to compounds with a vapor pressure and a Henry's law constant greater than 0.02 inHg and 0.01, respectively. VOC vapors produced in the subsurface will be captured with MPE wells and processed in an aboveground treatment system before discharge. Steam will be injected into the formation in dedicated wells where power energy input is controlled on an individual well basis so that uniform heating and treatment can be achieved.

2.1. SEE Mass Removal Mechanisms

At elevated temperatures, vaporization, volatilization, dissolution and desorption are enhanced, such that conditions are more favorable for the removal of VOCs from the subsurface (e.g., United States Army Corp of Engineers (USACE), 2009; Triplett Kingston et al., 2014). These mechanisms are described by the temperature dependence of the vapor pressures, Henry's law constants, solubilities and soil-water partition coefficients for the fluids in question, respectively (e.g., Figure 2; Table 4). In addition, liquid viscosities, non-aqueous phase liquid (NAPL)-water interfacial tensions and densities decrease at elevated temperatures, which can enhance NAPLs mobility.

Vaporization (i.e., boiling of immiscible VOCs and groundwater) and volatilization (i.e., partitioning of VOCs from the dissolved phase to the gas phase) are the most dominant mass removal mechanisms during SEE. For example, the vapor pressures and Henry's law constants of Benzene, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dicloroethene (cis-1,2-DCE), and vinyl chloride (VC) increase approximately 10- to 30-fold from ambient to near-boiling temperatures. As such, extraction wells must be designed to effectively capture the produced gas, with appropriate locations, screened intervals and applied vacuums, for performance to be successful. The accurate development of a detailed geological and hydrogeological site conceptual model informs this design.

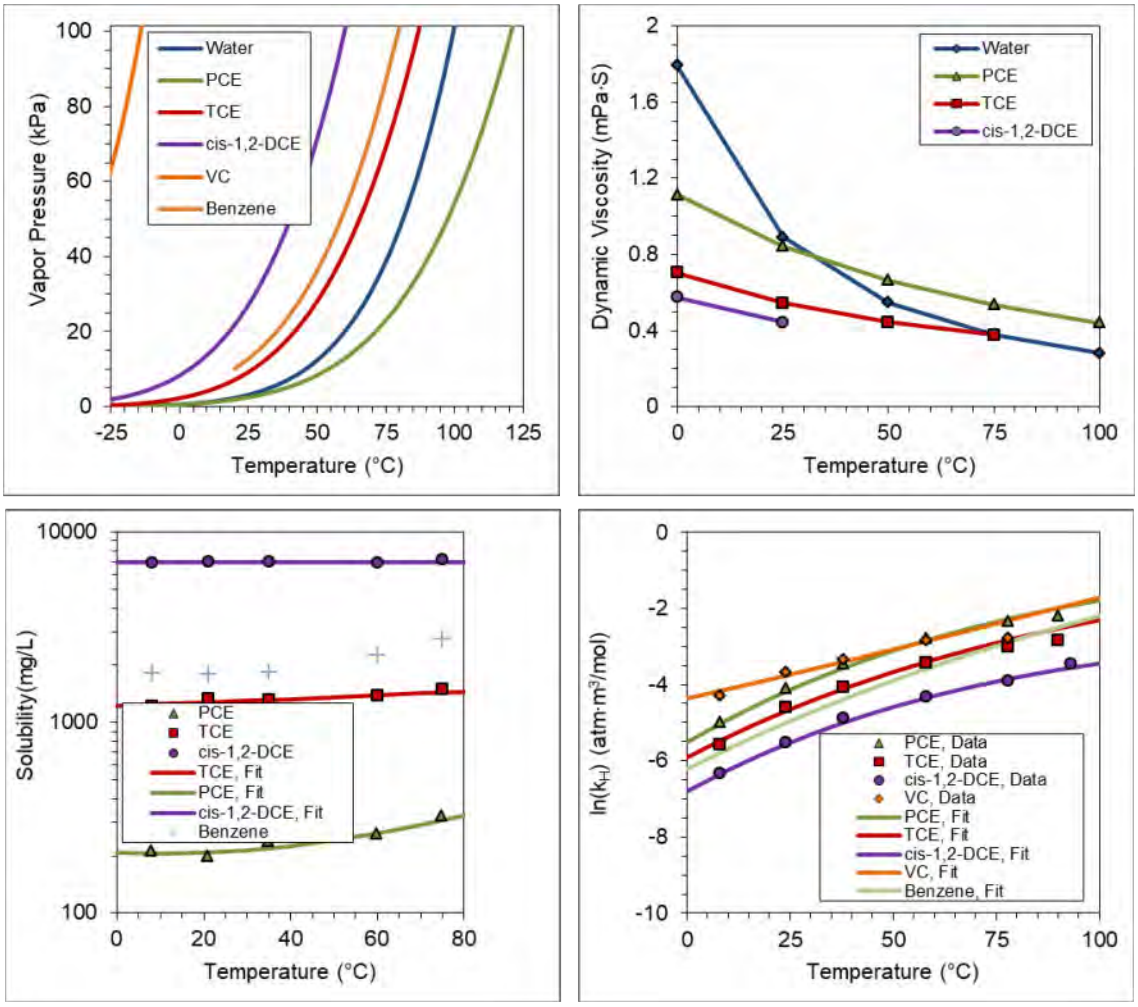

Figure 2: Selected temperature dependent properties of several chlorinated VOCs (data from Chen et al., 2012; NIST, 2016; Haynes et al., 2014)

2.2. SEE Subsurface Vapor Generation

The placement and operation of steam injection and extraction wells are designed such that sufficient temperatures will be achieved to vaporize COCs in the source zone. Vaporization occurs when the total gas pressure, given as the sum of the partial vapor and dissolved gas pressures, exceeds the sum of the ambient atmospheric, hydrostatic and capillary pressures. Consequently, boiling points increase with depth below the water table and vary with lithology.

When NAPL is present, gas production first occurs at the co-boiling (i.e., steam distillation, heteroazeotrope) temperature, as vapor pressures are additive at immiscible fluid interfaces (e.g., Dalton's Law). Fractional distillation theory governs the composition of the vapor phase. Co-boiling continues until all of the NAPL vaporizes, and capture of the resulting vapors can represent a significant amount of the total VOC mass

Table 4: Impact of increased temperatures on partitioning and fate of VOCs in the subsurface (adapted from USEPA, 2004, and others)

Item	At Increased Temperature	Impact on Partitioning or Transport
Vapor Pressure	Increases	Increased vaporization of water and NAPL
Henry's law constant	Increases	Increased volatilization of dissolved VOCs
Solubility in water	Increases	Increased dissolution of NAPL
Soil-water partition coefficient	Decreases	Decreased sorption of VOCs to soils
Liquid density	Decreases	Upwards transport of dissolved VOCs
Liquid viscosity	Decreases	Increased mobility of continuous NAPL
Interfacial tension	Decreases	Increased mobility of discontinuous NAPL
Gas diffusivity	Increases	Increased diffusion of VOC vapors
Liquid diffusivity	Increases	Increased diffusion of dissolved VOCs

For multicomponent NAPL mixtures, the more volatile components vaporize preferentially (e.g., Raoult's Law), and both the composition of the NAPL and the co-boiling temperature change over time (e.g., Zhao et al., 2014). Gas bubbles are generated at NAPL-water interfaces during co-boiling and propagate upwards as buoyancy forces overcome capillary trapping forces. Subsurface heterogeneities in permeability (e.g., Mulholland et al., 2016), resistivity (e.g., Martin et al., 2016), and transient temperature distribution (e.g., Hegele and Mumford, 2014) will influence the path of co-boiled vapor bubbles towards extraction points below the water table.

Pulsed operations can be performed as a strategy to create new gas pathways and remove mass in regions where vapors might be stagnant. This technique involves varying individual steam injection rates and applied vacuums such that regions of the subsurface are repeatedly pressurized and depressurized.

Subsurface temperatures are monitored in real time during an SEE application in order to identify the vapor generation response (i.e., changes in the rate of temperature increase, indicating regions of sensible or latent heat absorption), as well as to inform the operation of the formations response to steam injection, especially where heterogeneities may arise in the formation.

2.3. Subsurface Steam Generation

The placement and operation of the steam injection and the extraction wells are designed so that the treatment area temperature exceeds the minimum required to volatilize the COCs and move them to the extraction points. With benzene being the primary COC at the Site, the minimum temperature is approximately 176.3°F (80.2°C), although this varies with the local pore pressure at any point in the subsurface.

Figure 3 illustrates how steam is formed and how contaminants are extracted using SEE and multiphase extraction. The design is based on numerical models and Mc^2's extensive experience on remediation projects. There are several fundamental elements of SEE that are explained in further detail in this section.

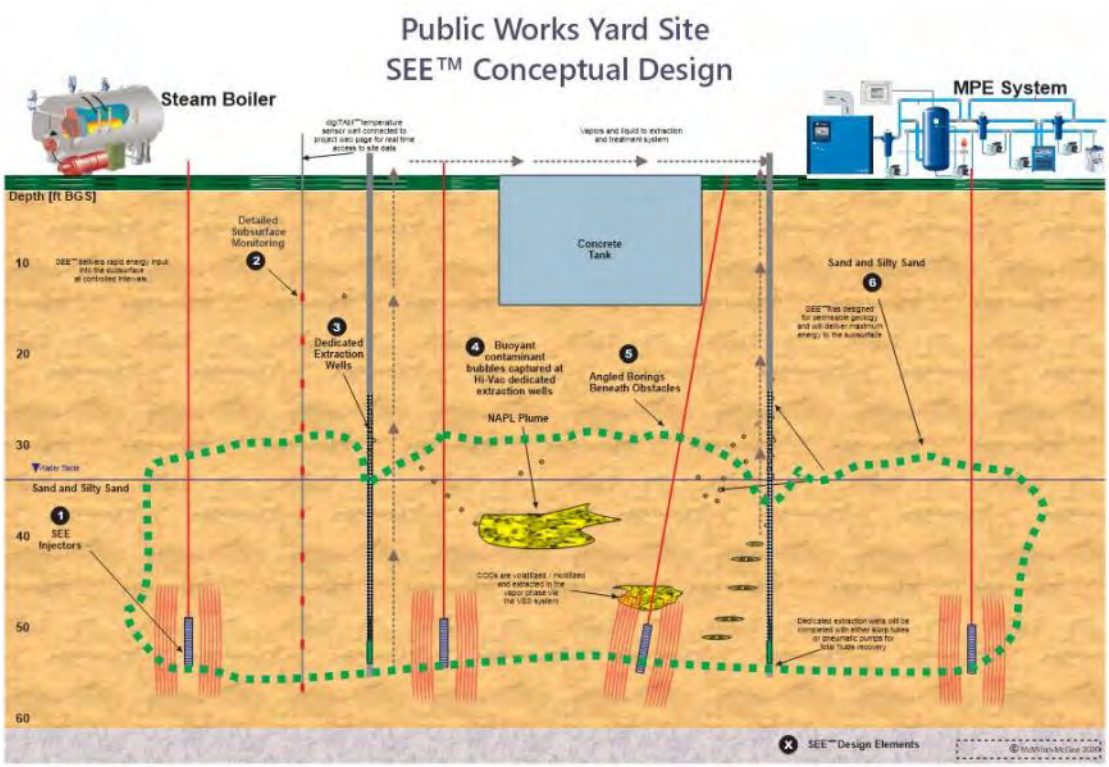

Figure 3: Schematic of technical approach using SEE

Element 1: Steam injection wells will be used in the permeable sand and silty sand layer to deliver heat to the soil within the treatment interval. The temperature increase will increase the volatility of the contaminants present in the treatment zone allowing them to be recovered at the extraction wells. VOC vapors are created at elevated temperatures in the treatment volume. Steam injection will also sweep contamination towards MPE wells used for vapor capture.

Element 2: Continuous remote data monitoring of temperature using digiTAM™ sensors will allow operators to respond in real time to transient subsurface conditions. The data will be available on a dedicated project web page.

Element 3: Dedicated MPE wells are used to capture fluids for aboveground treatment and discharge. Compressed air pneumatic groundwater recovery pumps are operated at sufficient extraction rates to maintain inward gradients for hydraulic control, as steam is injected to the steam injection wells and this steam displaces groundwater, and they also function as a mechanism to capture dissolved VOCs. Continuous operation of the extraction wells at sufficient vacuums will capture vaporized VOCs, soil gas, and steam for pneumatic control.

Element 4: Buoyancy causes the thermodynamically created contaminant bubbles to rise vertically and escape from the heated volume. Continuous operation of the extraction system with appropriate placement of extraction wells will be sufficient to overcome the vertical buoyancy and pull the bubbles into the extraction wells. Sufficient local and macroscopic connection of vapor pockets causes bubble and/or channel flow upwards towards the vadose zone and towards extraction wells for capture.

Element 5: Angle steam injection wells, temperature sensor wells, and MPE wells will be used to target contamination beneath site obstacles ensuring site wide remediation.

Element 6: The hydraulic conductivity corresponding to the sand and silty sand geology of the Site is excellent for steam injection. The average horizontal hydraulic conductivity of 1.24×10^{-2} cm/s is within the recommendations of the EPA for SEE (EPA, 2015).

3. Remedial Approach

Remediation of the target treatment zone will be accomplished by using steam injection combined with MPE technology. The design and application of these technologies is based on fundamental physical principles, lessons learned from previous projects, site-specific characteristics and constraints, and site goals.

3.1. Numerical Simulation

To maximize treatment effectiveness and minimize the potential for condensation and relocation of contaminant mass within and around the treatment zone, it is very important that the temperature of the treated saturated zone and vadose zone be maintained at or above the target temperature of 100°C.

The objective of the simulation study is to develop a subsurface model of the Site. The model is then used to determine the basis for the system design and operating strategy of the treatment system, and to provide design values for the elements typical of an SEE project. The numerical simulation is included as **Appendix B**.

The simulation study was completed based on the September 30, 2021 revision of the design, and has not been updated according to the increase in treatment area, number of steam injection wells, and number of extraction wells. Energy, steam, and extraction rates reported have been updated by scaling up proportionally to the additional number of steam injection wells. All calculations reported in **Appendix C**.

3.1.1. Energy Requirements for Remedial Temperatures

The energy density target for this project is estimated to be approximately 389 kilowatt hour per yard (kWh/yd^3) to achieve the target temperature in the identified heated volume. Heat losses due to boundary conditions and extraction are accounted for. Efficiency of the boiler is not accounted for.

3.2. Remedial Components

The preliminary design for thermal remediation for the Site is provided below.

1. Eighty-one (81) steam injection boreholes (forty-eight [48] in Area A; thirty-three [33] in Area B) with one (1) screen interval per borehole. 2 inch diameter casing and screen used for each injection point;
2. Thirty-six (36) MPE wells (seventeen [17] in Area A; nineteen [19] in Area B). 4 inch diameter MPE wells to allow installation of air-driven groundwater recovery pumps; and,
3. Sixteen (16) vertical sensor wells (ten [10] in Area A; six [6] in Area B]. Area A will have nine (9) and Area B will have five (5) digiTAM™ sensors spaced at 3 foot intervals. The sum total of temperature sensors is one-hundred twenty (120).

A soil and groundwater treatment system, including knockout pots, pumps, holding tanks, bag filters, an air stripper, sacrificial vapor-phase and liquid-phase carbon vessels, vacuum blowers, pumps, heat exchangers, sensors, and controls will be required. To promote efficient re-use of equipment, for environmental reasons, this treatment system will incorporate used components (RTO) owned by the project as well as new equipment being constructed by Mc^2.

The layout of the steam injection boreholes, multiphase extraction wells, and temperature sensor wells has been optimized to minimize the total length of casing/screen and sensor wire used, both for cost, schedule, and environmental reasons.

3.3. Technical Design Summary

Table 5 presents a synopsis of the remediation design for the in-situ thermal heating and thermally enhanced multi-phase extraction system.

Table 5: Project Design Summary

Item	Units	Comments
Site Characteristics		
Heated Area [ft^2]	48,204	Area A – 28,060 ft^2; Area B – 20,144 ft^2
Heated Volume [yd^3]	23,183	Area A – 18,706 yd^3; Area B – 4,476 yd^3
Deep Extent of Treatment [ft BGS]	57/56	Area A/B
Shallow Extent of Treatment [ft BGS]	39/50	Area A/B
Depth to Groundwater [ft BGS]	28 to 37	
Contaminant of Concern	Benzene	
Remedial Goals	Line of Evidence	See Section 1.3
Hydraulic Conductivity (cm/s)	1.2E-2	Horizontal average per AECOM
Remedial Approach		
Steam Injection Wells	81	2 inch diameter, 3 ft long screen, 1 screened interval per boring
Steam Boiler [BHP]	500	150 PSI Design
digiTAM™ Temp. Sensors	120	16 strings, 5 to 9 sensors at 3 ft intervals
Steam Well Spacing [ft]	~30	Conservative design
Minimum Target Temperature [°F]	~176.3	Minimum average in treatment zone required; 80.2°C
Multiphase Extraction Wells	36	4 inch diameter; pneumatic powered pumps; 304SS continuous wire wrapped screen
Vapor Recovery Air Flow [SCFM]	875 to 1,799	Variable depending on phase of project and steam injection rate
Vapor Treatment Method	RTO	Existing regenerative thermal oxidizer with sacrificial carbon backup
Liquid Treatment Method	AS /LGAC	Air Stripper and Liquid Granular Activated Carbon
Summary Information		
Total Energy Input [MWh]	9,027	Steam input only
Power Input [kW]	2,089 to 2,992	Not including treatment equipment. Corresponds to approximately 5,000 to 10,000 lbs/hr total steam injection
Water Demand [GPM]	35	20 GPM maximum for the steam boiler; 15 GPM for the treatment system.
Time to Target Temp. [days]	60-90	
Project Duration [days]	180	Conservative to account for sampling and downtime.

3.4. Subsurface design

3.4.1. Target Zones

The Site is divided into two adjacent TTZs: Areas A and B. The Area A heated area is approximately 28,000 square feet (ft^2) with a treatment interval between 397 and 378 ft amsl; Area B is approximately 20,150 ft^2

with a treatment interval between 395 and 389 ft amsl. The heated area is defined as the area that extends 3 ft beyond the perimeter steam injection well locations. The treatment area is defined as any zone within the perimeter steam injection wells that is within the defined treatment interval for TTZ Area A and B.

3.4.2. Steam Injection Wells

A total of eighty-one (81) steam injection wells will be installed uniformly throughout the treatment volume. Area A will have forty-eight (48) steam injection wells where four (4) of those wells are installed at an angle underneath Building B. Area B will have thirty-one (33) steam injection wells where eight (8) of those wells are installed at an angle underneath the Buckeye pipeline to accommodate a 5 ft drilling offset. The steam injection wells located as shown on the Well Field Layout drawing (**WFL-01**) and constructed as shown on the Well Construction Detail drawing (**WCD-01 and WCD-02**) included in **Appendix A**. Details of the wellhead connections to the steam conveyance network are presented in **WHD-02 (Appendix A).**

Steam injection rates will be adjusted throughout operations and will be dependent on the rate of heating in the subsurface. Once the target temperature is achieved in an area, the steam injection rate will be placed into maintenance mode, in which the steam injection rates are reduced. In maintenance mode, the treatment zone is kept at or above the design temperatures, and mass recovery is maximized.

3.4.3. Multiphase Extraction Wells

Thirty-six (36) MPE wells will be installed at the Site, complete with compressed air assisted vacuum-lift groundwater recovery pumps, placed uniformly throughout the treatment volume. Area A will have seventeen (17) MPE wells where one (1) of those wells are installed at an angle underneath Building B. Area B will have nineteen (19) MPE wells where six (6) of those wells will be installed at an angle underneath Building D.

MPE extraction wells will be installed on 30 to 50 ft centers, similar to the steam injection well locations; however, extraction well locations are restricted to the interior of the treatment areas. They are located primarily in the center of steam injection well triangle arrays to optimize heat transfer through the heated zone by drawing vapor and liquid away from the thermally energized zones to colder areas between the steam injection wells and underneath the buildings.

The total vapor recovery flow will range between 875 and 1,799 SCFM depending on the steam injection rate to the formation. This corresponds to 24 to 50 SCFM per extraction well.

The extraction wells are located configured as shown in **WFL-01** (**Appendix A**) and constructed as shown in the Well Construction Diagram drawing **WCD-01** and **WCD-02** in **Appendix A**. Details of the down hole pump assembly and wellhead connections to the piping network are presented in **WHD-01 (Appendix A).**

3.4.4. Sensor Wells

Sixteen (16) digiTAM™ temperature sensor wells will be used to monitor subsurface temperatures within the treatment volume. These electronic sensors use the three-wire communications protocol and are rated for 125°C. The digiTAMs™ will have sensors vertically spaced approximately at 3 ft intervals, and each sensor string will contain five or nine sensors, depending on the if they are located in Area A or B, for a total of 120 individual temperature monitoring points at the Site. Area A will have ten (10) sensor wells where one (1) of those wells are installed at an angle underneath Building B. Area B will have six (6) steam injection wells where one (1) of those wells will be installed at an angle underneath Building D. Sensors in Area A will be placed at 36 ft BGS, 39 ft BGS, 42 ft BGS, 45 ft BGS, 48 ft BGS, 51 ft BGS, 54 ft BGS, 57 ft BGS, and 60 ft BGS. Sensors in Area B will be placed at 48 ft BGS, 51 ft BGS, 54 ft BGS, 57 ft BGS, and 60 ft BGS.

DigiTAMs™ are integrated with Mc²'s on-Site local area network (LAN) and will be monitored as part of the overall data acquisition strategy for the thermal project. These sensors will be located as shown in **WFL-01** (**Appendix A**) and constructed as shown in the Well Construction Diagram drawing **WCD-01 and WCD-02 (Appendix A)**. Wellhead details are presented in the Well Head Diagram drawing **WHD-01 (Appendix A).**

3.5. Above Ground Design

3.5.1. Extraction System

Compressed air powered groundwater recovery pump assemblies will be used for the extraction of groundwater. The treatment system has been designed to accommodate a peak liquid extraction rate of 40 GPM, with a normal, design extraction rate of 20 GPM. The extraction and treatment system is designed to capture and separate moderate amounts of free-phase product through use of the pumps and a phase separator. It is important to maintain an extraction rate roughly two times greater than that of cold water equivalent steam injection throughout the project to ensure inward hydraulic gradients. Extraction rates at individual MPE wells will vary over the course of thermal treatment, in particular as phase changes and pneumatic fracturing increase the permeability of lower permeability soil encountered (if any).

An air compressor will supply air to each pump at sufficient pressure to overcome the hydrostatic confining forces of the water column at the bottom of the extraction line. Liquid extraction from the MPE wells will be controlled through timer solenoids and isolation ball valves in the well field. Multiple extraction wells will be controlled by a given compressed air solenoid valve. All MPE wells are constructed of 4 inch materials to allow installation of this equipment.

The extraction system will use one high capacity, high vacuum pump (blower) to provide the driving force for vapor extraction and groundwater/soil vapor conveyance through the piping network to the treatment system. The extraction piping layout is shown on figure **PIL-01**

and **EPD-01** in **Appendix A**. This blower will be capable of providing both high-flow, low vacuum, and low-flow, high vacuum conditions using suitable flow control valves and variable frequency drives. The vapor recovery line for vapor extraction piping will connect to the primary liquid/vapor knockout tanks and heat exchangers to capture entrained liquids and condensate before being moved to the vapor treatment side of the treatment system.

3.5.2. Treatment System

The treatment system is designed to process two flow streams; (1) vapors and entrained liquids; and (2) groundwater. A complete process visual presentation and equipment detail of the treatment system can be found in the process flow diagram (PFD) **PFD-01, P&ID-01, P&ID-02, P&ID-03,** and **P&ID-04** (**Appendix A**). The treatment system is subject to amendment with design changes or during operations. The ancillary energy, used for the treatment system and other electrical facilities, is estimated at 841 MWh.

One high-capacity, high-vacuum blower will be used to extract volatilized vapors and liquid from the MPE wells. Extracted liquids and vapors will be piped back to the treatment system via a common header and will first pass through a 5,000 gallon silt/liquid/vapor knockout tank (tank KO-100 shown on **PFD-01** and **P&ID-01** in **Appendix A**) to separate the liquids (i.e. condensate) and entrained sediments from the vapor stream. Vapors will then pass through a shell & tube heat exchanger (HE-120) cooled by cooling tower (CT-130), to reduce the process steam temperature, and then a liquid-vapor separator (KO-140) to extract additional condensate formed due to cooling in the heat exchanger. The vapor stream will be further cooled as it passes through a second shell & tube heat exchanger (HE-160) using a 50% propylene glycol/50% water coolant, which is chilled using a chiller (CH-170), and then a liquid-vapor separator (KO-180) to extract additional condensate formed due to chilling in the heat exchanger. Following liquid removal, vapors will be drawn through two vacuum blowers (B-220A and 220B) which will deliver approximately 900 SCFM under a vacuum of 12 inHg. The vapor stream will pass through a silencer (S-230) and then a fin fan heat exchanger (HE-240) to counteract the temperature increase from the blowers. The vapor stream will then be tied into the RTO. Should the RTO experience an upset condition, vapors will be redirected to two 5,000 lbs sacrificial vapor granular activated carbon vessels (VGAC-270 & VGAC-280). Vapors generated during the air-stripping stage (part of the liquid treatment train) will be tied into the vapor stream following HE-240, prior to vapors being directed to either the RTO or VGAC 270 for treatment.

Extracted groundwater from the MPE wells will be separated in KO-100 and pumped via P-110 to oil-water phase separator (OWS-400). Prior to OWS-400, condensate from KO-140, KO-180, and KO-250 will be pumped via P-150, P-190, and P-260, respectively, to join with liquid being pumped by P-110. Accumulated light NAPL (LNAPL) will be drained into a 250

gallon tank (T2-410) and dense NAPL (DNAPL) (if any) will be periodically drained into 50 gallon barrels for offsite disposal.

Liquids and condensate from the phase separator will be pumped through one air stripper, AS-440 via P-420. Vapor discharge from the air stripper will be passed to KO-250 for treatment by the RTO or VGACs. The process liquid line will then go through three bag filter sets (BF-460A/B/C and BF-470A/B/C) and a shell & tube heat exchanger (HE-480) cooled by a cooling tower (CT-490). The bag filter sets will be designed so that the full process flow can go through one bag filter housing line while the other is being changed.

Liquid discharge from the bag filters will be sent to two 2,000 lbs liquid-phase activated carbon treatment vessels (LGAC-500 and LGAC-510) operated in series. The treated water will be pumped into a final 5,000 gallon equalization tank, from which the water will then be discharged or used for LGAC backwashing.

Combined treated water and treatment equipment discharge will be discharged to the onsite stormwater drain. Treated water discharge to the storm sewer is estimated to be at a rate of up to 50 GPM. The discharge contaminant concentration limits are to be determined; however, the system is designed to be capable of treating the discharge to below drinking water requirements for all organic contaminants. During initial startup, treated water will be analyzed to ensure that concentrations meet permit criteria prior to discharging to the storm sewer.

3.5.2.1. Treatment Flows and Processes

A maximum vapor system flow of approximately 1,800 SCFM, and a design maximum extracted groundwater flow of approximately 50 GPM are the bases for the treatment system design.

Typically, the maximum contaminant mass-loading rate on the extraction system to be expected during a project is approximately 3-4% of the total contaminant mass extracted per day, approximately 95% of which is usually in the vapor phase, and 5% of which is in the liquid (groundwater) phase.

The main rotary blowers (B-220A/B) will provide the driving force behind the MPE system. Each blower is capable of 2,000 SCFM at a vacuum of 12 inHg. This extraction rate will create and maintain inward pressure gradients in the subsurface, assuring pneumatic control. The back-up VGAC vessels are sized to allow approximately 2 to 4 days' operational time at peak mass removal rates before changeout.

Most of the dissolved contamination in the groundwater will be removed by the air stripper prior to entering the LGAC units, which will be used to remove any remaining contamination and to polish the liquid stream. Overall contaminant removal from the liquid stream using the air stripper is expected to be greater than 95%. The percentage of mass that will be removed as dissolved contamination is expected to be less than 5-10% of the total mass. Only approximately 10% of this value (1% of the total

contaminant mass) or less is typically recovered as pure phase NAPL for benzene. The LGAC vessels selected are sized for the instantaneous process flow through them; they are anticipated to only require one changeout at the end of the remediation.

All buildings and tanks will have secondary containment with leak detectors (shown on **P&ID-01** through **P&ID-04**). Tanks and separators will have sensors for flow control and to detect overflow conditions. The typical sensor set points for treatment system tanks are:

- low: which shuts off the discharge pump;
- high: which turns on the discharge pump;
- high-high: which shuts the groundwater recovery off but maintains a minimal vacuum level for pneumatic control ("Yellow Alarm"); and,
- high-high-high: which shuts off groundwater recovery and all vacuum recovery ("Red Alarm").

Tanks containing VOCs or untreated water will be held under vacuum to control fugitive emissions. A line from the primary knockout tank (KO-100) will be connected to treatment tanks through a vacuum regulator and vacuum relief valve, to prevent VOC vapors from escaping. Tanks will also have individual vacuum relief valves as a safety precaution. Additionally, valves, flanges, and pipe joints shall be monitored periodically via use of a handheld photo-ionization detector (PID) during routine inspections to monitor for VOC release.

3.5.3. Steam System

The steam injection system will be fed by a natural gas steam boiler capable of producing 13,800 lbs/hr of steam at 150 pounds per square inch (PSI). The unit is oversized for the current design injection rate of 10,000 lbs/hr. The boiler is contained in a stand-alone inclement weather 53 ft trailer. See **Appendix D** for a cut sheet of the steam boiler unit. The location of the steam boiler is shown on figure **EQL-01** and **EQL-02** in **Appendix A**. The steam piping layout is shown on figure **SPD-01** in **Appendix A**.

The steam injection system will be equipped with eight drip leg and steam trap assemblies, shown in **SPD-02** in **Appendix A**.

The steam injection flow, metering, and sizing calculations can be found in **Appendix B**.

3.5.4. Insulation

All sections of 2 inch and 3 inch steam headers will be insulated with 1 inch thick Owens Corning SSL II with ASJ Max Fiberglas™ pipe insulation jackets to improve energy efficiency and site safety, as shown in **SPD-01** in **Appendix A**. Nowhere else in the injection, extraction, or treatment systems will be insulated

3.5.5. Utility Requirements

3.5.5.1. Electrical

The power requirement will be satisfied by one three-phase service. One transformer will feed one Power Distribution Panel (PDP). This will serve as the main disconnects for the treatment area. The PDP unit will be located in the electrical equipment area, shown on the Equipment Layout Drawing (**EQL-01/02**) in **Appendix A**. A detailed description of the electrical requirements can be found in the Electrical Single Line (ESL) diagrams **ESL-01** (**Appendix A**). See **Appendix D** for the PDP cut sheet.

3.5.5.2. Water

A water usage rate of 10 to 20 GPM for the steam boiler is expected during operations, depending on the operations stage, resulting in a total water requirement for the boiler of 3.3 million gallons and a water extraction total of up to 6.8 million gallons based on an approximate extraction/injection ratio of up to 2.0. Additional water will be required to feed the treatment system cooling processes and will be 5 to 15 GPM depending on the heat load.

3.5.6. Telecommunications

The telecommunications system that will be used is comprised of a LAN in the field for real-time data communications. A high-speed Internet connection with a minimum 500.000 bits per second upload/download speed for off-Site data transfer and remote control of the system by Mc^2 will be installed. On-Site personnel will require cell phones to communicate with Mc^2 project staff.

3.6. Treatment & System Monitoring

Appropriate system controls will be an integral part of the liquid treatment system. The discharge holding tank (T-520) will have a high-high level sensor to shut down the system to prevent an overflow of the tank. Potable water usage will be monitored by use of a flow totalizer. In the case of an overflow, spilled water will collect in secondary containment or sumps, triggering overflow sensors. The knockout tanks and other tanks will feature high and low level switches to control and protect transfer pumps, and prevent downstream overflows. High-high level sensors in these tanks will trigger a “yellow” alarm, shutting down groundwater recovery but maintaining a minimal soil vapor recovery flow. High-high-high sensors will trigger a “red” alarm, shutting down both soil vapor and groundwater recovery. Operations personnel will be alerted of treatment system shutdowns via automated call-out, email, or short message service (SMS) text message to their cell phones.

3.7. Data Management,

3.7.1. Data Management

Digital data obtained from onsite digital measurement devices are transmitted over a LAN to Mc^2's on-site server, which logs all readings and stores them in a local database. All changes to the database are then immediately synced across the Internet to the Calgary, Alberta, Canada office over a secure virtual private network (VPN) tunnel. In Calgary, the data is again replicated to a live backup. Daily snapshots are made of the entire database on both the on-site server and the primary office server, and these snapshots are archived to Mc^2's backup server for disaster recovery. Additionally, every server is protected with redundant hard drives in Redundant Array of Independent Devices (RAID) 1 configuration. In Mc^2's Calgary office, a dedicated server room has backup power and redundant internet lines to ensure reliable service for all active projects. Occasional scheduled outages are required for server maintenance and upgrades.

In the event of catastrophic Internet failure, the data is fail-safe stored in both Calgary and onsite servers. The onsite server will store all new information until a new connection is made, and will maintain the normal operating conditions. All alarm controls will continue to function (preventing system overflow, etc.). Site personnel will be immediately notified if the Calgary server loses contact with the on-Site server.

Where automated readings are taken more than once an hour, data is summarized hourly, and the individual readings are removed from the database after 5 days. The logs are kept for the duration of the project, so that individual readings could still be reviewed after the 5-day retention period if necessary, but it should be noted that these log files are not backed up off-site.

Data entered manually by the Site operators via our project website is protected in the same way as the automated readings, except that no copy is made back to the on-site server.

3.8. Sampling and Analysis

3.8.1. Liquid Samples

Liquid samples will be collected once every two weeks. The following four locations will be sampled at every sampling event:

- Immediately upstream of the air stripper, at the outlet of the OWS unit (OWS-400). These concentrations will be used to calculate dissolved-phase contaminant mass removal from the subsurface; and,
- Downstream of the air stripper (AS-440);
- Immediately downstream of LGAC-500; and
- Immediately downstream of LGAC-510.

Liquid samples may also be collected at additional locations to evaluate individual treatment vessel efficiency and media consumption or breakthrough, but are not mandatory (contrary to those shown above). Liquid samples will be submitted to a commercial laboratory for characterization.

3.8.2. Vapor Samples

Mc^2 will collect two vapor samples on a bi-weekly frequency for laboratory analysis/confirmation (USEPA Method TO-15 or equivalent, with a Tedlar™ bag or Summa sample container) and daily for analysis using a PID. These samples will be collected immediately after the blower, before and after addition of the air stripper air. The lab results will be used to confirm PID results and to provide a more quantitative assessment of mass removal rates. The PID measurements will be corroborated with analytical vapor measurements by taking a reading from a sample collected in a Tedlar™ bag prior to shipping the sample to the laboratory, and by daily calibration using certified calibration gas.

In addition to the above discrete sample events, the Site operator will have a portable PID to monitor the treatment area and equipment intermittently to check for leaks and fugitive emissions.

3.9. Mass Recovery

The field data collected with the PID and confirmatory laboratory data will be used to record daily concentration levels in both phases. Totalizers in liquid streams will provide a volumetric record of liquids extracted and processed, while rotameters and pitot tubes will provide an instantaneous volumetric rate of vapor flow. Liquid and vapor measurements will be recorded at a minimum of 5 times per week (subject to operator scheduling). Mass removal in both liquid and vapor streams is calculated by multiplying concentration and flow calculated/recorded for the period immediately before the concentration reading. Daily and cumulative mass removed data will be displayed on the project's secure web page both in tabular and graphical format.

4. Construction Activities

Field construction include the installation and/or performance of:

1. Steam injection wells;
2. MPE wells;
3. Sensor (digiTAM™) wells;
4. Steam boiler and treatment system equipment;
5. Treatment system piping and RTO integration
6. Steam injection piping and insulation;
7. Connecting steam injection lines and setting up metering;
8. The header connection to the treatment system skid;
9. Potable water connection;
10. Sewer connection;
11. Power connections to the treatment system;
12. Power and gas connections steam boiler;
13. System acceptance testing; and,
14. Wet testing the treatment system prior to startup.

4.1. Staging Equipment & Supplies

All equipment and supplies used during the construction of the treatment system will be staged in a secure manner. The treatment system will be located within a secured area.

The location of the soil vapor and groundwater treatment system is an approximate area of 5,500 ft^2, as shown in **EQL-01/02** (**Appendix A**). VGAC and LGAC vessels will be placed outside so as to be accessible for changeouts. The placement of the steam boiler unit is shown on this figure as well.

Equipment will be placed in a manner to minimize hose and wire runs. The PDP will be placed as close as possible to the Site transformer. Equipment cut sheets can be found in **Appendix D**.

4.2. Subsurface Construction

4.2.1. Site Security

Prior to construction and operations, the existing fence should be modified with privacy slats. Equipment will be stored either in a locked container, or in an area deemed safe by AECOM. “Hot Surface” signs will be hung Site wide.

4.2.2. Utilities

The treatment area has existing subsurface sewer, stormwater, and electrical utility lines. The existence of these utilities, in addition to others which may be unknown, requires additional caution be undertaken during

the subsurface construction planning, and may require hand clearing to the maximum extent possible to ensure that no utilities are encountered during drilling and construction activities. The final locations of all subsurface installations were subject to the location of existing utilities, resulting in some modifications to the steam injection well grid.

All necessary authorities are to be consulted in advance of the drilling phase to obtain permits and utility mark outs. Drilling activities incorporate safety measures such as soft digging to prevent damaging underground utilities and structures.

All polyvinyl chloride (PVC) pipes located in the treatment area above the target interval are subject to deformation as a result of operations. These are understood to be abandoned in place.

4.2.3. Drilling Program details

The preferred methods of subgrade installation are sonic drilling. These drilling methods provide excellent production, make for easy installation, and have proven results for large and deep well arrays. **Table 6** details the volumes of investigative derived waste generated during the proposed subsurface installation program.

Table 6: Drilling Program Details

Item	Qty	Depth (ft)	Angle (deg.)	Length (ft)	Diameter (ft)	Volume (ft^3)	Notes
Steam Injection Wells	44	57.0	0.0	57.0	0.33	218.9	Area A
	25	57.0	0.0	57.0	0.33	124.4	Area B
	4	57.0	15.1	59.1	0.33	19.9	Area A Slanted
	8	57.0	7.6	57.5	0.33	39.0	Area B Slanted
MPE Wells	16	59.0	0.0	59.0	0.67	329.5	Area A
	14	59.0	0.0	59.0	0.67	288.3	Area B
	1	59.0	12.2	60.4	0.67	20.6	Area A Slanted
	5	59.0	17.6	61.9	0.67	103.0	Area B Slanted
Sensor Wells	9	60.0	0.0	60.0	0.33	47.1	Area A
	5	60.0	0.0	60.0	0.33	26.2	Area B
	1	60.0	14.9	62.1	0.33	5.2	Area A Slanted
	1	60.0	13.0	61.6	0.33	5.2	Area B Slanted
Contingency						**1.3**	
Total	**133**					**1595.5**	**cubic feet**
						59.1	**cubic yards**
						106.4	**tons**

*Notes: Soil volumes are estimates only. Actual waste from these boreholes may be overestimated. Assumptions: 1.8 tons/yd3 wet soil density, 4 inch steam injection well boring, 8 inch extraction well boring, and 4 inch sensor well boring. Angles are averages.

4.2.4. Steam Injection Wells

The steam injection wells will each consist of a 2 inch diameter; 0.010 inch slotted 304 stainless steel (SS) screen. The screened interval is from 54 to 57 ft BGS in both Area A and B. A filter pack consisting of graded sand (20/40 silica sand or equivalent) will be installed in the annular space around the well screen. The boring plug will be completed with a grout (no bentonite) and fine sand seal to surface. Each well will be completed with

an adapter and wellhead and will then be piped to the steam boiler. Each wellhead will have a temperature gauge, orifice plate meter, and a low and high pressure gauge, and a sample port/relief valve. See **WFL-01** (**Appendix A**) for the well field layout and **WCD-01**, **WCD-02**, and **WCD-03** (**Appendix A**) for the steam well construction drawings.

For well head details, please refer to **WHD-02** (**Appendix A**) for the wellhead design.

4.2.5. Extraction Wells

The MPE well boreholes will be 4 inch in diameter and consist of a continuous wire wrap 0.010 inch slotted 304L stainless steel (SS) screen. Above the screen interval there will be a carbon steel riser, the top of which will be complete with a 4 inch, as appropriate, male National Pipe Thread (mNPT) fitting. A filter pack consisting of 20/40 silica sand (or equivalent) will be installed in the annular space around the MPE well screen. The boring will then be finished to surface with neat Type I/II cement grout (no bentonite), able to withstand elevated temperatures. Each MPE well will be completed with a wellhead, which will be connected, via Parker series 7373T Blue Thunder corrugated chemical suction hose, to a conveyance piping network leading to the treatment system. MPE well layout can be found in **WFL-01** (**Appendix A**) and the well designs are detailed in drawing **WCD-01, WCD-02, and WCD-03** (**Appendix A**). The MPE wells will each be equipped with an approximate 1/2 inch inside diameter (ID) polytetrafluoroethene (PTFE) downhole compressed liquid pump recovery line. The compressed air line will be a 1/4 inch outer diameter (OD) PTFE tube. Vacuum blowers B-107A/B will apply vacuum to the MPE wellhead in the above ground treatment system. Each MPE wellhead will be equipped with a temperature gauge, a vacuum gauge, and a sample port/bleeder valve. Detailed wellhead and pump design drawings are presented in drawing **WHD-01** (**Appendix A**). See **Appendix B** for filter pack design calculations.

4.2.6. Sensor Wells

Installation of vertically spaced digiTAM^{TM} sensors will be performed in conjunction with the installation of the steam injection and extraction wells. A string of electronic sensors at 3 ft depth intervals, will be housed in a watertight 1.5 inch carbon steel casing with coated threads for a water tight seal. The digiTAM^{TM} sensors record temperature at their respective depths.

Grout will be used to fill the annular space around the carbon steel casings to surface. The sensor well completion designs can be found in **WCD-01, WCD-02, and WCD-03** (**Appendix A**). A detailed description of the sensor wellheads can be found in **WHD-01** (**Appendix A**).

An Ethernet cable will be connected to the sensor string and brought back to one of three remote boxes for real-time temperature monitoring. This data will serve for daily system optimization.

4.3. Above Ground Construction

4.3.1. Conveyance Systems

4.3.1.1. Extraction Piping

After completing the installation of all subgrade components of the system, the extraction system piping will be installed and connected to the extraction wellheads. The lateral connection for each extraction wellhead above surface to the header will be high temperature vacuum hose, 1.5 inch in diameter. Each connection point of the main header will have a 1.5 inch ball valve to adjust the vapor flow rate and isolate the well from the extraction system when necessary. The main header piping for the extraction system will have a 4 to 8 inch diameter schedule 40/20 carbon steel pipe that will run to the treatment system. Lateral piping throughout the well field will consist of 2 to 4 inch schedule 40/20 carbon steel pipe and will be laid out in a fashion to reduce the length of pipe runs. A 1 inch flex hose will run under the multiphase piping to convey compressed air for the pneumatic pump assembly.

Air lines for the pump assemblies will be supplied by a dry rotary fan air compressor (oil-free) in the treatment system. An air regulator will be placed in the field to manage well field air pressure.

All extraction system piping is to be sloped at a slight grade toward the treatment system for gravity draining. In Area A, the extraction system piping is to be sloped at a slight grade towards the pump station for gravity draining. The wellheads will be connected to the extraction header with hoses using cam-lock fittings. The extraction header piping will rest on pipe stands.

A layout of the extraction piping can be found in **PIL-01** and **EPD-01**, (**Appendix A**).

4.3.1.2. Steam Piping

Concurrent to the installation of the extraction system piping, the steam injection piping will be installed and connected to the steam well metering well heads and the steam boiler. The lateral connection for each steam well head to the main conveyance piping will be steam hose, 1 inch in diameter. Each connection point of the main header will have a 1 inch ball valve to adjust the flow rate and isolate the well from the steam system when necessary. The main header piping for the extraction system will have a 2 inch to 3 inch diameter schedule 40 carbon steel pipe that will run to the steam boiler in the equipment staging area.

The steam piping system has been designed to supply each steam injection well at a maximum of flow rate of 180 lbs/hr (10,000 lbs/hr total system capacity) at no more than 150 PSI, regulated down to 10 to 30 PSI down hole.

The estimated fracture pressure of the formation ranges from 23.7 to 36.4 PSI in Area A and 30.4 to 36.4 PSI in Area B. Formation fracture is

unlikely to occur as excessive pressure build up will most likely result in steam routing up the side of the steam well grout to surface. To reduce the risk of compromising steam injection wells due to over pressuring, pressure ramp up will be slow and closely monitored. Steam pressure and flow rate will be measured at the wellheads to ensure than flow increases proportionally to pressure.

The steam piping will be insulated with 1 inch thickness fiberglass insulation. The steam piping will be fitted with drip leg and steam trap assemblies.

A layout of the steam piping can be found in **PIL-01** and **SPD-01** (**Appendix A**). Details for the drip leg and steam trap assemblies can be found in **SPD-02** (**Appendix A**).

4.3.2. Power Supply

A detailed description of the power supply connections and specifications can be found in **ESL-01** (**Appendix A**). The power drop and electrical connection is provided by TBD.

4.3.3. Treatment System

The liquid treatment system equipment will be skid-mounted with secondary containment in the skid. This secondary containment will have a high level sensor in the holding tank to shut down the system if a leak is detected. Additionally, all transfer hoses with unprocessed liquids will be double contained (primary with sleeve).

Once the treatment system is set up at its designated location, a short section pipe will be installed from the completion of the extraction system header to the primary liquid/vapor separator (KO-100). The treatment system equipment will arrive with the controls described earlier pre-installed.

After completing all piping connections, the liquid treatment system will be pressure tested at 15 PSI for 30 minutes. Additionally, a wet test of the treatment system will be completed prior to startup. Pressure testing is conducted to check for treatment system leaks. The treatment system will be tested with air and water as applicable in order to ensure the integrity of gaskets, valve seals, etc.

4.4. Waste Management

Drilling waste generated during construction activities will be appropriately containerized for on-Site storage prior to off-Site disposal. All waste disposal will be in accordance with applicable regulations and disposal facility requirements.

4.5. System Shutdown and Site Restoration

Once site data indicate that contaminant reduction remedial goals have been achieved, the SEE system will be shut down. Groundwater and soil vapor recovery may optionally continue for a period to maintain hydraulic and pneumatic control of subsurface conditions, if warranted.

Once confirmation sampling has occurred, results have been positively analyzed for successful achievement of the statistical metric for project completion, and the system has been shut down, all above-grade equipment will be removed from the site. The tie in to the RTO system will be capped off and all thermal system components will be removed. Wellheads will be removed, and piping and cables recovered. Extraction and temperature wells will be properly abandoned, as per local regulatory requirements. All well abandonments will be completed by a contractor licensed or authorized to do so in Illinois.

5. Operational Strategy

5.1. Operations and Maintenance Plan

The operational schedule for the anticipated stages of initial heating, maintaining target temperatures, pressure cycling and cool down will be described in the **Operations and Maintenance** (O&M) **Plan** (submitted under separate cover). The O&M Plan will also contain details regarding start-up procedures, operations and maintenance procedures, alarm response, and job hazard analyses.

5.2. Pneumatic and Hydraulic Control

Controlling potential migration and/or redistribution of COCs will be achieved by maintaining sufficient vacuum and extraction within the treatment volume. Pneumatic and hydraulic control will be established and maintained through the extraction of subsurface fluids at design rates, and monitored throughout the SEE application with pressure sensors and flow totalizers. An extraction/injection ratio maintained above unity is used to prevent the thermal system from mobilizing contamination outside the treatment volume due to remedial activities. Groundwater table elevations can be measured at the extraction wells using a water level tape while the steam system turned off to assess hydraulic gradients within the treatment volume for additional verification.

To ensure that short circuiting is not occurring in the vapor capture system, (resulting from one well pulling the majority of the extraction volumes through a cracked vapor cap for example), each well head vapor flow rate will be periodically monitored with an attachable pitot tube assembly. The pitot assembly consists of a pipe spool fitted on the end with camlock fittings compatible with those depicted in drawing WHD-01, and a threadolet fitted with a pitot tube. This allows the Mc^2 project team to adjust the well's extraction rate by opening/closing the ball valve on the 1 inch line connecting the well to the manifold. This balancing of the well field occurs on a weekly basis during start-up, and once a suitable confidence level has been achieved (after stable operations), the frequency of this testing can be reduced. This will permit extraction rates near the East Eighth Street to be verified, and will demonstrate the inward pressure gradients are being created. Cumulative liquid and vapor flow rates, and individual extraction well temperatures and vacuum are also monitored manually on at a minimum of 5 times per week (based on operator scheduling) by the onsite technician. These data, and all other measurements will be made available through the secure webpage for remote monitoring by Mc^2 and AECOM project staff.

5.3. Aggressive Heating and Extraction

After flow rates are adjusted to establish pneumatic and hydraulic control, steam flow rates will be increased to the design range. Steam flow rates will be adjusted based on operator measurements and real-time temperature measurements. Extraction wells will be operated under applied vacuum, and based on vapor, temperature, vacuum, pitot tube and PID measurements at the wellheads, optimized to maximize the capture of VOC vapors. Liquid extraction rates will be adjusted to minimize

convective heat losses associated with extraction, while ensuring the capture of NAPL and dissolved VOCs.

5.4. Upset Conditions

The treatment system programmable logic controller will monitor for a variety of upset conditions, including leaks and overflows, high liquid levels, high temperatures, and vacuum and/or pressure levels out of normal range. Alarms based on high liquid levels will be first trigger a "yellow" alarm condition, which will halt groundwater extraction and lower the vacuum extraction by 50%, to allow the high liquid level to clear through normal equipment operation. Higher liquid levels, or sensor signals that indicate a leak or overflow condition, will trigger a "red" alarm condition, which shuts down all equipment. All main process stream units will have redundant red alarm sensors. Red alarm conditions will require on-site operator intervention.

Treatment system states will be communicated between our treatment equipment and the RTO through dry contact switches and signal wire, and/or MODBUS communications protocol. The Mc2 treatment system PLC will have defined alarm states communicated through MODBUS to the site computer server, which in turn will relays alarms to the Calgary data center server. The Calgary data center server sends e-mail alerts as well as text alerts using the Signal secure communications app. Site operations staff as well as Mc^2 engineering staff will have smartphones so as to be able to receive both e-mail and Signal text alerts. As a back-up, voice call alerts will be made directly from the site computer server for red alarm conditions.

The treatment system controls and communications equipment will have uninterruptable power supply (UPS) backup power, so that monitoring and alerts will continue in the case of a site power outage. Loss of the internet connection to our Calgary server is itself an alarm condition requiring operator intervention.

The on-duty operator will respond within two hours to system alarms. Lone worker protocols will be followed if the operator goes to the site unaccompanied.

5.5. Performance Evaluation and Shutdown

Continued monitoring throughout operations will inform project personnel of system performance and the achievement of shutdown criterion. Please refer to **Section 1.3** for a complete description of the goals of the project and the methods used for determining achievement of those goals.

5.6. Health & Safety

Health and safety will be of paramount concern during all phases of this thermal remediation project. Mc^2 has prepared a **Health & Safety Plan** that will be submitted under a different cover to complement AECOM's Health and Safety Plan, which will include provisions for strict adherence to safety standards and controls during drilling, construction, operations and demobilization. This will ensure that the potential for exposure of

personnel to hazards and unsafe conditions is minimized. To protect the public who may not have access to the Health & Safety Plan, appropriate signage will be placed throughout the entire treatment zone including clearly labeled ‘High Temperature’ signs (in the appropriate language) on all walls, posts and structures visible from the treatment area. Hot surfaces and all process tanks will be appropriately labeled and placarded.

6. Performance Monitoring

Performance monitoring will include monitoring of the extraction system and treatment system parameters, SEE parameters, and subsurface temperature.

6.1. Subsurface Monitoring

Continuous monitoring of Site operations will be conducted to ensure that hydraulic and vapor capture are maintained, over-pressurization is prevented, and operational temperatures are achieved and maintained. Vapor pressure gradients will be determined by manually measuring the vadose zone pressure at extraction wells weekly.

Temperature monitoring will be achieved with 120 digtiTAM™ temperature sensors in 16 boreholes. This high density of temperature data will be logged in a database and used to visualize subsurface conditions in thermal images as shown in **Figure 4**. Since the vadose zone can be approximated by a saturated steam system under operating conditions, pressure in this zone will be a function of temperature (and vice-versa). This allows for interpretation of temperature data to provide supplementary pressure data.

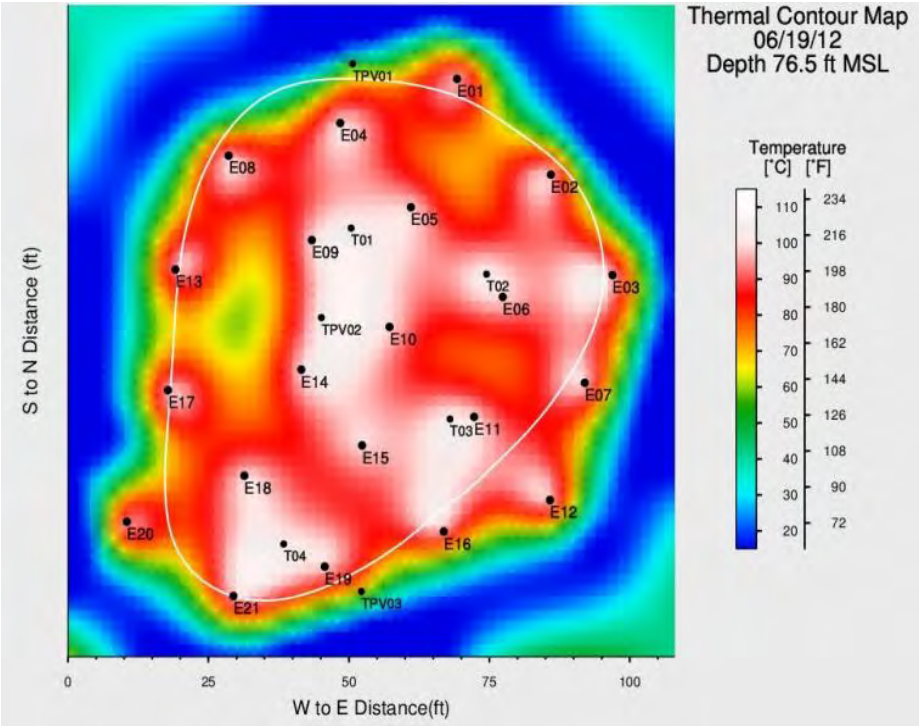

Figure 4: Sample Subsurface Temperature Distribution Map

6.2. Treatment System Monitoring

During operations, on-Site personnel will monitor the remediation system. Site monitoring activities will be conducted at least once per day on weekdays.

Upon completion of each Site-monitoring round, the information will be compiled into an ongoing project database. Contaminant mass removed from soil, volume of liquid removed, system runtime, and subsurface airflow rates will be calculated manually using PID measurements, laboratory analytical results, and flow measurements taken over a specific period.

6.3. Temperature and Vacuum Monitoring

Subsurface temperatures and vacuum in the treatment volume will be monitored from the digiTAM™ and extraction wells, respectively. Vacuum will be measured manually at each vapor extraction point and recorded on the project database. Pitot tube measurements will allow system balancing to prevent short-circuiting.

6.4. Post-Treatment Sampling

Once asymptotic conditions and temperature goals have been reached, post-treatment soil sampling will be performed to assess contaminant mass reduction. Post treatment sampling will follow the sampling instructions and job safety analysis provided in the Health and Safety Plan.

6.5. Data Collection & Management

The following section describes some additional data management and display features that will be used during the thermal remediation of the Site.

Electronic data collection consists of state-of-the-art techniques that have been proven at numerous thermal remediation projects. Data from uniquely addressed digital temperature sensors located throughout the well field and treatment area are transmitted via a communication protocol to an on-Site server. This server's database functions as the first storage location for the collected data. This server also acts as the conduit for real-time sensor data transfer to the Mc^2 central server located offsite. All data is transferred between the on-Site Mc^2 server and the central off-Site server over a secure internet connection. The central server provides redundant storage of all data and provides immediate access to data as required.

The Mc^2 central server is responsible for three main tasks. The first task is to collect and store a complete copy of the database located on-Site. Second, it provides access to all relevant data and operational information gathered from all aspects of the project on a secure database. Third, it is used to calculate and render models of the thermal process and process real-time data for visual presentation. The database may be remotely accessed via the Internet.

7. Conclusion

SEE will be used to target the site for thermal remediation of the VOCs present. Background information of the site and the remedial approach were presented. A summary of the technical design was presented in Table 5, and includes:

1. Eighty-one (81) steam injection wells;
2. Thirty-six (36) MPE wells;
3. Sixteen (16) digiTAM™ temperature monitoring locations with 120 sensors;
4. An expected investigation derived waste volume of approximately 57 yd^3;
5. A conservative estimated total energy input delivered through the steam wells of 9,027 MWh;
6. The estimated ancillary energy used for the treatment plant and other electrical facilities, based on previous site experience, is 841 MWh;
7. A target vapor extraction rate of 875 to 1,799 SCFM; and
8. Total CWE liquid injection and extraction rates of 10-20 GPM and 20-40 GPM, respectively.

A summary of the drilling program, construction details, operational strategy, and performance monitoring plan for the system and were presented, the latter of which includes:

1. Steam injection rates;
2. Subsurface temperatures;
3. Extraction well vacuum and temperature;
4. Water injection and extraction rate; and
5. Vapor extraction rate.

These data will be used to inform the operation of the system, and will be available on a secure project website for remote monitoring. Achieving the design temperature and asymptotic conditions will be used as a metric to assess SEE shutdown, and post-treatment soil and groundwater sampling will be used to confirm progress towards cleanup goals.

8. References

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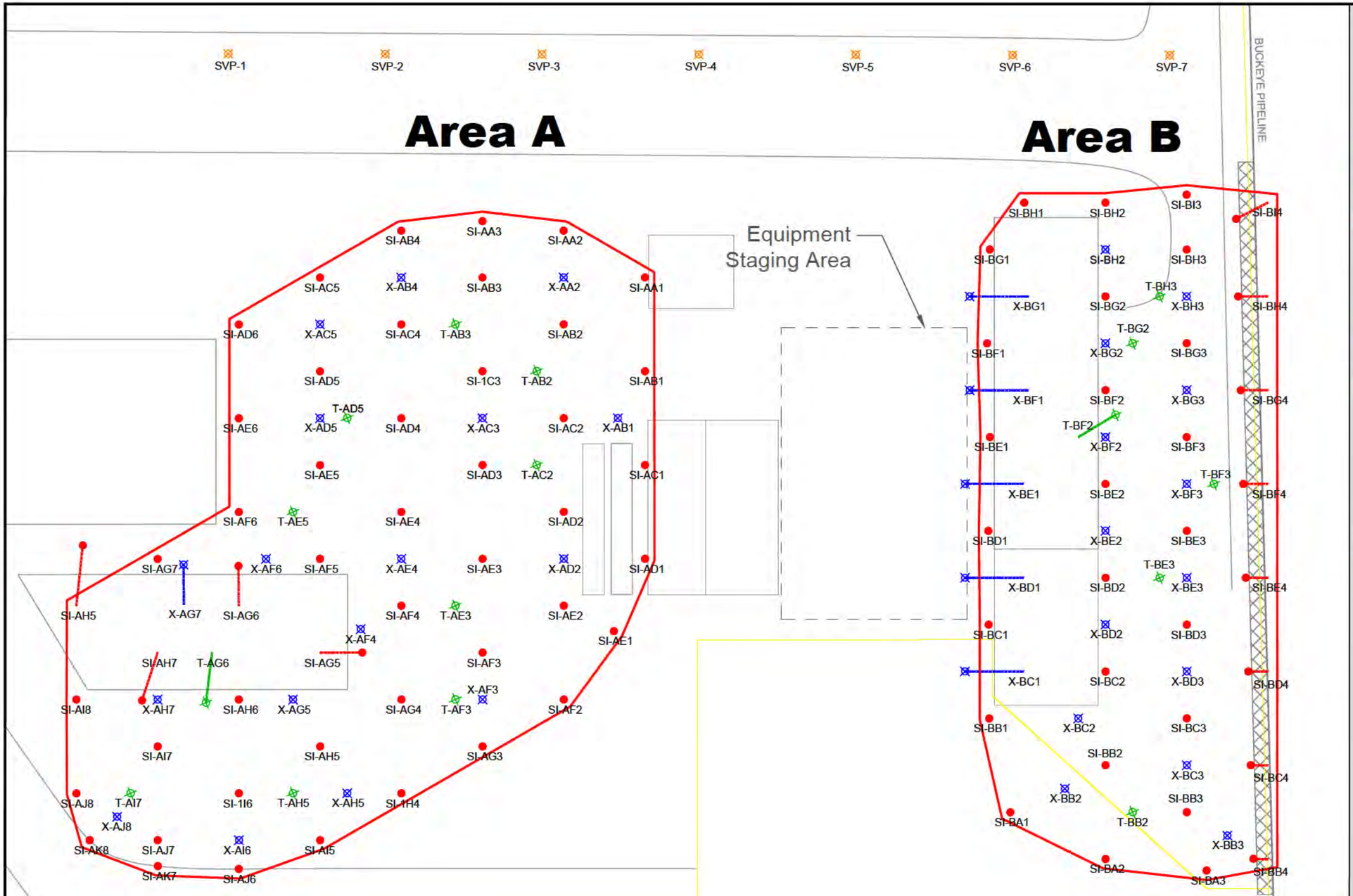
Appendix A – Design Drawings

1. Well Field Layout (WFL-01)
2. Equipment Layout (EQL-01)
3. Equipment Layout (EQL-02)
4. Piping Layout (PIL-01)
5. Well Construction Details (WCD-01)
6. Well Construction Details (WCD-02)
7. Well Construction Details (WCD-03)
8. Well Head Details (WHD-01)
9. Well Head Details (WHD-02)
10. Steam Piping Details (SPD-01)
11. Steam Piping Details (SPD-02)
12. Extraction Piping Details (EPD-01)
13. Electrical Single Line Drawing (ESL-01)
14. Process Flow Diagram (PFD-01)
15. Process and Instrumentation Diagram (P&ID-01)
16. Process and Instrumentation Diagram (P&ID-02)
17. Process and Instrumentation Diagram (P&ID-03)
18. Process and Instrumentation Diagram (P&ID-04)



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B6	2021/12/02	FINALIZE TREATMENT AREA B	JS	CC	CC
B4	2021/10/29	INCORPORATE 90% COMMENTS	JS	CC	CC
B3	2021/09/28	90% DESIGN	JS	CC	CC
B2	2021/09/03	MOVED SI-AA3	JS	CC	CC
B1	2021/08/27	60% DESIGN	JS	CC	CC

APEGA PERMIT NUMBER: P09178 — SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Well Field Layout**

CLIENT: **AECOM**

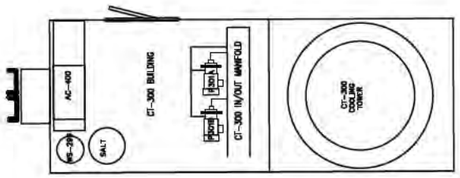
PROJECT: **Roxana Public Works Yard, Roxana, Illinois**

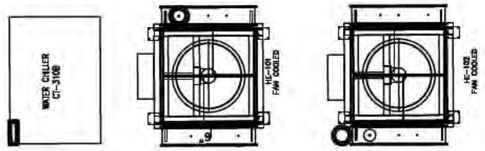
SHEET: **WFL-01**

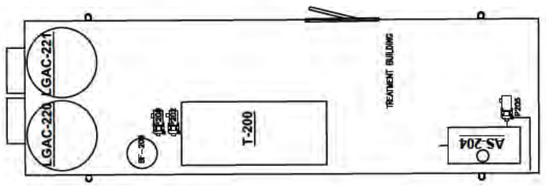
NOTES:

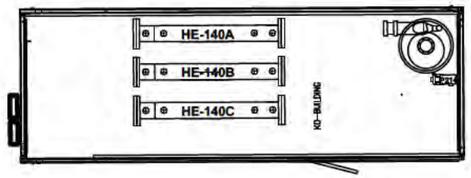
1. EXACT LOCATION OF EQUIPMENT TO BE DETERMINED BASED ON SITE CONDITIONS DETERMINED DURING INSTALLATION.

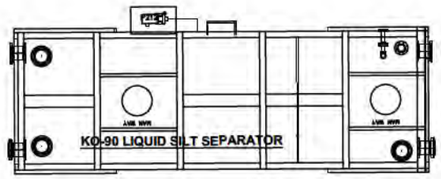
GEN

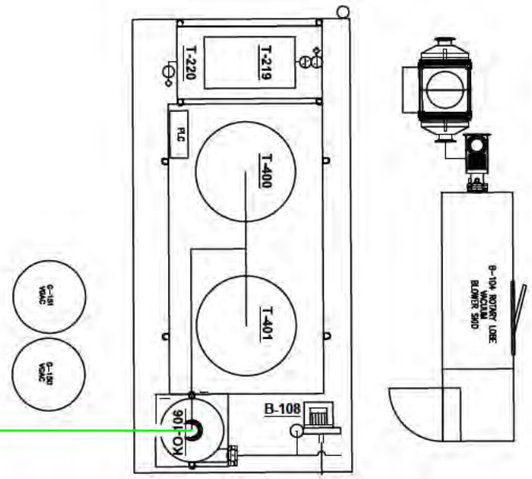




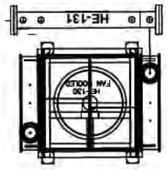






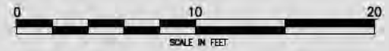






OFFICE WORK SHED BUILDING

STEAM BOILER



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APEGA PERMIT NUMBER: P09178 | SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Equipement Layout**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **EQL-01**

EIGHTH ST

Approximate Location of Power and Water Utility Connections

Power Distribution Panel

Area A

Area B

Equipment Staging Area

SVP-1 SVP-2 SVP-3 SVP-4 SVP-5 SVP-6 SVP-7

BUCKEYE PIPELINE

LEGEND

Area A
- Steam Injection Well [48]
- Multiphase Extraction Well [17]
- Temperature Sensor Well [10]
- Thermal Influence (28,060 sq. ft)

Area B
- Steam Injection Well [33]
- Multiphase Extraction Well [19]
- Temperature Sensor Well [6]
- Thermal Influence (20,144 sq. ft)

General
- Buckeye Pipeline
- 5 ft Pipeline Drilling Offset
- Vapour Monitoring Well [7]
- 8" Conveyance Piping to RTO

NOTES:

1. STEAM WELLS REQUIRE MIN. 4" BORING.
2. EXTRACTION WELLS REQUIRE MIN. 8" BORING.
3. SENSOR WELLS REQUIRE MIN. 4" BORING.
4. PIPELINE LOCATION PROVIDED BY AECOM.
5. VAPOR MONITORING POINTS TO BE INSTALLED BY OTHERS.

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B1	2021/08/27	60% DESIGN	JS	CC	CC

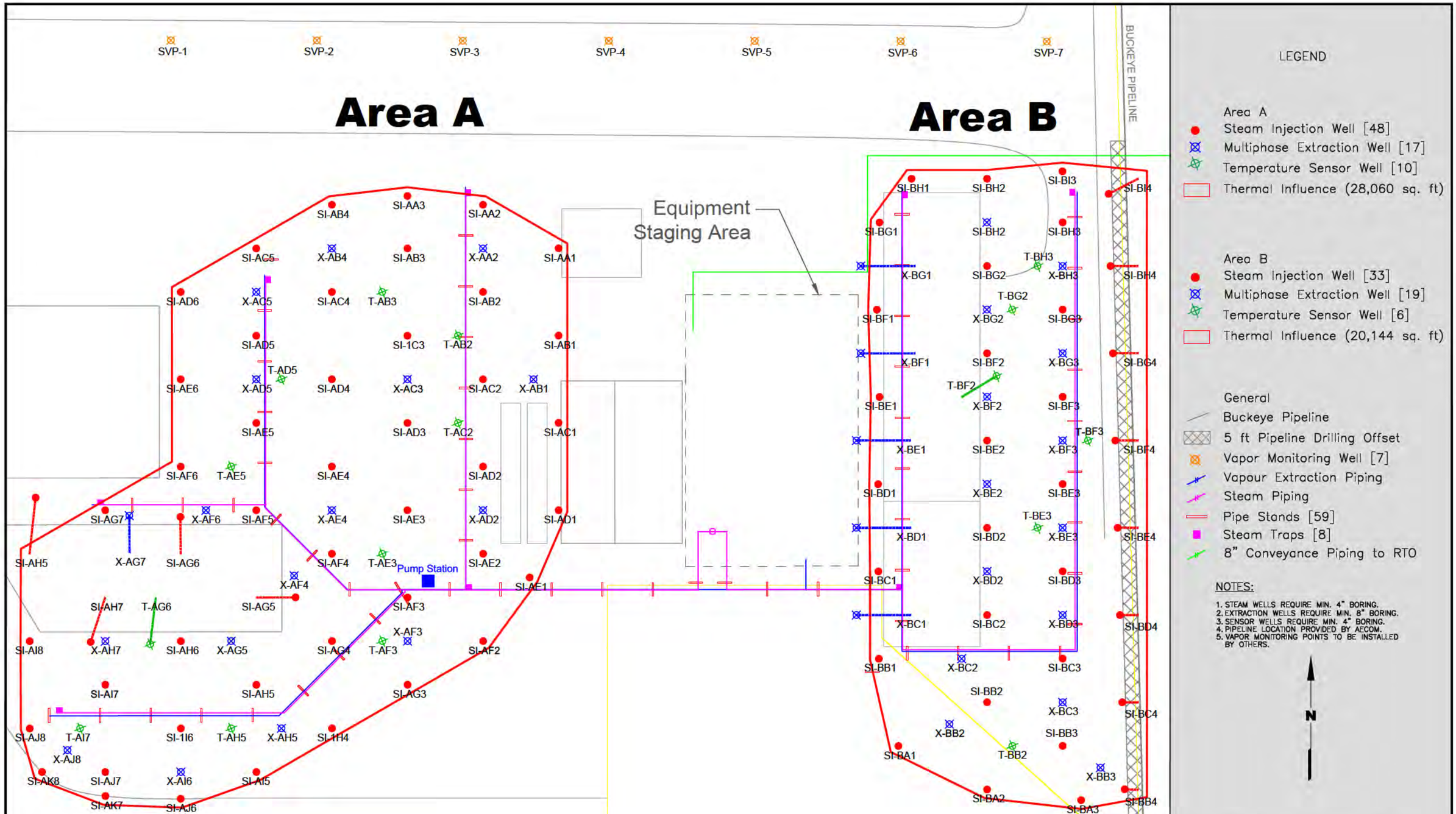
APEGA PERMIT NUMBER: P09178 SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Equipment Layout**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **EQL-02**



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B2	2021/09/03	UPDATE PIPING LAYOUT	JS	CC	CC
B1	2021/08/27	60% DESIGN	JS	CC	CC

APEGA PERMIT NUMBER: P09178
SCALE: NOT TO SCALE

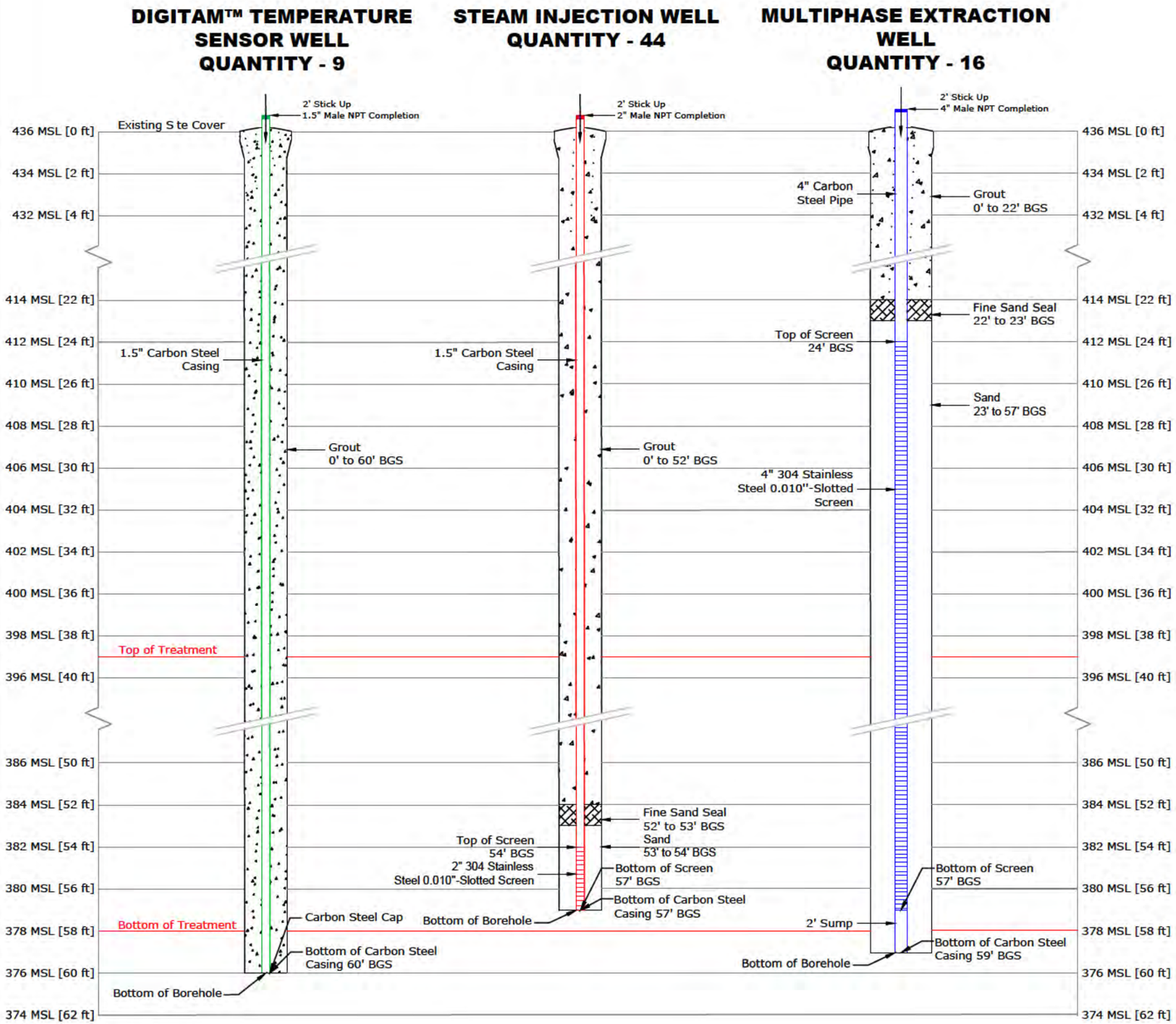
TITLE: **ET-DSP™ Piping Layout**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **PIL-01**

AREA A



GENERAL NOTES:

1. MATERIAL TYPES
   - A. GROUT
     - HIGH TEMPERATURE PORTLAND TYPE 1 OR EQUIVALENT (NO BENTONITE)
   - B. SAND
     - FINE SAND SEAL: 40/60 SILICA SAND
     - STEAM INJECTION/EXTRACTION WELLS: 20/40 SILICA SAND
2. STEAM INJECTION WELLS
   - A. MINIMUM 4" DIAMETER BOREHOLE
   - B. 2" SCHEDULE 40 CARBON STEEL CASING
   - C. NOMINAL 2" DIAMETER WIRE-WRAPPED 304 STAINLESS STEEL 0.010"-SLOTTED SCREEN
3. TEMPERATURE WELLS
   - A. MINIMUM 4" DIAMETER BOREHOLE
   - B. 1.5" SCHEDULE 40 CARBON STEEL CASING
   - C. THREADS CAN BE NPT OR FLUSH JOINT
   - D. STICKUP MUST BE MALE NPT
   - E. ALL JOINTS TO BE TIGHTENED WITH PIPE WRENCH USING PIPE THREAD COMPOUND AND PTFE TAPE
4. MULTIPHASE EXTRACTION WELLS
   - A. MINIMUM 8" DIAMETER BOREHOLE
   - B. 4" SCHEDULE 40 CASING
   - C. NOMINAL 4" DIAMETER WIRE-WRAPPED 304 STAINLESS STEEL 0.010''-SLOTTED SCREEN
   - D. FITTINGS BETWEEN PIPE SECTIONS ARE 4 THREAD PER INCH (TPI) FLUSH THREADED UNLESS SPECIFIED OTHERWISE (IE M NPT OR PLUG)
   - E. 4" NPT FEMALE X WELD PLATE ENDS

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APEGA PERMIT NUMBER: P09178 — SCALE: NOT TO SCALE

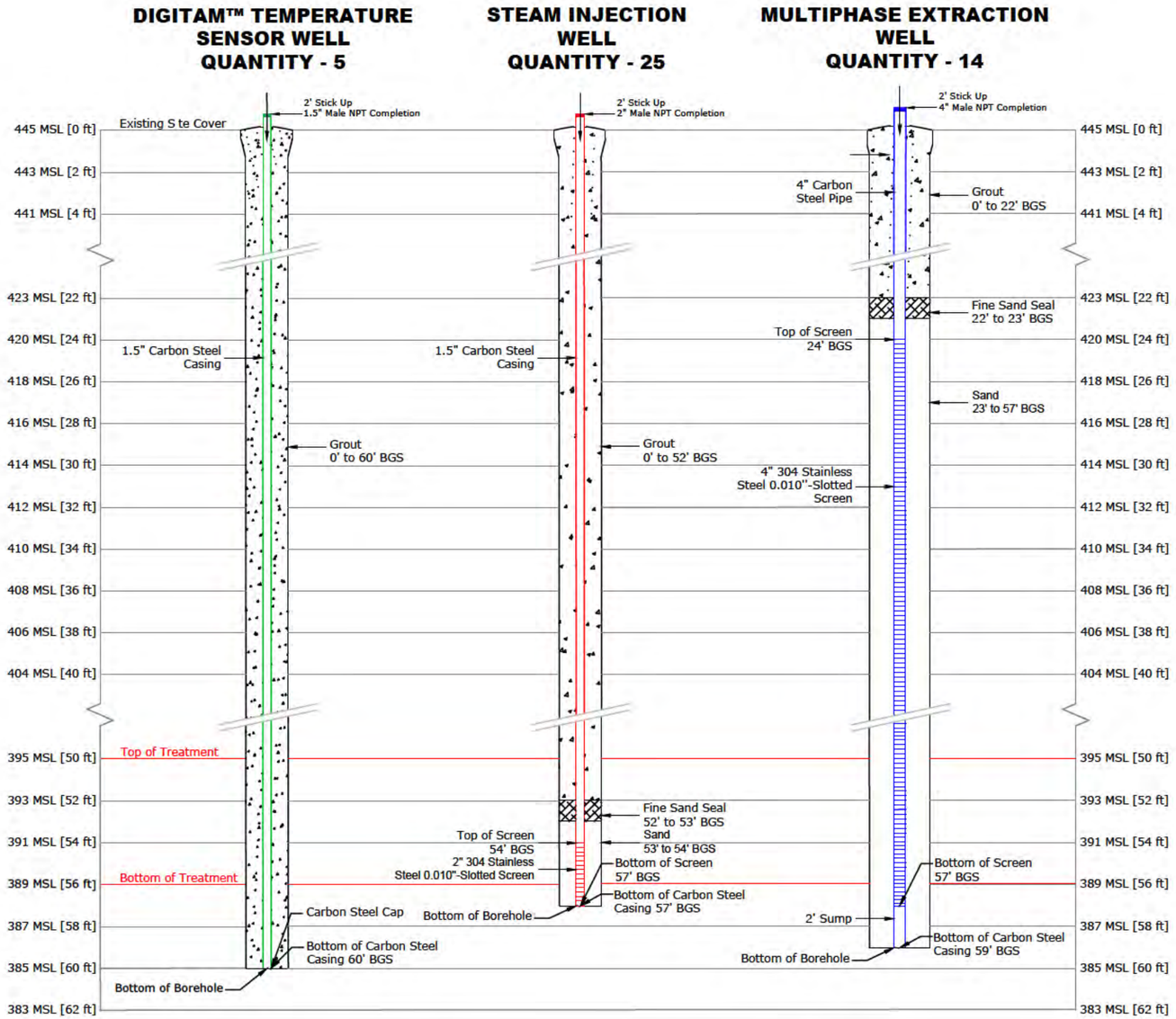
TITLE: **ET-DSP™ Well Completion Drawing**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard, Roxana, Illinois**

SHEET: **WCD-01**

AREA B



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   - A. GROUT
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   - B. SAND
     - FINE SAND SEAL: 40/60 SILICA SAND
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2. STEAM INJECTION WELLS
   - A. MINIMUM 4" DIAMETER BOREHOLE
   - B. 2" SCHEDULE 40 CARBON STEEL CASING
   - C. NOMINAL 2" DIAMETER WIRE-WRAPPED 304 STAINLESS STEEL 0.010"-SLOTTED SCREEN
3. TEMPERATURE WELLS
   - A. MINIMUM 4" DIAMETER BOREHOLE
   - B. 1.5" SCHEDULE 40 CARBON STEEL CASING
   - C. THREADS CAN BE NPT OR FLUSH JOINT
   - D. STICKUP MUST BE MALE NPT
   - E. ALL JOINTS TO BE TIGHTENED WITH PIPE WRENCH USING PIPE THREAD COMPOUND AND PTFE TAPE
4. MULTIPHASE EXTRACTION WELLS
   - A. MINIMUM 8" DIAMETER BOREHOLE
   - B. 4" SCHEDULE 40 CASING
   - C. NOMINAL 4" DIAMETER WIRE-WRAPPED 304 STAINLESS STEEL 0.010"-SLOTTED SCREEN
   - D. FITTINGS BETWEEN PIPE SECTIONS ARE 4 THREAD PER INCH (TPI) FLUSH THREADED UNLESS SPECIFIED OTHERWISE (IE M NPT OR PLUG)
   - E. 4" NPT FEMALE X WELD PLATE ENDS

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B2	2021/09/28	90% DESIGN	JS	CC	CC
B1	2021/08/27	60% DESIGN	JS	CC	CC
A1	2014/06/13	NOT FOR CONSTRUCTION	CC	CC	–

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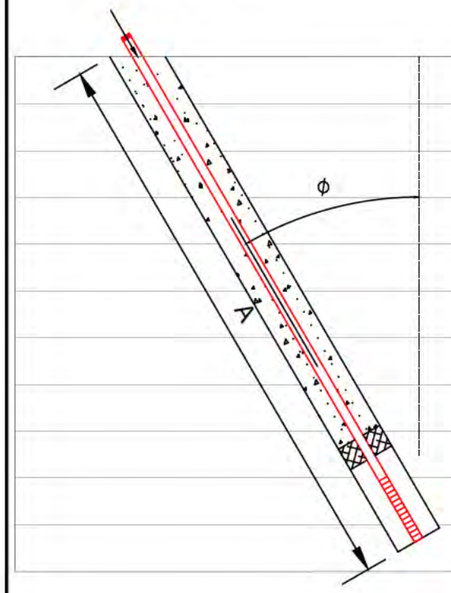
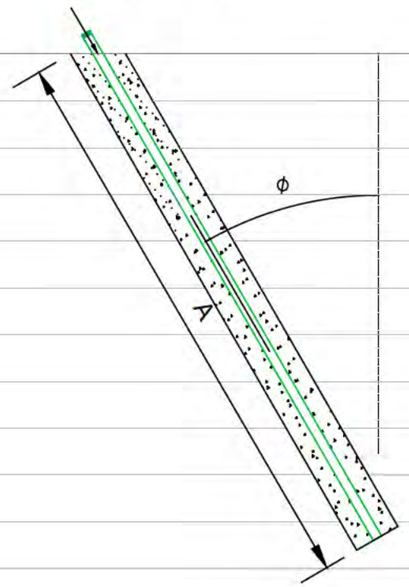
DATE:
APEGA PERMIT NUMBER: P09178
SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Well Completion Drawing**
CLIENT: **AECOM**
PROJECT: **Roxana Public Works Yard, Roxana, Illinois**
SHEET: **WCD-02**

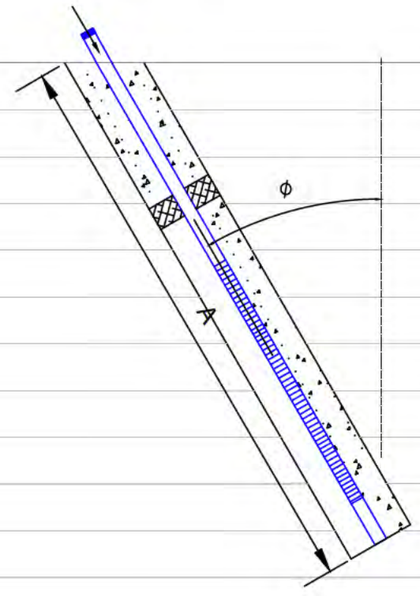
ANGLED
STEAM INJECTION WELL
QUANTITY - 12



ANGLED DIGITAM™
TEMPERATURE SENSOR
WELL
QUANTITY - 2



ANGLED MULTIPHASE
EXTRACTION WELL
QUANTITY - 6



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2. STEAM INJECTION WELLS
   - A. MINIMUM 4" DIAMETER BOREHOLE
   - B. 2" SCHEDULE 40 CARBON STEEL CASING
   - C. NOMINAL 2" DIAMETER WIRE-WRAPPED 304 STAINLESS STEEL 0.010"-SLOTTED SCREEN
3. TEMPERATURE WELLS
   - A. MINIMUM 4" DIAMETER BOREHOLE
   - B. 1.5" SCHEDULE 40 CARBON STEEL CASING
   - C. THREADS CAN BE NPT OR FLUSH JOINT
   - D. STICKUP MUST BE MALE NPT
   - E. ALL JOINTS TO BE TIGHTENED WITH PIPE WRENCH USING PIPE THREAD COMPOUND AND PTFE TAPE
4. MULTIPHASE EXTRACTION WELLS
   - A. MINIMUM 8" DIAMETER BOREHOLE
   - B. 4" SCHEDULE 40 CASING
   - C. NOMINAL 4" DIAMETER WIRE-WRAPPED 304 STAINLESS STEEL 0.010''-SLOTTED SCREEN
   - D. FITTINGS BETWEEN PIPE SECTIONS ARE 4 THREAD PER INCH (TPI) FLUSH THREADED UNLESS SPECIFIED OTHERWISE (IE M NPT OR PLUG)
   - E. 4" NPT FEMALE X WELD PLATE ENDS

ANGLED WELL DETAILS

Well	ø	A	Well	ø	A	Well	ø	A
SI-AH5	18.83	60.22	SI-BE4	7.10	57.44	X-BD1	17.63	61.90
SI-AH7	15.73	59.21	SI-BF4	7.86	57.54	X-BE1	17.63	61.90
SI-AG6	12.56	58.39	SI-BG4	8.67	57.66	X-BF1	17.63	61.90
SI-AG5	13.30	58.57	SI-BH4	9.43	57.78	X-BG1	17.63	61.90
SI-BB4	4.70	57.19	SI-BI4	11.31	58.13	T-AG6	14.93	62.10
SI-BC4	5.50	57.26	X-AG7	12.15	60.35	T-BF2	13.01	61.58
SI-BD4	6.29	57.35	X-BC1	17.63	61.90			

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LPE

DATE

REV.	DATE (YR/MM/DD)	DESCRIPTION	DRAWN BY	ORG/ ENGR	Aprovad Dist
C1	2022/01/07	100% DESIGN	JS	CC	CC
B4	2021/12/02	FINALIZE TREATMENT AREA B	JS	CC	CC
B3	2021/10/26	UPDATE T-AG6 AND T-BF2	JS	CC	CC
B2	2021/09/28	90% DESIGN	JS	CC	CC
B1	2021/08/20	60% DESIGN	JS	CC	CC

APEGA PERMIT NUMBER: P09178 — SCALE: NOT TO SCALE

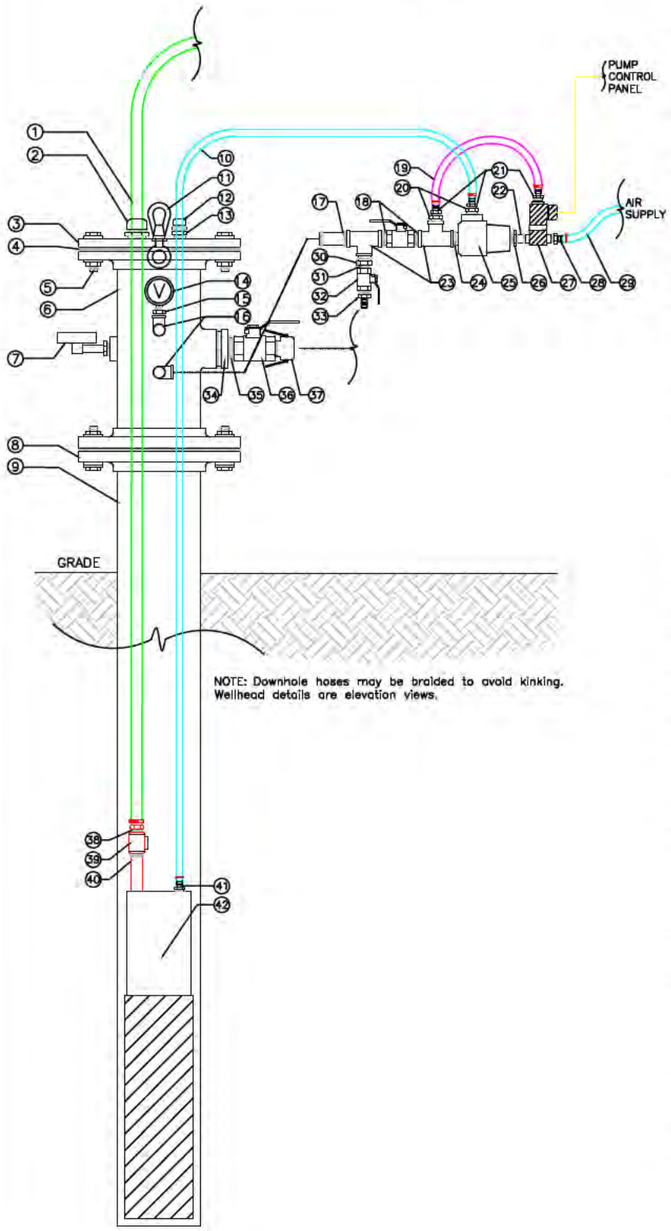
TITLE: **ET-DSP™ Well Completion Drawing**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **WCD-03**

MULTIPHASE EXTRACTION WELL WITH DOWNHOLE PUMP

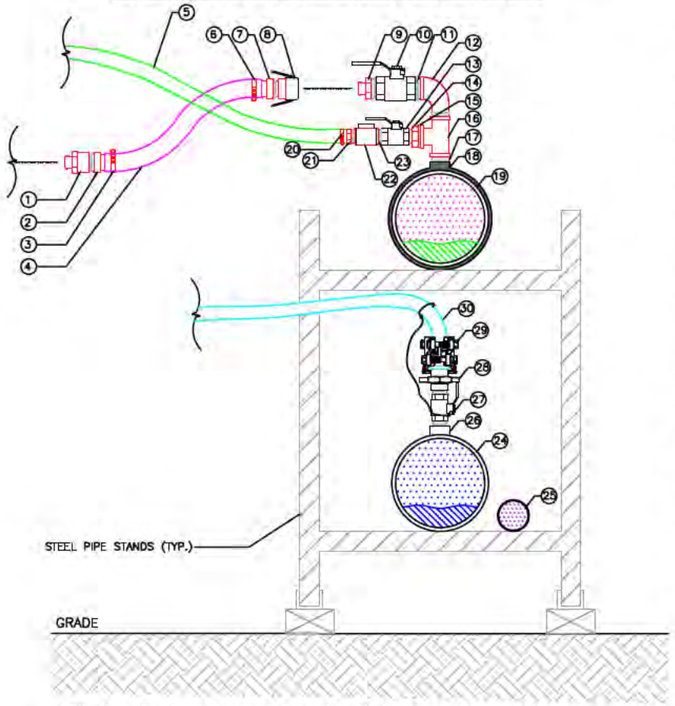


NOTE: Downhole hoses may be braided to avoid kinking. Wellhead details are elevation views.

WELLHEAD COMPONENTS

1. 1/2" ID PTFE GROUNDWATER EXTRACTION LINE
2. 1/2" X 3/4" M NPT CORD GRIP, PVDF
3. 4" ø 150# WELL COVER PLATE, STEEL
4. 4" ø 150# X 1/8" GASKET, VITON (TYP.)
5. 5/8" BOLT, LOCK WASHER & HEX NUT, ZINC (TYP.)
6. 4" ø Mc² WELLHEAD X 150# FLANGE ENDS, STEEL
7. TEMPERATURE GAUGE 0–250°F X 1/2" M NPT
8. 4" ø 150# FLANGE X 4" F NPT, STEEL
9. 4" ø M NPT RISER STICKUP, CARBON STEEL
10. 1/4" ID PTFE COMPRESSED AIR HOSE
11. 1/2" LIFTING EYE ASSEMBLY, WITH GASKET
12. 3/8" X 1/2" M NPT CORD GRIP, PVDF
13. 3/4" M NPT X 1/2" F NPT BUSHING, GALV.
14. VACUUM GAUGE, 0–30" HG X 1/4" M NPT
15. 1/2" M NPT X 1/4" F NPT BUSHING, BRASS
16. 1/2" NPT STREET ELBOW, BRASS
17. 1/2" X 3" NIPPLE, GALV.
18. 1/2" NPT CLOSE NIPPLE, GALV.
19. 1/4" ID ORTAC VENT HOSE
20. 1/2" M NPT X 1/4" F NPT BUSHING, BRASS
21. 1/4" M NPT X 1/4" HOSE BARB, BRASS
22. 1/4" X 3" NIPPLE, GALV.
23. 1/2" NPT PIPE TEE, GALV.
24. 1/2" NPT CLOSE NIPPLE, GALV.
25. 1/2" SUPER QUICK EXHAUST VALVE
26. 1/2" M NPT X 1/4" F NPT BUSHING, BRASS
27. 1/4" 3–WAY SOLENOID VALVE
28. 1/4" M NPT X 1/4" HOSE BARB, BRASS
29. 1/4" ID ORTAC COMPRESSED AIR HOSE
30. 1/2" M NPT X 3/8" F NPT BUSHING, GALV.
31. 3/8" NPT CLOSE NIPPLE, BRASS
32. 3/8" NPT BALL VALVE, BRASS
33. 3/8" M NPT X 1/4" HOSE BARB, BRASS
34. 2" M NPT X 1–1/2" F NPT REDUCER BUSHING, GALV.
35. 1–1/2" NPT CLOSE NIPPLE, GALV.
36. 1–1/2" NPT BALL VALVE, BRASS
37. 1–1/2" M NPT X 1–1/2" FEMALE CAMLOCK (PART B), ALUM. ALLOY
38. 1/2" M NPT X 3/4" HOSE BARB, BRASS
39. 3/4" SWING CHECK VALVE, BRASS
40. 3/4" X 6" NIPPLE, GALV.
41. 1/4" M NPT X 1/4" HOSE BARB, BRASS
42. PNEUMATIC PUMP WITH TOP–LOADING CUP ADAPTER

MULTIPHASE EXTRACTION WELL CONNECTION TO CONVEYANCE PIPING NETWORK

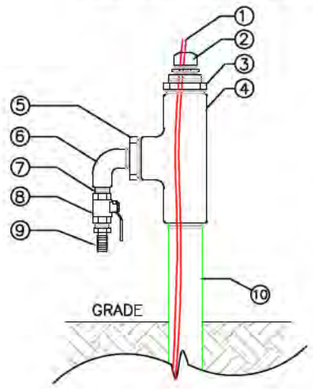


NOTE: Main conveyance pipe is interconnected with dresser couplings and sloped at approximately 1 degree from horizontal towards the inlet of the treatment system. Multiphase flow regime may not be as illustrated. Details are elevation views.

PIPING CONNECTION COMPONENTS

1. 1–1/2" M CAMLOCK TO 1–1/2" F NPT (PART A), ALUM. ALLOY
2. 1–1/2" M NPT TO X 1–1/2" HOSE BARB
3. 1–1/2" HOSE CLAMP
4. 1–1/2" ID PARKER SERIES 7373T BLUE THUNDER CORRUGATED CHEMICAL SUCTION VAPOR EXTRACTION HOSE
5. 1/2 " ID PTFE GROUNDWATER EXTRACTION HOSE
6. 1–1/2" HOSE CLAMP
7. 1–1/2" HOSE BARB X 1–1/2" M NPT
8. 1–1/2" F NPT X 1–1/2" F CAMLOCK (PART D), ALUM. ALLOY
9. 1–1/2" M CAMLOCK X 1–1/2" M NPT (PART F), ALUM. ALLOY
10. 1–1/2" NPT BALL VALVE, BRASS
11. 1–1/2" NPT CLOSE NIPPLE, GALV.
12. 1–1/2" NPT STREET ELBOW, GALV.
13. 1/2" NPT BALL VALVE, BRASS
14. 1/2" NPT CLOSE NIPPLE, GALV.
15. 1–1/2" M NPT X 1/2" F NPT REDUCER BUSHING, GALV.
16. 1–1/2" F NPT X 1–1/2" F NPT X 1–1/2" F NPT TEE, GALV.
17. 1–1/2" NPT CLOSE NIPPLE, GALV.
18. 1–1/2" F NPT PIPE SADDLE, CARBON STEEL
19. 2" TO 12" ø PIPE HEADER, CARBON STEEL
20. 1/2" HOSE CLAMP
21. 1/2" M NPT TO X 1/2" HOSE BARB
22. 1/2" SWING CHECK VALVE, BRASS
23. 1/2" NPT CLOSE NIPPLE, GALV.
24. 2" to 6" ø STEAM HEADER, CARBON STEEL
25. 1" ø AIR SUPPLY LINE, CARBON STEEL
26. 1" F NPT WELDOLET, CARBON STEEL
27. 1" NPT BALL VALVE, SS
28. 1" HAMMER LOCK ASSEMBLY, ZINC PLATED DUCTILE IRON
29. 1" COLLAR LOCK BOLT CLAMP, PLATED DUCTILE IRON
30. 1" STEAM HOSE

TEMPERATURE MONITORING POINT



TEMPERATURE COMPONENTS

1. TEMPERATURE SENSOR STRING, 3/8" STRING DIA.
2. 3/8" X 3/4" M NPT CORD GRIP, NYLON
3. 1–1/2" M NPT X 3/4" F NPT BUSHING, GALV.
4. 1–1/2" NPT PIPE TEE, GALV.
5. 1–1/2" M NPT X 3/8" F NPT BUSHING, GALV.
6. 3/8" NPT STREET ELBOW, GALV.
7. 3/8" NPT CLOSE NIPPLE, GALV.
8. 3/8" NPT BALL VALVE, BRASS
9. 3/8" M NPT X 1/4" HOSE BARB, BRASS
10. 1–1/2" M NPT CARBON STEEL RISER STICKUP

NOTE: Wellhead details are elevation views.

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LPE						
	C1	2022/01/07	100% DESIGN	JS	CC	CC
	B3	2021/10/26	UPDATE VAPOR EXTRACTION HOSE	JS	CC	CC
	B2	2021/09/28	90% DESIGN	JS	CC	CC
	B1	2021/08/27	60% DESIGN	JS	CC	CC
	A3	2021/08/27	UPDATE PEX LINE	JS	CC	CC
	A2	2021/08/24	UPDATE NUMBERING	JS	CC	CC
DATE	REV.	DATE (D/M/Y)	DESCRIPTION	DRAWN BY	CHK/ ENGR	Approved Dist
	AFEGA PERMIT NUMBER:		P09178	SCALE:	NOT TO SCALE	

TITLE: **ET-DSP™ Well Head Details**

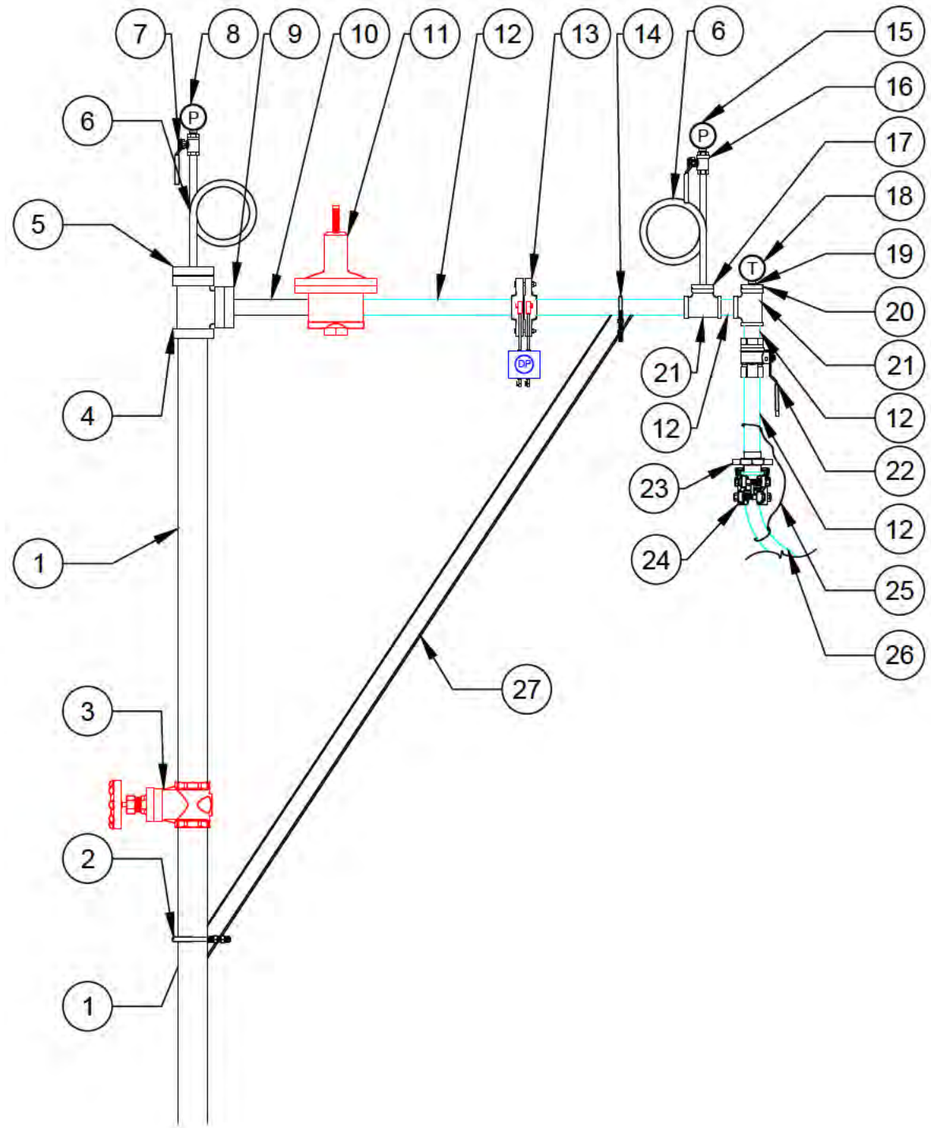
CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard, Roxana, Illinois**

SHEET: **WHD-01**

STEAM INJECTION WELL METERING STATION

1. 2" STEAM PIPE, CARBON STEEL COMPLETE WITH M NPT THREADING
2. U-CLAMP COMPATIBLE WITH 2" ø PIPE
3. 2"F NPT GATE VALVE, BRASS
4. 2"F x 2"F x 2"F TEE, BLACK STEEL (TYP.)
5. 2"M x 1/4"F REDUCER BUSHING, BLACK STEEL (TYP.)
6. 1/4"M x 1/4"M PIGTAIL SYPHON, CARBON STEEL
   - 500 PSI PRESSURE RATING
   - 400°F TEMPERATURE RATING
7. 1/4" FULL PORT BALL VALVE, BRASS
8. 0-30 PSI DRY BOTTOM MOUNT PRESSURE GAUGE
9. 2"M x 1"F REDUCER BUSHING, BLACK STEEL (TYP.)
10. 1" STEAM PIPE, CARBON STEEL COMPLETE WITH M NPT THREADING
11. 1" PRESSURE REGULATOR, 10-30 PSI OUTLET PRESSURE, CAST IRON
12. 1" HIGH PRESSURE STEAM PIPE, CARBON STEEL COMPLETE WITH M NPT THREADING
13. ORIFICE PLATE METERING ASSEMBLY:
    - #150 FF THREADED A105 CORNER TAP FLANGE (1/8" TAP), CS
    - DIFF. PRESSURE GAUGE, 0-5 PSI DP
    - ECCENTRIC ORIFICE PLACE COMPLETE WITH WEEP HOLE (SIZED FOR 150 PSI SYSTEM)
14. U-CLAMP COMPATIBLE WITH 1" ø PIPE
15. 0-200 PSI DRY BOTTOM MOUNT PRESSURE GAUGE
16. 1/4" FULL PORT BALL VALVE, STAINLESS STEEL
17. 1"M x 1/4"F REDUCER BUSHING, BLACK STEEL (TYP.)
18. 50-500°F TEMPERATURE GAUGE
19. 1/2"F x 3/4"M THERMOWELL, STAINLESS STEEL
20. 1"M x 3/4"F REDUCER BUSHING, BLACK STEEL (TYP.)
21. 1"F x 1"F x 1"F TEE, BLACK STEEL (TYP.)
22. 1" FULL PORT BALL VALVE, STAINLESS STEEL
23. 1" HAMMER LOCK ASSEMBLY, ZINC PLATED DUCTILE IRON
24. 1" COLLAR LOCK BOLT CLAMP, PLATED DUCTILE IRON
25. SAFETY LANYARD
26. 1" GREENLINE G572-100 EPDM STEAM HOSE
27. UNISTRUT BRACE



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REV.	DATE (D/M/Y)	DESCRIPTION	DRAWN BY	ORG/ ENGR	Aprovd Dist
C1	2022/01/07	100% DESIGN	JS	CC	CC
B3	2021/10/26	UPDATE STEAM HOSE SPECS.	JS	CC	CC
B2	2021/09/28	90% DESIGN	JS	CC	CC
B1	2021/08/27	60% DESIGN	JS	CC	CC
A3	2021/08/24	UPDATE EQUIPMENT SPECS	JS	CC	CC
A2	2021/08/21	UPDATE DESIGN	JS	CC	CC

LPE

DATE

APEGA PERMIT NUMBER: P09178

SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Well Head Details**

CLIENT: **AECOM**

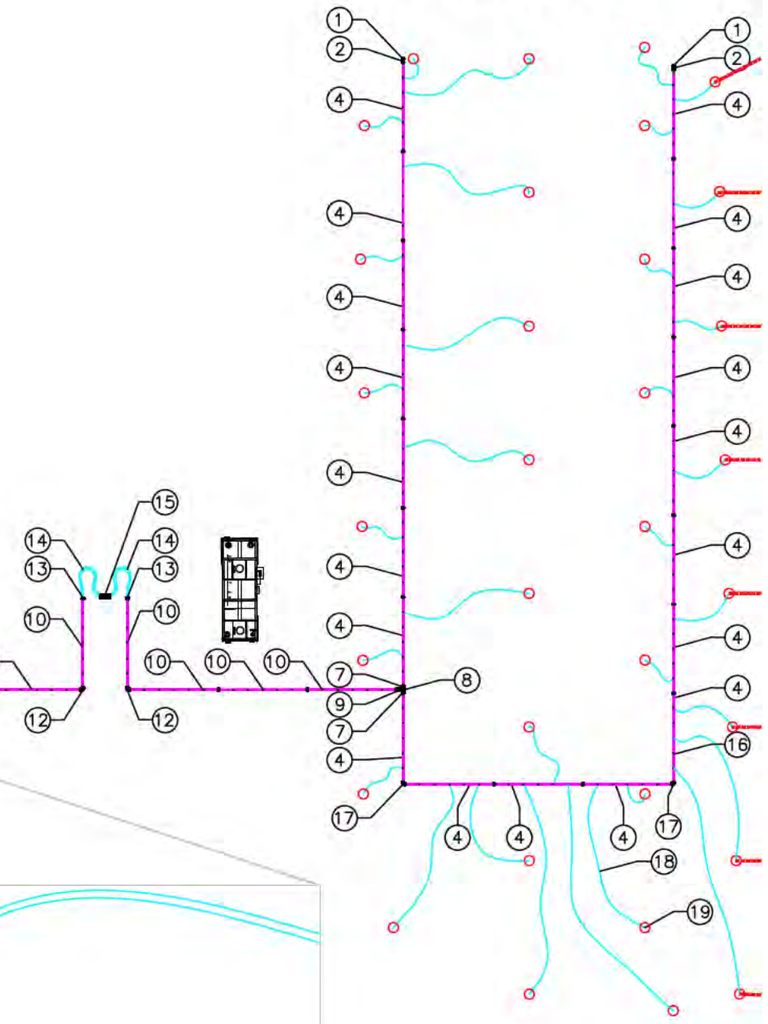
PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

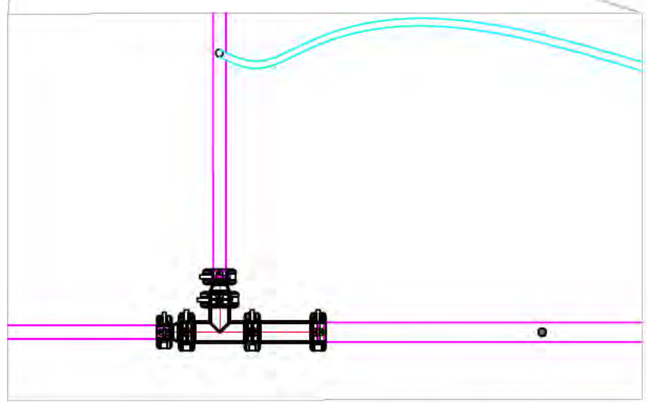
SHEET: **WHD-02**

Area A



Area B





STEAM PIPING COMPONENTS

1. 2" VICTAULIC CAPS, PART No. 860C
2. 2" VICTAULIC DRIP LEG, PART No. 892C, SEE SPD-02
3. 2" VICTAULIC COUPLING, USED AT EVERY 2" TO 2" CONNECTION POINT, PART No. 870
4. 2" CARBON STEEL PIPE, 20' SEGMENT COMPLETE WITH:
   A. GROOVES COMPATIBLE WITH 2" VICTAULIC FITTINGS; AND
   B. 5 EVENLY-SPACED 1" NPT THREADED WELDOLET CONNECTIONS
5. 2" VICTAULIC TEE, PART No. 820C
6. 2" VICTAULIC 45 DEGREE ELBOW, PART No. 811C
7. 2" x 3" VICTAULIC CONCENTRIC REDUCER, PART No. 850C
8. 3" VICTAULIC TEE, PART No. 820C
9. 3" VICTAULIC DRIP LEG, PART No. 892C SEE SPD-02
10. 3" CARBON STEEL PIPE, 20' SEGMENT COMPLETE WITH:
    A. GROOVES COMPATIBLE WITH 3" VICTAULIC FITTINGS; AND
    B. 5 EVENLY-SPACED 1" NPT THREADED WELDOLET CONNECTIONS
11. 3" VICTAULIC COUPLING, USED AT EVERY 3" TO 3" CONNECTION POINT, PART No. 870
12. 3" VICTAULIC 90 DEGREE ELBOW, PART No. 890C
13. 3" VICTAULIC 150# FLANGE ADAPTER NIPPLE, PART No. 845FC
14. 3" STEAM HOSE COMPLETE WITH 150# FLANGE ON BOTH ENDS
15. 3" TEE, FLANGED, DETAILS AND CONNECTION TO BOILER TBD
16. 1" THICK OWENS CORNING INSULATION, 3' LENGTH, TO COVER ALL 2" AND 3" PIPING
17. 2" VICTAULIC 90 DEGREE ELBOW, PART No. 890C
18. 1" GREENLINE G572-100 EPDM STEAM HOSE, VARIBALE LENGTHS
19. STEAM INJECTION WELLHEAD CONNECTION, SEE WHD-02

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REV.	DATE (D/M/Y)	DESCRIPTION	DRAWN BY	ORG/ ENGR	Aprovec Dist
C1	2022/01/07	100% DESIGN	JS	CC	CC
B3	2021/12/02	FINALIZE TREATMENT AREA B	JS	CC	CC
B2	2021/10/26	ADD STEAM HOSE SPECS	JS	CC	CC
B1	2021/09/28	90% DESIGN	JS	CC	CC
A2	2021/09/27	ADD PIPE INSULATION	JS	CC	–
A1	2021/09/16	DRAFT FOR REVIEW	JS	CC	–

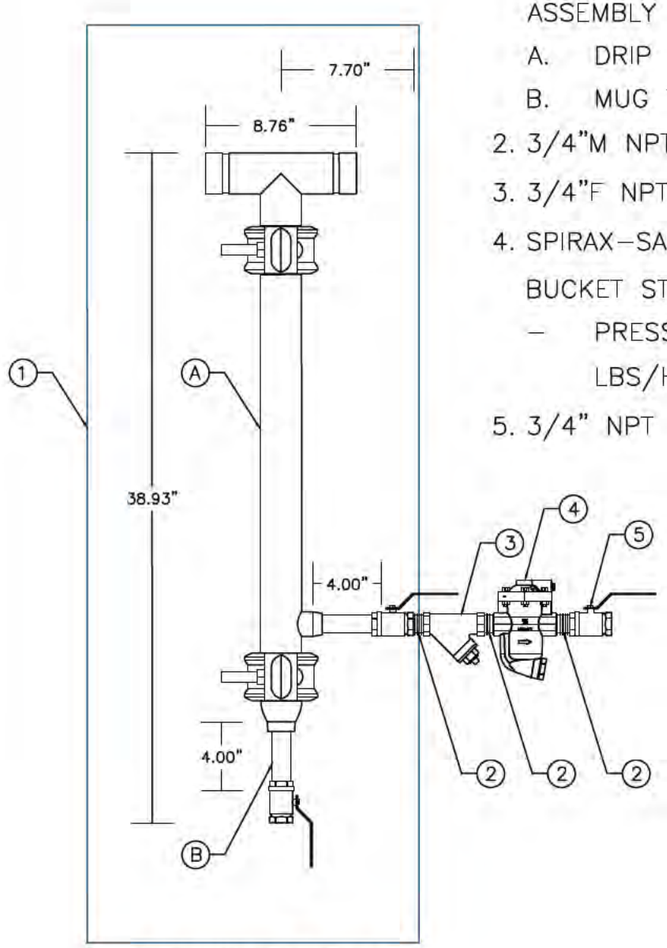
APEGA PERMIT NUMBER: P09178 — SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Steam Piping Details**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

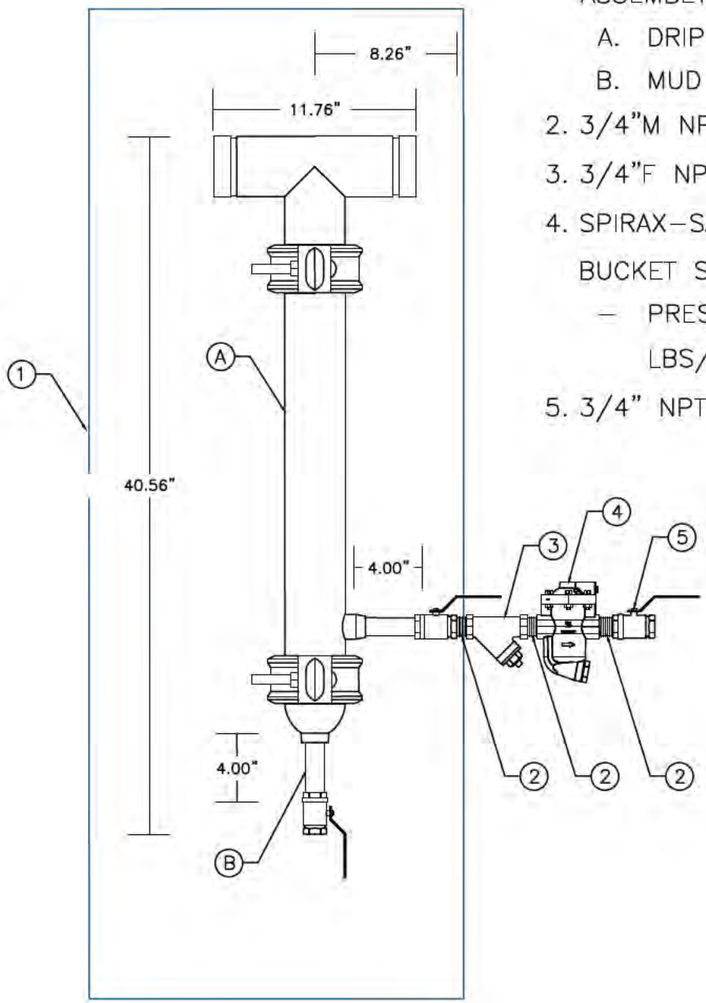
SHEET: **SPD-01**



2" VICTAULIC DRIP LEG ASSEMBLY

2" DRIP LEG AND STEAM TRAP COMPONENTS

1. 2" VICTAULIC No. 892C SCHEDULE 40 AUTOMATIC WARM UP IN-LINE DRIP LEG ASSEMBLY
   - A. DRIP LEG
   - B. MUG TRAP
2. 3/4"M NPT CARBON STEEL NIPPLE
3. 3/4"F NPT CARBON STEEL Y-STRAINER
4. SPIRAX-SARCO H34/7 3/4" INVERTED BUCKET STEAM TRAP
   - PRESSURE RATED TO 175 PSI AT 165 LBS/H OF CONDENSATE
5. 3/4" NPT BALL VALVE, BRASS



3" VICTAULIC DRIP LEG ASSEMBLY

3" DRIP LEG AND STEAM TRAP COMPONENTS

1. 3" VICTAULIC No. 892C SCHEDULE 40 AUTOMATIC WARM UP IN-LINE DRIP LEG ASSEMBLY
   - A. DRIP LEG
   - B. MUD TRAP
2. 3/4"M NPT CARBON STEEL NIPPLE
3. 3/4"F NPT CARBON STEEL Y-STRAINER
4. SPIRAX-SARCO H34/7 3/4" INVERTED BUCKET STEAM TRAP
   - PRESSURE RATED TO 175 PSI AT 165 LBS/H OF CONDENSATE
5. 3/4" NPT BALL VALVE, BRASS

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LPE

DATE:

REV.	DATE (D/M/Y)	DESCRIPTION	DRAWN BY	ORIG ENGR	Approved Dist
C1	2022/01/07	100% DESIGN	JS	CC	CC
B1	2021/09/23	90% DESIGN	JS	CC	CC
A1	2021/09/20	DRAFT FOR REVIEW	JS	CC	–

APEGA PERMIT NUMBER: P09178 | SCALE: NOT TO SCALE

TITLE: **ET-DSP™ Steam Piping Details**

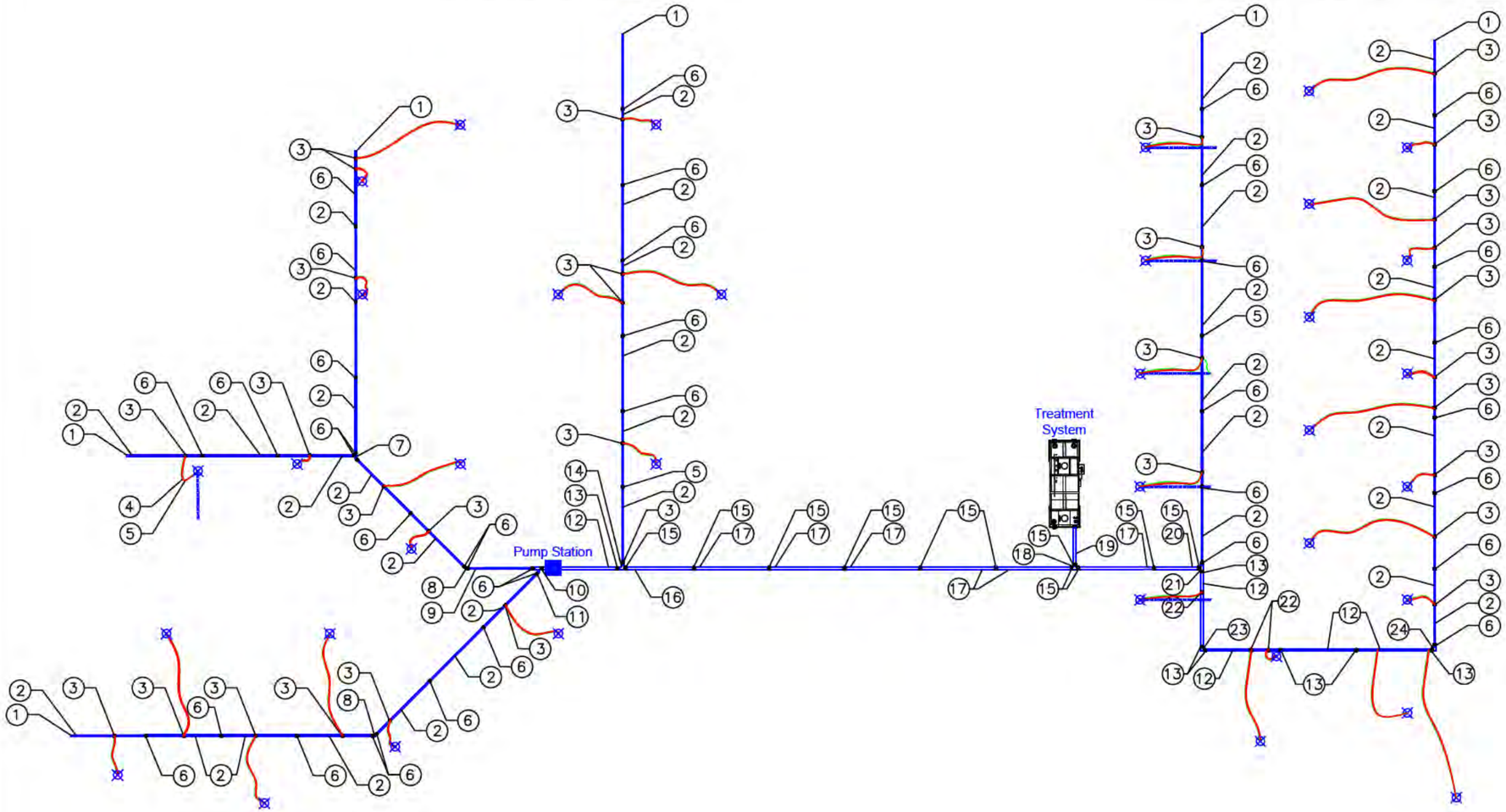
CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard, Roxana, Illinois**

SHEET: **SPD-02**

Area A

Area B



EXTRACTION PIPING COMPONENTS

1. 4" CARBON STEEL PIPE CAP
2. 4" CARBON STEEL PIPE, 20' LENGTH
3. 4" PIPE SADDLE WITH 1/2" CONNECTION POINT
4. 1/2" PTFE GROUNDWATER EXTRACTION LINE TO EXTRACTION WELLHEAD, VARIABLE LENGTH
5. 1-1/2" PARKER SERIES 7373T BLUE THUNDER CORRUGATED CHEMICAL SUCTION HOSE VAPOR EXTRACTION LINE TO EXTRACTION WELLHEAD, VARIABLE LENGTH
6. 4" DRESSER COUPLING WITH VITON GASKETS
7. CUSTOM WELDED 4" TEE COMPLETE WITH 45 DEGREE ELBOW
8. CUSTOM WELDED 4" 45 DEGREE ELBOW
9. 4" CARBON STEEL PIPE, 17' LENGTH
10. 6" DRESSER COUPLING WITH VITON GASKETS
11. CUSTOM WELDED TEE COMPLETE WITH 45 DEGREE ELBOW
12. 6" CARBON STEEL PIPE, 20' LENGTH
13. 6" DRESSER COUPLING WITH VITON GASKETS
14. CUSTOM WELDED TEE
15. 8" DRESSER COUPLING WITH VITON GASKETS
16. 8" CARBON STEEL PIPE, 15' LENGTH
17. 8" CARBON STEEL PIPE, 20' LENGTH
18. CUSTOM WELDED TEE
19. 8" CARBON STEEL PIPE, 10' LENGTH
20. 8" CARBON STEEL PIPE, 12' LENGTH
21. CUSTOM WELDED TEE
22. 6" PIPE SADDLE
23. CUSTOM WELDED 6" TEE
24. CUSTOM WELDED TEE

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LPE

DATE

REV.	DATE (D/M/Y)	DESCRIPTION	DRAWN BY	ORG. ENGR	Aproved Dist.
C1	2022/01/07	100% DESIGN	JS	CC	CC
B3	2021/12/02	FINALIZE TREATMENT AREA B	JS	CC	CC
B2	2021/10/26	UPDATE VAPOR EXTRACTION LINE	JS	CC	CC
B1	2021/09/28	90% DESIGN	JS	CC	CC
A1	2021/09/27	DRAFT FOR REVIEW	JS	CC	–

APEGA PERMIT NUMBER: P09178 — SCALE: NOT TO SCALE

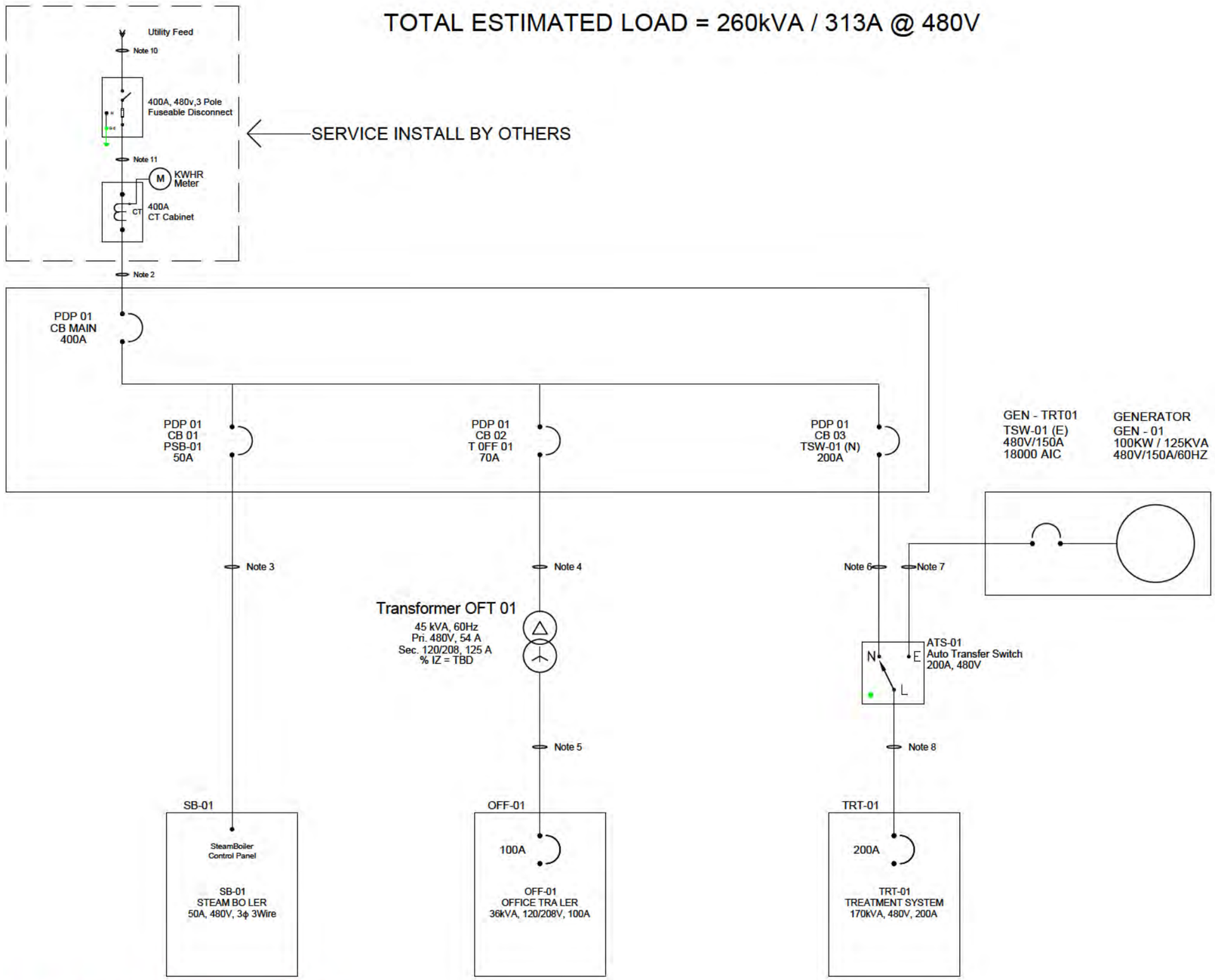
TITLE: **ET-DSP™ Extraction Piping Details**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard, Roxana, Illinois**

SHEET: **EPD-01**

TOTAL ESTIMATED LOAD = 260kVA / 313A @ 480V



General Notes

1. Construction and material shall comply with applicable Federal, State, local building codes and the National Electrical Code (NEC).

2. Cable from Metering Cabinet to PDP 01 (CB Main): Two (2) 3C-250 kcmil c/w #2 AWG AL Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated).*

3. Cable from PDP 01 (CB 01) to SB-01 Control Panel: One (1) 3C-#4 AWG c/w #6 AWG AL Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated).*

4. Cable from PDP 01 (CB 02) to Transformer OFT 01: One (1) 3C-#4 AWG c/w #6 AWG AL Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated).*

5. Cable from Transformer OFT 01 to Office trailer OFF-01: One (1) 4C-#2/0 AWG c/w #4 AWG AL Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated)*

6. Cable from PDP 01 (CB 03) to Auto Transfer Switch ATS-01 (N) : One (1) 3C-250 kcmil c/w #2 AWG AL Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated).*

7. Cable from GEN-01 to Auto Transfer Switch ATS-01 (E): One (1) 3C-250 kcmil c/w #2 AWG Cu Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated).*

8. Cable from Auto Transfer Switch ATS-01 (L) to Treatment System TRT-01: One (1) 3C-250 kcmil c/w #2 AWG Cu Ground *(STR AL NUAL Alcan Type ACWU90 XLPE INS AIA BLK PVC JKT 600V 90C HL CSA C22.2 NO.51, above ground rated).*

9. All electrical equipment shall be grounded in accordance with NEC.

10. Service conductors from Utility feed connection to 400A fused weaterproof (NEMA 3R) disconnect: Two (2) parallel runs of the following; Four (4) 3/0 AWG Cu conductors in conduit. (MATERIAL AND INSTALLATION BY OTHERS).

11. Service conductors from 400A fused disconnect to Meter cabinet: Two (2) parallel runs of the following; Four (4) 3/0 AWG Cu conductors in conduit. (MATERIAL AND INSTALLATION BY OTHERS).

12. SERVICE EQUIPMENT (DISCONNECT, METERING CABINET, CABLE and CONDUITS) MATERIAL AND INSTALLATION BY OTHERS.

FOR REVIEW AND COMMENT

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C1	2022/01/07	100% DESIGN	DP	CC	ER
B1	2021/08/26	90% DESIGN	DP	CC	CC
A1	2021/08/26	DRAFT FOR REVIEW	DP	CC	

LPE

DATE

APEGA PERMIT NUMBER: P09178

SCALE: NOT TO SCALE

TITLE: **Electrical Single Line**

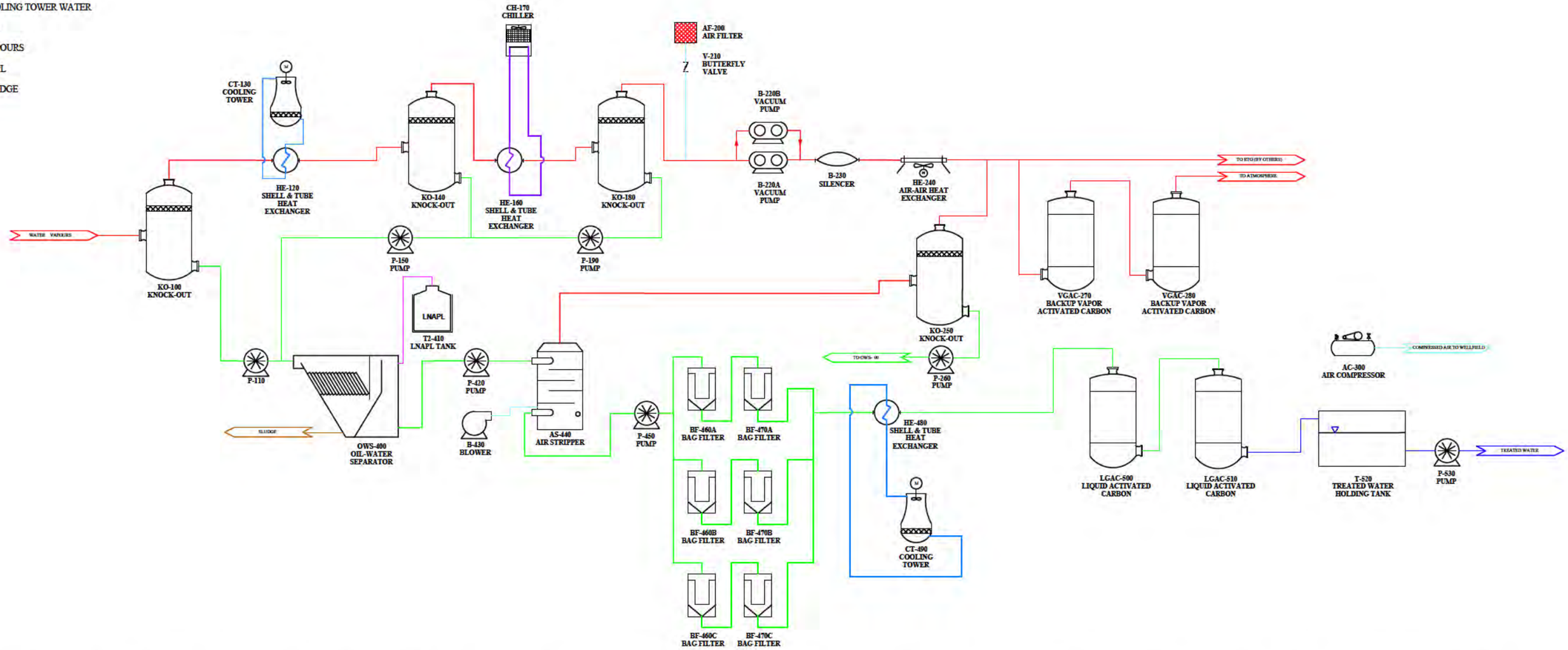
CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **ESL-01**

LEGEND:

- WASTE WATER AND GROUND WATER
- TREATED WATER
- CHILLER LIQUID
- COOLING TOWER WATER
- AIR
- VAPOURS
- NAPL
- SLUDGE



KO-100 KNOCK-OUT
3 5 FT DIA
200 gal BTWN HIGH AND LOW LEVEL

P-110
50 gpm AT 50 FT HEAD
GOULDS 150MS 1E5G6
OR EQUIVALENT

HE-120 SHELL & TUBE HEAT EXCHANGER
2E6 BTU/HR ~975 FT^2 SA
111 GPM CW
AIHT CS409646SPSTSSB
OR EQUIVALENT

CT-130 COOLING TOWER
111 gpm CW
INLET: 113°F
OUTLET: 77°F
EVAPCO AT17-2J9 OR EQUIVALENT

KO-140 KNOCK-OUT
2 5 FT DIA
100 gal BTWN HIGH AND LOW LEVEL

P-150 PUMP
10 gpm AT 50 FT HEAD
GOULDS 100MS1C5E6
OR EQUIVALENT

HE-160 SHELL & TUBE HEAT EXCHANGER
1 8E5 BTU/HR ~822 FT^2 SA
19 7 gpm COOLANT
AIHT CS409646SPSTSSB
OR EQUIVALENT

CH-170 CHILLER
1 8E5 BTU/HR
50% PROPYLENE GLYCOL/50% WATER
RITETEMP RTS-1604 OR EQUIVALENT

KO-180 KNOCK-OUT
2 5 FT DIA
100 gal BTWN HIGH AND LOW LEVEL

P-190 PUMP
5 gpm AT 50 FT HEAD
GOULDS 100MS1C5E6
OR EQUIVALENT

AF-200 AIR FILTER
FOR 4 IN VAPOUR LINE
500 SCFM

V-210 BUTTERFLY VALVE
4 IN

B-220A/B VACUUM PUMP
891 SCFM 21 5 LB/H WATER VAPOUR
SUTORBILT LEGEND DSL 6LV
OR EQUIVALENT

B-230 SILENCER
891 SCFM
80 dB AT 5 FT HEAD

HE-240 FIN-FAN HEAT EXCHANGER
7 2E5 BTU/HR ~1250 FT^2 SA
XCHANGER AA-1000 OR EQUIVALENT

KO-250 KNOCK-OUT
2 5 FT DIA
100 gal BTWN HIGH AND LOW LEVEL

P-260 PUMP
5 gpm AT 50 FT HEAD
GOULDS 100MS1C5E6
OR EQUIVALENT

VGAC-270 BACKUP VAPOR ACTIVATED CARBON
MIN 5 0 FT DIA
5000 LB
TETRASOLV VFV-5000
OR EQUIVALENT

VGAC-280 BACKUP VAPOR ACTIVATED CARBON
MIN 5 0 FT DIA
5000 LB
TETRASOLV VFV-5000
OR EQUIVALENT

AC-300 AIR COMPRESSOR
32 SCFM
AT 150 psig
KAESER SM-13 OR EQUIVALENT

OWS-400 OIL-WATER SEPARATOR
20 µm OIL DROPLET SEPARATION AT 50 gpm
HYDROQUIP HQI-CLA-200LP-Q
OR EQUIVALENT

T2-410 LNAPL TANK
250 gal

P-420 PUMP
50 gpm AT 100 FT HEAD
GOULDS 150MS 1H5A6 OR EQUIVALENT

B-430 BLOWER
1000 SCFM
CINCINNATI FAN HP-6B18
OR EQUIVALENT

AS-440 AIR STRIPPER
A:W RATIO OF 89 8
QED EZ-12 6HF OR EQUIVALENT

P-450 PUMP
50 gpm AT 50 FT HEAD
GOULDS 150MS 1E5G6
OR EQUIVALENT

BF-460A/B BAG FILTER
TRADE SIZE 2
ROSEDALE MODEL 8-30
OR EQUIVALENT

BF-470A/B BAG FILTER
TRADE SIZE 2
ROSEDALE MODEL 8-30
OR EQUIVALENT

HE-480 SHELL & TUBE HEAT EXCHANGER
2 02E6 BTU/HR ~1000 FT^2 SA
AIHT SRCS3214446SPSTSSB
OR EQUIVALENT

CT-490 COOLING TOWER
113 gpm CW
INLET: 113°F
OUTLET: 77°F
EVAPCO AT17-2J9 OR EQUIVALENT

LGAC-500 LIQUID ACTIVATED CARBON
3 6 FT DIA
2000 LB
TETRASOLV HPAF-2000
OR EQUIVALENT

LGAC-510 LIQUID ACTIVATED CARBON
3 6 FT DIA
2000 LB
TETRASOLV HPAF-2000
OR EQUIVALENT

T-520 TREATED WATER HOLDING TANK
5000 gal

P-530 PUMP
50 gpm AT 50 FT HEAD
GOULDS 150MS 1E5G6
OR EQUIVALENT

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B5	2021/09/30	90% DESIGN	JS	JS	DAR
B2	2021/09/27	REVISE EQUIPMENT AND ADD SPECS	JS	JS	DAR
B1	2021/08/27	90% DESIGN	JS	JS	CC
A1	2020/05/06	FOR REVIEW AND COMMENT	TL	TL	DAR

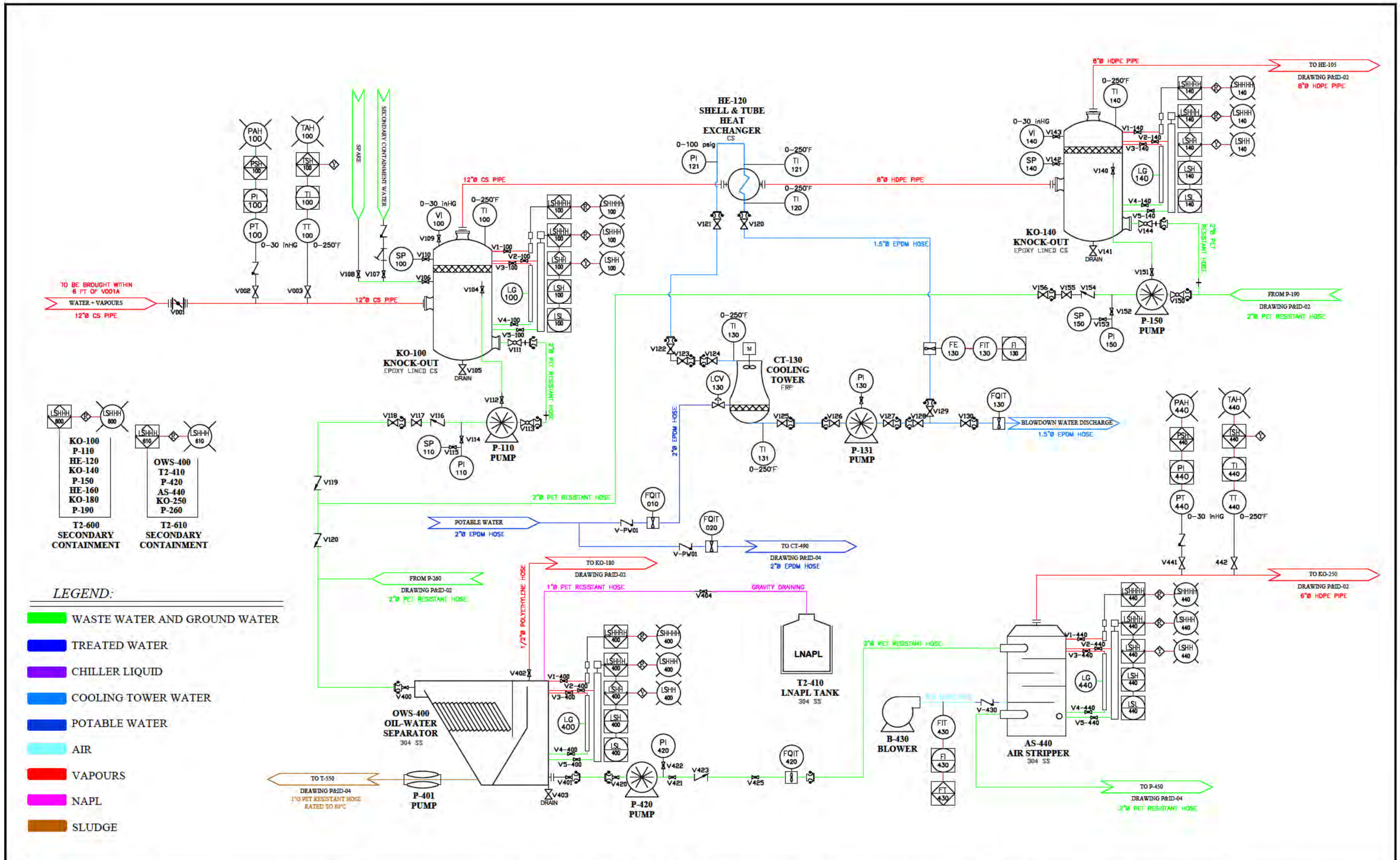
APEGA PERMIT NUMBER: P09178
SCALE: NOT TO SCALE

TITLE: **Process Flow Diagram**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **PFD-01**



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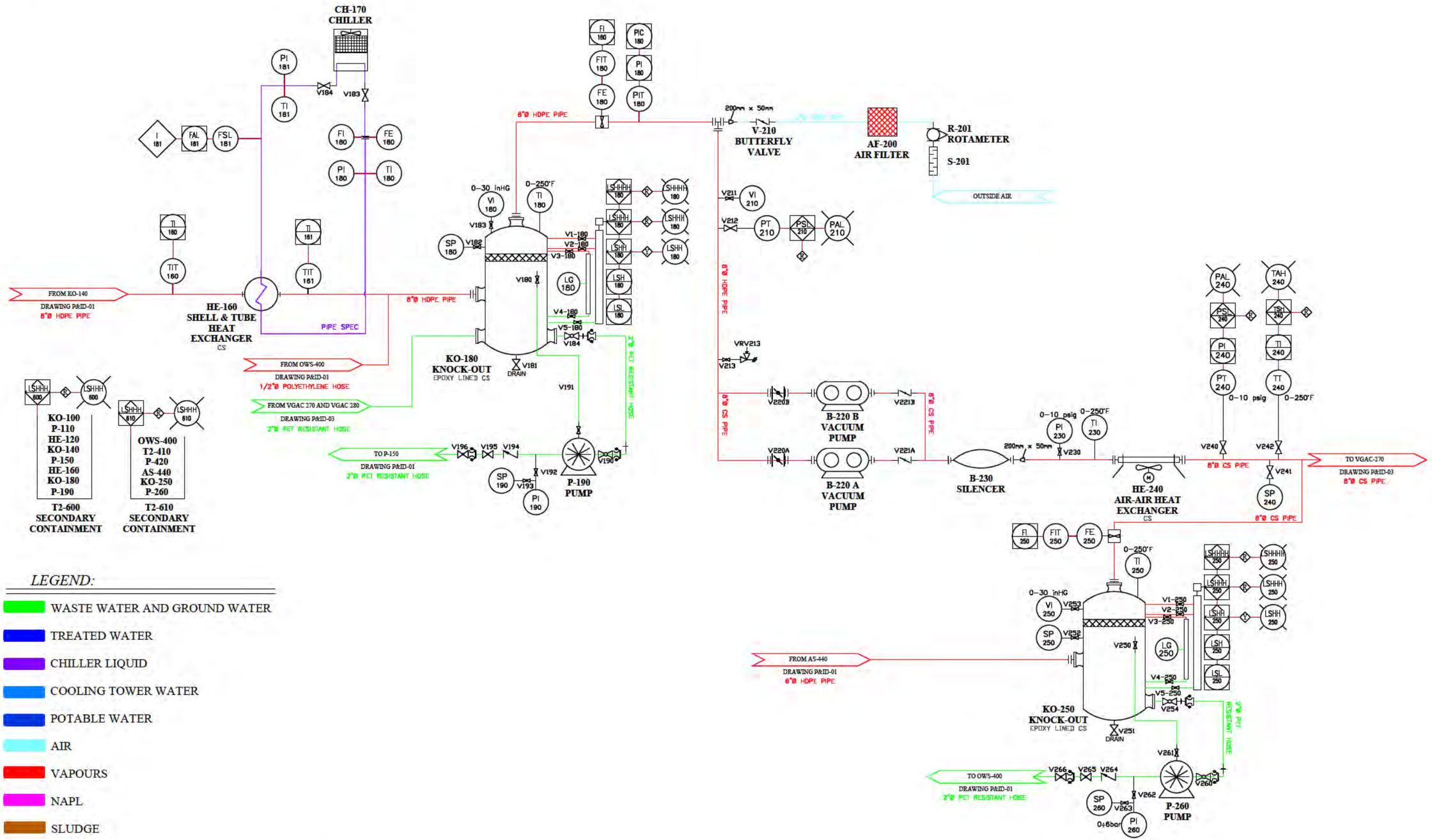
APEGA PERMIT NUMBER: P09178 SCALE: NOT TO SCALE

TITLE: **Process and Instrumentation Diagram**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard Roxana, Illinois**

SHEET: **P&ID-01**



LEGEND:

- WASTE WATER AND GROUND WATER
- TREATED WATER
- CHILLER LIQUID
- COOLING TOWER WATER
- POTABLE WATER
- AIR
- VAPOURS
- NAPL
- SLUDGE

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B1	2021/09/30	90% DESIGN	JS	JS	DAR
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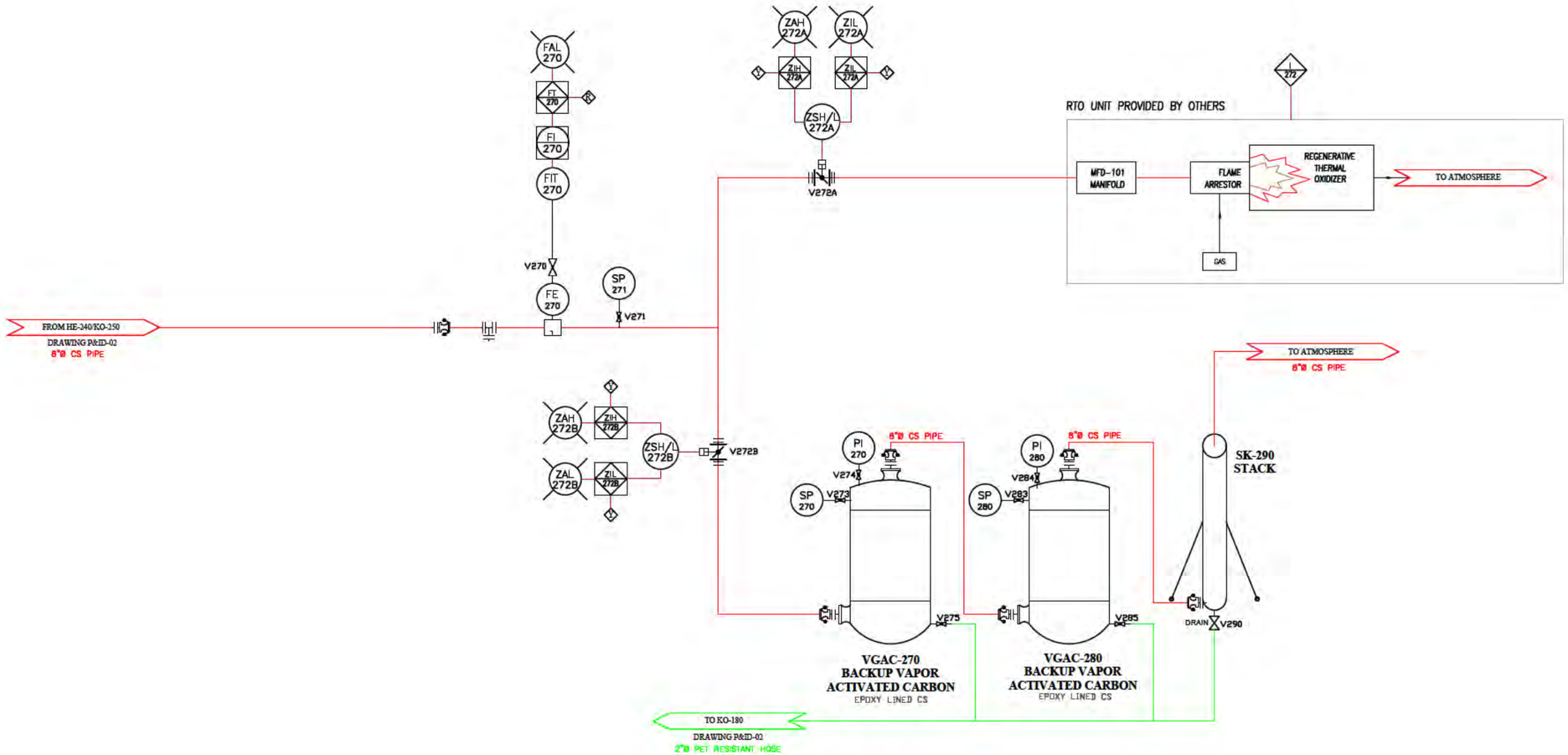
APEGA PERMIT NUMBER: P09178 — SCALE: NOT TO SCALE

TITLE: **Process and Instrumentation Diagram**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **P&ID-02**



LEGEND:

- WASTE WATER AND GROUND WATER
- TREATED WATER
- CHILLER LIQUID
- COOLING TOWER WATER
- POTABLE WATER
- AIR
- VAPOURS
- NAPL
- SLUDGE

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B1	2021/09/30	90% DESIGN	JS	JS	DAR
A1	2021/09/22	FOR REVIEW AND COMMENT	JS	JS	DAR

APEGA PERMIT NUMBER: P09178

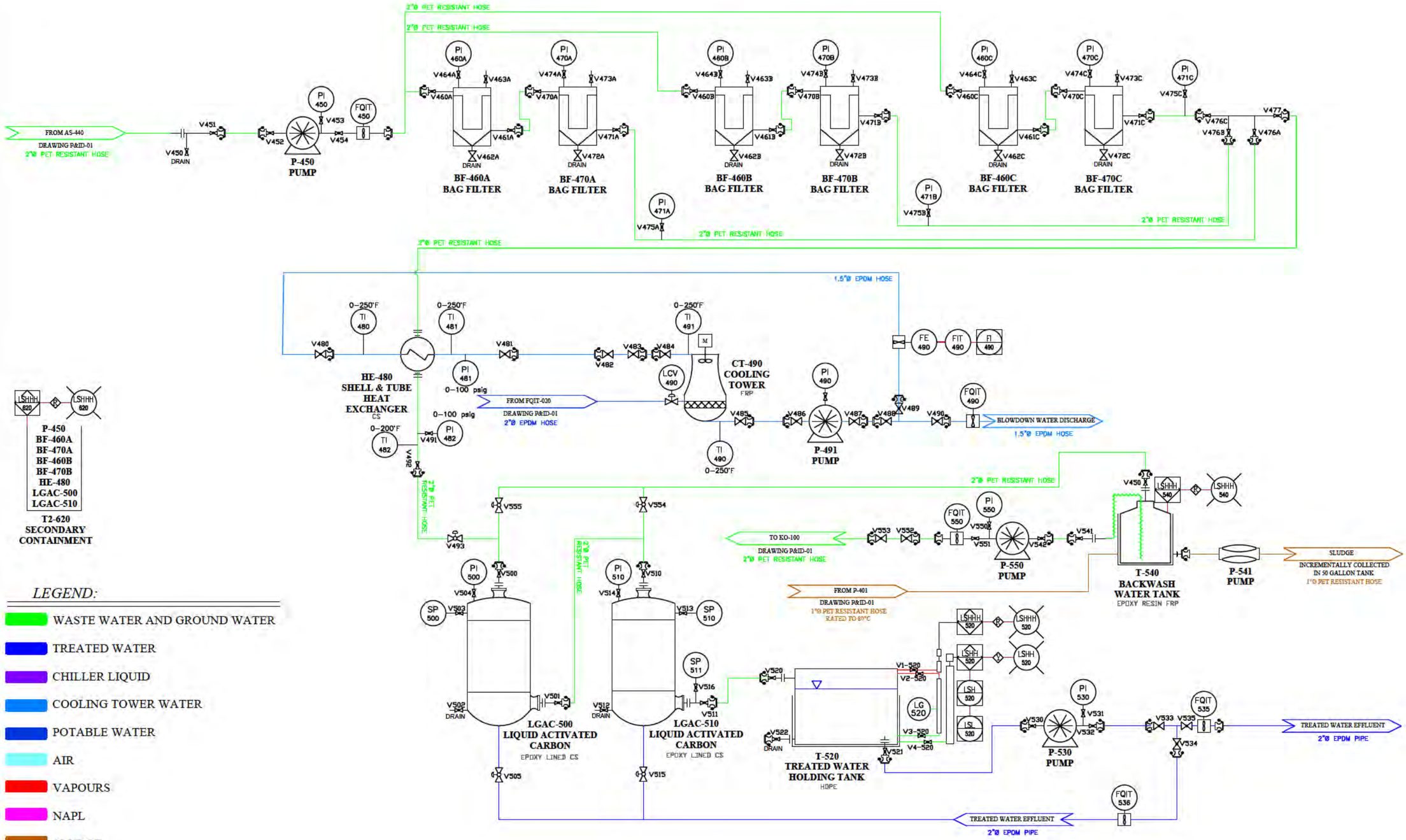
SCALE: NOT TO SCALE

TITLE: **Process and Instrumentation Diagram**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **P&ID-03**



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APEGA PERMIT NUMBER: P09178
SCALE: NOT TO SCALE

TITLE: **Process and Instrumentation Diagram**

CLIENT: **AECOM**

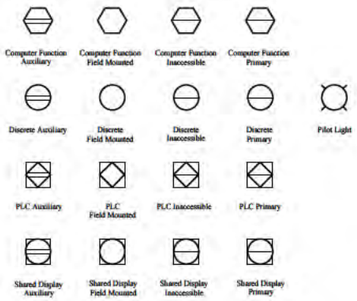
PROJECT: **Roxana Public Works Yard**
Roxana, Illinois

SHEET: **P&ID-04**

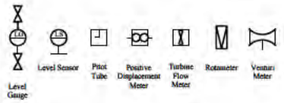
Control Interlocks

- Alert Alarm
- Green Alarm
- Red Alarm
- Yellow Alarm

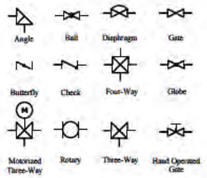
Instruments



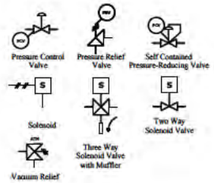
Measurement Devices



Valves



Self-Actuated Valves



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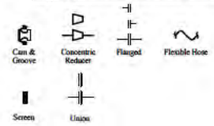
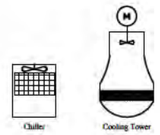


Cooling



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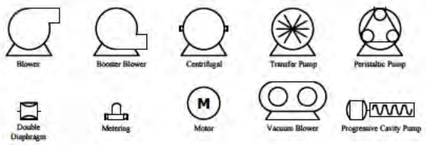
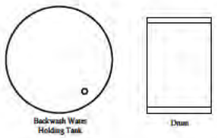
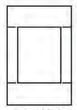
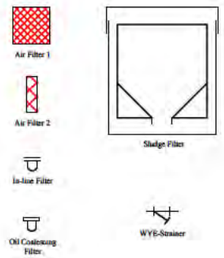


Vessels

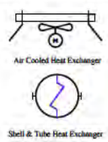




Filters



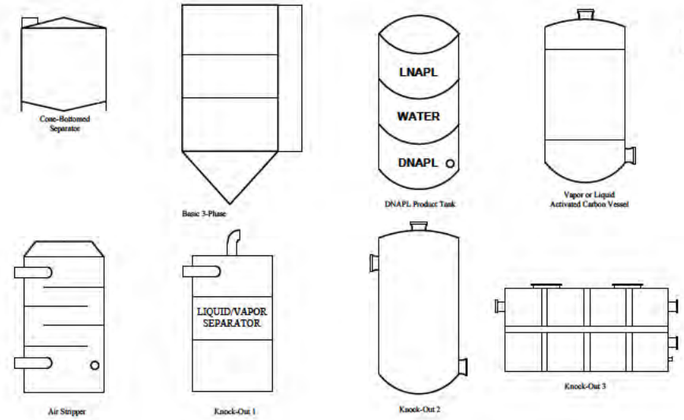
Heat Exchangers



Compressed Air Equipment



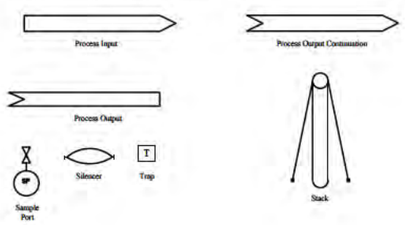
Treatment Equipment



LEGEND:

- WASTE WATER AND GROUND WATER
- TREATED WATER
- CHILLER WATER
- COOLING TOWER WATER
- POTABLE WATER
- AIR
- VAPOURS
- NAPL
- SLUDGE
- CHEMICAL ADDITION

Miscellaneous



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DATE	REV.	DATE (D/M/Yr)	DESCRIPTION	DRAWN BY	ORG/ ENGR	Aproved Dist
	APEGA PERMIT NUMBER:		P09178	SCALE:	NOT TO SCALE	

TITLE: **Process and Instrumentation Diagram**

CLIENT: **AECOM**

PROJECT: **Roxana Public Works Yard Roxana, Illinois**

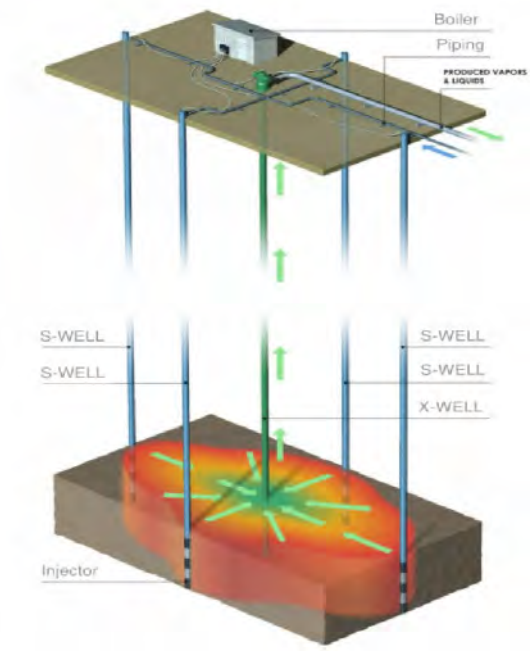
SHEET: **P&ID-05**

Appendix B – Numerical Simulation

Thermal Model

Illinois, United States

Steam Enhanced Extraction
Numerical Simulation



McMillan-McGee Corp

Creators of ET-DSP™

Submitted to
AECOM

Roxana, Illinois
January 7, 2022

Steam Enhanced Extraction Simulation Study



APEGA Permit No. P09178

McMillan McGee Corp.
4895-35B St. SE
Calgary, Alberta T2B 3M9

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mcgee@mcmillan-mcgee.com

Prepared for the:

Roxana Project

Written and Reviewed by:

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Clayton Campbell, PEng

Submitted to:

Wendy Pennington
AECOM
300 South Grand
Los Angeles, CA 90071
United States

January 7, 2022



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Disclaimer

In preparing this report, we have relied upon information provided by you, the Client, and your representatives. This information has been accepted as represented without independent verification. We have relied upon these representations as to the completeness and accuracy of the data provided and that no material changes have occurred or is expected to occur, from that which was projected in this report, between the date the information has been provided and the date of this report, and that no new information has come to light that may result in a material change to the findings contained herein this report.

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Nomenclature

Symbol	Description
3D	Three Dimensional
BGS	Below Ground Surface
BTEX	Benzene, Toulene, Ethylbenzene, and Xylene
BTU	British Thermal Unit
COCs	Contaminants of Concern
VOC	Chlorinated Volatile Organic Compound
CWE	Cold Water Equivalent
DNAPL	Dense Non-Aqueous-Phase Liquid
EPA	United States Environmental Protection Agency
IDW	Investigation-Derived Waste
MPE	Multiphase Extraction
NAPL	Non-Aqueous-Phase Liquid
PWY	Public Works Yard
R-Value	Thermal Resistance
SEE	Steam Enhanced Extraction
TV	Treatment Volume
USCS	Unified Soil Classification System
VOC	Volatile Organic Compound
X-Well	Extraction Well

Symbol	Description
	Used in Equations
λ_c	Thermal Conductivity of the chemical [W/m/°C]
λ_w	Thermal Conductivity of the Water [W/m/°C]
λ_r	Thermal Conductivity of the Rock [W/m/°C]
λ_{ob}	Thermal Conductivity of the Overburden [W/m/°C]
λ_{ub}	Thermal Conductivity of the Under-burden [W/m/°C]
α	attenuation factor
A_{gw}	Area Perpendicular to Ground Water Flow [m^2]
K	Hydraulic Conductivity [ft/day]
P_i	Initial Pressure [kPa]
S_c	Chemical Saturation [-]
S_g	Gas Saturation [-]
S_w	Water Saturation [-]
T_i	Initial Temperature [°C]
v_{gw}	Ground Water Flow Velocity [m/day]
a	Cementation Factor in Archie's Law [-]
a_i	Fit Parameters in a Cubic Fit of the Temperature [-]
z_{BGS}	distance below ground surface [m]
	Radius of Capture Equation
F	vertical flow constant [-]
C_a	Capillary number [-]
c_1, c_2	Capillary number coefficient correlation constants [-]
d_1, d_2	Capillary number exponent correlation constants [-]
d	pore throat diameter [m]
$Eó$	Eötvös number for channels with a square cross section
g	acceleration due to gravity [m/s^2]
H	Thickness of heated volume [m]
h	Characteristic height [m]
K	$k-$values [-]
k_h	Horizontal permeability [mD]
k_v	Vertical permeability [mD]
r_e	Radius of capture [m]
r_w	Radius of extraction well [m]
α	residual water fraction [-]
γ	surface tension of water [N/m]
μ_l	viscosity of water [Pas]
ϕ	porosity [-]
ρ	density of water [kg/m^3]
τ	Tortuosity parameter [-]
υ_v	Average vertical discharge velocity [m/s]

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Symbol	Description
v_v	Horizontal velocity of the liquid [m/s]
v_b	Vertical velocity of the vapour [m/s]
$\pm$	plus or minus

Symbol	Description
	Units of Measure
BTU	British Thermal Unit
cm	centimetre
cm/s	centimetre/second
D	darcy
ft	feet
ft^2	square feet
gal	gallon
gpm	gallons per minute
h	hour
in	inch
inHg	inches of mercury
K	degree Kelvin
kg	kilogram
kPa	kilopascal
°C	Degrees Celsius
°F	Degrees Fahrenheit
kg/m^3	kilograms per cubic meter
kW	kilowatts
kWh	kilowatt hour
L	litre
lbs	pounds
m	metre
mPa	millipascal
m^2	square metre
mD	millidarcy
m^3	cubic meter
min	minute
mm	millimetre
%	percent
µm	micrometer

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Symbol	Description
g/m^3	grams per cubic meter
mol	mole
MW	megawatt
N	Newton
s, sec	second
scfm	standard cubic feet per minute
sm^3	standard cubic meter
yd^3	cubic yards

1 Summary

The objective of the simulation study is to develop a subsurface model of the Roxana Public Works Yard in-situ thermal remediation site located in Roxana, Illinois using steam injection in conjunction with a MPE system. The model will be used to determine the basis for the SEE system design and operating strategy, specifically, to address many of the design elements of the SEE system as conceptually shown in Figure 1.5.

The project has two operating areas which were modelled as Area A and B. This summary is for the treatment volume making up the total project. The results of this model estimate the pertinent design characteristics of a SEE remediation project, such as:

1. Total energy input of 8,804 $MW \cdot h$ or 555 kWh/m^3 (425 kWh/yd^3);
2. Total water extraction volume of 25,769,756 L (6,807,649 gallons);
3. Total water injection volume of 14,167,834 L (3,742,746 gallons);
4. Vapor extraction rate of 1,783 scfm (50.40 sm^3/min);
5. Time to reach target temperatures of 43 to 45 days in 90% of the treatment volume;

6. Peak temperatures that are generally limited to the boiling temperature of water as a function of depth and pressure in the soil[1];

7. An anticipated contaminant mass recovery of 10,000 kg (22,046 lbs);

8. Average steam well spacing spacing of 9.14 m (30.00 ft); and,

9. An average extraction well spacing of 12.29 m (40.00 ft)[2].

The site location is shown in Figure 1.1. The project treatment area is shown in Figure 1.2. The total treatment area is approximately 3,863 m^2 (41,582 ft^2) and the total treatment volume is 15,850 m^3 (20,731 yd^3).The total heated area is approximately 4,341 m^2 (46,722 ft^2) and the total heated volume is 17,766 m^3 (23,238 yd^3). The treatment and heated areas for Areas A and B are shown in Figures 1.3 and 1.4. The vertical extent of the treatment volume is shown for Area A and B in Figures 1.6 and 1.7.

The treatment volume extends from an average of 13.57 m BGS (44.50 ft BGS) to an average maximum depth of 17.22 m BGS (56.50 ft BGS). Treatment depth varies based on location. The boundaries of the heated volume extend beyond the extremities of the treatment volume.

[1]Water in the presence of chemicals will boil at the co-boiling temperature of the mixture, which can be less than the boiling point of water.
[2]Extraction well spacing varies over the area of the treatment volume.



Figure 1.1.: Public Works Yard Property Boundary

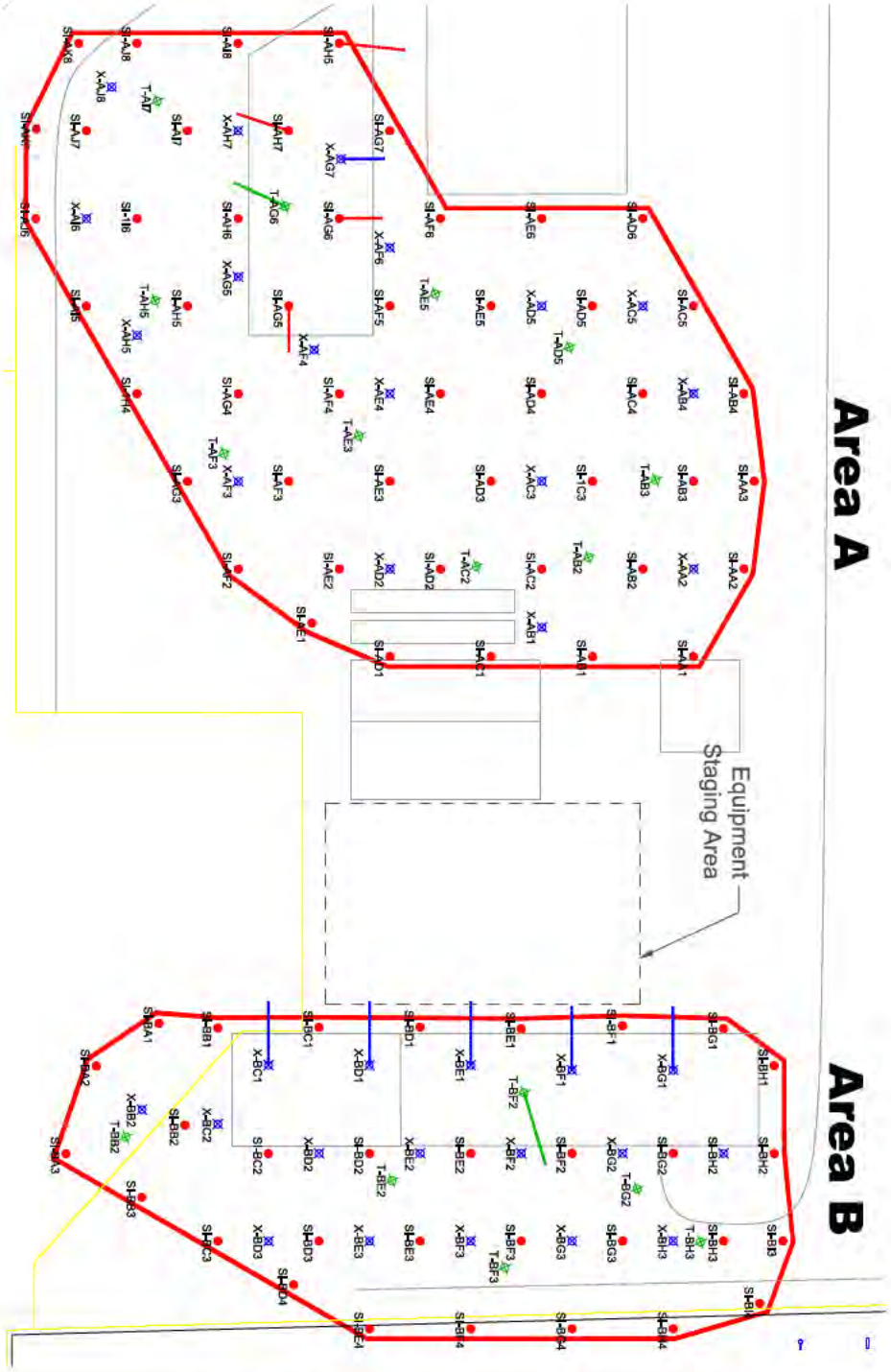

Figure 1.2.: Project treatment area.

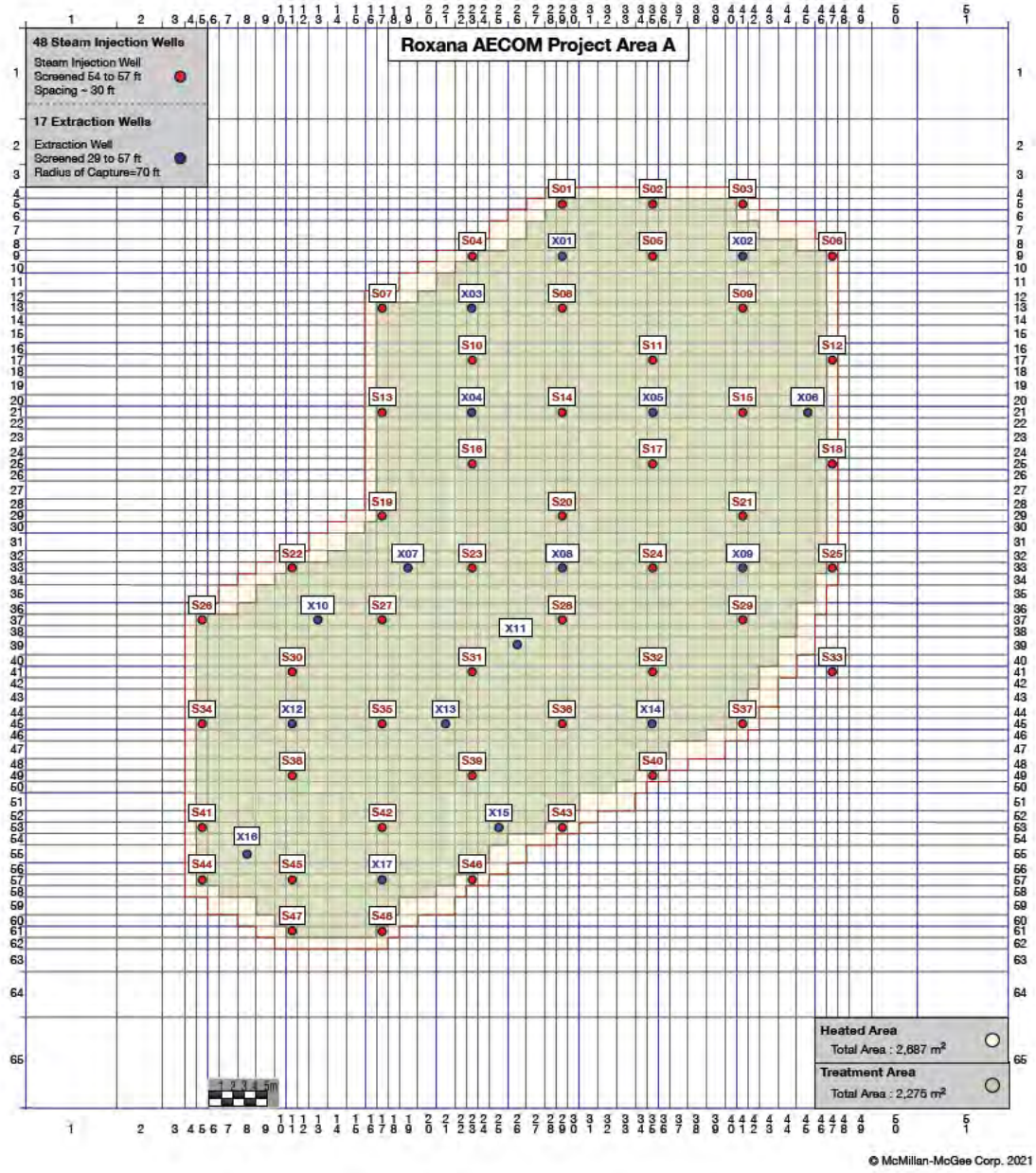

Figure 1.3.: Area A Heated and Treatment Areas

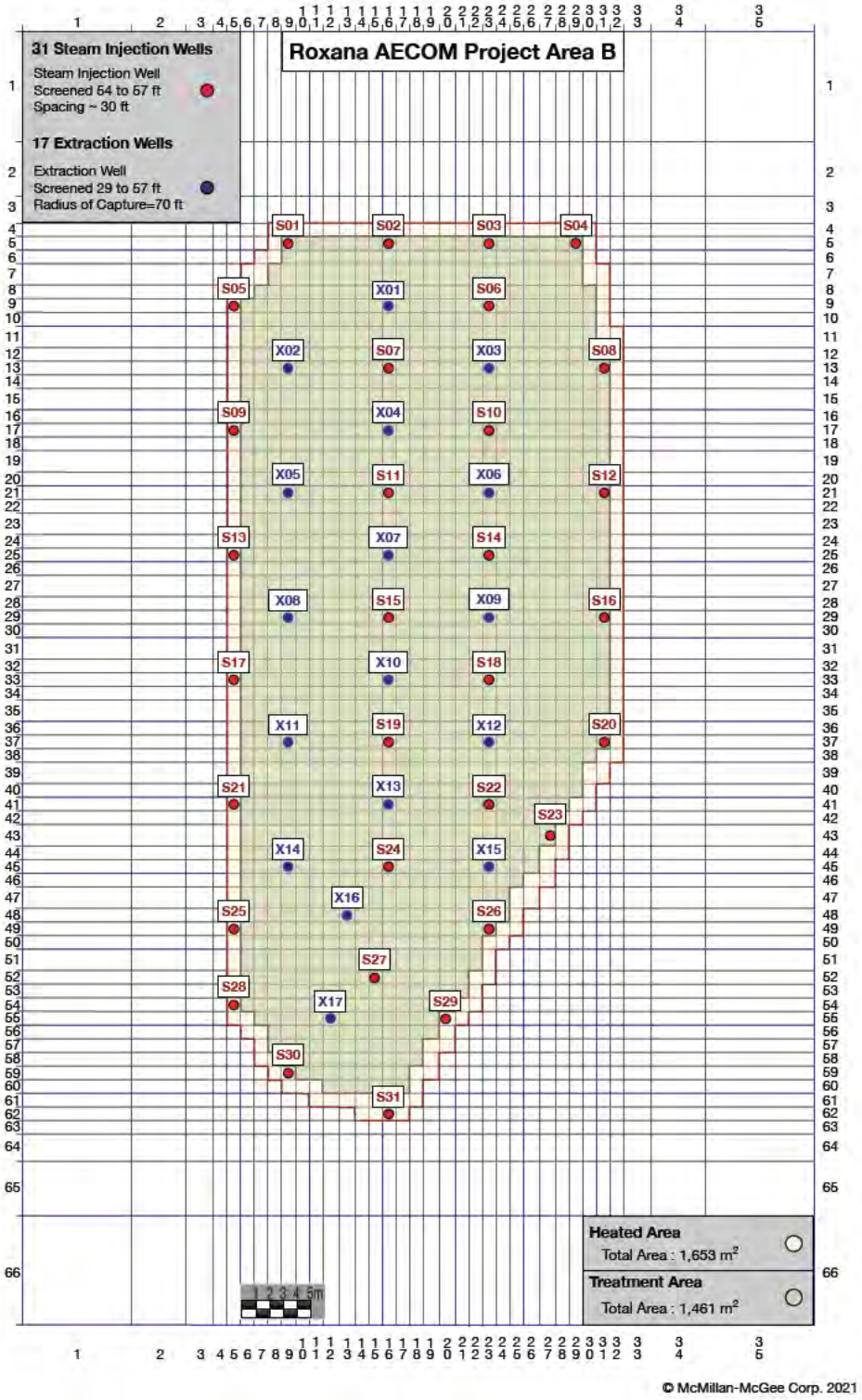

Figure 1.4.: Area B Heated and Treatment Areas

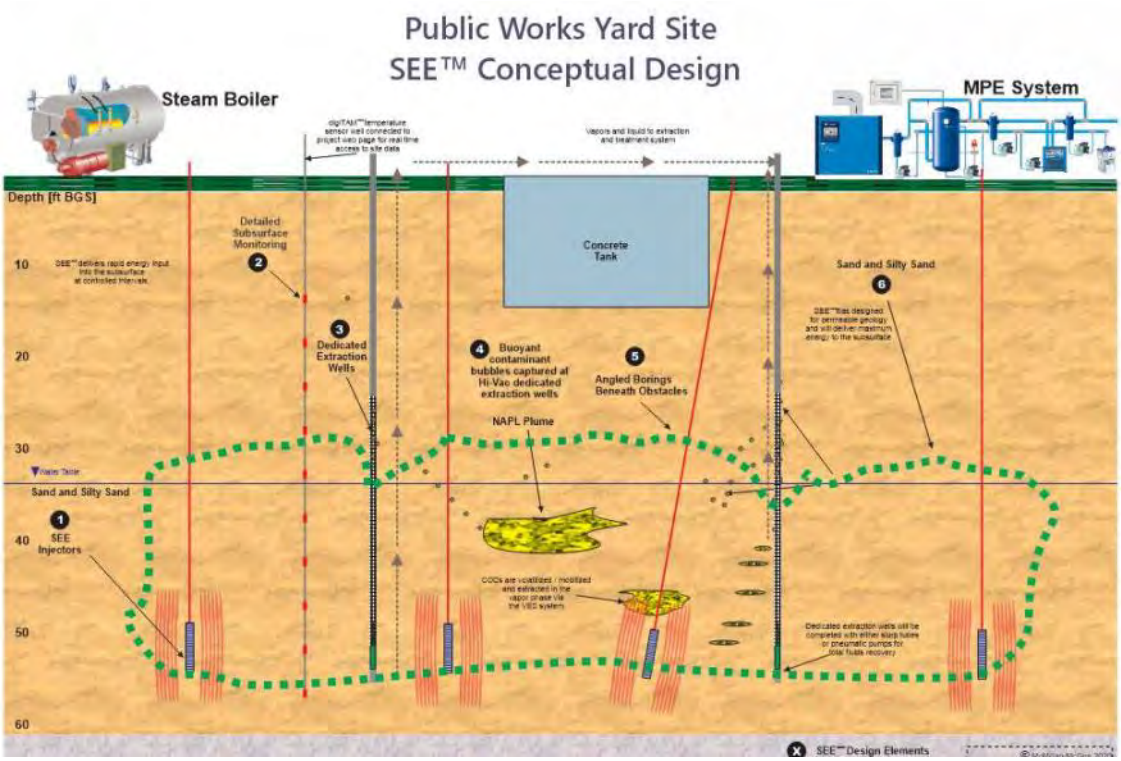

Figure 1.5.: Roxana conceptual model of the remediation process.

The results of the simulation study are provided in chapter 3. The study resulted in a technical approach for this project with specific regard to the following design issues:

Steam Injection Wells (Element 1) Steam injection wells will be used in the permeable sand and silty sand layer to deliver heat to the soil within the treatment interval. The temperature increase will increase the volatility of the contaminants present in the treatment zone allowing them to be recovered at the extraction wells. VOC vapors are created at elevated temperatures in the treatment volume. Steam injection will also sweep contamination towards MPE wells used for vapor capture.

Data Monitoring (Element 2) Continuous remote data monitoring of temperature using digiTAM™ sensors will allow operators to respond in real time to transient subsurface conditions. The data will be available on a dedicated project web page.

Multiphase Extraction (Element 3) Dedicated MPE wells are used to capture fluids for aboveground treatment and discharge. Compressed air pneumatic groundwater recovery pumps are operated at sufficient extraction rates to maintain inward gradients for hydraulic control, as steam is injected to the steam injection wells and this steam displaces groundwater, and they also function as a mechanism to capture dissolved VOCs. Continuous operation of the extraction wells at sufficient vacuums will capture vaporized VOCs, soil gas, and steam for pneumatic control.

Contaminant Mass Removal (Element 4) Buoyancy causes the thermodynamically created contaminant bubbles to rise vertically and escape from the heated volume. Continuous operation of the extraction system with appropriate placement of extraction wells will be sufficient to overcome the vertical buoyancy and pull the bubbles into the extraction wells. Sufficient local and macroscopic connection of vapor pockets causes bubble and/or channel flow upwards towards the vadose zone and towards extraction wells for capture.

Angled Wells (Element 5) Angle steam injection wells, temperature sensor wells, and MPE wells will be used to target contamination beneath site obstacles ensuring site wide remediation.

Formation Properties (Element 6) The hydraulic conductivity corresponding to the sand and silty sand geology of the Site is excellent for steam injection. The average horizontal hydraulic conductivity of 1.24 x 10-2 cm/s is within the recommendations of the EPA.

Water Table Depth to groundwater averaged at 8.0 m below ground surface (average). No perched groundwater table has been observed. For soil above the water table. It is assumed that the ground water flow velocity is negligible within the treatment volume.

Simulation Study The optimization of the heating strategy and operations through detailed data monitoring is intended to minimize the overall energy consumption of the project while still achieving the clean up goals. The simulation study provides a conservative (aggressive heating) estimate of the energy use.

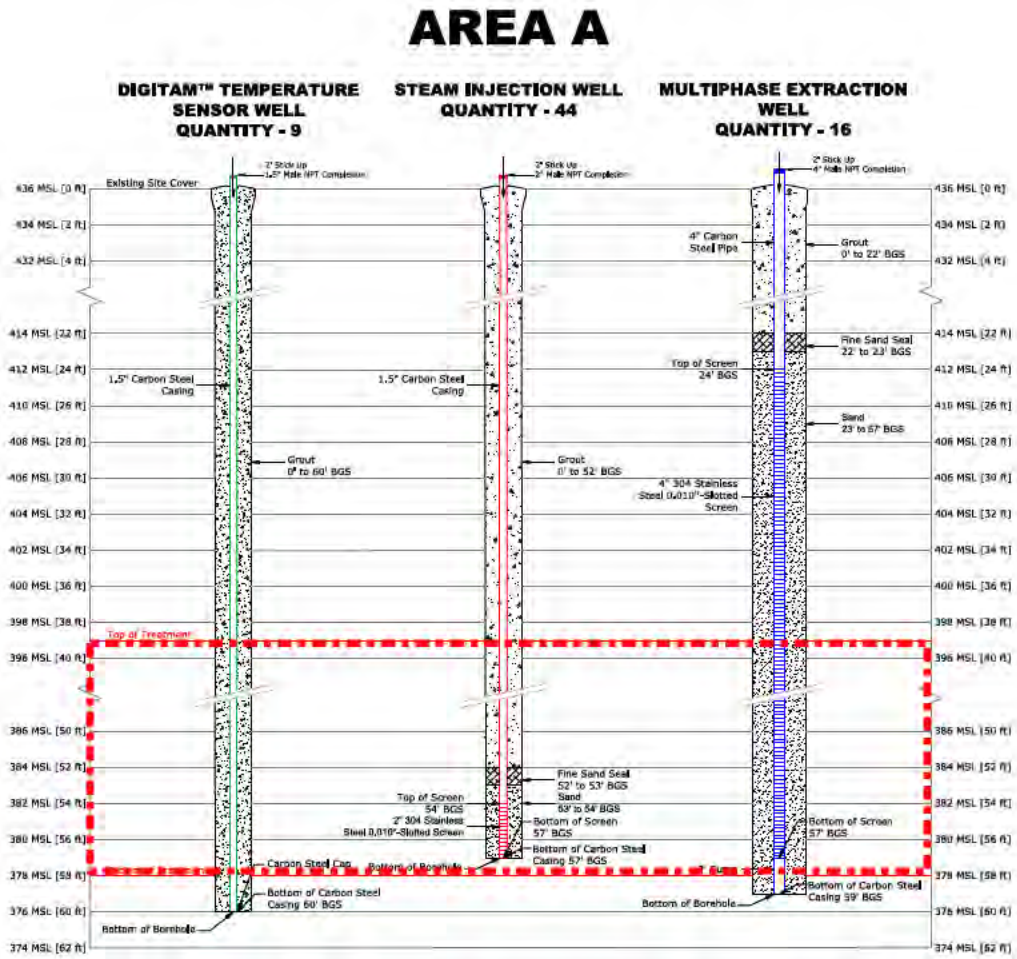

Figure 1.6.: Vertical extent of the steam wells.

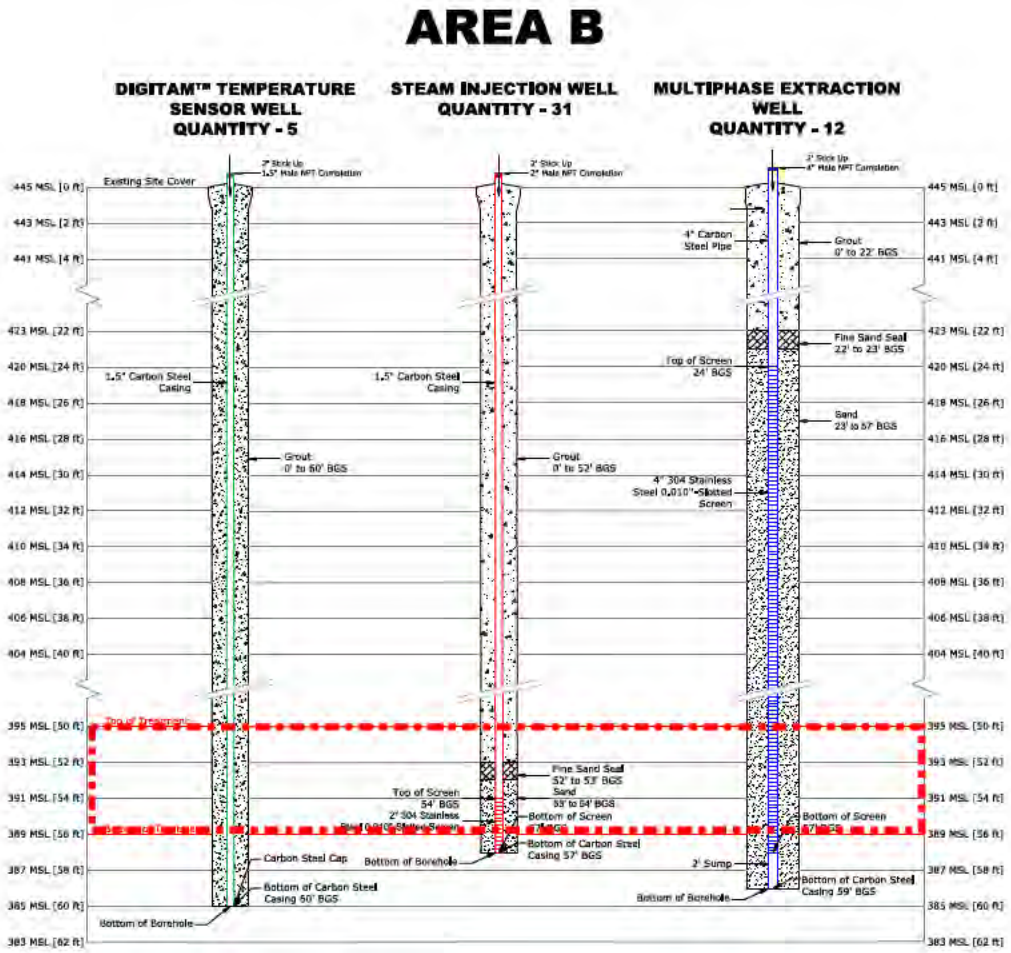

Figure 1.7.: Vertical extent of the steam wells.

2 Simulation Study

The input data for this numerical model were obtained from AECOM and site-specific analyses. Data not available from AECOM were obtained from the public domain. An aggressive heating approach was taken in the preparation of the data file.

Figure 2.1 shows the site plan for Roxana. The scope of this simulation study is limited to only the SEE process within the treatment volume specified by AECOM.

2.1. The Site

2.1.1. Background Information

The PWY is located in a mixed use area surrounded by industrial users, primarily petroleum refining and storage facilities. The Site is bounded by Old Edwardsville Road to the west, East Eighth Street to the north, a rail corridor to the south, the Phillips 66 Wood River Refinery directly to the east (See Figure 2.1). The nearest residential properties are located on the north side of East Eighth Street approximately 80 feet from TTZ Area A. The property has an areal extent of approximately 2.4 acres, approximately 0.4 acres of which is covered or obstructed buildings or structures [AEC19].



Figure 2.1.: Areal view of Roxana.

A summary of the site conditions are:

1. The primary contaminant of concern (COC) at the site is benzene. However, a total of 142 volatile and semi volatile organic compounds (VOC and SVOC) were analyzed for in both the soil and groundwater at the Site and a number of other VOCs and SVOCs were identified to be present. Benzene was the mostly commonly encountered contaminant while 1-methylnapthalene was the second most commonly encountered contaminant in both soil and groundwater [AEC19].

2. The treatment interval varies throughout the treatment area but ranges from 11.9 meters at its most shallow to 17.22 m BGS at its deepest as reported by AECOM.

3. Based on information supplied by AECOM, the treatment volume is entirely comprised of medium to course grained sand with relatively thin silty zones.

4. It is expected that any pre-existing wells not suitably constructed for exposure to high temperature will be decommissioned prior to the implementation of thermal treatment.

5. Volatile chemical removal from the subsurface within the timeframe of 180 days is the desired outcome of remediation effort. This is anticipated to reduce the risk posed to human health and the environment by site contaminants.

6. A network of multiphase (vapour and groundwater) wells will be installed and operated within the treatment area to ensure that hydraulic and pneumatic control are maintained throughout operations.

2.1.2. Geology

The geology of the Site, within the TTZ, generally consists of medium to course grained sand with interbedded silty zones that are relatively thin and discontinuous [AEC20].

The site's geological layers are understood from the details of the AECOM model as shown in Table 2.1 and Figure 2.2 and 2.3.

Geology		
Thickness (ft)	Type	Description
0 to 5	Fill	Clay, gravel, cinders. Discontinuous across the site.
3 to 15	Silty Clay	Silty clay. Area B is generally thinner (5 ft); Area A is generally thicker (up to 15 ft).
approx. 45	Medium Sand	Primarily medium grained sand down to approximately 60 ft below ground surface (ft BGS).
>30	Medium/Course Sand	Transition to medium/course grained sand to depths of 93 ft BGS.

Table 2.1.: Input Geology

Groundwater within the TTZ ranges between 28 and 37 ft BGS, depending on where it is measured on site and of course precipitation and flow conditions in the Mississippi River. Groundwater flow direction, which was once toward the Mississippi (toward the west), is now toward the industrial pumping wells operated by Wood River Refinery east of the Site.

With regards to thermal treatment, the geology (and hydrogeology) is excellent for steam injection. The EPA recommends hydraulic conductivities greater than 10-4 centimeters per second (cm/s) for steam injection [EPA15]. The average horizontal hydraulic conductivity of the formation within the TTZ is 1.24 x 10-2 cm/s. Even with the high permeability and relatively high pumping rate from the Wood River Refinery (minimum 3000 gallons per minute [AEC19]), the groundwater velocities reported in the RFP are relatively low at 0.1 to 0.3 feet per day (ft/day). This means that the energy losses associated with groundwater influx are anticipated to be relatively low.

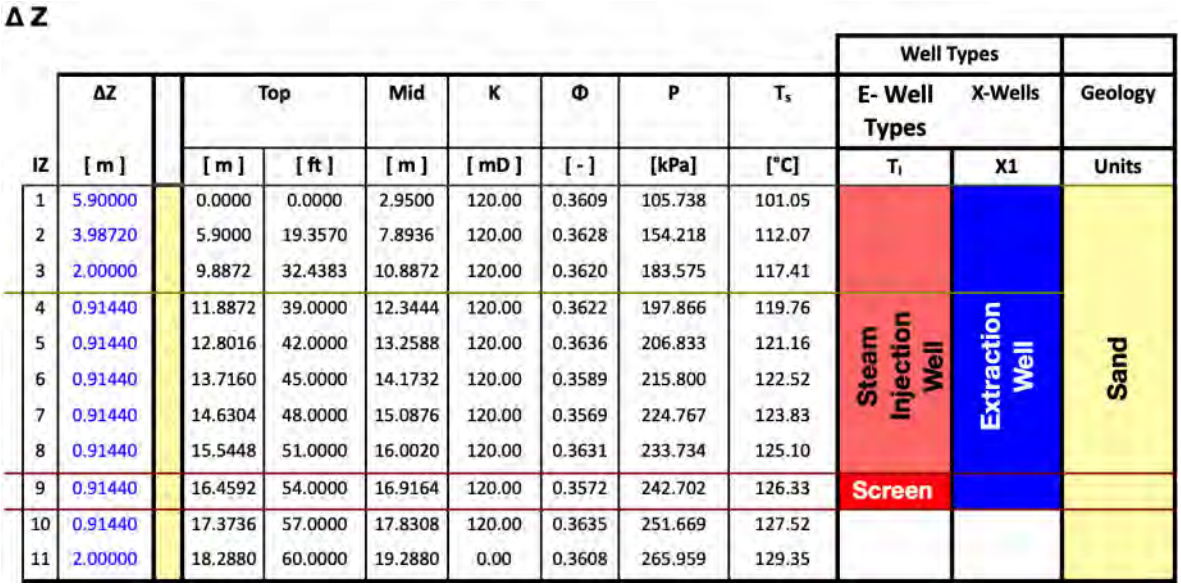

Figure 2.2.: Area A Geological properties assumed in the treatment volume.

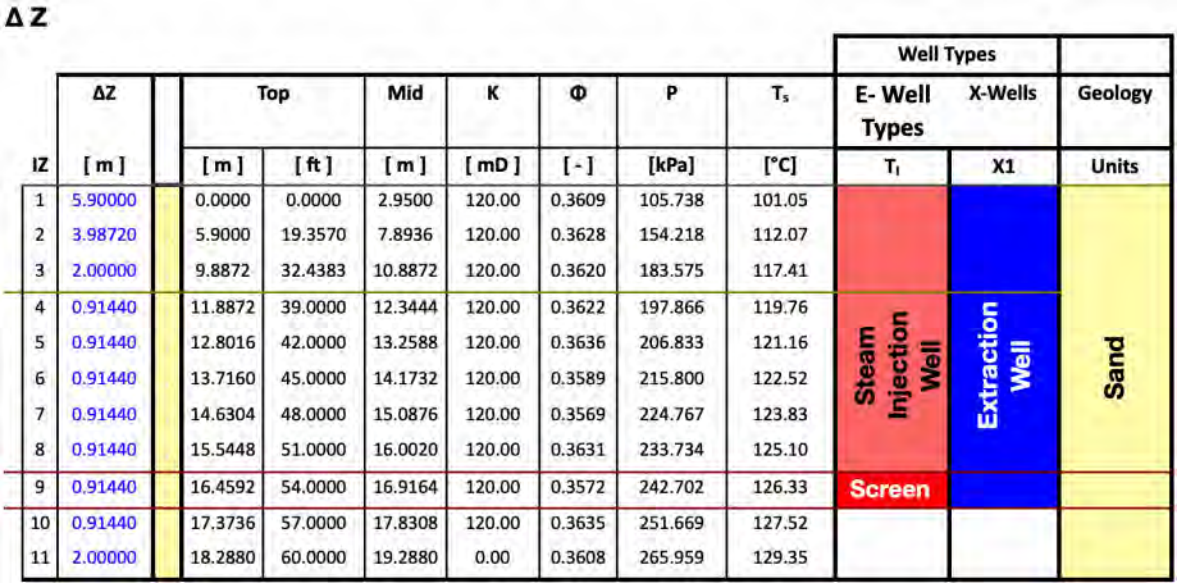

Figure 2.3.: Area B Geological properties assumed in the treatment volume.

2.2. Assumptions

2.2.1. General Assumptions

Some of the more general project assumptions captured in the simulation are:

1. The input energy estimates are for steam operations only. Additional energy for the project is required to run the treatment plant and/or for contingency operations.
2. The heated volume generally surrounds the treatment volume in all dimensions in order to ensure complete thermal treatment of the contaminants.
3. Water for the steam boiler is from the municipal supply.
4. Each multiphase extraction well is assumed to extract liquids and vapors at the same rates as all the other extraction wells within the area with the exception of the corridor extraction wells. For effective and economic remediation, the extraction wells should be operated with this strategy. It is very important to maintain hydraulic control and not over extract liquids relative to cold water equivalent injection into the steam injection wells.
5. The chemical mass is *uniformly* distributed throughout the treatment volume.
6. To achieve the minimum temperature target early in the project, an aggressive ramp-up with increased steam injection to each steam injection well is necessary.
7. The water saturation distribution, S_w, is assumed to be 100%. The chemical saturation is comparatively small.

2.2.2. Specific Assumptions

1. It is assumed that steam to the steam injection wells dominates the energy input to the soil. Actual steam injection rates will be controlled during the project to maintain the recommended power levels.
2. Based on information provided by AECOM, it is assumed that the groundwater velocity is less than 0.3 m per day, and will have a negligible affect on heating. Groundwater, having a large heat capacity, is a key element in uniform heat transfer, and high groundwater flow velocities can result in energy penalties within the heated volume. Typically, local groundwater flow velocities greater than 0.3 m per day become problematic for attaining the target temperatures.

2.2.3. Hydraulic Conductivity

Hydraulic conductivity, (K) is a property of the soil or rock that is a measure of the ease with which a fluid (water in this case) can move through the pore space. It depends on the intrinsic permeability of the material, the viscosity of the fluid, the density of the fluid, and in cases of multiphase flow, the degree of fluid saturation. For this study, values of saturated hydraulic conductivity, which describes water movement through saturated media, were assumed from literature. To convert units of hydraulic conductivity in cm/s to Darcy units, refer to Appendix D.

Typical values for the hydraulic conductivity (in cm/s) for different soil types are summarized in Table 2.2[FC79]. The permeability can vary over several orders of magnitude for a particular soil type. Darcy's law is used to convert the units of hydraulic conductivity to permeability units for input into the numerical simulation program (see details in Appendix D). For water, to convert from 1 cm/s to Darcys multiply by 1,034. For example, from Table 2.2 clean sand has a hydraulic conductivity to water of 10^{-4} cm/s, which is equivalent to 0.1034 D or 103.4 mD (input units for the numerical model). The resulting permeability estimates used in this study are in the range of typical values as shown in Table 2.2.

Hydraulic Conductivity	
Material	K [cm/s]
Gravel	10^{-1} to 10^{2}
Clean sand	10^{-4} to 10^{0}
Silty sand	10^{-5} to 10^{-1}
Silt	10^{-7} to 10^{-3}
Glacial till	10^{-10} to 10^{-4}
Clay	10^{-10} to 10^{-6}
Limestone	10^{-7} to 10^{0}
Fractured basalt	10^{-5} to 10^{0}
Sandstone	10^{-8} to 10^{-3}
Igneous rock	10^{-11} to 10^{-2}
Shale	10^{-14} to 10^{-8}

Table 2.2.: Typical Values of Hydraulic Conductivity.

When very large or small permeabilities are input into the numerical model, simulation calculations can become problematic to compute. In order to improve the efficiency

and stability of the numerical model and to provide conservative engineering design, the higher range of permeabilities from typical values are used. Figure 2.4 shows how the permeability can be affected (increased) by transformation of the lithology as a result of heating and creating steam within the porosity of the clay.

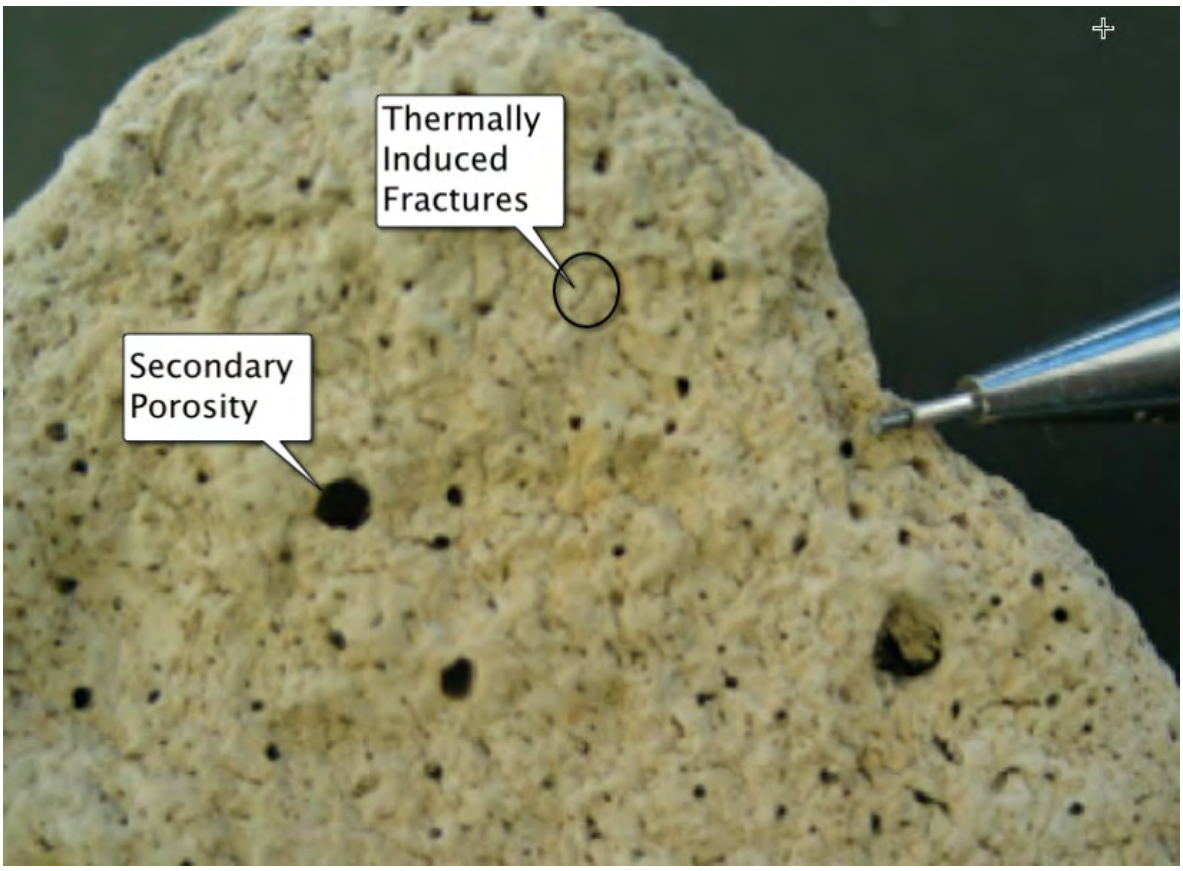

Figure 2.4.: Clay After in-situ heating

The horizontal hydraulic conductivities (k_x and k_y) in the model were estimated to be 333.33 mD as summarized in Table 2.3. The vertical hydraulic conductivities (k_z) were estimated as one fifth of the horizontal values.

Permeabilty [mD]				
Layer	Depth [m]	k_x	k_y	k_z
1	2.95	333	333	67
2	7.89	333	333	67
3	10.89	333	333	67
4	12.34	333	333	67
5	13.26	333	333	67
6	14.17	333	333	67
7	15.09	333	333	67
8	16.00	333	333	67
9	16.92	333	333	67
10	17.83	333	333	67
11	19.29	333	333	67
	Average	333	333	67
	Maximum	333	333	67
	Minimum	333	333	67

Table 2.3.: Input permeability, k_x, k_y, and k_z data.

2.2.4. Thermal Properties

Component Properties

The properties for the chemicals, water, soil (rock), and gas phases are obtained from the public domain. The *base* physical and thermal property data are summarized in Table 2.4. The density of the liquids and solids change as a function of pressure and temperature, which are accounted for in the model.

Physical Properties

Saturation Input Data		
Chemical	S_c	$S_c < 0.000448$, $\hat{S}_c = 0.00$
Water	S_w	$\hat{S}_w = 1.00$
Compressibility Input Data [kPa^{-1}]		
Chemical	cp_c	$4.63 \cdot 10^{-7}$
Water	cp_w	$4.64 \cdot 10^{-7}$
Rock	cp_r	$1.15 \cdot 10^{-6}$
Coefficient of Thermal Expansion [$°C^{-1}$]		
Chemical	ct_c	$7.85 \cdot 10^{-4}$
Water	ct_w	$2.66 \cdot 10^{-4}$
Rock	ct_r	$5.00 \cdot 10^{-4}$
Specific Heat Input Data [$kJ/(kg\ °C)$]		
Chemical	C_c	0.837
Water	C_w	4.180
Rock	C_r	2.430
Thermal Conductivity Input Data [$W/(m\ °C)$]		
Chemical	λ_c	0.21
Water	λ_w	0.79
Rock	λ_r	2.56
Overburden	λ_{ob}	2.56
Underburden	λ_{ub}	2.56

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Physical Properties

Table 2.4.: Fluid and thermal data for the model.

A semi-analytic heat loss model is attached to the sides of the grid to eliminate grid blocks that may otherwise be needed to model the heat losses outside the heated volume. Table 2.5 summarizes the input data used to determine the heat losses.

Table 2.5.: Thermal properties for the heat loss model.

Direction	ΔT_t °C	λ W/m/°C	ρc J/cm^3°C	T_i °C
-3	2.00	33.00	4.50	20.00
+3	2.00	153.00	4.50	20.00
-2	2.00	153.00	4.50	20.00
+2	2.00	153.00	4.50	20.00
-1	2.00	153.00	4.50	20.00
+1	2.00	153.00	4.50	20.00

Thermal Conductivity

Temperature, saturation, and dry density are parameters that determine the thermal conductivity of soils. An increase in any of these parameters will result in an increase in thermal conductivity of the soil, with temperature having the least influence of the three [Ker49] and saturation having the most significant impact.

Table 2.6 summarizes the typical values of thermal conductivity.

Table 2.6.: Typical thermal conductivity values.

Component	Symbol	Thermal Conductivity $\frac{W}{m°C}$
Oil	λ_o	.13889
Water	λ_w	.67083
Rock	λ_r	7.40000
Steel Pipe	λ_q	50.00000
Fluid	λ_f	.27188
Reservoir	λ_r	2.04100

Several correlations for the thermal conductivity of soils are available in the literature. The correlations are generally developed for five soil types; gravels, sands, silts, clays, and peats. These soil types correspond to those used in the Unified Soil Classification System (USCS)[Cas47].

A unified approach has been developed by Fricke et. al. [FMSB00] for estimating the thermal conductivity for different soil types at different water saturations. The water saturation implicitly accounts for the density of the soil as indicated in Equation 2.1. The Fricke approach is used here to supplement the thermal conductivities measured in the laboratory.

$$S_w = \frac{\rho_d \, w}{\rho_w \left[1 - \frac{\rho_d}{\rho_S}\right]} \tag{2.1}$$

The dry density is $\rho_d = \frac{M_S}{V_T}$ and the solid density is $\rho_S = \frac{M_S}{V_S}$, where M_S is the mass of solid soil particles, V_S is the volume of the solid particles (no porosity), and V_T is the total volume (with porosity).

The model developed by Fricke et. al. to describe the behaviour of changing thermal conductivity as a function of moisture content is as follows:

$$S_w = \beta_1 \left[\sinh\left(\beta_2 \, \lambda + \beta_3\right) - \sinh\left(\beta_4\right)\right] \tag{2.2}$$

The high correlation coefficients below are selected for the Fricke calculation to determine thermal conductivity inputs to the model. The high range parameters are used based on the work of Farouki [Far81] shown in Figure 9 of the reference. The thermal conductivities measured in the laboratory for the silt material correspond with the calculations using mid-range correlation coefficients.

Table 2.7.: Fricke high-value correlation coefficients.

Soil Type	β_1	β_2	β_3	β_4
Clay	14.0	0.32	-3.0	-1.72
Gravel	8.3	0.20	-1.8	-0.80
Peat	28.0	0.86	-1.9	-1.47
Sand	6.8	0.50	-3.5	-2.00
Silt	22.0	0.25	-2.2	-0.95

The Fricke calculations for estimating thermal conductivity of the treatment volume are summarized in Figure 2.5.

Fricke Thermal Conductivity Correlation Parameters for Sand

	β1			β2			β3			β4		
Soil Type	Low	Mid	High	Low	Mid	High	Low	Mid	High	Low	Mid	High
Clay	33.500	27.000	14.000	0.290	0.265	0.320	-1.600	-1.500	-3.000	-1.310	-0.970	-1.720
Gravel	16.500	6.500	8.300	0.320	0.380	0.200	-1.900	-3.000	-1.800	-1.100	-1.480	-0.800
Peat		28.000			0.865			-1.900			-1.468	
Sand	6.400	6.800	6.800	0.800	0.400	0.500	-3.200	-2.900	-7.500	-2.000	-1.500	-2.000
Silt	28.000	17.000	22.000	0.400	0.400	0.250	-1.000	-2.600	-2.200	-0.600	-1.600	-0.950
λGUESS	21.2005	3.0577	W/m °C				Fricke Calculation	Clay	High	Sw in %	100.00	

Result

$$S_w = \beta_1 \left[\sinh\left(\beta_2 \lambda + \beta_3\right) - \sinh\left(\beta_4\right)\right]$$

Figure 2.5.: Fricke et. al. correlation is used to determine the thermal conductivity of the soils in the treatment volume.

The input data for thermal conductivity are summarized in Figure 2.6. Saturation is a measure of the moisture contained within the pore space of the soil and dry density is the mass per unit volume with the pore space void of moisture.

Thermal Conductivity

Grid	Depth [bgs m]	ρ [kg/m³]	T_{ref} [°C]	C_r [J/gm/°C]	B	λr [W/m/°C]	D
1	-2.80	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
2	-7.59	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
3	-10.58	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
4	-12.04	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
5	-12.95	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
6	-13.87	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
7	-14.78	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
8	-15.70	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
9	-16.61	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
10	-17.53	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
11	-18.98	2179.0000	15.0000	0.830000	0	3.057704	0.01528852
Average		2,179	15	1			

Dry ρ (max in range) : http://structx.com/Soil_Properties_002.html

λ (average in range) : https://www.engineeringtoolbox.com/thermal-conductivity-d_429.html

Figure 2.6.: Thermal properties by layer.

2.2.5. Well Layout and Grid

The well layout and grid are designed so that steam and extraction wells are located to ensure complete vertical and areal heating of the treatment volumes in accordance with the remediation objectives. This is considered a large simulation study so the treatment area was split into 2 Sub-grids: Area A and Area B.

For Area A, there are 51 grid blocks in the x direction, 65 grid blocks in the y direction, and 11 grid blocks in the z direction, for a total of 36,465 grid blocks.

For Area B, there are 35 grid blocks in the x direction, 66 grid blocks in the y direction, and 11 grid blocks in the z direction, for a total of 25,410 grid blocks.

Figures 2.2 and 2.3 shows the vertical grid profile used in the simulation study along with values for porosity, permeability, and estimated steam saturation temperature based on the hydro-static subsurface pressure below the water table. The depth to the bottom layer of the treatment volume is assumed to vary over the site. Therefore a more complex, non-uniform grid in the vertical direction is used and the base of the steam injection wells extend to the contour of the bottom layer.

Figure 2.7 shows the locations of the 48 steam injection wells for Area A contained within the heated area.

Figure 2.8 shows the locations of the 31 steam injection wells for Area B contained within the heated area.

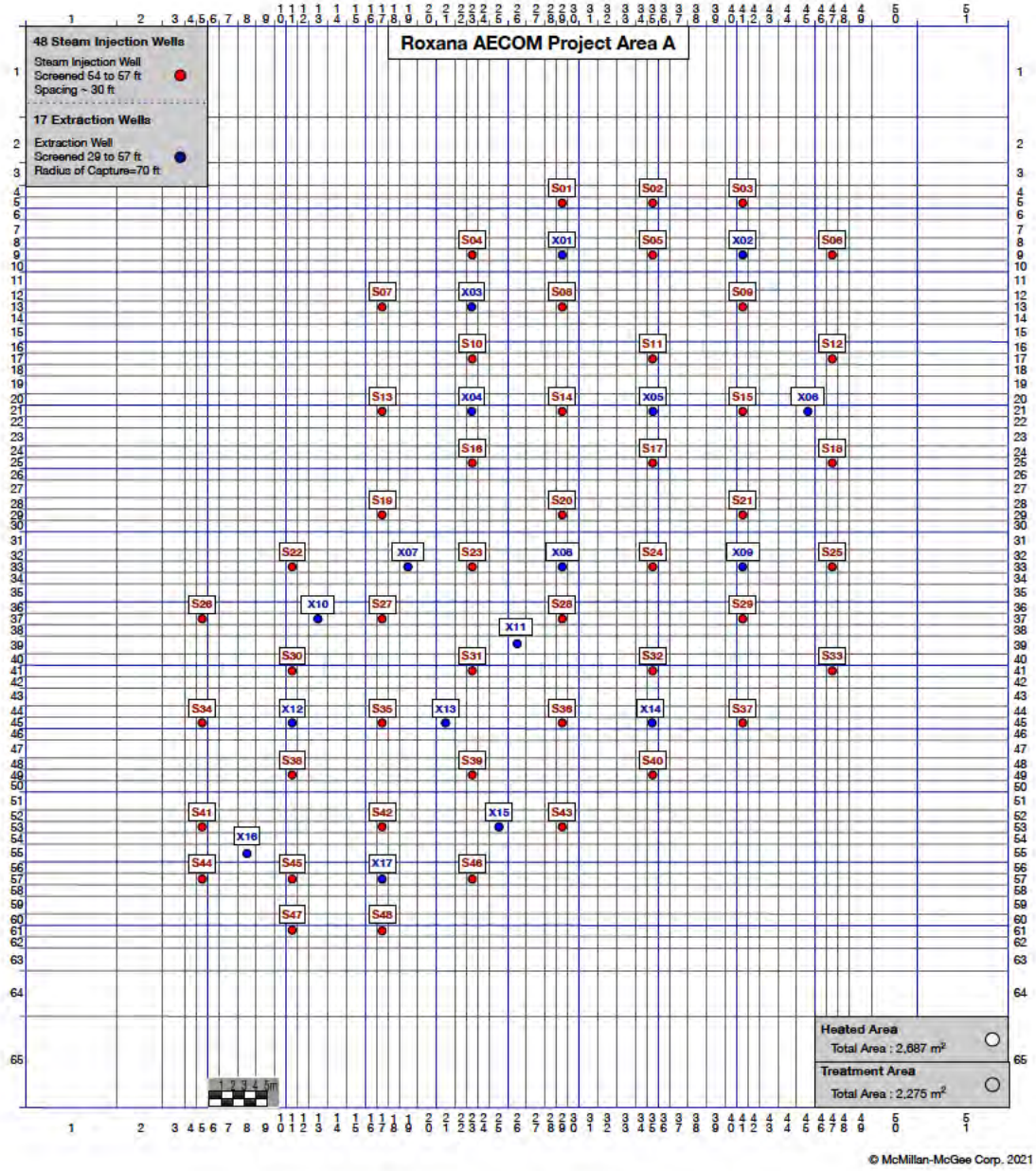


Figure 2.7.: Wellfield layout for Area A.

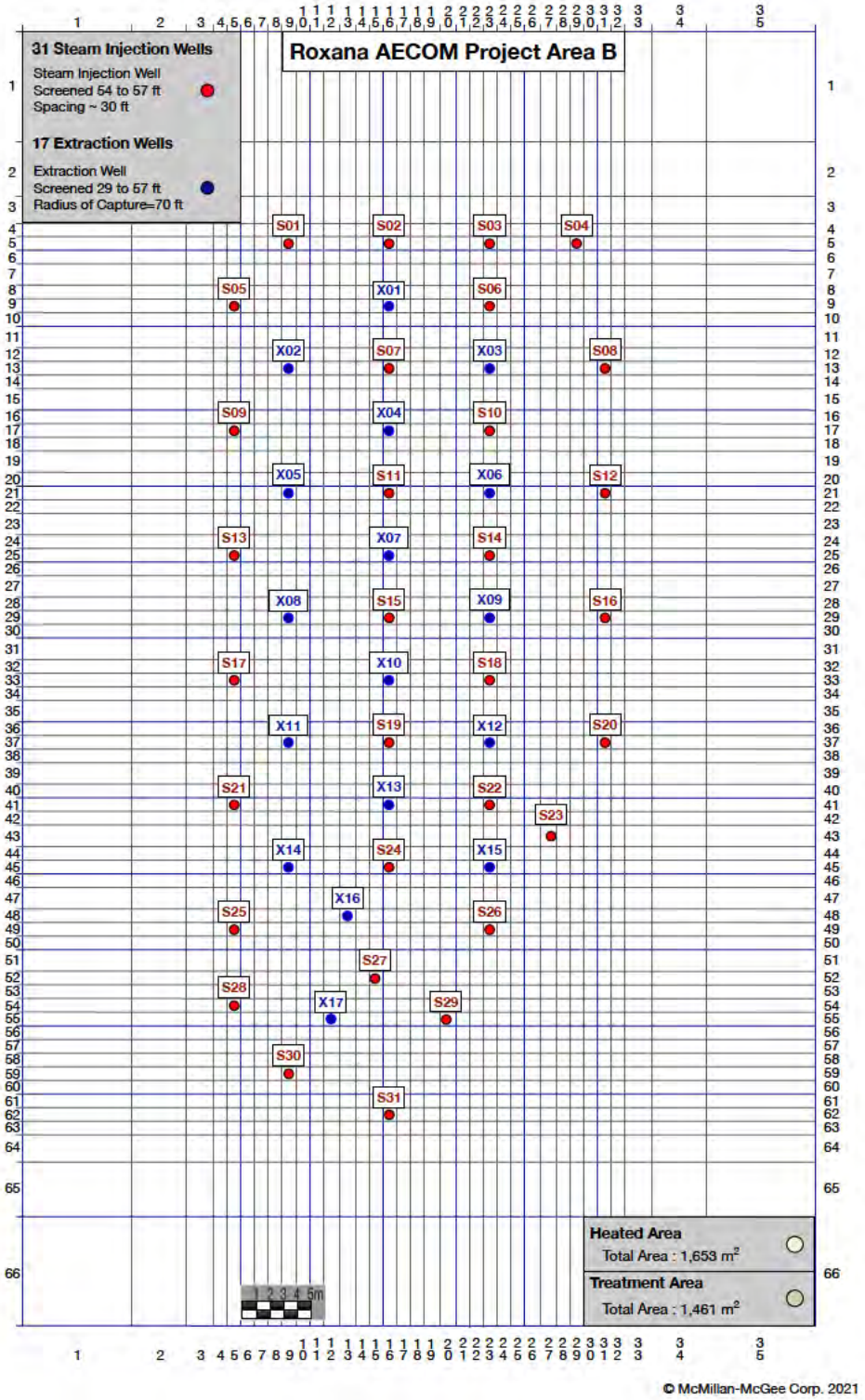


Figure 2.8.: Wellfield layout for Area B.

3 Results

This section presents the results of the study (Roxana Simulation Study) for the site shown in Figure 1.3[1].

Target temperatures[2] throughout the treatment volume can be reached in approximately 43 to 45 days of thermal operations (assuming 100% operational uptime). Although target temperatures will be achieved in this time frame, the simulation study along with previous experience indicates that approximately 180 days of operations is needed to achieve the cleanup goals.

Table 3.1 is a summary for the total project. It is noted that:

1. The length and vertical placement of each steam and extraction well is shown in Tables C.1 and C.2 in Appendix C.

2. The treatment volume is determined using the AECOM site assessment data. These data were discretized over the simulation grid and summed up to estimate the heated and treatment volumes.

3. A high energy injection strategy reaches target temperatures uniformly throughout the heated volume in the shortest period of time. This is achieved using closely spaced steam wells with sufficient energy injection. Aggressive and focused heating

[1] Naming of the steam and extraction wells shown in the figure may change. The naming convention used in this report is for convenience.

[2] The duration is determined by the average temperature at the extraction wells, which are typically the last location to reach target temperatures.

of the lower interval of the wellbore is assumed to ensure rapid development of a *hot floor* at the bottom of the treatment volume. Sufficient energy injection of the also compensates for the possibility of cooling effects from below the treatment volume.

4. The ancillary energy is an estimate of the energy used to run the treatment system and other surface facilities. It is based on the design of the treatment plant and experience with other projects this size.

5. Maximum temperatures in the soil will reach the boiling temperature of water at depth. In the 3D graphical presentation of the temperature data, the maximum has been limited to about 99 °C to visually identify regions that reach target temperature from those regions that do not.

6. The maximum limit of the applied vacuum is based on the design of the treatment plant. The operating vacuum will need to overcome piping pressure drops, varying vadose zone intervals and soil properties at the extraction wells, and thermodynamic effects. These parameters are not accounted for in this study.

7. When average values are presented in tables they are weighted averages unless specified. Any weighted averages are performed on a volumetric basis.

Table 3.2 provides summaries of the technical approach for the total project.

The water balance calculations for the total project are provided in Figures A.5, A.6, A.7, and A.8.

The power and energy balance calculations for the project are provided in Figures A.11 and A.12, respectively.

Figures 3.7 and 3.8. show plots of the average power to the steam injection wells for Area A and B. Figures 3.9 and 3.10 show plots of the average temperature ramp up for Area A and B.

Project Summary

Item		Comments
Location	Illinois, United States	
Treatment Area	3,863 m^2	
	41,582 ft^2	
Deep Vertical Extent	3.66 m	Average between both areas
	12.00 ft	
Treatment Volume	15,850 m^3	
	20,731 yd^3	
Electrical Energy	8,804 MW · h	SEE subsurface
	555 kWh/m^3	per treated volume
	425 kWh/yd^3	
Ancillary Energy	841 MW · h	Estimate
Duration	180 days	
Primary Target Chemical	Multiple	
Mass Estimate	10,000 kg	
	22,046 lbs	
	1,125 g/m^3	per unit of treatment volume
Target Temperature	99 °C	
	210 °F	
Time to Reach Temperature	43 to 45	days on average
Energy Chemical Ratio	880 kWh/kg	

Table 3.1.: Summary of the Roxana project.

Technical Approach

Item		Detail
Steam Injection Wells	79	
Steam Well Spacing	9.14 m	Variable
	30.00 ft	
Extraction Wells	34	
Sensor Wells	16	
Steam Well Depth	17.37 m	average depth
	57 ft	average depth
Average Steam Power	26.0 kW	changes with time
Total Average Power	2037 kW	without ancillary power
Total Peak Power	2919 kW	
Water Injection Rate	0.000 L/min	per steam well
	0.000 gal/min	
Water Injection Rate	54.66 L/min	total
	14.44 gal/min	
Water Extraction Rate	3.49 L/min	per extraction Well
	0.923 gal/min	
Water Extraction Rate	99.42 L/min	total
	26.26 gal/min	
X-Well Vapor Extraction Rate	52.45 scfm	excludes steam
Vapor Extraction Rate	1,783 scfm	excludes steam
Applied Vacuum (up to)	40.6 kPa	estimate

Table 3.2.: Technical approach and design basis for Roxana.

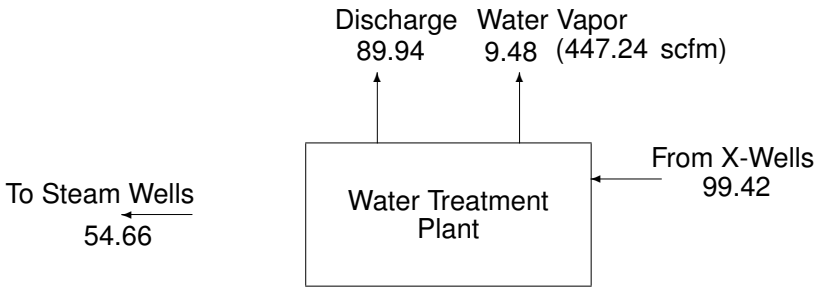


Figure 3.1.: Roxana water balance in l/min.

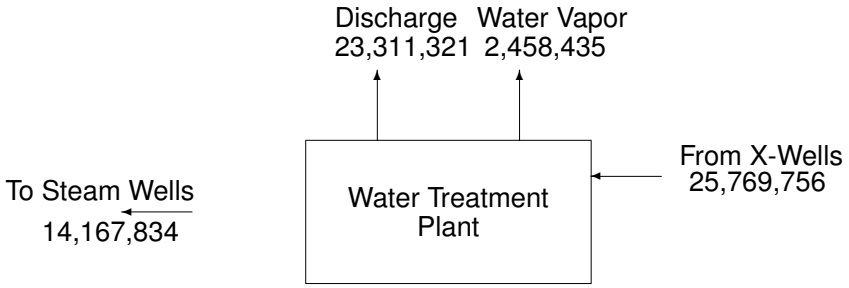


Figure 3.2.: Roxana water balance in litres.

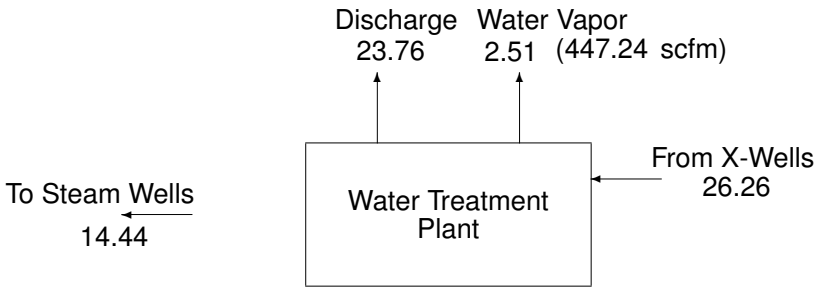


Figure 3.3.: Roxana water balance in gpm.

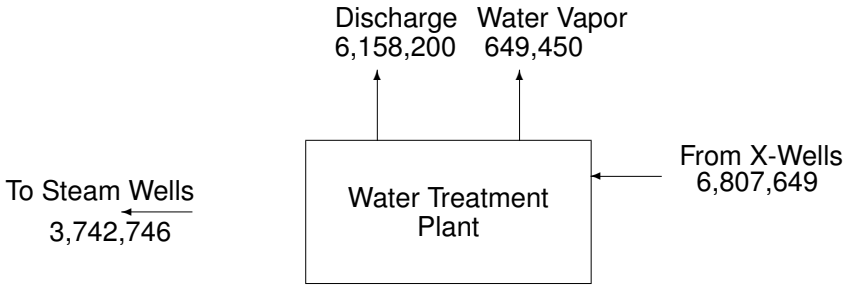
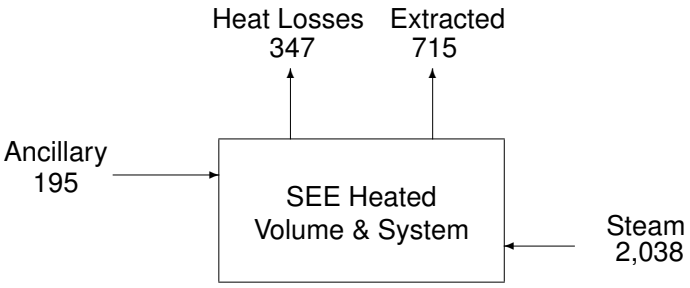


Figure 3.4.: Roxana water balance in gallons.

Water Balance

Item	Rate		Volume	
Water Plant Effluent	**L/min**	**gal/min**	**L**	**gal**
To Steam Wells	54.66	14.44	14,167,834	3,742,746
Discharge to Sewer	89.94	23.76	23,311,321	6,158,200
Vapour (CWE)	9.48	2.51	2,458,435	649,450
Water Plant Influent	**L/min**	**gal/min**	**L**	**gal**
From X-Wells	99.42	26.26	25,769,756	6,807,649
Hydraulic Ratio				$\frac{Q_X}{Q_E}$= 1.588

Table 3.3.: Water balance estimates for treatment plant design.

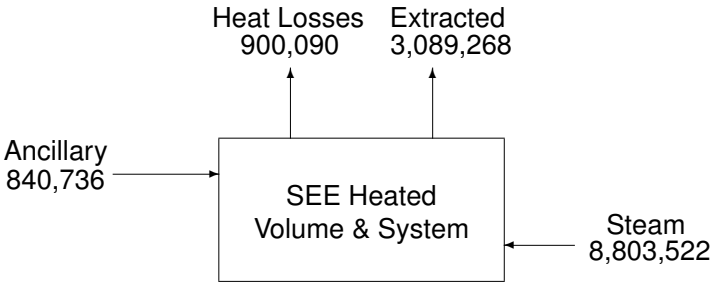


Notes:

① Ancillary power is an estimate.

② Heat loss power is determined on heat leaving the grid providing a conservative estimate for heat losses.

Figure 3.5.: Roxana average power flow in kW.



Notes:

① Calculated energy density is 555 kWh/m^3 (425 kWh/yd^3).

② Fraction of heat loss to steam energy is 12.39 percent.

Figure 3.6.: Roxana energy balance in kWh.

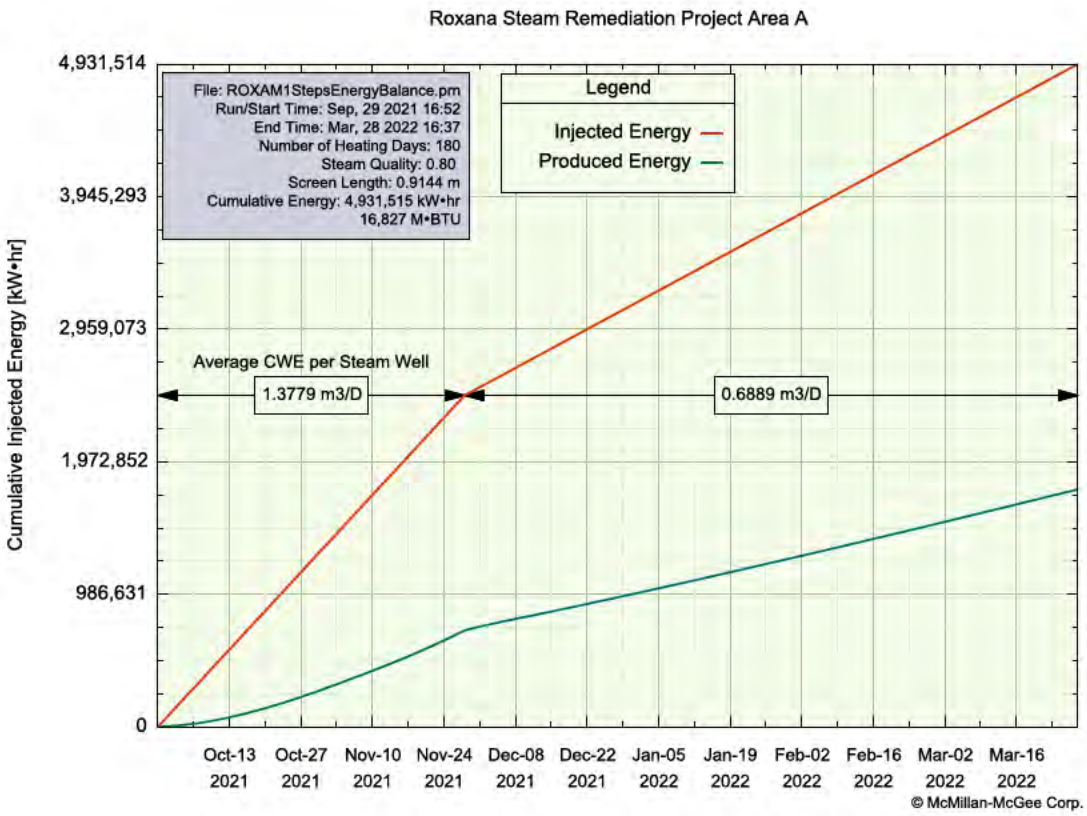


Figure 3.7.: Area A Injection Energy

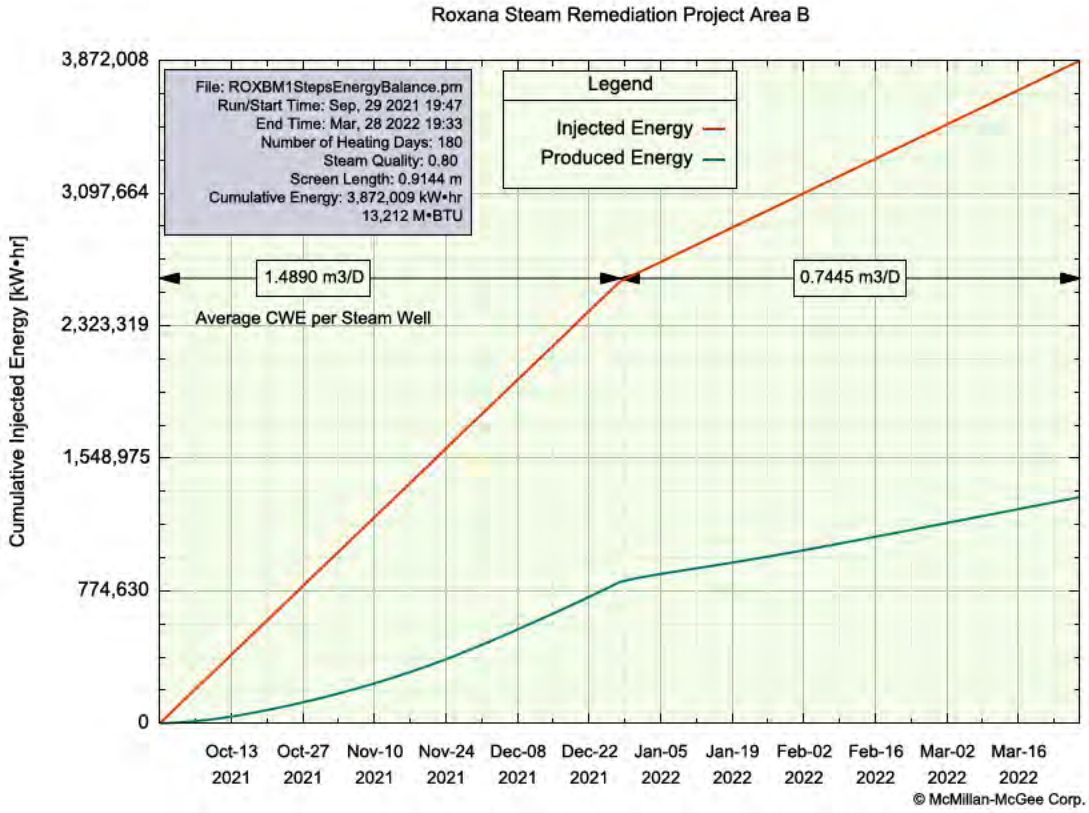


Figure 3.8.: Area B Steam Well Operating Strategy

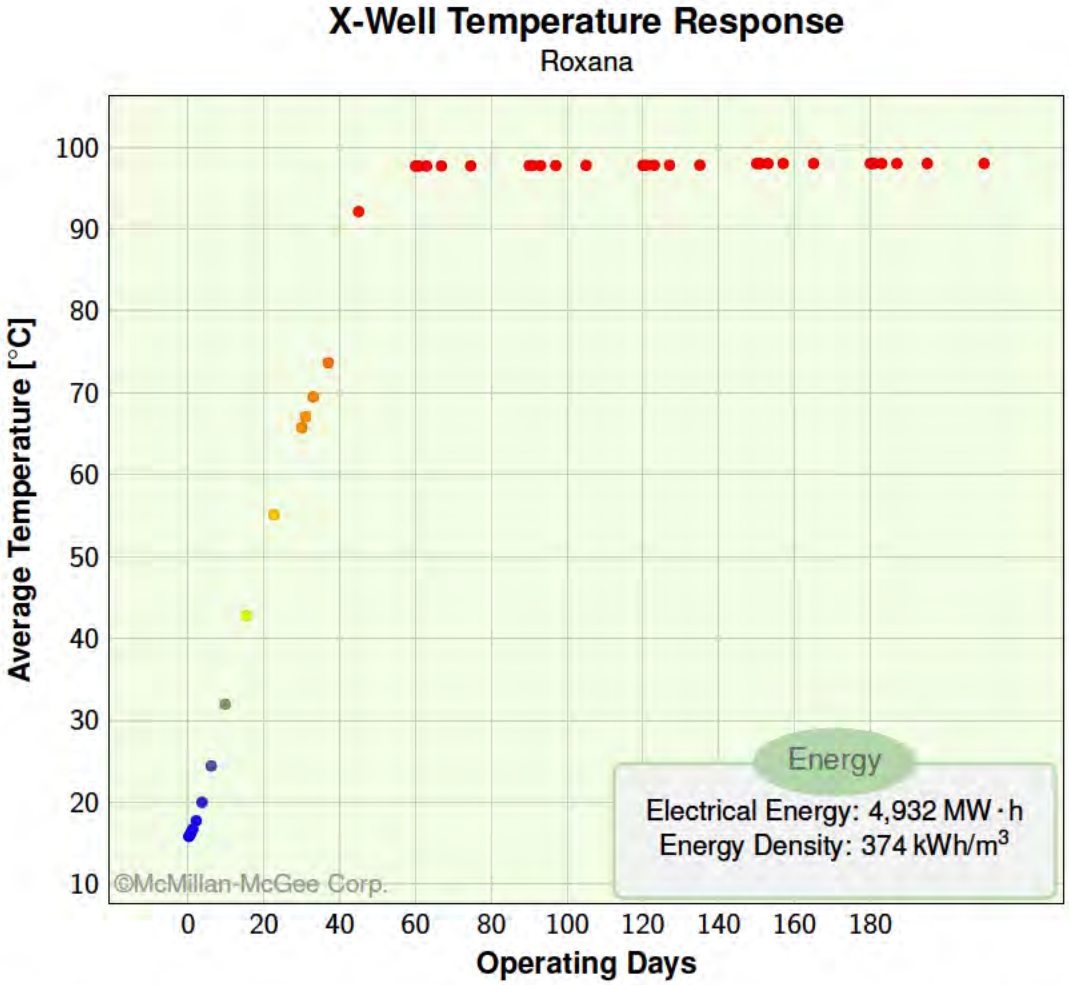


Figure 3.9.: Average temperature response at the extraction wells in Area A [°C].

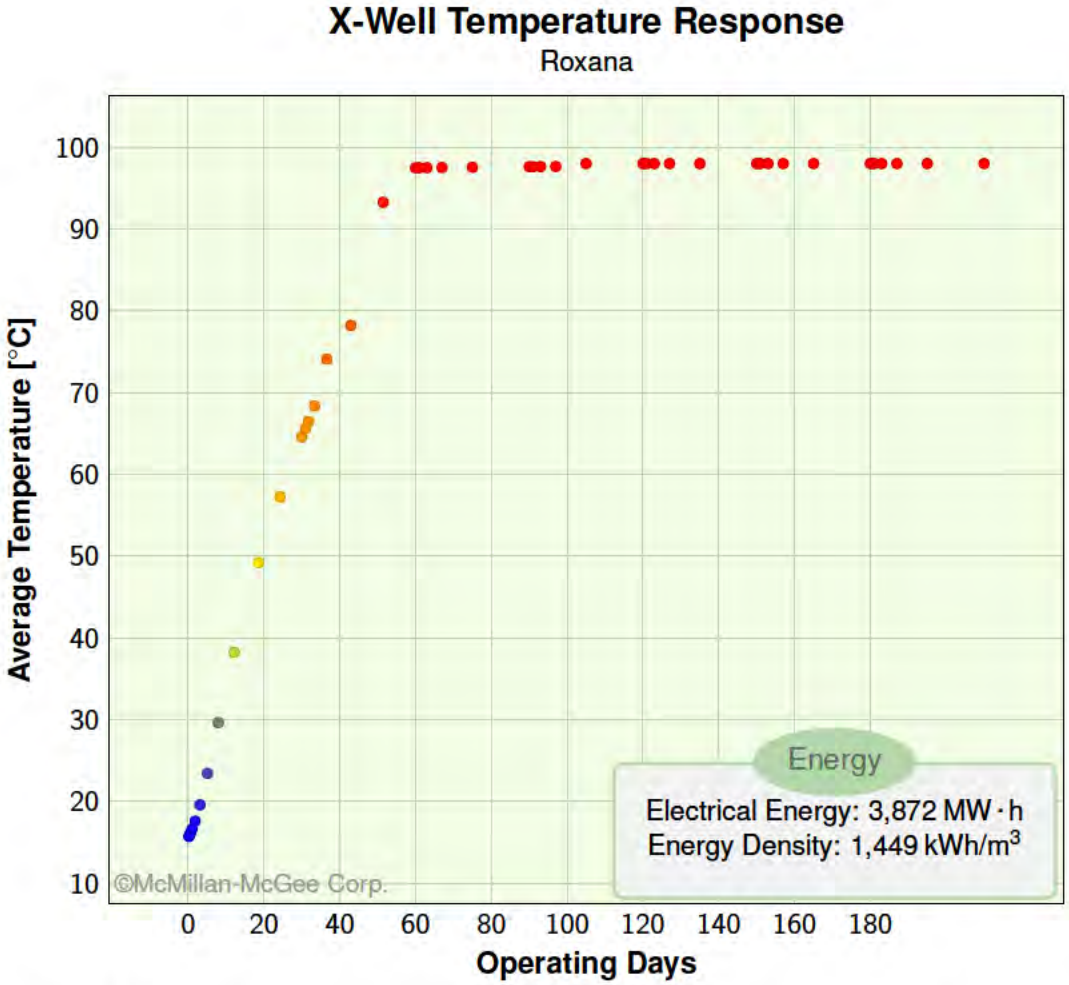


Figure 3.10.: Average temperature response at the extraction wells in Area B [°C].

3.1. Results Summary

Installation and operational parameters for individual subsurface components determined for the treatment area from the model are adapted for the contaminants of concern and assume equitable distribution. The total estimated mass in place is 10,000 kg, (22,046 lbs) and is assumed to be uniformly distributed in the treatment volume (a conservative approach) of 15,850 m^3 (20,731 yd^3). The chemical concentration on a volumetric basis is 1,125 g/m^3.

The study focuses on performance goals some of which may include the following:

1. Maintaining system uptime of 95% or more;

2. Attaining a final temperature goal of achieving the boiling point of water in a predetermined percentage of the temperature sensors in the treated volume; and,

3. Reaching VOC concentration shutdown criteria in the treatment system influent, and verifying that soil and groundwater sample data indicate performance criteria have been met in accordance with the afore-mentioned goals.

The study resulted in the following technical approach for the remediation of the treatment volume at Roxana:

1. The project consists of a two operational areas. The total treatment area is 3,863 m^2 (41,582 ft^2) in size with an estimated treatment volume of 15,850 m^3 (20,731 yd^3).

2. The estimated energy delivered to the steam wells is 8,804 $MW \cdot h$ resulting in an energy density of 555 kWh/m^3 (425 kWh/yd^3).[3] The energy accounts for heat losses and energy produced with the water. The ancillary energy used for the treatment plant and other electrical facilities is estimated from experience at 841 $MW \cdot h$. In comparison, the ancillary energy is 9.55 % of the total estimated energy used in the project. Energy balance calculations are provided in Figure A.12.

[3]Thermal efficiencies are gained by re-injection of heated water produced from the extraction wells.

3. The time to reach target temperature is between 43 and 45 days. This is based on reaching the target temperature at the extraction wells[4].

4. 79 steam wells of a fixed length configuration and depth required to provide thermal remediation of the the impacted area. The prototypical steam wellbore configuration is shown in Figures 3.11 and 3.12.

[4]The extraction wells are typically located farthest from the steam wells and therefore these are the last locations to reach target temperature.

Δ Z

										Well Types		
	ΔZ		Top		Mid	K	Φ	P	T_s	S-Wells Types	X-Wells	Geology
IZ	[m]		[m]	[ft]	[m]	[mD]	[-]	[kPa]	[°C]	T_I	X1	Units
1	5.90000		0.0000	0.0000	2.9500	120.00	0.3609	105.738	101.05			
2	3.98720		5.9000	19.3570	7.8936	120.00	0.3628	154.218	112.07			
3	2.00000		9.8872	32.4383	10.8872	120.00	0.3620	183.575	117.41			
4	0.91440		11.8872	39.0000	12.3444	120.00	0.3622	197.866	119.76			
5	0.91440		12.8016	42.0000	13.2588	120.00	0.3636	206.833	121.16			
6	0.91440		13.7160	45.0000	14.1732	120.00	0.3589	215.800	122.52			
7	0.91440		14.6304	48.0000	15.0876	120.00	0.3569	224.767	123.83			
8	0.91440		15.5448	51.0000	16.0020	120.00	0.3631	233.734	125.10			
9	0.91440		16.4592	54.0000	16.9164	120.00	0.3572	242.702	126.33			
10	0.91440		17.3736	57.0000	17.8308	120.00	0.3635	251.669	127.52			
11	2.00000		18.2880	60.0000	19.2880	0.00	0.3608	265.959	129.35			

Steam Injection Well

Extraction Well

Screen

Sand

Figure 3.11.: Steam wellbore configuration for Area A.

Δ Z

										Well Types		
	ΔZ		Top		Mid	K	Φ	P	T_s	S-Wells Types	X-Wells	Geology
IZ	[m]		[m]	[ft]	[m]	[mD]	[-]	[kPa]	[°C]	T_I	X1	Units
1	5.90000		0.0000	0.0000	2.9500	120.00	0.3609	105.738	101.05			
2	3.98720		5.9000	19.3570	7.8936	120.00	0.3628	154.218	112.07			
3	2.00000		9.8872	32.4383	10.8872	120.00	0.3620	183.575	117.41			
4	0.91440		11.8872	39.0000	12.3444	120.00	0.3622	197.866	119.76			
5	0.91440		12.8016	42.0000	13.2588	120.00	0.3636	206.833	121.16			
6	0.91440		13.7160	45.0000	14.1732	120.00	0.3589	215.800	122.52			
7	0.91440		14.6304	48.0000	15.0876	120.00	0.3569	224.767	123.83			
8	0.91440		15.5448	51.0000	16.0020	120.00	0.3631	233.734	125.10			
9	0.91440		16.4592	54.0000	16.9164	120.00	0.3572	242.702	126.33			
10	0.91440		17.3736	57.0000	17.8308	120.00	0.3635	251.669	127.52			
11	2.00000		18.2880	60.0000	19.2880	0.00	0.3608	265.959	129.35			

Steam Injection Well

Extraction Well

Screen

Sand

Figure 3.12.: Steam wellbore configuration for Area B.

Tables C.1 and C.2 provided in Appendix C gives the x and y co-ordinates for each wellbore relative to the first steam well in the specific area, which has as its co-ordinates, $x = 0$, $y = 0$. Positive $+x$ indicates a displacement relative West (assumes relative North is up), $+y$ indicates a displacement to the South ($-x$ to

the East and $-y$ to the North).

This configuration of steam wells will provide the heat transfer to heat the soil to a target temperature of approximately 99 °C. The peak temperature will vary depending on depth and will be based on the azeotrope of remaining VOC's as well as the boiling temperature of water in the subsurface.

Figures 3.13 and 3.14 show the steam well locations for Areas A and B respectively.

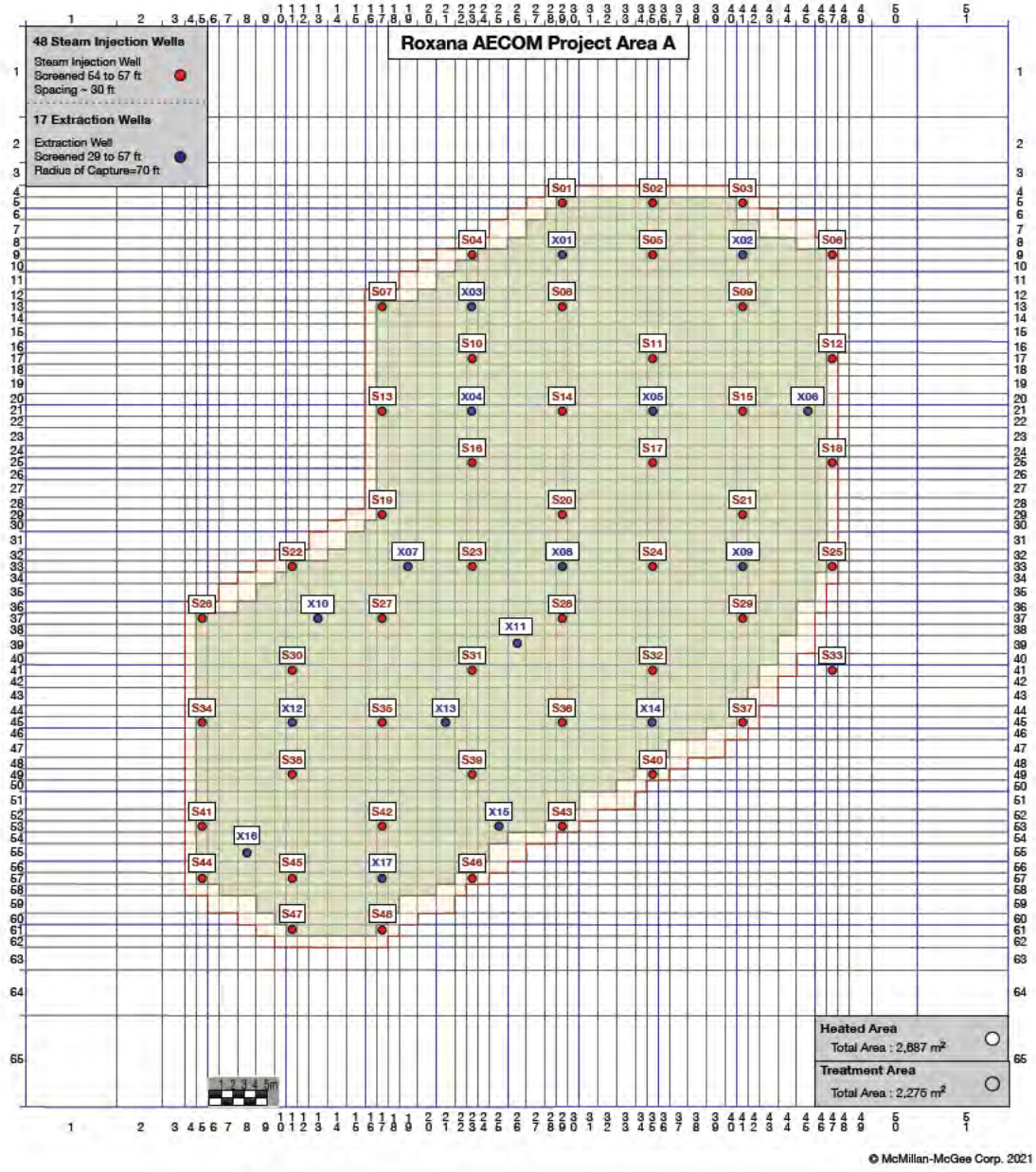


Figure 3.13.: Steam well locations in Area A

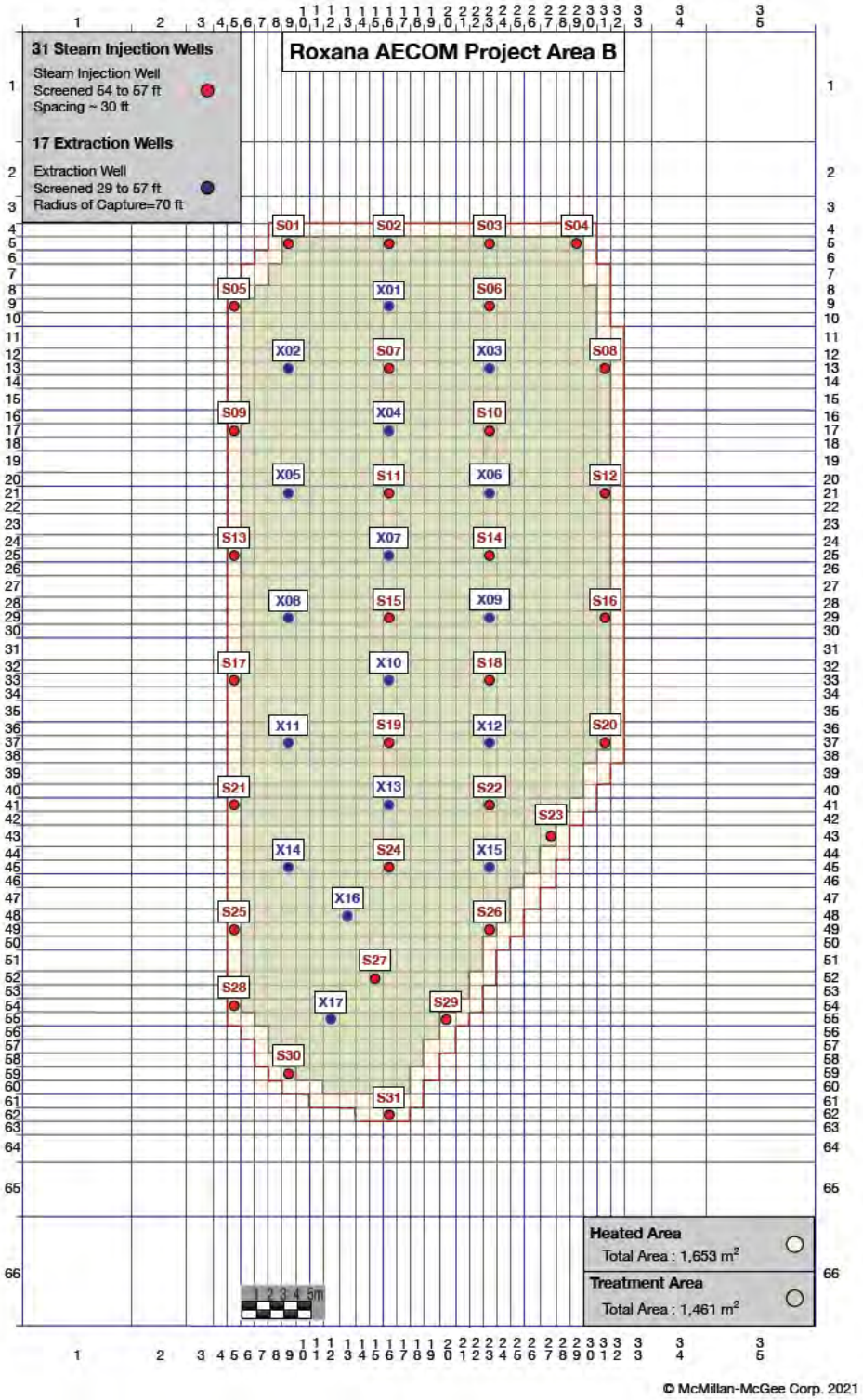


Figure 3.14.: Steam well locations in Area B.

5. The power to each steam injection well varies by location and phase of the project. However, the average power to a steam well will deliver approximately 26 kW. The peak power to a steam injection well is approximately 37 kW. This results in a total average and peak power to the well field of 2,037 kW and 2,919 kW respectively. The operating strategy will deliver maximum power to the steam wells while the temperature is increasing and reduce power while at target temperature to maintain temperatures.

   The operating strategy for each steam injection well can be found in Figures A.13 through A.16.

6. The cumulative CWE injected during thermal operations is 3,742,746 gal with an average injection rate of 14.44 gal/min.

7. The average liquid phase extraction rate is 2.924 L/min (0.772 gal/min), which accumulates into a total volume of extracted water of 25,769,756 l, (6,807,649 gal). The operating strategy for each extraction well can be found in Figures A.17 through A.20.

8. The targeted hydrodynamic control factor, the ratio of extracted water to injected water rate is, 1.588. Operating the water balance close to this control factor will ensure hydraulic control during the thermal treatment.

9. 34 extraction wells have been included for capturing vaporized contaminants from the soil and groundwater. The expected average vapor extraction rate from each well is 52.45 scfm (1.48 sm^3/min) at a vacuum pressure of less than 40.6 kPa (12 inHg). Once target temperatures are achieved, we expect the vacuum needed to achieve the vapor flow rates to decrease.

3.2. Radius of Capture Calculations

The calculations in this section provide an estimate for the maximum spacing between extraction wells recommended in the design of a SEE system and for this simulation study. It is based on solving equations, 3.1 through 3.5. The analytic model evolved from a problem submitted by McMillan-McGee to the Pacific Institute for Mathematical Sciences annual Industrial Problem Solving Workshops[5] and is in the *PIMS Industrial Proceedings*[6] authored by Huaxiong Huang et. al.[HLW03]. Figure 3.15 shows the general concept behind the model.

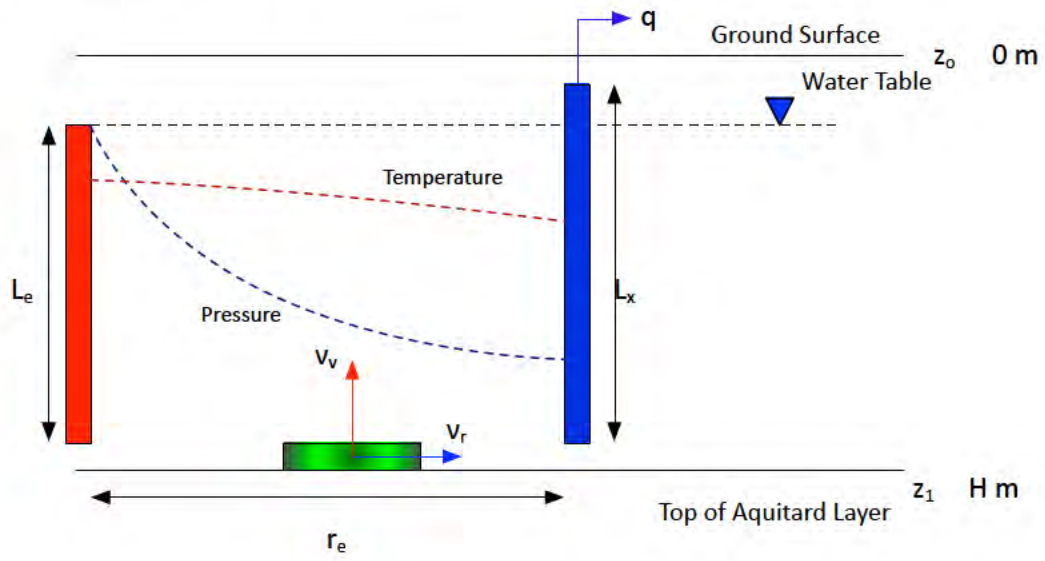


Figure 3.15.: Conceptual model for the radius of capture.

Energy is introduced to the contaminated soil using an array of finite length cylindrical steam injection wells. Energy is forced to flow though the soil by pressure differentials between the injection and extraction wells. The soil has permeability in nature and consequently heat transfer is achieved primarily by convection throughout the soil matrix.

[5]The Pacific Institute for Mathematical Sciences (PIMS) has sponsored an annual Industrial Problem Solving Workshop (IPSW) since 1997. The aim of the IPSW is to create a mutually beneficial link between researchers in industry and academic mathematical scientists. Faculty and students from the academic community study problems brought by industrial participants during the week-long workshop. Their results are presented at the end of the week.

[6]http://www.pims.math.ca/resources/publications/pims-industrial-proceedings

As the soil heats up, contaminated liquids and vapors are produced at the extraction wells. The rate of energy removed from the soil at the extraction wells is less than the steam energy injected so that during operations the soil will increase in temperature up to some maximum value, which is usually the boiling temperature of water.

At initial conditions the pressure and temperature in the soil are P_i and T_i respectively. Initially there is no vapour in the soil, only a liquid phase consisting of water, a dissolved chemical phase (the contaminant), and a free product resting on the aquitard layer. As the temperature increases toward $T = T_c$, the vapourization temperature of the chemicals in the liquid, the chemical *boils* out of the water and exists in the soil as a vapour, but only to the limited extent of several bubbles. The vapour-equilibrium for the system is estimated from $k-$values.

Given the temperature and pressure conditions in the soil it is possible to approximate where the bubbles will exist. There is a pressure gradient in the soil created by the draw-down of liquids at the extraction well. This imposes a horizontal force on the bubble and accelerates it toward the extraction well. The other force on the bubble is buoyancy, and is acting in the vertical direction. The objective of the model is to determine the horizontal velocity of the bubble so that it is removed at the extraction well before it leaves the vertical extent of the heated volume. Outside the heated volume, the bubble, comprised mainly of the DNAPL, may condense back to a liquid and reduce the efficiency of the mass recovery.

Equation 3.1 first determines the average velocity of bubbles, υ_b, as they exit the top of heated volume. The hydraulic constant for vertical flow, F, is developed in Huaxiong Huang et. al. and incorporates soil parameters into its value as indicated in Equation 3.4. The Eötvös (or Bond number), E_o, is determined in Equation 3.2 and is used to determine the capillary number, C_a, based on the correlation[BZ01] presented in Equation 3.3. Finally, the minimum liquid extraction rate needed to capture the bubbles is given in Equation 3.5.

$$\upsilon_b = \tau F \frac{\Delta \rho g d^2}{3\mu_l} \tag{3.1}$$

$$E_o = \frac{\Delta \rho g d^2}{\gamma} \tag{3.2}$$

$$C_a = c_1 E_o^{d_1} + c_2 E_o^{d_2} \tag{3.3}$$

$$F = \frac{3\phi\,(1-\alpha)}{d^3}\frac{\gamma\mu_l}{\Delta\rho g}\left(c_1 E_o^{d_1} + c_2 E_o^{d_2}\right) \tag{3.4}$$

$$q \geq \frac{\pi\,\tau F \Delta\rho g d^2}{3\mu_l} \cdot \frac{k_v\,H}{k_h\,h} \cdot \frac{r_e^2 - r_w^2}{1+K} \tag{3.5}$$

Equation 3.5 is rearranged and solved for r_e. The value of $2 \cdot r_e$ determines the maximum spacing between extraction wells that will ensure the capture of bubbles. This spacing is used as a guideline for setting up the array of extraction wells within the heated volume.

Figure 3.16 shows the radius of capture summary of the calculations for the various extraction well spacing for both treatment areas. The calculations assume the vertical permeability is half the horizontal resulting in the **maximum** spacing between extraction wells. The maximum spacing is not exceeded in this simulation study. Figures 3.17 and 3.18 show the radius of capture relative to the extraction wells in Area A and B respectively.

This is a simple model for estimating the transport of contaminants during thermal remediation. Based on the model, the maximum spacing between extraction wells is calculated and its value is within the practical range. This simple model does not address the effect of temperature variation in the vertical direction and near the edge of the heated zone. The effect of possible condensation near the cold region is not examined, however it is believed that condensed contaminant mass would find a path back into the heated volume and with time be removed at the extraction wells. The possibility that bubbles may be trapped in the isolated pore space has been assumed negligible in comparison to the mobile bubbles that are extracted. The behaviour of bubble flow in porous media, as assumed in this analysis, is further described in Hunt et. al.[HM03].

Extraction Well Spacing Analytical Model

Parameter	Symbol	Value	Unit
Surface Tension Coefficient	γ	0.0717	[N/m]
Liquid Viscosity	μ_l	1.0000	[mPa•sec]
Acceleration due to Gravity	g	9.8100	[m/s²]
Ideal Gas Constant	R	0.008319	[kPa•m³/°K/mol]
Average Pressure	P_{ave}	101.3250	[kPa]
Average Temperature	T_{ave}	393.15	[°K]
Treatment Zone Thickness	H	6.0000	[m]
Characteristic Thickness	h	0.60	[m]
Vertical Permeability	k_v	1.00	[D]
Horizontal Permeability	k_h	2.40	[D]
Extraction Well Radius	r_w	0.0508	
Molecular Weight Chemical	M_w	133.10	[g/mol]
Density of Water	ρ_w	958.35	[kg/m³]
Density of Bubble	ρ_v	4.1236	[kg/m³]
Minimum Pore Throat Size	d_{min}	250	[µm]
Mean Pore Throat Size	d	250	[µm]
Tortuosity	λ	0.2000	[-]
Porosity	ϕ	0.35	[-]
Eötvös Number	Eo	0.008160	[-]
COC K-Value	K	2.4545	
Liquid Fraction	α	0.0000	
c_1	c_1	6.6870e-05	[-]
c_2	c_2	2.2560e-05	[-]
d_1	d_1	1.0276	[-]
d_2	d_2	2.6108	[-]
Capillary Number	Ca	4.7791e-07	[-]
Flow Factor	F	2.4599e-04	[-]
Liquid Extraction Rate	q	12.7804	[m³/D]
		1.4792e-04	[m³/sec]
Radius of Capture	r_e	10.529665	[m]
Extraction Well Spacing		**21.06**	**[m]**

Figure 3.16.: Radius of capture calulcations for Areas A and B.

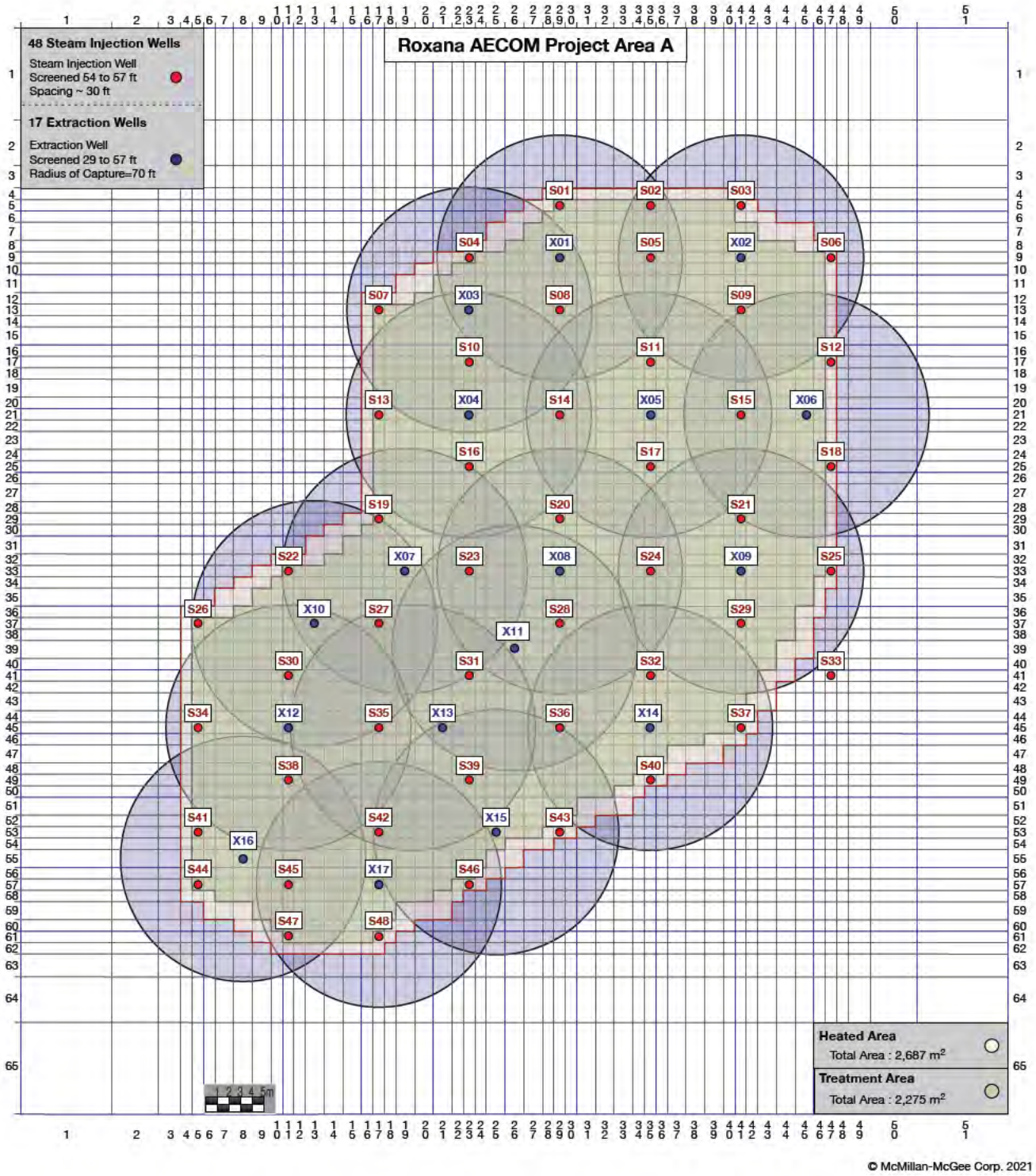


Figure 3.17.: Radius of capture r_c for XWell types in Area A.

3.3. Temperature and Energy Results

Figures 3.13 and 3.14 show the 2D layout of steam and extraction wells for the simulation study.

Figures B.1 through to Figure B.6 and B.7 through to Figure B.12; (attached in Appendix B) show the simulated 3D temperature distribution calculated in increments of 30 day intervals through to the end of operations for each Area.

Figures B.13 to B.21 (attached in Appendix B) show the simulated 2D temperature distribution at the end of operations from 10 m BGS to 18 m BGS for Area A

Figures B.22 to B.22 (attached in Appendix B) show the simulated 2D temperature distribution at the end of operations from 10 m BGS to 18 m BGS for Area B.

The results confirm that subsurface temperatures needed to volatilize the chemicals of concern can be reached.

3.4. Mass Recovery Curve

The chemicals of concern in the soil are initially at equilibrium and in a liquid phase (dissolved in water or as a free product). The introduction of heat by steam energy raises the temperature sufficiently to separate the liquid mixture into multiple components in the vapour phase. This distillation of the compounds is a complicated thermodynamic process; however, at temperatures above the boiling point and induced vacuum, the volatile chemicals are in the vapour phase. Less volatile chemicals will not boil and will be extracted in the liquid phase.

From the temperature ramp-up, estimated mass in place, and experience from similar projects, the treatment plant needs to be designed to accept a peak chemical extraction rate of approximately 300 kg/day (661 lbs/day).

Figure 3.19 shows the rate of contaminant mass recovery from the target volume. The results predict that after 180 days of operation, greater than 99% of the chemical mass can be removed from the soil.

Assuming an aggregate estimated mass in place of 10,000 kg and that target temperatures within a significant volume of the treatment area will be achieved after 60 to 75 days of operations (to be conservative), (uniform target temperatures will be reached in 43 to 45 days) then peak chemical mass flow rates in excess of 300 kg/day (661 lbs/day) are expected during this period. The estimated peak chemical mass flow rate is part of the design basis for the operation of the multi-phase extraction system.

The mass recovery curve is the result of multi-function calculations using a thermodynamic model and the temperature response predicted by the numerical simulation. These calculations account for the concentrations of the chemicals and water in the liquid and vapour phases as a function of temperature and pressure using k-values. The initial increase in mass recovery shown in the curve is the result of increasing vapor phase saturations as the soil approaches target temperature. As this mass is then extracted from the pore space, the relative concentration of mass in the vapour phase decreases exponentially. Therefore, the curve calculated by the simulation is used to provide an estimate of the expected duration of treatment to achieve the remediation goals.

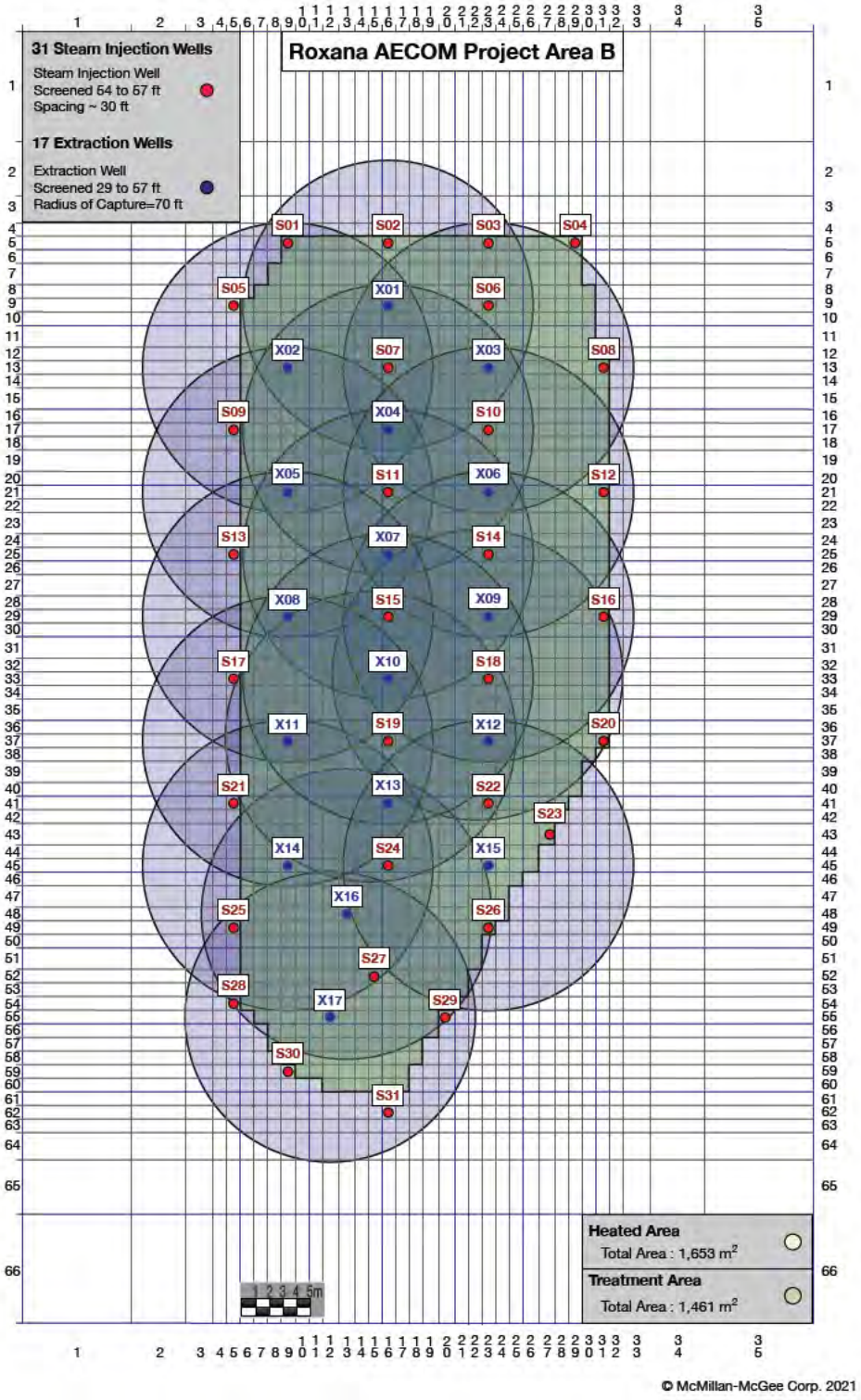


Figure 3.18.: Radius of capture r_c for XWell types in Area B.

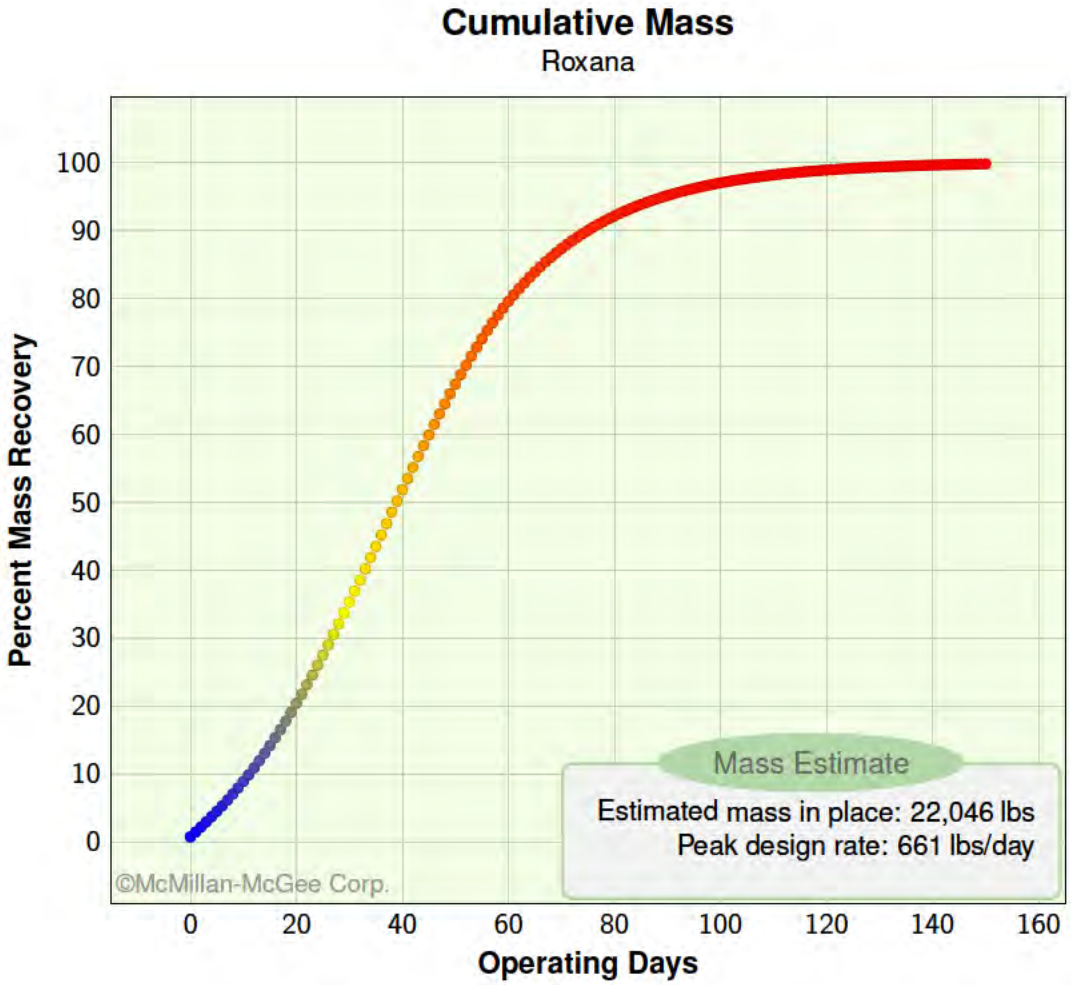


Figure 3.19.: Mass recovery curve [estimate only].

4 Conclusions

Results from the numerical simulation study are the foundation for a design basis and insight to thermal operations by quantifying several of the technical elements of the process shown in Figure 1.5 for the Roxana project. Based on these results the following conclusions and recommendations are put forward for the design of a steam injection and extraction treatment system for the project:

1. Total energy input of 8,804 MW · h or 555 kWh/m^3 (425 kWh/yd^3);
2. Total water extraction volume of 25,769,756 L (6,807,649 gallons);
3. Total water injection volume of 14,167,834 L (3,742,746 gallons);
4. Vapor extraction rate of 1,783 scfm (50.40 sm^3/min);
5. Time to reach target temperatures of 43 to 45 days in 90% of the treatment volume;
6. Peak temperatures that are generally limited to the boiling temperature of water as a function of depth and pressure in the soil[1];
7. An anticipated contaminant mass recovery of 10,000 kg (22,046 lbs);
8. Average steam well spacing of 9.14 m (30.00 ft); and,
9. A maximum extraction well spacing of 15.2 m (50.0 ft)[2].

[1]Water in the presence of chemicals will boil at the temperature of the mixture, which can be less than the co-boiling temperature of water.
[2]Extraction well spacing varies over the area of the treatment volume.

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Used in the development of the bubble flow model for mass recovery and extraction well spacing.

3.2

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A

Results Summary and Tables

Project Summary

Item		Comments
Location	Illinois, United States	
Treatment Area	2,402 m^2	
	25,853 ft^2	
Deep Vertical Extent	5.49 m	average - depth can vary
	18.00 ft	
Treatment Volume	13,177 m^3	
	17,235 yd^3	
Steam Energy	4,932 MW · h	SEE subsurface
	374 kWh/m^3	per treated volume
	286 kWh/yd^3	
Ancillary Energy	471 MW · h	Estimate
Duration	180 days	
Primary Target Chemical	Multiple	
Mass Estimate	5,000 kg	
	11,023 lbs	
	379 g/m^3	per unit of treatment volume
Target Temperature	99 °C	
	210 °F	
Time to Reach Temperature	44 to 46	days on average

Table A.1.: Summary of Area A.

Project Summary

Item		Comments
Location	Illinois, United States	
Treatment Area	1,461 m^2	
	15,730 ft^2	
Deep Vertical Extent	1.83 m	average - depth can vary
	6.00 ft	
Treatment Volume	2,672 m^3	
	3,495 yd^3	
Steam Energy	3,872 MW · h	SEE subsurface
	1,449 kWh/m^3	per treated volume
	1,108 kWh/yd^3	
Ancillary Energy	370 MW · h	Estimate
Duration	180 days	
Primary Target Chemical	Multiple	
Mass Estimate	5,000 kg	
	11,023 lbs	
	1,871 g/m^3	per unit of treatment volume
Target Temperature	99 °C	
	210 °F	
Time to Reach Temperature	42 to 44	days on average

Table A.2.: Summary of Area B.

Technical Approach

Item		Detail
Steam Wells	48	
Steam Well Spacing	9.14 m	± 0.6 m
	30.00 ft	
Extraction Wells	17	dedicated
Sensor Wells	6	
Steam Well Depth	17.37 m	average depth
	57 ft	average depth
Average Steam Power	23.78 kW	changes with time
Total Average Power	1141.6 kW	without ancillary power
Total Peak Power	1719.4 kW	
Water Injection Rate	0.000 L/min	per electrode
	0.000 gal/min	
Water Injection Rate	30.62 L/min	total
	8.09 gal/min	
Water Extraction Rate	3.49 L/min	per extraction Well
	0.923 gal/min	
Water Extraction Rate	61.24 L/min	total
	16.18 gal/min	
XWell Vapor Extraction Rate	52.45 scfm	excludes steam
Vapor Extraction Rate	891.6 scfm	excludes steam
Applied Vacuum (up to)	40.6 kPa	estimate

Table A.3.: Technical approach and design basis for Area A.

Technical Approach

Item		Detail
Steam Wells	31	
Steam Well Spacing	9.14 m	± 0.6 m
	30.00 ft	
Extraction Wells	17	dedicated
Sensor Wells	6	
Steam Well Depth	17.37 m	average depth
	57 ft	average depth
Average Steam Power	28.9 kW	changes with time
Total Average Power	896.2 kW	without ancillary power
Total Peak Power	1200 kW	
Water Injection Rate	0.000 L/min	per electrode
	0.000 gal/min	
Water Injection Rate	24.04 L/min	total
	6.35 gal/min	
Water Extraction Rate	3.49 L/min	per extraction Well
	0.923 gal/min	
Water Extraction Rate	38.18 L/min	total
	10.09 gal/min	
XWell Vapor Extraction Rate	52.45 scfm	excludes steam
Vapor Extraction Rate	891.6 scfm	excludes steam
Applied Vacuum (up to)	40.6 kPa	estimate

Table A.4.: Technical approach and design basis for Area B.

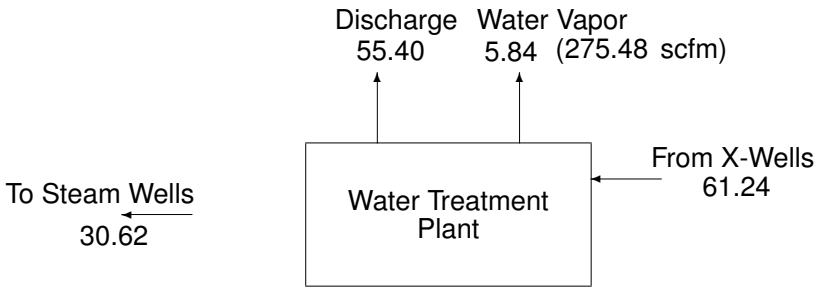


Figure A.1.: Roxana Area A water balance in l/min.

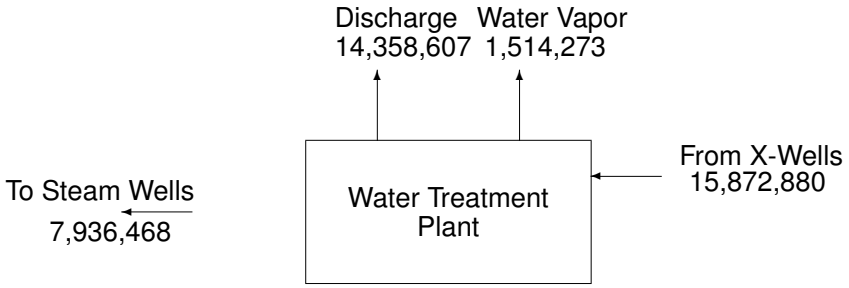


Figure A.2.: Roxana Area A water balance in litres.

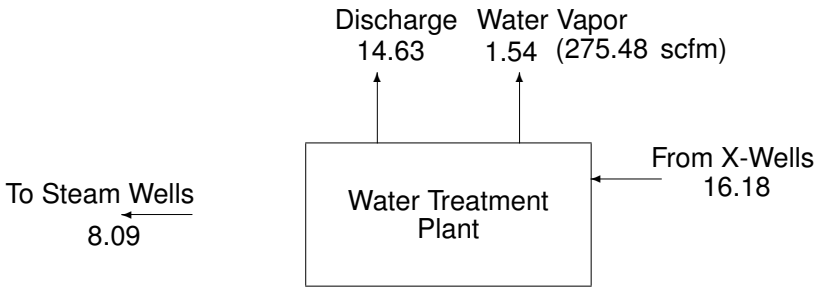


Figure A.3.: Roxana Area A water balance in gpm.

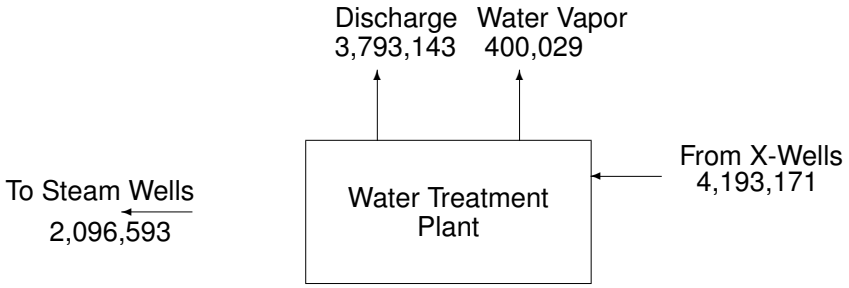


Figure A.4.: Roxana Area A water balance in gallons.

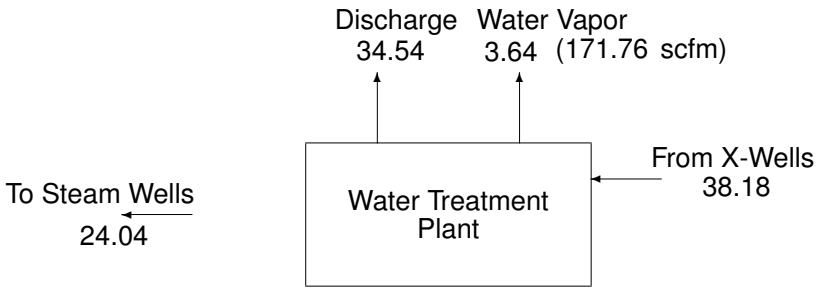


Figure A.5.: Roxana Area B water balance in l/min.

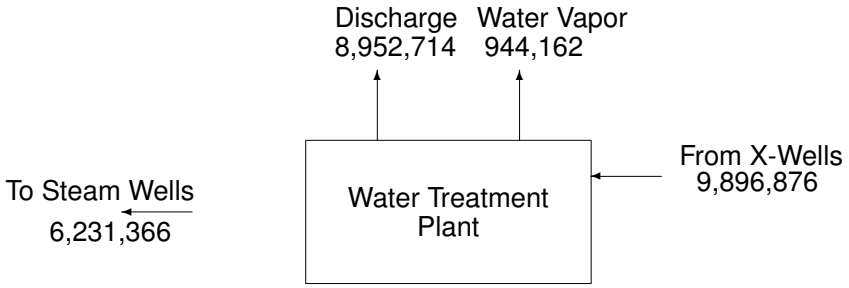


Figure A.6.: Roxana Area B water balance in litres.

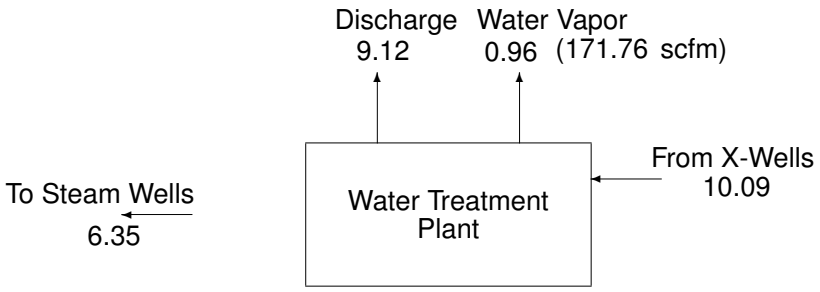


Figure A.7.: Roxana Area B water balance in gpm.

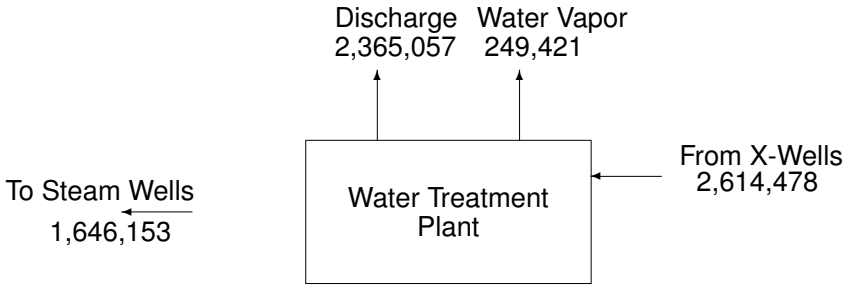


Figure A.8.: Roxana Area B water balance in gallons.

Water Balance

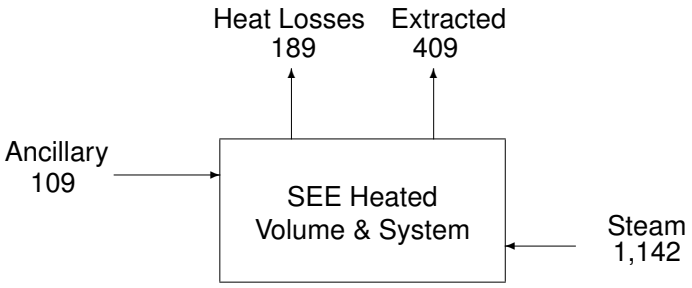
Item	Rate		Volume	
Water Plant Effluent	**L/min**	**gal/min**	**L**	**gal**
To Steam Wells	30.62	8.09	7,936,468	2,096,593
Discharge to Sewer	55.40	14.63	14,358,607	3,793,143
Vapour (CWE)	5.84	1.54	1,514,273	400,029
Water Plant Influent	**L/min**	**gal/min**	**L**	**gal**
From X-Wells	61.24	16.18	15,872,880	4,193,171
Hydraulic Ratio				$\frac{Q_X}{Q_E} = 2.000$

Table A.5.: Water balance estimates for treatment plant design - Area A.

Water Balance

Item	Rate		Volume	
Water Plant Effluent	**L/min**	**gal/min**	**L**	**gal**
To Steam Wells	24.04	6.35	6,231,366	1,646,153
Discharge to Sewer	34.54	9.12	8,952,714	2,365,057
Vapour (CWE)	3.64	0.96	944,162	249,421
Water Plant Influent	**L/min**	**gal/min**	**L**	**gal**
From X-Wells	38.18	10.09	9,896,876	2,614,478
Hydraulic Ratio				$\frac{Q_X}{Q_E} = 1.588$

Table A.6.: Water balance estimates for treatment plant design - Area B.

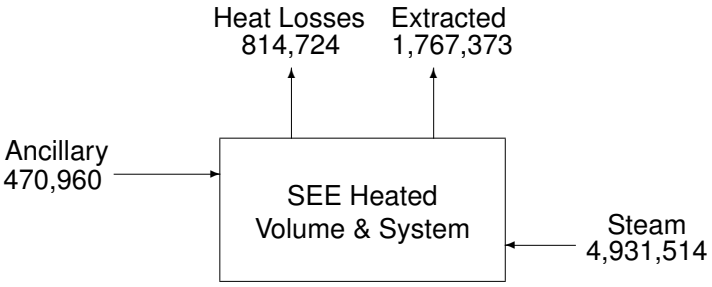


Notes:

① Ancillary power is an estimate.

② Heat loss power is determined on heat leaving the grid providing a conservative estimate for heat losses.

Figure A.9.: Roxana Area A average power flow in kW.

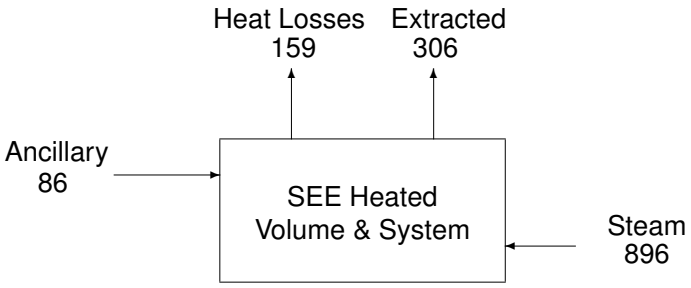


Notes:

① Calculated energy density is 374 kWh/m^3 (286 kWh/yd^3).

② Fraction of heat loss to steam energy is 12.39 percent.

Figure A.10.: Roxana Area A energy balance in kWh.

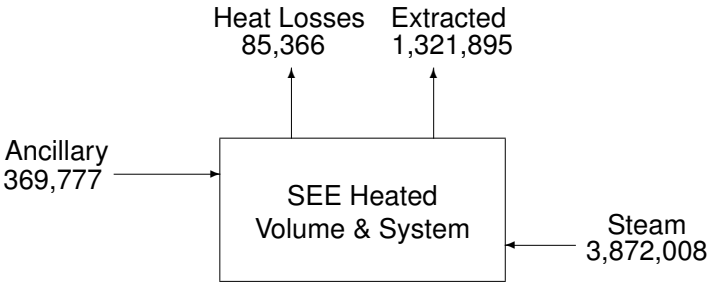


Notes:

① Ancillary power is an estimate.

② Heat loss power is determined on heat leaving the grid providing a conservative estimate for heat losses.

Figure A.11.: Roxana Area B average power flow in kW.



Notes:

① Calculated energy density is 1,449 kWh/m^3 (1,108 kWh/yd^3).

② Fraction of heat loss to steam energy is 12.39 percent.

Figure A.12.: Roxana Area B energy balance in kWh.

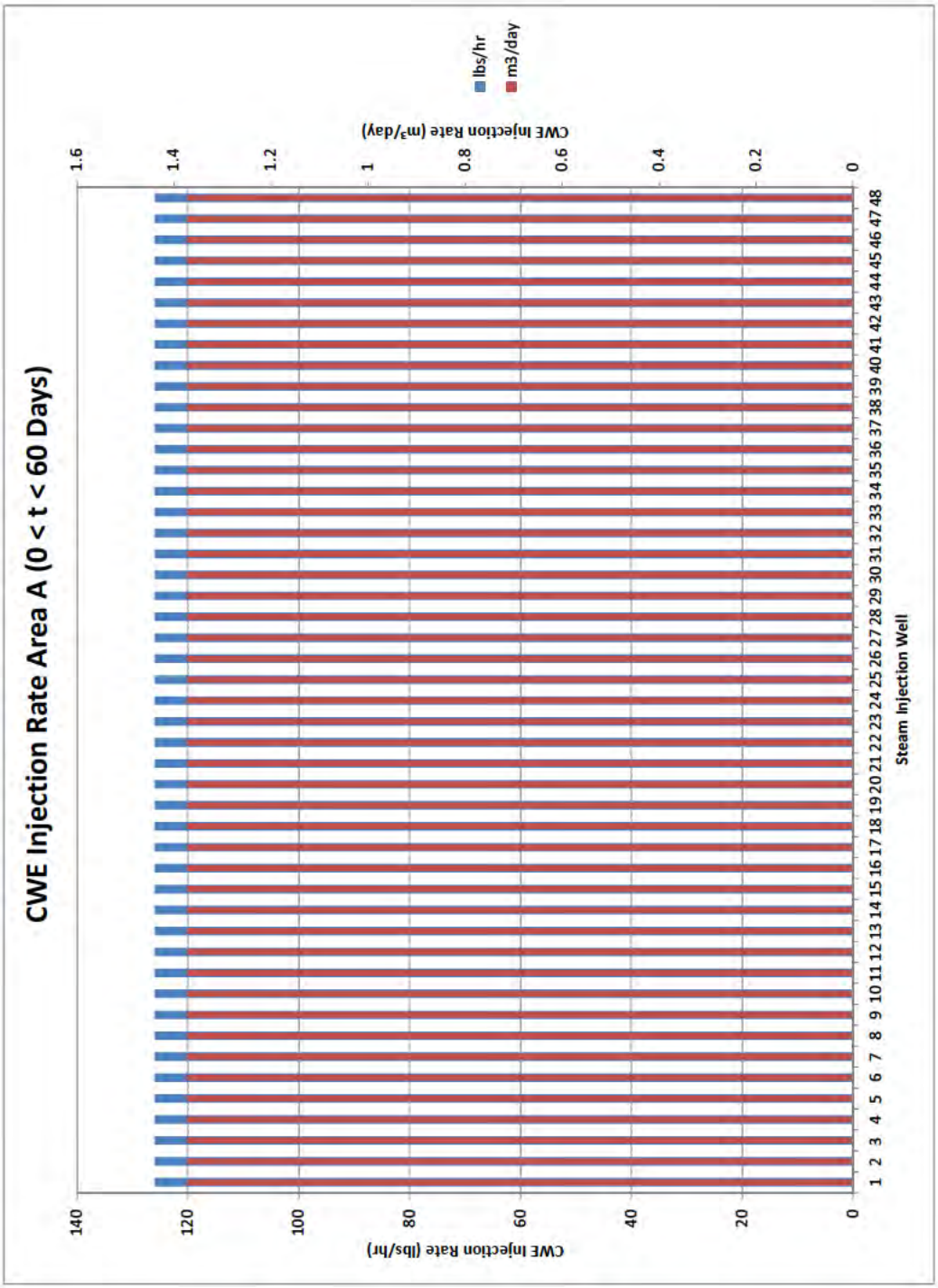


Figure A.13.: Area A Steam Well Operating Strategy

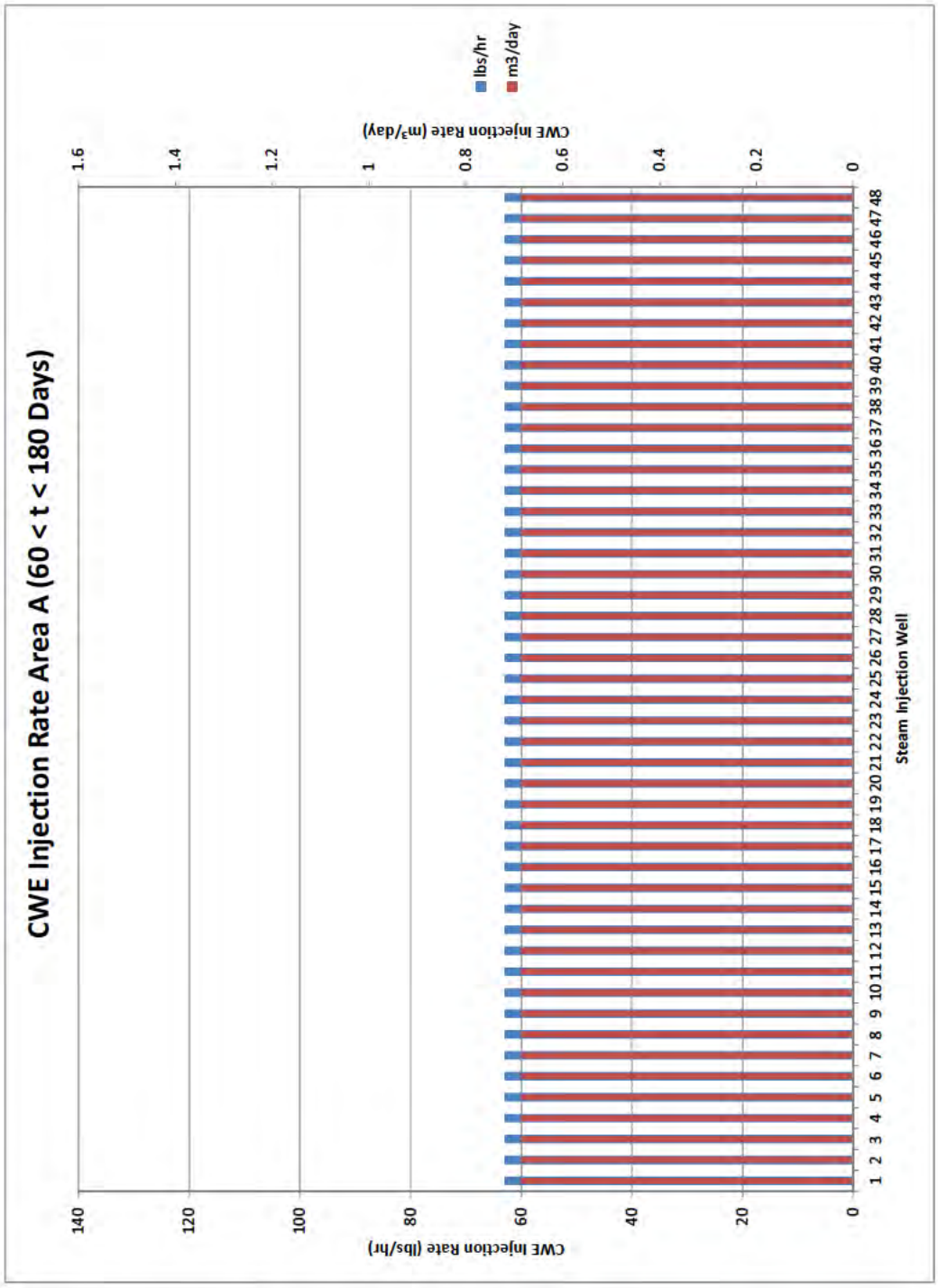


Figure A.14.: Area A Steam Well Operating Strategy

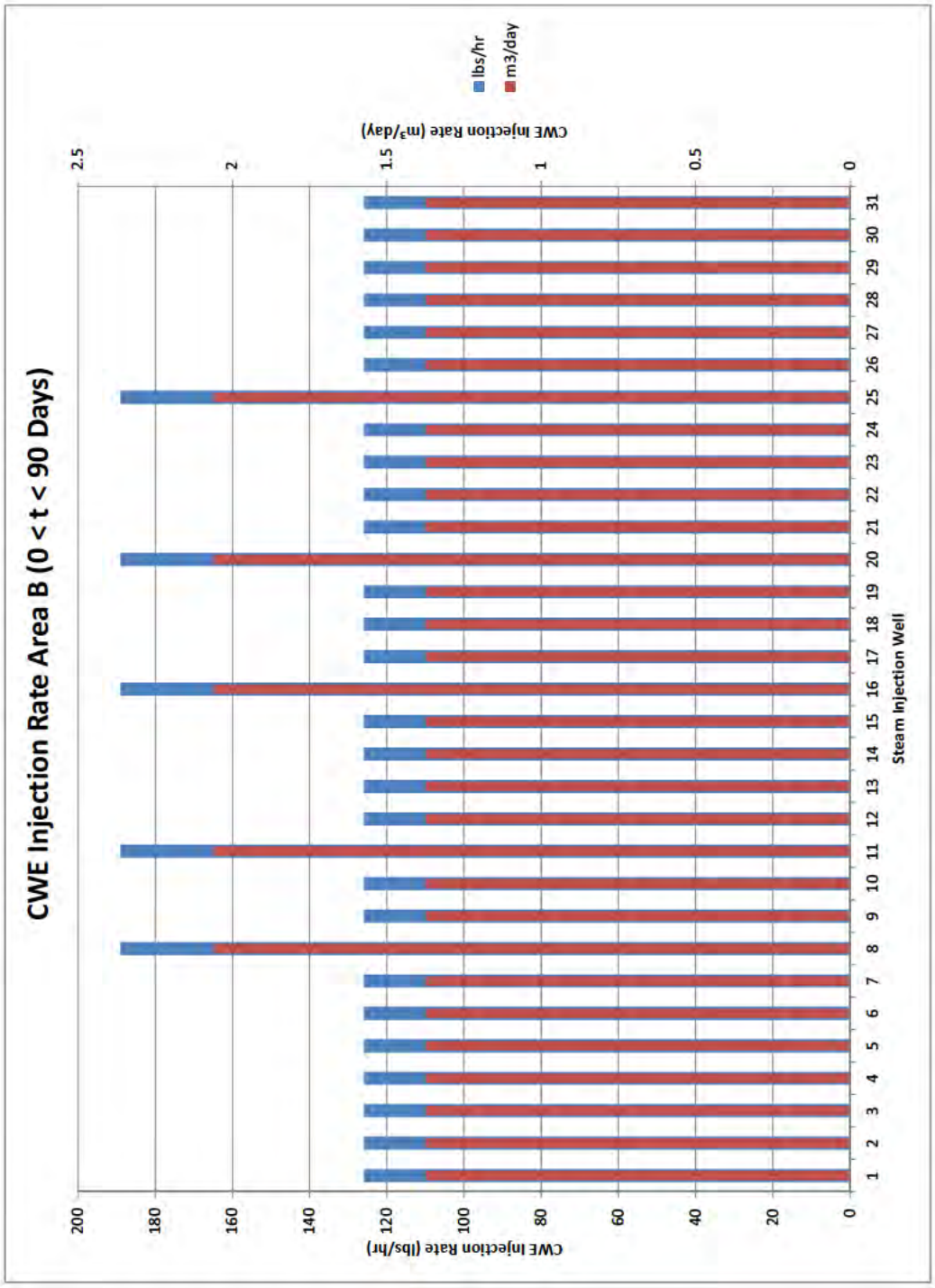


Figure A.15.: Area B Steam Well Operating Strategy

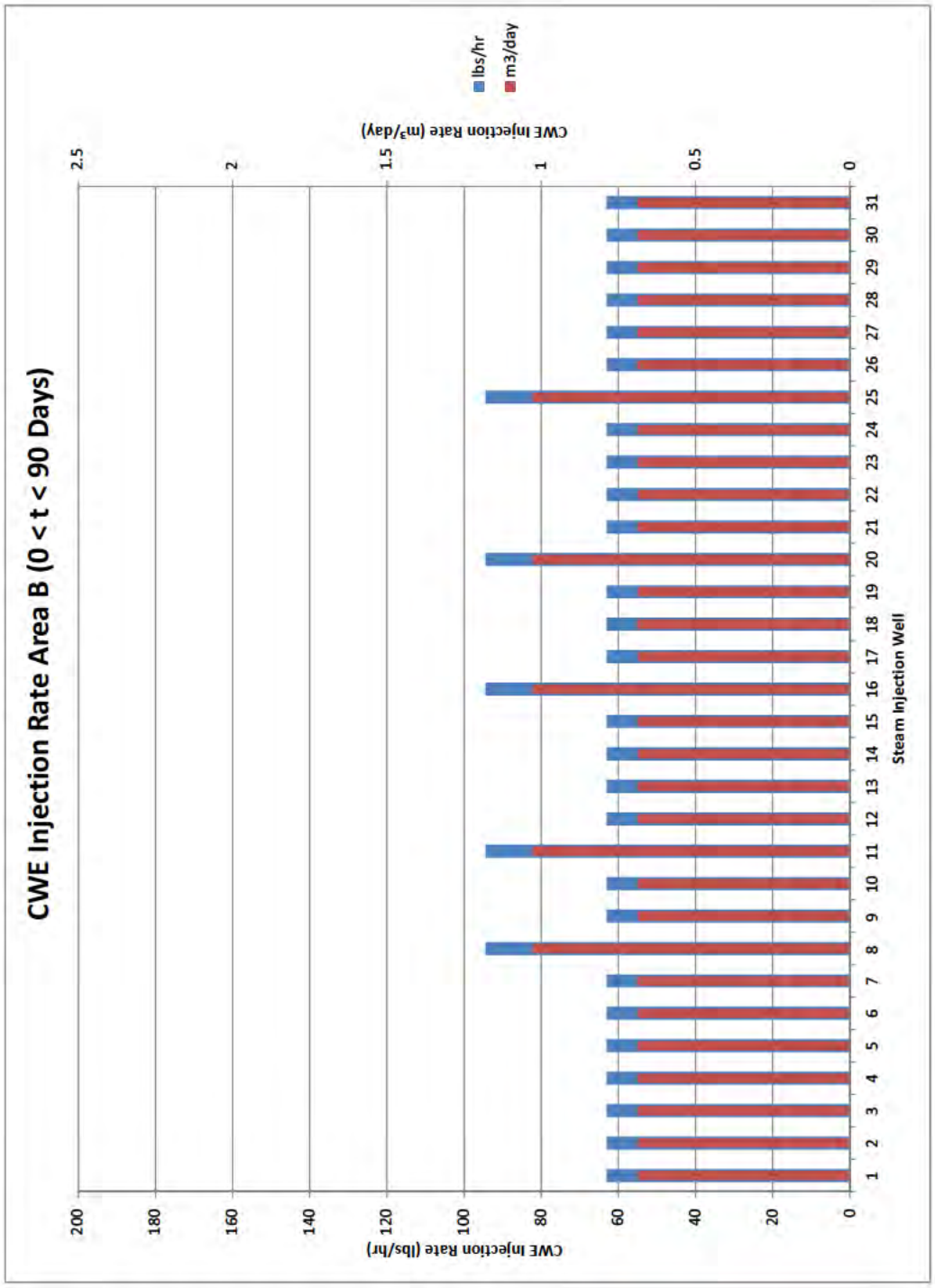


Figure A.16.: Area B Steam Well Operating Strategy

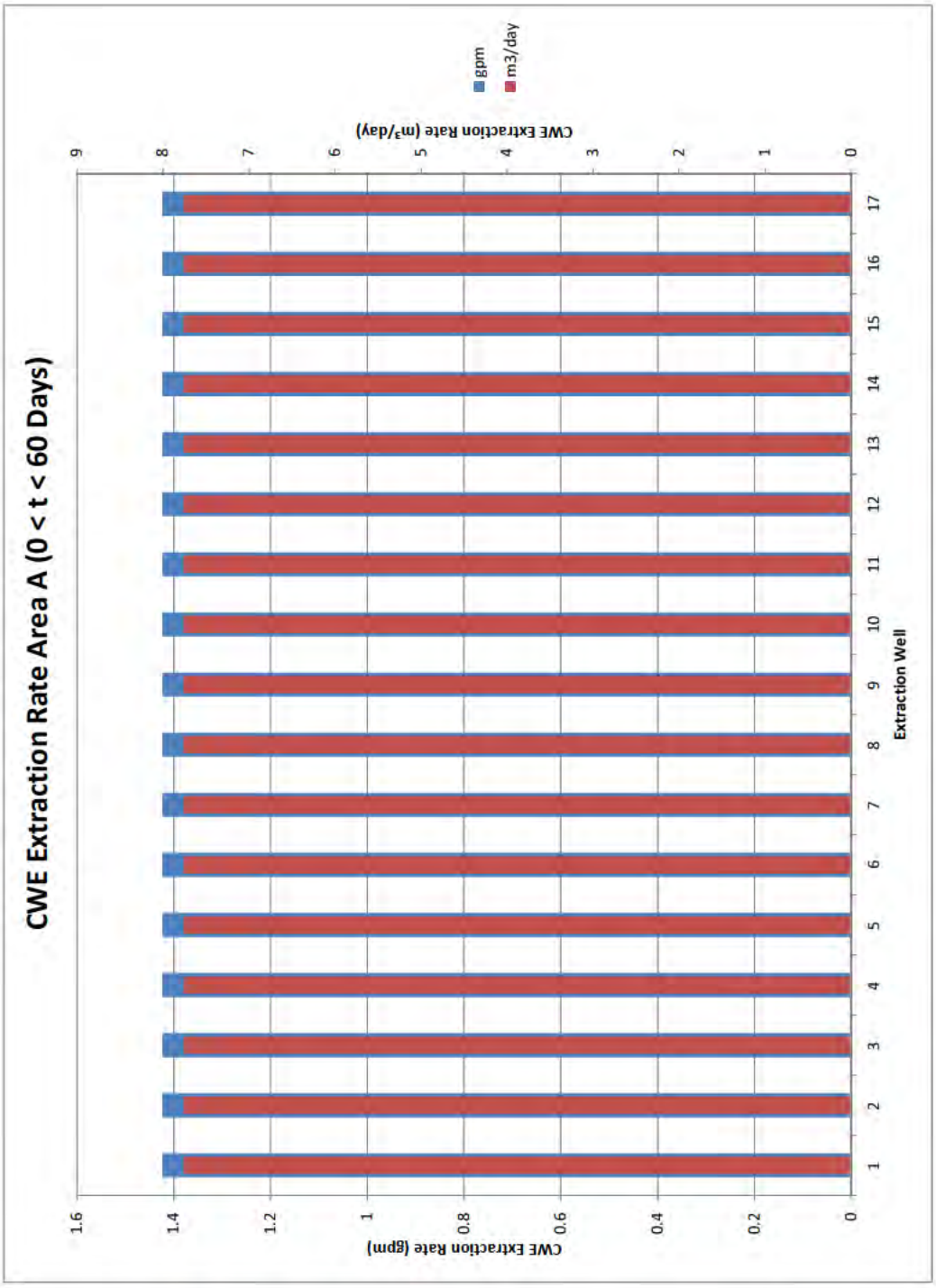


Figure A.17.: Area A Extraction Well Operating Strategy

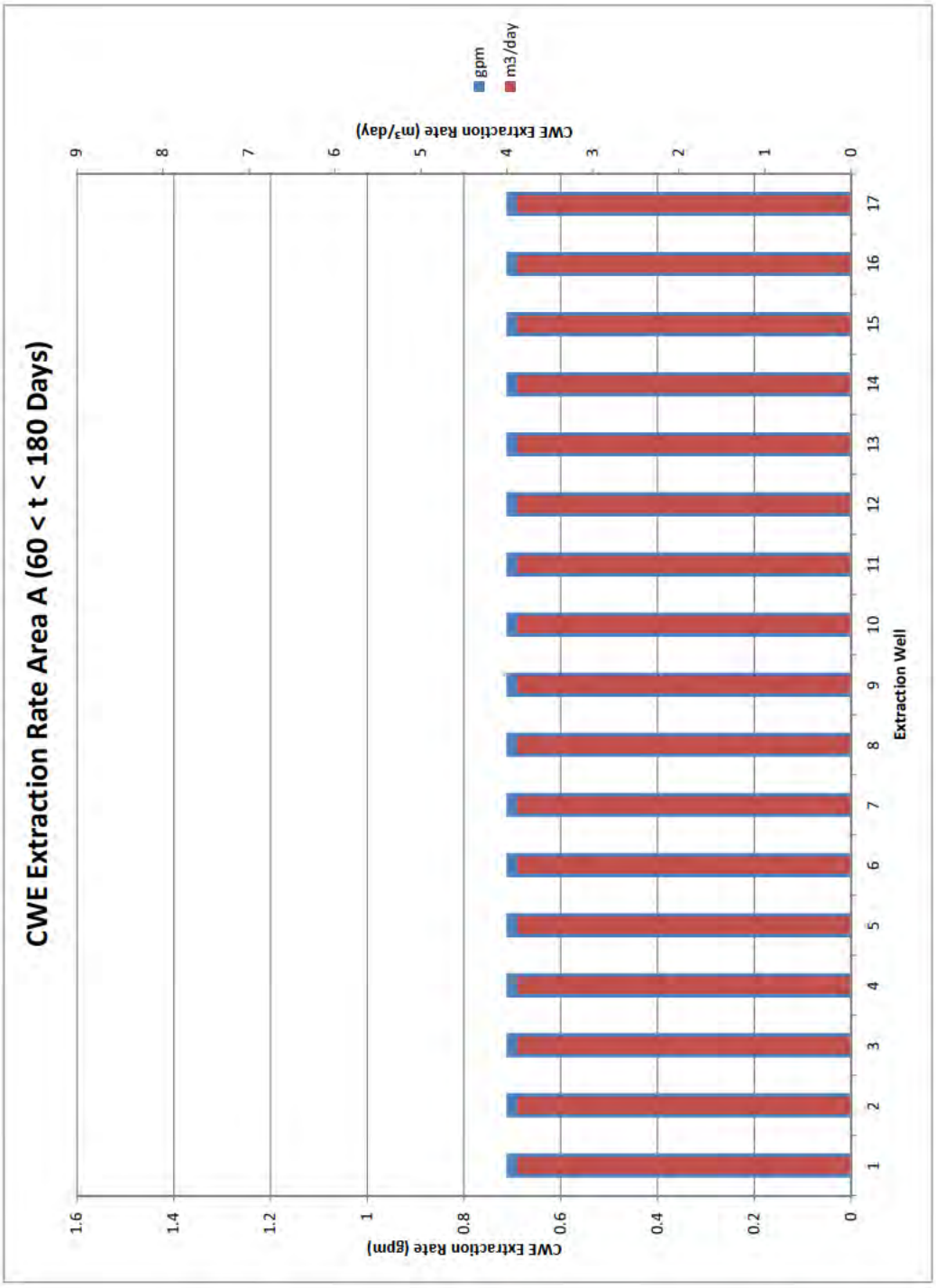


Figure A.18.: Area A Extraction Well Operating Strategy

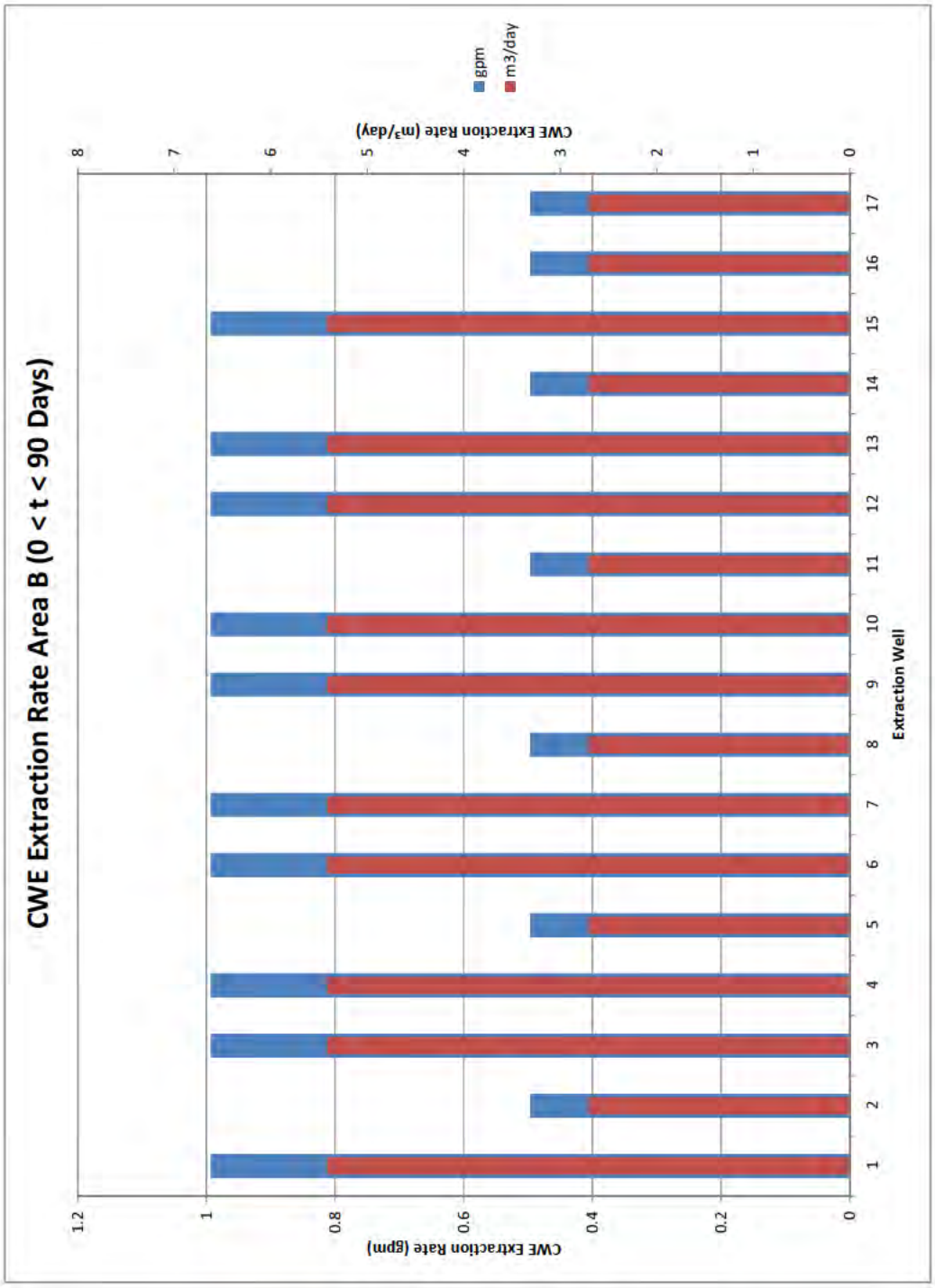


Figure A.19.: Area B Extraction Well Operating Strategy

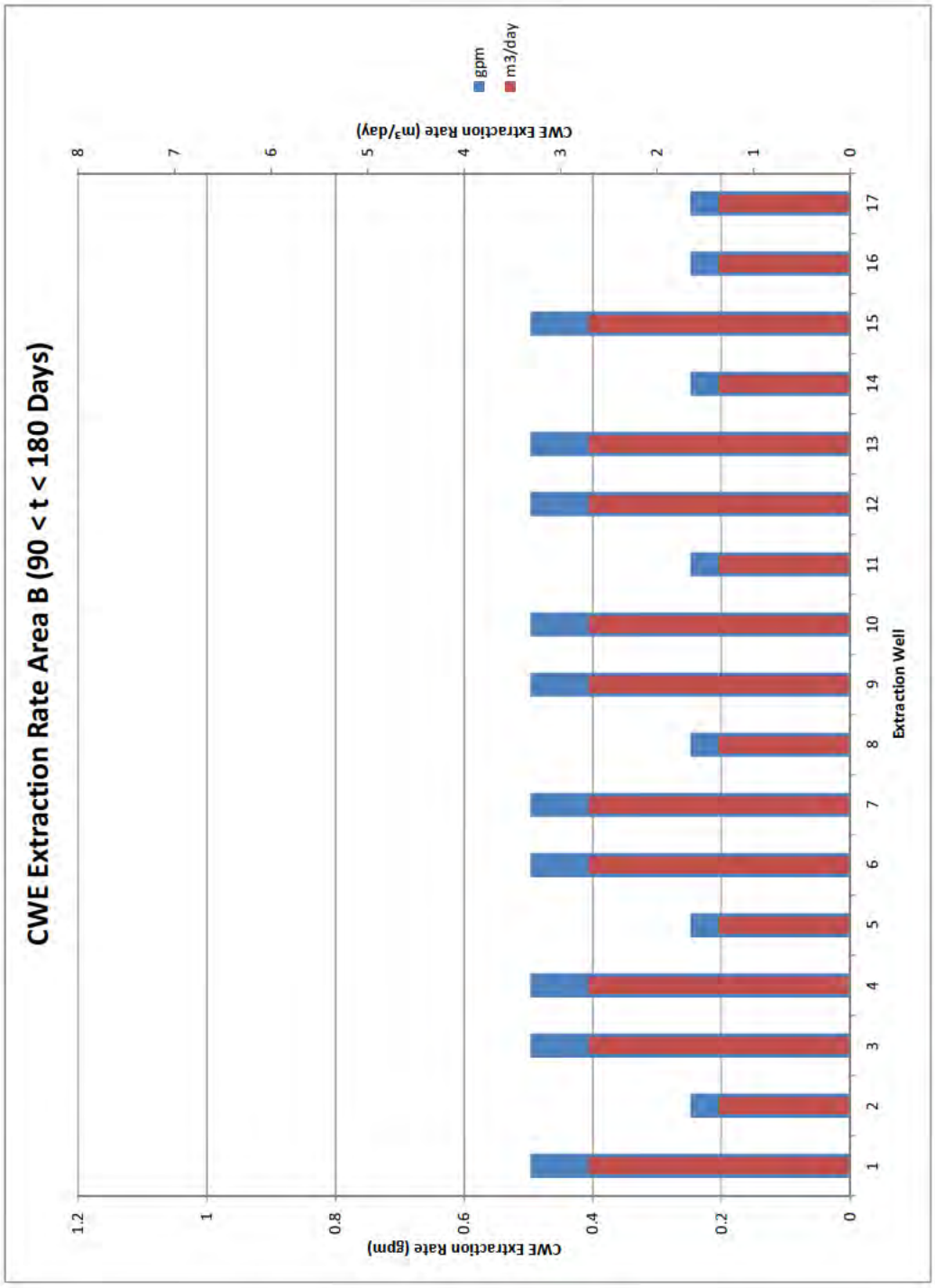


Figure A.20.: Area B Extraction Well Operating Strategy

B

Temperature Plots

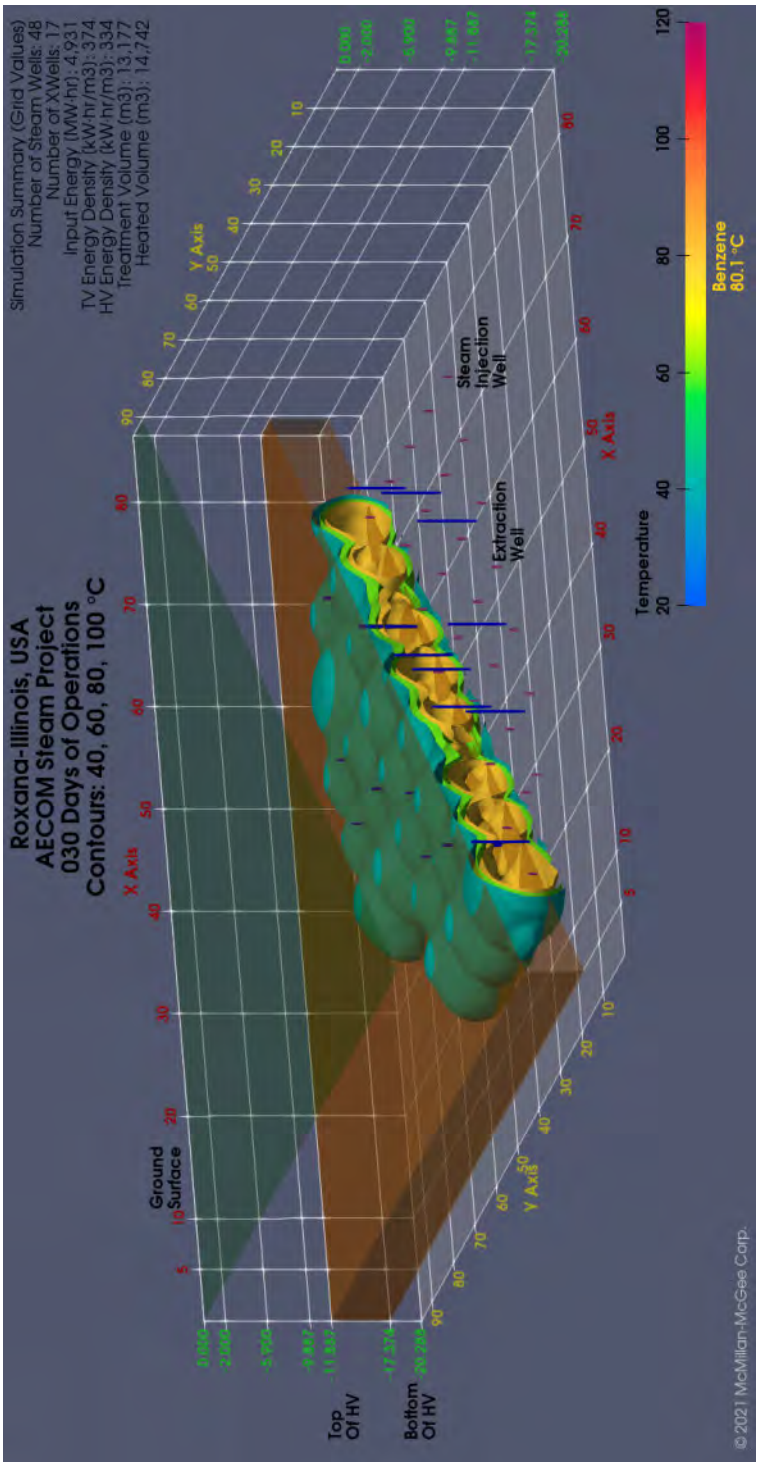


Figure B.1.: Temperature distribution Area A after 30 days.

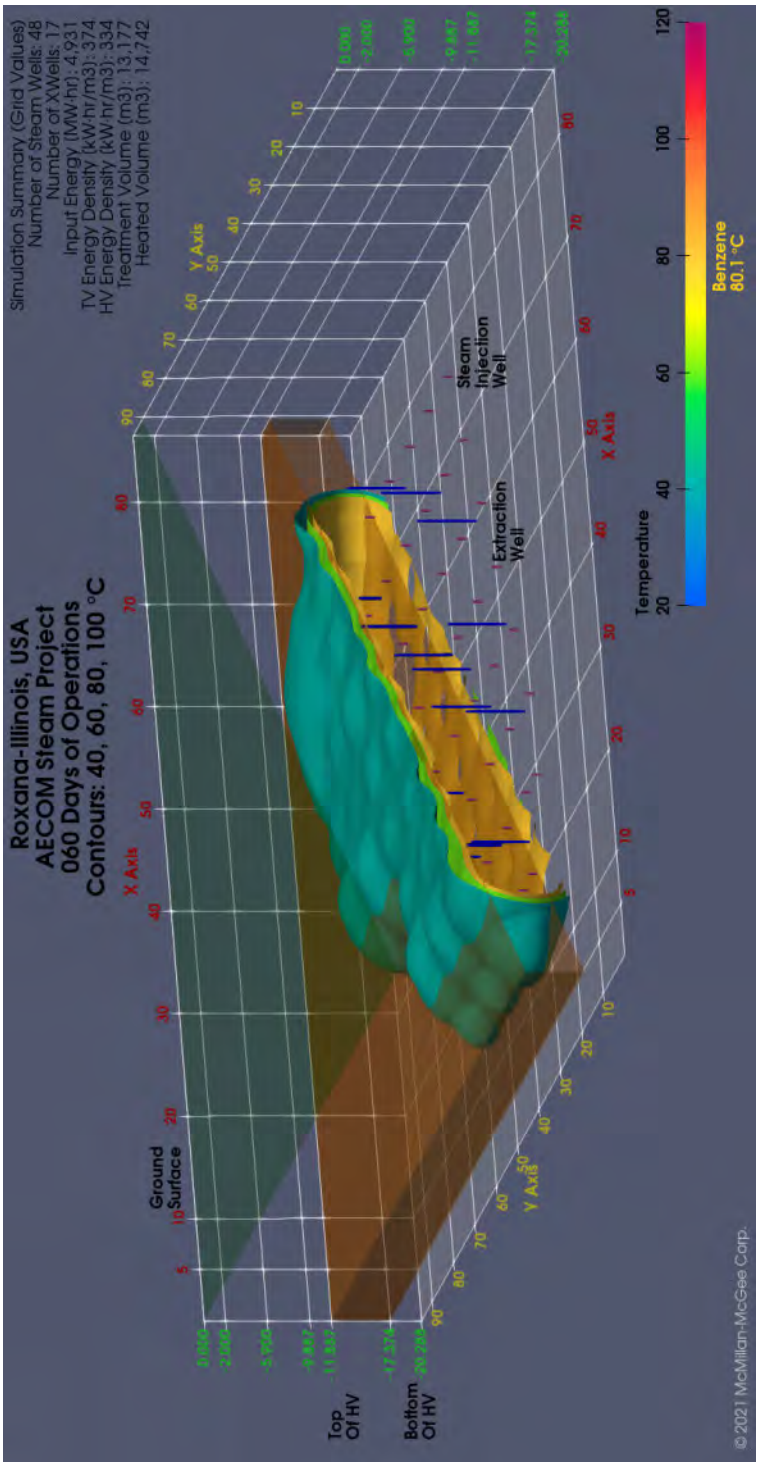


Figure B.2.: Temperature distribution Area A after 60 days.

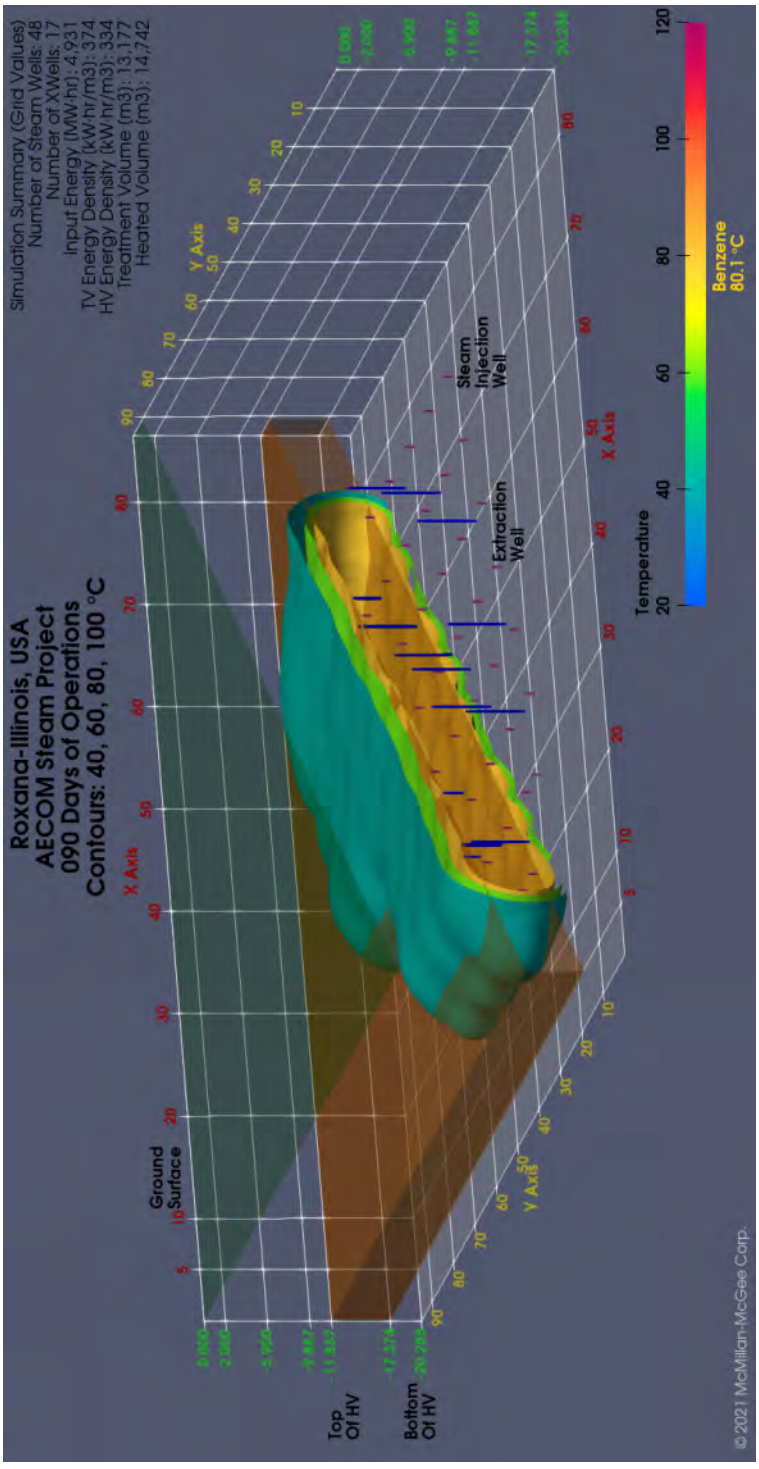


Figure B.3.: Temperature distribution Area A after 90 days.

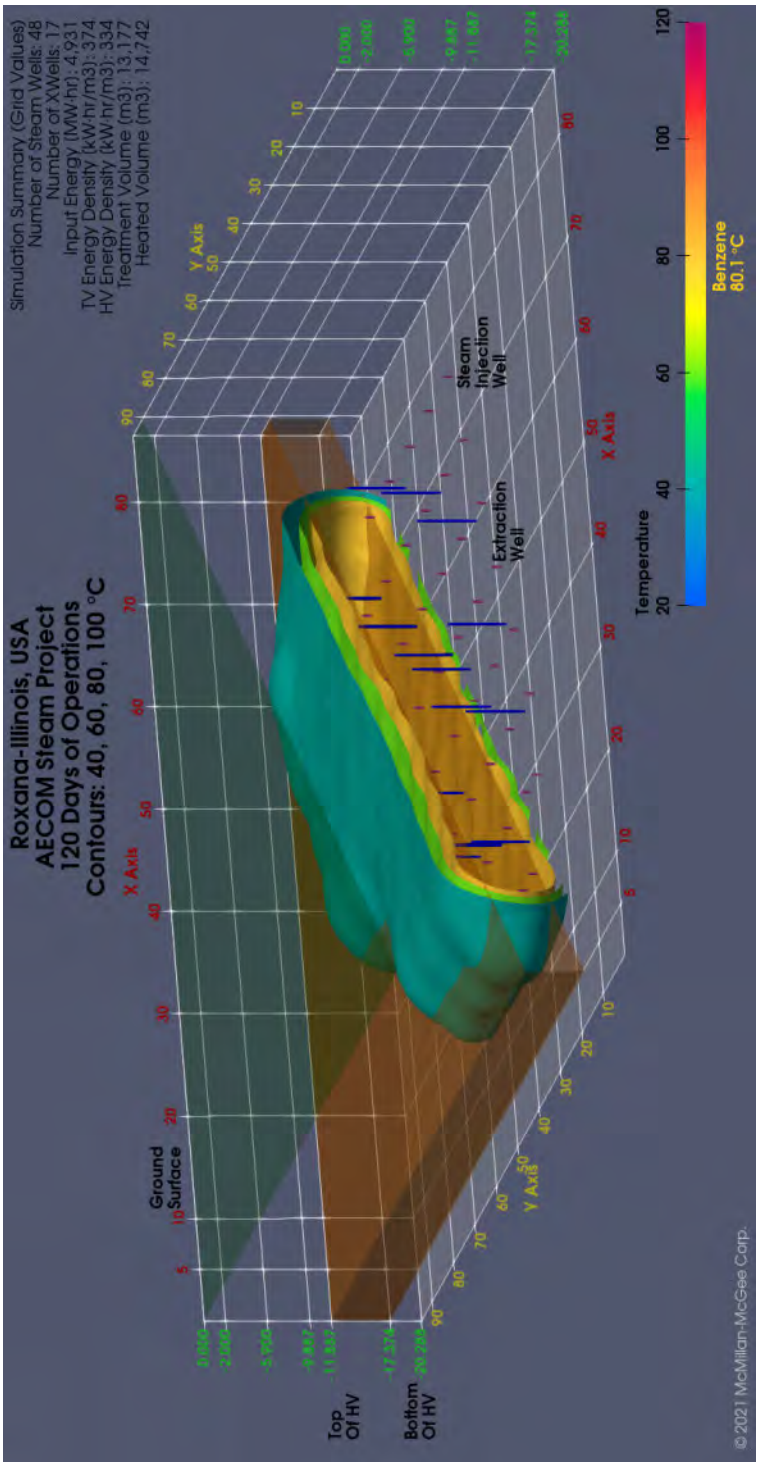


Figure B.4.: Temperature distribution Area A after 120 days.

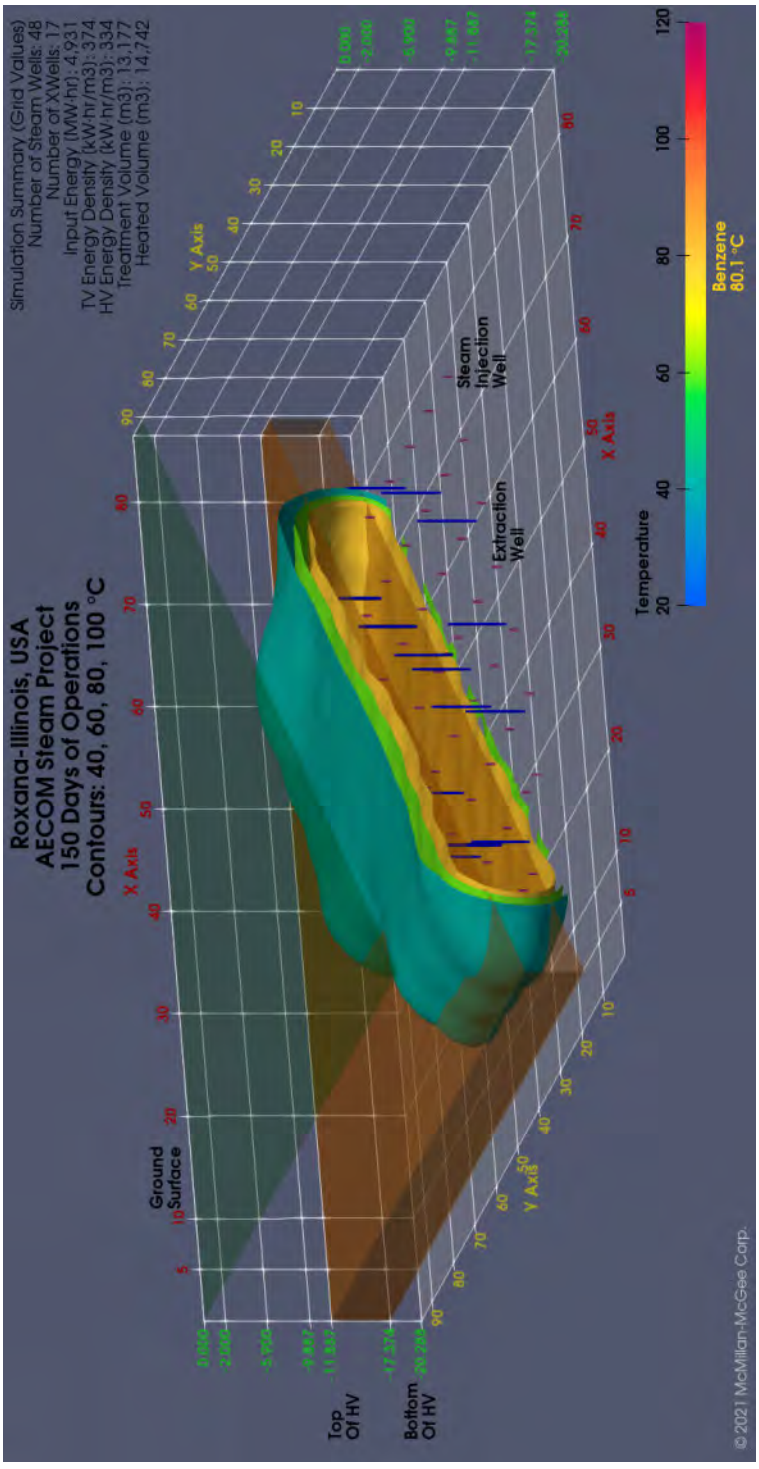


Figure B.5.: Temperature distribution Area A after 150 days.

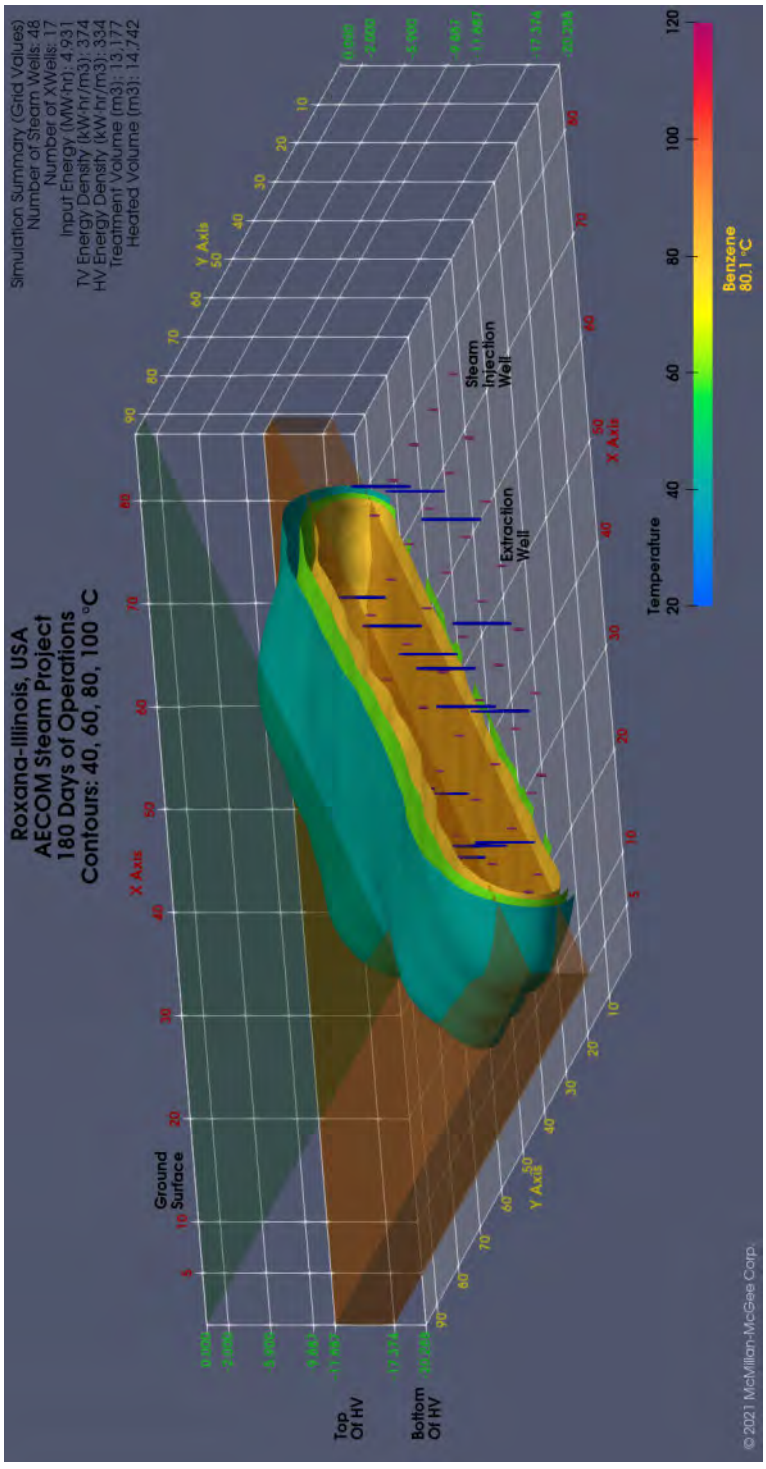


Figure B.6.: Temperature distribution Area A after 180 days.

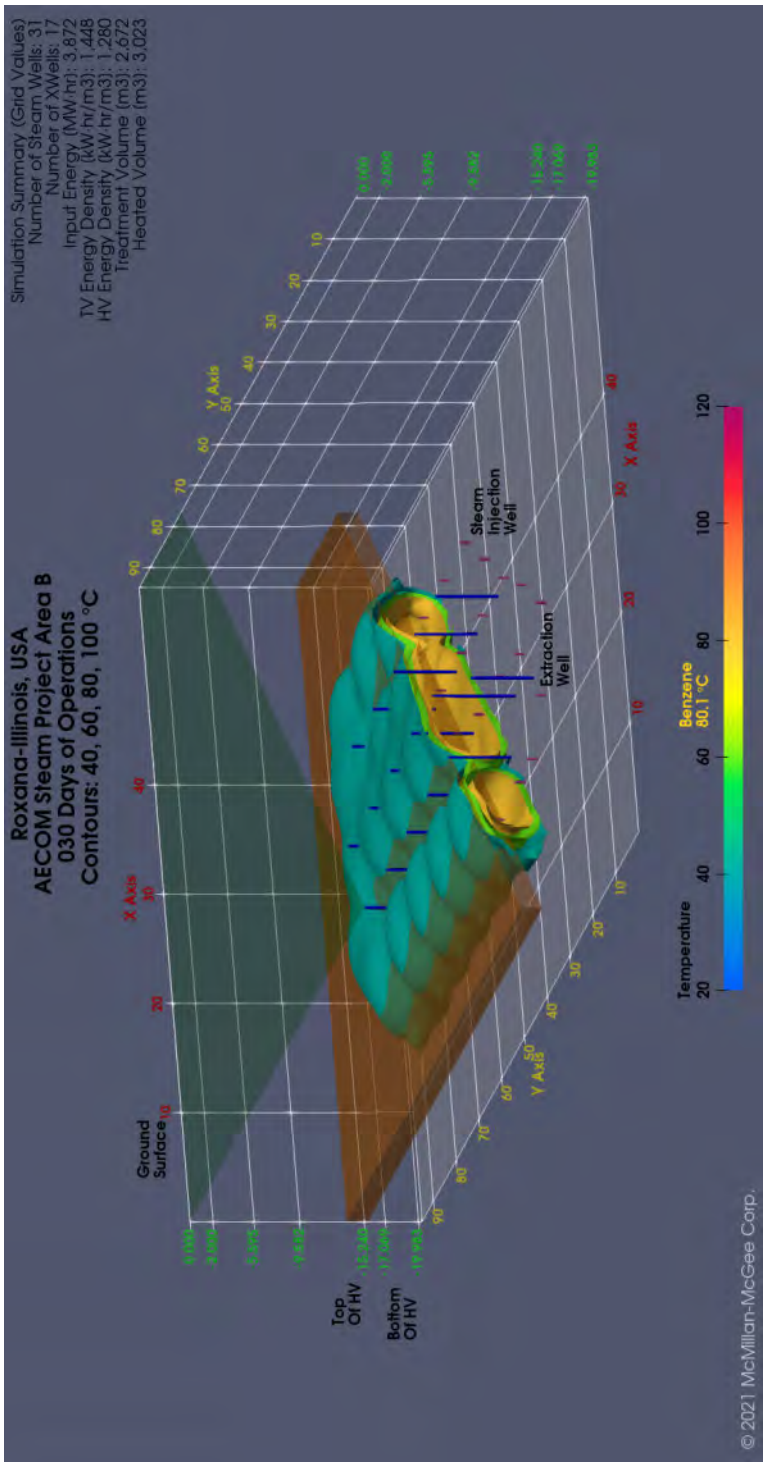


Figure B.7.: Temperature distribution Area B after 30 days.

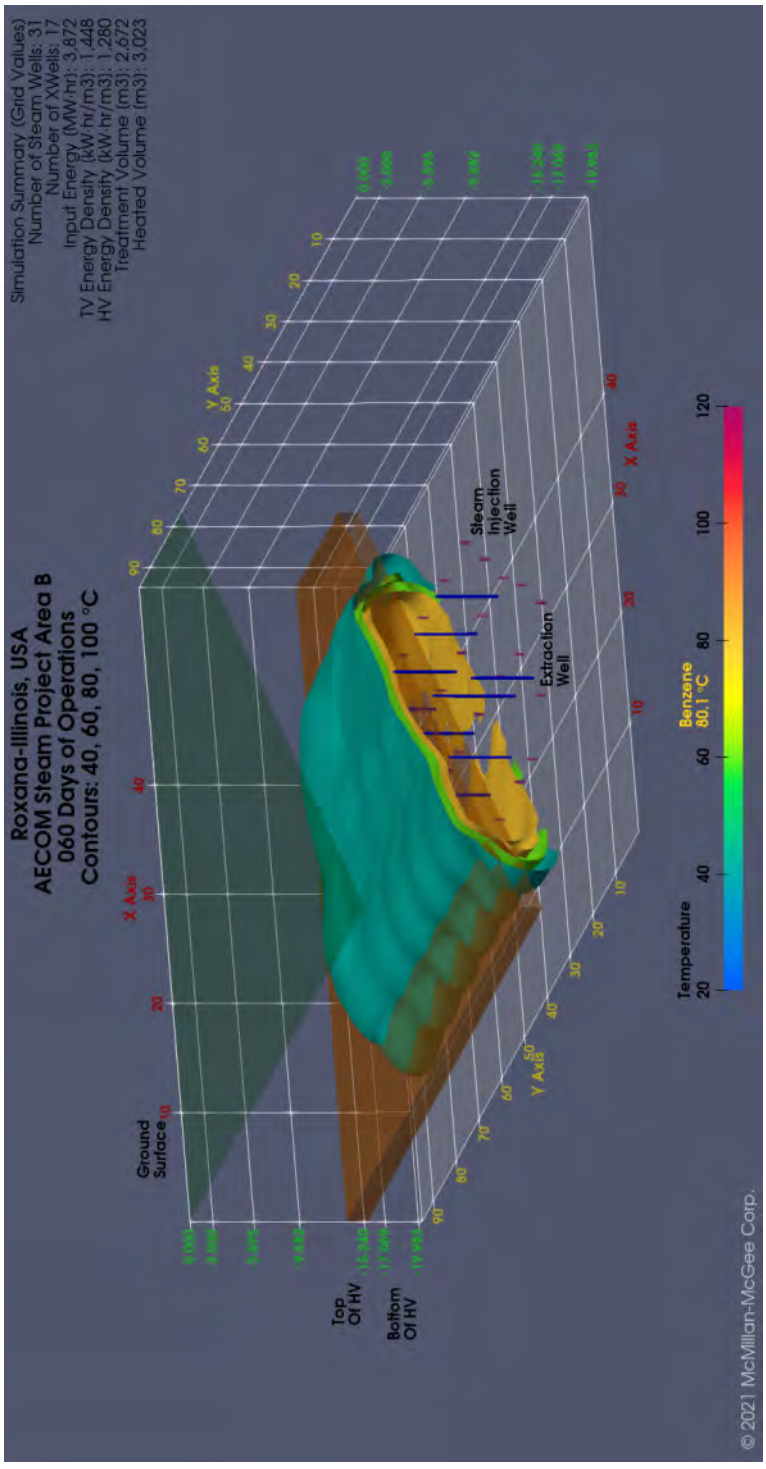


Figure B.8.: Temperature distribution Area B after 60 days.

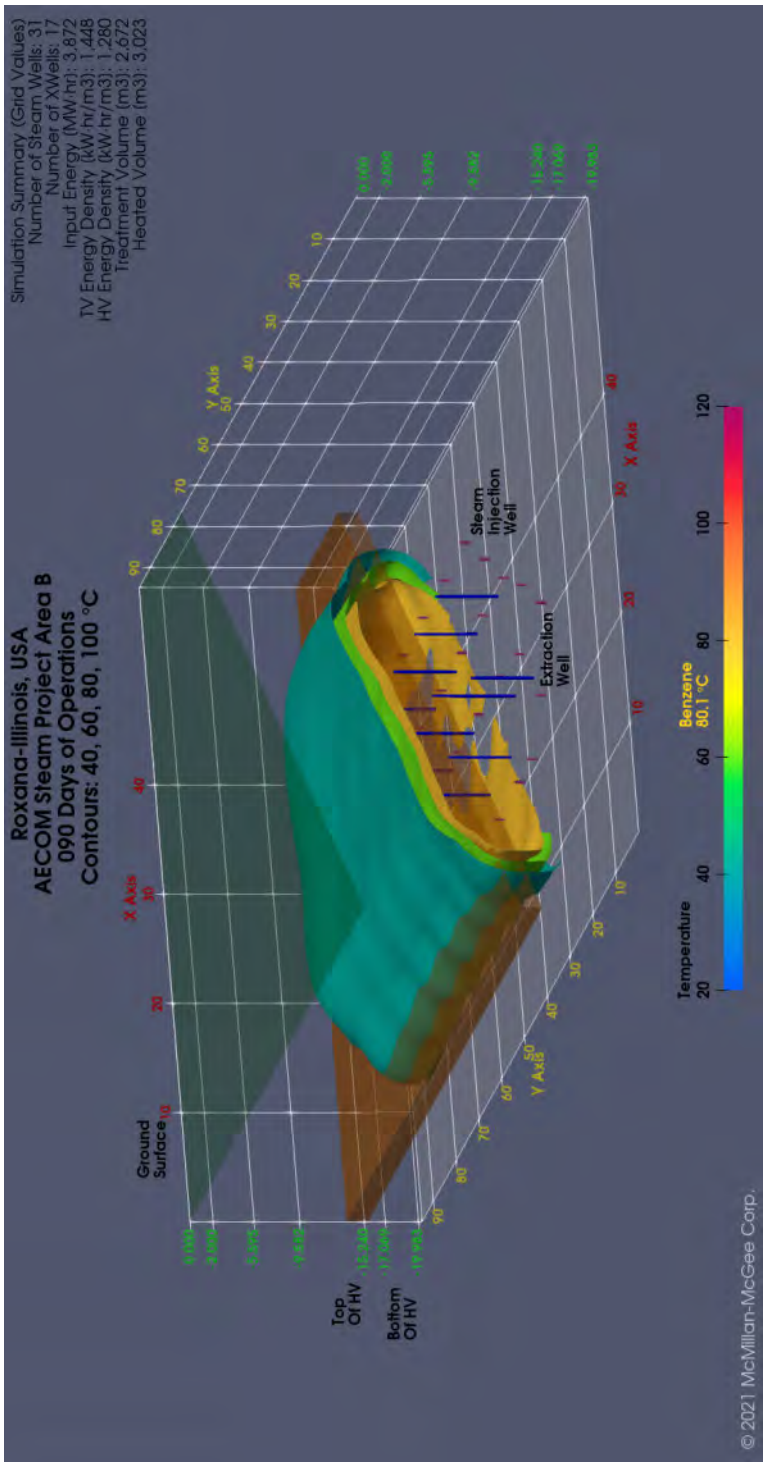


Figure B.9.: Temperature distribution Area B after 90 days.

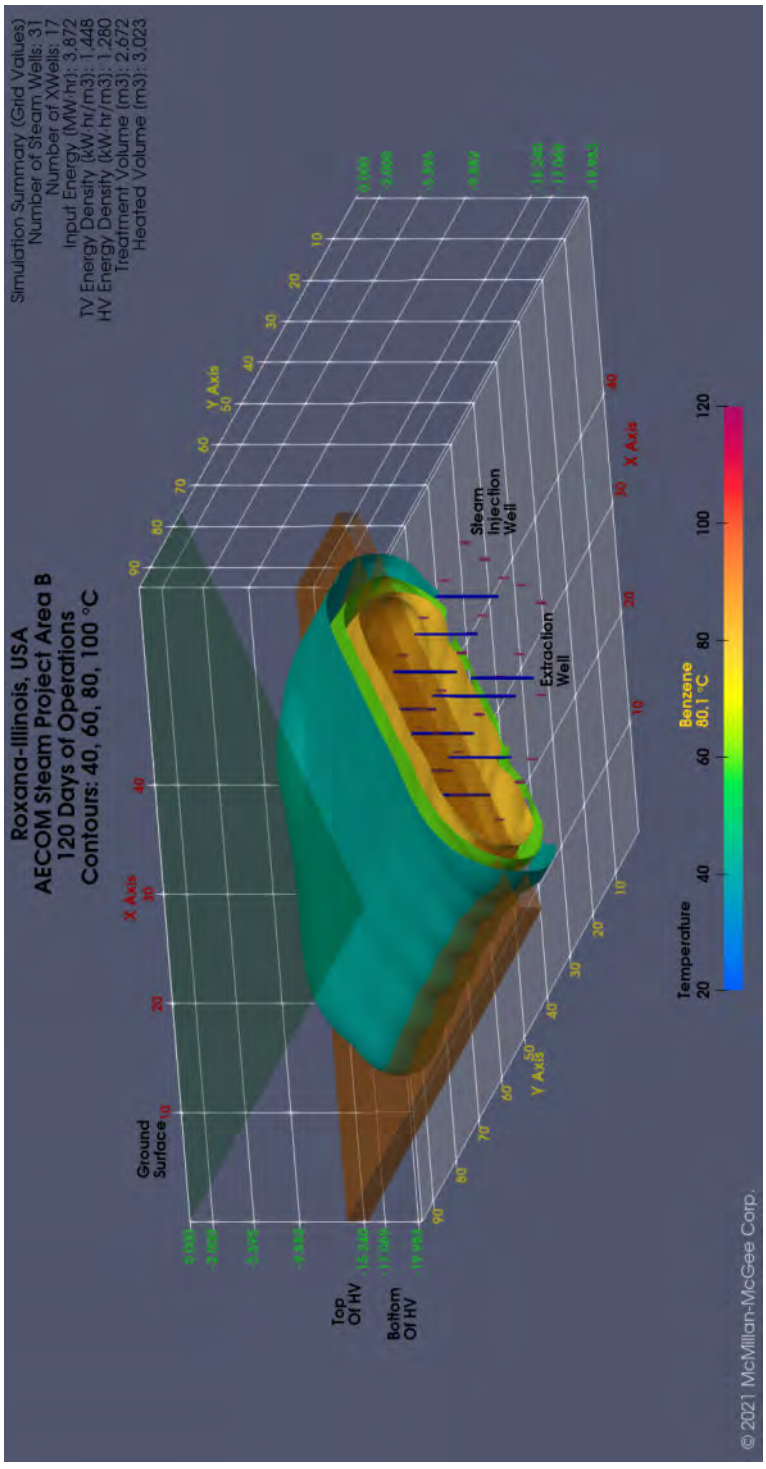


Figure B.10.: Temperature distribution Area B after 120 days.

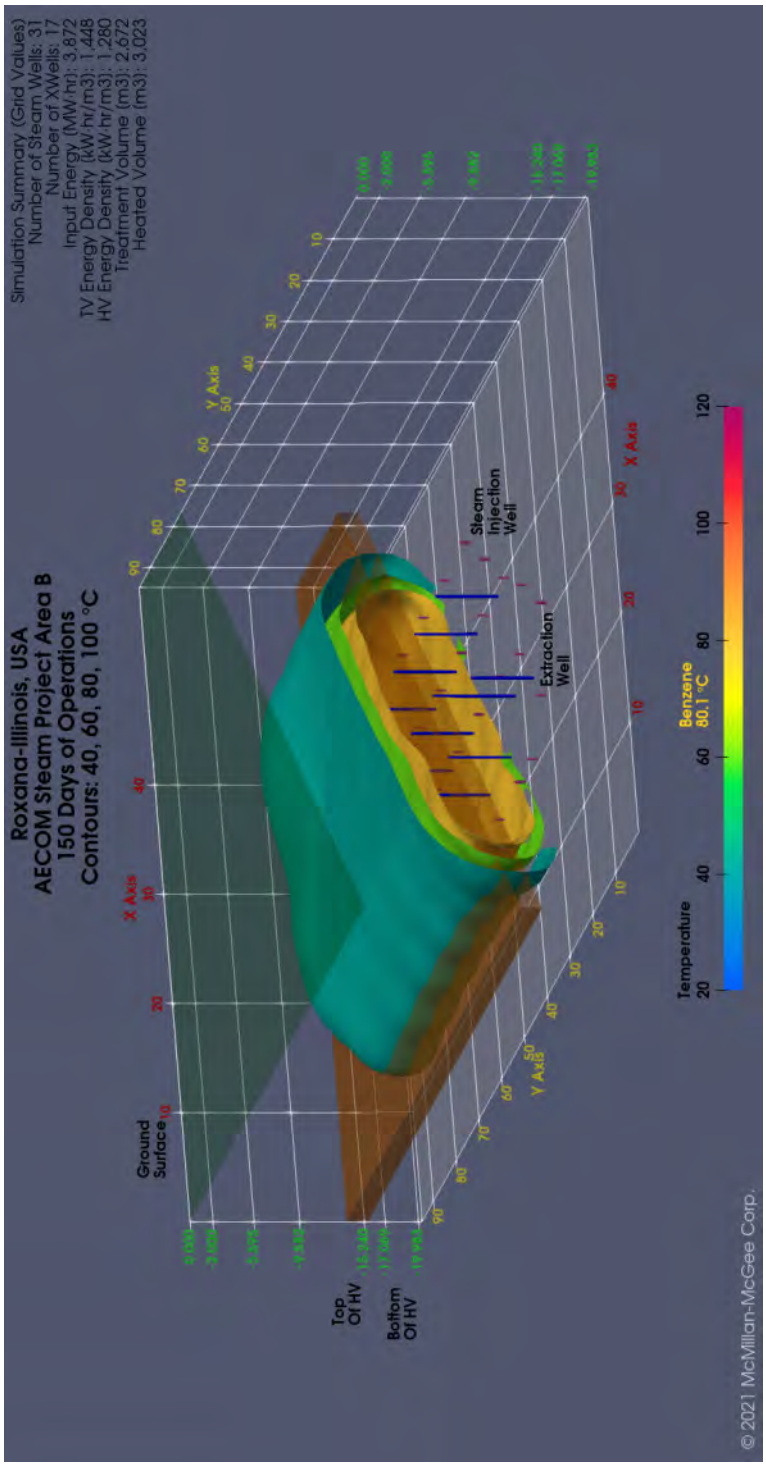


Figure B.11.: Temperature distribution Area B after 150 days.

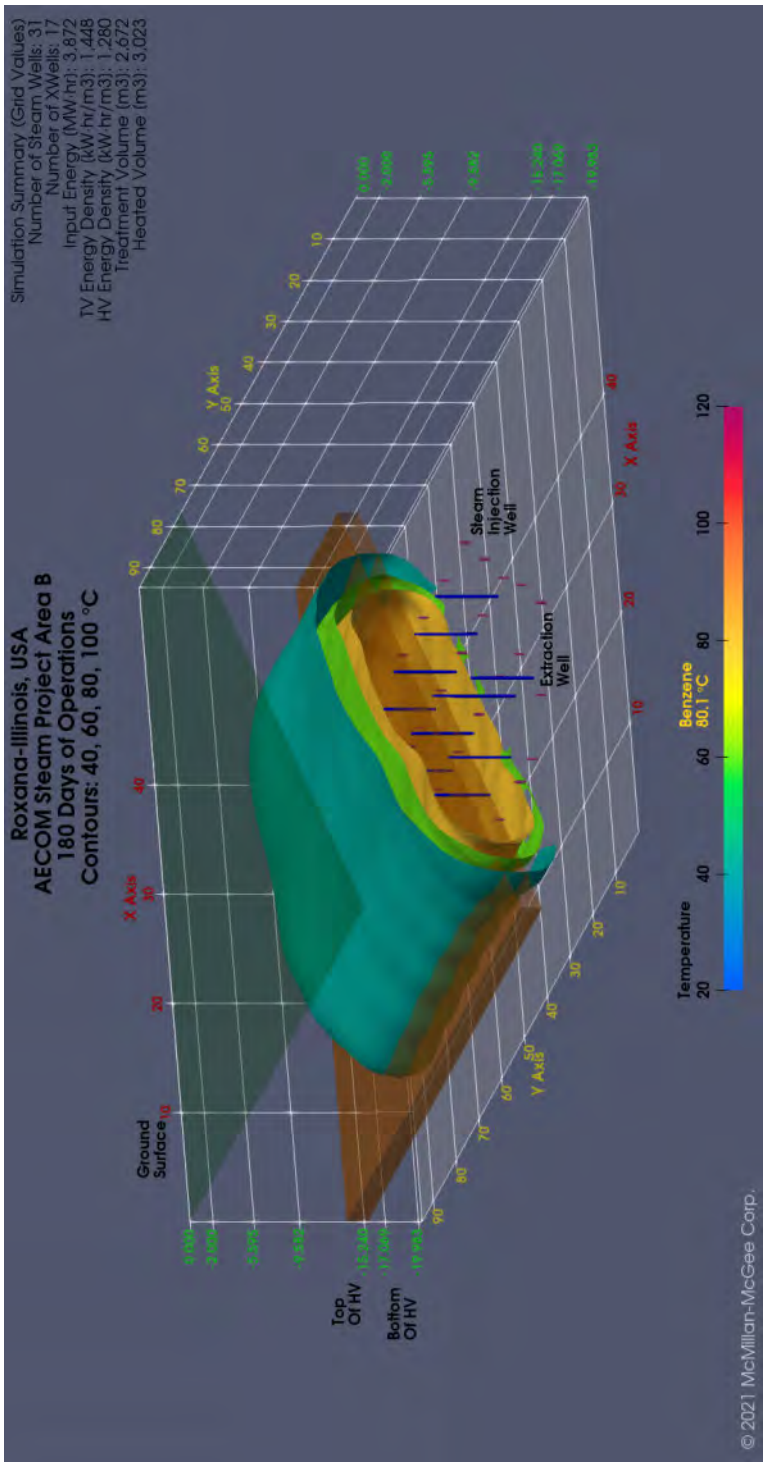


Figure B.12.: Temperature distribution Area B after 180 days.

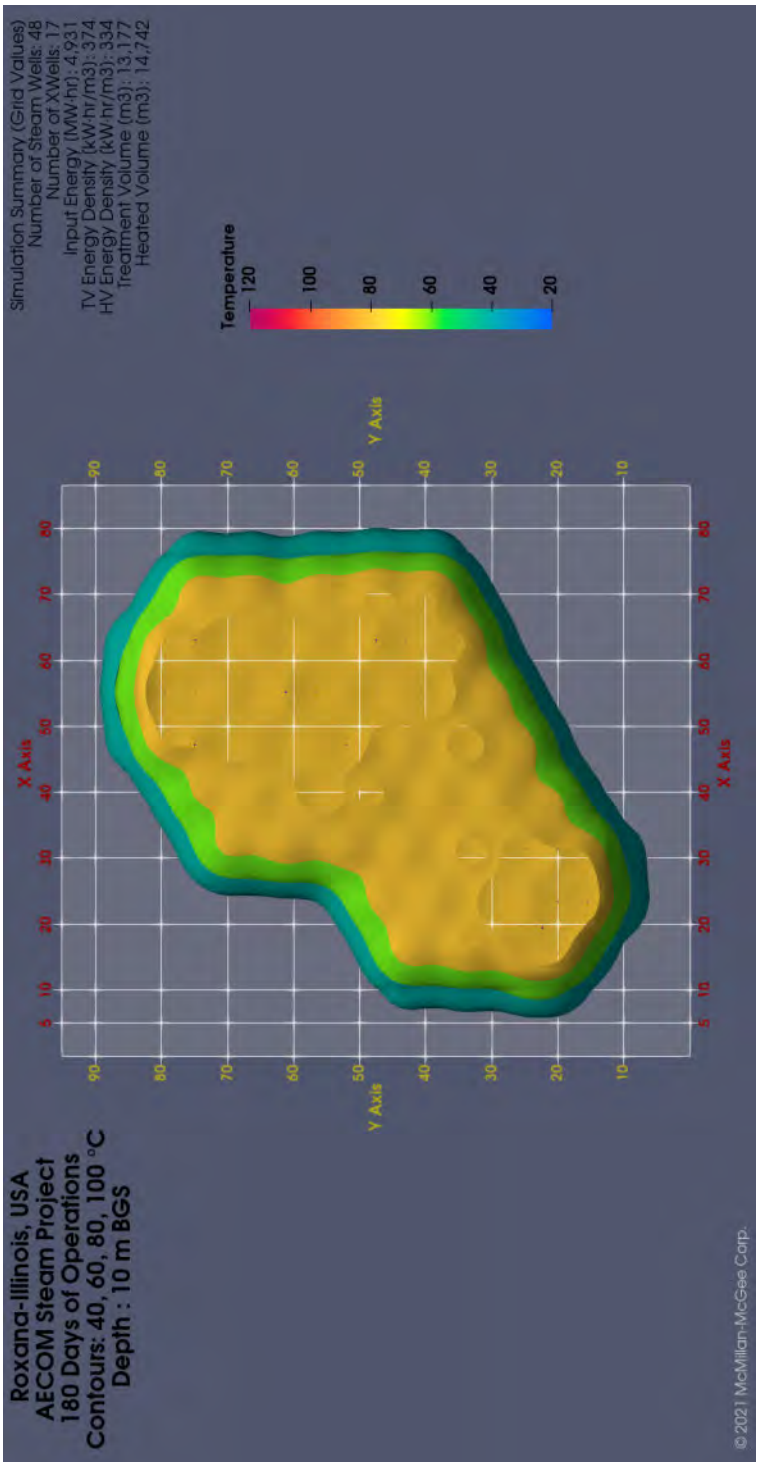


Figure B.13.: Area A 10 m BGS after 180 days.

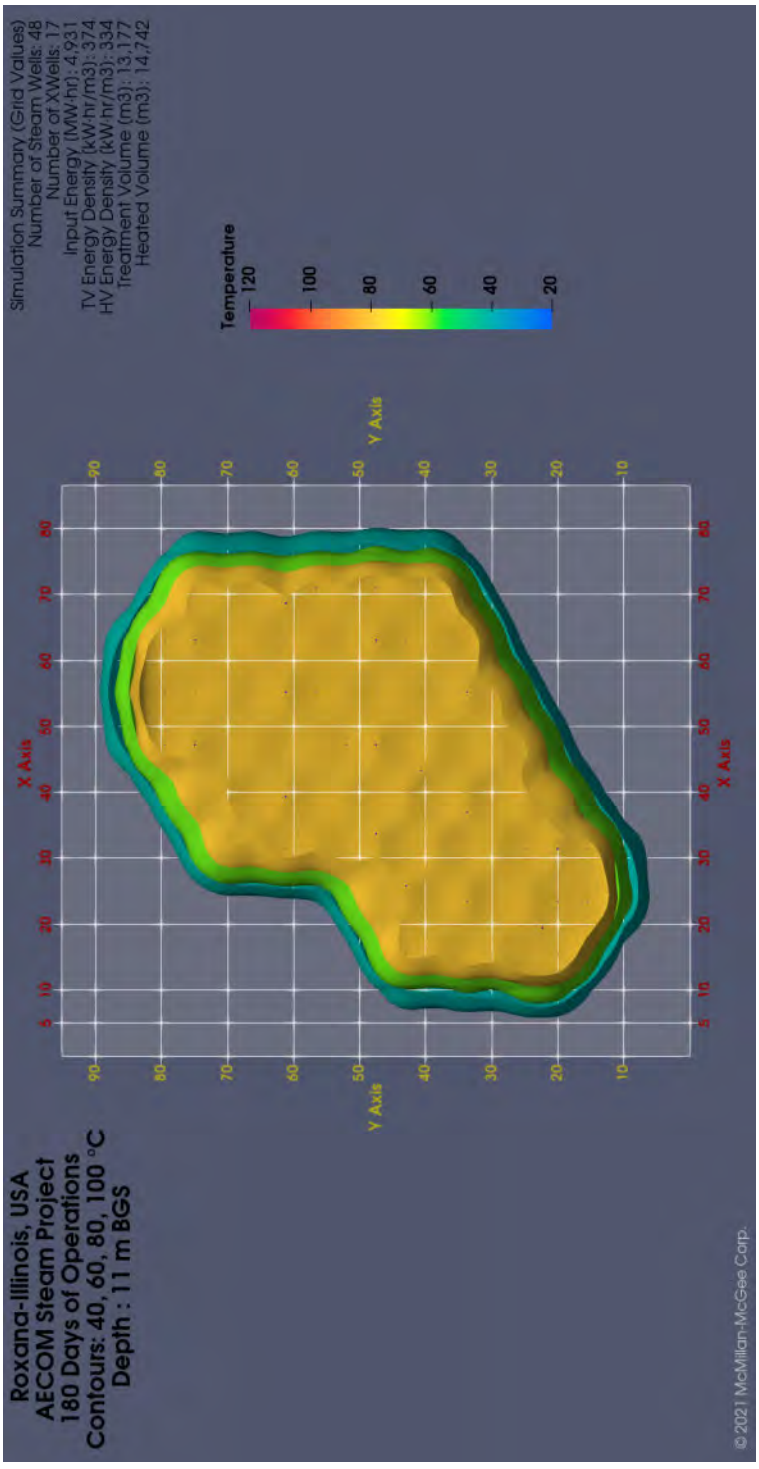


Figure B.14.: Area A 11 m BGS after 180 days.

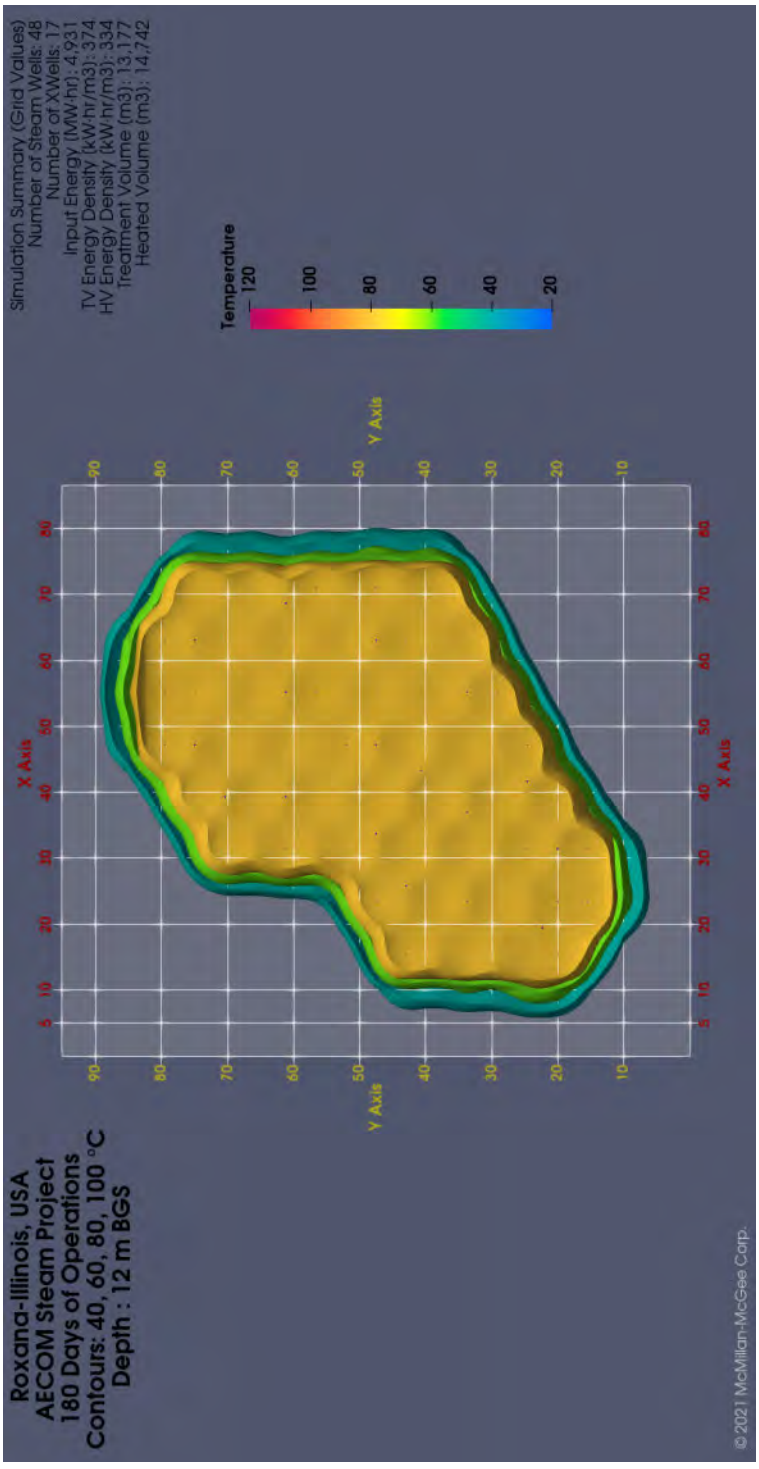


Figure B.15.: Area A 12 m BGS after 180 days.

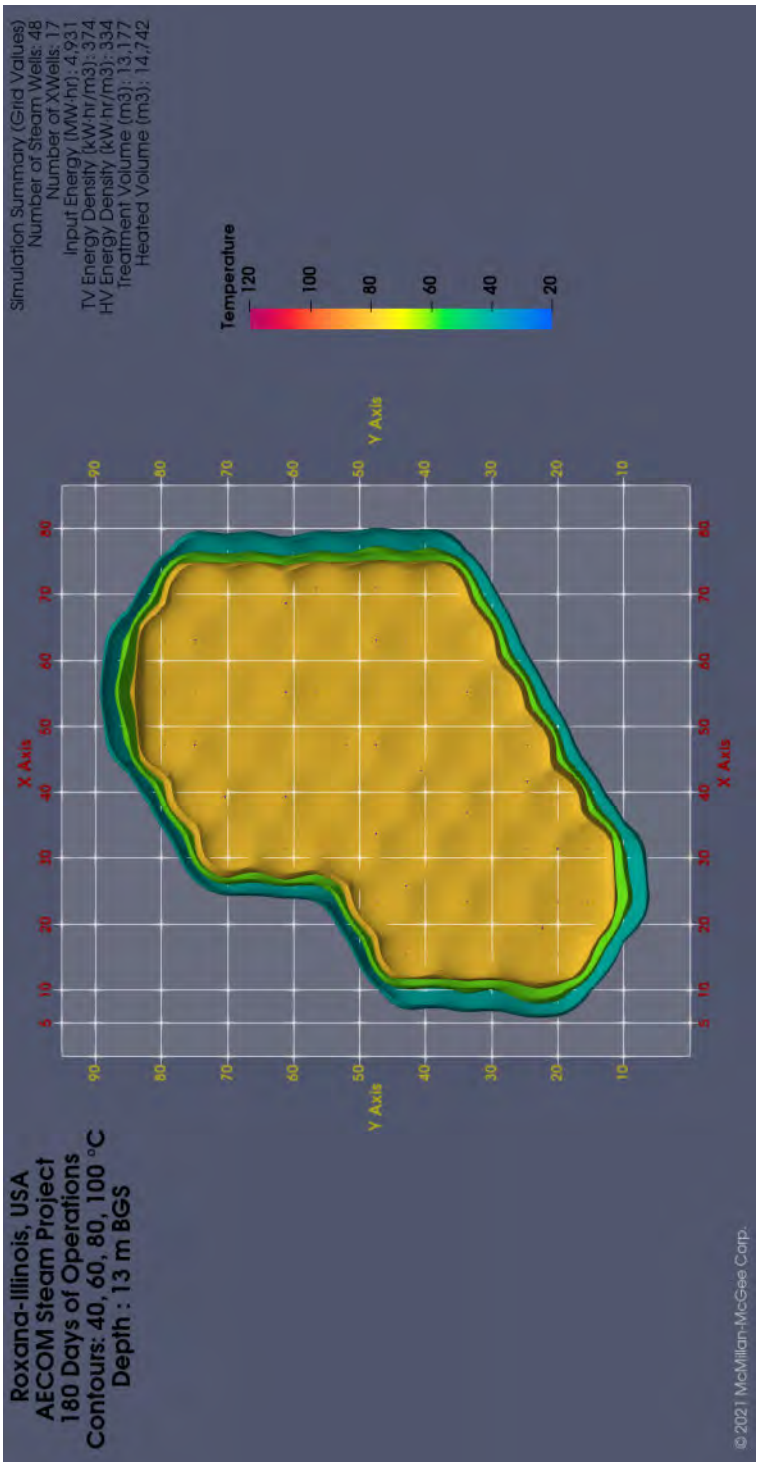


Figure B.16.: Area A 13 m BGS after 180 days.

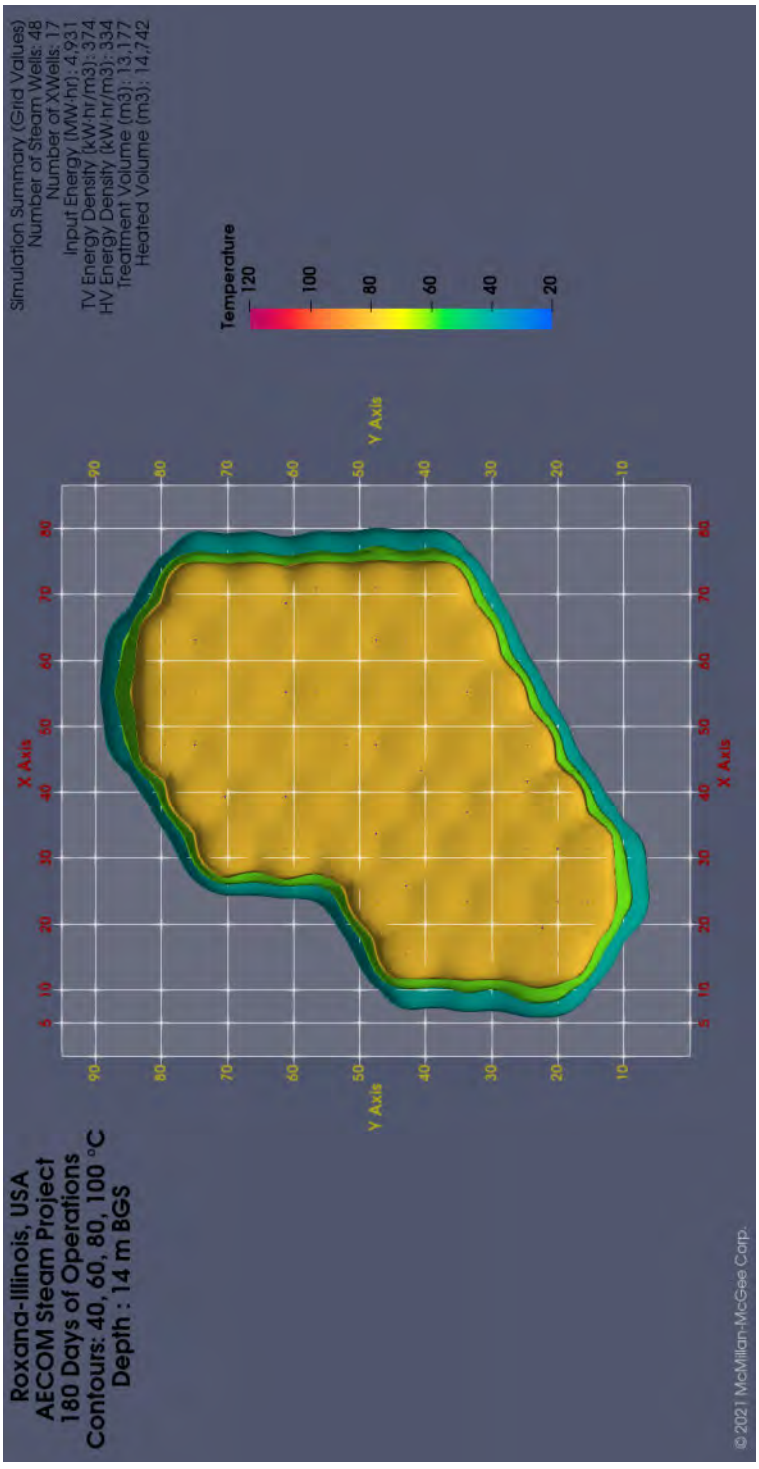


Figure B.17.: Area A 14 m BGS after 180 days.

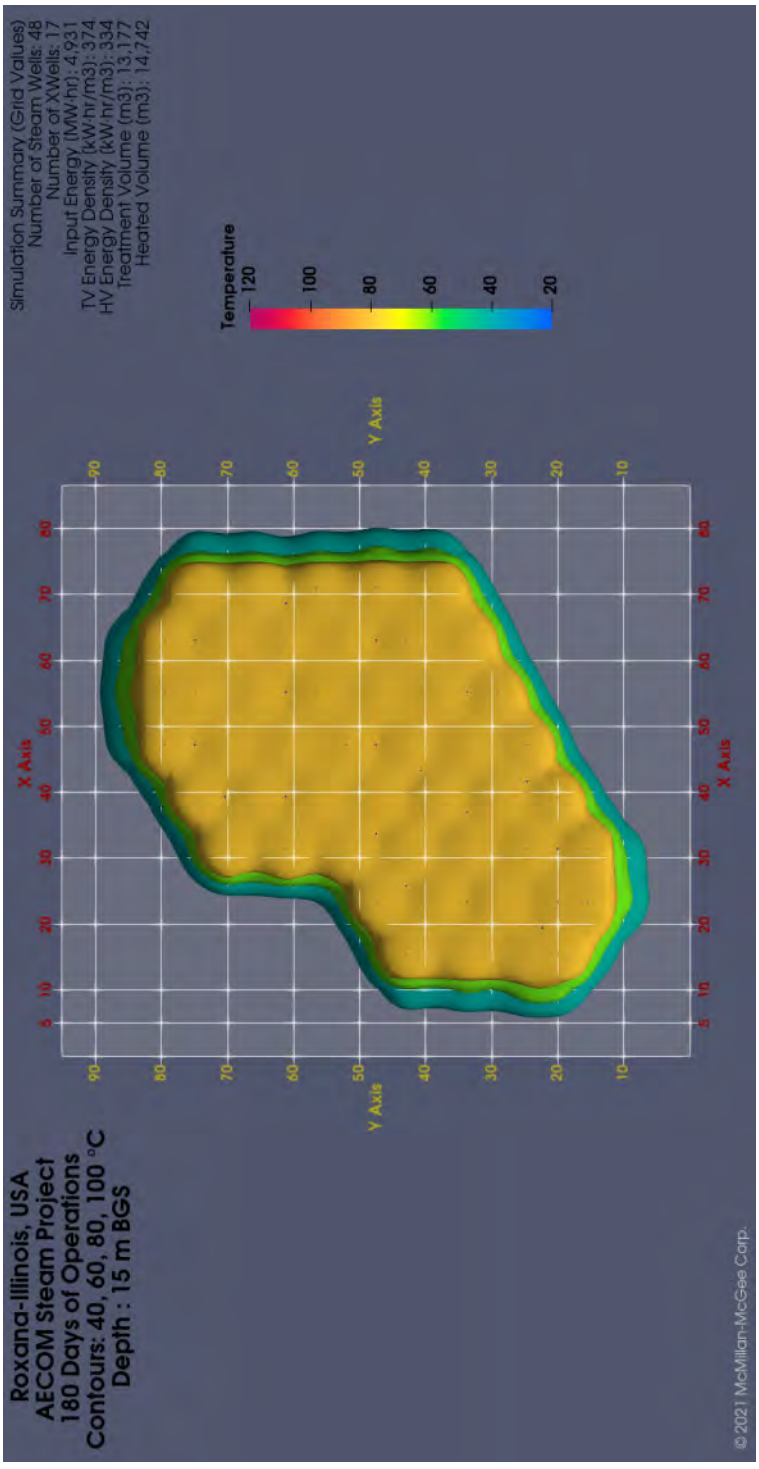


Figure B.18.: Area A 15 m BGS after 180 days.

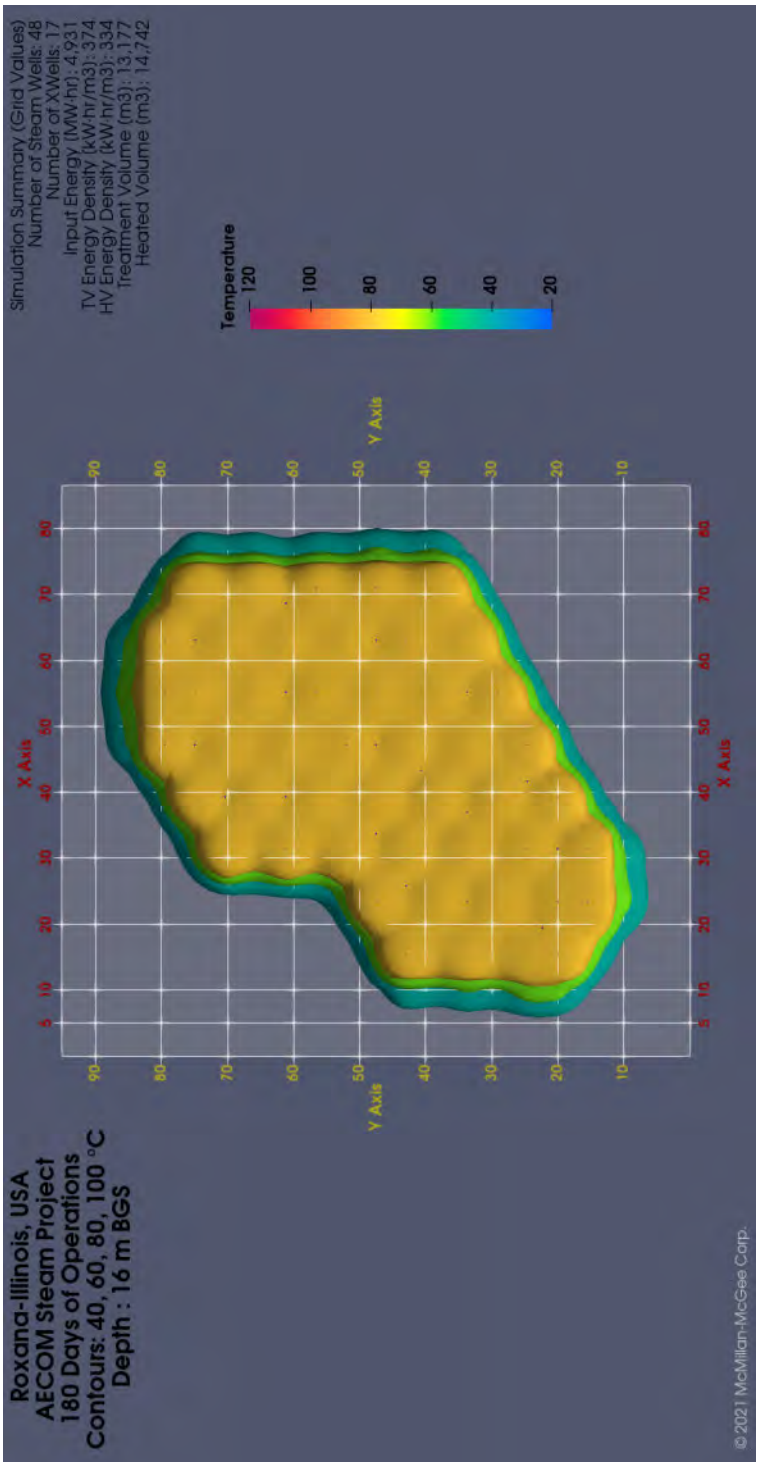


Figure B.19.: Area A 16 m BGS after 180 days.

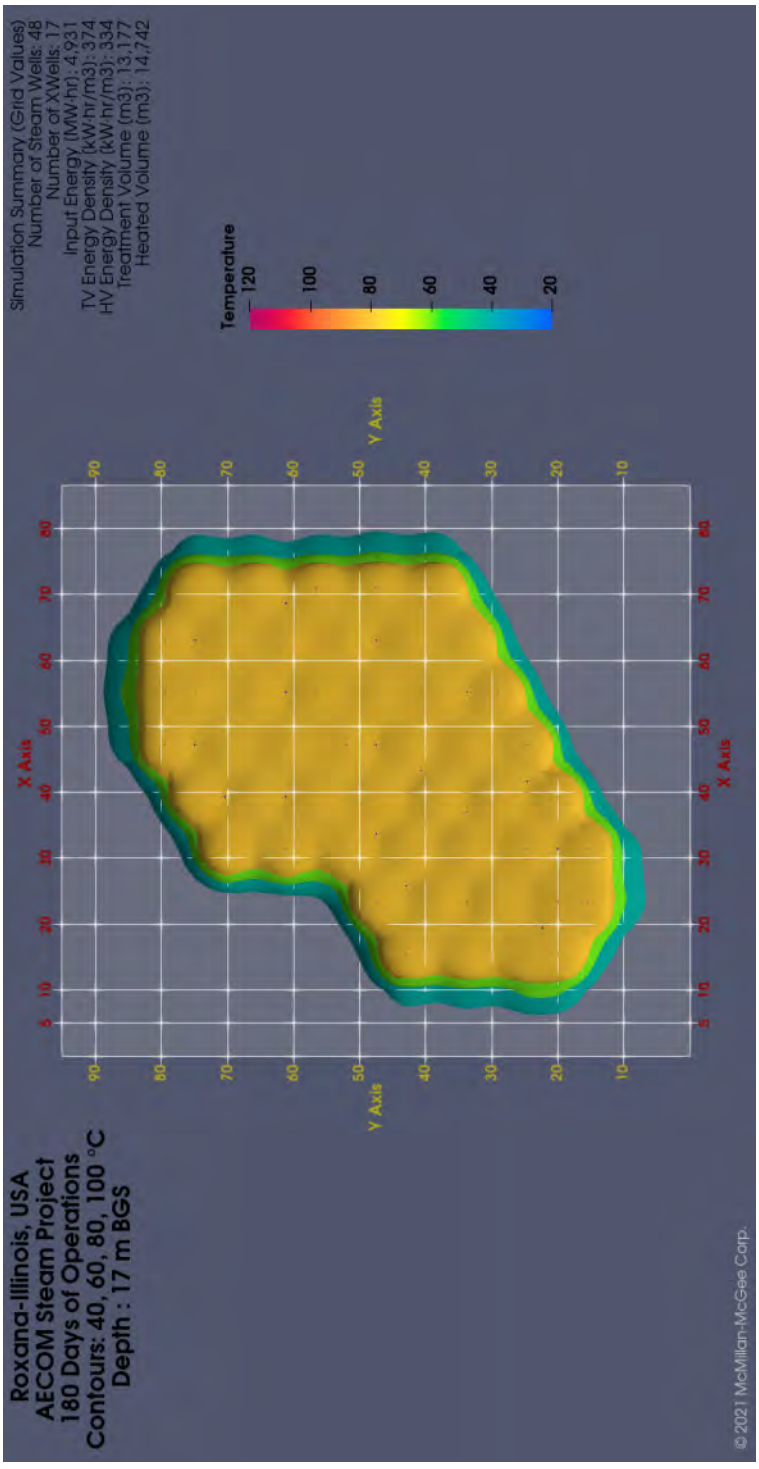


Figure B.20.: Area A 17 m BGS after 180 days.

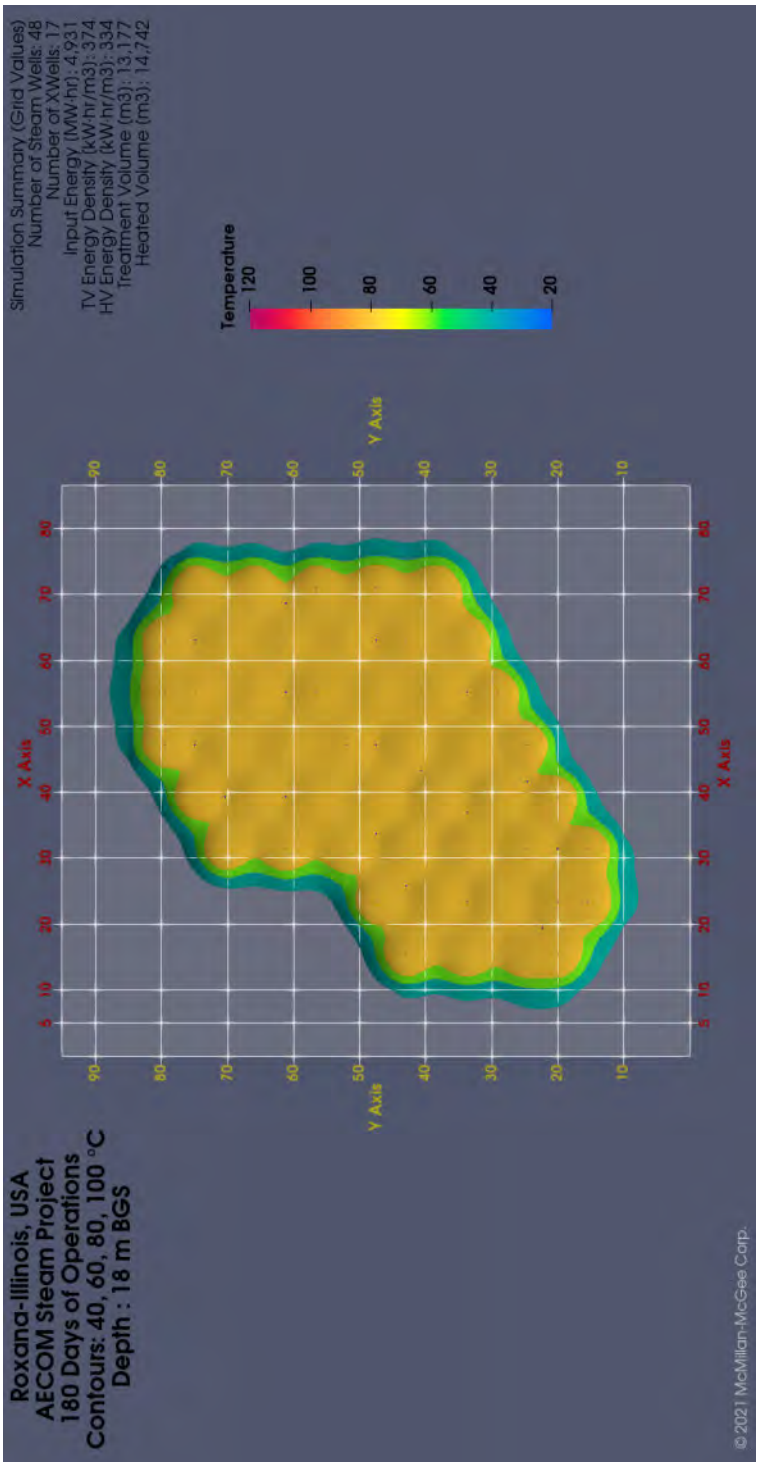


Figure B.21.: Area A 18 m BGS after 180 days.

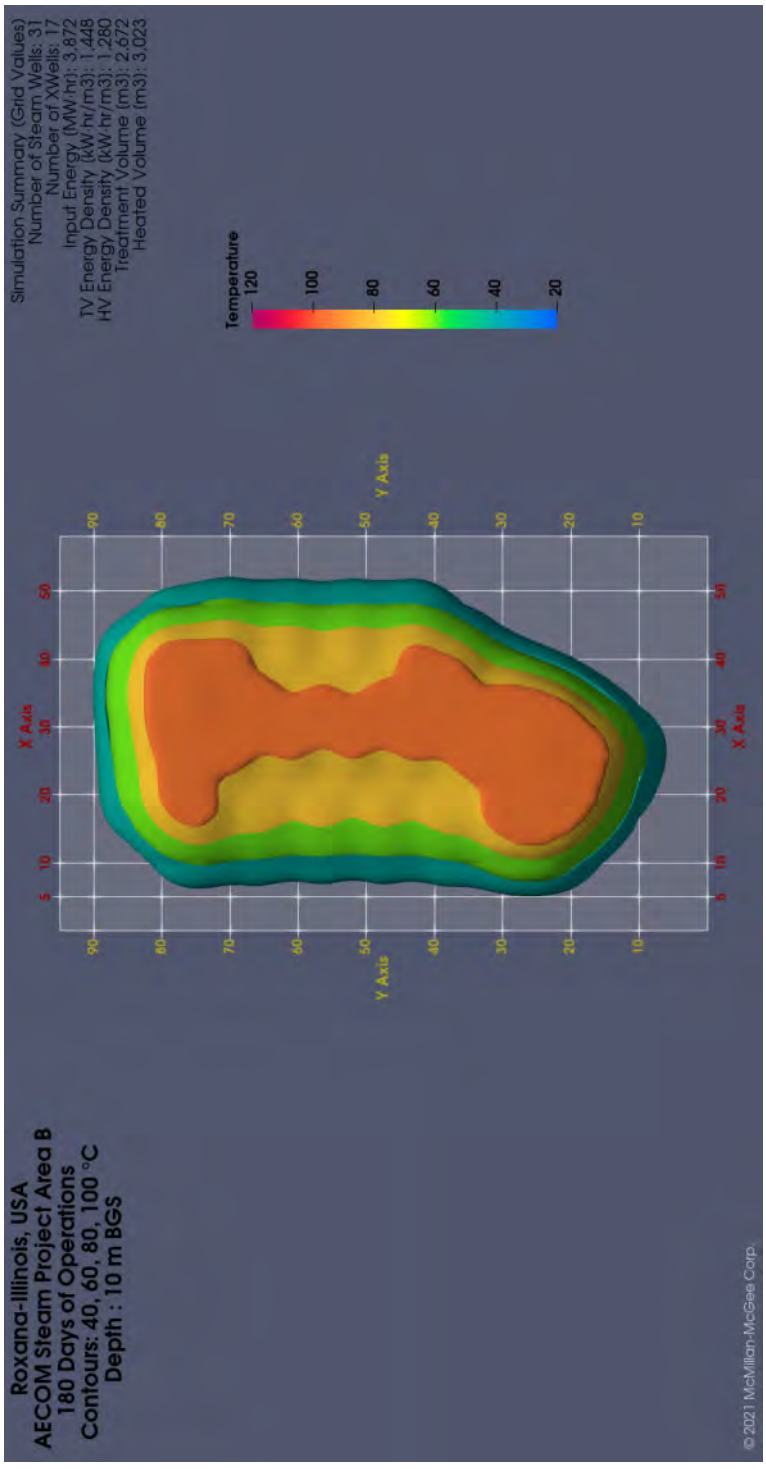


Figure B.22.: Area B 10 m BGS after 180 days.

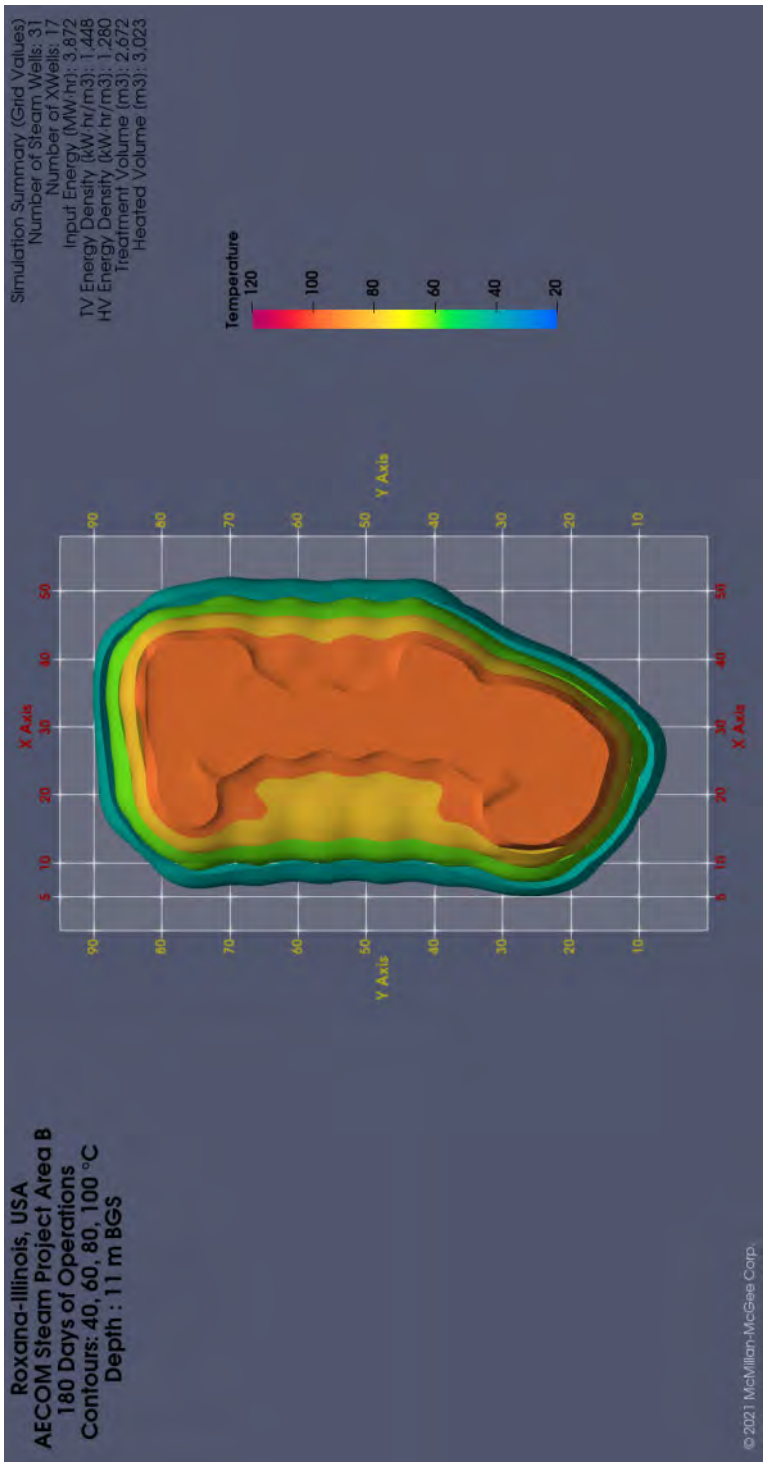


Figure B.23.: Area B 11 m BGS after 180 days.

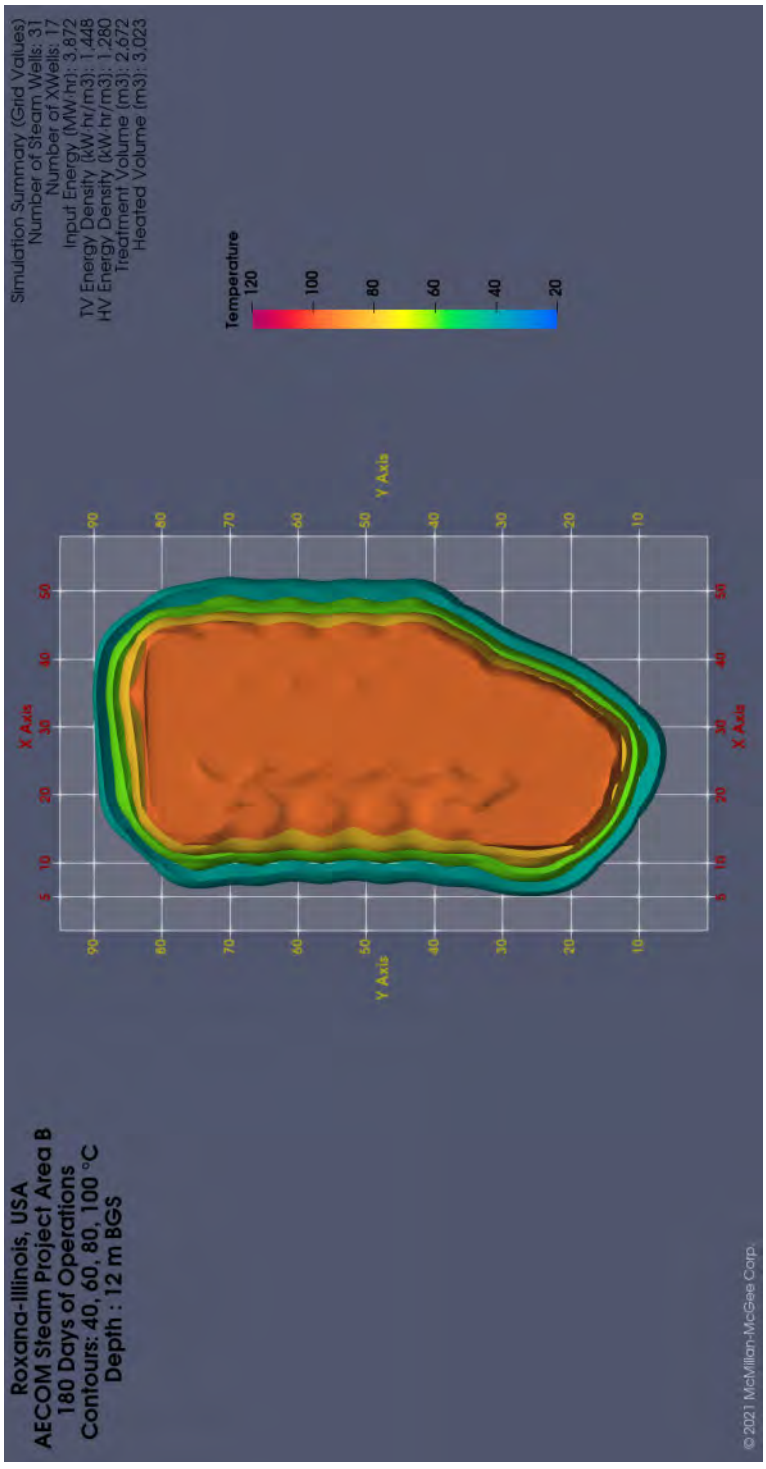


Figure B.24.: Area B 12 m BGS after 180 days.

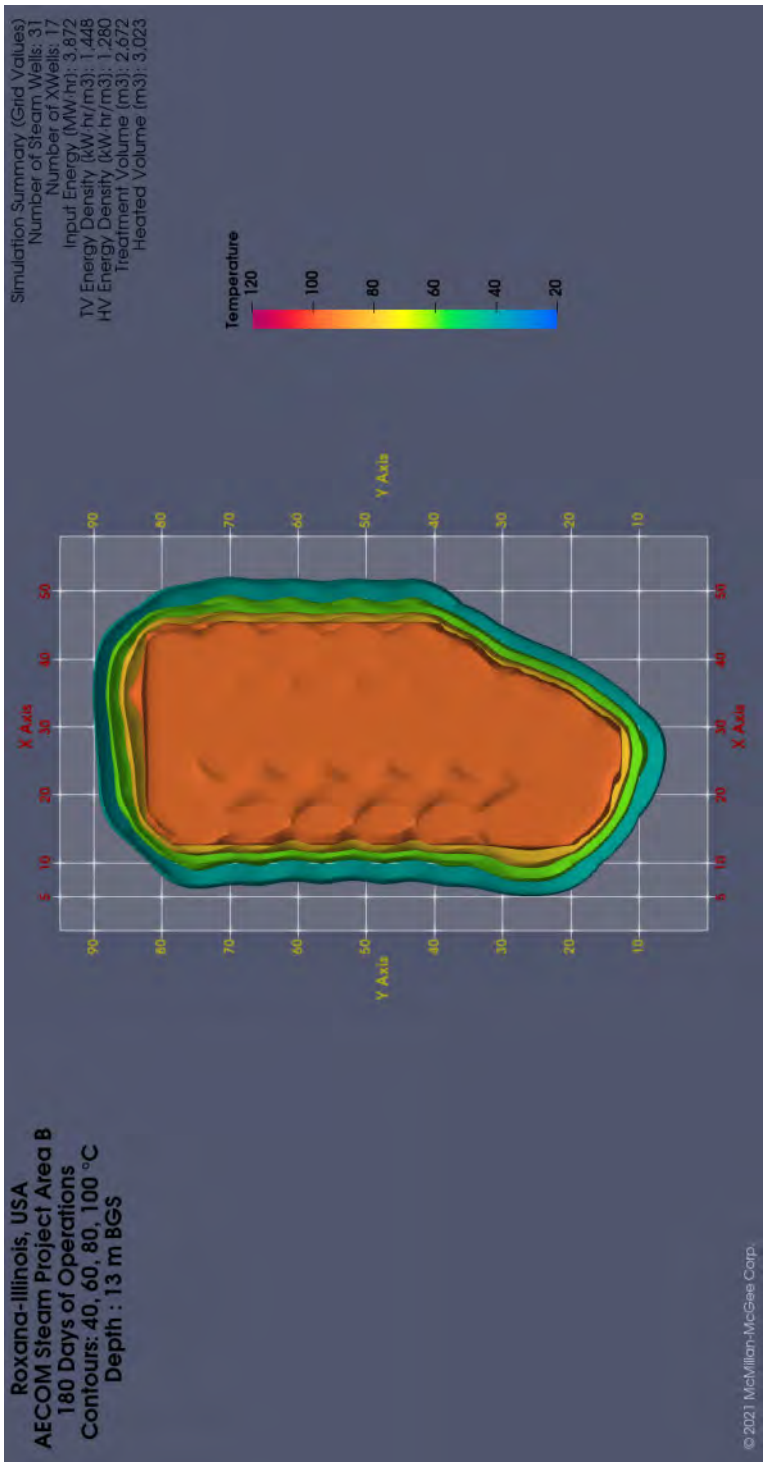


Figure B.25.: Area B 13 m BGS after 180 days.

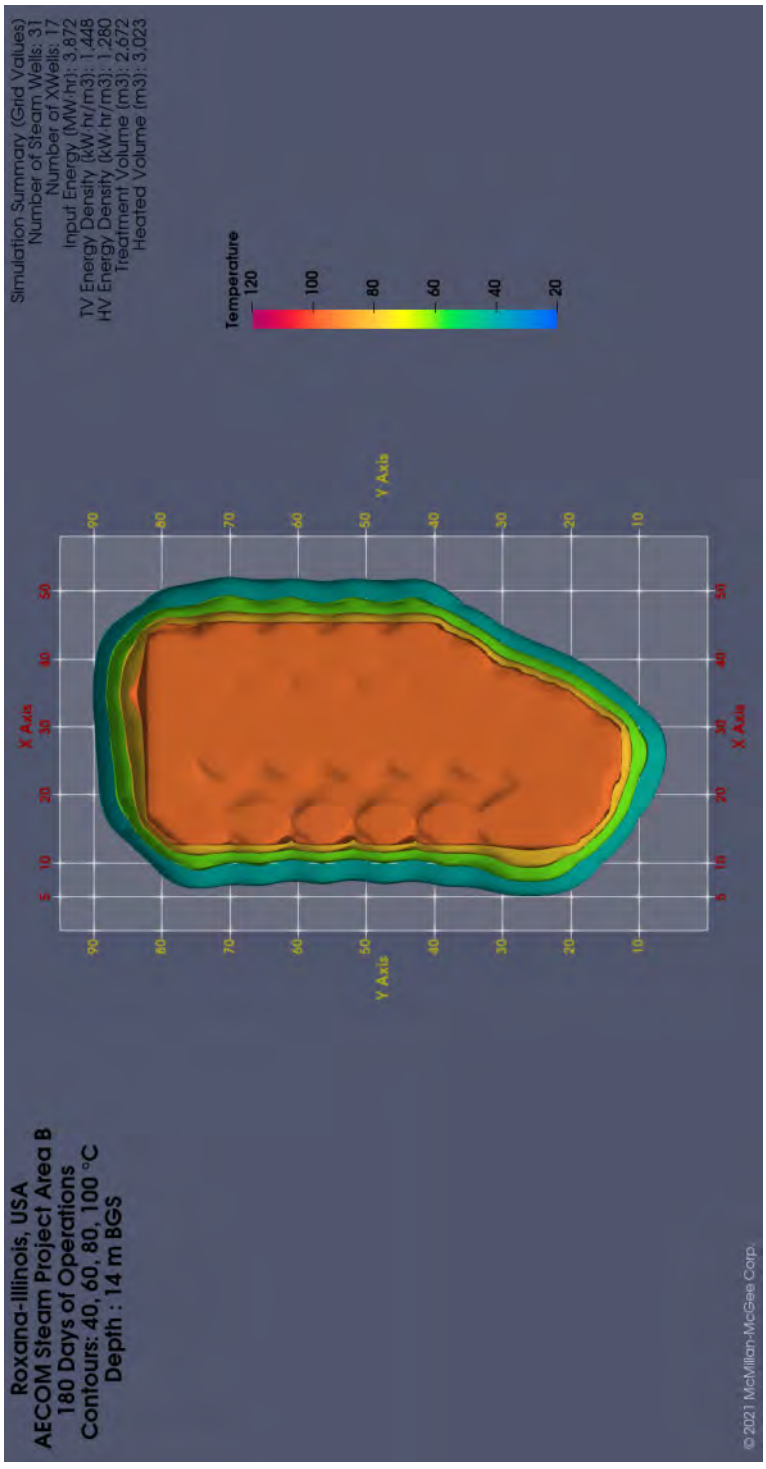


Figure B.26.: Area B 14 m BGS after 180 days.

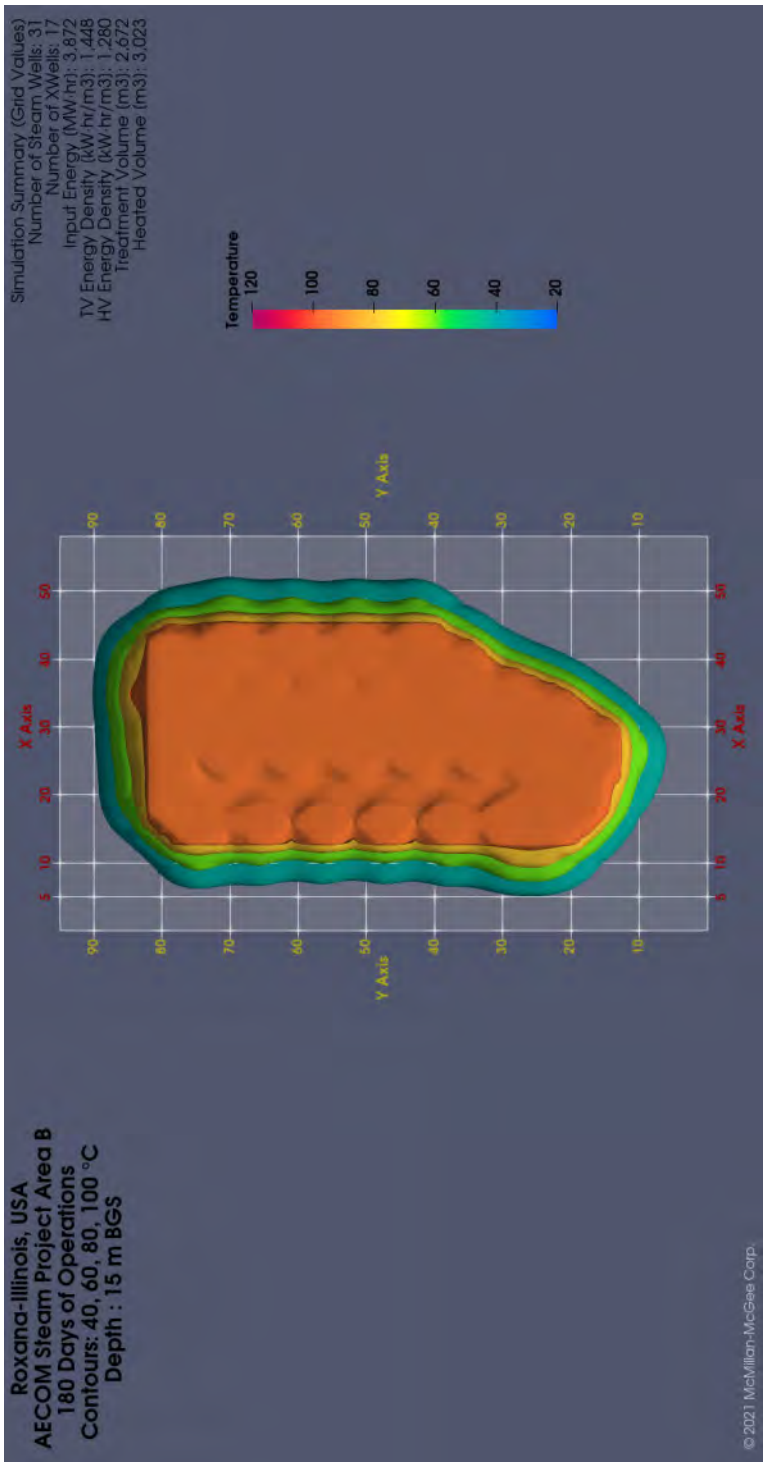


Figure B.27.: Area B 15 m BGS after 180 days.

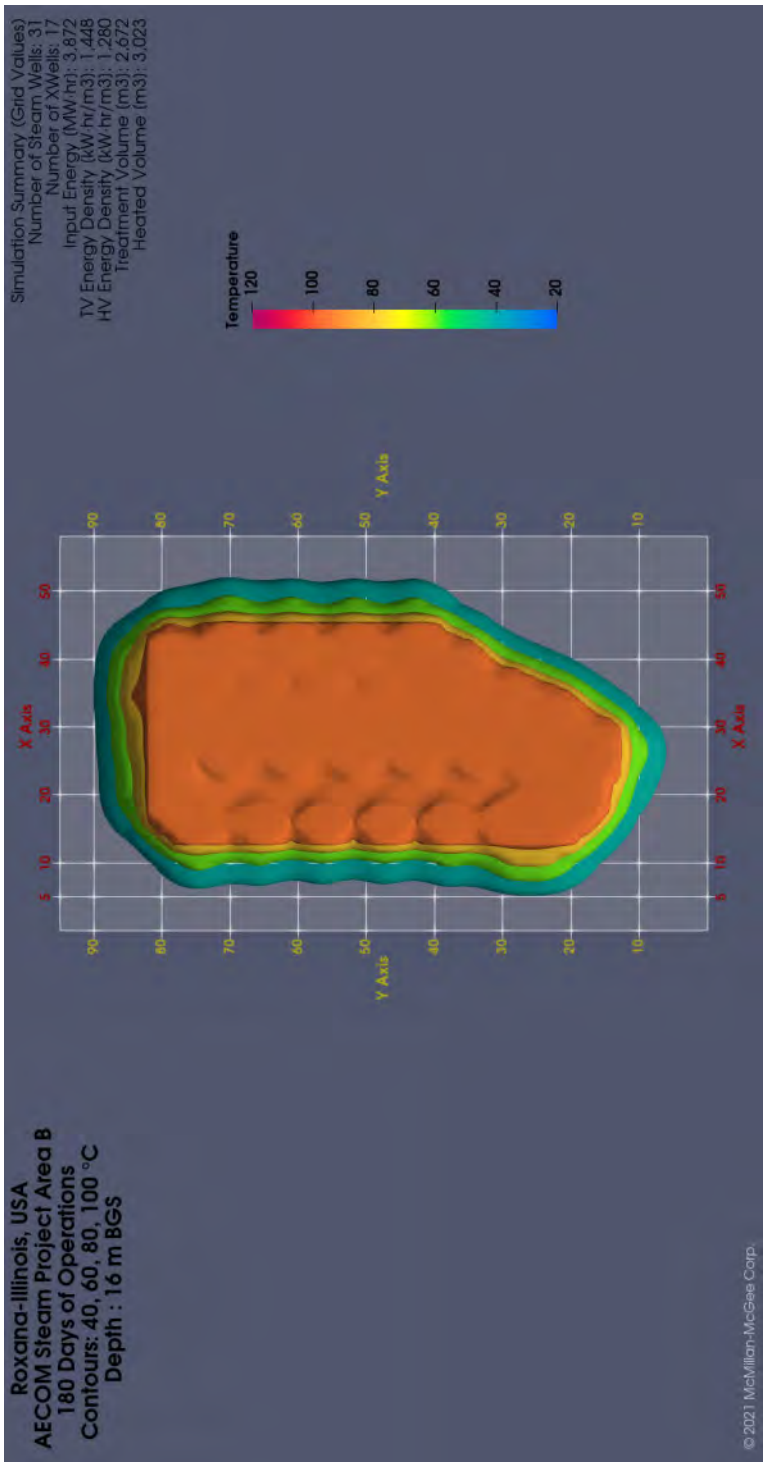


Figure B.28.: Area B 16 m BGS after 180 days.

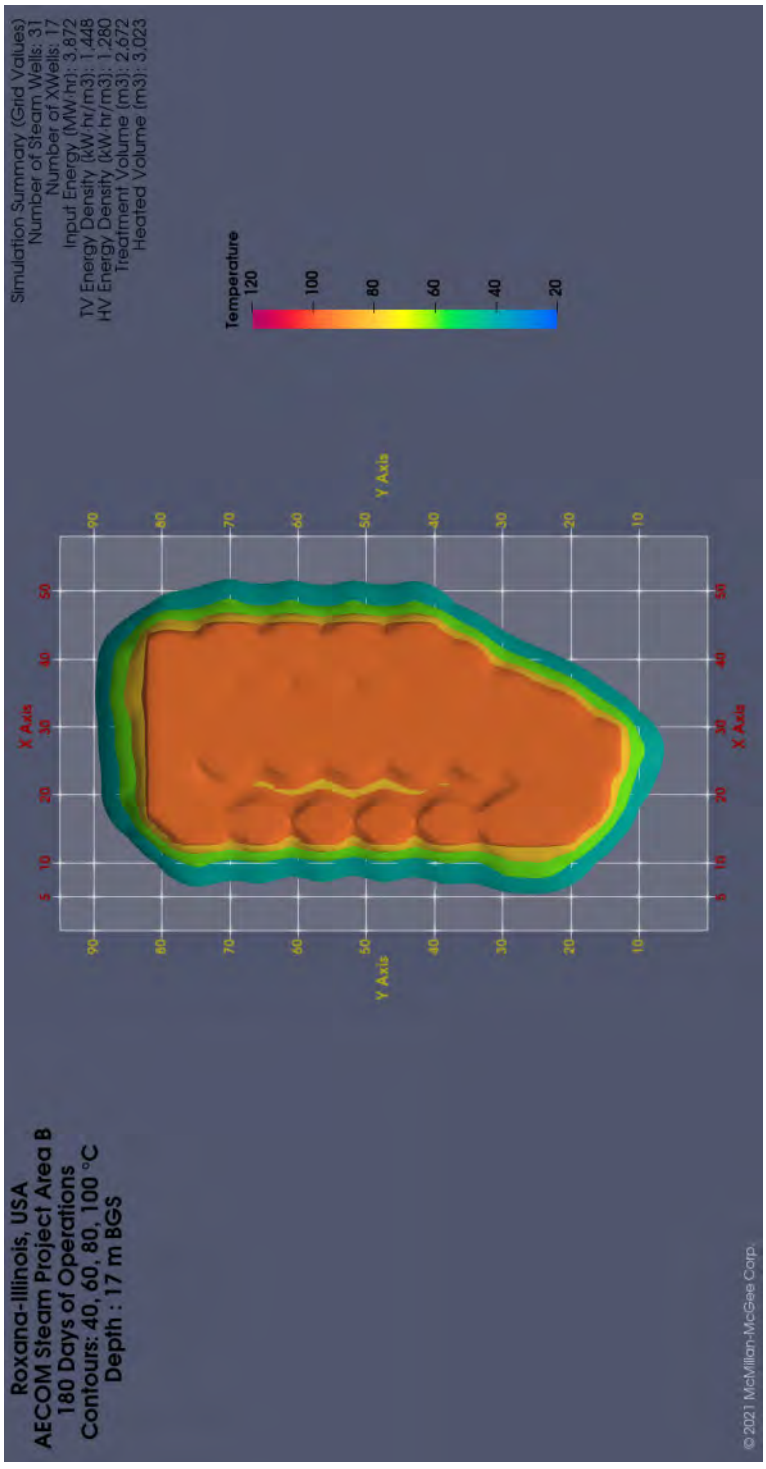


Figure B.29.: Area B 17 m BGS after 180 days.

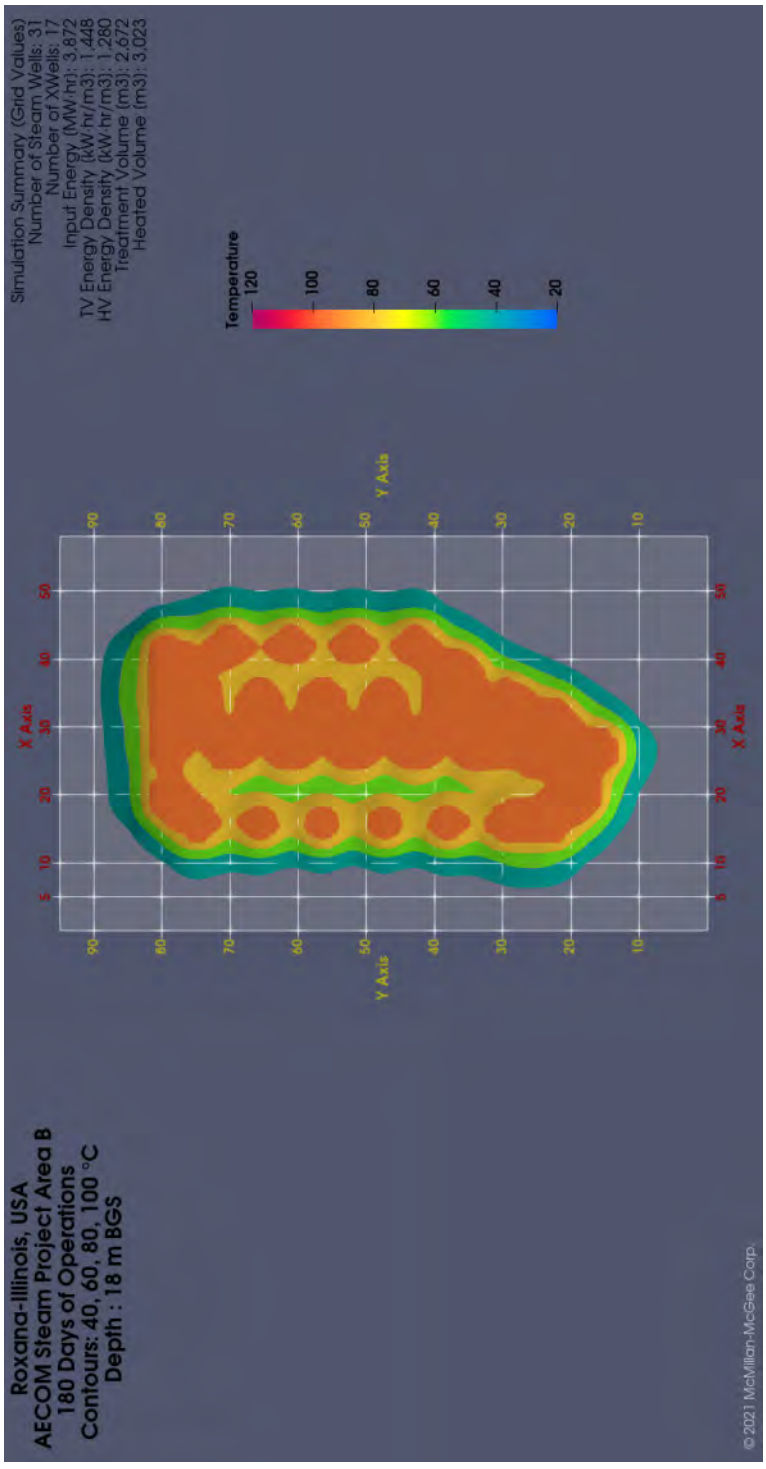


Figure B.30.: Area B 18 m BGS after 180 days.

C

Well-field Well Locations

Roxana Public Works Yard Well Summary							
Well		Location [m]		Top [m]	Bottom [m]	Length [m]	Completion
Name	Type	x	y	z	z		Code
'S001-U'	Steam	47.18	15.50	16.46	17.37	0.91	3
'S002-U'	Steam	55.09	15.50	16.46	17.37	0.91	3
'S003-U'	Steam	63.01	15.50	16.46	17.37	0.91	3
'S004-U'	Steam	39.26	20.07	16.46	17.37	0.91	3
'S005-U'	Steam	55.09	20.07	16.46	17.37	0.91	3
'S006-U'	Steam	70.93	20.07	16.46	17.37	0.91	3
'S007-U'	Steam	31.34	24.64	16.46	17.37	0.91	3
'S008-U'	Steam	47.18	24.64	16.46	17.37	0.91	3
'S009-U'	Steam	63.01	24.64	16.46	17.37	0.91	3
'S010-U'	Steam	39.26	29.22	16.46	17.37	0.91	3
'S011-U'	Steam	55.09	29.22	16.46	17.37	0.91	3
'S012-U'	Steam	70.93	29.22	16.46	17.37	0.91	3
'S013-U'	Steam	31.34	33.79	16.46	17.37	0.91	3
'S014-U'	Steam	47.18	33.79	16.46	17.37	0.91	3
'S015-U'	Steam	63.01	33.79	16.46	17.37	0.91	3
'S016-U'	Steam	39.26	38.36	16.46	17.37	0.91	3
'S017-U'	Steam	55.09	38.36	16.46	17.37	0.91	3
'S018-U'	Steam	70.93	38.36	16.46	17.37	0.91	3
'S019-U'	Steam	31.34	42.93	16.46	17.37	0.91	3
'S020-U'	Steam	47.18	42.93	16.46	17.37	0.91	3
'S021-U'	Steam	63.01	42.93	16.46	17.37	0.91	3
'S022-U'	Steam	23.42	47.50	16.46	17.37	0.91	3
'S023-U'	Steam	39.26	47.50	16.46	17.37	0.91	3
'S024-U'	Steam	55.09	47.50	16.46	17.37	0.91	3
'S025-U'	Steam	70.93	47.50	16.46	17.37	0.91	3
'S026-U'	Steam	15.50	52.08	16.46	17.37	0.91	3
'S027-U'	Steam	31.34	52.08	16.46	17.37	0.91	3

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Roxana Public Works Yard Well Summary							
Well		Location [m]		Top [m]	Bottom [m]	Length [m]	Completion
Name	Type	x	y	z	z		Code
'S028-U'	Steam	47.18	52.08	16.46	17.37	0.91	3
'S029-U'	Steam	63.01	52.08	16.46	17.37	0.91	3
'S030-U'	Steam	23.42	56.65	16.46	17.37	0.91	3
'S031-U'	Steam	39.26	56.65	16.46	17.37	0.91	3
'S032-U'	Steam	55.09	56.65	16.46	17.37	0.91	3
'S033-U'	Steam	70.93	56.65	16.46	17.37	0.91	3
'S034-U'	Steam	15.50	61.22	16.46	17.37	0.91	3
'S035-U'	Steam	31.34	61.22	16.46	17.37	0.91	3
'S036-U'	Steam	47.18	61.22	16.46	17.37	0.91	3
'S037-U'	Steam	63.01	61.22	16.46	17.37	0.91	3
'S038-U'	Steam	23.42	65.79	16.46	17.37	0.91	3
'S039-U'	Steam	39.26	65.79	16.46	17.37	0.91	3
'S040-U'	Steam	55.09	65.79	16.46	17.37	0.91	3
'S041-U'	Steam	15.50	70.36	16.46	17.37	0.91	3
'S042-U'	Steam	31.34	70.36	16.46	17.37	0.91	3
'S043-U'	Steam	47.18	70.36	16.46	17.37	0.91	3
'S044-U'	Steam	15.50	74.94	16.46	17.37	0.91	3
'S045-U'	Steam	23.42	74.94	16.46	17.37	0.91	3
'S046-U'	Steam	39.26	74.94	16.46	17.37	0.91	3
'S047-U'	Steam	23.42	79.51	16.46	17.37	0.91	3
'S048-U'	Steam	31.34	79.51	16.46	17.37	0.91	3
'X01'	Extraction	47.18	20.07	11.89	17.37	5.49	6
'X02'	Extraction	63.01	20.07	11.89	17.37	5.49	6
'X03'	Extraction	39.26	24.64	11.89	17.37	5.49	6
'X04'	Extraction	39.26	33.79	11.89	17.37	5.49	6
'X05'	Extraction	55.09	33.79	11.89	17.37	5.49	6
'X06'	Extraction	68.61	33.79	11.89	17.37	5.49	6
'X07'	Extraction	33.66	47.50	11.89	17.37	5.49	6
'X08'	Extraction	47.18	47.50	11.89	17.37	5.49	6
'X09'	Extraction	63.01	47.50	11.89	17.37	5.49	6
'X10'	Extraction	25.74	52.08	11.89	17.37	5.49	6
'X11'	Extraction	43.22	54.36	11.89	17.37	5.49	6
'X12'	Extraction	23.42	61.22	11.89	17.37	5.49	6
'X13'	Extraction	36.94	61.22	11.89	17.37	5.49	6
'X14'	Extraction	55.09	61.22	11.89	17.37	5.49	6
'X15'	Extraction	41.58	70.36	11.89	17.37	5.49	6
'X16'	Extraction	19.46	72.65	11.89	17.37	5.49	6
'X17'	Extraction	31.34	74.94	11.89	17.37	5.49	6

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Roxana Public Works Yard Well Summary							
Well		Location [m]		Top [m]	Bottom [m]	Length [m]	Completion
Name	Type	x	y	z	z		Code

Table C.1.: Summary of S-Wells and X-Wells.

Roxana Public Works Yard Well Summary							
Well		Location [m]		Top [m]	Bottom [m]	Length [m]	Completion
Name	Type	x	y	z	z		Code
'S001-U'	Steam	19.50	15.50	16.46	17.37	0.91	3
'S002-U'	Steam	26.86	15.50	16.46	17.37	0.91	3
'S003-U'	Steam	34.22	15.50	16.46	17.37	0.91	3
'S004-U'	Steam	40.59	15.50	16.46	17.37	0.91	3
'S005-U'	Steam	15.50	20.07	16.46	17.37	0.91	3
'S006-U'	Steam	34.22	20.07	16.46	17.37	0.91	3
'S007-U'	Steam	26.86	24.64	16.46	17.37	0.91	3
'S008-U'	Steam	42.59	24.64	16.46	17.37	0.91	3
'S009-U'	Steam	15.50	29.22	16.46	17.37	0.91	3
'S010-U'	Steam	34.22	29.22	16.46	17.37	0.91	3
'S011-U'	Steam	26.86	33.79	16.46	17.37	0.91	3
'S012-U'	Steam	42.59	33.79	16.46	17.37	0.91	3
'S013-U'	Steam	15.50	38.36	16.46	17.37	0.91	3
'S014-U'	Steam	34.22	38.36	16.46	17.37	0.91	3
'S015-U'	Steam	26.86	42.93	16.46	17.37	0.91	3
'S016-U'	Steam	42.59	42.93	16.46	17.37	0.91	3
'S017-U'	Steam	15.50	47.50	16.46	17.37	0.91	3
'S018-U'	Steam	34.22	47.50	16.46	17.37	0.91	3
'S019-U'	Steam	26.86	52.08	16.46	17.37	0.91	3
'S020-U'	Steam	42.59	52.08	16.46	17.37	0.91	3
'S021-U'	Steam	15.50	56.65	16.46	17.37	0.91	3
'S022-U'	Steam	34.22	56.65	16.46	17.37	0.91	3
'S023-U'	Steam	38.50	58.93	16.46	17.37	0.91	3
'S024-U'	Steam	26.86	61.22	16.46	17.37	0.91	3
'S025-U'	Steam	15.50	65.79	16.46	17.37	0.91	3
'S026-U'	Steam	34.22	65.79	16.46	17.37	0.91	3
'S027-U'	Steam	25.86	69.36	16.46	17.37	0.91	3
'S028-U'	Steam	15.50	71.36	16.46	17.37	0.91	3
'S029-U'	Steam	31.13	72.36	16.46	17.37	0.91	3
'S030-U'	Steam	19.50	76.36	16.46	17.37	0.91	3
'S031-U'	Steam	26.86	79.36	16.46	17.37	0.91	3
'X01'	Extraction	26.86	20.07	11.89	17.37	5.49	6
'X02'	Extraction	19.50	24.64	11.89	17.37	5.49	6

table continued on next page

continued from previous page

Roxana Public Works Yard Well Summary							
Well		*Location [m]*		*Top [m]*	*Bottom [m]*	*Length [m]*	*Completion*
Name	*Type*	*x*	*y*	*z*	*z*		*Code*
'X03'	Extraction	34.22	24.64	11.89	17.37	5.49	6
'X04'	Extraction	26.86	29.22	11.89	17.37	5.49	6
'X05'	Extraction	19.50	33.79	11.89	17.37	5.49	6
'X06'	Extraction	34.22	33.79	11.89	17.37	5.49	6
'X07'	Extraction	26.86	38.36	11.89	17.37	5.49	6
'X08'	Extraction	19.50	42.93	11.89	17.37	5.49	6
'X09'	Extraction	34.22	42.93	11.89	17.37	5.49	6
'X10'	Extraction	26.86	47.50	11.89	17.37	5.49	6
'X11'	Extraction	19.50	52.08	11.89	17.37	5.49	6
'X12'	Extraction	34.22	52.08	11.89	17.37	5.49	6
'X13'	Extraction	26.86	56.65	11.89	17.37	5.49	6
'X14'	Extraction	19.50	61.22	11.89	17.37	5.49	6
'X15'	Extraction	34.22	61.22	11.89	17.37	5.49	6
'X16'	Extraction	23.77	64.79	11.89	17.37	5.49	6
'X17'	Extraction	22.59	72.36	11.89	17.37	5.49	6

Table C.2.: Summary of S-Wells and X-Wells.

D

Convert Hydraulic Conductivity to Darcys

$$v = \frac{k}{\mu} \cdot \frac{\Delta P}{\Delta x} = \hat{k} \cdot \frac{\Delta H}{\Delta x} \quad \left[\frac{m}{s}\right]$$

$$\Delta P = \rho g \Delta H$$

$$\frac{k \rho g}{\mu} \cdot \frac{\Delta H}{\Delta x} = \hat{k} \cdot \frac{\Delta H}{\Delta x}$$

$$\mathrm{k} = 9.869233 \cdot 10^{-13}\,\mathrm{m}^2 \text{ per Darcy,}$$

Assume properties for water

$$\mu = 0.001\ \mathrm{kg} \cdot \frac{\mathrm{m}}{\mathrm{s}^2} \frac{1}{\mathrm{m}^2} \cdot \mathrm{s}$$

$$g = 9.8\ \frac{\mathrm{m}}{\mathrm{s}^2}$$

$$\rho = \rho_w = 1{,}000\ \frac{\mathrm{kg}}{\mathrm{m}^3}$$

$$\frac{k \rho g}{\mu} = 9.671848 \cdot 10^{-6}\ \left[\frac{m}{s}\right] = 9.671848 \cdot 10^{-4}\ \left[\frac{cm}{s}\right]$$

$$\therefore \quad 1\ \left[\frac{cm}{s}\right] \equiv\ 1{,}033.9285 \text{ Darcys}$$

Appendix C – Calculations & Additional Design Details

1. Energy Balance
2. Flow Meter Design
3. Steam Pipe Sizing
4. Extraction Pipe Sizing
5. IDW Calculations
6. Filter Pack Design
7. Flow Calculation
8. Electrical Load Calculation
9. Condensate Load Calculation
10. Fracture Pressure Estimate
11. Treatment Equipment Component List
12. Treatment System Mass Balance

System Sizing Calculations

Properties				
Component		**Value**	**Unit**	**Comments / Assumptions**
Heated Area				
	Area A	2,607	m2	Includes 3 feet halo around perimeter steam injection wells
	Area B	1,871	m2	
Heated Depth				
Area A		5.5	m	Surface 436 ft amsl; Top 397 ft amsl; Bottom 379 ft amsl
	Top	11.9	mBGS	
	Bottom	17.4	mBGS	
Area B		1.8	m	Surface 445 ft amsl; Top 395 ft amsl; Bottom 389 ft amsl
	Top	15.2	mBGS	
	Bottom	17.1	mBGS	
Heated Volume				
	Area A	14,302	m3	
	Area B	3,422	m3	
Heated Perimeter				
	Area A	209	m	
	Area B	167	m	
Depth of Groundwater		8	mBGS	25 to 37 ft BGS (used worst case scenario)
Porosity		36%		From AECOM Predesign Report
Solids volume		11,343	m3	
Porosity volume		6,381	m3	
Vadose zone volume		0	m3	
Initial saturation of vadose zone %V		25%	percent	
Saturated zone volume		17,724	m3	
Number of steam injection wells		81	ea	
Number of extraction wells		36	ea	
Soil weight		29,492,511	kg	2600 kg/m3
Water weight		6,367,830	kg	
Heat capacity, soil		2.00	kJ/kgC	
Heat capacity, water		4.18	kJ/kgC	
Heat capacity of soil in treatment zone		58,985,022	kJ/C	
Heat capacity of water in treatment zone		26,617,530	kJ/C	
Total heat capacity, whole TTZ		85,602,551	kJ/C	
Starting temperature of treatment zone		15	C	
Energy required to raise water to 100C		355	kJ/kg	
Energy required to raise soil to 100C		170	kJ/kg	
Groundwater heat of vapourization		2,256	kJ/kg	
Energy required to raise water to 100C		2,262,490,035	kJ	
Energy required to raise soil to 100C		5,013,726,839	kJ	
Total energy required to heat soil and water to 100C		7,276,216,874	kJ	

HEATUP <100C

Maximum Steam Injection Rate			
Boiler Horspower	366	hp	500 HP Boiler choosen based on availability and possible well additions during drilling (>1.25 SF)
Steam Quality	80	%	
Rate	4,576	kg/hr	
	56	kg/hr	
	125	lbs/hr	
Energy	10,326,176	kJ/hr	
Power	2,868	kW	
Estimated Steam Extraction			
Energy extracted as steam	20%		
	574	kW	
Extracted Water			
Extraction/Injection Ratio	2		
Extraction Rate	152	lpm	
Average Extracted Groundwater Temperature	58	C	
Extracted Water Energy	1,625,993	kJ/hr	
Power	452	kW	
Water Influx			
Width perpendicular to GW flow	143	m	Flow is west to east: 254 ft - Area A; 216 ft - Area B
Height perpendicular to GW flow	4	m	Weighted average
Depth of Groundwater	8	mBGS	
Hydraulic Conductivity	1 24E-02	cm/s	Horizontal HC - From AECOM Predesign Report
Hydraulic Gradient	3.E-03	I/l	From AECOM Predesign Report
Flux	2 E+01	m3/day	
	718	kg/hr	
Energy to heat influx water	255,060	kJ/hr	
Power	71	kW	
Conductive Heat Loss			Case at average extracted groundwater temperature
Area of sides, top, and bottom	10,407	m2	
Delta T	43	C	
Gradient Length	3.0	m	
Thermal Conductivity	2.5	W/mC	
Heat loss	369	kW	
Net energy input	1,404	kW	
Average heating rate per day	1.417	C per day	
Duration to heat to 100C	60	days	

MAINTAIN 100C

Days at temperature			
	120		180 day operations period
Steam Injection Rate			
Rate	2,226	kg/hr	
	27	kg/hr	
	61	lbs/hr	
Energy	5,022,378	kJ/hr	
Power	1,395	kW	
Estimated Steam Extraction			
Energy extracted as steam	20%		
	279	kW	
Extracted Water			
Extraction/Injection Ratio	2	E/I Ratio	
Extraction Rate	76	lpm	
Average Extracted Groundwater Temperature Difference	75	C	
Extracted Water Energy	1,116,480	kJ/hr	
Power	310	kW	
Water Influx			
Width perpendicular to GW flow	143	m	
Height perpendicular to GW flow	4	m	
Depth of Groundwater	8	mBGS	
Hydraulic Conductivity	1.E-02	cm/s	
Hydraulic Gradient	3.E-03	I/l	
Flux	2 E+01	m3/day	
	697	kg/hr	
Energy to heat influx water	247,656	kJ/hr	
Power	7 E+01	kW	
Conductive Heat Loss			Case at 100 C
Area of sides and bottom	10,407	m2	
Delta T	85	C	
Gradient Length	3.0	m	
Thermal Conductivity	2.5	W/mC	
Heat loss	737	kW	
Net Energy	0	kW	

Final Numbers

Heating Durations

Heating to 100C	60	days	
Maintain at 100 C	120	days	
Total operating time	180	days	With the contingency for heat losses and downtime
Total injected energy at well heads	8148341	kWHr	
Total energy input to boiler (83% boiler efficiency)	9817278	kWHr	

Maximum Vapour Extraction Rates

Steam production rate	915	kg/hr
Flow rate from steam if not condensed	1528.52	m3/hr
	899.65	SCFM
Non-condensable (air) to steam flow rate	1.00	
Non-Condensable Flow Rate	1528.52	m3/hr
	899.65	SCFM
Total Well field Vapour Flow Rate (air and steam)	3057.03	m3/hr
	1799.30	SCFM
	49.98	SCFM per well

Minimum Vapour Extraction Rates

Steam production rate	445	kg/hr
Flow rate from steam if not condensed	743.43	m3/hr
	437.57	SCFM
Non-condensable (air) to steam flow rate	1.00	
Non-Condensable Flow Rate	743.43	m3/hr
	437.57	SCFM
Total Well field Vapour Flow Rate (air and steam)	1486.86	m3/hr
	875.13	SCFM
	24.31	SCFM per well

Liquid Extraction Rate

Maximum	152	lpm
	40.22	gpm
	3475143.57	gallons
Minimum	76	lpm
	19.99	gpm
	3455031.737	gallons

Steam Injection

Maximum	4,576	kg/hr
	10090.95	lbs/hr
	124.58	lbs/hr
Minimum	2,226	kg/hr
	4907.97	lbs/hr
	60.59	lbs/hr

CWE Injection

1743716.06	gallons	First 60 days
1696194.446	gallons	120 remaining days
3439910 506	gallons	Total

ORIFICE CALCULATIONS FOR COMPRESSIBLE FLOW				
Parameter	Symbol	Unit	Data	Comments
Inlet pressure	P1	psig	150	Steam pressure supplied from boiler
Inlet density	rho	pcf	0.360766	Saturated steam @ 150 PSI
Flow rate	m	lb/h	180	
Orifice dia	d	inch	0.341474	
Pipe od	Do	inch	1.315	1.5" Schedule 40
Pipe wall	Dw	inch	0.13	
Pressure drop	DP	psi	5	
Pressure drop	DP	in H20	138.5379	
sp.ht ratio	k		1.33	https://www.engineeringtoolbox.com/specific-heat-ratio-d_608.html
CALCULATIONS				
Inlet pressure		psia	164.7	
Flow rate		lb/sec	0.0500	
Pipe ID	Di	inch	1.055	
Critical pressure ratio			0.540	
Flow critical			NO	
beta	d/D		0.323672	
Y			0.990554	
m		lb/sec	0.050776	

ASSUMPTIONS:

Steam Pressure	125 PSI-g	Kinematic Viscosity	2.08E-03 ft^2/min	Steam Flow Rate Total	10090.95 lb/hr
Steam Pressure	139.6959 PSI-a	Density	3.10E-01 lb/ft3	Steam Flow Rate Side B	4111.127542 lb/hr
Dynamic Viscosity	1.08E-05 lb/(ft*s)	Specific Volume	3.23E 00 ft^3/lb	Steam Flow Rate Per Injector	124.5796225 lb/hr

NODE FROM	NODE TO	#	COMPONENT TYPE	FLOW RATE (lb/h)	COMPONENT INSIDE DIAMETER (INCHES)	CROSS-SECTIONAL VELOCITY (FT/MIN)	CROSS-SECTIONAL VELOCITY (FT/S)	VELOCITY PRESSURE (" OF H20)	PIPE LENGTH (FEET)	FITTING LOSS COEFFICIENT Co	REYNOLD'S NUMBER (DIM)	ROUGHNESS E	FRICTION FACTOR (DIM)	PIPING PRESSURE LOSSES (" OF H20)	FITTING PRESSURE LOSSES (" OF H20)	COMBINED PRESSURE LOSSES (" OF H20)	SECTIONAL PRESSURE LOSSES (" OF H20)
		0	BOILER	0090.95													
		1	MAIN B SIDE	4111.13	3	4508.606404	75.14344007	5.229604789	5.1559		540847.32	0.00015	0.0 0536549	1.136401366	0	1.136401366	
		2	90 deg ELBOW	4111.13	3	4508.606404	75.14344007	5.229604789		0.3	540847.32	0.00015	0.0 0536549	0	1.568881437	1.568881437	
		3	MAIN B SIDE	4111.13	3	4508.606404	75.14344007	5.229604789	48.2893		540847.32	0.00015	0.0 0536549	10.64334578	0	10.64334578	
		4	TEE BRANCHED	4111.13	3	4508.606404	75.14344007	5.229604789		1	540847.32	0.00050	0.013223022	0	5.229604789	5.229604789	18.57823337
		5	MAIN	2784.96	2	6871.988793	114.5331466	12.1492399	4		549570.66	0.00015	0.011341752	3.307048002	0	3.307048002	
			TEE LATERAL	2784.96	2	6871.988793	114.5331466	12.1492399		0 2	549570.66	0.00015	0.011341752	0	2.429847979	2.429847979	
		6	MAIN	2660.38	2	6564.583811	109.4097302	11.08660609	8		524986.69	0.00015	0.011341752	6.035593806	0	6.035593806	
			TEE LATERAL	2660.38	2	6564.583811	109.4097302	11.08660609		0 2	524986.69	0.00015	0.011341752	0	2.217321219	2.217321219	
		7	MAIN	2535.80	2	6257.178829	104.2863138	10.07259465	12		500402.73	0.00015	0.011341752	8.225342727	0	8.225342727	
			TEE LATERAL	2535.80	2	6257.178829	104.2863138	10.07259465		0 2	500402.73	0.00015	0.011341752	0	2.0145 8929	2.0145 8929	
		8	MAIN	2411.22	2	5946.773847	99.16289745	9.10720556	12.8414		475818.76	0.00015	0.011341752	7.958457716	0	7.958457716	
			90 deg ELBOW	2411.22	2	5946.773847	99.16289745	9.10720556		0.3	475818.76	0.00015	0.011341752	0	2.732161668	2.732161668	
		9	MAIN	2411.22	2	5946.773847	99.16289745	9.10720556	4		475818.76	0.00015	0.011341752	2.479000021	0	2.479000021	
			TEE LATERAL	2411.22	2	5946.773847	99.16289745	9.10720556		0 2	475818.76	0.00015	0.011341752	0	1.821441112	1.821441112	
		10	MAIN	2286.64	2	5642.368865	94.03948108	8.1904 8831	12		451234.79	0.00015	0.011341752	6.688362714	0	6.688362714	
			TEE LATERAL	2286.64	2	5642.368865	94.03948108	8.1904 8831		0 2	451234.79	0.00015	0.011341752	0	1.6 8087766	1.638087766	
		11	MAIN	2162.06	2	5334.963883	88.91606471	7.322294461	12		426650.82	0.00015	0.011341752	5.9794 0683	0	5.9794 0683	
			TEE LATERAL	2162.06	2	5334.963883	88.91606471	7.322294461		0 2	426650.82	0.00015	0.011341752	0	1.464458892	1.464458892	
		12	MAIN	2037.48	2	5027.558901	83.79264834	6.50277245	12		402066.85	0.00015	0.011341752	5.310203969	0	5.310203969	
			TEE LATERAL	2037.48	2	5027.558901	83.79264834	6.50277245		0 2	402066.85	0.00015	0.011341752	0	1. 0055449	1.30055449	
		13	MAIN	1912.90	2	4720.153918	78.66923197	5.731872797	12		377482.88	0.00015	0.011341752	4.680682572	0	4.680682572	
			TEE LATERAL	1912.90	2	4720.153918	78.66923197	5.731872797		0 2	377482.88	0.00015	0.011341752	0	1.146374559	1.146374559	
		14	MAIN	1788.32	2	4412.748936	73.54581561	5.009595503	12.9779		352898.91	0.00015	0.011341752	4.4242 8021	0	4.4242 8021	
			90 deg ELBOW	1788.32	2	4412.748936	73.54581561	5.009595503		0.3	352898.91	0.00015	0.011341752	0	1.502878651	1.502878651	
		15	MAIN	1788.32	2	4412.748936	73.54581561	5.009595503	12		352898.91	0.00015	0.011341752	4.090866492	0	4.090866492	
			TEE LATERAL	1788.32	2	4412.748936	73.54581561	5.009595503		0 2	352898.91	0.00015	0.011341752	0	1.001919101	1.001919101	
		16	MAIN	1663.74	2	4 05.343954	68.42239924	4.335940567	12		328314.94	0.00015	0.011341752	3.540755729	0	3.540755729	
			TEE LATERAL	1663.74	2	4 05.343954	68.42239924	4.335940567		0 2	328314.94	0.00015	0.011341752	0	0.867188113	0.867188113	
		17	MAIN	1539.16	2	3797.938972	63.29898287	3.71090799	16		303730.97	0.00015	0.011341752	4.040467045	0	4.040467045	
			TEE LATERAL	1539.16	2	3797.938972	63.29898287	3.71090799		0 2	303730.97	0.00015	0.011341752	0	0.742181598	0.742181598	
		18	MAIN	1414.58	2	3490.53399	58.1755665	3.134497771	12		279147.00	0.00015	0.011341752	2.559650155	0	2.559650155	
			TEE LATERAL	1414.58	2	3490.53399	58.1755665	3.134497771		0 2	279147.00	0.00015	0.011341752	0	0.626899554	0.626899554	
		19	MAIN	1290.00	2	3 83.129008	53.05215013	2.606709911	12		254563.03	0.00015	0.011341752	2.128655343	0	2.128655343	
			TEE LATERAL	1290.00	2	3 83.129008	53.05215013	2.606709911		0 2	254563.03	0.00015	0.011341752	0	0.521341982	0.521341982	
		20	MAIN	1165.42	2	2875.724026	47.92873377	2.12754441	16		229979.07	0.00015	0.011341752	2.316487797	0	2.316487797	
			TEE LATERAL	1165.42	2	2875.724026	47.92873377	2.12754441		0 2	229979.07	0.00015	0.011341752	0	0.425508882	0.425508882	
		21	MAIN	1040.84	2	2568.319044	42.8053174	1.697001267	12		205395.10	0.00015	0.011341752	1.38578167	0	1.38578167	
			TEE LATERAL	1040.84	2	2568.319044	42.8053174	1.697001267		0 2	205395.10	0.00015	0.011341752	0	0.339400253	0.339400253	
		22	MAIN	916.26	2	2260.914062	37.68190103	1.315080483	12		180811.13	0.00015	0.011341752	1.073902809	0	1.073902809	
			TEE LATERAL	916.26	2	2260.914062	37.68190103	1.315080483		0 2	180811.13	0.00015	0.011341752	0	0.263016097	0.2630 6097	
		23	MAIN	791.68	2	1953.50908	32.55848466	0.981782057	16		156227.16	0.00015	0.011341752	1.068972353	0	1.068972353	
			TEE LATERAL	791.68	2	1953.50908	32.55848466	0.981782057		0 2	156227.16	0.00015	0.011341752	0	0.196356411	0.196356411	
		24	MAIN	667.10	2	1646.104098	27.43506829	0.697 0599	12		131643.19	0.00015	0.011341752	0.569261058	0	0.569261058	
			TEE LATERAL	667.10	2	1646.104098	27.43506829	0.697 0599		0 2	131643.19	0.00015	0.011341752	0	0.139421198	0.139421198	
		25	MAIN	542.52	2	1338.699116	22.31 65193	0.461052281	12		107059.22	0.00015	0.011341752	0.376498128	0	0.376498128	
			TEE LATERAL	542.52	2	1338.699116	22.31 65193	0.461052281		0 2	107059.22	0.00015	0.011341752	0	0.092210456	0.0922 0456	
		26	MAIN	417.94	2	1031.294133	17.18823556	0.273620931	12		82475.25	0.00015	0.011341752	0.223440535	0	0.223440535	
			TEE LATERAL	417.94	2	1031.294133	17.18823556	0.273620931		0 2	82475.25	0.00015	0.011341752	0	0.054724186	0.054724186	
		27	MAIN	293.36	2	723.8891514	12.06481919	0.13481194	13.3806		57891.28	0.00015	0.011341752	0.122753913	0	0.122753913	
		28	HOSE TO WELL	293.36	1	2895.556605	48.25927676	2.156991041	20		115782.56	0.00022	0.013988041	7.241298882	0	7.241298882	
																	109.3649652
																	127.9431986 IN.H2O
																	4.617554446 PSI

Pw = Pb - dP			
Pb =	150	125	PSI
dP =	4.617554446	4.617554446	PSI
%	3.08%	3.69%	

Max pressure drop:
20 %

EXTRACTION PIPING SIZING

ASSUMPTIONS: 0.017234995

Soil Gas Temperature	212	Degrees F	We Ihead Pressure	1	inHG
KINEMATIC VISCOSITY	1.44E-02	ft^2/min	DENSITY	3.66E-02	lb/ft^3

NODE FROM	NODE TO	#	COMPONENT TYPE	FLOW RATE (CFM)	COMPONENT INSIDE DIAMETER (INCHES)	CROSS-SECTIONAL VELOCITY (FT/MIN)	VELOCITY PRESSURE (" OF H20)	PIPE LENGTH (FEET)	FITTING LOSS COEFFICIENT Co	REYNOLD'S NUMBER (DIM)	ROUGHNESS E	FRICTION FACTOR (DIM)	PIPING PRESSURE LOSSES (" OF H20)	FITTING PRESSURE LOSSES (" OF H20)	COMBINED PRESSURE LOSSES (" OF H20)	SECTIONAL PRESSURE LOSSES (" OF H20)
		0	ATMOSPHERE													
		1	WELLHEAD	65.78	4	753.7633363	0.017279766		0.4	17448.23	0.00015	0.010016145	0	0.006911906	0.006911906	
		2	PIPE	65.7783	2	3015.053345	0.276476251	1		34896.45	0.00015	0.011341752	0.018814351	0	0.018814351	
		3	BALL VALVE	65.7783	2	3015.053345	0.276476251		0.01	34896.45	0.00015	0.011341752	0	0.002764763	0.002764763	
		4	HOSE	65.7783	1.5	5360.094836	0.873801483	15		46528.60	0.00050	0.01526327	1.600448116	0	1.600448116	
		5	TEE LATERAL	65.7783	2	3015.053345	0.276476251		0.5	34896.45	0.00015	0.011341752	0	0.138238125	0.138238125	1.767177261
		6	MAIN	65.7783	2	3015.053345	0.276476251	13		34896.45	0.00015	0.011341752	0.244586557	0	0.244586557	
		7	TEE MAIN	65.7783	2	3015.053345	0.276476251		0.13	34896.45	0.00015	0.011341752	0	0.035941913	0.035941913	
			MAIN	131.56	4	1507.526673	0.069119063	27		34896.45	0.00015	0.010016145	0.056076829	0	0.056076829	
		8	TEE MAIN	131.557	4	1507.526673	0.069119063		0.13	34896.45	0.00015	0.010016145	0	0.008985478	0.008985478	
			MAIN	197.33	4	2261.290009	0.155517891	19		52344.68	0.00015	0.010016145	0.088788312	0	0.088788312	
		9	TEE MAIN	197.33	4	2261.290009	0.155517891		0.13	52344.68	0.00015	0.010016145	0	0.020217326	0.020217326	
			MAIN	263.11	4	3015.053345	0.276476251	14		69792.90	0.00015	0.010016145	0.116307496	0	0.116307496	
		10	TEE MAIN	263.11	4	3015.053345	0.276476251		0.13	69792.90	0.00015	0.010016145	0	0.035941913	0.035941913	
			45 Deg Elbow	328.89	4	3768.816681	0.431994142		0.6	87241.13	0.00015	0.010016145	0	0.259196485	0.259196485	
			MAIN	328.89	4	3768.816681	0.431994142	50		87241.13	0.00015	0.010016145	0.649037368	0	0.649037368	
		11	TEE MAIN	328.89	4	3768.816681	0.431994142		0.13	87241.13	0.00015	0.010016145	0	0.056159238	0.056159238	
			MAIN	394.67	6	2010.035563	0.122878334	21		69792.90	0.00015	0.009345723	0.048232248	0	0.048232248	
		12	45 Deg Elbow	394.67	6	2010.035563	0.122878334		0.6	69792.90	0.00015	0.009345723	0	0.073727	0.073727	
			MAIN	855.117	6	4355.077054	0.576845511	15		151217.95	0.00015	0.009345723	0.161731149	0	0.161731149	
		13	TEE MAIN	1118.23	6	5695.100763	0.986439956		0.13	197746.55	0.00015	0.009345723	0	0.128237194	0.128237194	
			MAIN	1118.23	6	5695.100763	0.986439956	119		197746.55	0.00015	0.009345723	2.194120694	0	2.194120694	
		14	TEE LATERAL	2368.02	8	6783.870026	1.399661019		0.5	314068.06	0.00015	0.008910053	0	0.699830509	0.699830509	
			MAIN	2368.02	8	6783.870026	1.399661019	40		314068.06	0.00015	0.008910053	0.748263204	0	0.748263204	
		15	BLOWER	2368.02												5.625380913

Pw = Pb - dP

Pb =	12	10	8	6	4	2	in Hg
dP =	0.54375	0.543751227	0.543751227	0.543751227	0.543751227	0.543751227	in Hg
Pw =	11.4562	9.456248773	7.456248773	5.456248773	3.456248773	1.456248773	in Hg
	4.53%	5.44%	6.80%	9.06%	13.59%	27.19%	

Title: IDW Estimate
Project: Roxana Public Works Yard
Client: AECOM
Engineer: McMillan-McGee
Treatment:
Address: Roxana, Illinois
Last Updated: 03/12/2021
Version: REV A3
Notes: Sonic/HSA/rotary variable hole size

Assumptions:

1.8 Wet soil density (tons/yd^3)
4 Steam Injection Well Boring Diameter (inch)
8 Extraction Well Boring Diameter (inch)
4 Sensor Well Boring Diameter (inch)

Drilling Program

Item	Qty	Depth (ft)	Angle (deg.)	Length (ft)	Diameter (ft)	Volume (ft^3)	Notes
Steam Injection Wells	44	57.0	0.0	57 0	0.33	218 9	Area A
	25	57.0	0.0	57 0	0.33	124.4	Area B
	4	57.0	15.1	59.1	0.33	19.9	Area A Slanted
	8	57.0	7.6	57 5	0.33	39.0	Area B Slanted
MPE Wells	16	59.0	0.0	59 0	0.67	329 5	Area A
	14	59.0	0.0	59 0	0.67	288 3	Area B
	1	59.0	12.2	60.4	0.67	20.6	Area A Slanted
	5	59.0	17.6	61 9	0.67	103 0	Area B Slanted
Sensor Wells	9	60.0	0.0	60 0	0.33	47.1	Area A
	5	60.0	0.0	60 0	0.33	26.2	Area B
	1	60.0	14.9	62.1	0.33	5.2	Area A Slanted
	1	60.0	13.0	61 6	0.33	5.2	Area B Slanted
Contingency						**1.3**	
Total	**133**					**1595.5**	**cubic feet**
						59.1	**cubic yards**
						106.4	**tons**

Hydraulic Conductivity and Filter Pack Design

Roxana Public Works Yard

Boring	d_{10}	d_{30}	d_{50}	d_{60}	d_{100}	Units
PD-1-SB-51	0.122	0.254	0.3	0 325	4.75	mm
PD-4-SB-33	0.257	0.318	0.4	0.45	9.53	mm
PD-4-SB-60	0.338	0.486	0.6	0 648	4.75	mm
PD-5-SB-45	0.162	0.257	0.3	0 336	4.75	mm
PD-5-SB-57	0.251	0.340	0.5	0 526	9.53	mm
PD-6-SB-41	0.257	0.314	0.4	0.428	4.75	mm
PD-7-SB-43	0.22	0.292	0.4	0 381	4.75	mm
PD-7-SB-53	0.152	0.200	0.3	0 294	4.75	mm
PD-10-SB-44	0.179	0.274	0.3	0 354	4.75	mm
Average	**0.215**	**0.304**	**0.364**	**0.416**	**5.812**	**mm**

$$K = \frac{\rho g}{\mu} \frac{n^3}{(1-n)^2} \frac{{d_{50}}^2}{180}$$

Item	Symbol	Value	Units	Comments
Density	ρ	999.7	kg/m^3	Assumed
Dynamic Viscosity	μ	0.013077	g/cm/s	Assumed
Gravitational Acceleration	g	9.81	m/s^2	Assumed
Porosity	n	0.360	-	Measured
Grain Size, 10% passing	d_{10}	0.215	mm	Measured
Grain Size, 30% passing	d_{30}	0.304	mm	Measured
Median Grain Size	d_{50}	0.364	mm	Measured
Grain Size, 60% passing	d_{60}	0.416	mm	Measured
Grain Size, 100% passing	d_{100}	5.812	mm	Measured
Hydraulic Conductivity	K	6.28E-02	cm/s	Carman-Kozeny
Uniformity coefficient	C_u	1 9	-	d_{60}/d_{10}
Design filter pack, 30% passing	$d_{30,FP}$	3.039	mm	Use a multiplier of 10
Design filter pack, 60% passing	$d_{60,FP}$	4.298	mm	C_u of 2 for filter pack
Design filter pack, 90% passing	$d_{90,FP}$	5.556	mm	C_u of 2 for filter pack
Design well screen slot size	$d_{10,FP}$	0.085	inch	C_u of 2 for filter pack

McMillan-McGee Corporation

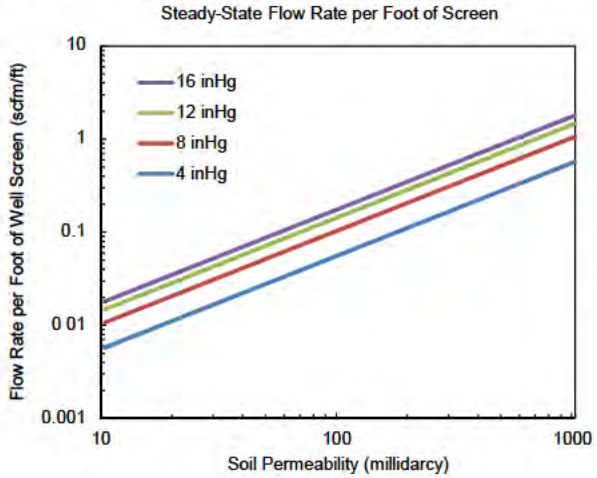
Vapor Flow Calculation

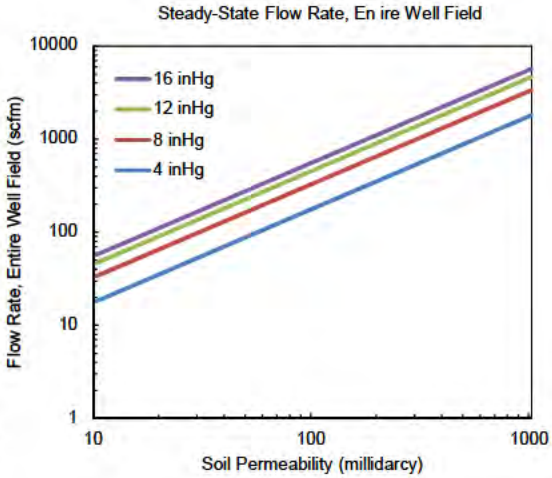
Item	Symbol	Value	Units	Comment
Input				
Vacuum at edge of treatment area	V_{edge}	0.00	in. of Hg	Es imated
Vacuum at X-Well	V_{well}	12.00	in. of Hg	Es imated
Exposed screen length	b	1.0	ft	Per unit length of screen
		0.3	m	
Hydraulic Conductivity	K	1.20E-02	cm/s	From Predesign Investigation Report (AECOM)
Permeability	k	12,396.7	mD	1 mD ~ 1.0E-6 cm/s
		1.18E-11	m^2	
Density of air	ρ_{air}	1.2	kg/m^3	
Gas Constant	R_{air}	287	$m^2/s^2{}^\circ K$	
Temperature	T_{air}	20	°C	Ambient temperature assumption
		293	°K	°K = °C + 273
Viscosity of air	μ_{air}	1.846E-05	kg/m·s	
Radial distance from X-Well	r_{edge}	20.50	ft	Based on extraction well layout
		6.2	m	
Radius of X-Well	r_w	0.0508	m	4" diameter well screen
Calculation of Flow Rate per Unit Length of Screen				
Pressure away from X-Well	P_{edge}	101,325.0	Pa ($kg/m·s^2$)	Calculated from vacuum at edge of treatment area
		101.3	kPa	
		0.0	in. of Hg	Input data
		0.0	in. of water	1 in. Hg = 13.6 in. water
		0.0	psi	1 in. Hg = 0.49 psi
Pressure at X-Well	P_{well}	60,688.2	Pa ($kg/m·s^2$)	Calculated from vacuum at X-Well
		60.7	kPa	
		12.0	in. of Hg	Input data
		163.2	in. of water	1 in. Hg = 13.6 in. water
		5.9	psi	1 in. Hg = 0.49 psi
Flow Rate per Linear Foot Screen	Q	**0.00829**	**m^3/s**	$Q = [-(P_{edge}^2-P_{well}^2)]*[(\Pi*b*k)/(\rho_{air}*R_{air}*T*\mu_{air}*\ln(r_{well}/r_{edge}))]$
		17.56	**ft^3/min**	
Calculation of Flow Rate for Entire Well Field				
Flow Rate	Q	**3.460**	**m^3/s**	Calculated 394 ft of well screen exposed in the vadose zone, based on ten years of water level observa ions
		7,328.4	**ft^3/min**	

Reference:

Johnson, P.C., C.C. Stanley, M.W. Kemblowski, D.L. Byers, and J.D. Colthart, 1990, "A practical approach to the design, operation, and monitoring of in situ soil venting systems," Ground Water Monitoring and Remediation, Spring, pp. 159-177.

Sensitivity Analysis





ROXANA SYSTEM POWER

Site Information	
JOB	
REV 0 2021-09-28	**Village of Roxana Public Works Yard (PWY)**
	Roxana, IL USA

	Blowers & Pumps		EQUIPMENT RATING					Kw Usage
	Equip. No.	Equipment Description	HP	Amps	Volts	Phase	kW	
	B-220A	Vacuum Pump	50	65.00	460	3	44.0	44.0
	B-220B	Vacuum Pump Backup	50	65.00	460	3	44.0	0.0
	B-430	Blower	5	7.60	460	3	5.1	5.1
	P-110	Liquids Pump out of KO-100	2.00	3.40	460	3	2.3	2.3
	P-150	Liquids Pump out of KO-140	1.00	1.80	460	3	1.2	1.2
	P-190	Liquids Pump out of KO-180	0.50	1.00	460	3	0.7	0.7
	P-260	Liquids Pump out of KO-250	0.50	1.00	460	3	0.7	0.7
	P-420	Liquids Pump out of OWS-400	2.00	3.40	460	3	2.3	2.3
	P-450	Liquids Pump out of AS-440	5.00	7.60	460	3	5.1	5.1
	P-530	Liquids Pump out of T-520	2.00	3.40	460	3	2.3	2.3
		TOTAL	118.00	159.20			107.69	63.72
	AIR Cooling		EQUIPMENT RATING					Kw Usage
	Equip. No.	Equipment Description	HP	Amps	Volts	Phase	kW	
	CT-120	Extraction Vapor Shell & Tube Exchanger Fan	15.00	21.00	460	3	14.2	14.2
	HE-120	Extraction Vapor Shell & Tube Exchanger Pump	5.00	7.60	460	3	5.1	5.1
	CT-480	Extraction Vapor Shell & Tube Exchanger Fan	15.00	21.00	460	3	14.2	14.2
	HE-480	Extraction Vapor Shell & Tube Exchanger Pump	5.00	7.60	460	3	5.1	5.1
	HE-240	Air-Air Heat Exchanger	7.50	11.00	460	3	7.4	7.4
		TOTAL	47.50	68.20	460	3	46.13	46.13
	STEAM		EQUIPMENT RATING					Kw Usage
	Equip. No.	Equipment Description	HP	Amps	Volts	Phase	kW	
		Blower Motor (460V / 3PH / 60HZ)	15.0	17.50	460	3	11.8	11.8
		Remote Pump (460V / 3PH / 60HZ)	0.75	1.15	460	3	0.8	0.8
		Compressor (460V / 3PH / 60HZ)	7.5	9.70	460	3	6.6	6.6
		Control (115V / 1PH / 60HZ)		6.00	115	1	1.0	1.0
		TOTAL	23.25	34.35			20.2	20.2
	Other Equipment		EQUIPMENT RATING					Kw Usage
	Equip. Number	Equipment Description	HP	Amps	Volts	Phase	kW	
	AC-300	Air Compressor	15.00	17.50	460	3	11.8	11.8
	CH-270	Refrigerated Chiller 12 Ton	20.00	27	460	3	18.3	18.3
		Site Trailer		100	208.0	3	30.6	30.6
		TOTAL		144.50			60.69	60.69
							TOTAL LOAD (Kw required for project)	**190.7**

Note: Only one of the Vacuum pumps (B-220A, B-220B) will operate during operations, the other one will be a backup in case of failure of the operating pump.

Condensate Load Calculations

HEAT UP				
Density of 3" Pipe	p3	7.58	lb/ft	
Density of 2" Pipe	p2	3.65	lb/ft	
Length of 3" Pipe	d3	167.0901	ft	
Length of 2" Pipe	d2	889.5114	ft	
Weight of 3" Pipe	W3	1266.543	lb	
Weight of 2" Pipe	W2	3246.717	lb	
Total Weight of Pipes	W	4513.26	lbs	
Specific Heat	SPH	4900	J/kg/C	
Specific Heat	SPH	4.644304	BTU/kg/C	
Specific Heat	SPH	2.106621	BTU/lb/C	
Specific Heat	SPH	1.170345	BTU/lb/F	
Temperature of Saturated Steam	T	366	F	
Temperature of Ambient Piping	t	50	F	
Minutes to Heat Up System	m	300	min	* based on heat up from CP Ogden
Latent Heat of Steam	L	847	BTUs/lb	
Quantity of Condensate, heat up	Q,w	394.1285	lbs/hr	

OPERATIONS				
Length of 3" Pipe	F3	167.0901	ft	
Heat Loss/ft 3" Pipe	HL3	77	BTU/ft/h	*with 2-5/32" insulation
Length of 2" Pipe	F2	889.5114	ft	
Heat Loss/ft 2" Pipe	HL2	60	BTU/ft/h	*with 2-5/32" insulation
Heat Loss 3" Pipe	HL3	12865.94	BTU/h	
Heat Loss 2" Pipe	HL2	53370.68	BTU/h	
Temp Difference	delT	316	F	
Multiplier (see chart)		1.15		
Latent Heat	L	847	BTU/lb	
Quantity of Condensate, operations	Q,r	89.93166	lbs/h	

MAXIMUM CONDENSATE LOAD			
Warm Up Condensate Load	Q,w	394.1285	lbs/h
Operational Condensate Load	Q,r	89.93166	lbs/h
Peak Condensate Load	Q,t	439.0943	lbs/h
Peak condensate load per trap		54.88679	

Fracture Pressure

Assumptions:

Soil Density 1.40E+03 kg/m3

AREA A			
Property	**Upper Value**	**Lower Value**	**Unit**
Density	1400	1400	kg/m3
Gravity	9.81	9.81	m/s2
Depth	60	39	ft BGS
Depth	18.29	11.89	m BGS
Fracture Pressure	251155.14	163250.84	Pa
Fracture Pressure	36.43	23.68	PSI

Area B			
Property	**Upper Value**	**Lower Value**	**Unit**
Density	1400	1400	kg/m3
Gravity	9.81	9.81	m/s2
Depth	60	50	ft BGS
Depth	18.29	15.24	m BGS
Fracture Pressure	251155.14	209295.95	Pa
Fracture Pressure	36.43	30.35	PSI

Equipment List

Tag	Description	Detailed Description
KO-100	KNOCK-OUT	3.5 FT DIA., 200 GAL BETWEEN HIGH AND LOW LEVEL
P-110	PUMP	50 GPM AT 50 FT HEAD GOULDS 150MS 1E5G6 OR EQUIVALENT
HE-120	SHELL & TUBE HEAT EXCHANGER	2E6 BTU/HR, ~975 FT^2 SA, 111GPM CW AIHT CS409646SPSTSSB OR EQUIVALENT
CT-130	COOLING TOWER	111 GPM CW, INLET: 113°F, OUTLET: 77°F EVAPCO AT17-2J9 OR EQUIVALENT
KO-140	KNOCK-OUT	2.5 FT DIA., 100 GAL BETWEEN HIGH AND LOW LEVEL
P-150	PUMP	10 GPM AT 50 FT HEAD GOULDS 100MS1C5E6 OR EQUIVALENT
HE-160	SHELL & TUBE HEAT EXCHANGER	1.5E5 BTU/HR, ~822 FT^2 SA, 19.7 GPM COOLANT AIHT CS409646SPSTSSB OR EQUIVALENT
CH-170	CHILLER	1.8E5 BTU/HR, 50% PROPYLENE GLYCOL/50% WATER RITETEMP RTS-1604 OR EQUIVALENT
KO-180	KNOCK-OUT	2.5 FT DIA., 100 GAL BETWEEN HIGH AND LOW LEVEL
P-190	PUMP	5 GPM AT 50 FT HEAD GOULDS 100MS1C5E6 OR EQUIVALENT
AF-200	AIR FILTER	FOR 4 IN. VAPOR LINE, 500 SCFM
V-210	BUTTERFLY VALVE	FOR 4 IN. VAPOR LINE
B-220A/B	VACUUM PUMP	891 SCFM, 21.5 LB/H, WATER VAPOR SUTORBILT LEGEND DSL 6LV OR EQUIVALENT
B-230	SILENCER	891 SCFM, 80 dB AT 5 FT HEAD
HE-240	FIN-FAN HEAT EXCHANGER	7.2E5 BTU/HR, ~1250 FT^2 SA XCHANGER AA-1000 OR EQUIVALENT
KO-250	KNOCK-OUT	2.5 FT DIA., 100 GAL BETWEEN HIGH AND LOW LEVEL
P-260	PUMP	5 GPM AT 50 FT HEAD GOULDS 100MS1C5E6 OR EQUIVALENT
VGAC-270	VAPOR GRANULAR ACTIVATED CARBON	MIN. 5 FT DIA., 5000 LB TETRASOLV VFV-5000 OR EQUIVALENT
VGAC-280	VAPOR GRANULAR ACTIVATED CARBON	MIN. 5 FT DIA., 5000 LB TETRASOLV VFV-5000 OR EQUIVALENT
AC-300	AIR COMPRESSOR	32 SCFM AT 150 PSIG KAESER SM-13 OR EQUIVALENT
OWS-400	OIL-WATER SEPARATOR	20 µM OIL DROPLET SEPARATION AT 50 GPM HYDROQUIP HQI-CLA-200LP-Q OR EQUIVALENT
T2-410	LNAPL TANK	250 GAL
P-420	PUMP	50 GPM AT 100 FT HEAD GOULDS 150MS 1H5A6 OR EQUIVALENT
B-430	BLOWER	1000 SCFM CINCINNATI FAN HP-6B18 OR EQUIVALENT
AS-440	AIR STRIPPER	A:W RATIO OF 89.8 QED EZ-12.6HF OR EQUIVALENT
P-450	PUMP	50 GPM AT 50 FT HEAD GOULDS 150MS 1E5G6 OR EQUIVALENT
BF-460A/B	BAG FILTER	TRADE SIZE 2 ROSEDALE MODEL 8-30 OR EQUIVALENT
BF-470A/B	BAG FILTER	TRADE SIZE 2 ROSEDALE MODEL 8-30 OR EQUIVALENT
HE-480	SHELL & TUBE HEAT EXCHANGER	2.02E6 BTU/HR, ~1000 FT^2 SA AIHT SRCS3214446SPSTSSB OR EQUIVALENT
CT-490	COOLING TOWER	113 GPM CW, INLET: 113°F, OUTLET: 77°F EVAPCO AT17-2J9 OR EQUIVALENT
LGAC-500	LIQUID GRANULAR ACTIVATED CARBON	3.6 FT DIA., 2000 LB TETRASOLV HPAF-2000 OR EQUIVALENT
LGAC-510	LIQUID GRANULAR ACTIVATED CARBON	3.6 FT DIA., 2000 LB TETRASOLV HPAF-2000 OR EQUIVALENT
T-520	TREATED WATER HOLDING TANK	5000 GAL
P-530	PUMP	50 GPM AT 50 FT HEAD GOULDS 150MS 1E5G6 OR EQUIVALENT

Roxana Mass Balance

	Extraction Well (Vapor)	Extraction Well (water)	Header Pipe A	Header Pipe B	Header Pipe C	Header Pipe D	K-100 Inlet	HE-120 Inlet	K-140 Inlet	HE 160 Inlet	KE 180 Inlet	B-220 Inlet	B-220A Outlet	B-220B Outlet	HE-240 Outlet	B-430 Outlet	KO-250 Inlet	VGAC 270 Inlet	VGAC 280 Inlet
Flow (gpm)		1.17	7.02	8.19	4.68	4.68	24.57	0	3.3523869	0	0.60343946	0	0	0	0	0	0	0	0
Water Vapor (lbs/hr)	58.78		55.52	277.59	943.81	1998.67	1998.67	1998.67	323.147025	323.147025	21.5479852	10.7739926	10.7739926	10.7739926	21.5479852	178.26	178.26	199.808	199.808
Flow (scfm)	52.73		65.78	328.89	1118.23	2368.02	2368.02	2368.02	2368.02	2368.02	2368.02	1184.01	1184.01	1184.01	2368.02	1000.00	1000.00	3368.02	3368.02
Temp (F)	212	212	212	212	212	212	185	185	95	95	41	41	112.6094	112.6094	95	86	113	100.3444	100.3444
Pressure (psi)	14.2	54.7	14.13	14.08	13.99	13.94	12.24	12.14	11.89	11.79	11.54	11.29	16.19	16.19	15.79	16.9	15.89	15.69	15.19
Pipe size	1.5"	0.5"	2"	4"	6"	8"	12"	12"	8"	8"	8"	8"	8"	8"	8"	6"	6"	8"	8"
Pipe material	Parker 7373T	PTFE	CS	CS	CS	CS	CS	CS	HDPE	HDPE	HDPE	CS	CS	CS	CS	HDPE	HDPE	CS	CS
Benzene ppmv	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	391.4	0	48.72794	391.4	0
Benzene lbs/hr	0.26930861	0	0.33596948	1.67983974	5.71147554	12.0949074	12.0949074	12.0949074	12.0949074	12.0949074	12.0949074	6.0474537	6.0474537	6.0474537	12.0949074	0	0.636574	12.09491	0

	Extraction Well (water)	P-110 Inlet	P-190 Inlet	P-150 Inlet	OWS-400 Inlet	P-420 Inlet	P-450 Inlet	BF-460A Inlet	BF-460B Inlet	LGAC-500 Inlet	LGAC-510 Inlet
Flow (gpm)	1.17	40.2	0.60343946	3.3523869	44.1558264	44.1558264	44.1558264	44.1558264	44.1558264	44.1558264	44.1558264
Temp (F)	212	180	45	95	120	120	110	110	110	86	86
Pressure (psi)	54.7	12.6729004	11.9729004	12.3229004	14.69595	15.1288504	16.2051515	45	45	6	3
Pipe size	0.5"	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Pipe material	PTFE	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose	Petroleum resistant hose
Benzene ppmv	31.627818	31.627818	0	0	28.7943492	28.7943492	28.7943492	28.7943492	28.7943492	1.43971746	0
Benzene lbs/hr	0.01852716	0.63657407	0	0	0.63657407	0.63657407	0.63657407	0.63657407	0.63657407	0.0318287	0

Appendix D – Equipment Cut Sheets

1. digiTAM™ Temperature Acquisition Module
2. Steam Boiler
3. Generator (TBD at time of install)
4. PDP
5. Pitot Tube (Well Head Measurements)
6. Treatment System Cut Sheets

McMillan McGee Corp.
digiTAM™ Temperature Acquisition Module



digiTAM ™
Sensor String Specifications

Temperature	Principle	Integrated silicon temperature sensors
	Range Accuracy Resolution	-55 to 125°C ±0.7 °C ±0.125 °C
Environmental	Media compatibility	Air, water, steam, fuels, oils (Contact Mc² for specific contaminants)
	Wetted material	Gasoline Hose or Stainless Steel
Dimensions	Bottom Seal	1-1/16" (max)
	Cable	1/2 "
	Sensor interval (typ)	3.0 ft or 1.0 m
Weight	Cable	50g/ft.
Connection	Power	External supply, 3.0 to 5.5 V DC; no batteries needed Power consumption of 7.5 mW per sensor during measurement
	Communication	Data acquisition occurs using Mc²'s 3 line digital serial bus Individual temperature measurements occur within 750 ms Data immediately accessible via the internet
	Sensor string	Placed in a drop-tube at required depth and anchored to surface
	Data server	Data lines connected with CAT5 cable Connects to site server through Mc² communication hub

Networking
Multiple digiTAMs are accessed from a data server using Mc²'s communication protocols. Temperatures are immediately accessible via the Internet.

Easily Powered
DigiPAMs require only 7.5 mW of power per sensor during temperature conversions. External power supply over the 3 line digital bus means no batteries are required.

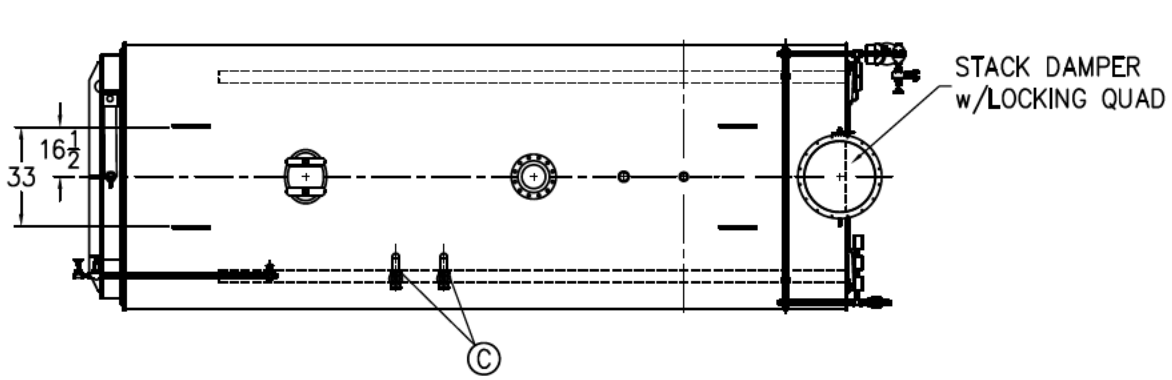
Digital at the Source
The temperatures are converted directly to digital signals to limit the effects of high electromagnetic interference due to thermal remediation systems. DigiTAMs and digiPAM pressure sensors are connected on the same digital bus for simple installation, automated process monitoring and real-time data access.

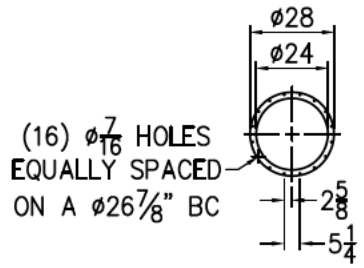
Instantaneous Temperature Profiling
The digiTAM strings make use of multiple temperature sensors on a common 3 line digital bus. Typically 30 temperature sensors are embedded in the Santoprene cable at 2.5 ft intervals. Thus a complete temperature profile is obtained for a narrow borehole within seconds.

Extreme Environments
DigiTAMs are fully submersible and measure temperatures of up to 125°C. The sensor is compatible with most chemical contaminants seen at remediation sites.

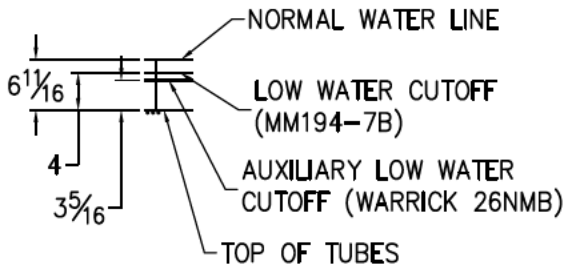
Fast Installation
DigiTAMs are simply lowered into a monitoring well and anchored to the surface. The sensor is linked to the data server using standard CAT5 network cable and Mc²'s communication.

McMillan-McGee Corp.
4895 35B. St. SE. Calgary, Ab. Canada. T2B 3M9
www.mcmillan-mcgee.com

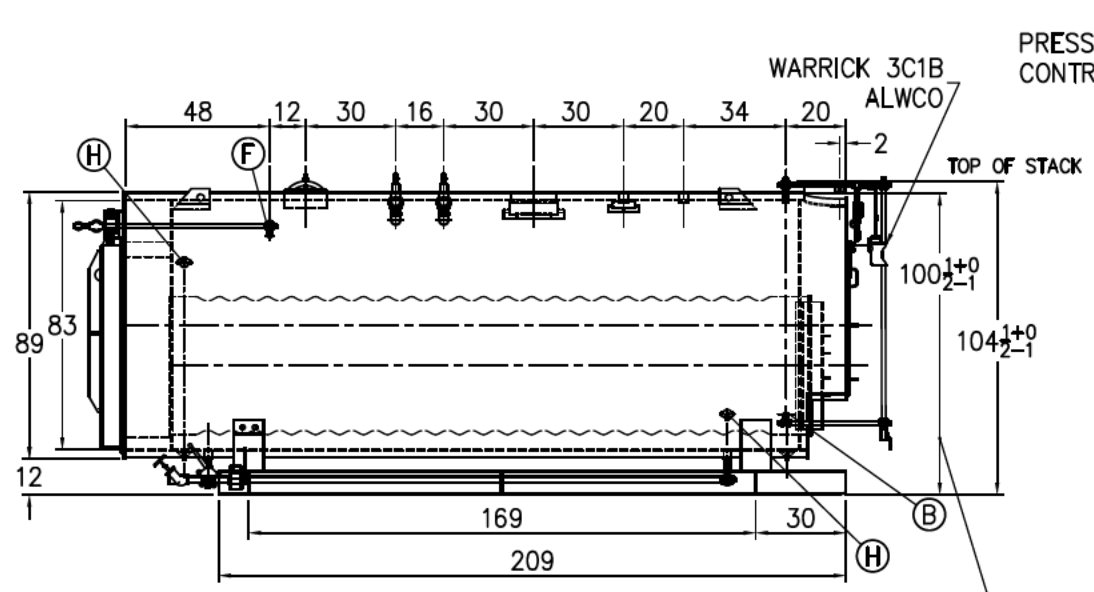


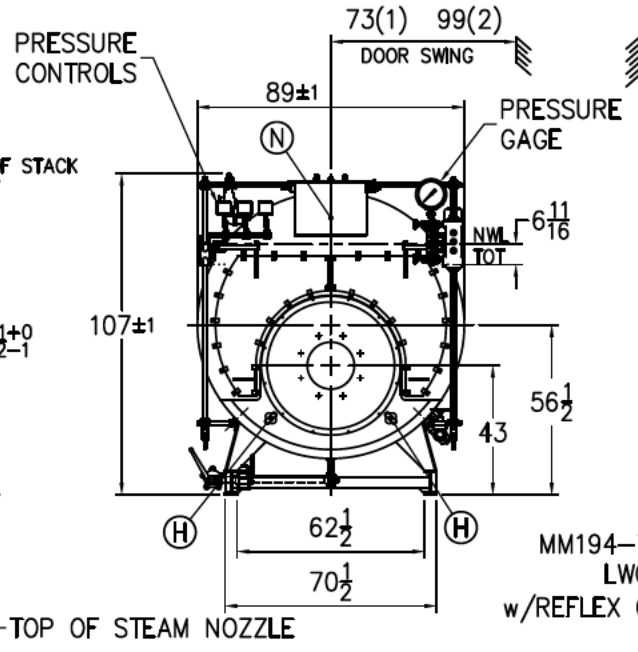


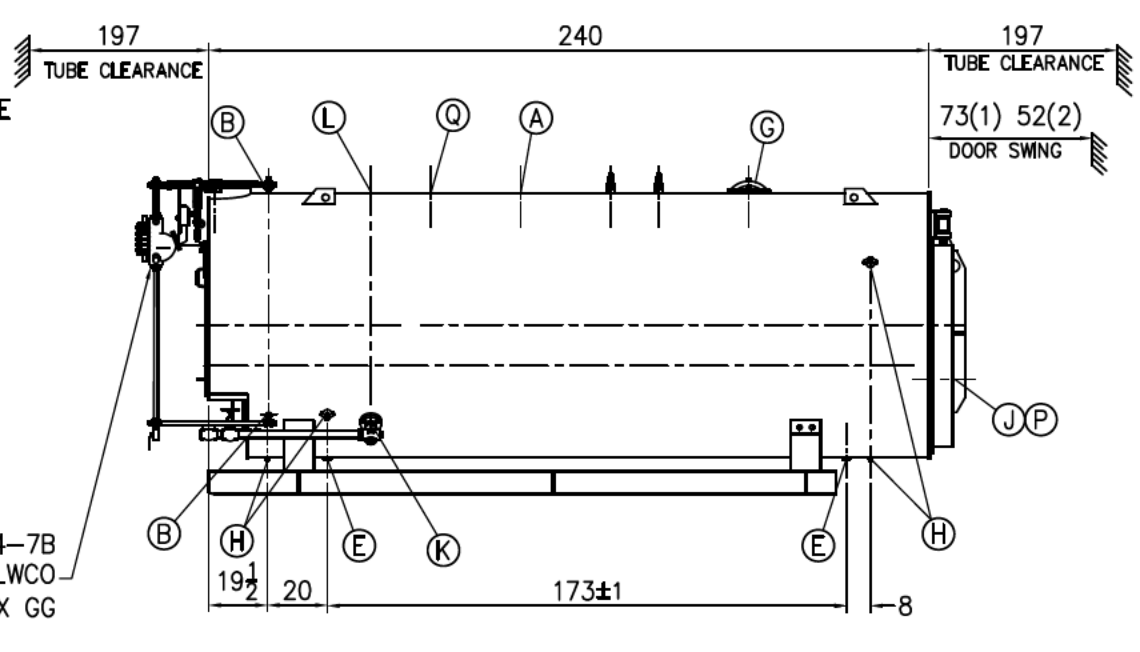
STACK FLANGE DETAIL



WATER LEVEL SEQUENCE







BOILER CONNECTIONS

A.(1)	STEAM OUTLET	8" 300# FLG
B.(3)	LWCO	1" NPT
C.(2)	SAFETY VALVE	2" NPT
D.( )	SAFETY VALVE	
E.(2)	BOILER BLOWDOWN	1 1/2" NPT
F.(1)	SURFACE BLOWDOWN	1" NPT
G.(1)	MANWAY	12" x 16"
H.(8)	HANDHOLE	3" x 4"
J.(1)	CLEANOUT	19" ID
K.(1)	FEEDWATER	2" 300# FLG
L.(1)	AUXILIARY	2" NPT
M.( )	LOW FIRE HOLD	
N.(1)	STACK TEMP	1/2" NPT
P.(1)	SIGHT PORT	1" NPT
Q.(1)	DA STEAM SUPPLY	2" NPT
R.( )		
S.( )		

RATINGS & CAPACITIES

HORSEPOWER	650*
DESIGN PRESSURE	200 PSI STEAM
GROSS OUTPUT	20,085 MBH*
STEAM (FROM & AT 212°F)	20,700 LB/HR*
HEAT RELEASE: (FURNACE ONLY)	150,322 BTU/CuFt*
RATED INPUT	25,106 MBH*
HEATING SURFACE (ASME)	2046 SqFt
FURNACE HEATING SURFACE	218.51 SqFt
FURNACE VOLUME:	
FURNACE ONLY	180.93 CuFt
STEAMING VOLUME	77.02 CuFt
STEAM RELEASE AREA	91.42 SqFt
WATER CAPACITY:	
(FULL)	2,838 Gal @ 23,608 Lbs
(NWL)	2,262 Gal @ 18,816 Lbs
SHIPPING WEIGHT:	31,800 Lbs

LTR	DATE	REVISION	BY

NOTES

1. ALL CONTROLS MOUNTED AS PER SPECIFICATION SHEET.
2. SPECIFICATION SHEET TAKES PRIORITY OVER R & D SHEET.
3. REAR DOOR SWING: (1) MIN SIDE, MAX REAR
   (2) MAX SIDE, MIN REAR
4. BOILER DESIGN CODE ASME SECTION I LATEST EDITION.
5. BOILER INSULATED WITH 2"-8# DENSITY MINERAL FIBER INSULATION WITH 22 GAUGE STEEL JACKET.
6. ALL DIMENSIONS ARE ±1/2" UNLESS OTHERWISE NOTED.

*7. HORSEPOWER & RELATED INFO BASED ON 3.3 SqFt FIRING.

SUPERIOR BOILER

CHECKED BY	
DATE	
DRAWN BY	A. REUSSER
DATE	10-20-20
BOILER	
BOILER MODEL	11-X-2000-S200-M
SCALE	1/64
DRAWING No	21090357

REPRESENTATIVE: KC BOILER EQUIPMENT

PROJECT: RENTAL BOILER

THIS DRAWING IS THE PROPERTY OF SUPERIOR BOILER WORKS & SHALL NOT BE REPRODUCED IN PART OR IN WHOLE, & NONE OF ITS INFORMATION SHALL BE REVEALED WITHOUT PERMISSION OR TO THE DETRIMENT OF THE OWNER. IT MUST BE RETURNED UPON REQUEST.

AS BUILT BURNER SPECIFICATION SHEET

Contact SW/AM **02/01/2021**

JOB DETAILS

Number	J0120197	**Order Number**	B0081346 - 1	**Quantity**	1
Customer	WICHITA BURNER			**Purchase Order**	JTHEQ1-0017730
Name	AMERICAN BOILER				

BURNER DETAILS

Model	CM10B-GO-30	**Serial Number(s)**	122082650	**Label**	B67598597
Mode Of Operation	MODODP			**Code**	UL,CSD-1,NFPA-85

HEAT EXCHANGER AND SITE DETAILS

Make	Superior			**Model**	650hp
Type	SCOTCH MARINE	**Combustion Chamber Press.**	3.0	**Site Altitude**	2000

PRIMARY GAS DETAILS (ALL PRESSURES ARE IN INCHES WC)

High Fire Manif. Press.	17.8	**High Fire Rate**	27300 MBH	**Side Orifice Size**	None		
Gas Reg. Outlet Press.	74.6	**Site Press.**	140.0 - 280.0	**Type**	Natural	**Pilot**	Natural
Min. Supply Press.	123.2	**Max. Design Press.**	280.0	**Gas Group**	4D		

SECONDARY GAS DETAILS (ALL PRESSURES ARE IN INCHES WC)

High Fire Manif. Press.		**High Fire Rate**	MBH	**Side Orifice Size**	
Gas Reg. Outlet Press.		**Site Press.**	-	**Type**	
Min. Supply Press.		**Max. Design Press.**			

OIL DETAILS (ALL PRESSURES ARE IN PSI)

Pump Pressure	62.8	**High Fire Rate**	195.0 GPH	**Oil Group**	4D
Compressor Pressure	52.8	**Type**	#2	**Grade**	#2

DIAGRAMS

Wiring	GO-J120197-1	**General Arrangement**	
Gas Piping	PDG-J120197	**Additional 1**	
Oil Piping	PDO-J120197	**Additional 2**	
Remote Panel		**Additional 3**	

ELECTRICAL CHARACTERISTICS

Control	115V/1PH/60HZ	**FLA**	6.0
Blower Motor	460V/3PH/60HZ	**FLA**	17.5
Remote Pump	460V/3PH/60HZ	**FLA**	1.15
Compressor	460V/3PH/60HZ	**FLA**	9.7
Clipped Circuit Board Part Number		**Min. Circuit Ampacity**	38.2

BURNER SETTINGS AND MISC.

Gas Ignition System	GAS PILOT	**Gas Inlet Location**		**Flame Detection**	SCANNER
Oil Ignition System	GAS PILOT	**Flange Setting**		**Diffuser Blade Setting**	

COMMENTS (MAY CONTINUE ON NEXT PAGE)

[1]Approximate operating pressure at the manifold inlet for initial start-up. Final pressure should be determined after checking actual flow with gas meter. Stack temperature, CO, CO_2, O_2, and furnace pressure will help in determining actual input when gas meter is not available for this unit.

[2]All components are rated for the maximum design pressure specified. That pressure must not be exceeded.

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
004660	FT	1.33	LD-500-1 LOW DENSITY 1/2 INCH 1000 DEGREE FIBERGLASS BRAIDED ROPE P/N 21032	
050163	EA	1.00	3/4 HP 1725RPM 208/230/460/3 ODP 56C FRAME, CAT. .7518OT3E56C-S WEG MOTOR	
056150	EA	1.00	15 HP 3525 RPM 208/230/460/3 ODP 215T FR BM EM3314T HIGH EFFICIENCY MOTOR	
060420	EA	1.00	M9194C-1005 HONEYWELL MODUTROL MOTOR FIXED 90 DEGREE STROKE 300 INCH LB.	
061230	EA	1.00	4074 EDC HONEYWELL RESISTOR PACK FOR M954,M955,M974,M975 MOD MOTORS	
090526	EA	1.00	182 100% CHICAGO DESIGN 62 3500 RPM CW BLOWER AIR FOIL FAN WITH 1-3/8" BORE 62-0-0057	
101030	EA	1.00	59B-R (SG-0514X) NOZZLE RATE 240 GPH @ 300 PSI 1725 RPM WEBSTER PUMP,VITON SEAL	
102350	EA	1.00	ALUMINUM REMOTE FUEL UNIT STAND DWG. 218M-3	
102360	EA	1.00	ALUMINUM CAST REMOTE PUMP MOTOR ADAPTOR DWG. C-235SC-4	
102850	EA	1.00	RV3002 WEBSTER REGULATING VALVE 200 PSI 50-220 RANGE SET @ 100 PSI, 3/4-14 NPTF INLET & OUTLET	
121150	EA	1.00	ALO90 LOVEJOY PUMP COUPLING 5/8 X 1/2 WITH KEYWAY (68514445149)	
140020	EA	1.00	7990K10 4PDT CUTLER HAMMER GAS-OIL FUEL CHANGE-OVER SWITCH POSITIVE CENTER OFF	
140700	EA	1.00	CRTP1A9M9 OSLO SPST ROCKER SWITCH	
140720	EA	1.00	CRTP22A-9M9 OSLO DPDT NO CENTER OFF ROCKER SWITCH	
140740	EA	1.00	SPM1X399M9E OSLO N.O. MOMENTARY PUSHBUTTON SWITCH	
151604	EA	1.00	B428VXFM30IW 30" H2O ASHCROFT HIGH GAS PRESSURE SWITCH, MANUAL RESET	
151613	EA	1.00	B429VXFM-60 ASHCROFT LOW GAS PRESSURE SWITCH, MANUAL RESET	
171101	EA	1.00	RFS-4001-110 CLEVELAND CONTROLS AIR SWITCH W/ COMPRESSION FITTINGS, .17-20", FLANGE MTG.	
195930	EA	1.00	VKG10.100U 4" FULL PORT BUTTERFLY VALVE, 15 PSI, UL APPROVED, NPT THREAD	
197461	EA	2.00	V710LBSV22 3 INCH ASCO VALVE BODY STD. GUIDE & PROOF OF CLOSURE	
199502	EA	2.00	AH2E212S4 ON-OFF 14 SECOND 120/60, 110/50 PROOF OF CLOSURE ASCO ACTUATOR	
202650	EA	2.00	8040H8 3/8 INCH 15 PSI NEMA 4 120 VOLT 50/60 HZ. ASCO PILOT VALVE	
210210	EA	1.00	S302GF02V2AC9 N.O. 3/32 PORT 1/8 PIPE 115V. 150 PSI G.C. VALVE	

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
211550	EA	2.00	VOG15.011U1(10) 2-3 WAY SIEMENS 3/4" OIL SHUT VALVE WITH PROOF OF CLOSURE SWITCH & ADJUSTABLE AUX. SWITCH, WITH 1/2 INCH HARDWARE KIT 120V 50/60 HZ.	
234120	EA	1.00	3/4 INCH 509T MILWAUKEE SWING CHECK VALVE WITH TEFLON DISC	
262200	EA	1.00	B-1/2-24-W HAUCK MODULATING OIL VALVE P/N HK12519	
262511	EA	1.00	HAUCK "B" SERIES METERING VALVE ADAPTER WITH INDICATOR	
284600	EA	1.00	S262SH02N3GJ7 1-1/4 INCH N.O. VENT VALVE 1,710,000 BTU 1 INCH PD 120V 18.5 WATTS	
302600	EA	1.00	220G 3 INCH MAXITROL REGULATOR WITH K 1-3 PSI SPRING	
302801	EA	1.00	325-3 3/8 INCH MAXITROL REGULATOR WITH R325C 10-22 RED SPRING	
320001	EA	1.00	1092-PF-G 6000 VOLT 50/60 HZ. ALLANSON GAS IGNITION TRANSFORMER WITH GROUND WIRE	
333011	EA	1.00	B500-0571-5F 500VA 480/240/208 TO 120 50/60 HZ. MICRON STEPDOWN TRANSFORMER WITH FUSE BLOCK: WILL NOT FIT INTO JUNCTION BOX PN: X09972	
351590	EA	1.00	3/8 INCH T58570SSC NIBCO OR 77C14227A APOLLO FULL PORT BRONZE BALL VALVE WITH LOCKING HANDLE	
351620	EA	1.00	1-1/4 INCH T5857066SSL NIBCO OR APOLLO 77C14627A FULL PORT BRONZE BALL VALVE WITH LOCKING HANDLE	
397522	EA	1.00	RM7840L-2075/U HONEYWELL AUTOMATIC PROGRAMMING CONTROL WITHOUT DISPLAY 50/60 HZ	
400930	EA	1.00	Q7800B-2003/U HONEYWELL UNIVERSAL WIRING	
402901	EA	1.00	136733 H.W. HEAT INSULATOR BLOCK FOR C7027 (1/2" NPT)	L
402901	EA	1.00	136733 H.W. HEAT INSULATOR BLOCK FOR C7027 (1/2" NPT)	
403465	EA	1.00	C7927A-1016 HONEYWELL SOLID STATE UV FLAME DETECTOR, 8' LEADS	
406990	EA	1.00	R7851B-1000 HONEYWELL DYNAMIC AMPLI-CHECK SOLID STATE AMPLIFIER 2-3 SECOND FFRT	
407710	EA	1.00	ST7800A-1039 HONEYWELL 30 SECOND PURGE TIMER	
432880	EA	1.00	L404V-1087 HONEYWELL OIL PRESSURE SWITCH 10-150 PSI SPST	
432892	EA	1.00	L404F-1383 10-150 PSI, AUTO RECYCLE H.W. PRESSURETROL	
463100	EA	1.00	0-20 0Z. 0-35 INCH 2-1/2 INCH DIAL 1/4 INCH LM CONNECTION WINTERS GAUGE PLP301 OR 161972A AMETEK US GAUGE	

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
463100	EA	1.00	0-20 0Z. 0-35 INCH 2-1/2 INCH DIAL 1/4 INCH LM CONNECTION WINTERS GAUGE PLP301 OR 161972A AMETEK US GAUGE	
464250	EA	1.00	0-5 PSI. 2-1/2 INCH DIAL 1/4 INCH LOWER MOUNT WIKA GAUGE 611.10, OR P2LP12L005 PRECISION INSTRUMENTS	
465330	EA	2.00	0-100 PSI 2-1/2 INCH DIAL 1/4 INCH LOWER MOUNT WINTERS LIQUID FILLED GAUGE Q804	
480200	EA	1.00	RV4NAYSD-151A PRECISION ELECTRONIC POTENTIOMETER	
480560	EA	1.00	MPKES90B1/4 APEM POTENTIOMETER KNOB 679-3545-ND	
534610	EA	1.00	O RING, 2" O.D. X 1.875 I.D., BUNA N, 9452K119 (PACKAGED 100 PER PACKAGE)	
538001	EA	1.00	P/F AIR ATOMIZING NOZZLE, 300-80, DWG. 90L352C-7	
555070	EA	1.00	CT-ERD.12 1SVR500100R0000 0.1 SECOND TO 100 HOUR DELAY ON MAKE ADJUSTABLE DIN RAIL MOUNTABLE ABB TIMER	
555500	EA	3.00	55.33.8.120.0000 FINDER OR PT320615 SCHRACK 3PDT RELAY	
555510	EA	3.00	94.73SMA FINDER OR PT78730 SCHRACK SOCKET FOR 3PDT AND 55 SERIES RELAYS	
577041	EA	1.00	STARTER 1.5/2/3/5HP 1.1-1.6A 120V COIL, SIEMENS 3RT2015-1AK61 & 3RU2116-1ABO	
577496	EA	1.00	STARTER 3/5/10/10 HP 9-12.5A 120V COIL,1NO/1NC AUX. SIEMENS 3RT2018-1AK61 & 3RU2116-1KBO	
577553	EA	1.00	STARTER 10/10/25/25HP 6-25A, 120V COIL, SIEMENS 3RT2028-1AK60 & 3RB3026-2QB0	
610400	EA	1.00	SLU-35 ILSCO GROUNDING LUG	
612010	EA	28.00	019904225 ENTRELEC D6/8.ADO 14-16 GAUGE ADO, SCREW TERMINAL,BLOCK	
612130	EA	1.00	0199075.26 ENTRELEC D6/8.ADO 14-16 GAUGE AQO,TERMINAL RED (GAS VALVE)	
612200	EA	5.00	11511811 ENTRELEC M6/8 8MM TERMINAL BLOCK 50 AMP 8-22 GA. SCREW	
612202	EA	1.00	1SNA400186R2100 M6/8 ENTRELEC RED TERMINAL BLOCK	
633400	EA	1.00	SC110N-R PANEL MOUNT MALLORY BUZZER 110 VOLT 50/60 HZ. OR MC-09-201-SR FLOYD BUZZER	
659700	EA	1.00	SIEMENS 22MM AMBER LIGHT, 3SU1103-6AA00-1AA0	
659701	EA	1.00	SIEMENS 22MM GREEN LIGHT, 3SU1103-6AA40-1AA0	
659702	EA	1.00	SIEMENS 22MM RED LIGHT, 3SU1103-6AA20-1AA0	
659703	EA	1.00	SIEMENS 22MM BLUE LIGHT, 3SU1103-6AA50-1AA0	
659704	EA	1.00	SIEMENS 22MM WHITE LIGHT, 3SU1103-6AA60-1AA0	

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
731000	EA	1.00	TYPE YS12-CI 3/8 INCH TITAN OR NO. 11-M MUELLER Y STRAINER WITH 100 MESH S.S. SCREEN	
731200	EA	1.00	TYPE YS12-CI 3/4 INCH TITAN OR NO. 11-M MUELLER OR TYPE B KECKLEY Y STRAINER WITH 100 MESH S.S. SCREEN	
731751	EA	1.00	TYPE B 3 INCH KECKLEY OR NO. 11-M MUELLER Y 3 INCH TYPE B KECKLEY Y STRAINER WITH PLUG	
800045	EA	3.00	CMAX LINKAGE ROD BLOCK, 0.377 HOLE, DWG. 45B258C	
879060	EA	1.00	1/4 INCH STANDARD BLACK SQUARE HEAD PIPE PLUG	
910490	IN	24.00	MCCC39201 BLACK PVC WIDE FLEXIBLE TRIM	
910500	EA	2.00	13ZN-01 SIERRA PACIFIC UNIVERSAL CABINET LATCH	
910770	FT	5.00	3/8 INCH O.D. X .035 3003-0 ALUMINUM TUBE (5 FT. LENGTHS)	L
910850	EA	1.00	1IN. X 15IN. STAINLESS STEEL FLEX HOSE 1IN. MALE PIPE BOTH ENDS	L
912794	EA	1.00	CM9/15 REQ. REFRACTORY DIMENSIONS TAG PER DRAWING M380MC-7	
925020	EA	1.00	ATMR6 6 AMP 600V. CLASS CC NON-MOTOR RATED FERRAZ SHAWMUT FUSE	
926130	EA	2.00	ATDR-2.8 2.8 AMP FERRAZ SHAWMUT LOW PEAK DUAL ELEMENT TIME DELAY FUSE	
980031	EA	3.00	1/4 INCH BALL VALVE WITH TEE HANDLE S95B46	
980031	EA	4.00	1/4 INCH BALL VALVE WITH TEE HANDLE S95B46	
980402	EA	1.00	3/8" S95C41 BALL VALVE LONG HANDLED	
985400	EA	1.00	1 INCH MODEL 70101-300 COMBU FUEL OIL FILTER (Max pressure 30 PSI)	L
A28349	EA	1.00	24" PANEL TOP (4) RECT., (5) 22MM, POT. & C/O "16"	
B12101	EA	14.00	CM10B/C 3/8 X 3-1/2 GAS JET W/ ORF	
B12151	EA	4.00	CM10B-11 ROPE RETENTION BRKT	
B13009	EA	1.00	CM10B/C ACCESS COVER PLATE "2014"	
B14037	EA	1.00	CM9-14 SIGHT GLASS COVER PLATE	
B14300	EA	1.00	CM10 DAMPER BACK PLATE	
B14301	EA	1.00	CM10 DAMPER FRONT PLATE	
B14302	EA	1.00	CM10 DAMPER TOP WRAP	
B14309	EA	1.00	CM10 DAMPER RT SIDE ANGLE	
B14310	EA	1.00	CM10 DAMPER LEFT SIDE ANGLE	
B14311	EA	1.00	CM10 DAMPER FRONT ANGLE	
B14312	EA	2.00	CM10 DAMPER BLADE SEAL	
B14313	EA	1.00	CM10 DAMPER SCREEN	

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
B14314	EA	1.00	CM10 DAMPER BASE BACK ANGLE	
B14315	EA	1.00	CM10 8" IFGR BLANKING FLANGE	
B14335	EA	1.00	CM MOD MOTOR BRACKET	
B14367	EA	2.00	CM10 DAMPER SHORT AXLE "06"	
B14368	EA	1.00	CM10 DAMPER LONG AXLE "06" 1/2"DIA	
B14750	EA	1.00	CM10-10B 182 72% AIR INLET ALTERED	
B14903	EA	1.00	3/8-24 ALL THRD DPR CROSS LINK ROD 2.969	
B14904	EA	1.00	3/8-24 ALL THRD DPR CROSS LINK 2.537"	
B19114	EA	2.00	CM10-CM10C RD TOP DAMPER SIDE "14"	
B20600	EA	1.00	CM10 AIR HOUSING WELD ASSEMBLY	
B20651	EA	1.00	CM10 .734" DISHED MOTOR PLATE 215T FR ASSEMBLY	
B20750	EA	1.00	CM9-CM10C 6.625" DIFF WELD ASSY	
B20751	EA	1.00	CM NOZZLE ADAPTOR WELD ASSEMBLY	
B20818	EA	3.00	CM10 DPR AIR FOIL BLADE ASSY"06"	
B22040	EA	1.00	CM10B/C BLAST TUBE AS EXTERNAL ADJ"2014	
B30000	EA	1.00	CM10B/C OIL GUN ASSEMBLY	

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
B30000 Components		Description		
538100			P/F OIL NOZZLE ADAPTER, 3/8" NPT THREADS	
538101			P/F ATOMIZING NOZZLE TIP CAP	
831000			3/8 X 3/8 TUBING TO MALE PIPE 90DEG.	
862400			3/8 X 1-1/2 SCHEDULE 40 STANDARD BLACK P	
862763			3/8 X 7 SCHEDULE 40 STANDARD BLACK PIPE	
862764			3/8 X 8 SCHEDULE 40 STANDARD BLACK PIPE	
878100			3/8 STANDARD BLACK GROUND JOINT MALLEABL	
B20701			CM10 GUN ADJ PLATE ASSY	
F36050			CM PILOT ASSY	
	F36050 Components		Description	
	800033		C10 ELECTRODE CLAMP PAIR PER DRAWING	
	861800		1/4 X 4 SCHEDULE 40 STANDARD BLACK PIPE	
	F10702		3/8"x3/8" LOCK COLLAR ASSY	
	F10703		CM PILOT ORF 1/8" HEX PLUG DRILLED 5/32	
	F20250		CM PILOT HEAD WELD ASSY	
	X02071		3/8 X 1/4 STD BLK BELL RED COUP	
	X02678		3/8 X 1/4 STRAIGHT COMPRESSION CONNECTOR	
	X04222		90L252C C7/8 IGNITION ELECTRODE	
M12019			3/8 X 8.5 STD BLK PIPE NIPPLE	
M12024			3/8 X 10 PIPE NIPPLE	
X03005			3/8 BLK 90 DEG PIPE ELBOW	
X09196			ALUMINUM WASHER, 1.375 X 1.130 X .063	
B30140	EA	1.00	LE-7 ATLAS COPCO COMPRESSOR ASSY 7.5HP 056030 motor	L

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
B30140 Components		**Description**		
056030		7-1/2 HP 1760 RPM 230/460/3 ODP 213T FR.		
121171		L100 LOVEJOY COUPLING BODY, 1-3/8" BORE,		
121172		L100 LOVEJOY COUPLING BODY, 35MM, 1CXY7		
121181		L099-100H HYTREL COUPLING INSERT		
234605		3/8" BRASS ELBOW NEEDLE VALVE TV45-66		
465300		0-160 PSI LIQUID FILLED 2-1/2 INCH DIAL		
751472		1503234800 CONNECTION FOR LE40-10 ATLAS		
751473		0653909800 FLAT GASKET FOR CONNECTION L		
751474		0686371602 HEXAGON PLUG FOR CONNECTION		
751480		LE7-10 8115-4600-19 ATLAS COPCO		
751680		112C-2-150 1/4"KINGSTON RELIEF VALVE SET		
862400		3/8 X 1-1/2 SCHEDULE 40 STANDARD BLACK P		
863560		1/2 X 6 SCHED. 40 STD. BLK. PIPE NIPPLE		
867160		1 X 1/2 STD. BLACK MALLEABLE IRON BELL		
870350		3/8 STD. BLACK MALLEABLE IRON THREADED		
873150		1/2 STANDARD BLACK MALLEABLE IRON BANDED		
A25954		LE-7 COMPRESSOR MOUNTING BASE		
M10200		LE-7 COMPRESSOR COUPLING GUARD		
X02070		1/2 X 3/8 STD BLK HEX BUSHING		
X02078		3/8 X 1/4 STD BLK HEX BUSHING		
X02172		1/2 X 1-1/2 SCH 40 BLK NIPPLE		
X09020		4450K3 3/8" MUFFLER/FILTER		
X09412		3/8-16 X 1-1/2 HEX HD CAP SCREW		
X09658		3/8 MED. SPLIT LOCK WASHER		
C13180	EA	1.00	REMOTE PUMP STAND	
C13186	EA	1.00	REMOTE PUMP STAND COVER PLATE	
E10664	EA	2.00	CMAX 24" HI PNL BOX BRKT EXT.4.718" "17"	
E21001	EA	1.00	6 X 8 X 4 HOFFMAN WITH 1/2" COUPLING	
E24211	EA	1.00	24 X 24 PANEL BOX ASSEMBLY "16"	
E24621	EA	1.00	24 x 24 DOOR ASSY "17"	
E80414	EA	1.00	24 x 24 CHASSIS "16"	
M10591	EA	2.00	SIEMENS PROOF OF CLOSURE OIL VALVE GUARD	
M10604	EA	2.00	CMAX PROOF OF CLOSURE OIL VALVE BRACKET	
M20050	EA	2.00	2.125 X 1/2 I.D. CROSS STRAP ARM TAPPED	
M20057	EA	1.00	1/2"I.D. DUAL CROSS STRAP DPR ARM TAPPED	
M20112	EA	1.00	LARGE BURNER PED PLATE WELD ASSEMBLY	
M20487	EA	2.00	3 INCH FIGURE 611 UL HOMESTEAD GAS COCK CSD-1	
M29006	EA	1.00	3 X 6 JUNCTION BOX NIPPLE	

BILL OF MATERIAL

As-Built

Customer: WICHITA BURNER - 101373 **Purchase Order: JTHEQ1-0017730**

Job Number: J000120197 - 0 **Item: CM10B-GO-30** **Qty: 1** **Order Number: B000081346 - 1**

PFI Part No.	U\M	Qty.	Material Description	Ship Loose
M30047	EA	1.00	5/8" CM VARICAM STRAIGHT GAS SINGLE FUEL ASSEMBLY	
P22330	EA	1.00	B-1/2 HAUCK MOD OIL VALVE BRACKET	
X02034	EA	2.00	1/4 INCH STD BLACK HALF COUPLING	
X02339	EA	1.00	3 X 3-1/2 STANDARD BLACK PIPE NIPPLE	
X02450	EA	12.00	PFL203 KML FLANGETTE (2 PER BOX)	
X02469	EA	6.00	SA201-8 1/2" BALL BEARING	
X02622	EA	1.00	1/4 BRASS HEX NIPPLE 122-4	
X02677	EA	1.00	3/8 X 1/4 COMP-MP STR 68-64	
X02692	EA	18.00	1/4-20 KEP NUT	
X04289	EA	4.00	3/8-24 ROD END BALL JOINT RIGHT 6072K174	
X04289	EA	8.00	3/8-24 ROD END BALL JOINT RIGHT 6072K174	
X09252	EA	4.00	3/8 X 1 X 25/64 X .050 18-8 S.S. FLAT WASHER	
X09253	EA	4.00	3/8 X 1/2 HEX SOCKET HEAD SHOULDER SCREW	
X09254	EA	6.00	5/16-24 X 1/2 HEX HEAD CAP SCREW(ZINC PLATED)	
X09292	EA	12.00	1/4-20 X 3/4 CARRIAGE BOLT GRADE 2 (ZINC PLATED)	
X09301	EA	1.00	1/4-20 DOUBLE TAB WELD NUT	
X09346	EA	6.00	1/4-20 X 3/4 HEX HEAD CAP SCREW	
X09377	EA	15.00	10-32 X 1-1/2 SOCKET CAP SCRW FT	
X09412	EA	8.00	3/8-16 X 1-1/2 HEX HD CAP SCREW	
X09499	EA	6.00	1/4-20 X 5/8 SQ. HEAD CONE POINT SET SCREW	
X09557	EA	15.00	10-32 NYLON INSET HEX LOCK NUT 90631A411	
X09566	EA	4.00	5/16-18 WHIZ NUT	
X09569	EA	4.00	3/8-24 RIGHT HAND HEX NUT PLATED	
X09569	EA	8.00	3/8-24 RIGHT HAND HEX NUT PLATED	
X09649	EA	30.00	NO. 10 EXT. TOOTH LOCK WASHER	
X09656	EA	6.00	1/2 INCH STD. FLAT CUT WASHER	
X09709	FT	16.00	3/8-24 RIGHT HAND ALL THREAD ROD PLATED	
X09731	EA	1.00	2 INCH DIA. 1/8 INCH THICK BOROSILICATE SIGHT GLASS 8477K48	
X09775	EA	4.00	1/4-20 X 3-1/2 U BOLT	
X09795	IN	40.50	173220.05 PREPUNCHED DIN RAIL, ABB ENTRELEC	

Power Flame Incorporated
2001 S 21st Street
Parsons, Ks 67357
Ph: (620) 421-0480
Fx: (620) 421-0948
csd@powerflame.com

Date Generated: 02/01/2021
Job Number: J000120197-0
Order Number: B000081346-1
Burner Model: CM10B-GO-30
Serial Number:
Sold to: WICHITA BURNER

Spare Parts List and Order Form

Part#	Req'd Qty. Per Burner		Part Description	Is Obsolete	Alternate Part	Net Each	Qty. Ordered
056150	1	EA	15 HP 3525 RPM 208/230/460/3 ODP 215T FR	No			
060420	1	EA	M9194C-1005 HONEYWELL MODUTROL MOTOR	No			
090526	1	EA	182 100% CHICAGO DESIGN 62 3500 RPM CW	No			
101030	1	EA	59B-R (SG-0514X) NOZZLE RATE 240 GPH @	No			
102850	1	EA	RV3002 WEBSTER REGULATING VALVE 200 PSI	No			
121150	1	EA	ALO90 LOVEJOY PUMP COUPLING 5/8 X 1/2	No			
140020	1	EA	7990K10 4PDT CUTLER HAMMER GAS-OIL FUEL	No			
140700	1	EA	CRTP1A9M9 OSLO SPST ROCKER SWITCH	No			
140720	1	EA	CRTP22A-9M9 OSLO DPDT NO CENTER OFF	No			
140740	1	EA	SPM1X399M9E OSLO N.O. MOM PUSHBTN SWITCH	No			
171101	1	EA	RFS-4001-110 CLEVELAND CONTROLS AIR	No			
197461	2	EA	V710LBSV22 3 INCH ASCO VALVE BODY STD.	No			
199502	2	EA	AH2E212S4 ON-OFF 14 SECOND 120/60,	No			
202650	2	EA	8040H8 3/8 INCH 15 PSI NEMA 4 120 VOLT	No			
210210	1	EA	S302GF02V2AC9 N.O. 3/32 PORT 1/8 PIPE	No			
262200	1	EA	B-1/2-24W HAUCK MODULATING OIL VALVE	No			
302600	1	EA	220G 3 INCH MAXITROL REGULATOR WITH	No			
302801	1	EA	325-3 3/8 INCH MAXITROL REGULATOR WITH	No			
320001	1	EA	1092-PF-G 6000 VOLT 50/60 HZ, ALLANSON	No			
403465	1	EA	C7927A-1016 HONEYWELL SOLID STATE UV	No			
406990	1	EA	R7851B-1000 HONEYWELL DYNAMIC	No			
407710	1	EA	ST7800A-1039 HONEYWELL 30 SECOND PURGE	No			
465330	2	EA	0-100 PSI 2-1/2 INCH DIAL 1/4 INCH LOWER	No			
534610	1	EA	O RING, 2" O.D. X 1.875 I.D., BUNA N, 94	No			
538001	1	EA	P/F AIR ATOMIZING NOZZLE, 300-80, DWG.	No			

555500	3	EA	55.33.8.120.0000 FINDER OR PT320615 SCHR	No
555510	3	EA	94.73SMA FINDER OR PT78730 SCHRACK	No
B20750	1	EA	CM9-CM10C 6.625" DIFF WELD ASSY	No
X04289	4	EA	3/8-24 ROD END BALL JOINT RIGHT 6072K174	No
X04289	8	EA	3/8-24 ROD END BALL JOINT RIGHT 6072K174	No

————Send Orders To:-————

Please visit www.powerflame.com for your local representative.

----————————————Ship To————————————----

Please enter my purchase order for the above spare parts on out P.O. # _____

THIS QUOTATION IS VALID FOR 30 DAYS FROM THE DATE GENERATED AND IS SUBJECT TO THE PFI CONDITIONS OF SALE.

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Power Flame Incorporated
2001 SOUTH 21st STREET PHONE (620) 421-0480
PARSONS, KANSAS 67357 FAX (620) 421-0948

DRAWN: DD | APPVD: DSW | CODE:UL,CSD,NFPA | DATE:12/10/20 | PARENT:115457 | DWG.: GO-U120197-1

PARAMETERS:LCGO-RM7800L1012/U-MZN-AS-II-TT-F7-BF-RP-M-ZO-XX-XXX-XX-XXX-XXX-CSD

TITLE: GAS/OIL BURNER WITH RM7800L/RM7840L, MODULATION, 3PH. MOTOR, LIGHTS AND SCANNER.

JOB NAME: AMERICAN BOILER

REV'D.	DATE	REVISION	DD/DSW	1/21/21
1		ADD LED CONNECTIONS		

TERMINAL STRIP ARRANGEMENT:
BURNER PANEL - [ES1] [ES2] 1 1 1 2 2 2 2 2 2 2 2 3
PREWIRED GAS TRAIN - 2 3

"USE COPPER CONDUCTORS ONLY."
CAUTION: THROW ALL DISCONNECTS TO OFF BEFORE SERVICING.
— G — EQUIPMENT GND. CONDUCTOR
— F — FLAME CIRCUIT: RUN IN SEPARATE CONDUIT OR SHIELDED CABLE
——— FACTORY WIRING
– – – – 24V FIELD WIRING
——×—— 115V SEE SPEC. SHEET
——o—— 200-575V FOR VOLTAGE

EQUIPMENT SHOWN ON DIAGRAM IS ONLY PROVIDED AND MOUNTED BY POWER FLAME IF SPECIFICALLY CALLED FOR ON BURNER SPEC. SHEET

CAUTION: ALL FIELD WIRING MUST BE WIRED AS SHOWN ON WIRING DIAGRAM.

ADD GREEN GROUND WIRE TO GROUNDING LUG FOR PILOT VALVES WITH GROUND WIRE.

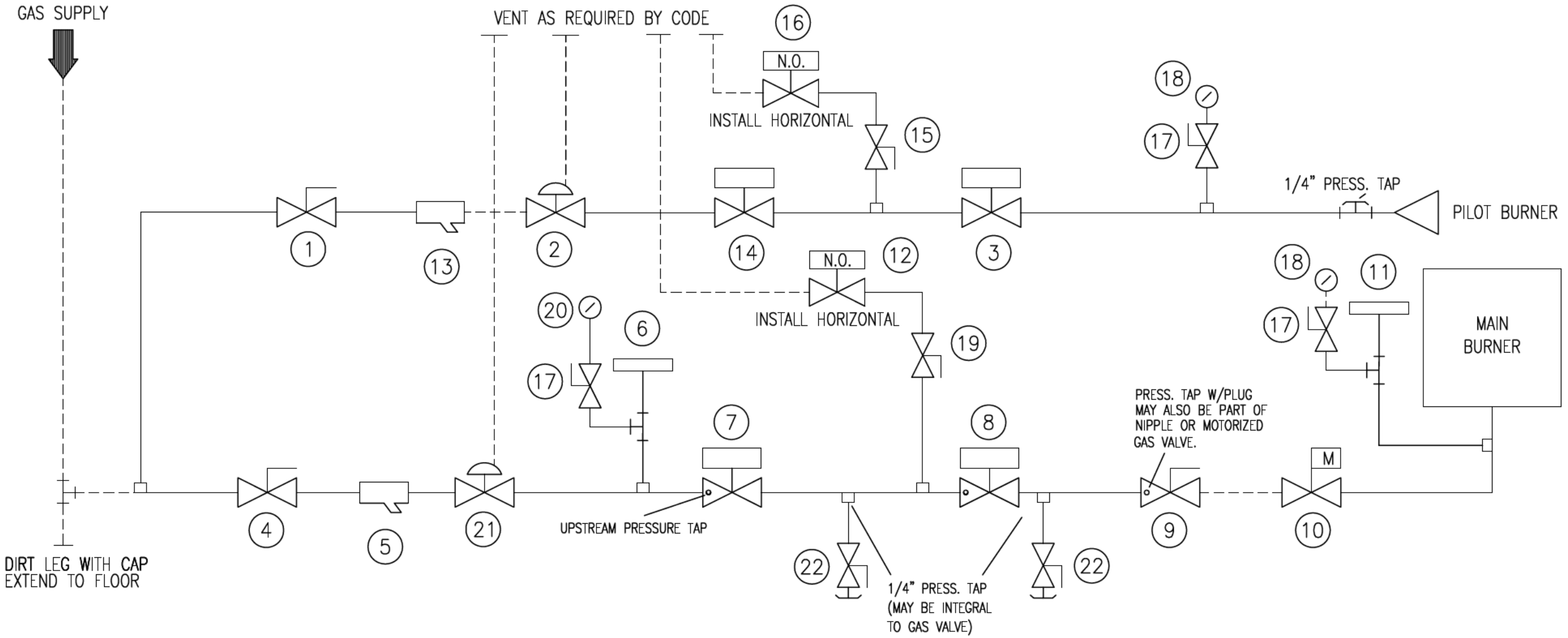
NEUTRAL WIRING MAY NOT BE CONNECTED AS SHOWN, BUT MAY BE WIRED TO TERMINATE AT NEUTRAL TERMINALS SUCH AS 2, 2A, 12 OR L2.

LISTED GROUNDING BAR AND/OR GREEN SCREW MOUNTED IN PANEL AND WIRED TO EARTH GROUND LABELED "EQUIPMENT GROUND"

TO FUSED DISCONNECT SW. BY OTHERS

TO EMERGENCY STOP

1M BURNER MOTOR
2M COMPRESSOR MOTOR
3M REMOTE PUMP MOTOR
1MS BURNER MOTOR STARTER COIL:1,29
2MS COMPRESSOR MOTOR STARTER: 2,27
3MS REMOTE PUMP STARTER COIL:4
1FU PRIMARY FUSES
1T STEPDOWN TRANS.
2FU SECONDARY FUSE
1FSG RM7800L OR RM7840L
1TD DELAY ON MAKE TIMER FACTORY SET AT 15 SEC. FIELD ADJUSTABLE
1AB ALARM
1PB ALARM SILENCING N.O. PUSHBUTTON
2SS FUEL CHANGEOVER SWITCH
1SS CONTROL SW.
1PS LOW GAS PRESS. SW.
2PS HIGH GAS PRESS. SW.
1HL HIGH TEMP.
1LLS AUX. LOW WATER CUTOFF (IF REQUIRED)
2LLS LOW WATER CUTOFF
3PS ATOMIZING AIR SW.
4PS LOW OIL PRESS. SW.
5PS COMB. AIR SW.
1LS PROOF OF CLOSURE (IN AUX. OIL VALVE)
2LS PROOF OF CLOSURE (IN MAIN OIL VALVE)
3LS PROOF OF CLOSURE (IN MAIN GAS VALVE)
4LS PROOF OF CLOSURE (IN AUX. GAS VALVE)
1OC OPERATING CONTROL
1R MODULATION RELAY 66,66,66
2R
3R ALARM SILENCING RELAY 54,53
5LT "FLAME FAILURE"
1LT "POWER ON"
2LT "CALL FOR HEAT"
OIL SELECTED 46
1MM MODULATING MOTOR
1POT MANUAL POTENTIOMETER
1RES 237 Ω
2RES 66.5 Ω
4-20mA MOD SIGNAL
MANUAL/AUTO SEL. SW. 3SS
1FD SCANNER
BLUE (UV SCAN ONLY)
WHITE
LOW FIRE START INTERLOCK (IN MOD MOTOR) 5LS
PURGE INTERLOCK (IN MOD. MOTOR) 6LS
GAS IGN. TRANS.
SPARK ELECTRODE
1VLV MAIN GAS VALVE
2VLV AUX. GAS VALVE
3VLV N.O. VENT VALVE
4VLV MAIN OIL VALVE
5VLV AUX. OIL VALVE
6VLV N.O. VENT VALVE
7VLV PILOT VALVE
8VLV AUX. PILOT VALVE
PILOT N.O. VENT VALVE



ITEM	PART NUMBER	DESCRIPTION
1	980402	PILOT SHUTOFF COCK
2	302801	PILOT REGULATOR
3	202650	PILOT VALVE
4	M20487	MAIN GAS SHUTOFF COCK
5	731751	MAIN GAS 'Y' STRAINER
6	151613	LOW GAS PRESS. SW.
7	199502 & 197461	AUX. GAS VALVE W/ P.O.C.
8	199502 & 197461	MAIN GAS VALVE W/ P.O.C.
9	M20487	MAIN GAS LEAK TEST COCK
10	195930	BUTTERFLY VALVE
11	151604	HIGH GAS PRESS. SW.
12	284600	N.O. VENT VALVE
13	731000	PILOT 'Y' STRAINER
14	202650	AUX. PILOT VALVE
15	351590	PILOT N.O. VENT VALVE LOCKING COCK
16	210210	PILOT N.O. VENT VALVE
17	980031	GAUGE COCK
18	463100	PRESSURE GAUGE
19	351620	N.O. VENT VALVE LOCKING COCK
20	464250	PRESSURE GAUGE
21	302600	MAIN GAS REGULATOR
22	980031	LEAK TEST COCK

NOTE: WHEN PILOT GAS PRESS. REG. IS AGA CERTIFIED DEVICE WITH INTEGRAL LEAK LIMITING ORIFICE; SUCH AS RV-20, RV-10 AND RV-12, VENT LINE FOR PILOT GAS PRESS. REG. MAY NOT BE REQ'D. UNLESS SPEC'D. BY OTHER CODES. (NO PROVISION FOR EXTERNAL VENTING ON RV-10 & 12) (RV-20 HAS OPTIONAL VENTING WITH P/N. 30912)

REFER TO SPECIFIC REGULATOR LITERATURE FOR RECOMMENDED STRAIGHT RUN OF PIPING BEFORE/AFTER REGULATOR AND SENSING LINE (IF APPLIC.)

——— FACTORY PIPED
- - - - - - - FIELD PIPED

CAUTION: ALL FIELD PIPED COMPONENTS MUST BE MOUNTED IN THE PROPER LOCATION AND PROPER DIRECTION OF GAS FLOW.

REVISION	REV'D.	DATE

Power Flame Incorporated
2001 SOUTH 21st STREET
PARSONS, KANSAS 67357
PHONE (620) 421-0480
FAX (620) 421-0948

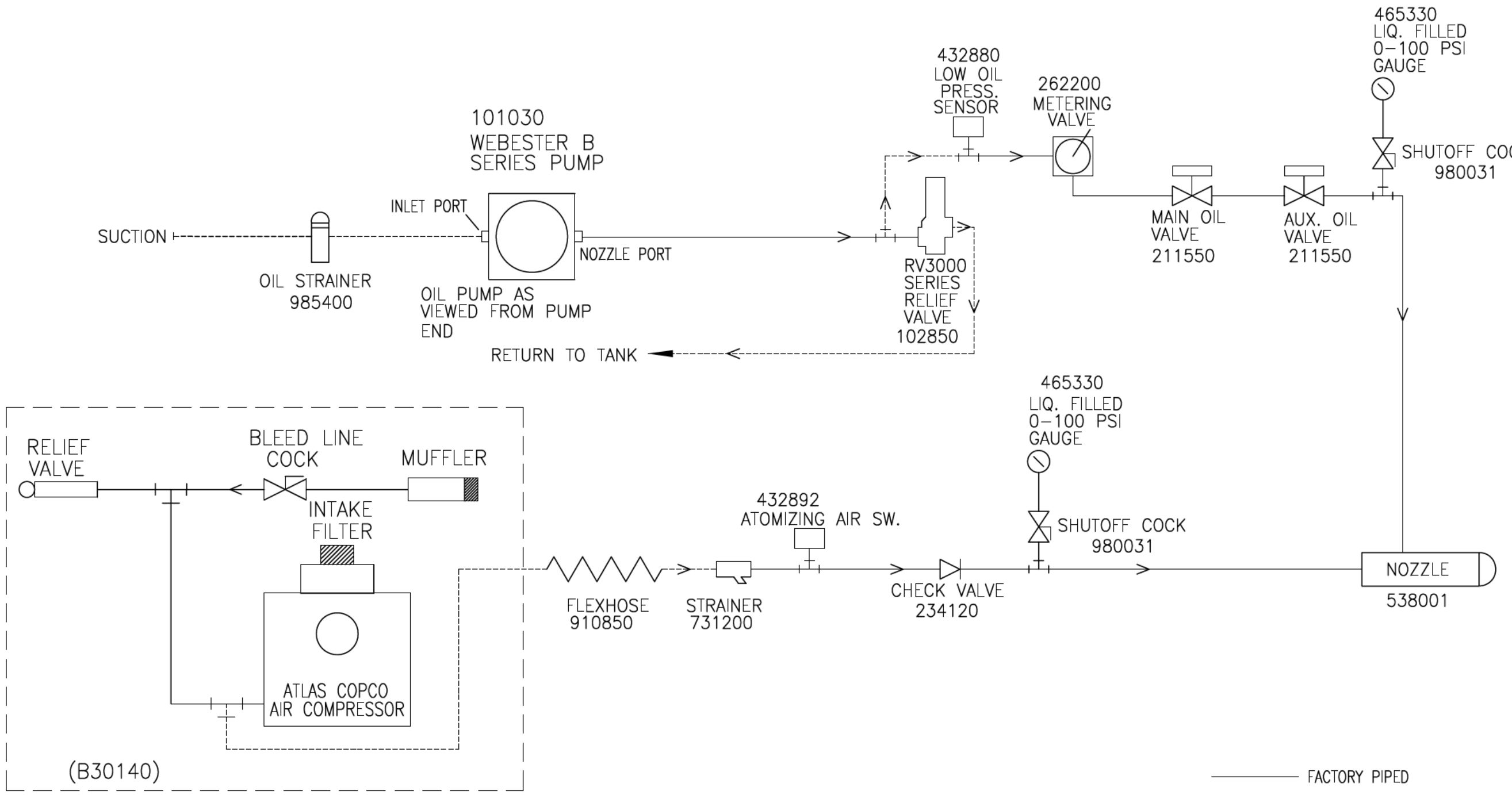
DRAWN:	APPVD:	DATE:	PARENT:	DWG.:
DD	DSW	12/10/20	117702	PDG-J120197

DRAWING PARAMETERS: N/A
CODE: UL, CSD-1, NFPA

TITLE: GAS PIPING FOR MODULATION BURNER WITH INPUTS 12,500,000 AND ABOVE BTU'S.

JOB NAME: AMERICAN BOILER

PROPRIETARY AND CONFIDENTIALITY NOTICE: THE CONTENTS OF THIS TEMPLATE CONSTITUTE PROPRIETARY AND CONFIDENTIAL INFORMATION OWNED BY POWER FLAME INCORPORATED. IT SHALL NOT BE REPRODUCED, IN WHOLE OR IN PART, AND SHALL NOT BE DISCLOSED TO ANYONE OUTSIDE POWER FLAME WITHOUT THE PRIOR EXPRESS APPROVAL OF POWER FLAME.



FACTORY PIPED

FIELD PIPED

CAUTION: ALL FIELD PIPING MUST BE MOUNTED IN THE PROPER LOCATION AND IN PROPER DIRECTION OF OIL FLOW.

DO NOT USE TEFLON TAPE

EQUIPMENT SHOWN ON DIAGRAM IS ONLY PROVIDED AND MOUNTED BY POWER FLAME IF SPECIFICALLY CALLED FOR ON BURNER SPEC. SHEET.

REVISION	REV'D.	DATE

Power Flame Incorporated

2001 SOUTH 21st STREET
PARSONS, KANSAS 67357

PHONE (620) 421–0480
FAX (620) 421–0948

DRAWN: DD	APPVD: DSW	DATE: 12/10/20	PARENT:115457	DWG.: PDO–J120197	
DRAWING PARAMETERS: N/A	CODE: UL, CSD–1, NFPA–85				
TITLE: CM #2 OIL PIPING SCHEMATIC FULL MOD. WITH REMOTE PUMP & AIR COMPRESSOR.			JOB NAME: AMERICAN BOILER		

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McMillan-McGee Corp

ET-DSP™ EQUIPMENT SPECIFICATIONS







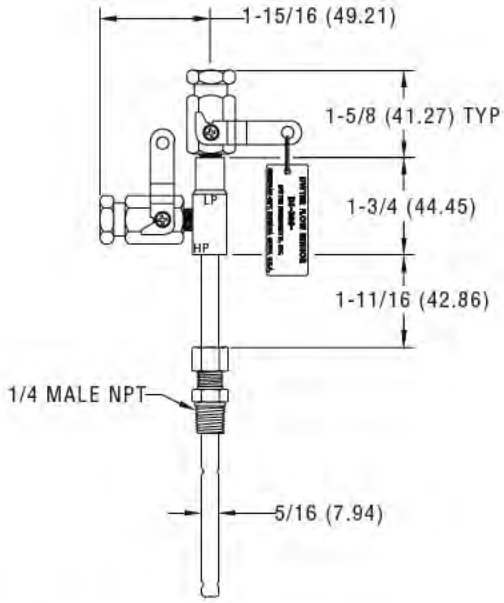
ET-DSP™ Power Distribution Panel		
Electrical Performance	Amperage	3000 A Main Breaker, 4-1000A Breakers, 2–400A Breakers for PDS and Process Equipment
	Voltage	690, 600, 480, 400 vac 50 or 60hz
	Utility Panel	5kVA Step down transformer supplies control power for PDP and two weatherproof convenience outlets.
Breaker Control	Breakers are all equipped with shunt trips that can be connected to a remote pushbutton for Emergency Shutdown.	
Power Monitoring	PDP is equipped with a Modbus communication module which can send Main Breaker data to site server.	

MCMILLAN-MCMGEE CORP.
4895 35B. ST. SE. CALGARY, AB. T2B 3M9. 403.569.5100.
www.mcmillan-mcgee.com

Series DS-300 Flow Sensors

Installation and Operating Instructions Flow Calculations





Series DS-300 Flow Sensors are averaging pitot tubes that provide accurate, convenient flow rate sensing. When purchased with a Dwyer Capsuhelic® for liquid flow or Magnehelic® for air flow, differential pressure gage of appropriate range, the result is a flow-indicating system delivered off the shelf at an economical price. Series DS-300 Flow Sensors are designed to be inserted in the pipeline through a compression fitting and are furnished with instrument shut-off valves on both pressure connections. Valves are fitted with 1/8″ female NPT connections. Accessories include adapters with 1/4″ SAE 45° flared ends compatible with hoses supplied with the Model A-471 Portable Capsuhelic® kit. Standard valves are rated at 200°F (93.3°C). Where valves are not required, they can be omitted at reduced cost. Series DS-300 Flow Sensors are available for pipe sizes from 1″ to 10″.

INSPECTION

Inspect sensor upon receipt of shipment to be certain it is as ordered and not damaged. If damaged, contact carrier.

INSTALLATION

General - The sensing ports of the flow sensor must be correctly positioned for measurement accuracy. The instrument connections on the sensor indicate correct positioning. The side connection is for total or high pressure and should be pointed upstream. The top connection is for static or low pressure.

Location - The sensor should be installed in the flowing line with as much straight run of pipe upstream as possible. A rule of thumb is to allow 10 - 15 pipe diameters upstream and 5 downstream. The table below lists recommended up and down piping.

PRESSURE AND TEMPERATURE

Maximum: 200 psig (13.78 bar) at 200°F (93.3°C).

Upstream and Downstream Dimensions in Terms of Internal Diameter of Pipe*

Upstream Condition	Minimum Diameter of Straight Pipe		
	Upstream		Downstream
	In-Plane	Out of Plane	
One Elbow or Tee	7	9	5
Two 90° Bends in Same Plane	8	12	5
Two 90° Bends in Different Plane	18	24	5
Reducers or Expanders	8	8	5
All Valves**	24	24	5

* Values shown are recommended spacing, in terms of internal diameter for normal industrial metering requirements. For laboratory or high accuracy work, add 25% to values.

** Includes gate, globe, plug and other throttling valves that are only partially opened. If valve is to be fully open, use values for pipe size change. **CONTROL VALVES SHOULD BE LOCATED AFTER THE FLOW SENSOR.**

POSITION

Be certain there is sufficient clearance between the mounting position and other pipes, walls, structures, etc, so that the sensor can be inserted through the mounting unit once the mounting unit has been installed onto the pipe.

Flow sensors should be positioned to keep air out of the instrument connecting lines on liquid flows and condensate out of the lines on gas flows. The easiest way to assure this is to install the sensor into the pipe so that air will bleed into, or condensate will drain back to, the pipe.

For Air or Gas Flow

Install in upper quadrant of pipe



Condensate drains back to pipe

For Liquid or Steam Flow

Install in lower quadrant of pipe



Air bleeds back to pipe

INSTALLATION

1. When using an A-160 thred-o-let, weld it to the pipe wall. If replacing a DS-200 unit, an A-161 bushing (1/4˝ x 3/8˝) will be needed.

2. Drill through center of the thred-o-let into the pipe with a drill that is slightly larger than the flow sensor diameter.

3. Install the packing gland using proper pipe sealant. If the packing gland is disassembled, note that the tapered end of the ferrule goes into the fitting body.

4. Insert sensor until it bottoms against opposite wall of the pipe, then withdraw 1/16˝ to allow for thermal expansion.

5. Tighten packing gland nut finger tight. Then tighten nut with a wrench an additional 1-1/4 turns. Be sure to hold the sensor body with a second wrench to prevent the sensor from turning.

INSTRUMENT CONNECTION

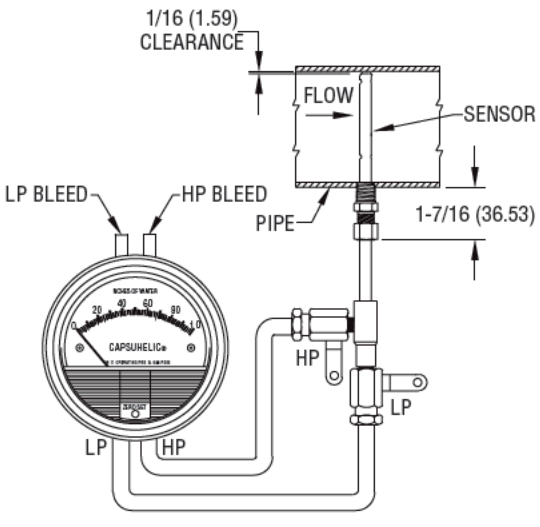
Connect the slide pressure tap to the high pressure port of the Magnehelic® (air only) or Capsuhelic® gage or transmitting instrument and the top connection to the low pressure port.

See the connection schematics below.

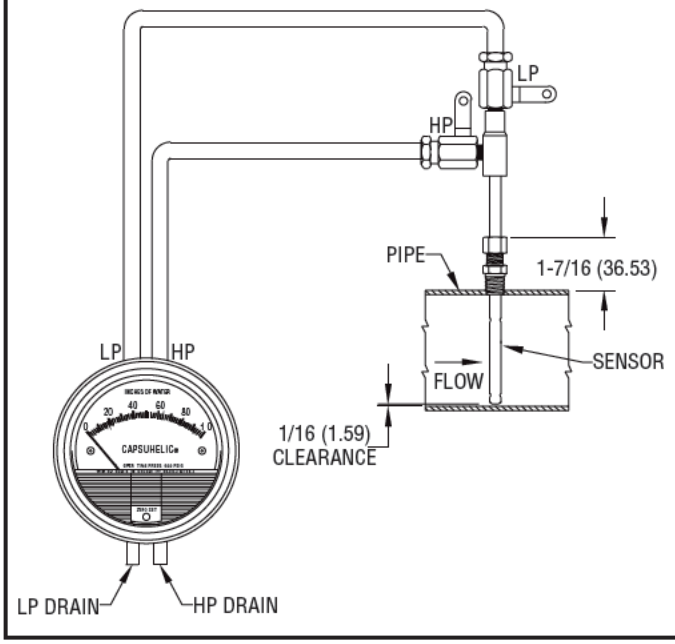
Bleed air from instrument piping on liquid flows. Drain any condensate from the instrument piping on air and gas flows.

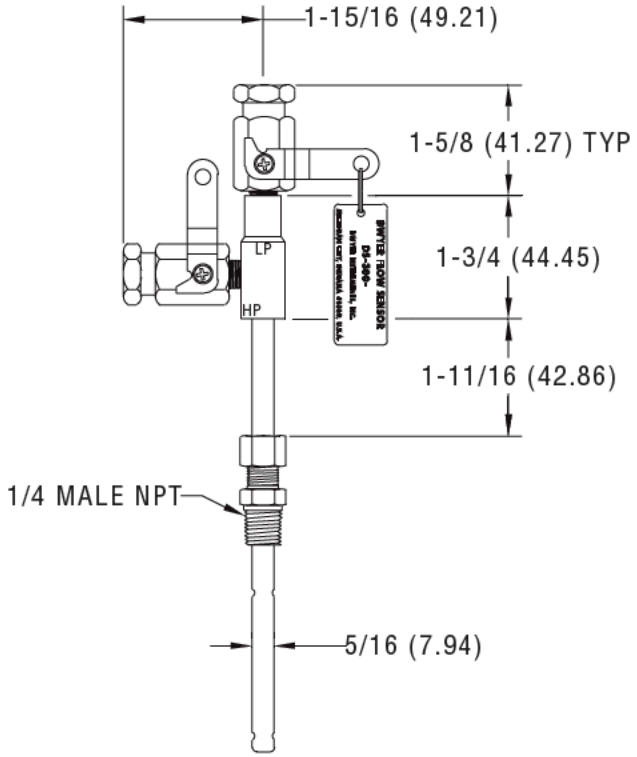
Open valves to instrument to place flow meter into service. For permanent installations, a 3-valve manifold is recommended to allow the gage to be zero checked without interrupting the flow. The Dwyer A-471 Portable Test Kit includes such a device.

Water Flow



Air or Gas Flow





Flow Calculations and Charts

The following information contains tables and equations for determining the differential pressure developed by the DS-300 Flow Sensor for various flow rates of water, steam, air or other gases in different pipe sizes.

This information can be used to prepare conversion charts to translate the differential pressure readings being sensed into the equivalent flow rate. When direct readout of flow is required, use this information to calculate the full flow differential pressure in order to specify the exact range of Dwyer Magnehelic® or Capsuhelic® gage required. Special ranges and calculations are available for these gages at minimal extra cost. See bulletins A-30 and F-41 for additional information on Magnehelic® and Capsuhelic® gages and DS-300 flow sensors.

For additional useful information on making flow calculations, the following service is recommended: Crane Valve Co. Technical Paper No. 410 “Flow of Fluids Through Valves, Fittings and Pipe.” It is available from Crane Valve Company, www.cranevalve.com.

Using the appropriate differential pressure equation from Page 4 of this bulletin,calculate the differential pressure generated by the sensor under normal operating conditions of the system. Check the chart below to determine if this value is within the recommended operating range for the sensor. Note that the data in this chart is limited to standard conditions of air at 60°F (15.6°C) and 14.7 psia static line pressure or water at 70°F (21.1°C). To determine recommended operating ranges of other gases, liquids an/or operating conditions, consult factory.

Note: the column on the right side of the chart which defines velocity ranges to avoid. Continuous operation within these ranges can result in damage to the flow sensor caused by excess vibration.

Pipe Size (Schedule 40)	Flow Coefficient “K”	Operating Ranges Air @ 60°F & 14.7 psia (D/P in. W.C.)	Operating Ranges Water @ 70°F (D/P in. W.C.)	Velocity Ranges Not Recommended (Feet per Second)
1	0.52	1.10 to 186	4.00 to 675	146 to 220
1-1/4	0.58	1.15 to 157	4.18 to 568	113 to 170
1-1/2	0.58	0.38 to 115	1.36 to 417	96 to 144
2	0.64	0.75 to 75	2.72 to 271	71 to 108
2-1/2	0.62	1.72 to 53	6.22 to 193	56 to 85
3	0.67	0.39 to 35	1.43 to 127	42 to 64
4	0.67	0.28 to 34	1.02 to 123	28 to 43
6	0.71	0.64 to 11	2.31 to 40	15 to 23
8	0.67	0.10 to 10	0.37 to 37	9.5 to 15
10	0.70	0.17 to 22	0.60 to 79	6.4 to 10

FLOW EQUATIONS

1. Any Liquid

$$Q\ (GPM) = 5.668 \times K \times D^2 \times \sqrt{\Delta P / S_f}$$

2. Steam or Any Gas

$$Q\ (lb/Hr) = 359.1 \times K \times D^2 \times \sqrt{p \times \Delta P}$$

3. Any Gas

$$Q\ (SCFM) = 128.8 \times K \times D^2 \times \sqrt{\frac{P \times \Delta P}{(T + 460) \times S_s}}$$

DIFFERENTIAL PRESSURE EQUATIONS

1. Any Liquid

$$\Delta P\ (in.\ WC) = \frac{Q^2 \times S_f}{K^2 \times D^4 \times 32.14}$$

2. Steam or Any Gas

$$\Delta P\ (in.\ WC) = \frac{Q^2}{K^2 \times D^4 \times p \times 128{,}900}$$

3. Any Gas

$$\Delta P\ (in.\ WC) = \frac{Q^2 \times S_s \times (T + 460)}{K^2 \times D^4 \times P \times 16{,}590}$$

Technical Notations

The following notations apply:

ΔP = Differential pressure expressed in inches of water column
Q = Flow expressed in GPM, SCFM, or PPH as shown in equation
K = Flow coefficient— See values tabulated on Pg. 3.
D = Inside diameter of line size expressed in inches.

For square or rectangular ducts, use: $D = \sqrt{\frac{4 \times \text{Height} \times \text{Width}}{\pi}}$

P = Static Line pressure (psia)
T = Temperature in degrees Fahrenheit (plus 460 = °Rankine)
p = Density of medium in pounds per square foot
S_f = Sp Gr at flowing conditions
S_s = Sp Gr at 60°F (15.6°C)

SCFM TO ACFM EQUATION

$$\text{SCFM} = \text{ACFM} \times \left(\frac{14.7 + \text{PSIG}}{14.7}\right) \left(\frac{520^*}{460 + °F}\right)$$

$$\text{ACFM} = \text{SCFM} \times \left(\frac{14.7}{14.7 + \text{PSIG}}\right) \left(\frac{460 + °F}{520}\right)$$

$$\text{POUNDS PER CUBIC FOOT STD.} = \text{POUNDS PER CUBIC FOOT ACT.} \times \left(\frac{14.7}{14.7 + \text{PSIG}}\right) \left(\frac{460 + °F}{520^*}\right)$$

$$\text{POUNDS PER CUBIC FOOT ACT.} = \text{POUNDS PER CUBIC FOOT STD.} \times \left(\frac{14.7 + \text{PSIG}}{14.7}\right) \left(\frac{520^*}{460 + °F}\right)$$

1 Cubic foot of air = 0.076 pounds per cubic foot at 60° F (15.6°C) and 14.7 psia.
* (520°= 460 + 60°) Std. Temp. Rankine

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STEAM HOSE

Note: *All steam hoses will last longer if they are drained after each use. Water that is left in steam hose tends to be absorbed into the tube compound. When the hose is rapidly reheated, the condensed moisture vaporizes in the rubber compound causing blistering of the tube. In general, steam hoses are not a substitute for steel piping and should not be used in manifold systems or any other permanent installation.*

Weld



G571... EPDM STEAM

G571 features a braided steel wire reinforcement which allows better retention to crimped fittings as opposed to clamped fittings when assembled. It is suitable for conveying saturated steam to 250 psi.

Tube: Smooth, black, electrically conductive EPDM rubber.

Reinforcement: Braided layers of high-tensile steel wire.

Cover: Wrapped finish, red, abrasion, weather, and heat resistant EPDM rubber.

Temperature Range: -40°C (40°F) to 210°C (410°F) for steam, 95°C (205°F) for hot water.

Couplings: Only G29 series crimpable ground joint stems should be used. Always use G29CR crimp ferrules to prevent stem blowout. For pipe thread, please use Pulsar 4400 Series Crimp Fittings.

Clamp Selection Chart:	
Hose Part No.	**Clamp Part No.**
G571-075	G29CR-075
G571-100	G29CR-100
G571-200	G29CR-200

I.D.	Part Number	O.D.	Working Pressure	Weight per ft	Standard Length	
¾"	G571-075	1.22"	250 psi	0.44 lb	50 or 100 ft	See Prices Online
1	G571-100	1.50	250	0.67	50 or 100	
2	G571-200	2.64	250	1.44	50 or 100	

G572... RED DEVIL

Red Devil is manufactured using layers of high-tensile spiral wire for extra flexibility and with a heavy, wrapped cover for durability. It is rated for saturated steam to 250 psi and is our most popular steam hose for heavy industrial applications.

Tube: Black EPDM rubber compounded for high resistance to heat aging.

Reinforcement: Spiral layers of brass-plated, high-tensile, steel wire.

Cover: Wrapped finish, red, abrasion, weather, and heat resistant EPDM rubber, pin-pricked to prevent blistering.

Temperature Range: -40°C (-40°F) to 208°C (406°F) ...short peaks to 232°C (450°F).

Couplings: Only G29 series ground joint or G23 series male NPT stems should be used. Always use G29C series interlocking clamps to prevent stem blowout.



Clamp Selection Chart:	
Hose Part No.	**Clamp Part No.**
G572-050	G29C-050A
G572-075	G29C-075A
G572-100	G29C-100AA
G572-125	G29C-100B
G572-150	G29C-150AA
G572-200	G29C-200AA
G572-300	G29C-300AA

I.D.	Part Number	O.D.	Working Pressure	Weight per ft	Length	
½"	G572-050	0.98"	250 psi	0.34 lb	50 or 100 ft	
¾	G572-075	1.22	250	0.45	50 or 100	See Prices Online
1	G572-100	1.46	250	0.61	50 or 100	
1¼	G572-125	1.75	250	0.77	50 or 100	
1½	G572-150	2.05	250	1.00	50 or 100	
2	G572-200	2.58	250	1.45	50 or 100	
3	G572-300	3.78	250	2.89	50 or 100	

For popular steam hose assemblies see page 58.

STEAM HOSE

Note: *All steam hoses will last longer if they are drained after each use. Water that is left in steam hose tends to be absorbed into the tube compound. When the hose is rapidly reheated, the condensed moisture vaporizes in the rubber compound causing blistering of the tube. In general, steam hoses are not a substitute for steel piping and should not be used in manifold systems or any other permanent installation.*

G573... CHLOROBUTYL STEAM

Chlorobutyl rubber has excellent heat resistance and is less permeable to gases than other synthetic rubbers. These characteristics provide for a steam hose with improved life expectancy. Not only does the tube compound not age so quickly, but it absorbs much less steam. When steam hoses cycle from hot to cold, the steam that has been absorbed into the steam hose tube condenses. When it is suddenly re-heated, the water can vaporize and cause tiny "explosions" into the tube. The result is an effect called "popcorning" where the hose bore appears to have bubbled. Chlorobutyl rubber has improved resistance to this effect.

Tube: Black Chlorobutyl rubber compounded for high resistance to heat aging.

Reinforcement: Spiral layers of brass-plated, high-tensile, steel wire.

Cover: Wrapped finish, red, abrasion, weather, and heat resistant EPDM rubber, pin-pricked to prevent blistering.

Temperature Range: -40°C (-40°F) to 208°C (406°F) ...short peaks to 232°C (450°F).

Couplings: Only G29 series ground joint or G23 series male NPT stems should be used. Always use G29C series interlocking clamps to prevent stem blowout.



G573

I.D.	Part Number	O.D.	Working Pressure	Weight per ft	Standard Length	
¾"	G573-075	1.22"	250 psi	0.45 lb	50 or 100 ft	See Prices Online
1	G573-100	1.46	250	0.61	50 or 100	
2	G573-200	2.56	250	1.44	50 or 100	

Clamp Selection Chart:	
Hose Part No.	**Clamp Part No.**
G573-075	G29C-075A
G573-100	G29C-100AA
G573-200	G29C-200A

For popular steam hose assemblies see page 58.

STEAM HOSE



G571MM



G571FF

STEAM HOSE ASSEMBLIES

Steam hoses are supplied with G29C interlocking clamps for secure fitting retention. Fittings are generally G29 ground joint style stems with wing nuts or G23S male pipe stems. These fittings all have collars on the barb to interlock with the G29C clamp. For crimped steam hose assemblies, Green Line offers our G571 product line complete with NPT or G29 Crimpable Ground Joint fittings.

Hose size	Thread size	Length (ft)	Part Number	Weight Each (lb)	
G571 Assemblies with Crimped Fittings					
3/4"	3/4" NPT	50	G571-075MM50	23	
3/4	1 NPT	50	G571-075M16M50	24	
1	1 NPT	50	G571-100MM50	27	
2	2 NPT	50	G571-200MM50	79	See Prices Online
3/4	G29 Ground Joint	50	G571-075FF50	24	
1	G29 Ground Joint	50	G571-100FF50	28	
2	G29 Ground Joint	50	G571-200FF50	86	


G572MM


G572FF

G572 Assemblies with Clamped Fittings					
3/4	3/4 NPT	50	G572-075MM50	25	
3/4	1 NPT	50	G572-075M16M50	25	
1	1 NPT	50	G572-100MM50	35	
2	2 NPT	50	G572-200MM50	85	See Prices Online
3/4	G29 Ground Joint	50	G572-075FF50	26	
1	G29 Ground Joint	50	G572-100FF50	36	
2	G29 Ground Joint	50	G572-200FF50	88	


G573MM


G573FF

G573 Assemblies with Clamped Fittings					
3/4	3/4 NPT	50	G573-075MM50	25	
3/4	1 NPT	50	G573-075M16M50	25	
1	1 NPT	50	G573-100MM50	35	
2	2 NPT	50	G573-200MM50	85	See Prices Online
3/4	G29 Ground Joint	50	G573-075FF50	26	
1	G29 Ground Joint	50	G573-100FF50	36	
2	G29 Ground Joint	50	G573-200FF50	88	

SECTION 7200
ENGINEERING SPECIFICATION: AIR STRIPPER BLOWER

PART 1— GENERAL

1.1 SCOPE

1.1.1 The manufacturer shall furnish a blower for use with a low profile, multi-tray Air Stripper.

1.2 PROCESS DESCRIPTION

1.2.1 The blower impeller, driven by the direct-coupled motor, pressurizes air and supplies it to the stripper with sufficient flow and pressure to generate a froth of bubbles in the water contained by up to six stripper trays.

1.3 SUBMITTALS

1.3.1 Manufacturer shall submit the following with the bid:

1.3.1.1 Product data for selected model, including rated output capacity, electrical specifications, and warranty coverage. See attached Data Sheet for full specification.

PART 2 — PRODUCTS

2.1 GENERAL

2.1.1 The blower shall be a direct drive pressure blower (scroll type or a direct drive regenerative type blower. See Data Sheet for model number. Equipment shall be supplied by QED Environmental Systems, Inc. and represented by _____ or pre-approved equivalent.

2.1.2 Blower design and performance shall meet requirements specified on the Data Sheet attached to this specification.

2.2 EQUIPMENT DESIGN REQUIREMENTS-DIRECT DRIVE BLOWER

2.2.1 Standard product design shall include one pressure blower with all-welded steel housing and aluminum wheel, with the following specifications:

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2.2.1.1 Blower shall be an industrial quality model rated for continuous duty, certified and licensed to bear the AMCA (Air Movement and Control Association, Inc.) Seal, in accordance with AMCA Publication 211.

2.2.1.2 Blower shall be factory balanced and motor-coupled.

2.2.1.3 Blower shall be supplied with an air flow throttle, factory installed preset to match stripper system requirements, and labeled to indicate settings for clean operation, turn-up range, and overload conditions.

2.2.1.4 Blower inlet shall be equipped with a 90° elbow serving as an inlet safety guard, ready for connection to an air inlet duct if desired.

2.2.1.5 Blower shall include a built-in water drain.

2.2.2 Standard product design shall include one industrial quality (such as Baldor, GE or preapproved equal) electric motor, with the following specifications:

2.2.2.1 Blower-motor unit shall be a compact, direct-drive arrangement with the blower wheel mounted directly on motorshaft, to minimize the number of moving parts and for ease of maintenance.

2.2.2.2 Motor must meet the system's electrical voltage/phase and explosion-proof requirements (if applicable). See attached Data Sheet for specifications.

2.2.3 Standard product design shall include outlet ducting to connect the blower outlet flange to the stripper inlet ducting. Duct size and design shall be sufficient to allow the blower to operate at full capacity. Duct design shall include a section routed high to prevent water from reaching the blower in the event of a system shutdown.

2.2.4 Blower/motor unit shall be primed and painted.

2.3 EQUIPMENT DESIGN REQUIREMENTS-REGENERATIVE BLOWER

2.3.1 Standard product design shall include one regenerative blower with cast rather than fabricated aluminum impeller (for ruggedness), housing and cover, meeting the following specifications:

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2.3.1.1 Blower shall be an industrial quality model rated for continuous duty at the required workload.

2.3.1.2 Blower shall be factory balanced and motor-coupled. Blower shall be equipped with a Teflon shaft seal, final assembly leak tested to less than 1cc/sec @ 3 psi.

2.3.1.3 Blower shall be supplied with an air flow throttle, factory installed preset to match stripper system requirements, and labeled to indicate settings for clean operation, turn-up range, and overload conditions.

2.3.1.4 Blower shall be equipped with an inlet filter and integral intake and exhaust mufflers, held in place with a screen (spring or wire hold-down is not acceptable), to minimize operating noise levels.

2.3.1.5 Inlet and outlet flanges shall be of cast iron; soft metals, such as aluminum are not allowed.

2.3.2 Standard product design shall include one industrial quality UL and CSA approved electric motor, with the following specification:

2.3.2.1 Blower-motor unit shall be a maintenance-free, compact direct-drive arrangement.

2.3.2.2 Motor must meet the system's electrical voltage/phase and explosion-proof requirements (if applicable). See attached Data Sheet for specifications.

2.3.2.3 Motor must be rated for continuous duty and carry full rated load at temperatures below insulation limits; motor ball bearings shall be double sealed with a rated life of not less than 20,000 hours continuous duty at the maximum rated blower load.

2.3.3 Standard product design shall include outlet ducting to connect the blower outlet flange to the stripper inlet ducting. Duct size and design shall be sufficient to allow the blower to operate at full capacity. Duct design shall include a section routed high to prevent water from reaching the blower in the event of a system shutdown.

2.3.4 Blower/motor unit shall be primed and painted.

2.4 OPERATION AND PERFORMANCE PARAMETERS

2.4.1 Blower shall be sized to allow turn-up to overcome fouling of the stripper, extending the time between cleanings. See Data Sheet for output curves.

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ENGINEERING DATA SHEET
BLOWERS: ALL MODELS FOR AIR STRIPPERS

REF — ITEMS and SPECIFICATIONS

2.1.1, 2.2.2.2 2.3.2.2 — EZ-STACKER STRIPPER BLOWERS

Model No.	Type*	Used on Stripper	Electrical Specifications	Max CFM	Motor HP
805188	R	2.4P	115-230V/1PH/TEFC	145	2.0
805189	R	2.4P	115-230V/1PH/EXP	145	2.0
805190	R	2.4P	230/460V/3PH/TEFC	145	2.0
805191	R	2.4P	230/460V/3PH/EXP	145	2.0
805192	R	2.6P	115-230V/1PH/TEFC	180	3.0
805193	R	2.6P	115-230V/1PH/EXP	180	3.0
805194	R	2.6P	230/460V/3PH/TEFC	180	3.0
805195	R	2.6P	230/460V/3PH/EXP	180	3.0
807034	P	4.4P,4.6P	230/460V/3PH/TEFC	600	5.0
807035	P	4.4P,4.6P	230/1PH/TEFC	600	5.0
807036	P	4.4P,4.6P	230/460V/3PH/EXP	600	5.0

* R-Regenerative type, P-Pressure type

2.1.1, 2.2.2.2 2.3.2.2 — EZ-TRAY STRIPPER BLOWERS

Model No.	Type*	Used on Stripper	Electrical Specifications	Max CFM	Motor HP
807034	P	4.4,6.4,8.4	230/460V/3PH/TEFC	600	5.0
807035	P	4.4,6.4,8.4	115-230V/1PH/TEFC	600	5.0
807036	P	4.4,6.4,8.4	230/460V/3PH/EXP	600	5.0
807037	P	12.4,16.4	230/460V/3PH/TEFC	1100	7.5
807038	P	12.4,16.4	230V/1PH/TEFC	1100	7.5
807039	P	12.4,16.4	230/460V/3PH/EXP	1100	7.5
807040	P	24.4	230/460V/3PH/TEFC	2200	15.0
807041	P	24.4	230/460V/3PH/EXP	2200	15.0
807139	P	4.6,6.6,8.6	230/460V/3PH/TEFC	500	5.0
807140	P	4.6,6.6,8.6	115-230V/1PH/TEFC	500	5.0
807141	P	4.6,6.6,8.6	230/460V/3PH/EXP	500	5.0
807142	P	12.6,16.6	230/460V/3PH/TEFC	1000	7.5
807143	P	12.6,16.6	230V/1PH/TEFC	1000	7.5
807144	P	12.6,16.6	230/460V/3PH/EXP	1000	7.5
807145	P	24.6	230/460V/3PH/TEFC	1700	15.0
807146	P	24.6	230/460V/3PH/EXP	1700	15.0

* P-Pressure type

(Note: To use this Data Sheet in a specification, either reproduce the whole table above and indicate which model number is being specified, or include only the data for the model selected.)

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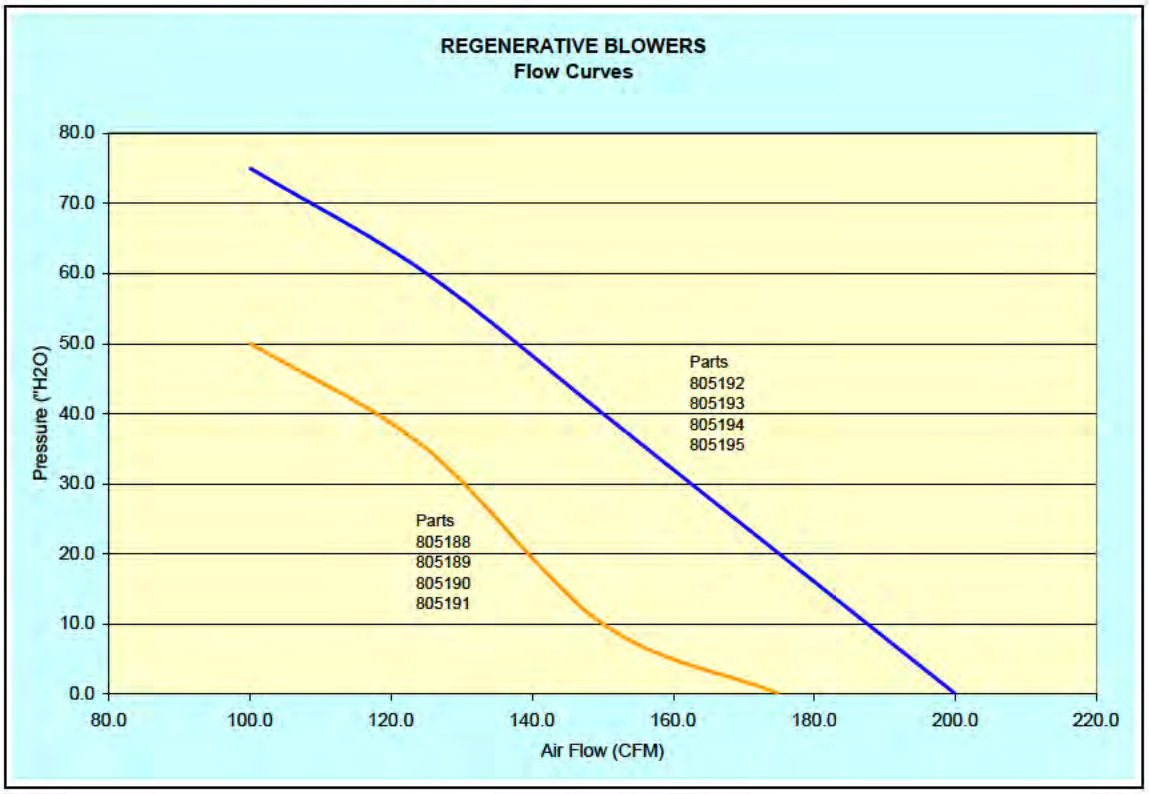
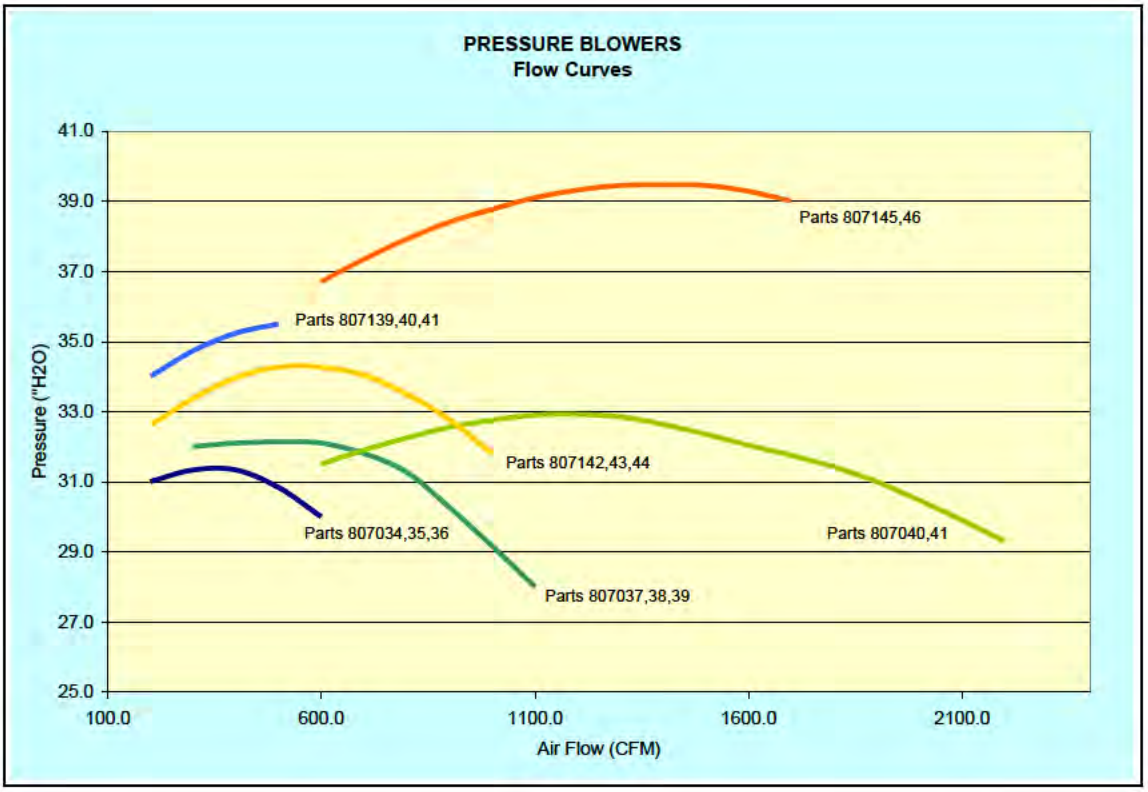
2.4.1 BLOWER OUTPUT CURVES





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SECTION 0200
ENGINEERING SPECIFICATION: CONTROL PANEL

PART 1— GENERAL

1.1 SCOPE

1.1.1 Manufacturer shall furnish an industrial control panel for use with a ground water treatment system.

1.2 DESCRIPTION

1.2.1 The control panel controls all motor-driven and other electrically operated equipment comprising the remediation system. The various components are fully interlocked for fail-safe operation. The operation of all driven components can be manually overridden for equipment startup or troubleshooting. The status of all components and alarms is indicated via illuminated devices located on the door of the enclosure, or on the swing-out panel of dead-front panels.

1.3 SUBMITTALS

1.3.1 Manufacturer shall submit the following with the bid:

1.3.1.1 Product data for selected model, including standard features, options, and warranty coverage. See attached Data Sheet for full specification.

PART 2 — PRODUCTS

2.1 GENERAL

2.1.1 System shall be manufactured by QED Environmental Systems, Inc. and represented by _____ or pre-approved equivalent.

2.1.2 Control panel design and performance shall meet requirements specified on the attached Data Sheet.

2.2 EQUIPMENT DESIGN REQUIREMENTS

2.2.1 Control panel shall be designed and built to UL508 Industrial Control Panel requirements.

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2.2.2 Control panel shall be manufactured in a listed Industrial Control Panel Manufacturing Facility.

2.2.3 Control panel enclosure shall be a Type 4 as required for the application.

2.2.4 Control panel components shall be industrial quality
- IEC style motor starters
- fuses
- transformers
- timing relays
- intrinsically safe components (as required)

2.2.5 Control panel shall include the following list of features as standard equipment:
Control panel transformer (if required)
Green illuminated selector switch for control and run indicator for each motor
Red pilot light for each alarm condition
Main disconnect switch, externally accessible
IEC-style motor starters
Mounting kit
Alarm interlock dry contacts
Intrinsically safe components and circuits if site conditions require

2.2.6 The following options shall be available (see Data Sheet for specifications):
Alarm beacon and/or horn
Blank front panel
Control interlocks for other on-site equipment
Lightning/surge protection
Motor elapsed-time meters
Panel heater

2.3 INSTALLATION

2.3.1 Control panel shall be installed in accordance with manufacturer's recommendations, including but not limited to the following:

2.3.1.1 The control panel shall be installed by a licensed electrician. The National Electrical Code and all applicable state and local codes shall be followed when installing this equipment. This includes but is not limited to any provisions for intrinsically safe or explosion-proof wiring. The installation shall be executed in a neat and workmanlike manner.

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2.3.1.2 At no time shall any individual tamper with or change any of the wiring in the control panel without the knowledge and consent of QED personnel. The installer shall only land wires on the field terminals provided and install or remove any jumpers as shown and indicated on the control schematics to achieve proper operation. Any changes made to the panel wiring other than those just mentioned or those approved by QED personnel, in writing, will result in the voiding of any warranty associated with the control panel or any of the connected equipment.

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ENGINEERING DATA SHEET
CONTROL PANELS

REF	ITEM	SPECIFICATION(S)
1.3.1.1	GENERAL PRODUCT DATA	
	Model No.	None (each panel is custom manufactured)
	Panel size:	24"H x 24"W x 12"D to 48"H x 36"W x 12"D (approximate size of typical panel for stripper; panels for larger multi-pump systems can be larger)
	Site classification:	❒ Class I, Division 1 ❒ Class I, Division 2 ❒ Unclassified
	Site power:	_____ V _____ Hz _____ Ph
	Motors in system:	

Qty	HP	Voltage	Phase	Where used (i.e. pump, blower)

Interlock w/other equipment: (i.e., catalytic oxidizer, SVE, etc.)	❒ Yes ❒ No _____ Equipment type
Remote mount:	❒ Yes ❒ No
2.2.6 Options:	Alarm beacon Check if included ❒ Alarm horn Check if included ❒ Blank front panel Check if included ❒ Lightning/surge protection Check if included ❒ Motor elapsed-time meter (_____ hours x _____) Check if included ❒ Panel heater (_____ watts, w/thermostat) Check if included ❒

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SECTION 0401
ENGINEERING SPECIFICATION: PROCESS SENSORS (AIR STRIPPER SYSTEM)

PART 1— GENERAL

1.1 SCOPE

1.1.1 The manufacturer shall furnish process sensors for use in an air stripper system.

1.2 PROCESS DESCRIPTION

1.2.1 Differential pressure switches, gauges, liquid level sensors, liquid flow sensors, and air flow sensors are installed at appropriate points in the air stripper process and linked to a control panel to provide system monitoring capabilities and input for automatic control.

1.3 SUBMITTALS

1.3.1 Manufacturer shall submit the following with the bid:

1.3.1.1 Product data for selected models, including operating ranges, materials, electrical specifications, and warranty coverage. See attached Data Sheet for full specifications.

PART 2 — PRODUCTS

2.1 GENERAL

2.1.1 Equipment shall be supplied by QED Environmental Systems, Inc. and represented by _____ or pre-approved equivalent.

2.1.2 Design and performance of all process sensors shall meet requirements listed in this specification and on the attached Data Sheet.

2.2 EQUIPMENT DESIGN REQUIREMENTS

2.2.1 A sump differential pressure gauge shall be provided as standard equipment to monitor air stripper performance and indicate when cleaning is necessary due to fouling of stripper tray orifices. It shall meet the following specifications:

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2.2.1.1 Gauge shall be diaphragm-actuated dial type, 4 3/4” O.D., with white dial, black graduations, and pointer zero adjustment. Case shall be die cut aluminum with anti-corrosion coating and break-resistant, clear plastic face. Gauge shall operate with an accuracy of plus or minus 2% of full scale over a temperature range of 20° to 140° F. See Data Sheet for working pressure range and other specifications

2.2.2 A sump sight gauge shall be provided as standard equipment, to meet the following specifications:

2.2.2.1 Gauge shall be constructed of clear plastic tube connected to the sump water drain to allow continuous visual sump water level monitoring. See Data Sheet for specifications.

2.2.3 Sump high level switch and discharge pump on/off switch shall be available separately or together as an air stripper system option. (Note: sump high level switch is highly recommended to prevent stripper overflow and blower damage in the event of a drain or discharge pump malfunction.) They shall meet the following specifications:

2.2.3.1 These switches shall be UL and CSA listed, capable of operating with an adjustable liquid level differential, from a minimum of plus or minus 12” or greater. Design shall prevent false tripping due to turbulence. PVC jacketing shall provide a resistance to chemical attack. Mercury switches shall not be used. See Data Sheet for full specifications.

2.2.4 Sump low pressure and high pressure switches shall be available as air stripper system options. (Note: low pressure switch is highly recommended to provide process system shutdown in the event of blower or gasket failure.) They shall meet the following specifications:

2.2.4.1 These switches shall be diaphragm operated, explosion-proof differential pressure switches, UL and CSA listed, approved for use in Class I Groups C and D, Class II Groups E, F and G, and Class III hazardous atmospheres. See Data Sheet for full specifications.

2.2.5 An air flow indicator shall be available as a system option, to meet the following specifications:

2.2.5.1 Air flow sensor shall be a Pitot Tube type. Design shall meet AMCA and ASHRAE codes and require no calibration. Construction shall be of type 304 stainless steel.

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2.2.5.2 Air flow gauge shall be a differential pressure gauge, diaphragm-actuated dial type, 4-3/4” O.D., with white dial, black graduations, and pointer zero adjustment. Case shall be die cut aluminum with anti-corrosion coating and break-resistant, clear plastic face. Gauge shall operate with an accuracy of plus or minus 2% of full range over a temperature range of 20° to 140° F. See Data Sheet for working pressure range and other specifications.

2.2.6 A liquid flow meter shall be available as a system option. Liquid flow meter shall be either an in-line electronic meter with digital readout or a mechanical nutating disc meter, to meet the following specifications:

2.2.6.1 Electronic meter shall sense the rotation of an internal turbine and convert it into flow measurements via an on-board microprocessor. It must be capable of accuracy to within plus or minus 1.5%. Flow shall be displayed on a 6-digit LCD panel, with operation accessed via two buttons. See Data Sheet for specifications.

2.2.6.2 A nutating disc meter shall measure flow via positive displacement; it must be accurate to within plus or minus 1.5% over full range, with an extended 50:1 flow range. Housing shall be of bronze, with only three moving parts to simplify maintenance. See Data Sheet for full specifications.

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ENGINEERING DATA SHEET
PROCESS SENSORS (AIR STRIPPER SYSTEM)

REF	ITEM	SPECIFICATION(S)
2.2.1.1	Pressure gauge	
	Model No.:	EZPGAUGE
	Operating pressure range:	0-50" H_2O
	Minor divisions:	1.0" H_2O
	Pressure connections:	1/8" NPT female
2.2.2.1	Sump site gauge:	
	Water drain connection:	1" NPT
2.2.3.1	Sump high level switch, pump on/off switch	
	Model No.:	800065
	Electrical contact capacity:	15A, 120/250 VAC, 50/60 Hz
	Wetted materials:	Body — polypropylene
		Electric power cable — PVC
2.2.4.1	Sump low pressure switch, sump high pressure switch	
	Model Nos.:	EZPLOW, EZPHIGH
	Operating pressure ranges:	Low = 0.4-1.6" H_2O
		High = 0.5-2.0 PSI
	Electrical rating:	15A, 125/250/480 VAC, 60 Hz
	Wiring connections:	3 screw type; common, norm. open, norm. closed
	Pressure connections:	1/8" NPT female
2.2.5.1	Air flow sensor	
	Model No.:	EZ-AIRFLOW; Pitot-type
	Tube diameter:	1/8"
	Insertion length:	variable

2.2.5.2 Air flow gauge

Model Number	Used On Stripper	Nominal Air Flow (cfm)	Stack Diam. (in)	Nominal Air Velocity (fpm)	Range (" H_2O)
2000-00AV	2.XP	140	4	1604	0-0.25
2001AV	4.XP	260	4	2979	0-1
2000-0AV	4.X	210	4	2406	0-0.5
2000-00AV	6.X	320	6	1630	0-0.25
2000-0AV	8.X	420	6	2139	0-0.5
2001AV	12.X	600	6	3056	0-1
2002AV	16.X	850	6	4329	0-2
2001AV	24.X	1300	8	3724	0-1

(Note: indicate stripper model number for this specification.)

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2.2.6.1 Electronic liquid flow meter:

Meter Model No.	Stripper GPM	Meter I.D.(in)	Meter connections	Power supply
CPFLOW50	3-50	1	NPT female	2 internal Lithium batteries*
CPFLOW300	30-300	2	NPT female	2 internal Lithium batteries*

*Minimum actual run time = 4,000 hours

2.2.6.2 Mechanical liquid flow meter

Meter Model No.	Meter Size (in)	Flow Range (GPM)	End Connections	Max. pressure Loss (PSI)
805011	5/8	1/2-25	1/2” NPT-male	15
805012	3/4	1/2-30	3/4” NPT-male	15

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COOLING TOWERS

AT

Advanced Technology (AT) Series

The Industry's Smartest Induced Draft, Counterflow Cooling Towers



ENGINEERING DATA

evapco® for LIFE

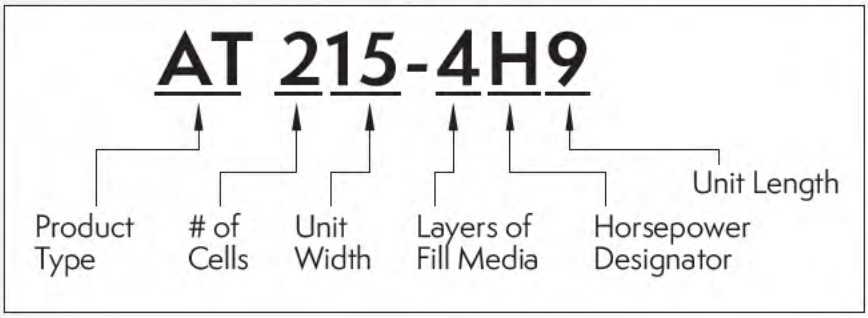
5 Year MOTOR AND DRIVE WARRANTY

CTI CERTIFIED

*Mark owned by the Cooling Technology Institute

Advanced Technology Series
AT
Engineering Data & Dimensions

Nomenclature



Product Type
AT – Indicates an Advanced Technology (AT) tower

# of Cells
Determined by the number of inlet connections, can be 1, 2, 3, or 4

Unit Width
The total width of the unit in feet, all cells included. The value is rounded to the next whole number.

Layers of Fill Media
Determined by the number of 1 foot tall fill layers. Can be 2, 3, 4 or 5.

Horsepower Designator
Determined by the horsepower per fan motor. Available from E = 2 HP to R = 100 HP.

Unit Length
The total length of the unit in feet, all cells included. The value is rounded to the next whole number.

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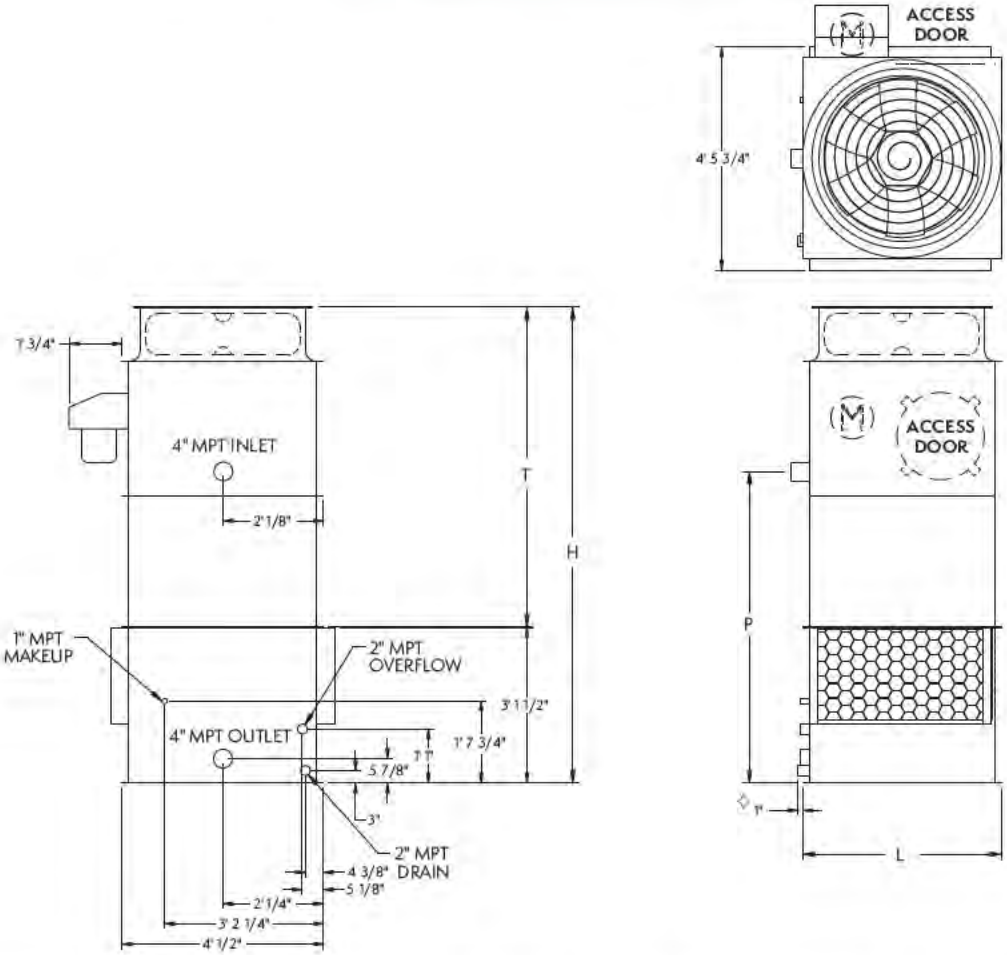
One-Cell Cooling Towers



Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS			
		Shipping	Operating	Heaviest Section✦			H†	T†	P	L
AT 14-2E4	33	1,080	1,710	730	2	9,600	9' 6-1/2 "	6' 5"	6' 3"	3' 11-7/8"
AT 14-2F4	39	1,130	1,760	780	3	10,900	9' 6-1/2 "	6' 5"	6' 3"	3' 11-7/8"
AT 14-3E4	37	1,160	1,790	810	2	9,500	10' 6-1/2 "	7' 5"	7' 3"	3' 11-7/8"
AT 14-3F4	43	1,210	1,840	860	3	10,700	10' 6-1/2 "	7'-5"	7' 3"	3' 11-7/8"
AT 14-2F6	57	1,390	2,410	950	3	15,300	9' 6-1/2 "	6' 5"	6' 3"	5' 11-7/8"
AT 14-2G6	67	1,410	2,430	970	5	18,000	9' 6-1/2 "	6' 5"	6' 3"	5' 11-7/8"
AT 14-3F6	64	1,490	2,510	1,050	3	15,100	10' 6-1/2 "	7' 5"	7' 3"	5' 11-7/8"
AT 14-3G6	74	1,510	2,530	1,070	5	17,700	10' 6-1/2 "	7' 5"	7' 3"	5' 11-7/8"

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

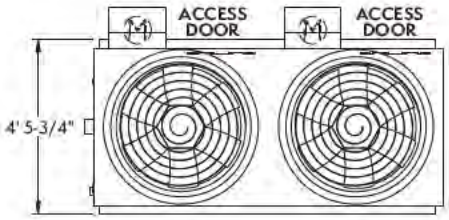
✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

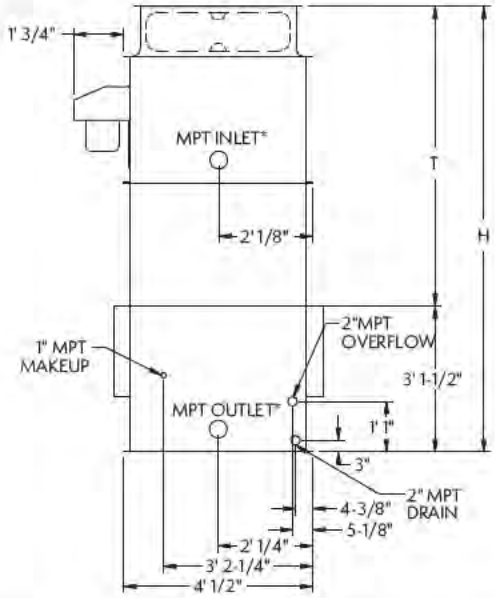
Models: AT 14-2E9 to 14-3G12

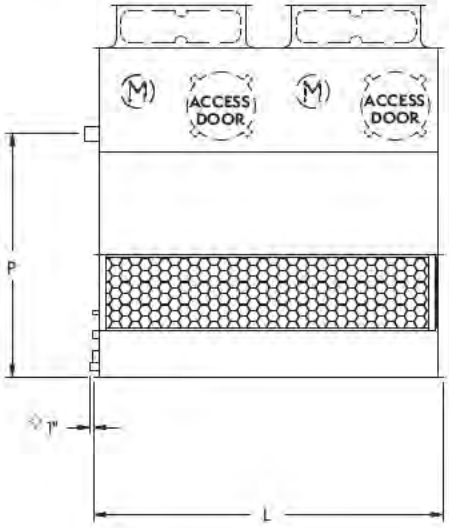
One-Cell Cooling Towers

*14-2E9 to 14-3F9
(1) 4" Inlet
(1) 4" Outlet

*14-2F12 to 14-3G12
(1) 6" Inlet
(1) 6" Outlet







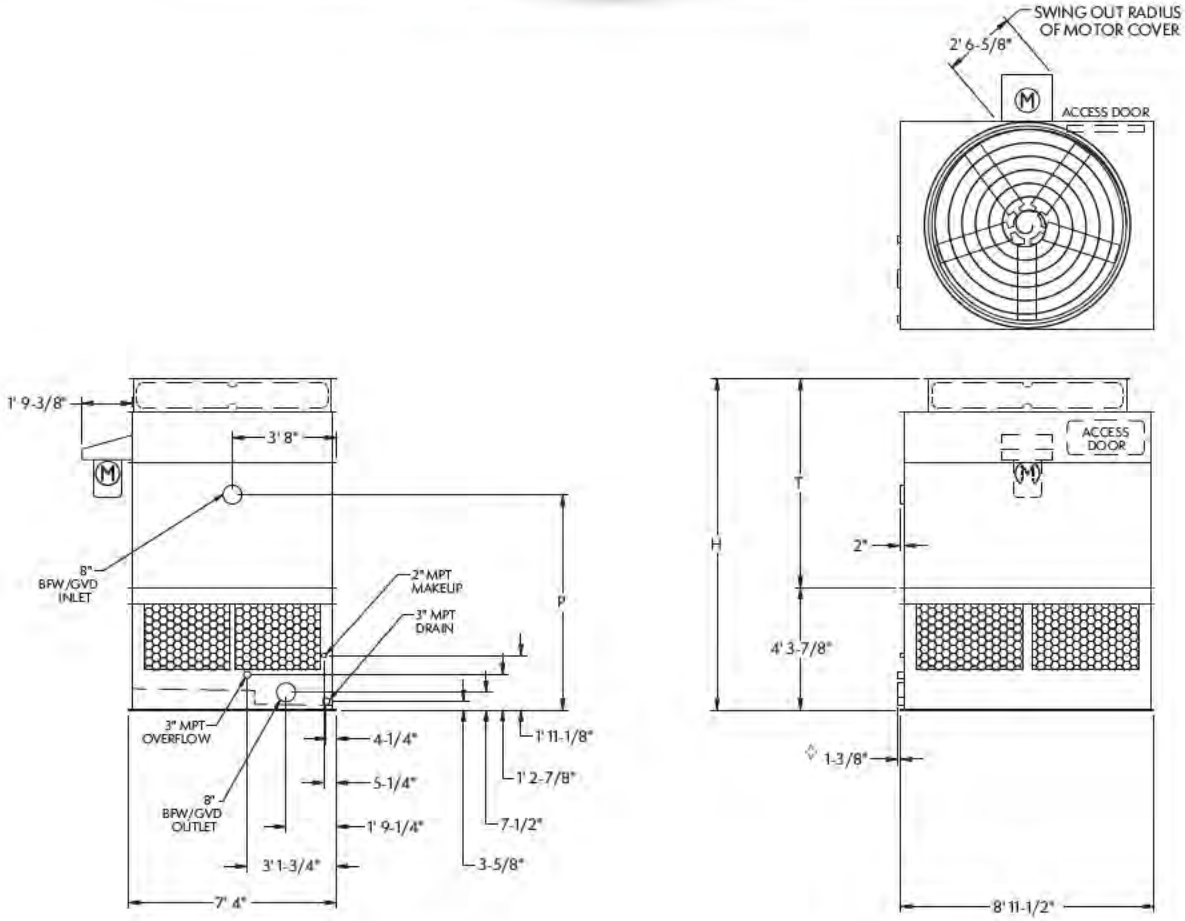
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	Dimensions			
		Shipping	Operating	Heaviest Section✦			H†	T†	P	L
AT14-2E9	76	2,000	3,550	1,380	(2) 2	21,200	9' 6-1/2"	6' 5"	6' 3"	8' 11-1/2"
AT14-2F9	90	2,100	3,650	1,480	(2) 3	24,100	9' 6-1/2"	6' 5"	6' 3"	8' 11-1/2"
AT14-3E9	86	2,160	3,710	1,540	(2) 2	20,800	10' 6-1/2"	7' 5"	7' 3"	8' 11-1/2"
AT14-3F9	100	2,260	3,810	1,640	(2) 3	23,600	10' 6-1/2"	7' 5"	7' 3"	8' 11-1/2"
AT14-2F12	115	2,530	4,650	1,770	(2) 3	31,000	9' 6-1/2"	6' 5"	6' 3"	11' 11-3/4"
AT14-2G12	137	2,570	4,690	1,810	(2) 5	36,400	9' 6-1/2"	6' 5"	6' 3"	11' 11-3/4"
AT14-3F12	129	2,730	4,850	1,970	(2) 3	30,400	10' 6-1/2"	7' 5"	7' 3"	11' 11-3/4"
AT14-3G12	150	2,770	4,890	2,010	(2) 5	35,700	10' 6-1/2"	7' 5"	7' 3"	11' 11-3/4"

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 17-2G9 to 17-4K9

One-Cell Cooling Towers



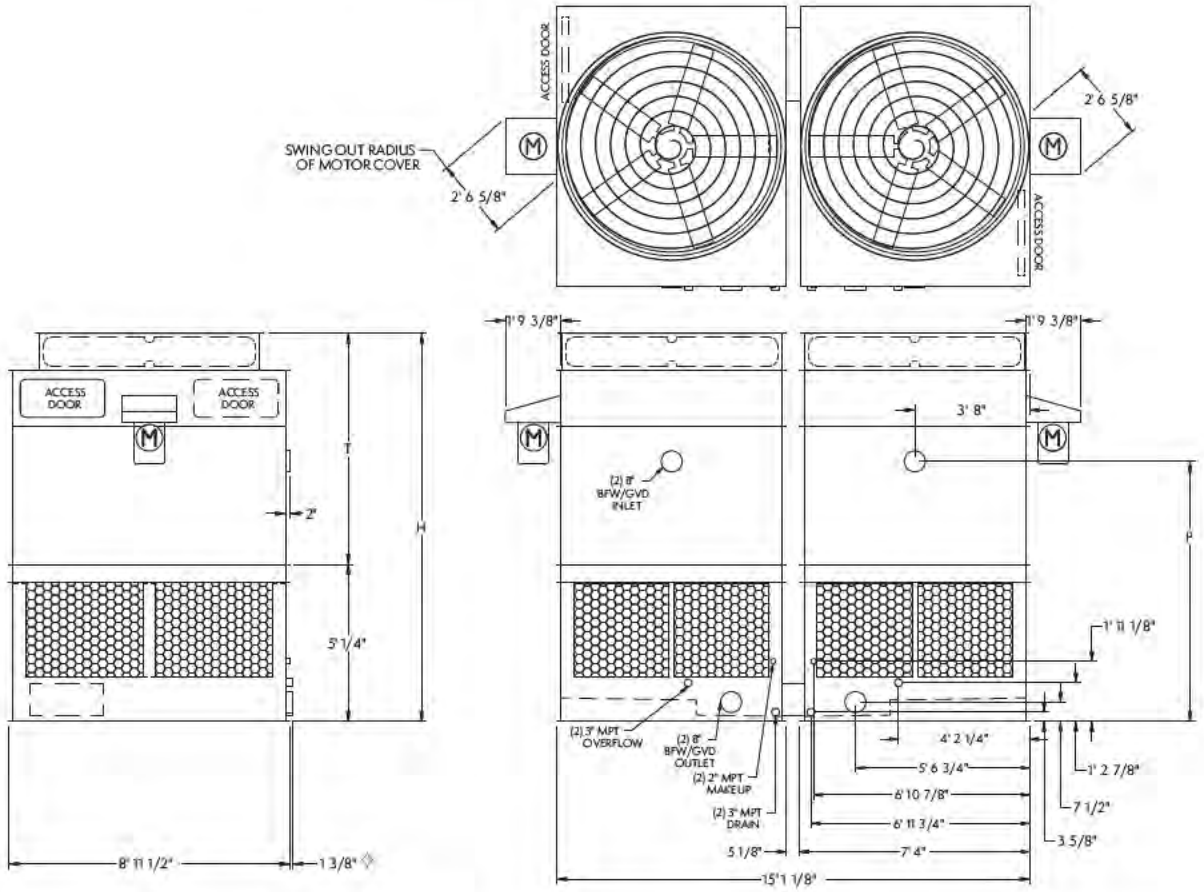
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 17-2G9	113	3,920	6,430	2,560	5	32,100	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-2H9	135	3,960	6,470	2,600	7.5	36,500	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-2I9	149	3,990	6,500	2,630	10	40,100	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-2J9	171	4,060	6,570	2,700	15	45,600	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-3G9	129	4,180	6,690	2,820	5	31,600	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3H9	152	4,220	6,730	2,860	7.5	36,000	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3I9	168	4,250	6,760	2,890	10	39,400	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3J9	193	4,320	6,830	2,960	15	44,700	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3K9	213	4,370	6,880	3,010	20	48,900	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-4G9	143	4,440	6,950	3,080	5	31,100	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4H9	164	4,480	6,990	3,120	7.5	35,300	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4I9	179	4,510	7,020	3,150	10	38,700	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4J9	202	4,580	7,090	3,220	15	44,000	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4K9	220	4,630	7,140	3,270	20	48,100	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
SLSF Addition		130	130	130			1' 6"	1' 6"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 214-2G9 to 214-4K9

Two-Cell Cooling Towers



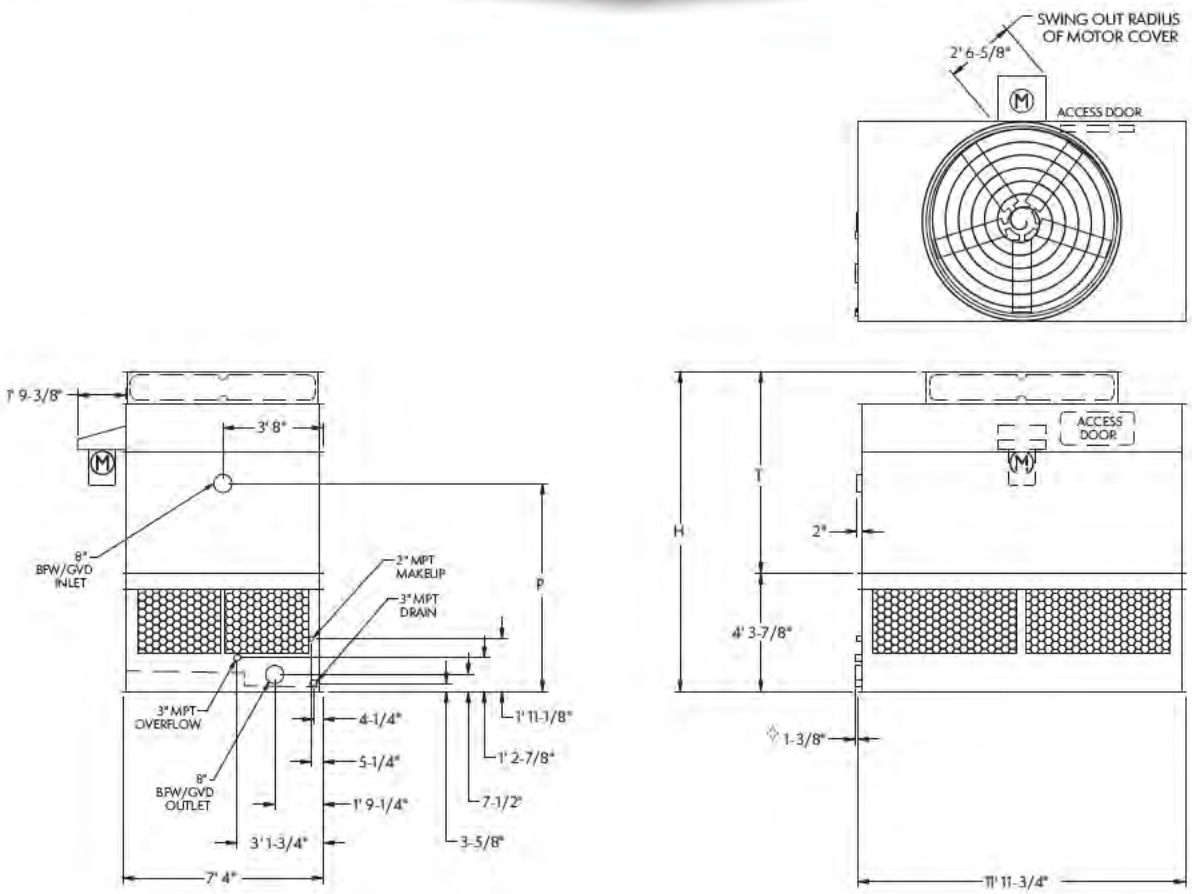
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 214-2G9	225	7,980	11,700	2,560	(2) 5	63,700	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-2H9	269	8,060	11,780	2,600	(2) 7.5	72,400	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-2I9	298	8,120	11,840	2,630	(2) 10	79,400	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-2J9	342	8,260	11,980	2,700	(2) 15	90,300	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-3G9	259	8,500	12,220	2,820	(2) 5	62,700	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3H9	303	8,580	12,300	2,860	(2) 7.5	71,300	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3I9	336	8,640	12,360	2,890	(2) 10	78,000	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3J9	385	8,780	12,500	2,960	(2) 15	88,600	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3K9	426	8,880	12,600	3,010	(2) 20	96,900	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-4G9	287	9,020	12,740	3,080	(2) 5	61,600	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4H9	328	9,100	12,820	3,120	(2) 7.5	70,000	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4I9	358	9,160	12,880	3,150	(2) 10	76,700	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4J9	404	9,300	13,020	3,220	(2) 15	87,100	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4K9	441	9,400	13,120	3,270	(2) 20	95,300	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
SLSF Addition		260	260	130			1' 6"	1' 6"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 17-2H12 to 17-4L12

One-Cell Cooling Towers



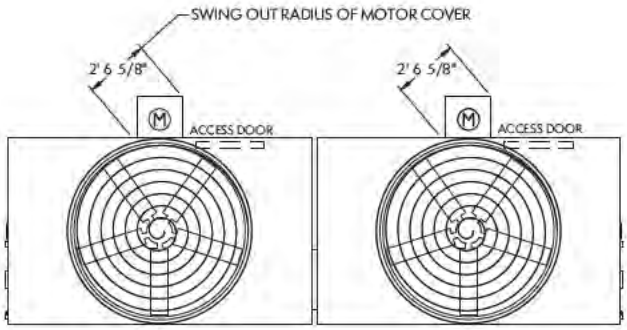
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 17-2H12	164	4,730	8,090	3,080	7.5	46,000	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-2I12	180	4,760	8,120	3,110	10	50,500	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-2J12	208	4,830	8,190	3,180	15	57,500	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-2K12	229	4,880	8,240	3,230	20	63,000	11' 8-3/8"	7' 4-1/2"	7' 7-3/8"
AT 17-3H12	184	5,060	8,420	3,410	7.5	45,400	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3I12	203	5,090	8,450	3,440	10	49,700	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3J12	234	5,160	8,520	3,510	15	56,400	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3K12	258	5,210	8,570	3,560	20	61,700	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-3L12	279	5,240	8,600	3,590	25	66,200	12' 8-3/8"	8' 4-1/2"	8' 7-3/8"
AT 17-4H12	201	5,390	8,750	3,740	7.5	44,600	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4I12	220	5,420	8,780	3,770	10	48,800	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4J12	249	5,490	8,850	3,840	15	55,500	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4K12	271	5,540	8,900	3,890	20	60,700	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
AT 17-4L12	290	5,570	8,930	3,920	25	65,100	13' 8-3/8"	9' 4-1/2"	9' 7-3/8"
SLSF Addition		130	130	130			1' 6"	1' 6"	

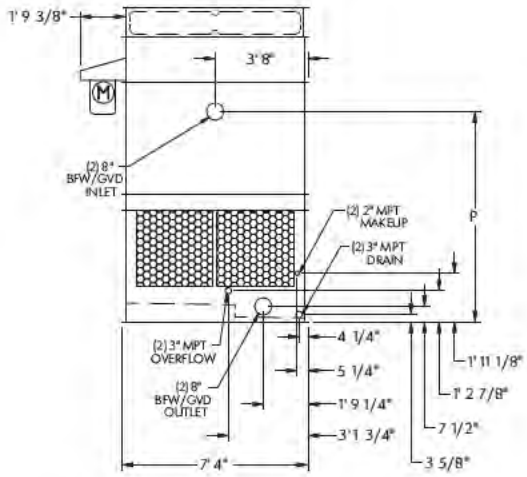
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

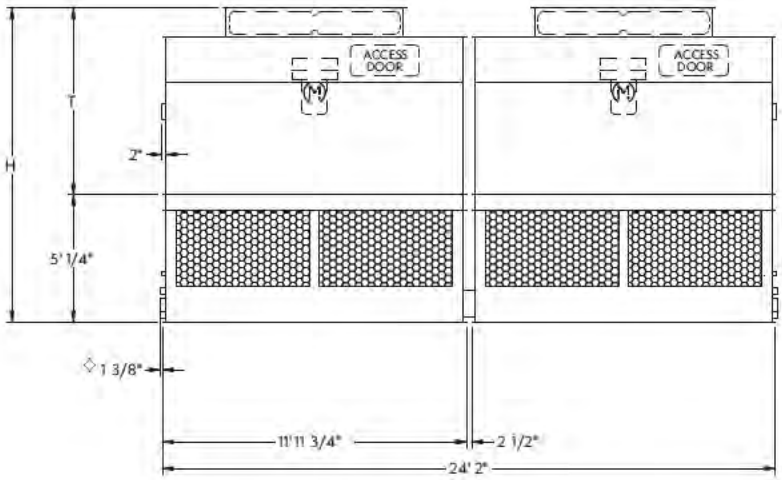
✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 27-2H24 to 27-4L24

Two-Cell Cooling Towers







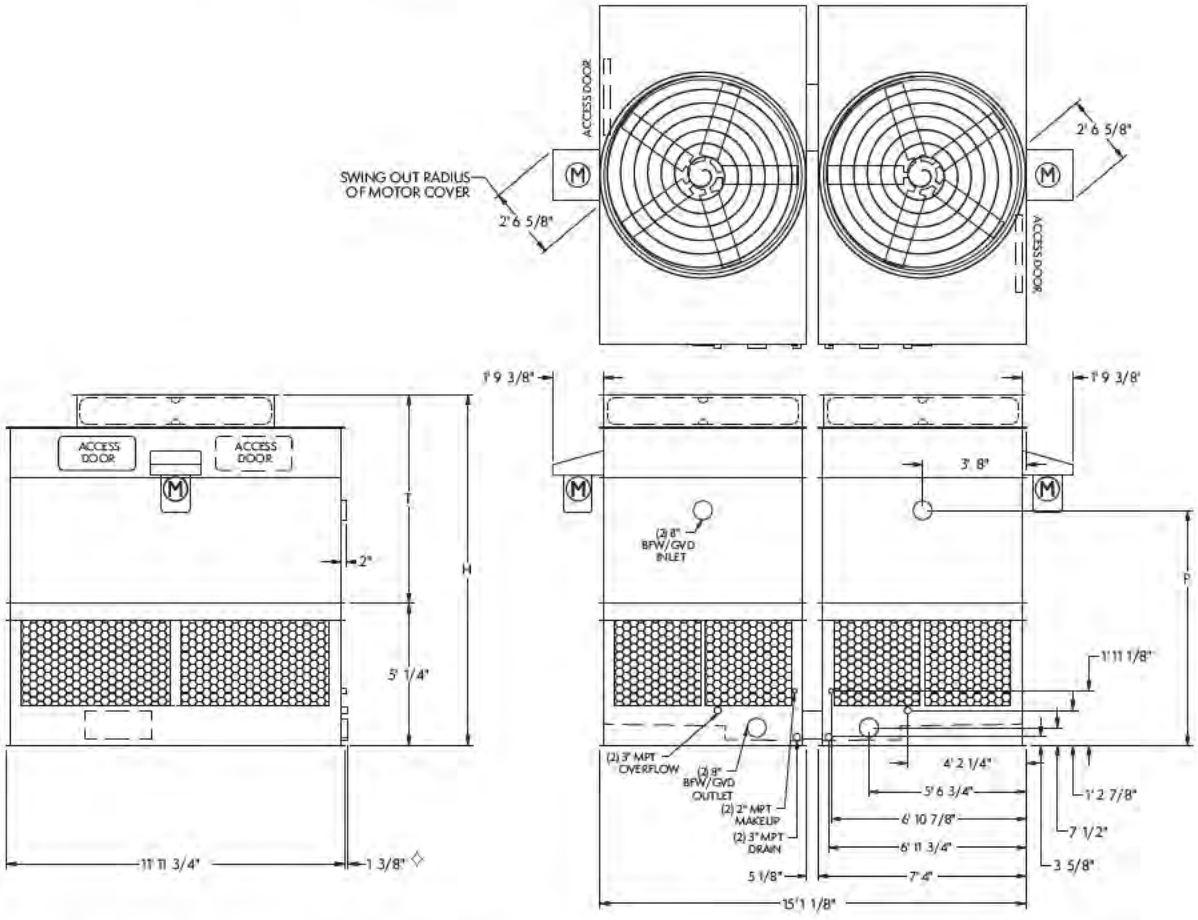
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 27-2H24	323	9,740	14,710	3,080	(2) 7.5	91,700	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 27-2I24	356	9,800	14,770	3,110	(2) 10	100,600	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 27-2J24	410	9,940	14,910	3,180	(2) 15	114,400	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 27-2K24	453	10,040	15,010	3,230	(2) 20	125,400	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 27-3H24	363	10,400	15,370	3,410	(2) 7.5	90,400	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 27-3I24	402	10,460	15,430	3,440	(2) 10	99,000	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 27-3J24	463	10,600	15,570	3,510	(2) 15	112,400	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 27-3K24	511	10,700	15,670	3,560	(2) 20	123,000	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 27-3L24	553	10,760	15,730	3,590	(2) 25	131,900	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 27-4H24	398	11,060	16,030	3,740	(2) 7.5	88,700	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 27-4I24	436	11,120	16,090	3,770	(2) 10	97,200	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 27-4J24	492	11,260	16,230	3,840	(2) 15	110,500	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 27-4K24	537	11,360	16,330	3,890	(2) 20	121,000	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 27-4L24	574	11,420	16,390	3,920	(2) 25	129,700	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
SLSF Addition		260	260	130			1' 6"	1' 6"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 214-2H12 to 214-4L12

Two-Cell Cooling Towers



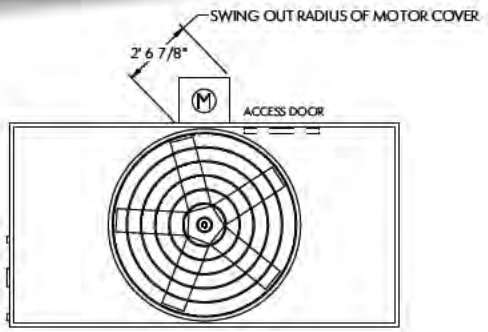
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 214-2H12	317	9,660	14,630	3,080	(2) 7.5	90,300	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-2I12	350	9,720	14,690	3,110	(2) 10	99,100	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-2J12	404	9,860	14,830	3,180	(2) 15	112,800	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-2K12	446	9,960	14,930	3,230	(2) 20	123,600	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 214-3H12	358	10,320	15,290	3,410	(2) 7.5	89,000	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3I12	396	10,380	15,350	3,440	(2) 10	97,500	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3J12	456	10,520	15,490	3,510	(2) 15	110,800	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3K12	504	10,620	15,590	3,560	(2) 20	121,200	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-3L12	545	10,680	15,650	3,590	(2) 25	129,900	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 214-4H12	393	10,980	15,950	3,740	(2) 7.5	87,400	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4I12	430	11,040	16,010	3,770	(2) 10	95,800	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4J12	486	11,180	16,150	3,840	(2) 15	108,900	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4K12	530	11,280	16,250	3,890	(2) 20	119,200	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 214-4L12	567	11,340	16,310	3,920	(2) 25	127,900	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
SLSF Addition		260	260	130			1' 6"	1' 6"	

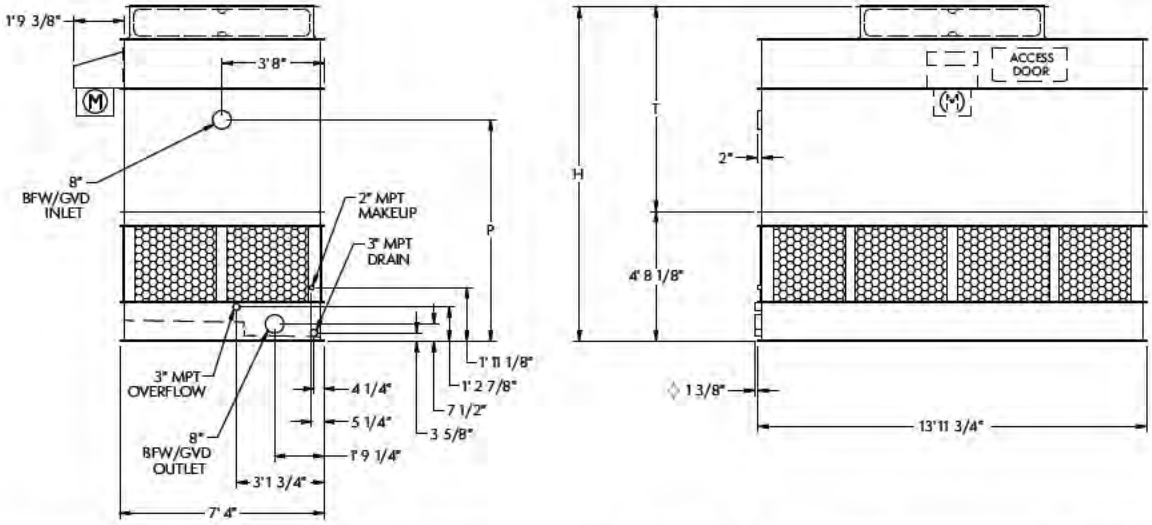
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 17-2H14 to 17-4M14

Two-Cell Cooling Towers





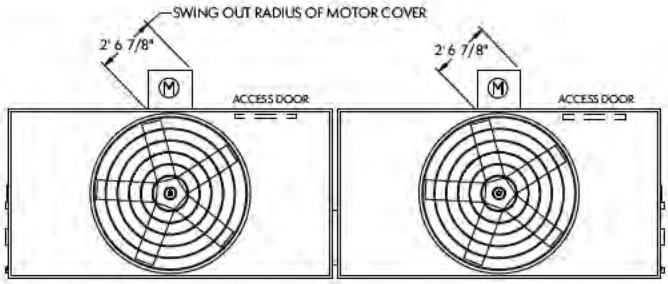
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 17-2H14	174	5,280	9,210	3,380	(1) 7.5	50,300	12' 3/4"	7' 4-1/2"	8' 5/8"
AT 17-3H14	194	5,660	9,590	3,760	(1) 7.5	49,600	13' 3/4"	8' 4-1/2"	8' 11-5/8"
AT 17-4H14	223	6,030	9,960	4,130	(1) 7.5	48,700	14' 3/4"	9' 4-1/2"	9' 11-5/8"
AT 17-2I14	247	5,310	9,240	3,410	(1) 10	55,100	12' 3/4"	7' 4-1/2"	8' 5/8"
AT 17-3I14	266	5,690	9,620	3,790	(1) 10	54,300	13' 3/4"	8' 4-1/2"	8' 11-5/8"
AT 17-4I14	197	6,060	9,990	4,160	(1) 10	53,300	14' 3/4"	9' 4-1/2"	9' 11-5/8"
AT 17-2J14	219	5,380	9,310	3,480	(1) 15	62,800	12' 3/4"	7' 4-1/2"	8' 5/8"
AT 17-3J14	252	5,760	9,690	3,860	(1) 15	61,700	13' 3/4"	8' 4-1/2"	8' 11-5/8"
AT 17-4J14	279	6,130	10,060	4,230	(1) 15	60,700	14' 3/4"	9' 4-1/2"	9' 11-5/8"
AT 17-2K14	301	5,430	9,360	3,530	(1) 20	68,800	12' 3/4"	7' 4-1/2"	8' 5/8"
AT 17-3K14	321	5,810	9,740	3,910	(1) 20	67,500	13' 3/4"	8' 4-1/2"	8' 11-5/8"
AT 17-4K14	219	6,180	10,110	4,280	(1) 20	66,400	14' 3/4"	9' 4-1/2"	9' 11-5/8"
AT 17-2L14	239	5,460	9,390	3,560	(1) 25	73,800	12' 3/4"	7' 4-1/2"	8' 5/8"
AT 17-3L14	270	5,840	9,770	3,940	(1) 25	72,400	13' 3/4"	8' 4-1/2"	8' 11-5/8"
AT 17-4L14	295	6,210	10,140	4,310	(1) 25	71,200	14' 3/4"	9' 4-1/2"	9' 11-5/8"
AT 17-3M14	315	5,860	9,790	3,960	(1) 30	76,700	13' 3/4"	8' 4-1/2"	8' 11-5/8"
AT 17-4M14	333	6,230	10,160	4,330	(1) 30	75,400	14' 3/4"	9' 4-1/2"	9' 11-5/8"
SLSF Addition		130	130	130			1' 6"	1' 6"	

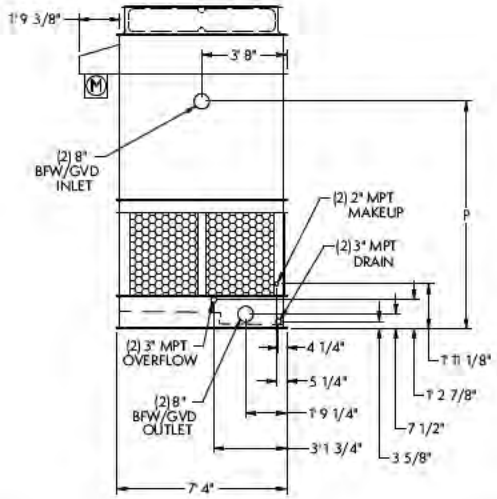
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

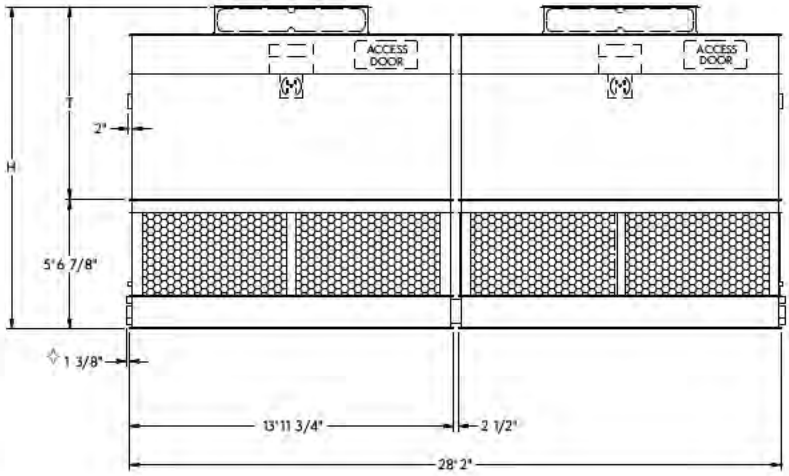
✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 27-2H28 to 27-4M28

Two-Cell Cooling Towers







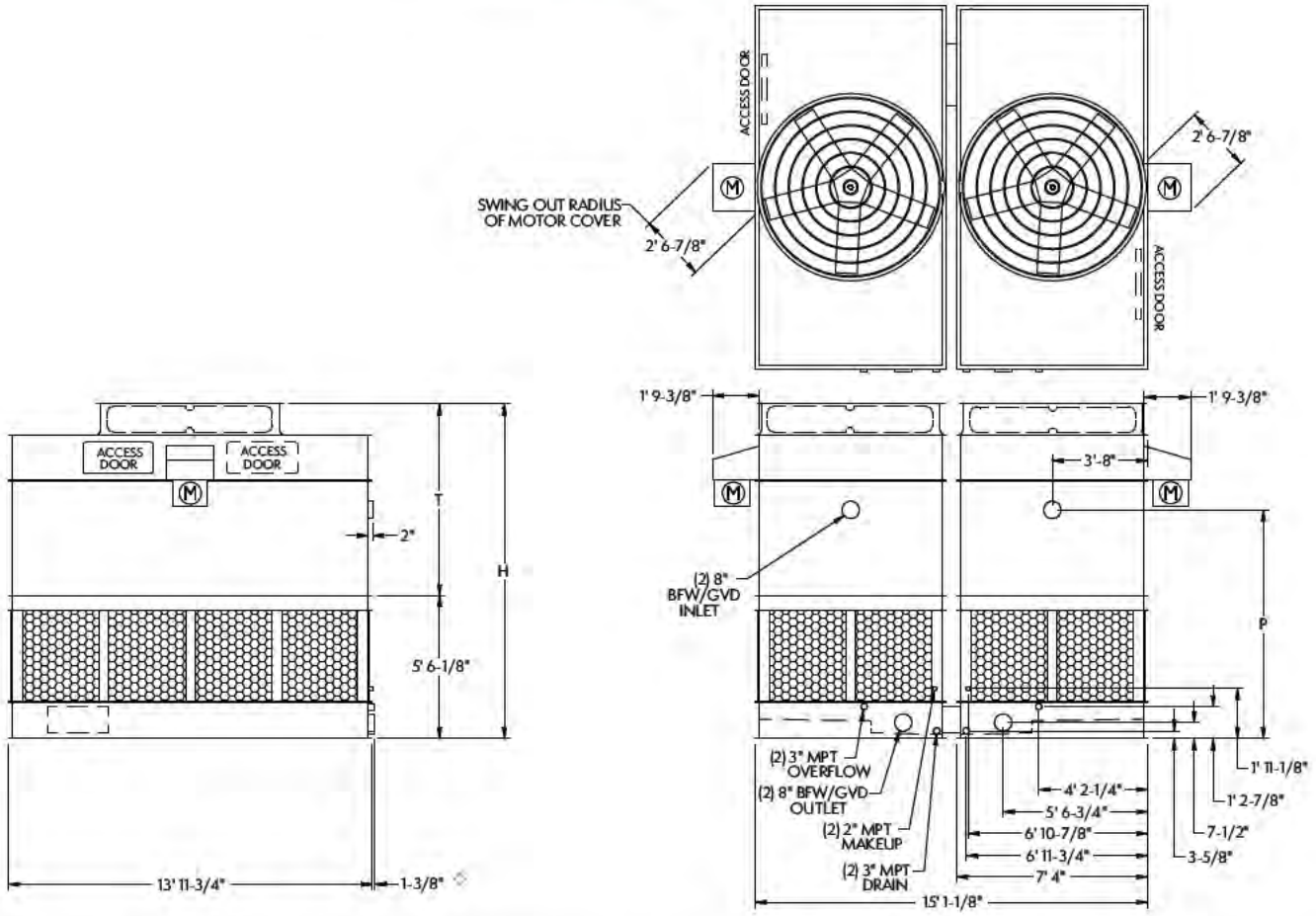
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 27-2H28	343	10,760	18,610	3,380	(2) 7.5	102,200	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 27-3H28	382	11,520	19,370	3,760	(2) 7.5	100,700	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 27-4H28	440	12,260	20,110	4,130	(2) 7.5	98,900	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 27-2I28	487	10,820	18,670	3,410	(2) 10	112,000	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 27-3I28	526	11,580	19,430	3,790	(2) 10	110,400	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 27-4I28	390	12,320	20,170	4,160	(2) 10	108,400	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 27-2J28	432	10,960	18,810	3,480	(2) 15	127,500	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 27-3J28	498	11,720	19,570	3,860	(2) 15	125,400	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 27-4J28	551	12,460	20,310	4,230	(2) 15	123,300	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 27-2K28	595	11,060	18,910	3,530	(2) 20	139,800	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 27-3K28	635	11,820	19,670	3,910	(2) 20	137,200	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 27-4K28	433	12,560	20,410	4,280	(2) 20	135,000	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 27-2L28	472	11,120	18,970	3,560	(2) 25	150,000	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 27-3L28	535	11,880	19,730	3,940	(2) 25	147,100	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 27-4L28	584	12,620	20,470	4,310	(2) 25	144,800	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 27-3M28	625	11,920	19,770	3,960	(2) 30	155,800	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 27-4M28	660	12,660	20,510	4,330	(2) 30	153,300	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
SLSF Addition		260	260	130			1' 6"	1' 6"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 214-2H14 to 214-4M14

Two-Cell Cooling Towers



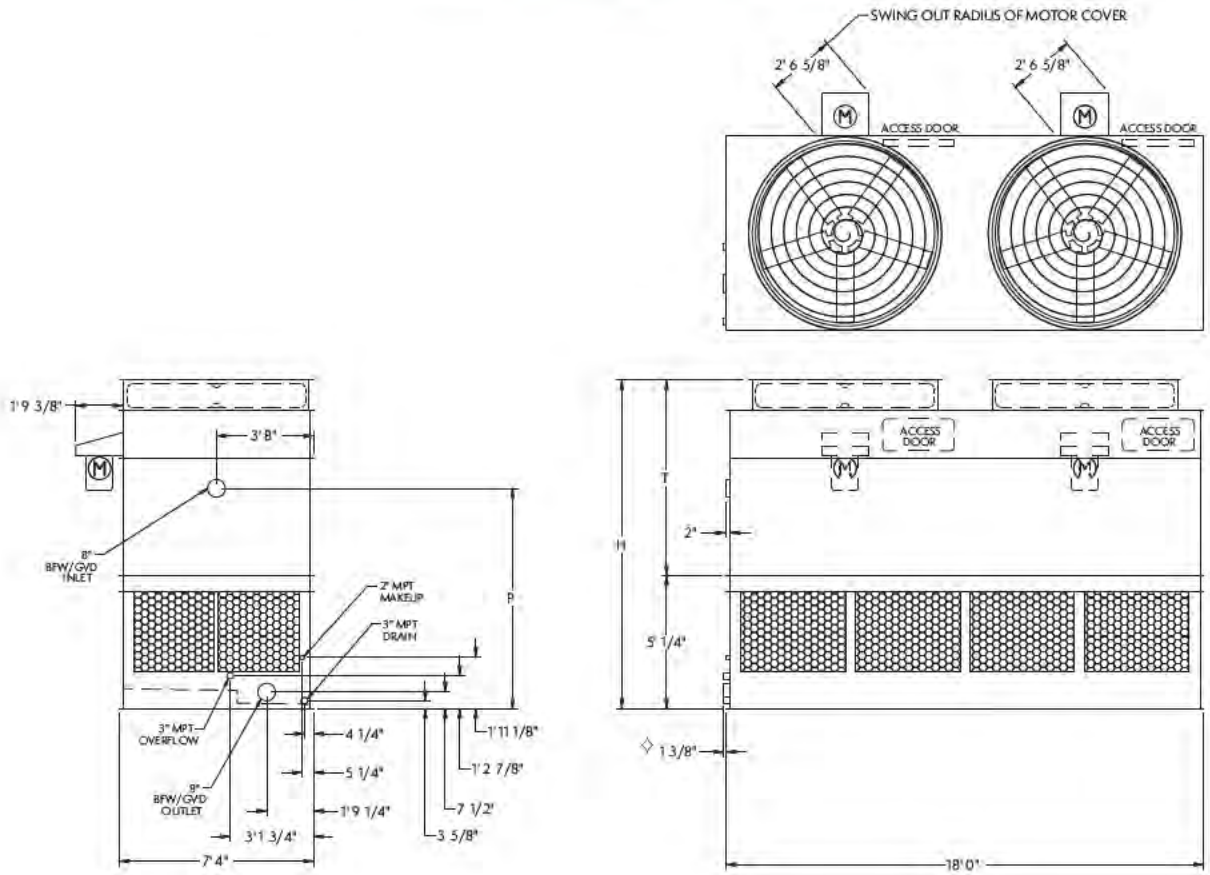
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 214-2H14	342	10,680	18,530	3,380	(2) 7.5	102,000	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 214-3H14	380	11,440	19,290	3,760	(2) 7.5	100,500	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 214-4H14	438	12,180	20,030	4,130	(2) 7.5	98,700	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 214-2J14	485	10,740	18,590	3,410	(2) 10	111,800	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 214-3J14	524	11,500	19,350	3,790	(2) 10	110,200	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 214-4J14	388	12,240	20,090	4,160	(2) 10	108,200	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 214-2J14	430	10,880	18,730	3,480	(2) 15	127,300	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 214-3J14	497	11,640	19,490	3,860	(2) 15	125,200	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 214-4J14	549	12,380	20,230	4,230	(2) 15	123,000	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 214-2K14	593	10,980	18,830	3,530	(2) 20	139,500	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 214-3K14	633	11,740	19,590	3,910	(2) 20	137,000	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 214-4K14	431	12,480	20,330	4,280	(2) 20	134,700	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 214-2L14	471	11,040	18,890	3,560	(2) 25	149,800	12' 10-3/4"	7' 4-1/2"	8' 9-5/8"
AT 214-3L14	534	11,800	19,650	3,940	(2) 25	146,900	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 214-4L14	582	12,540	20,390	4,310	(2) 25	144,500	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
AT 214-3M14	623	11,840	19,690	3,960	(2) 30	155,500	13' 10-3/4"	8' 4-1/2"	9' 9-5/8"
AT 214-4M14	658	12,580	20,430	4,330	(2) 30	153,000	14' 10-3/4"	9' 4-1/2"	10' 9-5/8"
SLSF Addition		260	260	130			1' 6"	1' 6"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 17-2G18 to 17-4K18

One-Cell Cooling Towers



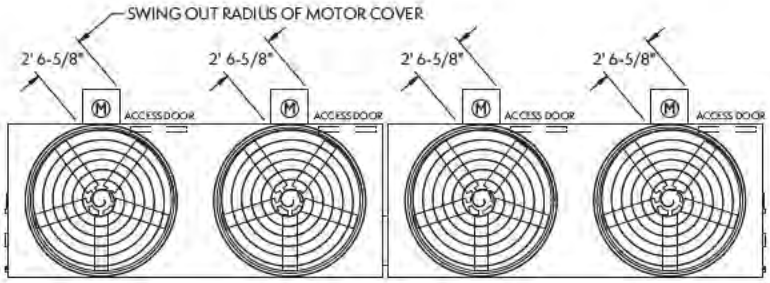
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 17-2G18	228	7,430	12,560	4,800	(2) 5	64,900	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 17-2H18	272	7,510	12,640	4,880	(2) 7.5	73,800	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 17-2J18	301	7,570	12,700	4,940	(2) 10	80,900	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 17-2J18	346	7,710	12,840	5,080	(2) 15	92,100	12' 4-3/4"	7' 4-1/2"	8' 3-3/4"
AT 17-3G18	261	7,910	13,040	5,280	(2) 5	63,900	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 17-3H18	306	7,990	13,120	5,360	(2) 7.5	72,700	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 17-3J18	339	8,050	13,180	5,420	(2) 10	79,500	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 17-3J18	389	8,190	13,320	5,560	(2) 15	90,300	13' 4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 17-3K18	430	8,290	13,420	5,660	(2) 20	98,800	13'-4-3/4"	8' 4-1/2"	9' 3-3/4"
AT 17-4G18	289	8,380	13,510	5,750	(2) 5	62,800	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 17-4H18	332	8,460	13,590	5,830	(2) 7.5	71,400	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 17-4J18	362	8,520	13,650	5,890	(2) 10	78,200	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 17-4J18	408	8,660	13,790	6,030	(2) 15	88,800	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
AT 17-4K18	445	8,760	13,890	6,130	(2) 20	97,200	14' 4-3/4"	9' 4-1/2"	10' 3-3/4"
SLSF Addition		260	260	260			1' 6"	1' 6"	

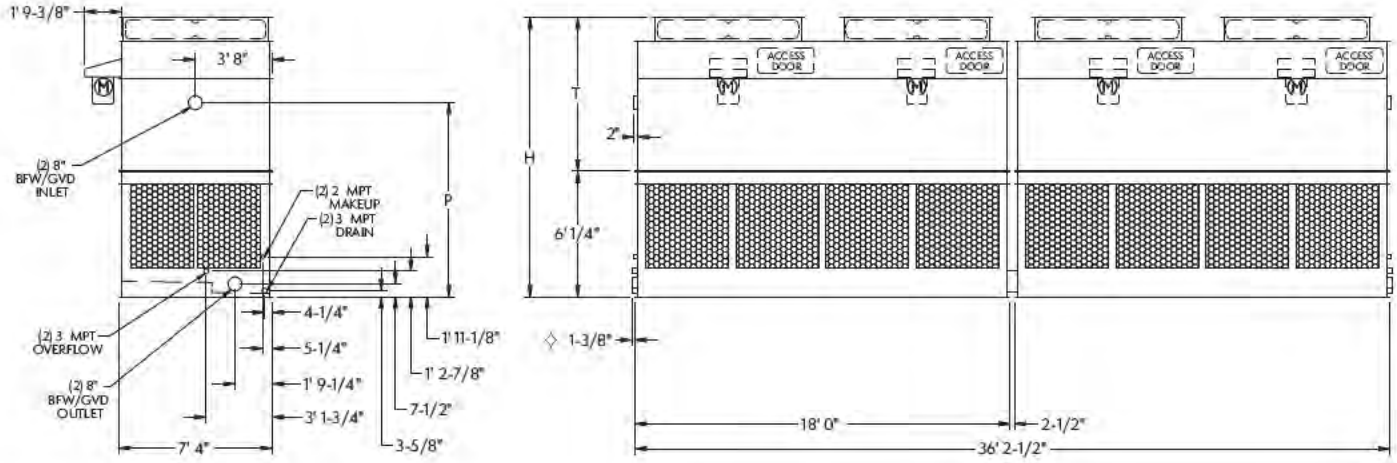
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 27-2G36 to 27-4K36

Two-Cell Cooling Towers





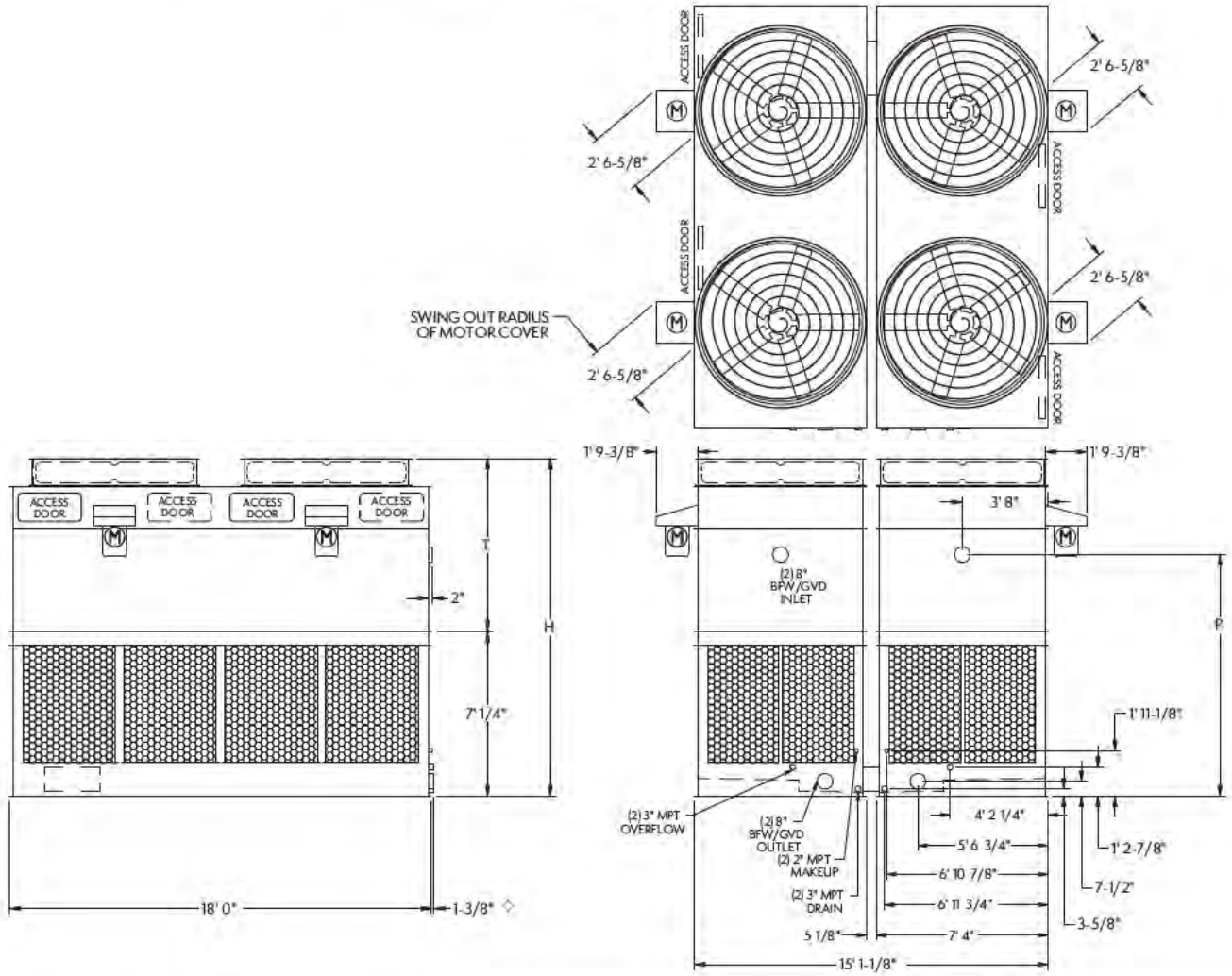
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 27-2G36	444	15,080	22,680	4,800	(4) 5	132,800	13' 4-3/4"	7' 4-1/2"	9' 3-3/4"
AT 27-2H36	531	15,240	22,840	4,880	(4) 7.5	151,000	13' 4-3/4"	7' 4-1/2"	9' 3-3/4"
AT 27-2J36	588	15,360	22,960	4,940	(4) 10	165,500	13' 4-3/4"	7' 4-1/2"	9' 3-3/4"
AT 27-2L36	676	15,640	23,240	5,080	(4) 15	188,300	13' 4-3/4"	7' 4-1/2"	9' 3-3/4"
AT 27-3G36	511	16,040	23,640	5,280	(4) 5	130,700	14' 4-3/4"	8' 4-1/2"	10' 3-3/4"
AT 27-3H36	600	16,200	23,800	5,360	(4) 7.5	148,700	14' 4-3/4"	8' 4-1/2"	10' 3-3/4"
AT 27-3J36	664	16,320	23,920	5,420	(4) 10	162,700	14' 4-3/4"	8' 4-1/2"	10' 3-3/4"
AT 27-3L36	763	16,600	24,200	5,560	(4) 15	184,700	14' 4-3/4"	8' 4-1/2"	10' 3-3/4"
AT 27-3K36	844	16,800	24,400	5,660	(4) 20	202,100	14' 4-3/4"	8' 4-1/2"	10' 3-3/4"
AT 27-4G36	568	16,980	24,580	5,750	(4) 5	128,400	15' 4-3/4"	9' 4-1/2"	11' 3-3/4"
AT 27-4H36	651	17,140	24,740	5,830	(4) 7.5	146,000	15' 4-3/4"	9' 4-1/2"	11' 3-3/4"
AT 27-4J36	710	17,260	24,860	5,890	(4) 10	159,900	15' 4-3/4"	9' 4-1/2"	11' 3-3/4"
AT 27-4L36	802	17,540	25,140	6,030	(4) 15	181,700	15' 4-3/4"	9' 4-1/2"	11' 3-3/4"
AT 27-4K36	875	17,740	25,340	6,130	(4) 20	198,800	15' 4-3/4"	9' 4-1/2"	11' 3-3/4"
SLSF Addition		520	520	260			1' 6"	1' 6"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 214-2G18 to 214-4K18

Two-Cell Cooling Towers



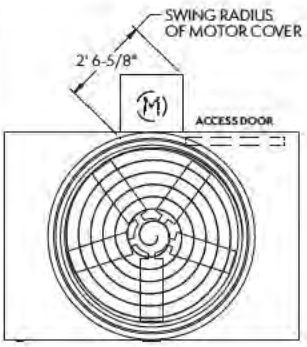
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 214-2G18	441	15,620	23,220	4,800	(4) 5	132,300	14' 4-3/4"	7' 4-1/2"	10' 3-3/4"
AT 214-2H18	528	15,780	23,380	4,880	(4) 7.5	150,500	14' 4-3/4"	7' 4-1/2"	10' 3-3/4"
AT 214-2J18	585	15,900	23,500	4,940	(4) 10	164,900	14' 4-3/4"	7' 4-1/2"	10' 3-3/4"
AT 214-2J18	673	16,180	23,780	5,080	(4) 15	187,600	14' 4-3/4"	7' 4-1/2"	10' 3-3/4"
AT 214-3G18	508	16,580	24,180	5,280	(4) 5	130,300	15' 4-3/4"	8' 4-1/2"	11' 3-3/4"
AT 214-3H18	597	16,740	24,340	5,360	(4) 7.5	148,100	15' 4-3/4"	8' 4-1/2"	11' 3-3/4"
AT 214-3J18	661	16,860	24,460	5,420	(4) 10	162,100	15' 4-3/4"	8' 4-1/2"	11' 3-3/4"
AT 214-3J18	760	17,140	24,740	5,560	(4) 15	184,000	15' 4-3/4"	8' 4-1/2"	11' 3-3/4"
AT 214-3K18	840	17,340	24,940	5,660	(4) 20	201,400	15' 4-3/4"	8' 4-1/2"	11' 3-3/4"
AT 214-4G18	565	17,520	25,120	5,750	(4) 5	127,900	16' 4-3/4"	9' 4-1/2"	12' 3-3/4"
AT 214-4H18	648	17,680	25,280	5,830	(4) 7.5	145,500	16' 4-3/4"	9' 4-1/2"	12' 3-3/4"
AT 214-4J18	707	17,800	25,400	5,890	(4) 10	159,400	16' 4-3/4"	9' 4-1/2"	12' 3-3/4"
AT 214-4J18	799	18,080	25,680	6,030	(4) 15	181,100	16' 4-3/4"	9' 4-1/2"	12' 3-3/4"
AT 214-4K18	871	18,280	25,880	6,130	(4) 20	198,100	16' 4-3/4"	9' 4-1/2"	12' 3-3/4"
SLSF Addition		520	520	260			1' 6"	1' 6"	

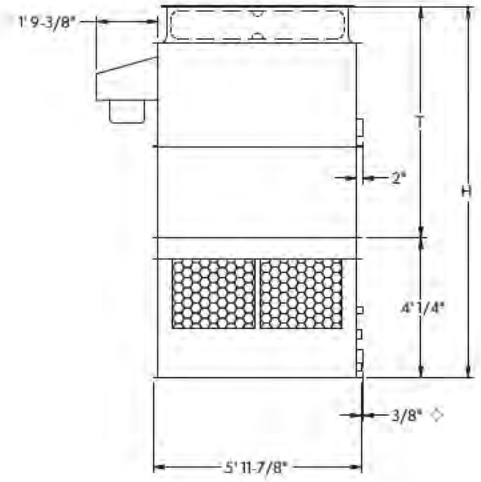
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

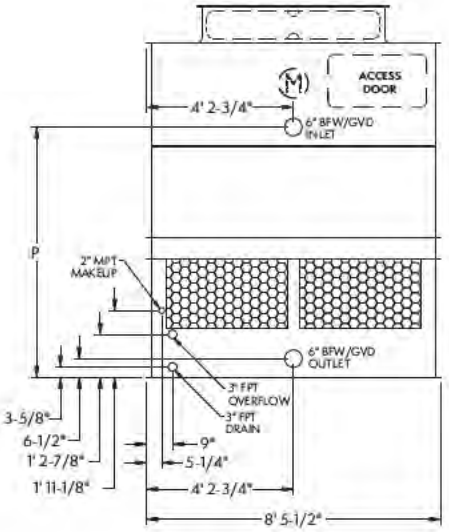
✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 19-2F6 to 19-4J6

One-Cell Cooling Towers







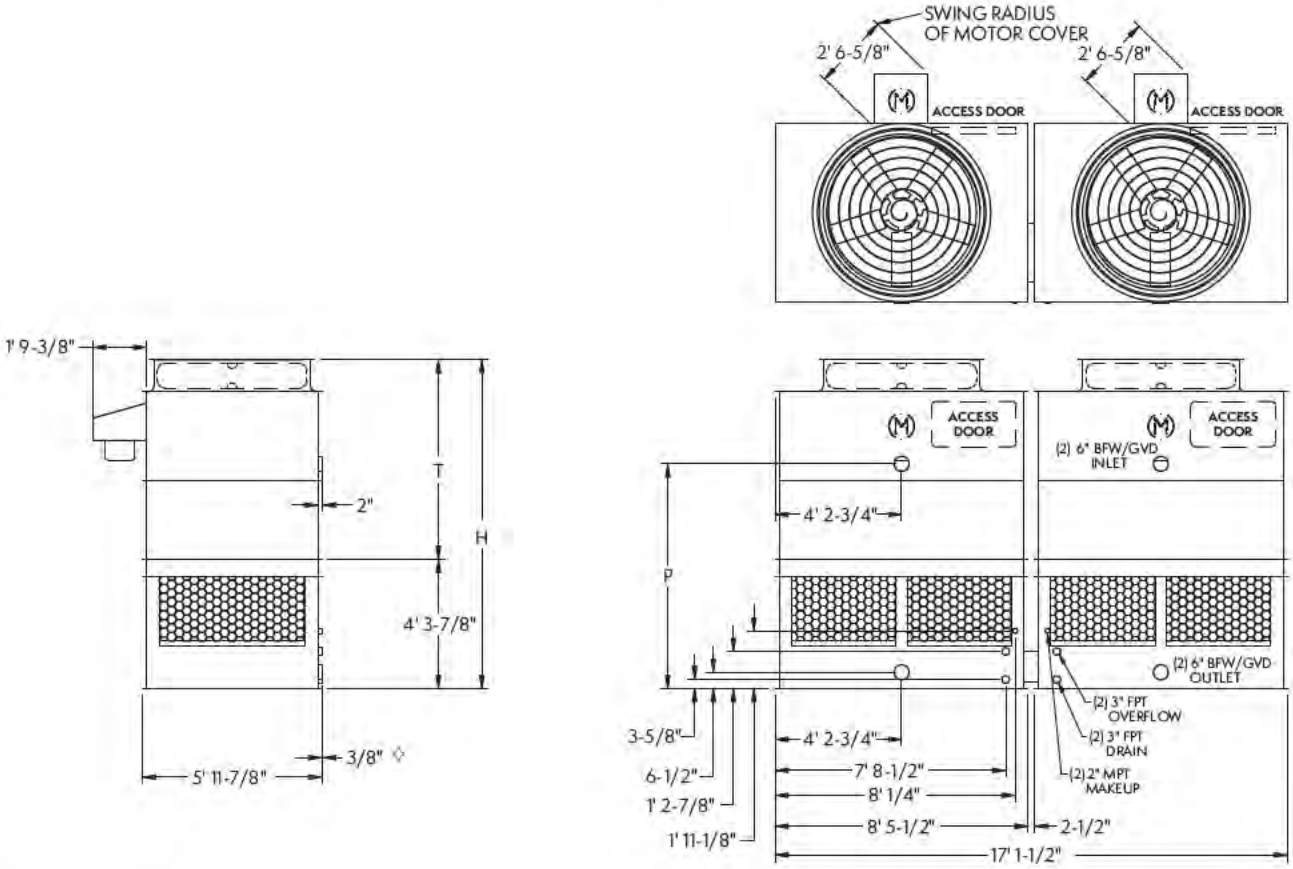
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 19-2F6	89	3,080	5,120	1,950	3	22,600	10' 8-1/4"	6' 8"	7' 2-1/2"
AT 19-2G6	112	3,140	5,180	2,010	5	26,500	10' 8-1/4"	6' 8"	7' 2-1/2"
AT 19-2H6	123	3,180	5,220	2,050	7.5	30,200	10' 8-1/4"	6' 8"	7' 2-1/2"
AT 19-3F6	101	3,280	5,320	2,150	3	22,200	11' 8-1/4"	7' 8"	8' 2-1/2"
AT 19-3G6	124	3,340	5,380	2,210	5	26,100	11' 8-1/4"	7' 8"	8' 2-1/2"
AT 19-3H6	138	3,380	5,420	2,250	7.5	29,700	11' 8-1/4"	7' 8"	8' 2-1/2"
AT 19-3I6	150	3,410	5,450	2,280	10	32,500	11' 8-1/4"	7' 8"	8' 2-1/2"
AT 19-4F6	109	3,500	5,540	2,370	3	21,900	12' 8-1/4"	8' 8"	9' 2-1/2"
AT 19-4G6	130	3,560	5,600	2,430	5	25,700	12' 8-1/4"	8' 8"	9' 2-1/2"
AT 19-4H6	143	3,600	5,640	2,470	7.5	29,200	12' 8-1/4"	8' 8"	9' 2-1/2"
AT 19-4I6	157	3,630	5,670	2,500	10	32,000	12' 8-1/4"	8' 8"	9' 2-1/2"
AT 19-4J6	171	3,700	5,740	2,570	15	36,400	12' 8-1/4"	8' 8"	9' 2-1/2"
SLSF Addition		150	150	150			1' 1"	1' 1"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 26-2F17 to 26-4J17

Two-Cell Cooling Towers



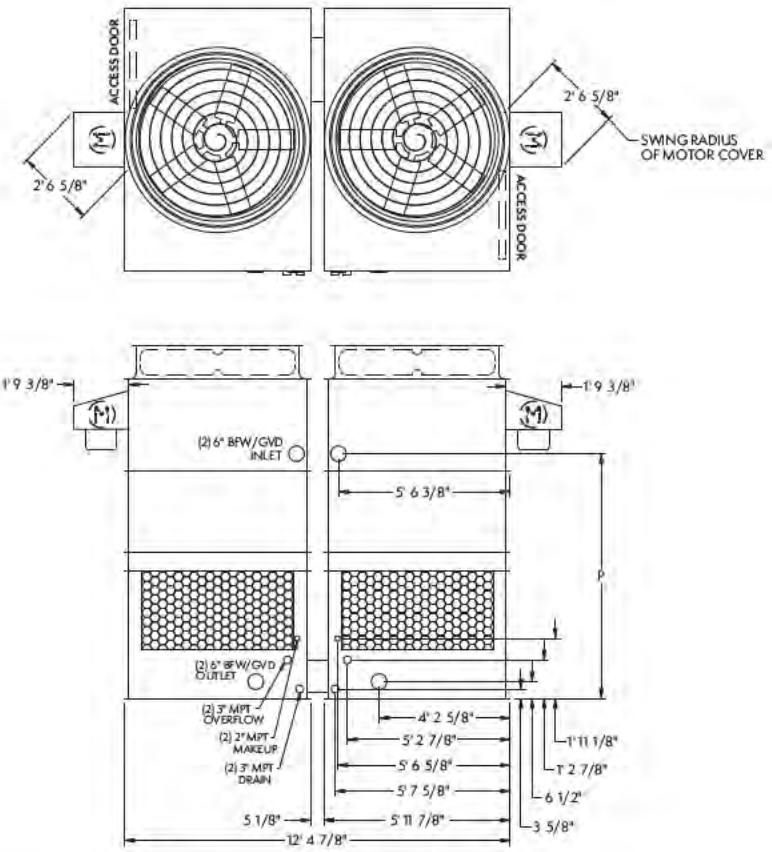
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 26-2F17	179	6,280	10,360	1,990	(2) 3	45,200	10' 11-7/8 "	6' 8"	7' 6-1/8 "
AT 26-2G17	225	6,320	10,400	2,010	(2) 5	53,100	10' 11-7/8 "	6' 8"	7' 6-1/8 "
AT 26-2H17	247	6,400	10,480	2,050	(2) 7.5	60,500	10' 11-7/8 "	6' 8"	7' 6-1/8 "
AT 26-3F17	203	6,680	10,760	2,190	(2) 3	44,500	11' 11-7/8 "	7' 8"	8' 6-1/8 "
AT 26-3G17	250	6,720	10,800	2,210	(2) 5	52,300	11' 11-7/8 "	7' 8"	8' 6-1/8 "
AT 26-3H17	277	6,800	10,880	2,250	(2) 7.5	59,400	11' 11-7/8 "	7' 8"	8' 6-1/8 "
AT 26-3I17	302	6,860	10,940	2,280	(2) 10	65,100	11' 11-7/8 "	7' 8"	8' 6-1/8 "
AT 26-4F17	219	7,120	11,200	2,410	(2) 3	43,800	12' 11-7/8 "	8' 8"	9' 6-1/8 "
AT 26-4G17	262	7,160	11,240	2,430	(2) 5	51,400	12' 11-7/8 "	8' 8"	9' 6-1/8 "
AT 26-4H17	287	7,240	11,320	2,470	(2) 7.5	58,500	12' 11-7/8 "	8' 8"	9' 6-1/8 "
AT 26-4I17	315	7,300	11,380	2,500	(2) 10	64,000	12' 11-7/8 "	8' 8"	9' 6-1/8 "
AT 26-4J17	344	7,440	11,520	2,570	(2) 15	72,800	12' 11-7/8 "	8' 8"	9' 6-1/8 "
SLSF Addition		300	300	150			1' 1"	1' 1"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 212-2F9 to 212-4J9

Two-Cell Cooling Towers



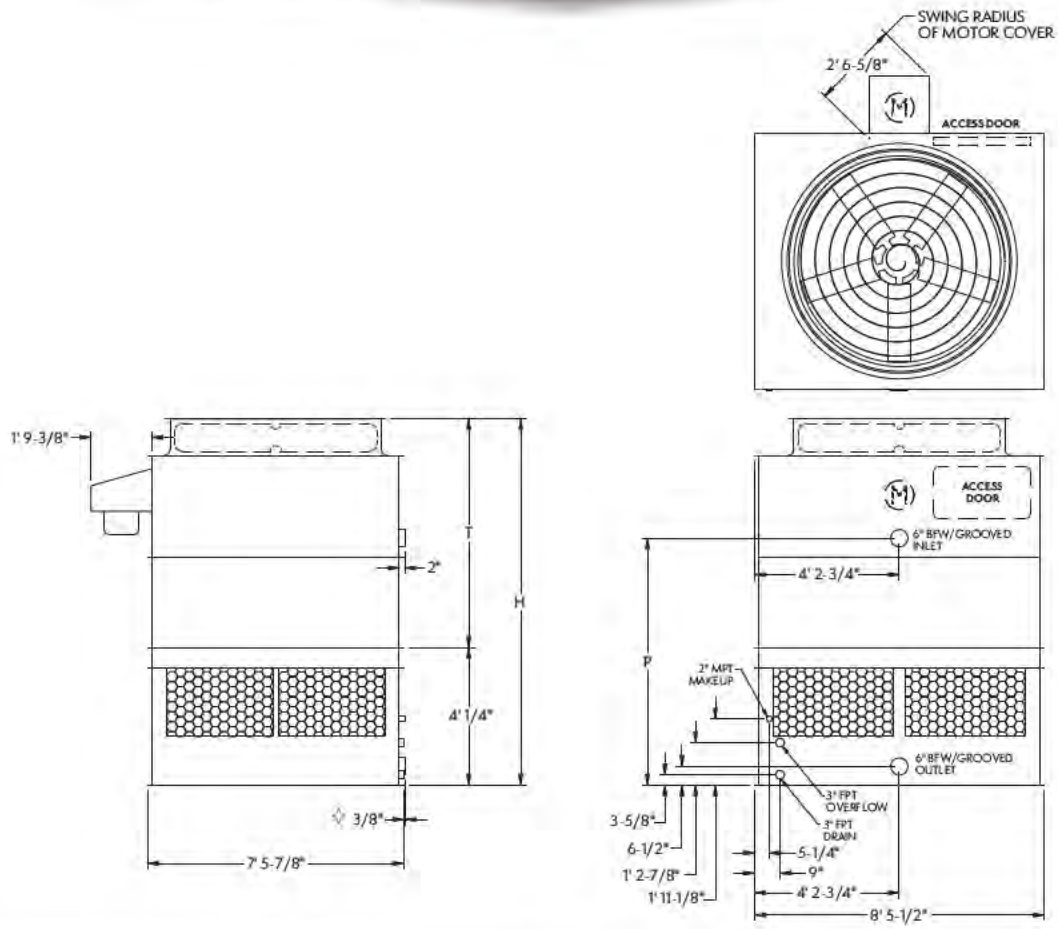
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 212-2F9	179	6,360	10,440	1,990	(2) 3	45,200	11' 4-1/4 "	6' 8"	7' 10 1/2 "
AT 212-2G9	225	6,400	10,480	2,010	(2) 5	53,100	11' 4-1/4 "	6' 8"	7' 10 1/2 "
AT 212-2H9	247	6,480	10,560	2,050	(2) 7.5	60,500	11' 4-1/4 "	6' 8"	7' 10 1/2 "
AT 212-3F9	203	6,760	10,840	2,190	(2) 3	44,500	12' 4-1/4 "	7' 8"	8' 10 1/2 "
AT 212-3G9	250	6,800	10,880	2,210	(2) 5	52,300	12' 4-1/4 "	7' 8"	8' 10 1/2 "
AT 212-3H9	277	6,880	10,960	2,250	(2) 7.5	59,400	12' 4-1/4 "	7' 8"	8' 10 1/2 "
AT 212-3I9	302	6,940	11,020	2,280	(2) 10	65,100	12' 4-1/4 "	7' 8"	8' 10 1/2 "
AT 212-4F9	219	7,200	11,280	2,410	(2) 3	43,800	13' 4-1/4 "	8' 8"	9' 10 1/2 "
AT 212-4G9	262	7,240	11,320	2,430	(2) 5	51,400	13' 4-1/4 "	8' 8"	9' 10 1/2 "
AT 212-4H9	287	7,320	11,400	2,470	(2) 7.5	58,500	13' 4-1/4 "	8' 8"	9' 10 1/2 "
AT 212-4I9	315	7,380	11,460	2,500	(2) 10	64,000	13' 4-1/4 "	8' 8"	9' 10 1/2 "
AT 212-4J9	344	7,520	11,600	2,570	(2) 15	72,800	13' 4-1/4 "	8' 8"	9' 10 1/2 "
SLSF Addition		300	300	150			1' 1"	1' 1"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 19-2F8 to 19-4J8

One-Cell Cooling Towers



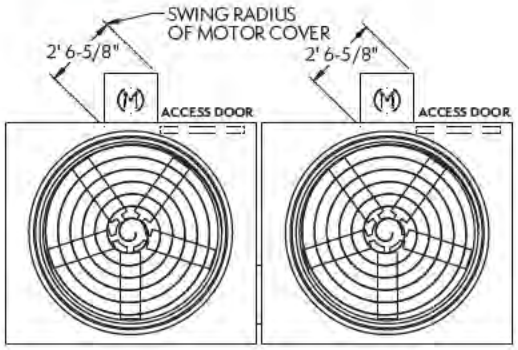
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 19-2F8	109	3,490	5,910	2,220	3	26,600	10' 8-1/4 "	6' 8"	7' 2-1/2 "
AT 19-2G8	137	3,550	5,970	2,280	5	31,300	10' 8-1/4 "	6' 8"	7' 2-1/2 "
AT 19-2H8	148	3,590	6,010	2,320	7.5	35,700	10' 8-1/4 "	6' 8"	7' 2-1/2 "
AT 19-2I8	159	3,620	6,040	2,350	10	39,200	10' 8-1/4 "	6' 8"	7' 2-1/2 "
AT 19-3F8	123	3,720	6,140	2,450	3	26,200	11' 8-1/4 "	7' 8"	8' 2-1/2 "
AT 19-3G8	152	3,780	6,200	2,510	5	30,800	11' 8-1/4 "	7' 8"	8' 2-1/2 "
AT 19-3H8	165	3,820	6,240	2,550	7.5	35,100	11' 8-1/4 "	7' 8"	8' 2-1/2 "
AT 19-3I8	179	3,850	6,270	2,580	10	38,400	11' 8-1/4 "	7' 8"	8' 2-1/2 "
AT 19-3J8	197	3,910	6,330	2,640	15	43,700	11' 8-1/4 "	7' 8"	8' 2-1/2 "
AT 19-4F8	133	3,990	6,410	2,720	3	25,800	12' 8-1/4 "	8' 8"	9' 2-1/2 "
AT 19-4G8	159	4,050	6,470	2,780	5	30,300	12' 8-1/4 "	8' 8"	9' 2-1/2 "
AT 19-4H8	173	4,090	6,510	2,820	7.5	34,500	12' 8-1/4 "	8' 8"	9' 2-1/2 "
AT 19-4I8	187	4,120	6,540	2,850	10	37,800	12' 8-1/4 "	8' 8"	9' 2-1/2 "
AT 19-4J8	207	4,180	6,600	2,910	15	43,000	12' 8-1/4 "	8' 8"	9' 2-1/2 "
SLSF Addition		150	150	150			1' 5"	1' 5"	

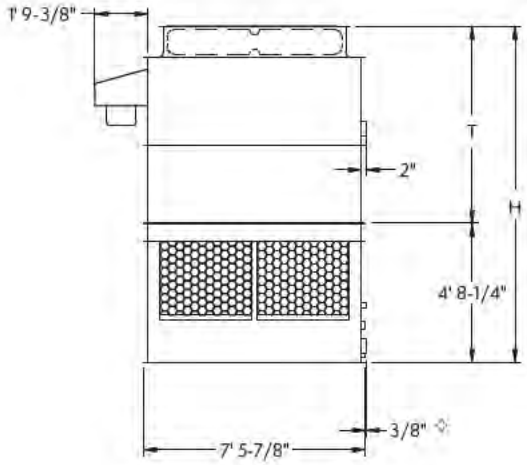
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F degree wet-bulb temperature.

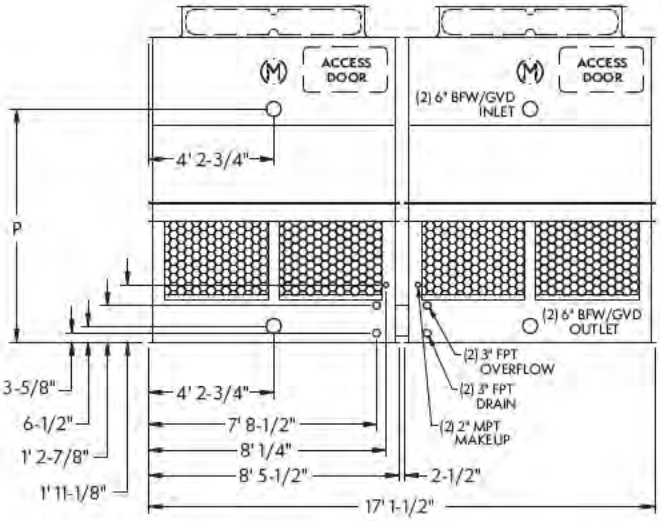
✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 28-2F17 to 28-4J17

Two-Cell Cooling Towers







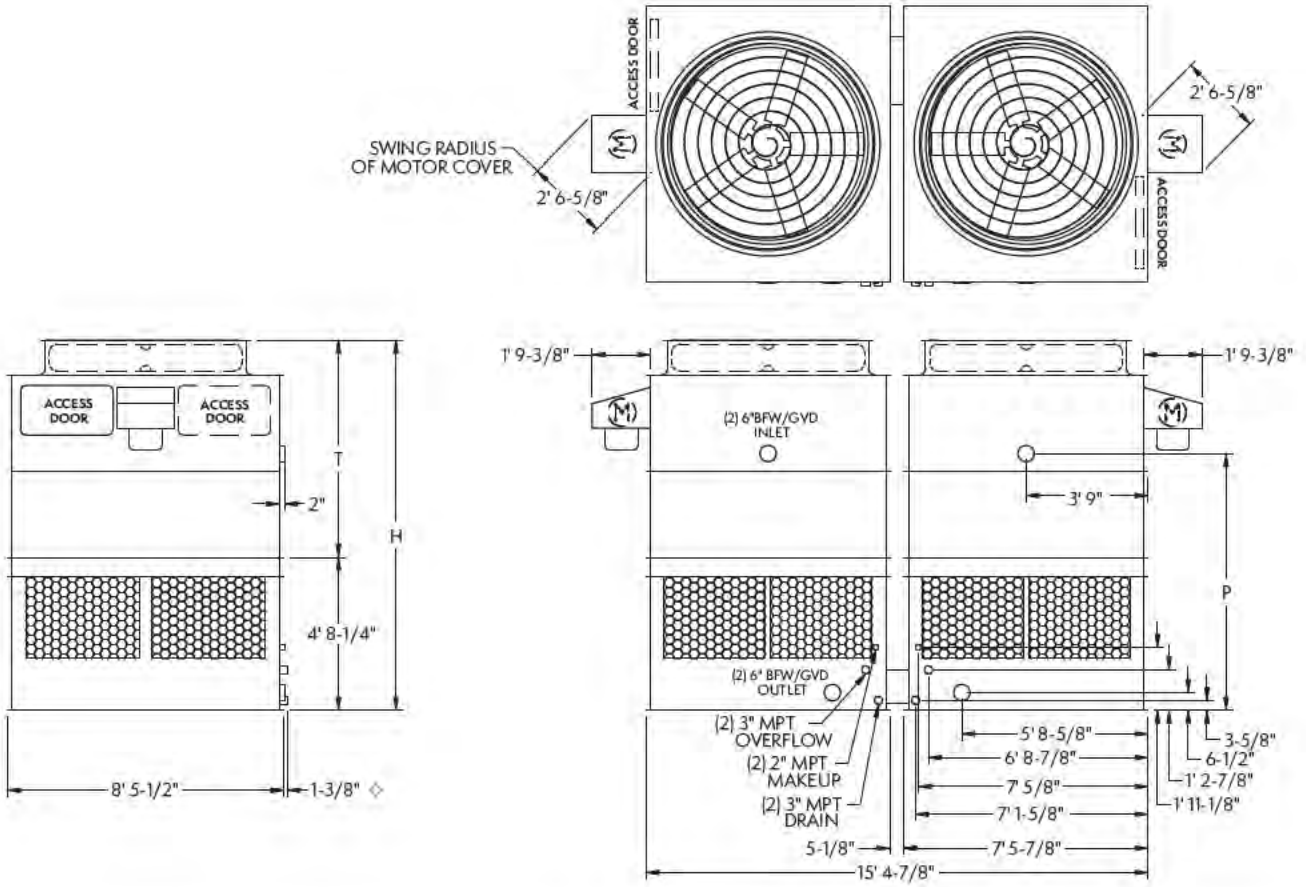
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 28-2F17	217	7,140	11,980	2,260	(2) 3	53,200	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 28-2G17	274	7,180	12,020	2,280	(2) 5	62,600	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 28-2H17	297	7,260	12,100	2,320	(2) 7.5	71,400	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 28-2J17	319	7,320	12,160	2,350	(2) 10	78,300	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 28-3F17	247	7,600	12,440	2,490	(2) 3	52,500	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 28-3G17	304	7,640	12,480	2,510	(2) 5	61,600	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 28-3H17	331	7,720	12,560	2,550	(2) 7.5	70,200	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 28-3J17	358	7,780	12,620	2,580	(2) 10	76,900	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 28-3J17	393	7,900	12,740	2,640	(2) 15	87,500	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 28-4F17	267	8,140	12,980	2,760	(2) 3	51,600	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 28-4G17	319	8,180	13,020	2,780	(2) 5	60,600	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 28-4H17	346	8,260	13,100	2,820	(2) 7.5	69,100	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 28-4J17	373	8,320	13,160	2,850	(2) 10	75,700	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 28-4J17	414	8,440	13,280	2,910	(2) 15	86,000	13' 4-1/4"	8' 8"	9' 10-1/2"
SLSF Addition		300	300	150			1' 5"	1' 5"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 215-2F9 to 215-4J9

Two-Cell Cooling Towers



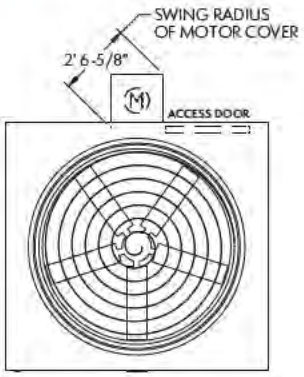
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 215-2F9	217	7,200	12,040	2,260	(2) 3	53,200	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 215-2G9	274	7,240	12,080	2,280	(2) 5	62,600	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 215-2H9	297	7,320	12,160	2,320	(2) 7.5	71,400	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 215-2I9	319	7,380	12,220	2,350	(2) 10	78,300	11' 4-1/4"	6' 8"	7' 10-1/2"
AT 215-3F9	247	7,660	12,500	2,490	(2) 3	52,500	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 215-3G9	304	7,700	12,540	2,510	(2) 5	61,600	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 215-3H9	331	7,780	12,620	2,550	(2) 7.5	70,200	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 215-3I9	358	7,840	12,680	2,580	(2) 10	76,900	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 215-3J9	393	7,960	12,800	2,640	(2) 15	87,500	12' 4-1/4"	7' 8"	8' 10-1/2"
AT 215-4F9	267	8,200	13,040	2,760	(2) 3	51,600	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 215-4G9	319	8,240	13,080	2,780	(2) 5	60,600	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 215-4H9	346	8,320	13,160	2,820	(2) 7.5	69,100	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 215-4I9	373	8,380	13,220	2,850	(2) 10	75,700	13' 4-1/4"	8' 8"	9' 10-1/2"
AT 215-4J9	414	8,500	13,340	2,910	(2) 15	86,000	13' 4-1/4"	8' 8"	9' 10-1/2"
SLSF Addition		300	300	150			1' 5"	1' 5"	

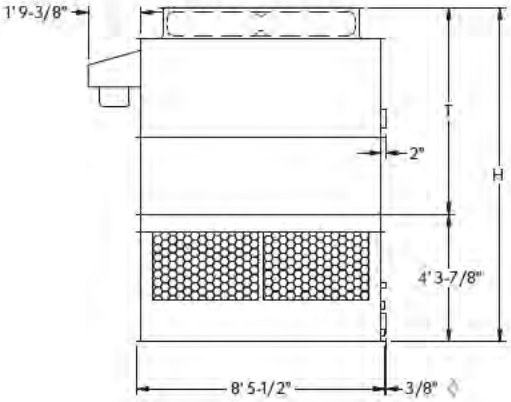
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

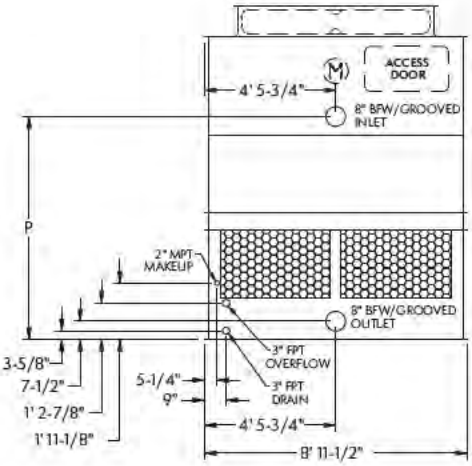
◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 19-2G9 to 19-4K9

One-Cell Cooling Towers







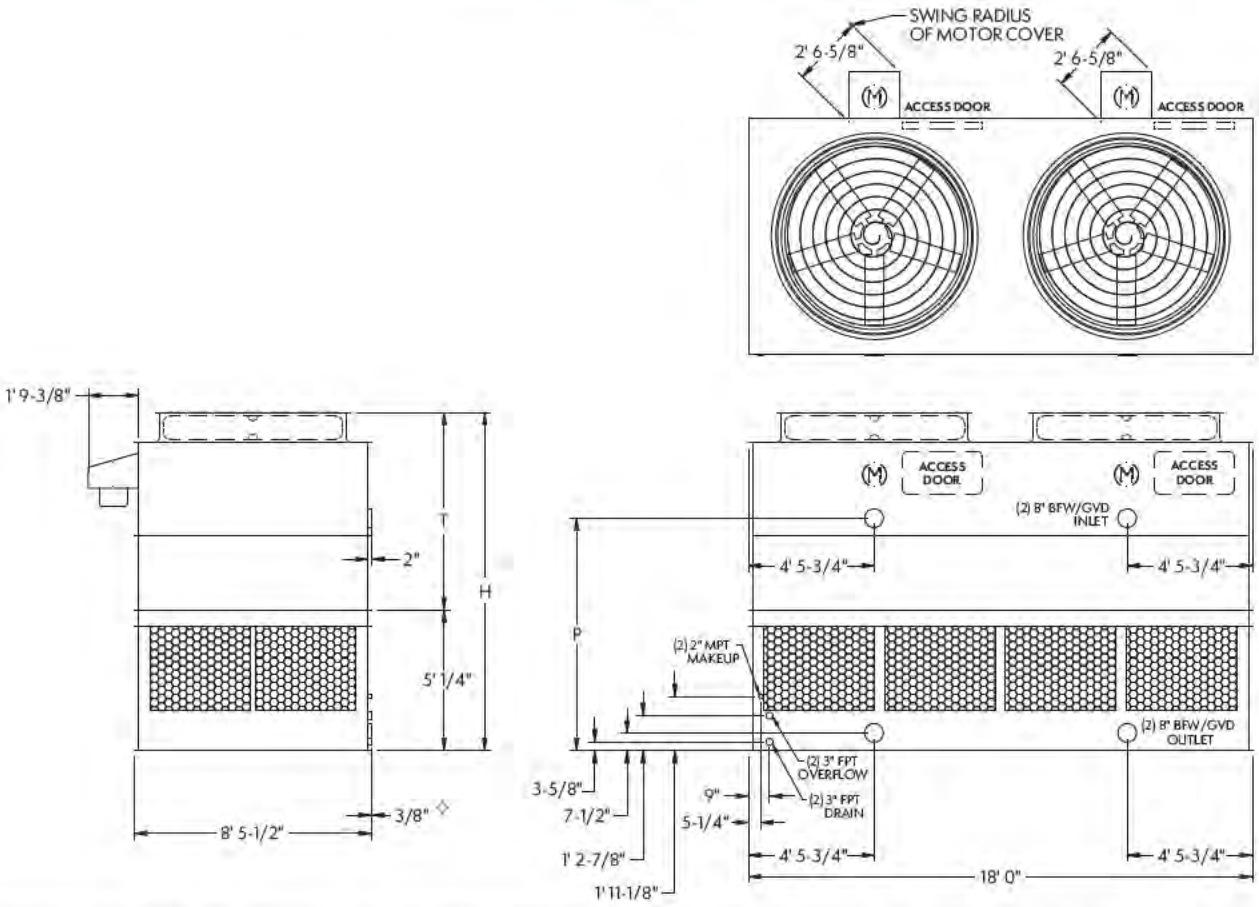
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 19-2G9	135	4,110	6,950	2,670	5	35,900	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-2H9	162	4,150	6,990	2,710	7.5	40,800	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-2I9	178	4,180	7,020	2,740	10	44,700	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-2J9	208	4,250	7,090	2,810	15	50,800	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-3G9	154	4,380	7,220	2,940	5	35,300	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3H9	181	4,420	7,260	2,980	7.5	40,100	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3I9	199	4,450	7,290	3,010	10	43,900	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3J9	232	4,520	7,360	3,080	15	49,800	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-4G9	165	4,690	7,530	3,250	5	34,700	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4H9	191	4,730	7,570	3,290	7.5	39,500	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4I9	209	4,760	7,600	3,320	10	43,200	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4J9	242	4,830	7,670	3,390	15	49,000	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4K9	265	4,880	7,720	3,440	20	53,600	13' 4-3/8"	9' 1/2"	9' 7-1/8"
SLSF Addition		150	150	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 29-2G18 to 29-4K18

Two-Cell Cooling Towers



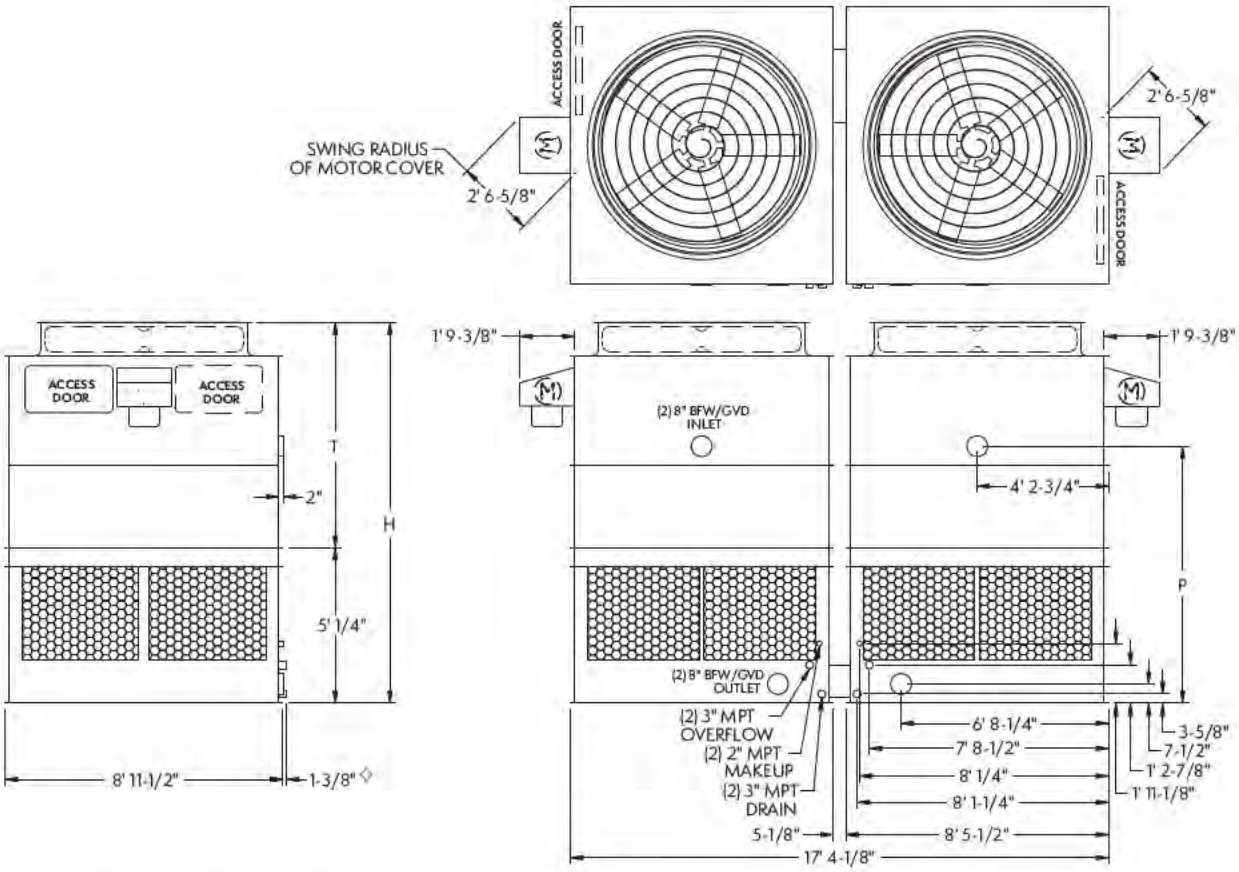
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 29-2G18	274	8,110	14,000	5,290	(2) 5	72,000	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2H18	329	8,190	14,080	5,370	(2) 7.5	81,900	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2I18	362	8,250	14,140	5,430	(2) 10	89,800	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2J18	422	8,390	14,280	5,570	(2) 15	102,000	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-3G18	312	8,640	14,530	5,820	(2) 5	70,900	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3H18	368	8,720	14,610	5,900	(2) 7.5	80,600	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3I18	404	8,780	14,670	5,960	(2) 10	88,200	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3J18	471	8,920	14,810	6,100	(2) 15	100,000	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-4G18	335	9,220	15,110	6,400	(2) 5	69,700	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4H18	387	9,300	15,190	6,480	(2) 7.5	79,300	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4I18	425	9,360	15,250	6,540	(2) 10	86,800	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4J18	491	9,500	15,390	6,680	(2) 15	98,400	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4K18	538	9,600	15,490	6,780	(2) 20	107,600	14' 3/4"	9' 1/2"	10' 3-1/2"
SLSF Addition		300	300	300			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 217-2G9 to 217-4K9

Two-Cell Cooling Towers



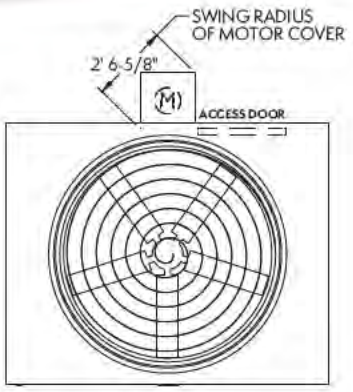
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 217-2G9	270	8,420	14,100	2,670	(2) 5	71,700	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2H9	324	8,500	14,180	2,710	(2) 7.5	81,500	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2J9	356	8,560	14,240	2,740	(2) 10	89,300	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2J9	416	8,700	14,380	2,810	(2) 15	101,500	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-3G9	308	8,960	14,640	2,940	(2) 5	70,600	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3H9	362	9,040	14,720	2,980	(2) 7.5	80,200	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3J9	399	9,100	14,780	3,010	(2) 10	87,800	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3J9	464	9,240	14,920	3,080	(2) 15	99,500	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-4G9	330	9,580	15,260	3,250	(2) 5	69,400	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4H9	381	9,660	15,340	3,290	(2) 7.5	78,900	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4J9	418	9,720	15,400	3,320	(2) 10	86,400	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4J9	484	9,860	15,540	3,390	(2) 15	97,900	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4K9	530	9,960	15,640	3,440	(2) 20	107,100	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
SLSF Addition		300	300	150			1' 9"	1' 9"	

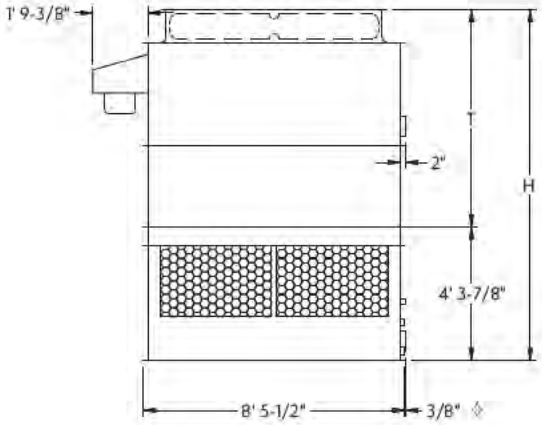
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

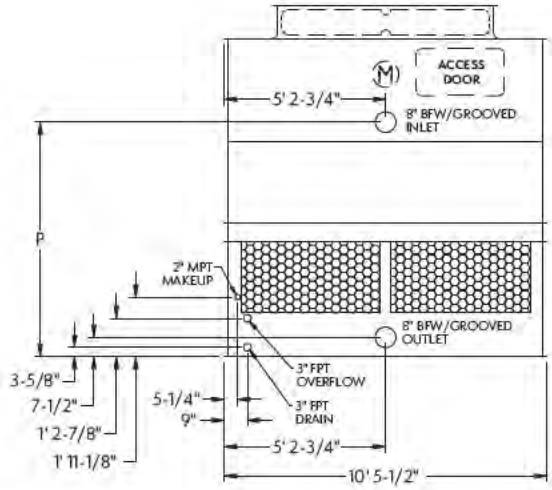
◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 19-2G11 to 19-4L11

One-Cell Cooling Towers







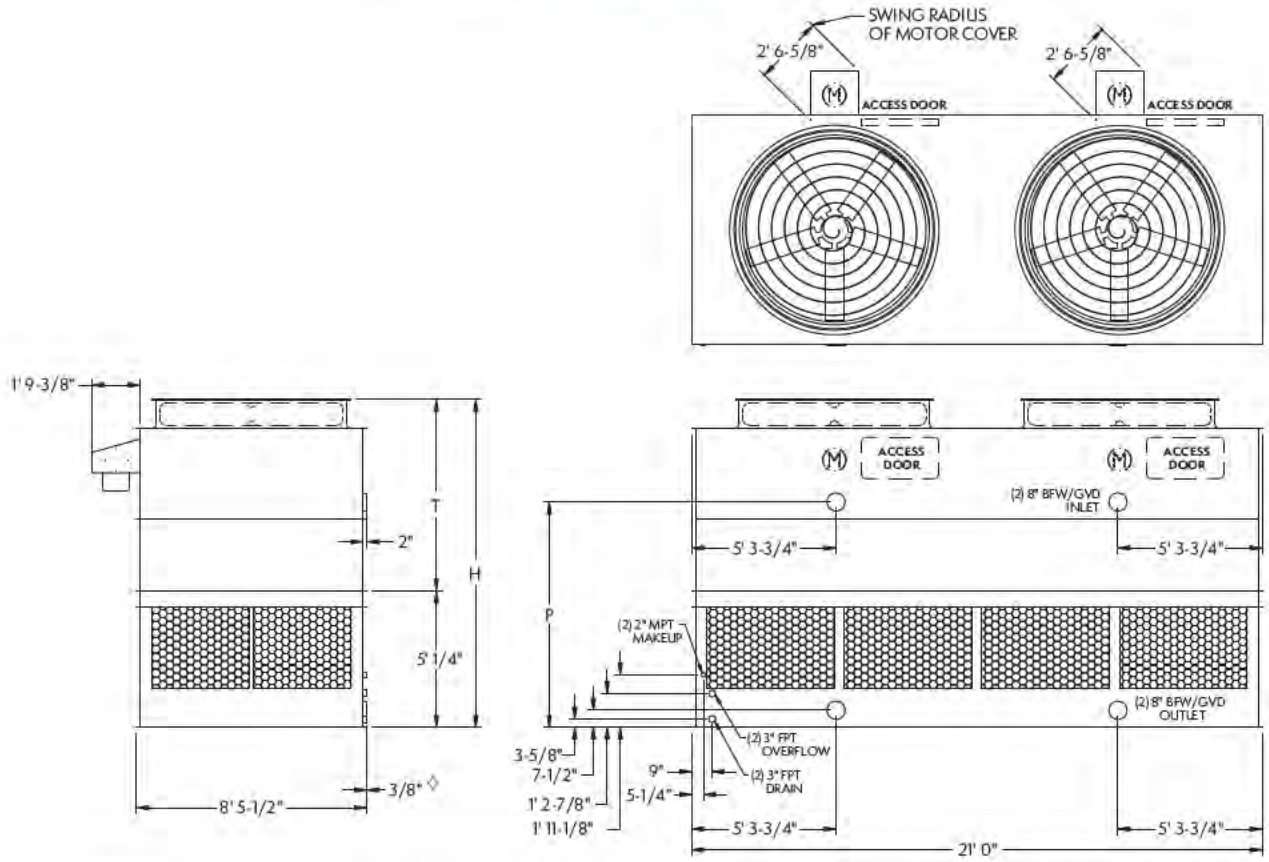
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 19-2G11	156	4,660	7,960	3,060	5	40,200	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-2H11	187	4,700	8,000	3,100	7.5	45,700	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-2I11	202	4,730	8,030	3,130	10	50,200	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-2J11	231	4,800	8,100	3,200	15	57,100	11' 4-3/8"	7' 1/2"	7' 7-1/8"
AT 19-3G11	172	4,980	8,280	3,380	5	39,700	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3H11	202	5,020	8,320	3,420	7.5	45,100	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3I11	221	5,050	8,350	3,450	10	49,400	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3J11	256	5,120	8,420	3,520	15	56,100	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-3K11	285	5,170	8,470	3,570	20	61,300	12' 4-3/8"	8' 1/2"	8' 7-1/8"
AT 19-4G11	190	5,330	8,630	3,730	5	39,000	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4H11	220	5,370	8,670	3,770	7.5	44,300	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4I11	238	5,400	8,700	3,800	10	48,600	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4J11	270	5,470	8,770	3,870	15	55,100	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4K11	298	5,520	8,820	3,920	20	60,300	13' 4-3/8"	9' 1/2"	9' 7-1/8"
AT 19-4L11	314	5,550	8,850	3,950	25	64,600	13' 4-3/8"	9' 1/2"	9' 7-1/8"
SLSF Addition		150	150	150			1' 9"	1' 9"	

NOTE: 1. An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 29-2G21 to 29-4L21

Two-Cell Cooling Towers



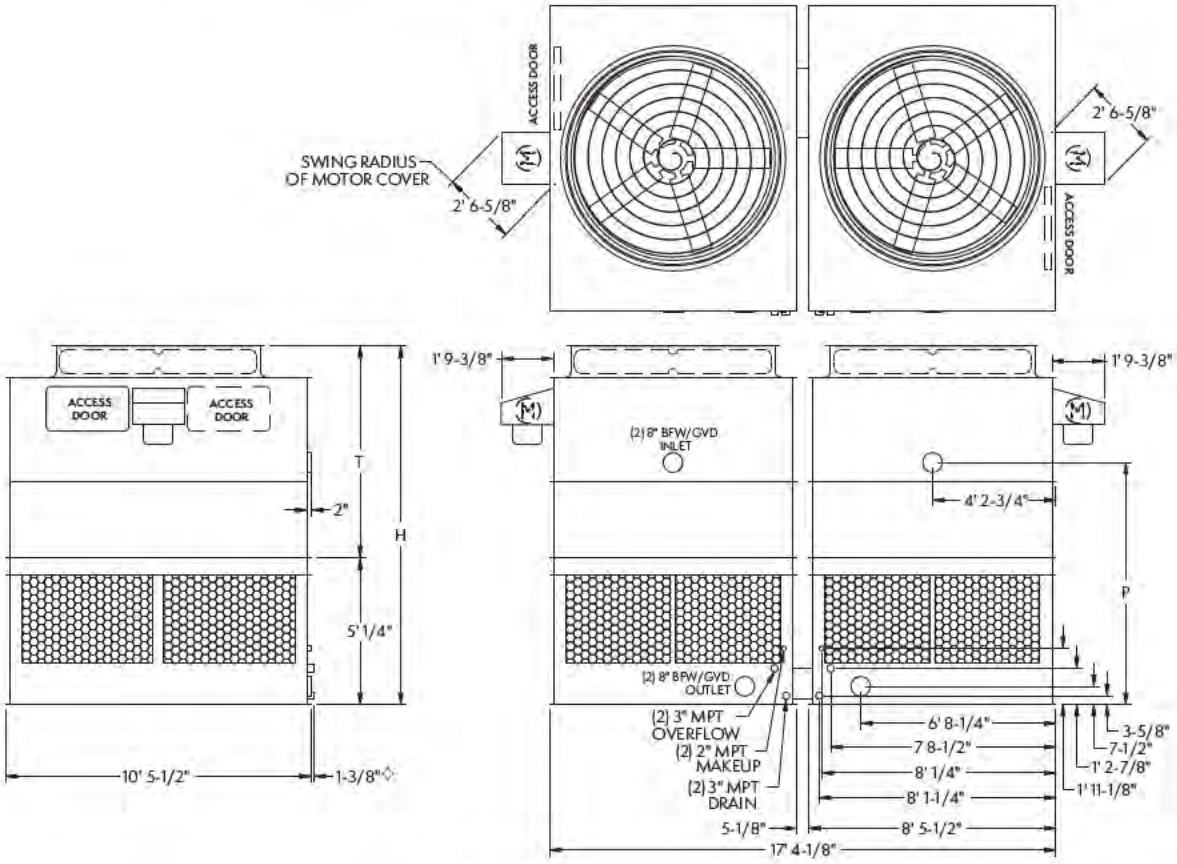
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 29-2G21	315	9,320	16,260	6,130	(2) 5	80,700	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2H21	379	9,400	16,340	6,210	(2) 7.5	91,800	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2I21	408	9,460	16,400	6,270	(2) 10	100,700	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2J21	467	9,600	16,540	6,410	(2) 15	114,600	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-3G21	347	9,930	16,870	6,740	(2) 5	79,600	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3H21	410	10,010	16,950	6,820	(2) 7.5	90,500	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3I21	448	10,070	17,010	6,880	(2) 10	99,100	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3J21	518	10,210	17,150	7,020	(2) 15	112,500	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3K21	578	10,310	17,250	7,120	(2) 20	123,000	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-4G21	383	10,590	17,530	7,400	(2) 5	78,200	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4H21	445	10,670	17,610	7,480	(2) 7.5	88,900	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4I21	482	10,730	17,670	7,540	(2) 10	97,400	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4J21	547	10,870	17,810	7,680	(2) 15	110,600	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4K21	604	10,970	17,910	7,780	(2) 20	120,900	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4L21	636	11,030	17,970	7,840	(2) 25	129,700	14' 3/4"	9' 1/2"	10' 3-1/2"
SLSF Addition		300	300	300			1' 9"	1' 9"	

NOTE: 1. An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 217-2G11 to 217-4L11

Two-Cell Cooling Towers



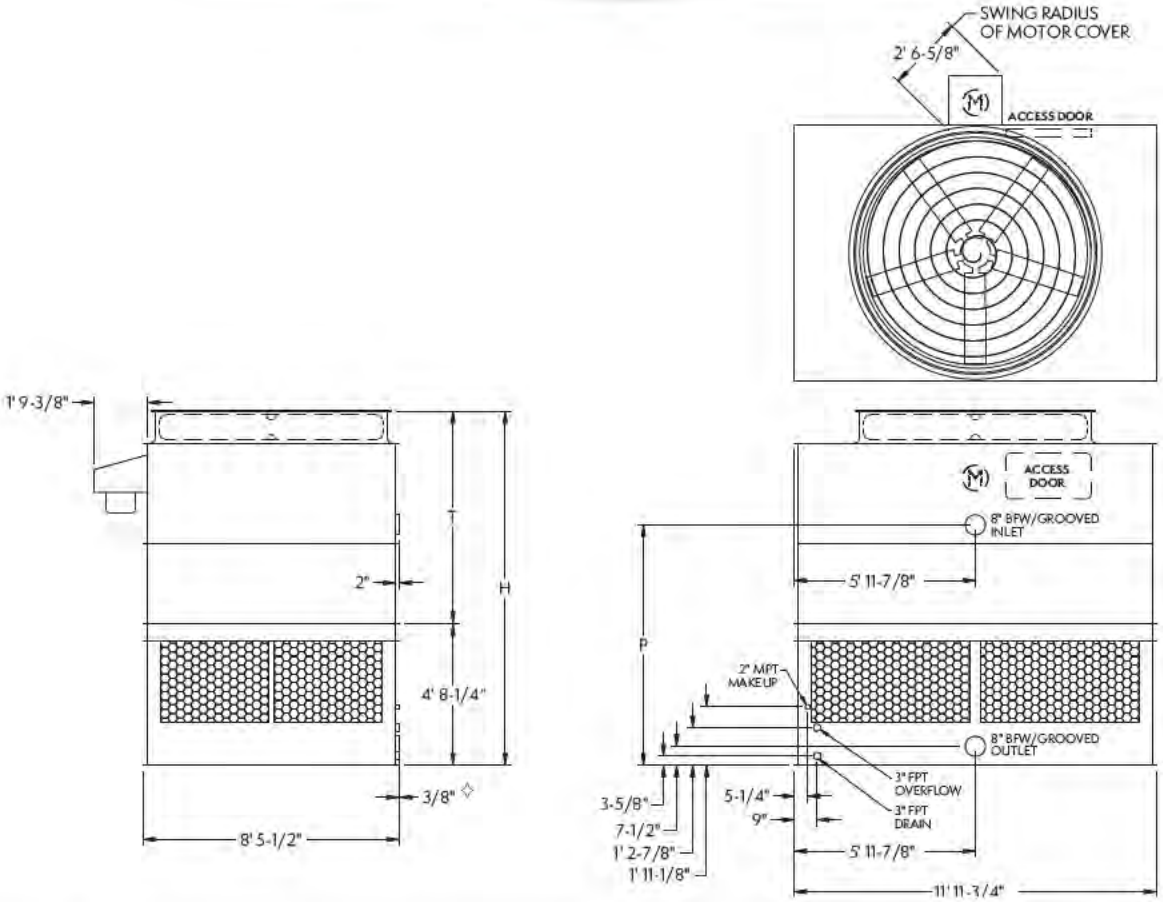
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 217-2G11	316	9,560	16,160	3,060	(2) 5	80,700	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2H11	379	9,640	16,240	3,100	(2) 7.5	91,800	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2I11	408	9,700	16,300	3,130	(2) 10	100,700	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2J11	467	9,840	16,440	3,200	(2) 15	114,600	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-3G11	347	10,200	16,800	3,380	(2) 5	79,600	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3H11	409	10,280	16,880	3,420	(2) 7.5	90,500	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3I11	447	10,340	16,940	3,450	(2) 10	99,100	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3J11	516	10,480	17,080	3,520	(2) 15	112,500	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3K11	576	10,580	17,180	3,570	(2) 20	123,000	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-4G11	385	10,900	17,500	3,730	(2) 5	78,200	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4H11	444	10,980	17,580	3,770	(2) 7.5	88,900	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4I11	480	11,040	17,640	3,800	(2) 10	97,400	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4J11	545	11,180	17,780	3,870	(2) 15	110,600	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4K11	602	11,280	17,880	3,920	(2) 20	120,900	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4L11	634	11,340	17,940	3,950	(2) 25	129,700	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
SLSF Addition		300	300	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 19-2H12 to 19-4M12

One-Cell Cooling Towers



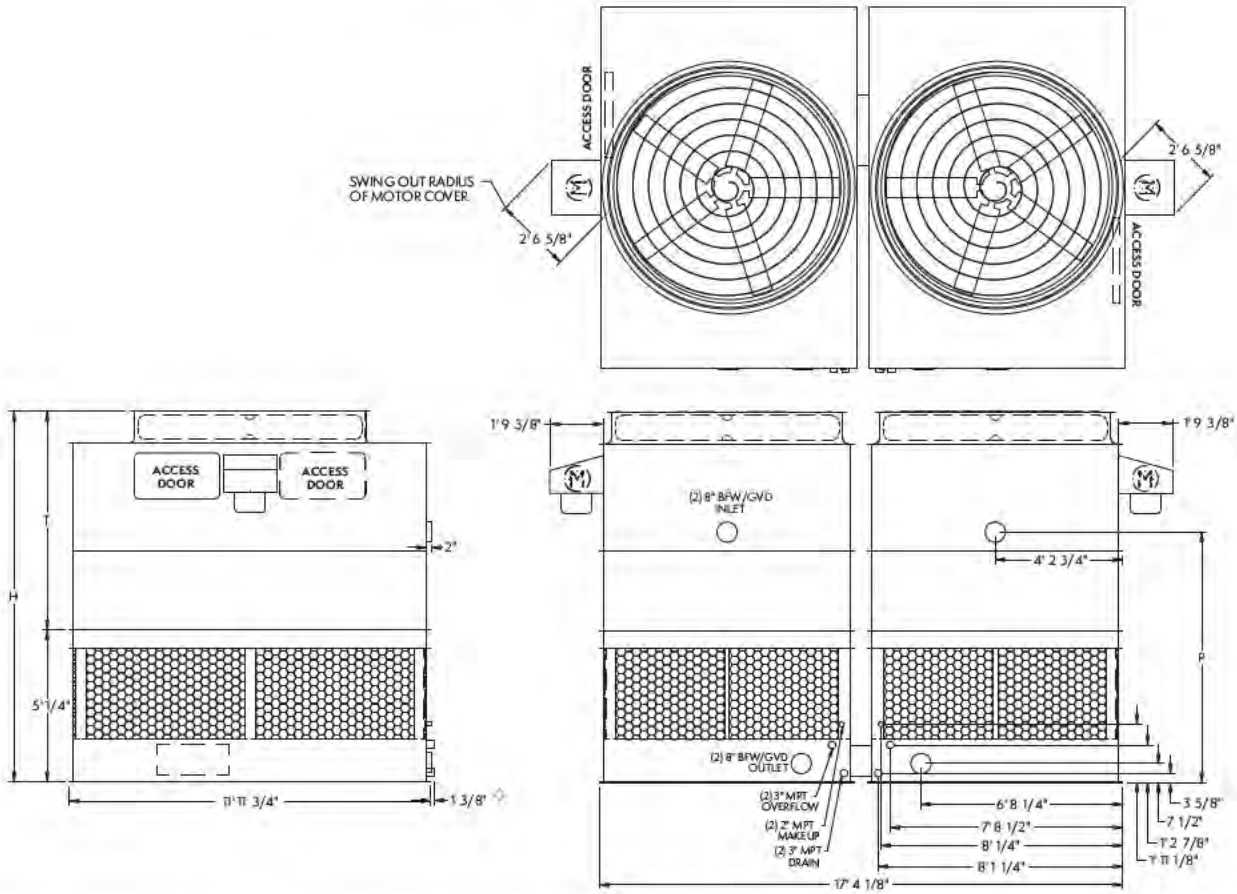
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 19-2H12	203	5,190	9,050	3,430	7.5	50,600	11' 8-3/4"	7' 1/2"	7' 11-1/2"
AT 19-2I12	230	5,220	9,080	3,460	10	55,400	11' 8-3/4"	7' 1/2"	7' 11-1/2"
AT 19-2J12	257	5,300	9,160	3,540	15	63,100	11' 8-3/4"	7' 1/2"	7' 11-1/2"
AT 19-2K12	283	5,340	9,200	3,580	20	69,100	11' 8-3/4"	7' 1/2"	7' 11-1/2"
AT 19-3H12	229	5,550	9,410	3,790	7.5	49,800	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3I12	256	5,580	9,440	3,820	10	54,500	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3J12	289	5,660	9,520	3,900	15	61,900	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3K12	319	5,700	9,560	3,940	20	67,800	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3L12	340	5,720	9,580	3,960	25	72,800	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-4H12	243	5,940	9,800	4,180	7.5	49,000	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4I12	268	5,970	9,830	4,210	10	53,600	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4J12	299	6,050	9,910	4,290	15	61,000	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4K12	330	6,090	9,950	4,330	20	66,700	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4L12	352	6,110	9,970	4,350	25	71,500	13' 8 3/4"	9' 1/2"	9' 11-1/2"
AT 19-4M12	363	6,130	9,990	4,370	30	75,800	13' 8 3/4"	9' 1/2"	9' 11-1/2"
SLSF Addition		150	150	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 217-2H12 to 217-4M12

Two-Cell Cooling Towers



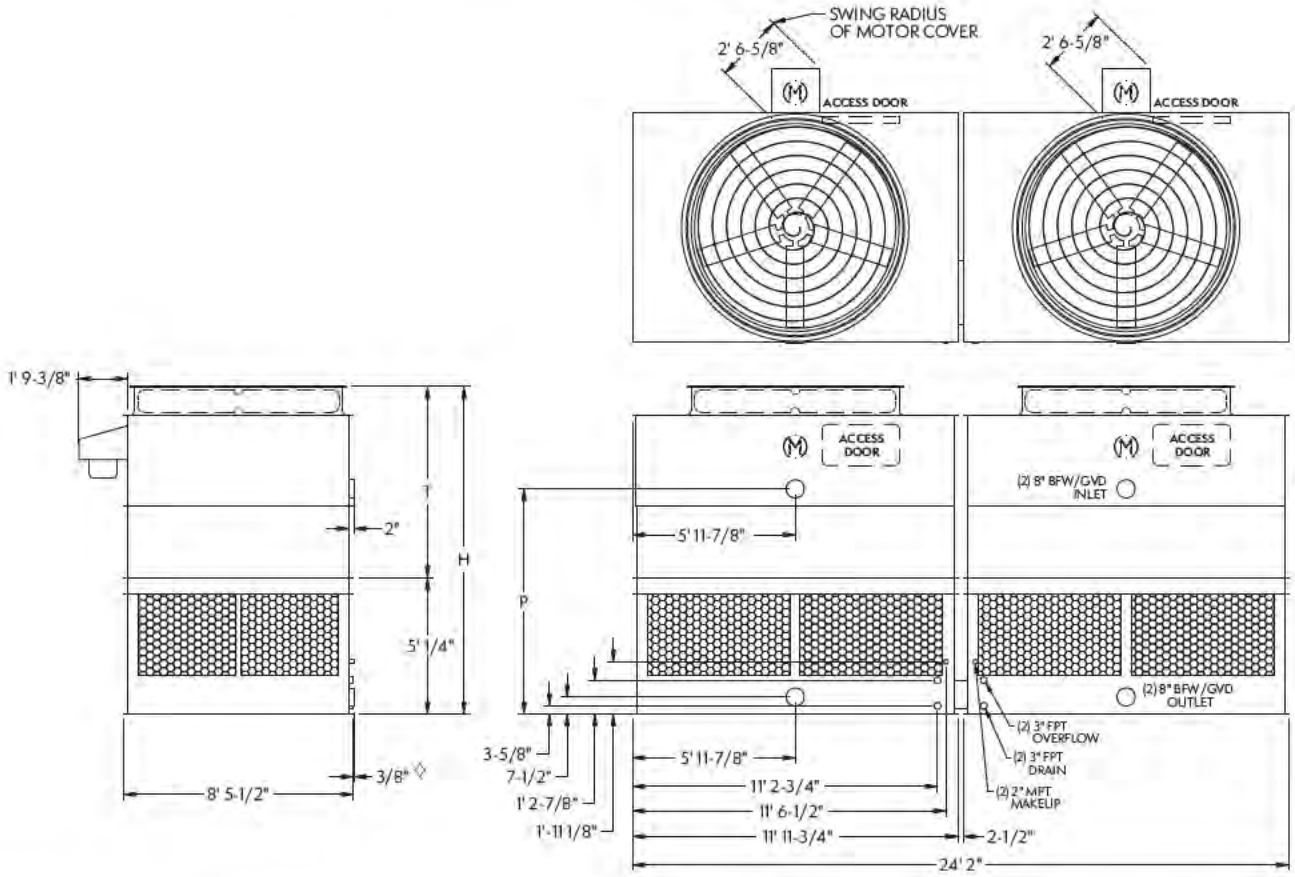
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 217-2H12	394	10,560	18,280	3,430	(2) 7.5	99,600	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2I12	447	10,620	18,340	3,460	(2) 10	109,100	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2J12	499	10,780	18,500	3,540	(2) 15	124,300	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-2K12	550	10,860	18,580	3,580	(2) 20	136,200	12' 3-3/8"	7' 3-1/8"	8' 6-1/8"
AT 217-3H12	446	11,280	19,000	3,790	(2) 7.5	98,100	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3I12	499	11,340	19,060	3,820	(2) 10	107,300	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3J12	564	11,500	19,220	3,900	(2) 15	122,000	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3K12	622	11,580	19,300	3,940	(2) 20	133,500	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-3L12	665	11,620	19,340	3,960	(2) 25	143,200	13' 3-3/8"	8' 3-1/8"	9' 6-1/8"
AT 217-4H12	474	12,060	19,780	4,180	(2) 7.5	96,500	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4I12	524	12,120	19,840	4,210	(2) 10	105,600	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4J12	585	12,280	20,000	4,290	(2) 15	120,100	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4K12	645	12,360	20,080	4,330	(2) 20	131,400	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4L12	688	12,400	20,120	4,350	(2) 25	140,800	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
AT 217-4M12	709	12,440	20,160	4,370	(2) 30	149,300	14' 3-3/8"	9' 3-1/8"	10' 6-1/8"
SLSF Addition		300	300	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 29-2H24 to 29-4M24

Two-Cell Cooling Towers



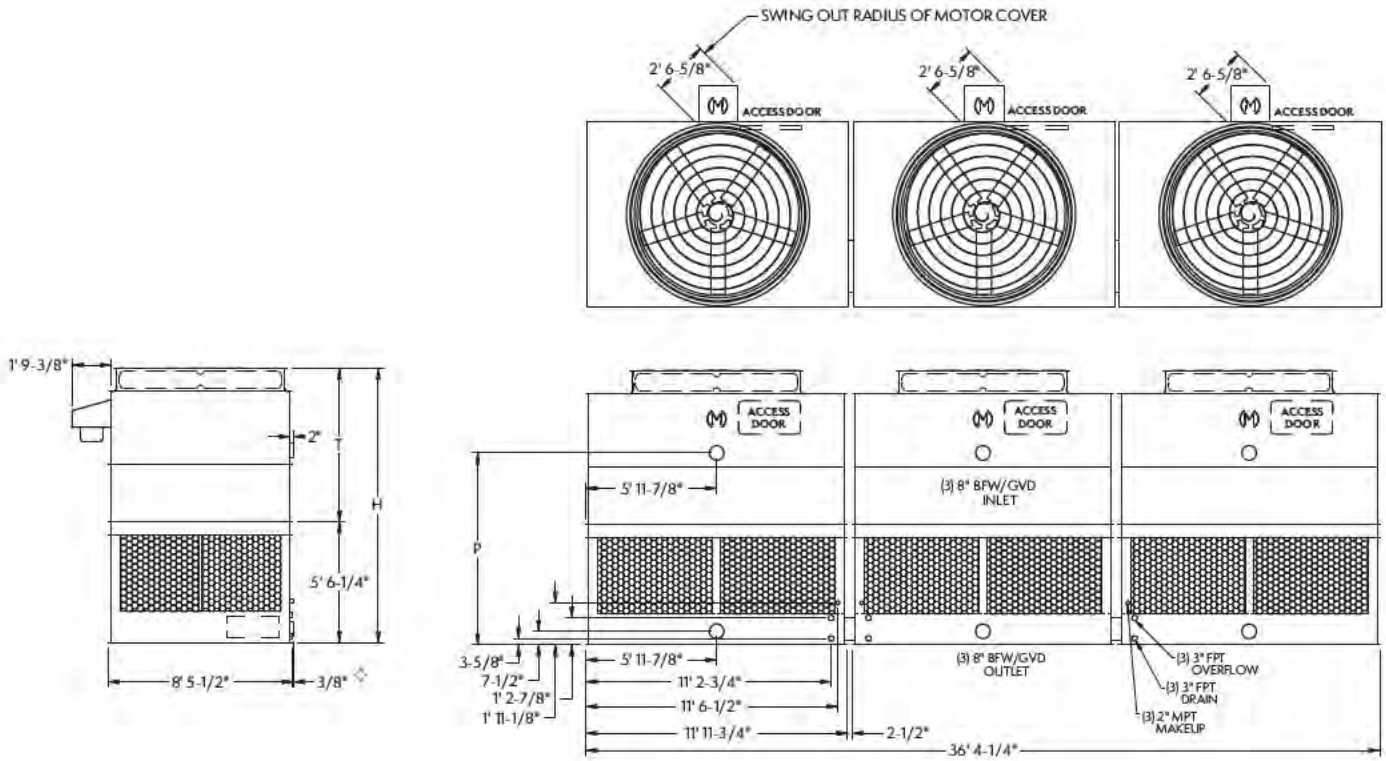
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 29-2H24	400	10,580	18,300	3,430	(2) 7.5	100,100	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2J24	454	10,640	18,360	3,460	(2) 10	109,700	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2J24	507	10,800	18,520	3,540	(2) 15	124,900	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-2K24	559	10,880	18,600	3,580	(2) 20	136,800	12' 3/4"	7' 1/2"	8' 3-1/2"
AT 29-3H24	452	11,300	19,020	3,790	(2) 7.5	98,600	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3J24	506	11,360	19,080	3,820	(2) 10	107,900	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3J24	571	11,520	19,240	3,900	(2) 15	122,600	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3K24	630	11,600	19,320	3,940	(2) 20	134,100	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-3L24	674	11,640	19,360	3,960	(2) 25	144,000	13' 3/4"	8' 1/2"	9' 3-1/2"
AT 29-4H24	481	12,080	19,800	4,180	(2) 7.5	96,900	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4J24	531	12,140	19,860	4,210	(2) 10	106,200	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4J24	593	12,300	20,020	4,290	(2) 15	120,700	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4K24	653	12,380	20,100	4,330	(2) 20	132,000	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4L24	696	12,420	20,140	4,350	(2) 25	141,500	14' 3/4"	9' 1/2"	10' 3-1/2"
AT 29-4M24	718	12,460	20,180	4,370	(2) 30	150,000	14' 3/4"	9' 1/2"	10' 3-1/2"
SLSF Addition		300	300	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 39-2H36 to 39-4M36

Three-Cell Cooling Towers



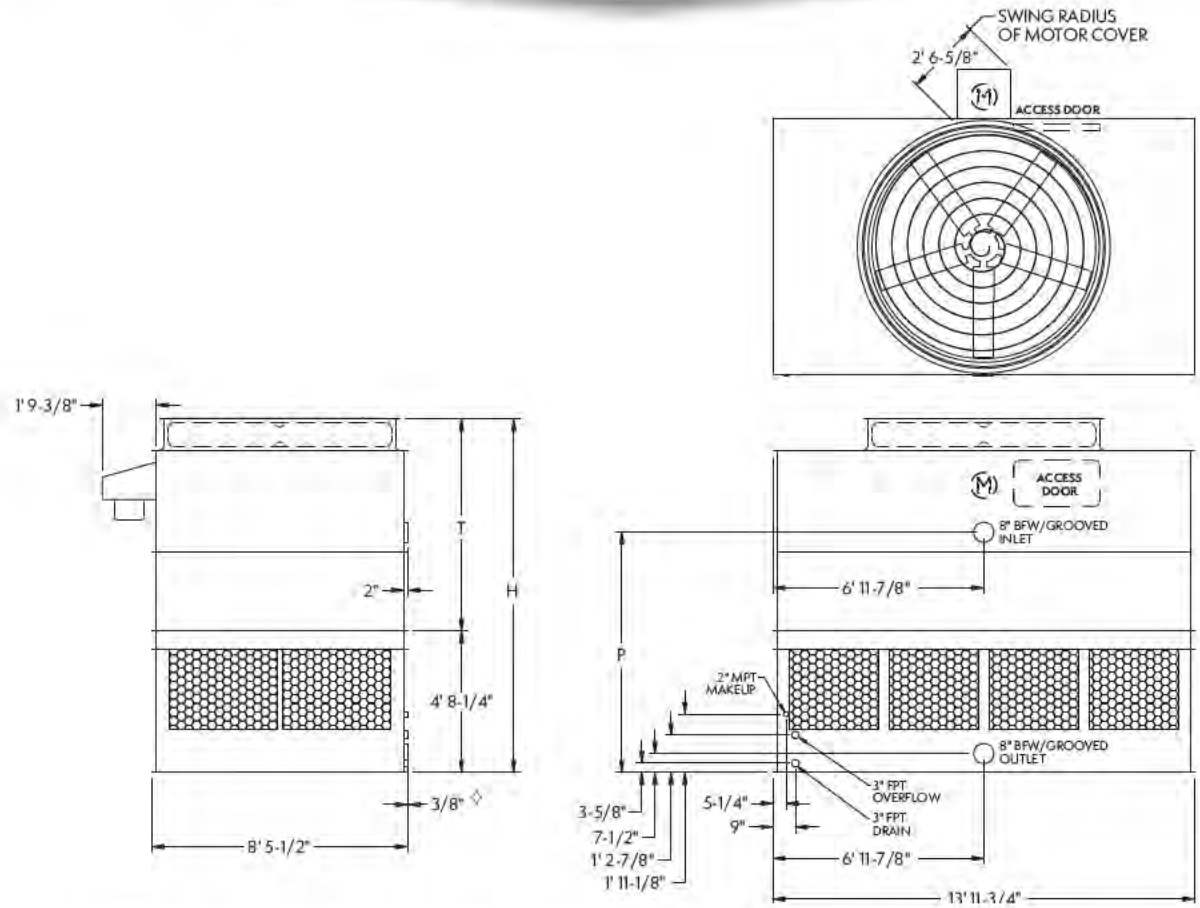
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 39-2H36	605	15,990	27,570	3,430	(3) 7.5	150,900	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 39-2I36	686	16,080	27,660	3,460	(3) 10	165,200	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 39-2J36	765	16,320	27,900	3,540	(3) 15	188,200	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 39-2K36	843	16,440	28,020	3,580	(3) 20	206,200	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 39-3H36	682	17,070	28,650	3,790	(3) 7.5	148,600	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 39-3I36	763	17,160	28,740	3,820	(3) 10	162,500	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 39-3J36	862	17,400	28,980	3,900	(3) 15	184,700	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 39-3K36	951	17,520	29,100	3,940	(3) 20	202,100	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 39-3L36	1,016	17,580	29,160	3,960	(3) 25	217,000	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 39-4H36	725	18,240	29,820	4,180	(3) 7.5	146,100	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 39-4I36	800	18,330	29,910	4,210	(3) 10	159,900	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 39-4J36	893	18,570	30,150	4,290	(3) 15	181,900	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 39-4K36	984	18,690	30,270	4,330	(3) 20	198,900	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 39-4L36	1,050	18,750	30,330	4,350	(3) 25	213,200	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 39-4M36	1,082	18,810	30,390	4,370	(3) 30	226,000	14' 6-3/4"	9' 1/2"	10' 9-1/2"
SLSF Addition		450	450	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 19-2H14 to 19-4M14

One-Cell Cooling Towers



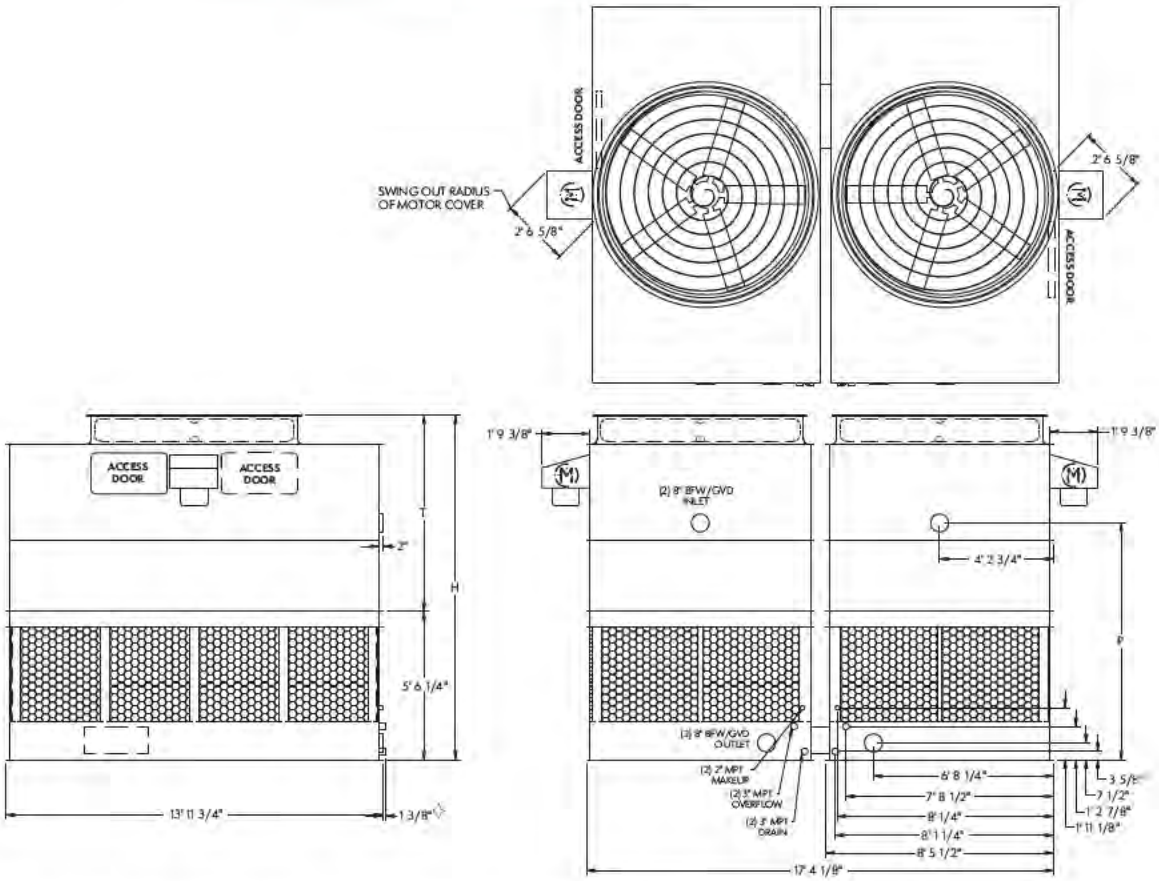
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 19-2H14	221	5,730	10,240	3,680	7.5	55,900	11' 8-3/4"	7' 1/2"	7' 11-1/2"
AT 19-2I14	251	5,760	10,270	3,710	10	61,300	11' 8-3/4"	7' 1/2"	7' 11-1/2"
AT 19-2J14	280	5,840	10,350	3,790	15	69,800	11' 8 3/4"	7' 1/2"	7' 11-1/2"
AT 19-2K14	309	5,880	10,390	3,830	20	76,500	11' 8 3/4"	7' 1/2"	7' 11-1/2"
AT 19-2L14	337	5,900	10,410	3,850	25	82,000	11' 8 3/4"	7' 1/2"	7' 11-1/2"
AT 19-3H14	249	6,140	10,650	4,090	7.5	55,100	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3I14	280	6,170	10,680	4,120	10	60,300	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3J14	315	6,250	10,760	4,200	15	68,600	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3K14	347	6,290	10,800	4,240	20	75,000	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3L14	377	6,310	10,820	4,260	25	80,400	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-3M14	399	6,330	10,840	4,280	30	85,200	12' 8-3/4"	8' 1/2"	8' 11-1/2"
AT 19-4H14	266	6,590	11,100	4,540	7.5	54,200	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4I14	295	6,620	11,130	4,570	10	59,300	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4J14	329	6,700	11,210	4,650	15	67,500	13' 8-3/4"	9' 1/2"	9' 11-1/2"
AT 19-4K14	361	6,740	11,250	4,690	20	73,800	13' 8 3/4"	9' 1/2"	9' 11-1/2"
AT 19-4L14	391	6,760	11,270	4,710	25	79,100	13' 8 3/4"	9' 1/2"	9' 11-1/2"
AT 19-4M14	413	6,780	11,290	4,730	30	83,700	13' 8 3/4"	9' 1/2"	9' 11-1/2"
SLSF Addition		150	150	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 217-2H14 to 217-4M14

Two-Cell Cooling Towers



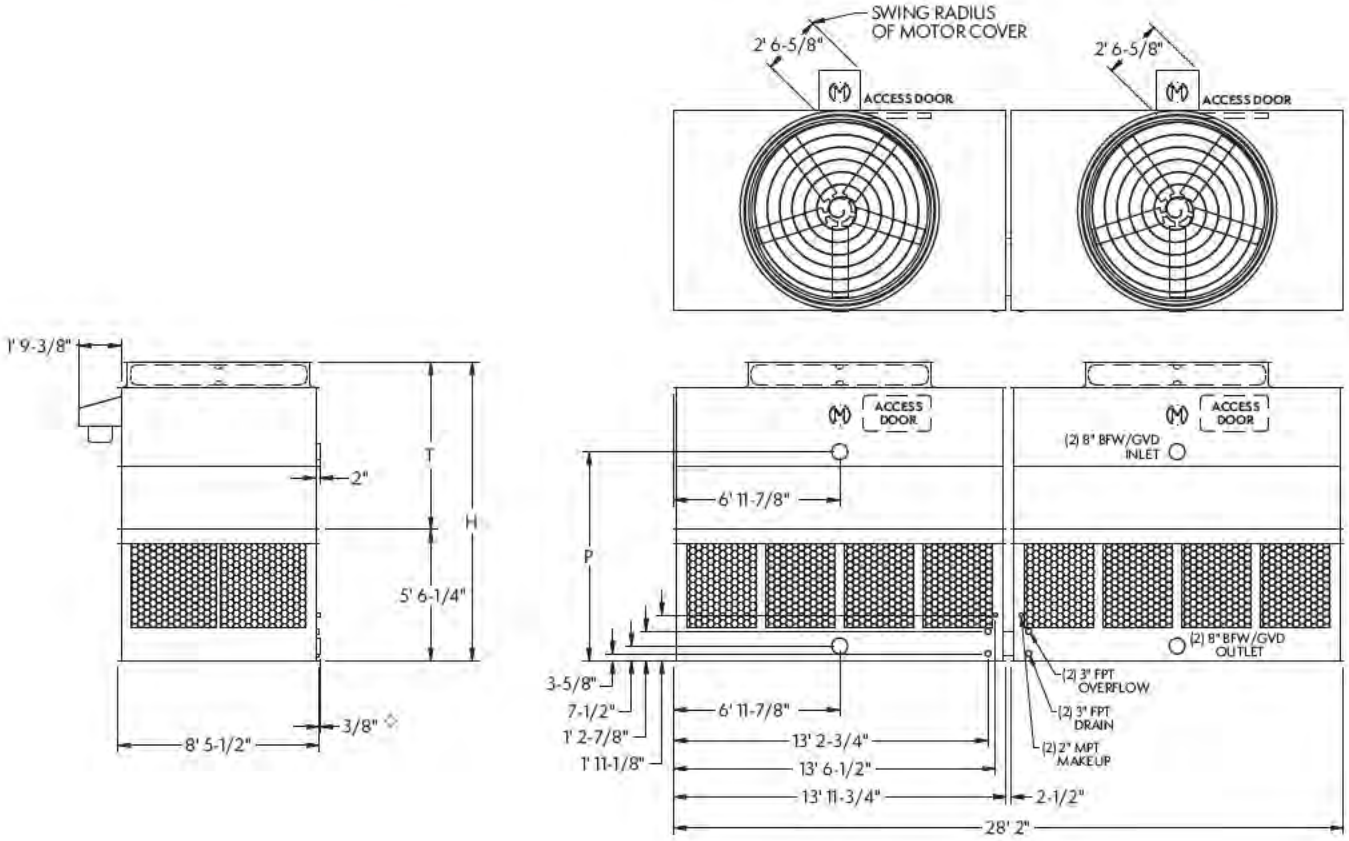
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 217-2H14	435	11,640	20,660	3,680	(2) 7.5	112,300	12' 9-3/8"	7' 3-1/8"	9' 1/8 "
AT 217-2I14	494	11,700	20,720	3,710	(2) 10	123,000	12' 9-3/8"	7' 3-1/8"	9' 1/8 "
AT 217-2J14	551	11,860	20,880	3,790	(2) 15	140,200	12' 9-3/8"	7' 3-1/8"	9' 1/8 "
AT 217-2K14	608	11,940	20,960	3,830	(2) 20	153,600	12' 9-3/8"	7' 3-1/8"	9' 1/8 "
AT 217-2L14	664	11,980	21,000	3,850	(2) 25	164,700	12' 9-3/8"	7' 3-1/8"	9' 1/8 "
AT 217-3H14	490	12,460	21,480	4,090	(2) 7.5	110,600	13' 9-3/8"	8' 3-1/8"	10' 1/8 "
AT 217-3I14	551	12,520	21,540	4,120	(2) 10	121,100	13' 9-3/8"	8' 3-1/8"	10' 1/8 "
AT 217-3J14	621	12,680	21,700	4,200	(2) 15	137,700	13' 9-3/8"	8' 3-1/8"	10' 1/8 "
AT 217-3K14	685	12,760	21,780	4,240	(2) 20	150,600	13' 9-3/8"	8' 3-1/8"	10' 1/8 "
AT 217-3L14	744	12,800	21,820	4,260	(2) 25	161,500	13' 9-3/8"	8' 3-1/8"	10' 1/8 "
AT 217-3M14	787	12,840	21,860	4,280	(2) 30	171,100	13' 9-3/8"	8' 3-1/8"	10' 1/8 "
AT 217-4H14	525	13,360	22,380	4,540	(2) 7.5	108,800	14' 9-3/8"	9' 3-1/8"	11' 1/8 "
AT 217-4I14	581	13,420	22,440	4,570	(2) 10	119,100	14' 9-3/8"	9' 3-1/8"	11' 1/8 "
AT 217-4J14	649	13,580	22,600	4,650	(2) 15	135,500	14' 9-3/8"	9' 3-1/8"	11' 1/8 "
AT 217-4K14	714	13,660	22,680	4,690	(2) 20	148,300	14' 9-3/8"	9' 3-1/8"	11' 1/8 "
AT 217-4L14	773	13,700	22,720	4,710	(2) 25	158,900	14' 9-3/8"	9' 3-1/8"	11' 1/8 "
AT 217-4M14	815	13,740	22,760	4,730	(2) 30	168,200	14' 9-3/8"	9' 3-1/8"	11' 1/8 "
SLSF Addition		300	300	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 29-2H28 to 29-4M28

Two-Cell Cooling Towers



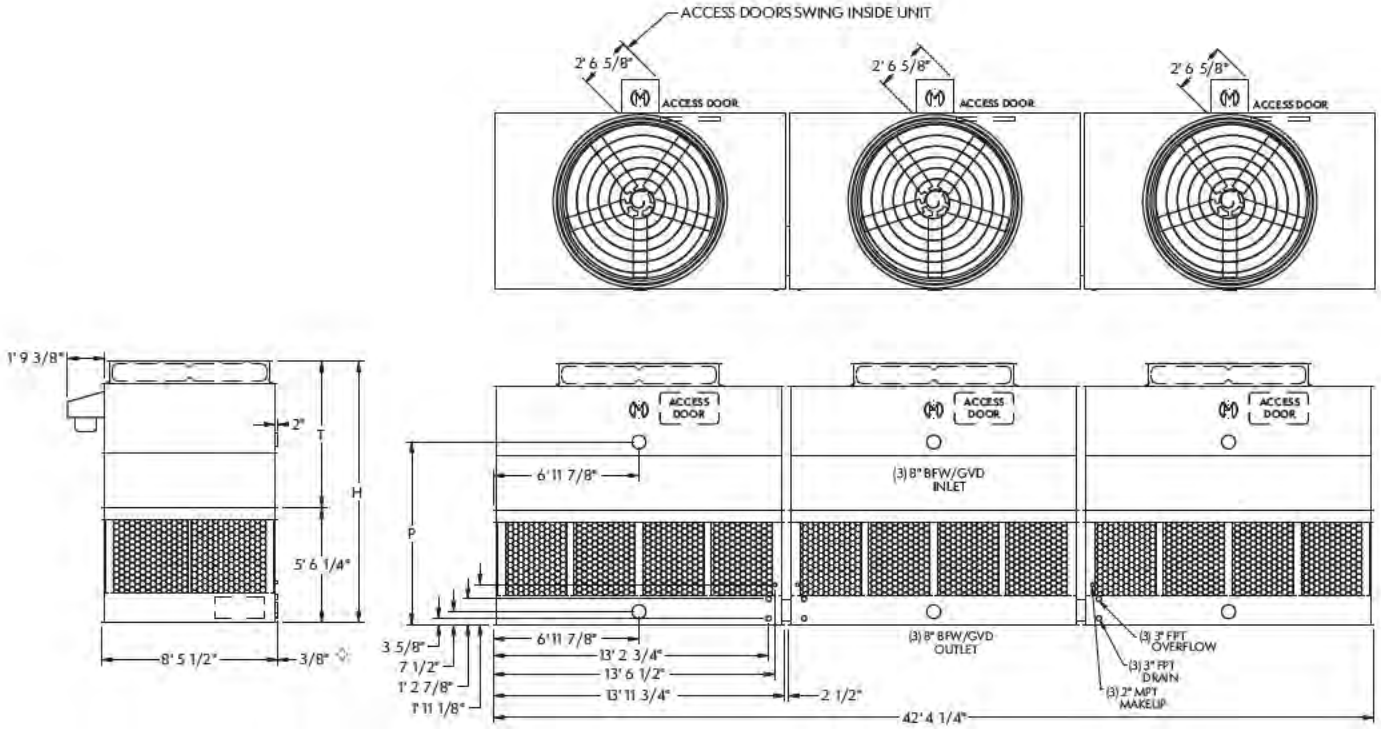
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 29-2H28	446	11,640	20,660	3,680	(2) 7.5	112,300	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 29-2J28	506	11,700	20,720	3,710	(2) 10	123,000	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 29-2J28	563	11,860	20,880	3,790	(2) 15	140,200	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 29-2K28	622	11,940	20,960	3,830	(2) 20	153,600	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 29-2L28	678	11,980	21,000	3,850	(2) 25	164,700	12' 6-3/4"	7' 1/2"	8' 9-1/2"
AT 29-3H28	502	12,460	21,480	4,090	(2) 7.5	110,700	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 29-3J28	563	12,520	21,540	4,120	(2) 10	121,100	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 29-3J28	633	12,680	21,700	4,200	(2) 15	137,700	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 29-3K28	698	12,760	21,780	4,240	(2) 20	150,600	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 29-3L28	757	12,800	21,820	4,260	(2) 25	161,500	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 29-3M28	802	12,840	21,860	4,280	(2) 30	171,200	13' 6-3/4"	8' 1/2"	9' 9-1/2"
AT 29-4H28	535	13,360	22,380	4,540	(2) 7.5	108,800	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 29-4J28	592	13,420	22,440	4,570	(2) 10	119,200	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 29-4J28	661	13,580	22,600	4,650	(2) 15	135,600	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 29-4K28	726	13,660	22,680	4,690	(2) 20	148,300	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 29-4L28	787	13,700	22,720	4,710	(2) 25	158,900	14' 6-3/4"	9' 1/2"	10' 9-1/2"
AT 29-4M28	830	13,740	22,760	4,730	(2) 30	168,100	14' 6-3/4"	9' 1/2"	10' 9-1/2"
SLSF Addition		300	300	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 39-2H42 to 39-4M42

Three-Cell Cooling Towers



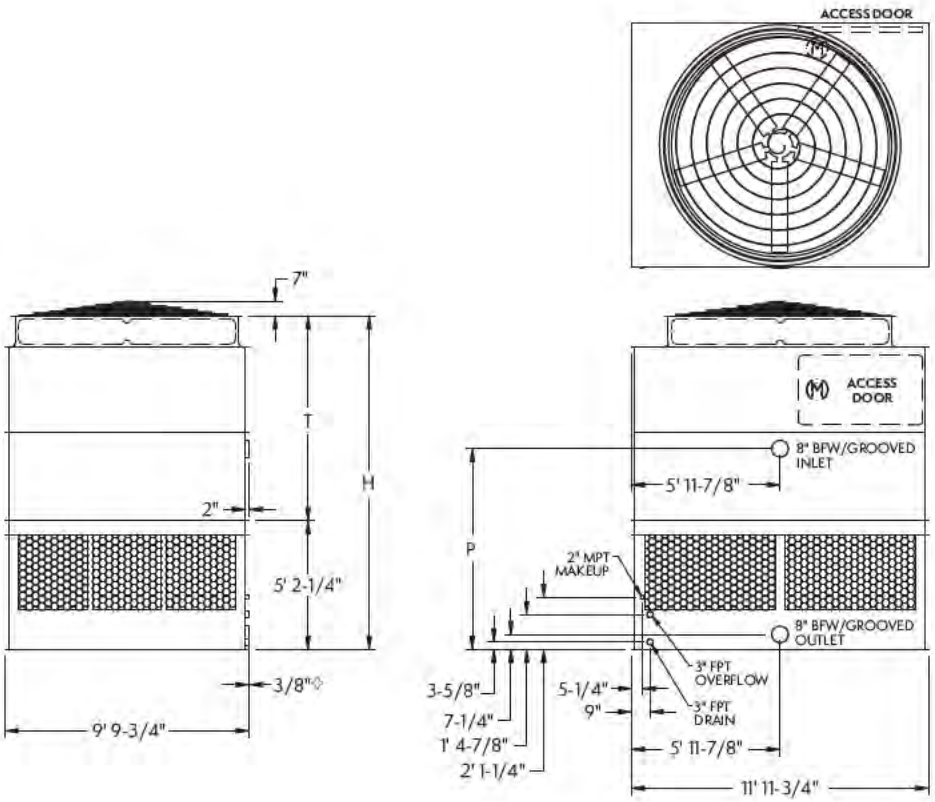
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 39-2H42	664	17,430	30,960	3,680	(3) 7.5	167,700	12' 6-3/4"	7' 6-3/4"	8' 9-1/2"
AT 39-2I42	754	17,520	31,050	3,710	(3) 10	183,700	12' 6-3/4"	7' 6-3/4"	8' 9-1/2"
AT 39-2J42	840	17,760	31,290	3,790	(3) 15	209,300	12' 6-3/4"	7' 6-3/4"	8' 9-1/2"
AT 39-2K42	927	17,880	31,410	3,830	(3) 20	229,300	12' 6-3/4"	7' 6-3/4"	8' 9-1/2"
AT 39-2L42	1,011	17,940	31,470	3,850	(3) 25	246,000	12' 6-3/4"	7' 6-3/4"	8' 9-1/2"
AT 39-3H42	748	18,660	32,190	4,090	(3) 7.5	165,200	13' 6-3/4"	8' 6-3/4"	9' 9-1/2"
AT 39-3I42	839	18,750	32,280	4,120	(3) 10	180,800	13' 6-3/4"	8' 6-3/4"	9' 9-1/2"
AT 39-3J42	945	18,990	32,520	4,200	(3) 15	205,600	13' 6-3/4"	8' 6-3/4"	9' 9-1/2"
AT 39-3K42	1,042	19,110	32,640	4,240	(3) 20	224,900	13' 6-3/4"	8' 6-3/4"	9' 9-1/2"
AT 39-3L42	1,130	19,170	32,700	4,260	(3) 25	241,200	13' 6-3/4"	8' 6-3/4"	9' 9-1/2"
AT 39-3M42	1,197	19,230	32,760	4,280	(3) 30	255,600	13' 6-3/4"	8' 6-3/4"	9' 9-1/2"
AT 39-4H42	799	20,010	33,540	4,540	(3) 7.5	162,400	14' 6-3/4"	9' 6-3/4"	10' 9-1/2"
AT 39-4I42	884	20,100	33,630	4,570	(3) 10	177,900	14' 6-3/4"	9' 6-3/4"	10' 9-1/2"
AT 39-4J42	986	20,340	33,870	4,650	(3) 15	202,400	14' 6-3/4"	9' 6-3/4"	10' 9-1/2"
AT 39-4K42	1,084	20,460	33,990	4,690	(3) 20	221,400	14' 6-3/4"	9' 6-3/4"	10' 9-1/2"
AT 39-4L42	1,174	20,520	34,050	4,710	(3) 25	237,200	14' 6-3/4"	9' 6-3/4"	10' 9-1/2"
AT 39-4M42	1,239	20,580	34,110	4,730	(3) 30	251,100	14' 6-3/4"	9' 6-3/4"	10' 9-1/2"
SLSF Addition		450	450	150			1' 9"	1' 9"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height includes fan guard which ships factory mounted.

Models: AT 110-2I12 to 110-4N12

One-Cell Cooling Towers



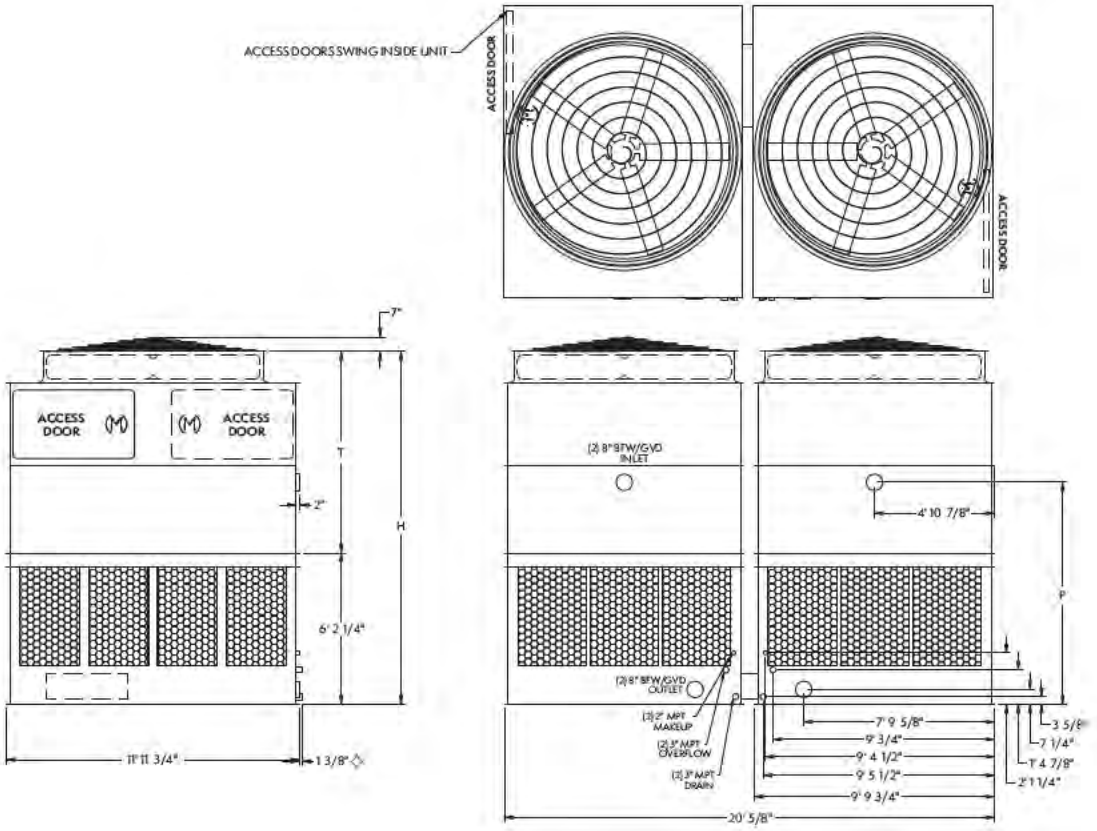
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 110-2I12	227	6,620	11,580	4,200	10	64,700	13' 5-1/4"	8' 3"	8' 1"
AT 110-2J12	276	6,690	11,650	4,270	15	73,500	13' 5-1/4"	8' 3"	8' 1"
AT 110-2K12	305	6,740	11,700	4,320	20	80,600	13' 5-1/4"	8' 3"	8' 1"
AT 110-2L12	326	6,790	11,750	4,370	25	86,500	13' 5-1/4"	8' 3"	8' 1"
AT 110-2M12	342	6,890	11,850	4,470	30	91,700	13' 5-1/4"	8' 3"	8' 1"
AT 110-3I12	264	7,100	12,060	4,680	10	63,700	14' 5-1/4"	9' 3"	9' 1"
AT 110-3J12	309	7,170	12,130	4,750	15	72,300	14' 5-1/4"	9' 3"	9' 1"
AT 110-3K12	338	7,220	12,180	4,800	20	79,100	14' 5-1/4"	9' 3"	9' 1"
AT 110-3L12	361	7,270	12,230	4,850	25	84,900	14' 5-1/4"	9' 3"	9' 1"
AT 110-3M12	380	7,370	12,330	4,950	30	89,900	14' 5-1/4"	9' 3"	9' 1"
AT 110-4I12	277	7,520	12,480	5,100	10	62,700	15' 5-1/4"	10' 3"	10' 1"
AT 110-4J12	322	7,590	12,550	5,170	15	71,200	15' 5-1/4"	10' 3"	10' 1"
AT 110-4K12	350	7,640	12,600	5,220	20	77,900	15' 5-1/4"	10' 3"	10' 1"
AT 110-4L12	373	7,690	12,650	5,270	25	83,600	15' 5-1/4"	10' 3"	10' 1"
AT 110-4M12	393	7,790	12,750	5,370	30	88,500	15' 5-1/4"	10' 3"	10' 1"
AT 110-4N12	410	8,040	13,000	5,620	35	92,800	15' 5-1/4"	10' 3"	10' 1"
SLSF Addition		700	700	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 220-2I12 to 220-4N12

Two-Cell Cooling Towers



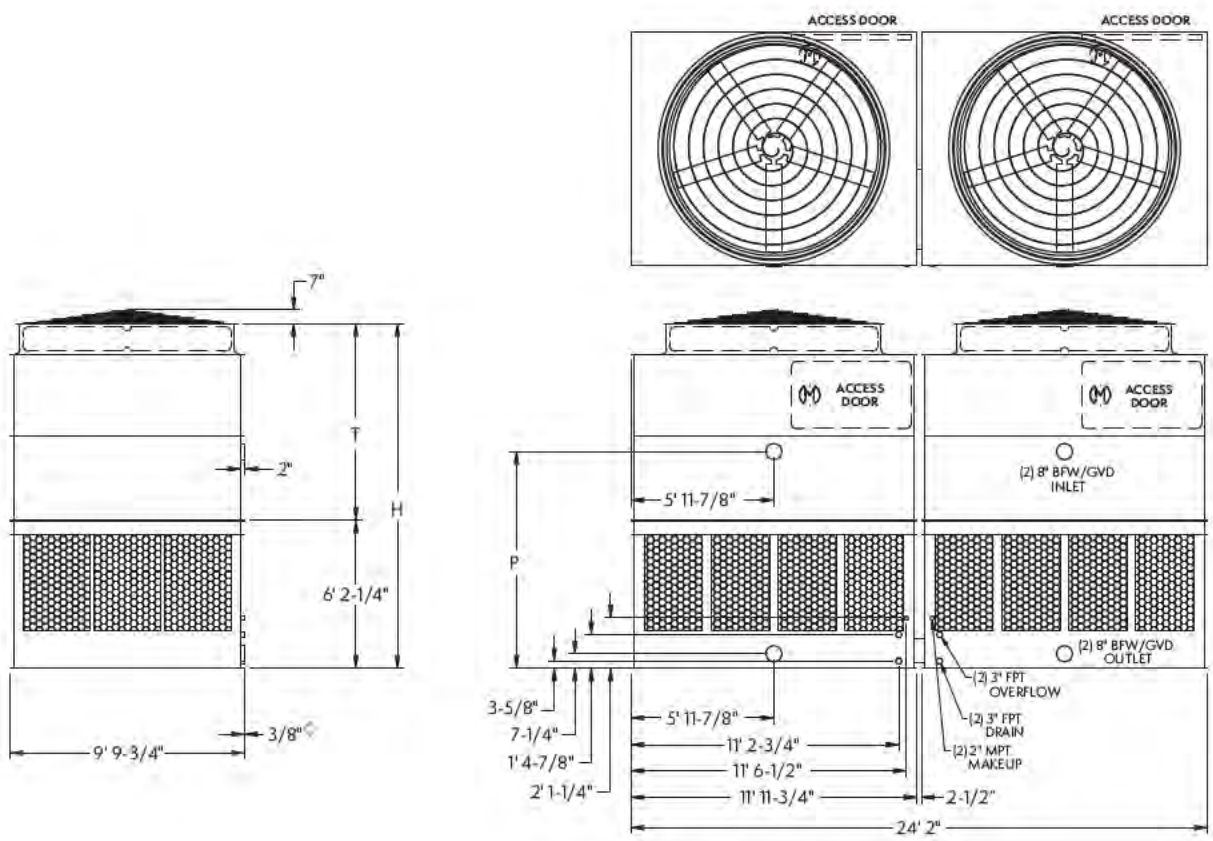
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 220-2I12	455	13,300	23,220	4,200	(2) 10	128,800	14' 5-1/4"	8' 3"	9' 1"
AT 220-2J12	553	13,440	23,360	4,270	(2) 15	146,300	14' 5-1/4"	8' 3"	9' 1"
AT 220-2K12	611	13,540	23,460	4,320	(2) 20	160,300	14' 5-1/4"	8' 3"	9' 1"
AT 220-2L12	651	13,640	23,560	4,370	(2) 25	172,200	14' 5-1/4"	8' 3"	9' 1"
AT 220-2M12	684	13,840	23,760	4,470	(2) 30	182,500	14' 5-1/4"	8' 3"	9' 1"
AT 220-3I12	529	14,260	24,180	4,680	(2) 10	126,700	15' 5-1/4"	9' 3"	10' 1"
AT 220-3J12	618	14,400	24,320	4,750	(2) 15	143,800	15' 5-1/4"	9' 3"	10' 1"
AT 220-3K12	676	14,500	24,420	4,800	(2) 20	157,400	15' 5-1/4"	9' 3"	10' 1"
AT 220-3L12	722	14,600	24,520	4,850	(2) 25	168,900	15' 5-1/4"	9' 3"	10' 1"
AT 220-3M12	760	14,800	24,720	4,950	(2) 30	179,000	15' 5-1/4"	9' 3"	10' 1"
AT 220-4I12	555	15,100	25,020	5,100	(2) 10	124,700	16' 5-1/4"	10' 3"	11' 1"
AT 220-4J12	644	15,240	25,160	5,170	(2) 15	141,600	16' 5-1/4"	10' 3"	11' 1"
AT 220-4K12	701	15,340	25,260	5,220	(2) 20	155,000	16' 5-1/4"	10' 3"	11' 1"
AT 220-4L12	746	15,440	25,360	5,270	(2) 25	166,300	16' 5-1/4"	10' 3"	11' 1"
AT 220-4M12	785	15,640	25,560	5,370	(2) 30	176,100	16' 5-1/4"	10' 3"	11' 1"
AT 220-4N12	820	16,140	26,060	5,620	(2) 35	184,800	16' 5-1/4"	10' 3"	11' 1"
SLSF Addition		1,400	1,400	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 210-2I24 to 210-4N24

Two-Cell Cooling Towers



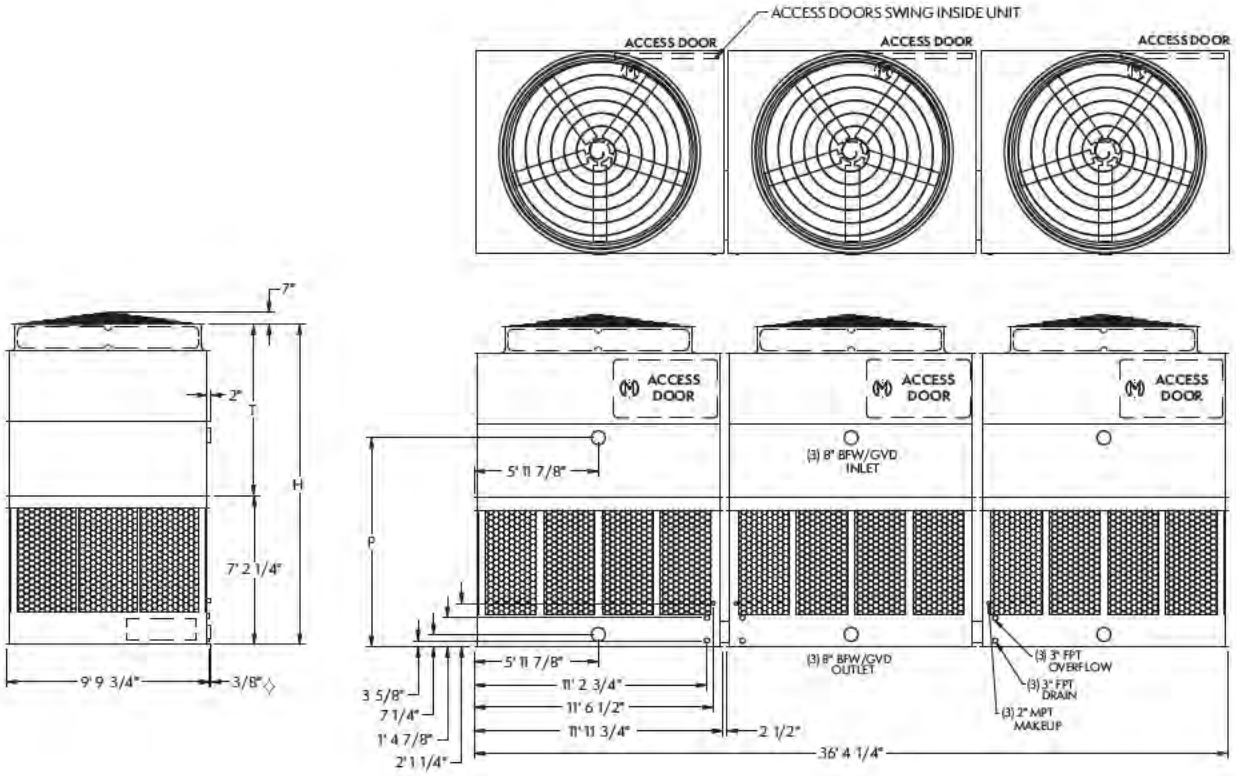
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 210-2I24	455	13,280	23,200	4,200	(2) 10	129,400	14' 5-1/4"	8' 3"	9' 1"
AT 210-2J24	553	13,420	23,340	4,270	(2) 15	147,000	14' 5-1/4"	8' 3"	9' 1"
AT 210-2K24	611	13,520	23,440	4,320	(2) 20	161,100	14' 5-1/4"	8' 3"	9' 1"
AT 210-2L24	651	13,620	23,540	4,370	(2) 25	173,000	14' 5-1/4"	8' 3"	9' 1"
AT 210-2M24	684	13,820	23,740	4,470	(2) 30	183,300	14' 5-1/4"	8' 3"	9' 1"
AT 210-3I24	529	14,240	24,160	4,680	(2) 10	127,300	15' 5-1/4"	9' 3"	10' 1"
AT 210-3J24	618	14,380	24,300	4,750	(2) 15	144,500	15' 5-1/4"	9' 3"	10' 1"
AT 210-3K24	676	14,480	24,400	4,800	(2) 20	158,200	15' 5-1/4"	9' 3"	10' 1"
AT 210-3L24	722	14,580	24,500	4,850	(2) 25	169,700	15' 5-1/4"	9' 3"	10' 1"
AT 210-3M24	760	14,780	24,700	4,950	(2) 30	179,800	15' 5-1/4"	9' 3"	10' 1"
AT 210-4I24	555	15,080	25,000	5,100	(2) 10	125,300	16' 5-1/4"	10' 3"	11' 1"
AT 210-4J24	644	15,220	25,140	5,170	(2) 15	142,300	16' 5-1/4"	10' 3"	11' 1"
AT 210-4K24	701	15,320	25,240	5,220	(2) 20	155,800	16' 5-1/4"	10' 3"	11' 1"
AT 210-4L24	746	15,420	25,340	5,270	(2) 25	167,100	16' 5-1/4"	10' 3"	11' 1"
AT 210-4M24	785	15,620	25,540	5,370	(2) 30	176,900	16' 5-1/4"	10' 3"	11' 1"
AT 210-4N24	820	16,120	26,040	5,620	(2) 35	185,600	16' 5-1/4"	10' 3"	11' 1"
SLSF Addition		1,400	1,400	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 310-2I36 to 310-4N36

Three-Cell Cooling Towers



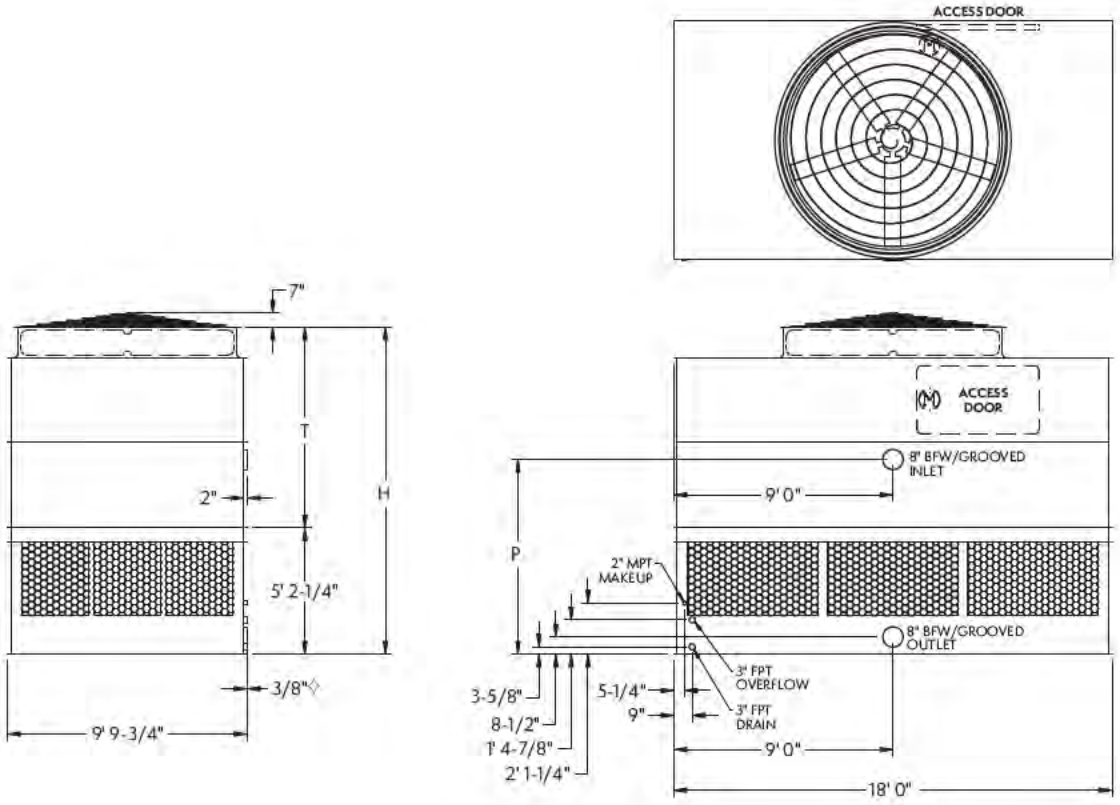
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 310-2I36	672	20,730	35,780	4,200	(3) 10	194,400	15' 5-1/4"	8' 3"	10' 1"
AT 310-2J36	817	20,940	35,990	4,270	(3) 15	220,800	15' 5-1/4"	8' 3"	10' 1"
AT 310-2K36	903	21,090	36,140	4,320	(3) 20	242,000	15' 5-1/4"	8' 3"	10' 1"
AT 310-2L36	963	21,240	36,290	4,370	(3) 25	259,900	15' 5-1/4"	8' 3"	10' 1"
AT 310-2M36	1,012	21,540	36,590	4,470	(3) 30	275,400	15' 5-1/4"	8' 3"	10' 1"
AT 310-3I36	782	22,170	37,220	4,680	(3) 10	191,200	16' 5-1/4"	9' 3"	11' 1"
AT 310-3J36	914	22,380	37,430	4,750	(3) 15	217,100	16' 5-1/4"	9' 3"	11' 1"
AT 310-3K36	1,000	22,530	37,580	4,800	(3) 20	237,600	16' 5-1/4"	9' 3"	11' 1"
AT 310-3L36	1,068	22,680	37,730	4,850	(3) 25	255,000	16' 5-1/4"	9' 3"	11' 1"
AT 310-3M36	1,126	22,980	38,030	4,950	(3) 30	270,100	16' 5-1/4"	9' 3"	11' 1"
AT 310-4I36	821	23,430	38,480	5,100	(3) 10	188,100	17' 5-1/4"	10' 3"	12' 1"
AT 310-4J36	953	23,640	38,690	5,170	(3) 15	213,700	17' 5-1/4"	10' 3"	12' 1"
AT 310-4K36	1,038	23,790	38,840	5,220	(3) 20	234,000	17' 5-1/4"	10' 3"	12' 1"
AT 310-4L36	1,106	23,940	38,990	5,270	(3) 25	251,000	17' 5-1/4"	10' 3"	12' 1"
AT 310-4M36	1,164	24,240	39,290	5,370	(3) 30	265,800	17' 5-1/4"	10' 3"	12' 1"
AT 310-4N36	1,216	24,990	40,040	5,620	(3) 35	278,900	17' 5-1/4"	10' 3"	12' 1"
SLSF Addition		2,100	2,100	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 110-2I18 to 110-4N18

One-Cell Cooling Towers



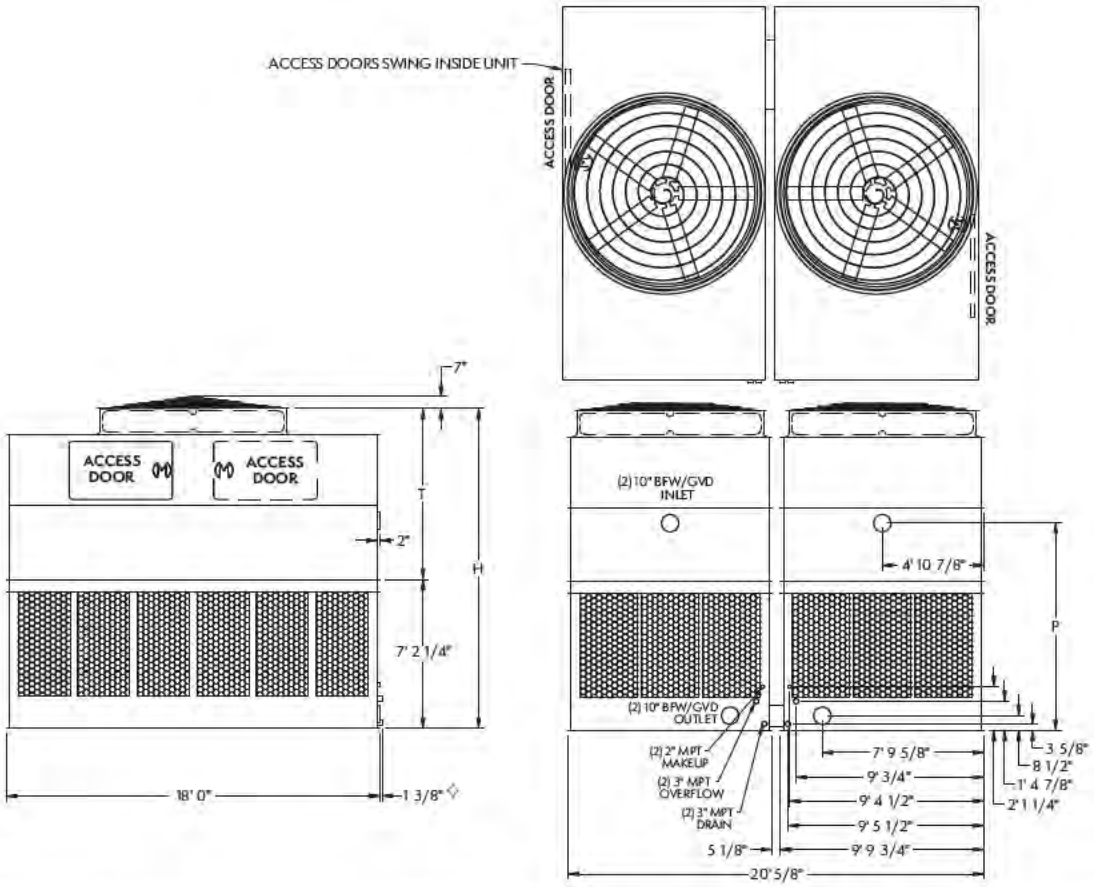
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 110-2I18	290	9,190	16,790	5,640	10	86,000	13' 5-1/4"	8' 3"	8' 0"
AT 110-2J18	351	9,260	16,860	5,710	15	97,800	13' 5-1/4"	8' 3"	8' 0"
AT 110-2K18	389	9,310	16,910	5,760	20	107,200	13' 5-1/4"	8' 3"	8' 0"
AT 110-2L18	420	9,360	16,960	5,810	25	115,100	13' 5-1/4"	8' 3"	8' 0"
AT 110-2M18	445	9,460	17,060	5,910	30	122,000	13' 5-1/4"	8' 3"	8' 0"
AT 110-3I18	333	9,880	17,480	6,330	10	84,700	14' 5-1/4"	9' 3"	9' 0"
AT 110-3J18	395	9,950	17,550	6,400	15	96,300	14' 5-1/4"	9' 3"	9' 0"
AT 110-3K18	437	10,000	17,600	6,450	20	105,500	14' 5-1/4"	9' 3"	9' 0"
AT 110-3L18	471	10,050	17,650	6,500	25	113,100	14' 5-1/4"	9' 3"	9' 0"
AT 110-3M18	499	10,150	17,750	6,600	30	119,800	14' 5-1/4"	9' 3"	9' 0"
AT 110-3N18	547	10,400	18,000	6,850	40	131,100	14' 5-1/4"	9' 3"	9' 0"
AT 110-4I18	364	10,510	18,110	6,960	10	83,300	15' 5-1/4"	10' 3"	10' 0"
AT 110-4J18	420	10,580	18,180	7,030	15	94,700	15' 5-1/4"	10' 3"	10' 0"
AT 110-4K18	460	10,630	18,230	7,080	20	103,800	15' 5-1/4"	10' 3"	10' 0"
AT 110-4L18	493	10,680	18,280	7,130	25	111,300	15' 5-1/4"	10' 3"	10' 0"
AT 110-4M18	522	10,780	18,380	7,230	30	117,900	15' 5-1/4"	10' 3"	10' 0"
AT 110-4N18	570	11,030	18,630	7,480	40	129,000	15' 5-1/4"	10' 3"	10' 0"
SLSF Addition		700	700	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 220-2I18 to 220-4N18

Two-Cell Cooling Towers



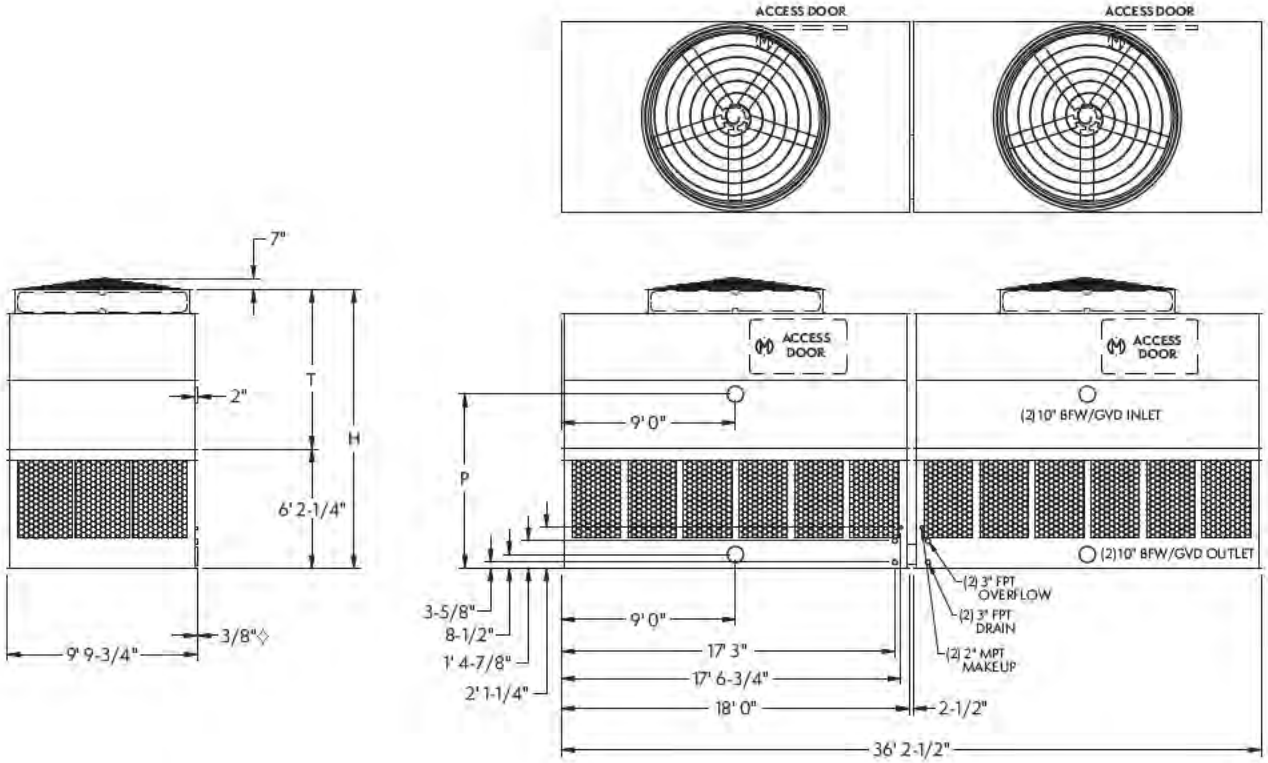
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 220-2I18	580	19,100	34,300	5,640	(2) 10	171,200	15' 5-1/4"	8' 3"	10' 0"
AT 220-2J18	701	19,240	34,440	5,710	(2) 15	194,700	15' 5-1/4"	8' 3"	10' 0"
AT 220-2K18	779	19,340	34,540	5,760	(2) 20	213,400	15' 5-1/4"	8' 3"	10' 0"
AT 220-2L18	840	19,440	34,640	5,810	(2) 25	229,100	15' 5-1/4"	8' 3"	10' 0"
AT 220-2M18	890	19,640	34,840	5,910	(2) 30	242,900	15' 5-1/4"	8' 3"	10' 0"
AT 220-3I18	667	20,480	35,680	6,330	(2) 10	168,600	16' 5-1/4"	9' 3"	11' 0"
AT 220-3J18	790	20,620	35,820	6,400	(2) 15	191,700	16' 5-1/4"	9' 3"	11' 0"
AT 220-3K18	873	20,720	35,920	6,450	(2) 20	209,900	16' 5-1/4"	9' 3"	11' 0"
AT 220-3L18	941	20,820	36,020	6,500	(2) 25	225,100	16' 5-1/4"	9' 3"	11' 0"
AT 220-3M18	997	21,020	36,220	6,600	(2) 30	238,400	16' 5-1/4"	9' 3"	11' 0"
AT 220-3N18	1,093	21,520	36,720	6,850	(2) 40	260,900	16' 5-1/4"	9' 3"	11' 0"
AT 220-4I18	727	21,740	36,940	6,960	(2) 10	165,700	17' 5-1/4"	10' 3"	12' 0"
AT 220-4J18	839	21,880	37,080	7,030	(2) 15	188,500	17' 5-1/4"	10' 3"	12' 0"
AT 220-4K18	921	21,980	37,180	7,080	(2) 20	206,500	17' 5-1/4"	10' 3"	12' 0"
AT 220-4L18	987	22,080	37,280	7,130	(2) 25	221,600	17' 5-1/4"	10' 3"	12' 0"
AT 220-4M18	1,044	22,280	37,480	7,230	(2) 30	234,700	17' 5-1/4"	10' 3"	12' 0"
AT 220-4N18	1,140	22,780	37,980	7,480	(2) 40	256,800	17' 5-1/4"	10' 3"	12' 0"
SLSF Addition		1,400	1,400	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 210-2I36 to 210-4N36

Two-Cell Cooling Towers



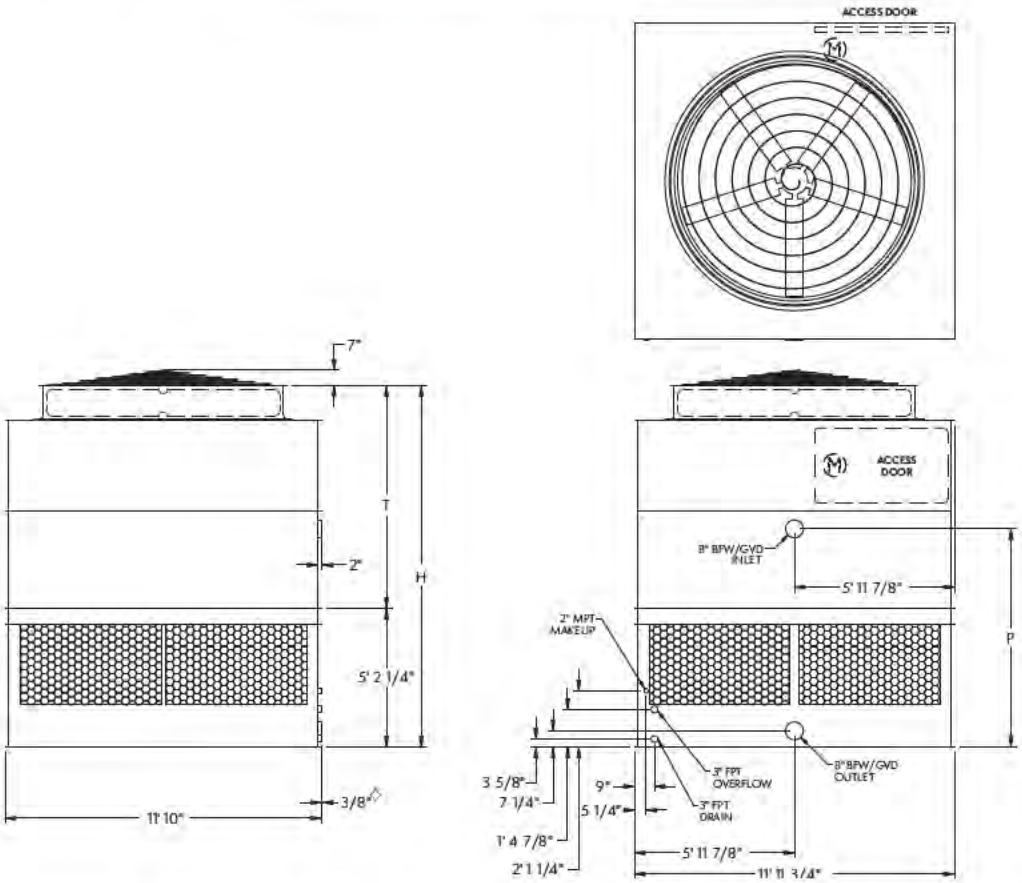
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 210-2I36	580	18,440	33,640	5,640	(2) 10	172,000	14' 5-1/4"	8' 3"	9' 0"
AT 210-2J36	701	18,580	33,780	5,710	(2) 15	195,600	14' 5-1/4"	8' 3"	9' 0"
AT 210-2K36	779	18,680	33,880	5,760	(2) 20	214,400	14' 5-1/4"	8' 3"	9' 0"
AT 210-2L36	840	18,780	33,980	5,810	(2) 25	230,200	14' 5-1/4"	8' 3"	9' 0"
AT 210-2M36	890	18,980	34,180	5,910	(2) 30	244,000	14' 5-1/4"	8' 3"	9' 0"
AT 210-3I36	667	19,820	35,020	6,330	(2) 10	169,400	15' 5-1/4"	9' 3"	10' 0"
AT 210-3J36	790	19,960	35,160	6,400	(2) 15	192,600	15' 5-1/4"	9' 3"	10' 0"
AT 210-3K36	873	20,060	35,260	6,450	(2) 20	210,900	15' 5-1/4"	9' 3"	10' 0"
AT 210-3L36	941	20,160	35,360	6,500	(2) 25	226,200	15' 5-1/4"	9' 3"	10' 0"
AT 210-3M36	997	20,360	35,560	6,600	(2) 30	239,500	15' 5-1/4"	9' 3"	10' 0"
AT 210-3N36	1,093	20,860	36,060	6,850	(2) 40	262,100	15' 5-1/4"	9' 3"	10' 0"
AT 210-4I36	727	21,080	36,280	6,960	(2) 10	166,500	16' 5-1/4"	10' 3"	11' 0"
AT 210-4J36	839	21,220	36,420	7,030	(2) 15	189,400	16' 5-1/4"	10' 3"	11' 0"
AT 210-4K36	921	21,320	36,520	7,080	(2) 20	207,500	16' 5-1/4"	10' 3"	11' 0"
AT 210-4L36	987	21,420	36,620	7,130	(2) 25	222,600	16' 5-1/4"	10' 3"	11' 0"
AT 210-4M36	1,044	21,620	36,820	7,230	(2) 30	235,700	16' 5-1/4"	10' 3"	11' 0"
AT 210-4N36	1,140	22,120	37,320	7,480	(2) 40	257,900	16' 5-1/4"	10' 3"	11' 0"
SLSF Addition		1,400	1,400	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 112-2I12 to 112-4N12

One-Cell Cooling Towers



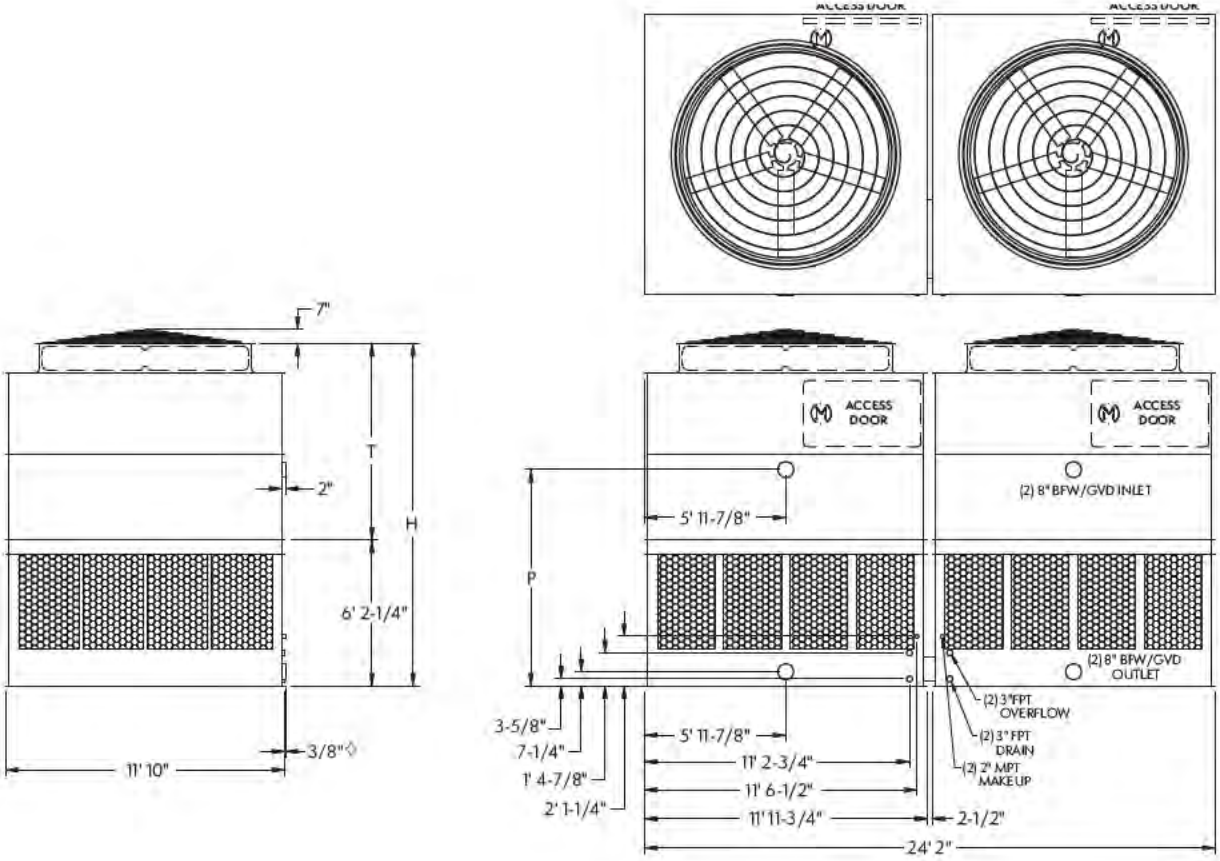
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 112-2I12	280	7,330	13,540	4,930	10	71,600	13' 6-1/4"	8' 4"	8' 2"
AT 112-2J12	334	7,400	13,610	5,000	15	81,400	13' 6-1/4"	8' 4"	8' 2"
AT 112-2K12	364	7,450	13,660	5,050	20	89,200	13' 6-1/4"	8' 4"	8' 2"
AT 112-2L12	391	7,500	13,710	5,100	25	95,800	13' 6-1/4"	8' 4"	8' 2"
AT 112-2M12	414	7,600	13,810	5,200	30	101,500	13' 6-1/4"	8' 4"	8' 2"
AT 112-3I12	316	7,870	14,080	5,470	10	70,500	14' 6-1/4"	9' 4"	9' 2"
AT 112-3J12	370	7,940	14,150	5,540	15	80,000	14' 6-1/4"	9' 4"	9' 2"
AT 112-3K12	404	7,990	14,200	5,590	20	87,600	14' 6-1/4"	9' 4"	9' 2"
AT 112-3L12	434	8,040	14,250	5,640	25	93,900	14' 6-1/4"	9' 4"	9' 2"
AT 112-3M12	461	8,140	14,350	5,740	30	99,500	14' 6-1/4"	9' 4"	9' 2"
AT 112-4I12	337	8,360	14,570	5,960	10	69,300	15' 6-1/4"	10' 4"	10' 2"
AT 112-4J12	387	8,430	14,640	6,030	15	78,800	15' 6-1/4"	10' 4"	10' 2"
AT 112-4K12	422	8,480	14,690	6,080	20	86,200	15' 6-1/4"	10' 4"	10' 2"
AT 112-4L12	454	8,530	14,740	6,130	25	92,400	15' 6-1/4"	10' 4"	10' 2"
AT 112-4M12	481	8,630	14,840	6,230	30	97,800	15' 6-1/4"	10' 4"	10' 2"
AT 112-4N12	515	8,880	15,090	6,480	40	107,100	15' 6-1/4"	10' 4"	10' 2"
SLSF Addition		700	700	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 212-2I24 to 212-4N24

Two-Cell Cooling Towers



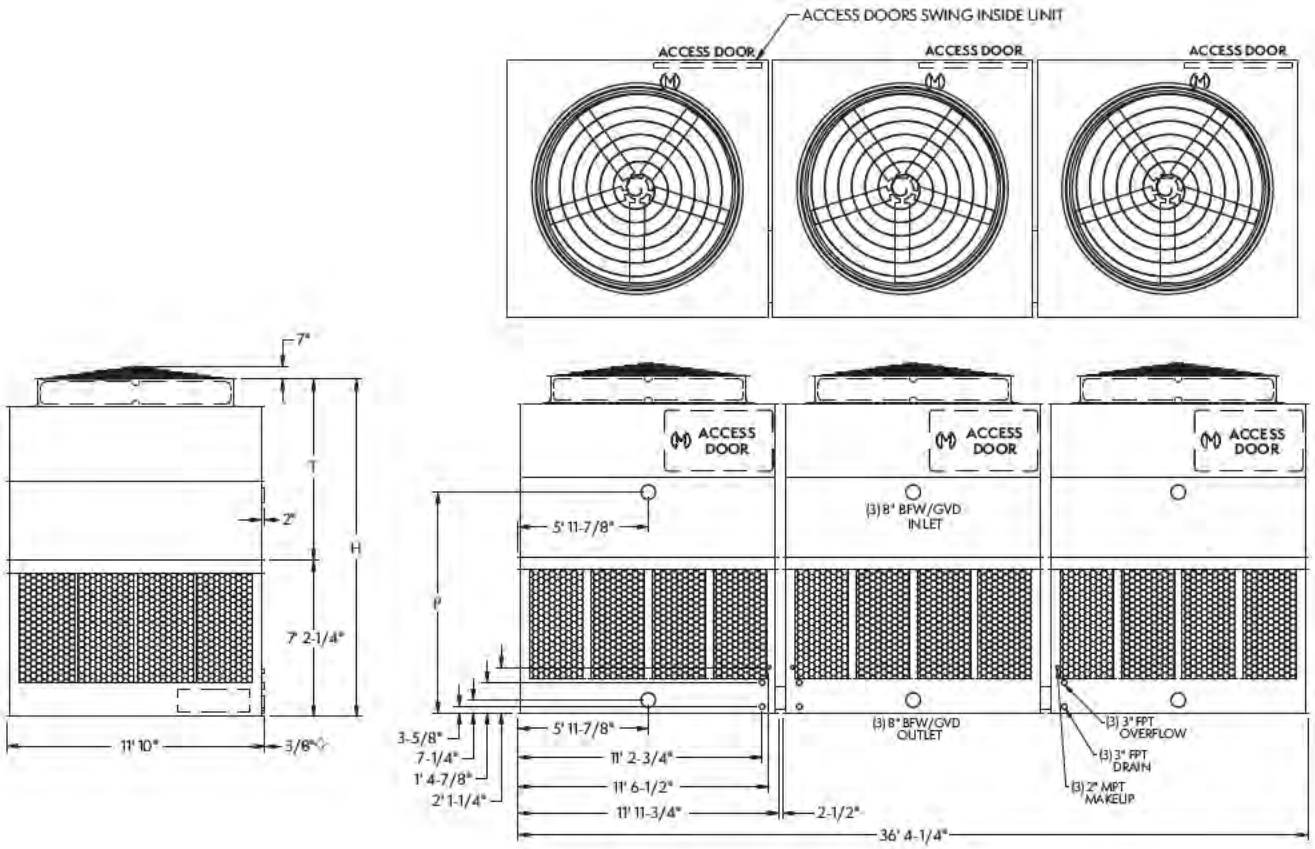
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 212-2I24	560	14,800	27,220	4,930	(2) 10	143,100	14' 6-1/4"	8' 4"	9' 2"
AT 212-2J24	667	15,080	27,500	5,000	(2) 15	162,700	14' 6-1/4"	8' 4"	9' 2"
AT 212-2K24	729	15,180	27,600	5,050	(2) 20	178,300	14' 6-1/4"	8' 4"	9' 2"
AT 212-2L24	782	15,280	27,700	5,100	(2) 25	191,500	14' 6-1/4"	8' 4"	9' 2"
AT 212-2M24	828	15,480	27,900	5,200	(2) 30	202,900	14' 6-1/4"	8' 4"	9' 2"
AT 212-3I24	633	15,880	28,300	5,400	(2)1 0	140,900	15' 6-1/4"	9' 4"	10' 2"
AT 212-3J24	740	16,160	28,580	5,540	(2) 15	160,000	15' 6-1/4"	9' 4"	10' 2"
AT 212-3K24	807	16,260	28,680	5,590	(2) 20	175,100	15' 6-1/4"	9' 4"	10' 2"
AT 212-3L24	868	16,360	28,780	5,640	(2) 25	187,800	15' 6-1/4"	9' 4"	10' 2"
AT 212-3M24	922	16,560	28,980	5,740	(2) 30	198,900	15' 6-1/4"	9' 4"	10' 2"
AT 212-4I24	674	16,860	29,280	5,890	(2) 10	138,600	16' 6-1/4"	10' 4"	11' 2"
AT 212-4J24	775	17,140	29,560	6,030	(2) 15	157,500	16' 6-1/4"	10' 4"	11' 2"
AT 212-4K24	843	17,240	29,660	6,080	(2) 20	172,400	16' 6-1/4"	10' 4"	11' 2"
AT 212-4L24	908	17,340	29,760	6,130	(2) 25	184,800	16' 6-1/4"	10' 4"	11' 2"
AT 212-4M24	963	17,540	29,960	6,230	(2) 30	195,600	16' 6-1/4"	10' 4"	11' 2"
AT 212-4N24	1,030	18,040	30,460	6,480	(2) 40	214,100	16' 6-1/4"	10' 4"	11' 2"
SLSF Addition		1,400	1,400	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 312-2I36 to 312-4N36

Three-Cell Cooling Towers



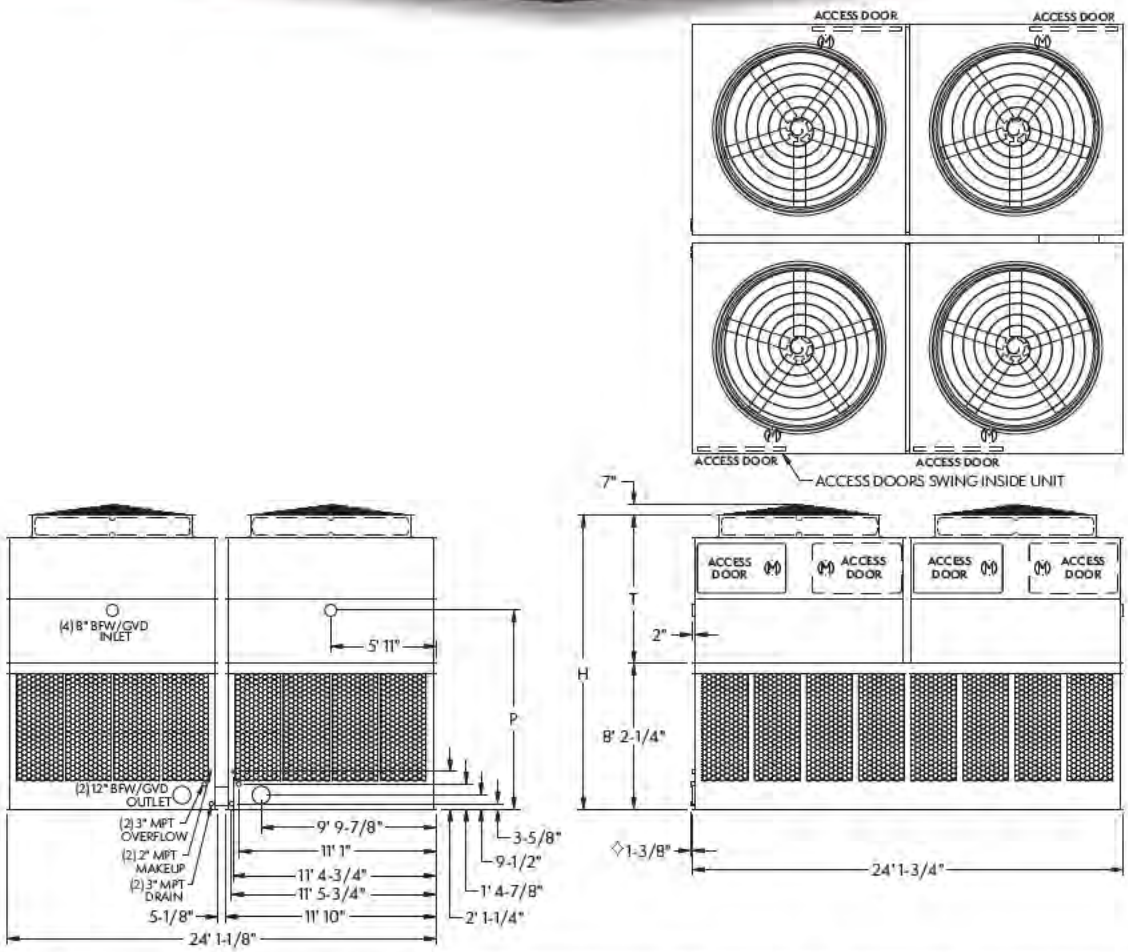
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 312-2I36	851	22,830	41,460	4,930	(3) 10	216,800	15' 6-1/4"	8' 4"	10' 2"
AT 312-2J36	1,014	23,040	41,670	5,000	(3) 15	246,400	15' 6-1/4"	8' 4"	10' 2"
AT 312-2K36	1,106	23,190	41,820	5,050	(3) 20	270,100	15' 6-1/4"	8' 4"	10' 2"
AT 312-2L36	1,187	23,340	41,970	5,100	(3) 25	290,000	15' 6-1/4"	8' 4"	10' 2"
AT 312-2M36	1,257	23,640	42,270	5,200	(3) 30	307,200	15' 6-1/4"	8' 4"	10' 2"
AT 312-3I36	960	24,450	43,080	5,470	(3) 10	213,500	16' 6-1/4"	9' 4"	11' 2"
AT 312-3J36	1,122	24,660	43,290	5,540	(3) 15	242,300	16' 6-1/4"	9' 4"	11' 2"
AT 312-3K36	1,224	24,810	43,440	5,590	(3) 20	265,300	16' 6-1/4"	9' 4"	11' 2"
AT 312-3L36	1,316	24,960	43,590	5,640	(3) 25	284,500	16' 6-1/4"	9' 4"	11' 2"
AT 312-3M36	1,398	25,260	43,890	5,740	(3) 30	301,300	16' 6-1/4"	9' 4"	11' 2"
AT 312-4I36	1,021	25,920	44,550	5,960	(3) 10	209,900	17' 6-1/4"	10' 4"	12' 2"
AT 312-4J36	1,174	26,130	44,760	6,030	(3) 15	238,500	17' 6-1/4"	10' 4"	12' 2"
AT 312-4K36	1,277	26,280	44,910	6,080	(3) 20	261,100	17' 6-1/4"	10' 4"	12' 2"
AT 312-4L36	1,375	26,430	45,060	6,130	(3) 25	279,900	17' 6-1/4"	10' 4"	12' 2"
AT 312-4M36	1,458	26,730	45,360	6,230	(3) 30	296,200	17' 6-1/4"	10' 4"	12' 2"
AT 312-4N36	1,560	27,480	46,110	6,480	(3) 40	324,200	17' 6-1/4"	10' 4"	12' 2"
SLSF Addition		2,100	2,100	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 424-2I24 to 424-4N24

Four-Cell Cooling Towers



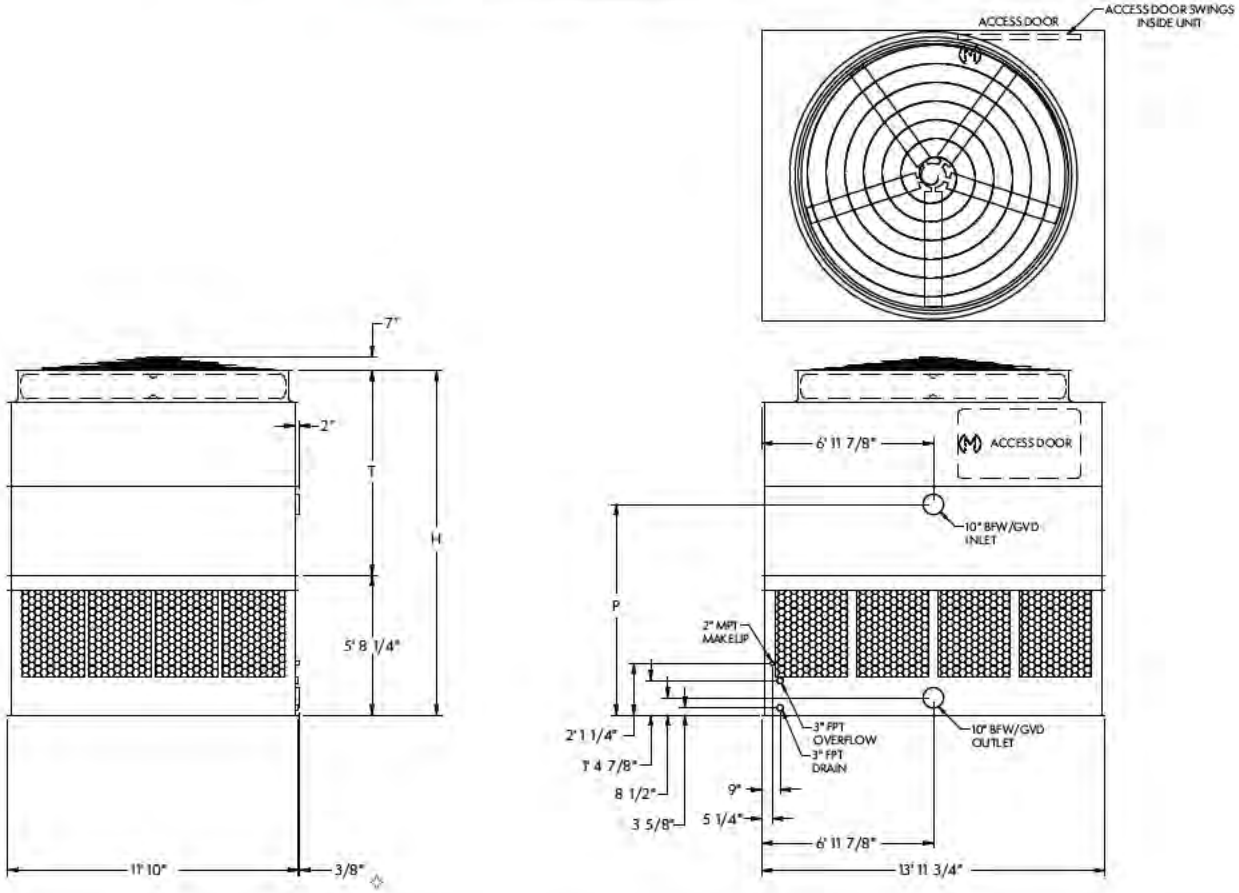
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section♦			H†	T†	P
AT 424-2I24	1,114	31,020	55,340	5,790	(4) 10	283,500	16' 6-1/4"	8' 4"	11' 2"
AT 424-2J24	1,327	31,580	55,900	5,790	(4) 15	322,300	16' 6-1/4"	8' 4"	11' 2"
AT 424-2K24	1,449	31,780	56,100	5,790	(4) 20	353,400	16' 6-1/4"	8' 4"	11' 2"
AT 424-2L24	1,555	31,980	56,300	5,790	(4) 25	379,400	16' 6-1/4"	8' 4"	11' 2"
AT 424-2M24	1,647	32,380	56,700	5,790	(4) 30	401,900	16' 6-1/4"	8' 4"	11' 2"
AT 424-3I24	1,257	33,180	57,500	5,790	(4) 10	279,200	17' 6-1/4"	9' 4"	12' 2"
AT 424-3J24	1,471	33,740	58,060	5,790	(4) 15	317,000	17' 6-1/4"	9' 4"	12' 2"
AT 424-3K24	1,605	33,940	58,260	5,790	(4) 20	347,000	17' 6-1/4"	9' 4"	12' 2"
AT 424-3L24	1,727	34,140	58,460	5,790	(4) 25	372,200	17' 6-1/4"	9' 4"	12' 2"
AT 424-3M24	1,835	34,540	58,860	5,790	(4) 30	394,100	17' 6-1/4"	9' 4"	12' 2"
AT 424-4I24	1,340	35,140	59,460	5,890	(4) 10	274,500	18' 6-1/4"	10' 4"	13' 2"
AT 424-4J24	1,542	35,700	60,020	6,030	(4) 15	312,000	18' 6-1/4"	10' 4"	13' 2"
AT 424-4K24	1,678	35,900	60,220	6,080	(4) 20	341,600	18' 6-1/4"	10' 4"	13' 2"
AT 424-4L24	1,807	36,100	60,420	6,130	(4) 25	366,200	18' 6-1/4"	10' 4"	13' 2"
AT 424-4M24	1,916	36,500	60,820	6,230	(4) 30	387,500	18' 6-1/4"	10' 4"	13' 2"
AT 424-4N24	2,050	37,500	61,820	6,480	(4) 40	424,300	18' 6-1/4"	10' 4"	13' 2"
SLSF Addition		2,800	2,800	700			1' 9-1/2"	1' 9-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
♦ Heaviest section is the lower section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 112-2I14 to 112-4N14

One-Cell Cooling Towers



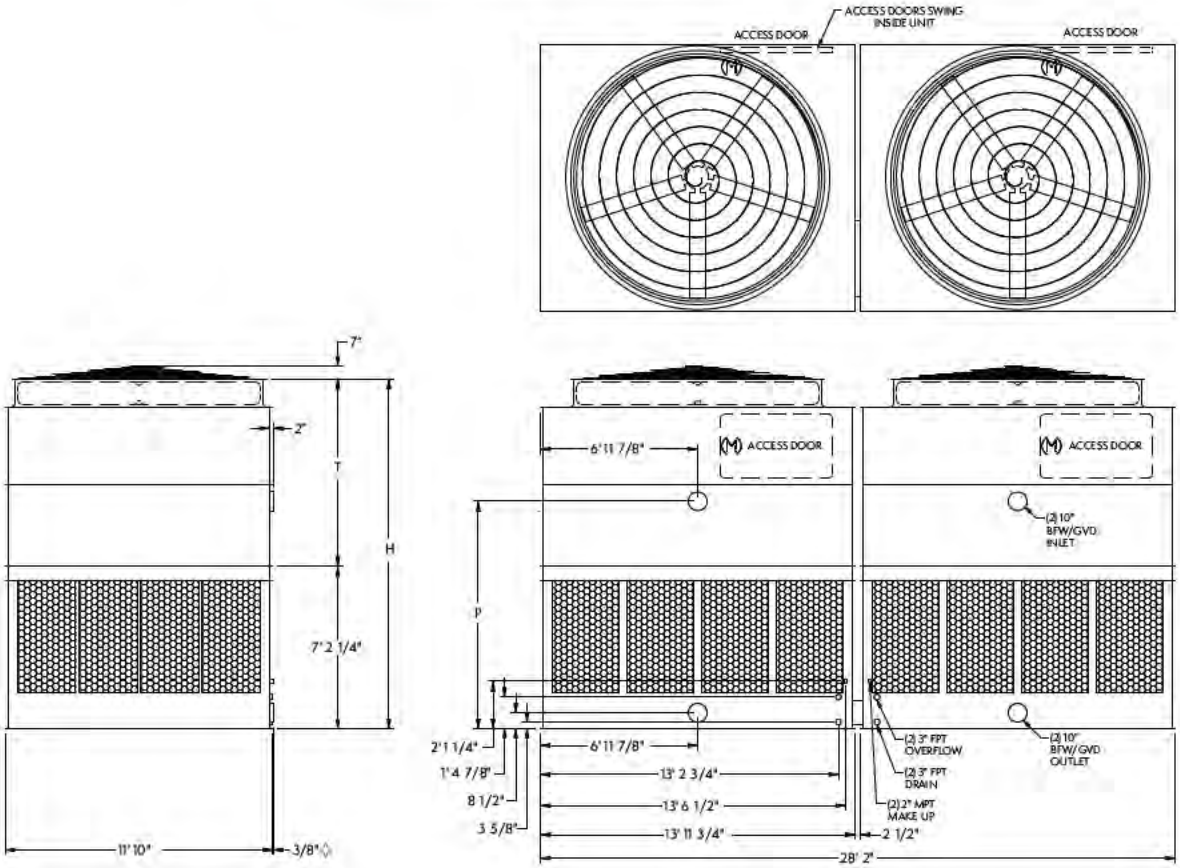
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 112-2I14	299	8,230	15,560	5,360	10	77,800	14' 1/4"	8' 4"	8' 7"
AT 112-2J14	359	8,300	15,630	5,430	15	88,500	14' 1/4"	8' 4"	8' 7"
AT 112-2K14	394	8,360	15,690	5,490	20	97,000	14' 1/4"	8' 4"	8' 7"
AT 112-2L14	425	8,420	15,750	5,550	25	104,100	14' 1/4"	8' 4"	8' 7"
AT 112-2M14	450	8,490	15,820	5,620	30	110,400	14' 1/4"	8' 4"	8' 7"
AT 112-3I14	344	8,890	16,220	6,020	10	76,600	15' 1/4"	9' 4"	9' 7"
AT 112-3J14	405	8,960	16,290	6,090	15	87,000	15' 1/4"	9' 4"	9' 7"
AT 112-3K14	439	9,020	16,350	6,150	20	95,400	15' 1/4"	9' 4"	9' 7"
AT 112-3L14	471	9,080	16,410	6,210	25	102,300	15' 1/4"	9' 4"	9' 7"
AT 112-3M14	501	9,150	16,480	6,280	30	108,300	15' 1/4"	9' 4"	9' 7"
AT 112-3N14	548	9,410	16,740	6,540	40	118,600	15' 1/4"	9' 4"	9' 7"
AT 112-4I14	370	9,410	16,740	6,540	10	75,300	16' 1/4"	10' 4"	10' 7"
AT 112-4J14	427	9,480	16,810	6,610	15	85,600	16' 1/4"	10' 4"	10' 7"
AT 112-4K14	460	9,540	16,870	6,670	20	93,800	16' 1/4"	10' 4"	10' 7"
AT 112-4L14	494	9,600	16,930	6,730	25	100,600	16' 1/4"	10' 4"	10' 7"
AT 112-4M14	524	9,670	17,000	6,800	30	106,500	16' 1/4"	10' 4"	10' 7"
AT 112-4N14	574	9,930	17,260	7,060	40	116,500	16' 1/4"	10' 4"	10' 7"
SLSF Addition		1,200	1,200	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 212-2I28 to 212-4N28

Two-Cell Cooling Towers



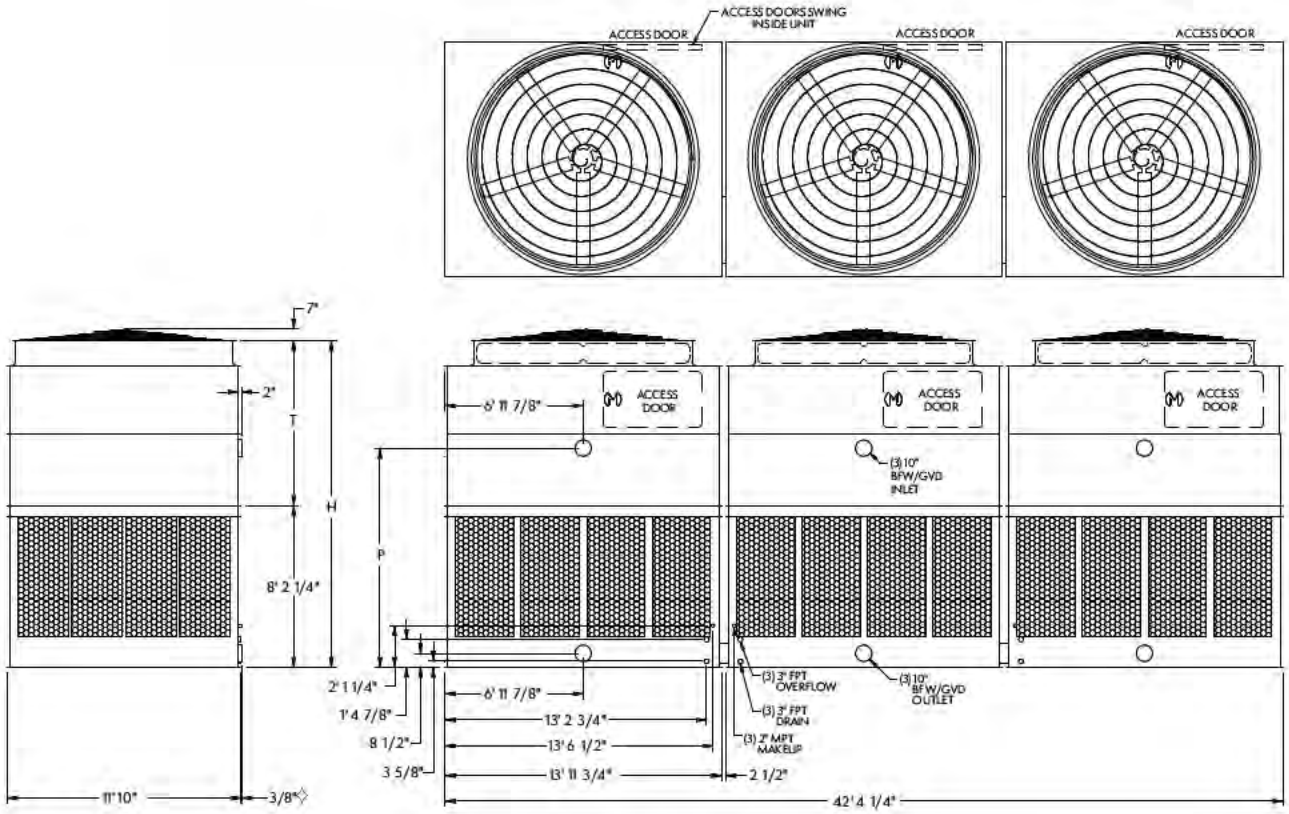
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 212-2I28	598	16,820	31,480	5,360	(2) 10	155,600	15' 6-1/4"	8' 4"	10' 1"
AT 212-2J28	717	16,960	31,620	5,430	(2) 15	176,900	15' 6-1/4"	8' 4"	10' 1"
AT 212-2K28	787	17,080	31,740	5,490	(2) 20	194,000	15' 6-1/4"	8' 4"	10' 1"
AT 212-2L28	850	17,200	31,860	5,550	(2) 25	208,200	15' 6-1/4"	8' 4"	10' 1"
AT 212-2M28	900	17,340	32,000	5,620	(2) 30	220,700	15' 6-1/4"	8' 4"	10' 1"
AT 212-3I28	687	18,140	32,800	6,020	(2) 10	153,200	16' 6-1/4"	9' 4"	11' 1"
AT 212-3J28	810	18,280	32,940	6,090	(2) 15	174,000	16' 6-1/4"	9' 4"	11' 1"
AT 212-3K28	877	18,400	33,060	6,150	(2) 20	190,700	16' 6-1/4"	9' 4"	11' 1"
AT 212-3L28	942	18,520	33,180	6,210	(2) 25	204,500	16' 6-1/4"	9' 4"	11' 1"
AT 212-3M28	1,002	18,660	33,320	6,280	(2) 30	216,500	16' 6-1/4"	9' 4"	11' 1"
AT 212-3N28	1,097	19,180	33,840	6,540	(2) 40	237,100	16' 6-1/4"	9' 4"	11' 1"
AT 212-4I28	741	19,180	33,840	6,540	(2) 10	150,600	17' 6-1/4"	10' 4"	12' 1"
AT 212-4J28	853	19,320	33,980	6,610	(2) 15	171,200	17' 6-1/4"	10' 4"	12' 1"
AT 212-4K28	921	19,440	34,100	6,670	(2) 20	187,600	17' 6-1/4"	10' 4"	12' 1"
AT 212-4L28	987	19,560	34,220	6,730	(2) 25	201,200	17' 6-1/4"	10' 4"	12' 1"
AT 212-4M28	1,049	19,700	34,360	6,800	(2) 30	213,000	17' 6-1/4"	10' 4"	12' 1"
AT 212-4N28	1,147	20,220	34,880	7,060	(2) 40	232,900	17' 6-1/4"	10' 4"	12' 1"
SLSF Addition		2,400	2,400	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 312-2I42 to 312-4N42

Three-Cell Cooling Towers



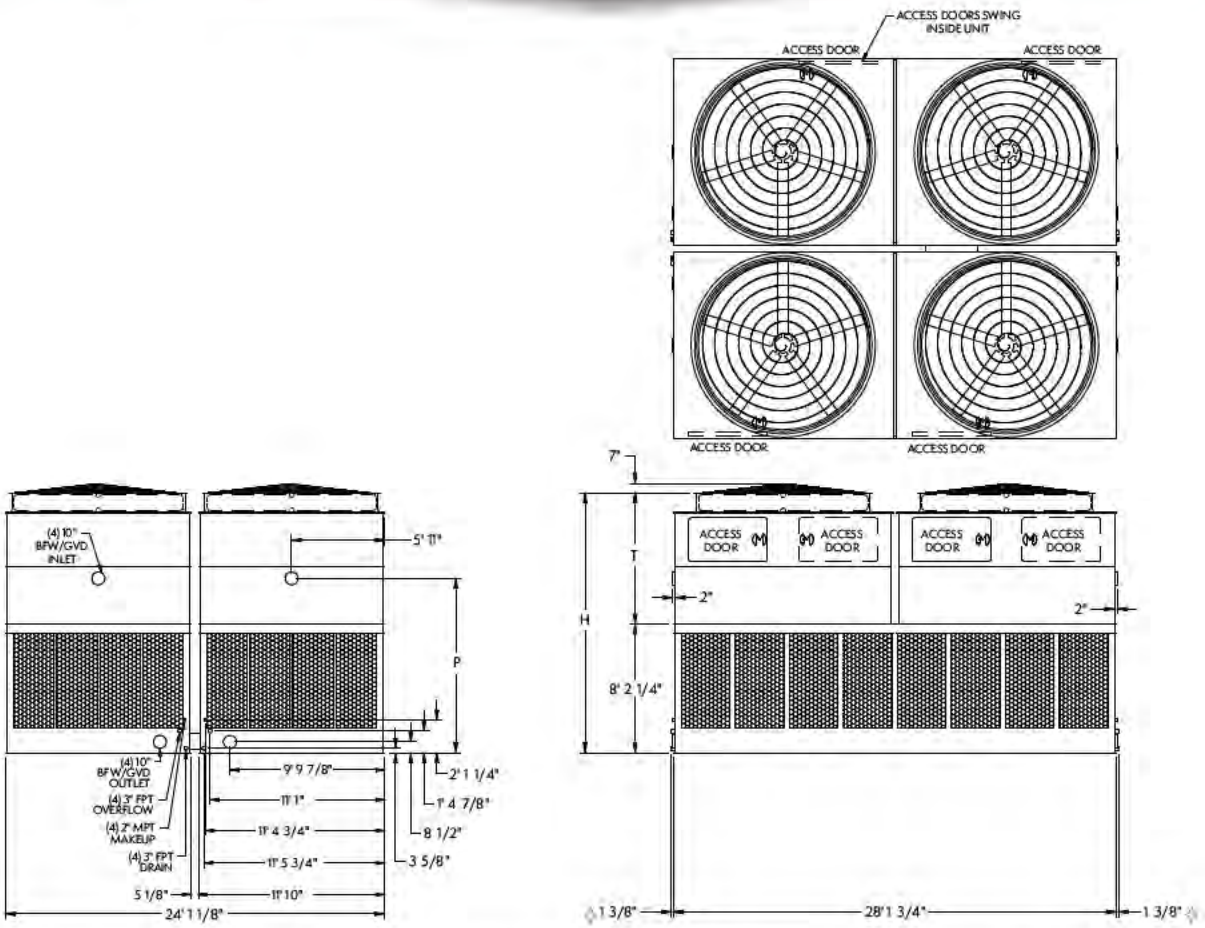
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 312-2I42	910	25,560	47,550	5,360	(3) 10	235,500	16' 6-1/4"	8' 4"	11' 1"
AT 312-2J42	1,091	25,770	47,760	5,430	(3) 15	267,800	16' 6-1/4"	8' 4"	11' 1"
AT 312-2K42	1,195	25,950	47,940	5,490	(3) 20	293,600	16' 6-1/4"	8' 4"	11' 1"
AT 312-2L42	1,289	26,130	48,120	5,550	(3) 25	315,200	16' 6-1/4"	8' 4"	11' 1"
AT 312-2M42	1,366	26,340	48,330	5,620	(3) 30	334,000	16' 6-1/4"	8' 4"	11' 1"
AT 312-3I42	1,045	27,540	49,530	6,020	(3) 10	231,900	17' 6-1/4"	9' 4"	12' 1"
AT 312-3J42	1,229	27,750	49,740	6,090	(3) 15	263,400	17' 6-1/4"	9' 4"	12' 1"
AT 312-3K42	1,330	27,930	49,920	6,150	(3) 20	288,500	17' 6-1/4"	9' 4"	12' 1"
AT 312-3L42	1,428	28,110	50,100	6,210	(3) 25	309,500	17' 6-1/4"	9' 4"	12' 1"
AT 312-3M42	1,519	28,320	50,310	6,280	(3) 30	327,600	17' 6-1/4"	9' 4"	12' 1"
AT 312-3N42	1,662	29,100	51,090	6,540	(3) 40	358,900	17' 6-1/4"	9' 4"	12' 1"
AT 312-4I42	1,123	29,100	51,090	6,540	(3) 10	227,900	18' 6-1/4"	10' 4"	13' 1"
AT 312-4J42	1,293	29,310	51,300	6,610	(3) 15	259,100	18' 6-1/4"	10' 4"	13' 1"
AT 312-4K42	1,395	29,490	51,480	6,670	(3) 20	284,000	18' 6-1/4"	10' 4"	13' 1"
AT 312-4L42	1,495	29,670	51,660	6,730	(3) 25	304,600	18' 6-1/4"	10' 4"	13' 1"
AT 312-4M42	1,589	29,880	51,870	6,800	(3) 30	322,400	18' 6-1/4"	10' 4"	13' 1"
AT 312-4N42	1,738	30,660	52,650	7,060	(3) 40	352,500	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		3,600	3,600	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 424-2I28 to 424-4N28

Four-Cell Cooling Towers



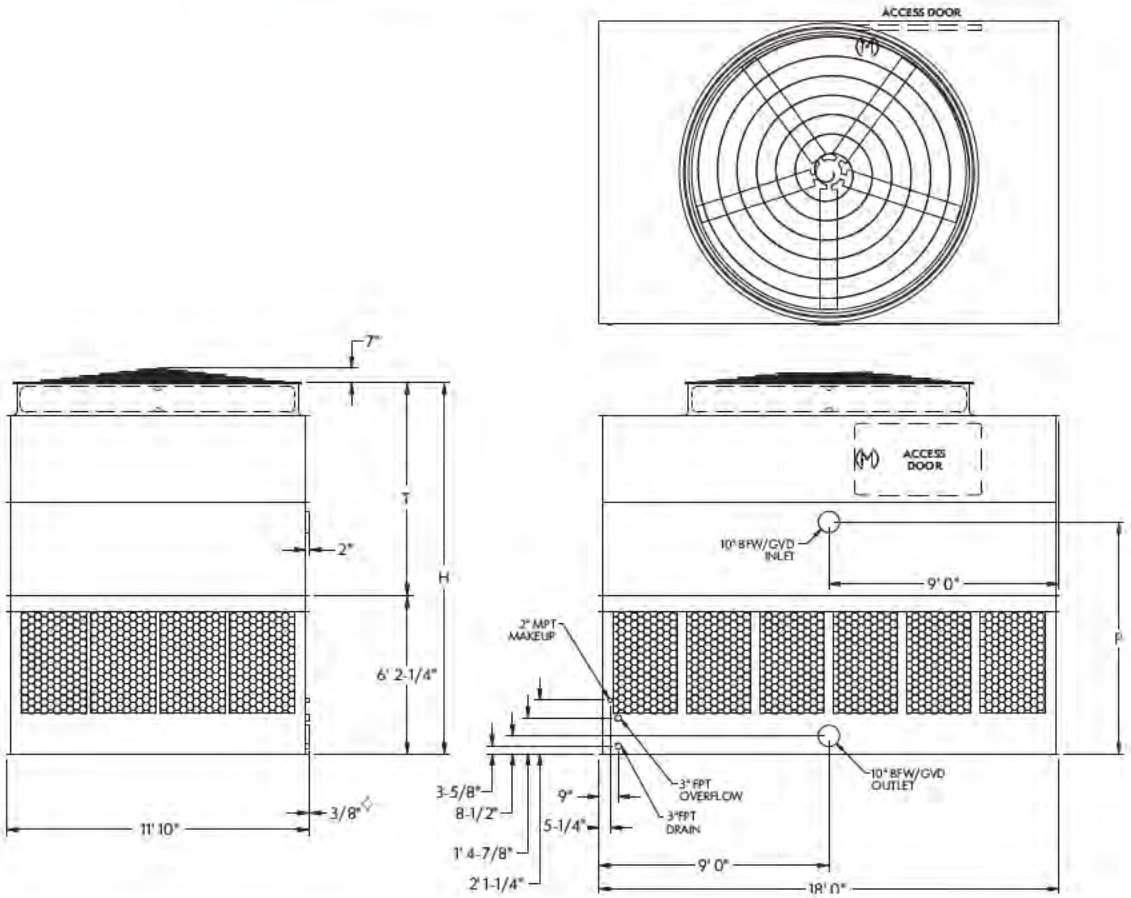
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 424-2I28	1,159	34,260	63,160	6,550	(4) 10	299,400	16' 6-1/4"	8' 4"	11' 1"
AT 424-2J28	1,405	34,820	63,720	6,550	(4) 15	340,300	16' 6-1/4"	8' 4"	11' 1"
AT 424-2K28	1,564	35,060	63,960	6,550	(4) 20	372,900	16' 6-1/4"	8' 4"	11' 1"
AT 424-2L28	1,689	35,300	64,200	6,550	(4) 25	400,300	16' 6-1/4"	8' 4"	11' 1"
AT 424-2M28	1,838	35,580	64,480	6,550	(4) 30	423,700	16' 6-1/4"	8' 4"	11' 1"
AT 424-3I28	1,322	36,900	65,800	6,550	(4) 10	294,900	17' 6-1/4"	9' 4"	12' 1"
AT 424-3J28	1,563	37,460	66,360	6,550	(4) 15	335,100	17' 6-1/4"	9' 4"	12' 1"
AT 424-3K28	1,745	37,700	66,600	6,550	(4) 20	366,600	17' 6-1/4"	9' 4"	12' 1"
AT 424-3L28	1,873	37,940	66,840	6,550	(4) 25	393,200	17' 6-1/4"	9' 4"	12' 1"
AT 424-3M28	1,993	38,220	67,120	6,550	(4) 30	416,200	17 6-1/4"	9' 4"	12' 1"
AT 424-3N28	2,199	39,260	68,160	6,550	(4) 40	455,600	17 6-1/4"	9' 4"	12' 1"
AT 424-4I28	1,434	38,980	67,880	6,550	(4) 10	289,800	18' 6-1/4"	10' 4"	13' 1"
AT 424-4J28	1,654	39,540	68,440	6,610	(4) 15	329,600	18' 6-1/4"	10' 4"	13' 1"
AT 424-4K28	1,833	39,780	68,680	6,670	(4) 20	360,700	18' 6-1/4"	10' 4"	13' 1"
AT 424-4L28	1,965	40,020	68,920	6,730	(4) 25	386,900	18' 6-1/4"	10' 4"	13' 1"
AT 424-4M28	2,088	40,300	69,200	6,800	(4) 30	409,600	18' 6-1/4"	10' 4"	13' 1"
AT 424-4N28	2,283	41,340	70,240	7,060	(4) 40	447,900	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		4,800	4,800	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent build-up of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is the lower section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 112-2J18 to 112-4P18

One-Cell Cooling Towers



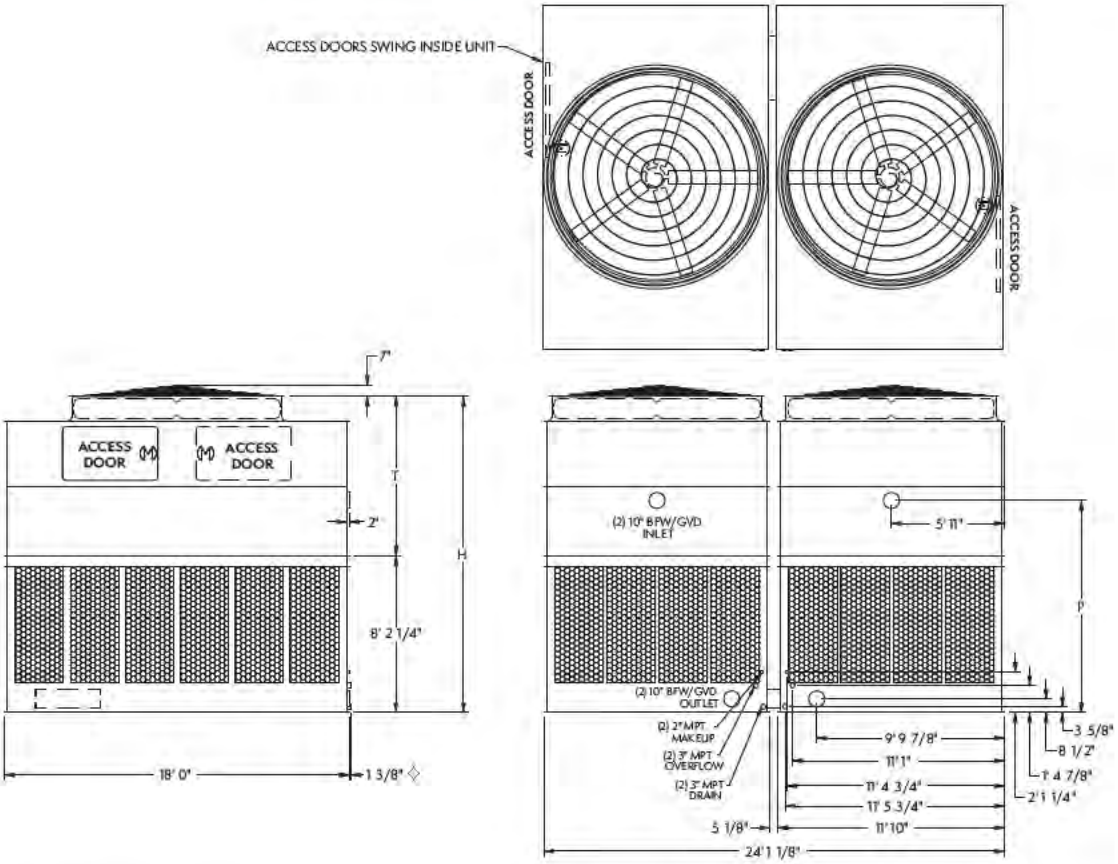
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 112-2J18	439	10,600	19,870	6,700	15	110,100	14' 6-1/4"	8' 4"	9' 1"
AT 112-2K18	497	10,660	19,930	6,760	20	120,600	14' 6-1/4"	8' 4"	9' 1"
AT 112-2L18	525	10,710	19,980	6,810	25	129,600	14' 6-1/4"	8' 4"	9' 1"
AT 112-2M18	554	10,820	20,090	6,920	30	137,400	14' 6-1/4"	8' 4"	9' 1"
AT 112-2N18	610	11,080	20,350	7,180	40	150,500	14' 6-1/4"	8' 4"	9' 1"
AT 112-3J18	488	11,380	20,650	7,480	15	108,500	15' 6-1/4"	9' 4"	10' 1"
AT 112-3K18	546	11,440	20,710	7,540	20	118,700	15' 6-1/4"	9' 4"	10' 1"
AT 112-3L18	581	11,490	20,760	7,590	25	127,400	15' 6-1/4"	9' 4"	10' 1"
AT 112-3M18	614	11,600	20,870	7,700	30	134,900	15' 6-1/4"	9' 4"	10' 1"
AT 112-3N18	675	11,860	21,130	7,960	40	147,600	15' 6-1/4"	9' 4"	10' 1"
AT 112-3O18	724	11,920	21,190	8,020	50	158,500	15' 6-1/4"	9' 4"	10' 1"
AT 112-4J18	518	12,120	21,390	8,220	15	106,700	16' 6-1/4"	10' 4"	11' 1"
AT 112-4K18	572	12,180	21,450	8,280	20	116,800	16' 6-1/4"	10' 4"	11' 1"
AT 112-4L18	606	12,230	21,500	8,330	25	125,400	16' 6-1/4"	10' 4"	11' 1"
AT 112-4M18	642	12,340	21,610	8,440	30	132,800	16' 6-1/4"	10' 4"	11' 1"
AT 112-4N18	705	12,600	21,870	8,700	40	145,200	16' 6-1/4"	10' 4"	11' 1"
AT 112-4O18	757	12,660	21,930	8,760	50	155,600	16' 6-1/4"	10' 4"	11' 1"
AT 112-4P18	785	12,770	22,040	8,870	60	164,900	16' 6-1/4"	10' 4"	11' 1"
SLSF Addition		1,200	1,200	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 224-2J18 to 224-4P18

Two-Cell Cooling Towers



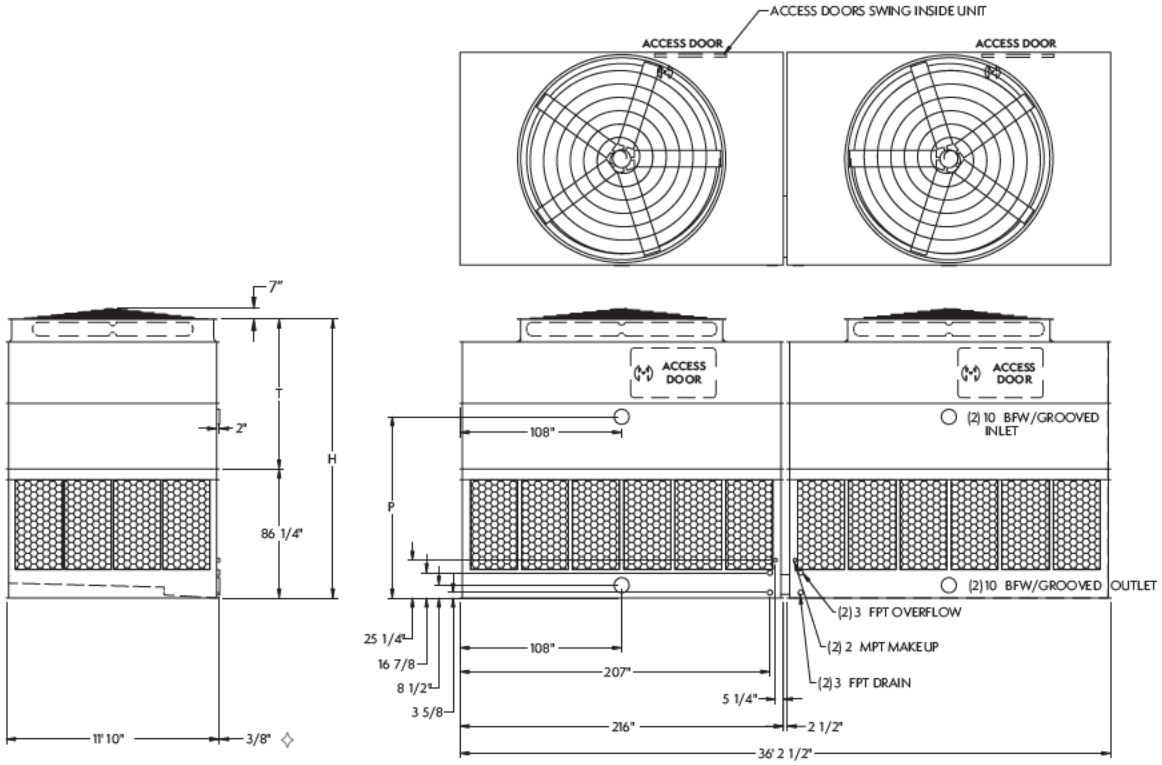
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 224-2J18	877	22,160	40,700	6,700	(2) 15	219,400	16' 6-1/4"	8' 4"	11' 1"
AT 224-2K18	994	22,280	40,820	6,760	(2) 20	240,300	16' 6-1/4"	8' 4"	11' 1"
AT 224-2L18	1,051	22,380	40,920	6,810	(2) 25	258,200	16' 6-1/4"	8' 4"	11' 1"
AT 224-2M18	1,107	22,600	41,140	6,920	(2) 30	273,700	16' 6-1/4"	8' 4"	11' 1"
AT 224-2N18	1,219	23,120	41,660	7,180	(2) 40	299,800	16' 6-1/4"	8' 4"	11' 1"
AT 224-3J18	977	23,720	42,260	7,480	(2) 15	216,100	17' 6-1/4"	9' 4"	12' 1"
AT 224-3K18	1,092	23,840	42,380	7,540	(2) 20	236,500	17' 6-1/4"	9' 4"	12' 1"
AT 224-3L18	1,161	23,940	42,480	7,590	(2) 25	253,800	17' 6-1/4"	9' 4"	12' 1"
AT 224-3M18	1,227	24,160	42,700	7,700	(2) 30	268,800	17' 6-1/4"	9' 4"	12' 1"
AT 224-3N18	1,350	24,680	43,220	7,960	(2) 40	294,100	17' 6-1/4"	9' 4"	12' 1"
AT 224-3O18	1,448	24,800	43,340	8,020	(2) 50	315,700	17' 6-1/4"	9' 4"	12' 1"
AT 224-4J18	1,035	25,200	43,740	8,220	(2) 15	212,500	18' 6-1/4"	10' 4"	13' 1"
AT 224-4K18	1,145	25,320	43,860	8,280	(2) 20	232,700	18' 6-1/4"	10' 4"	13' 1"
AT 224-4L18	1,213	25,420	43,960	8,330	(2) 25	249,800	18' 6-1/4"	10' 4"	13' 1"
AT 224-4M18	1,283	25,640	44,180	8,440	(2) 30	264,500	18' 6-1/4"	10' 4"	13' 1"
AT 224-4N18	1,409	26,160	44,700	8,700	(2) 40	289,300	18' 6-1/4"	10' 4"	13' 1"
AT 224-4O18	1,513	26,280	44,820	8,760	(2) 50	310,000	18' 6-1/4"	10' 4"	13' 1"
AT 224-4P18	1,570	26,500	45,040	8,870	(2) 60	328,500	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		2,400	2,400	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 212-2J36 to 212-4P36

Two-Cell Cooling Towers



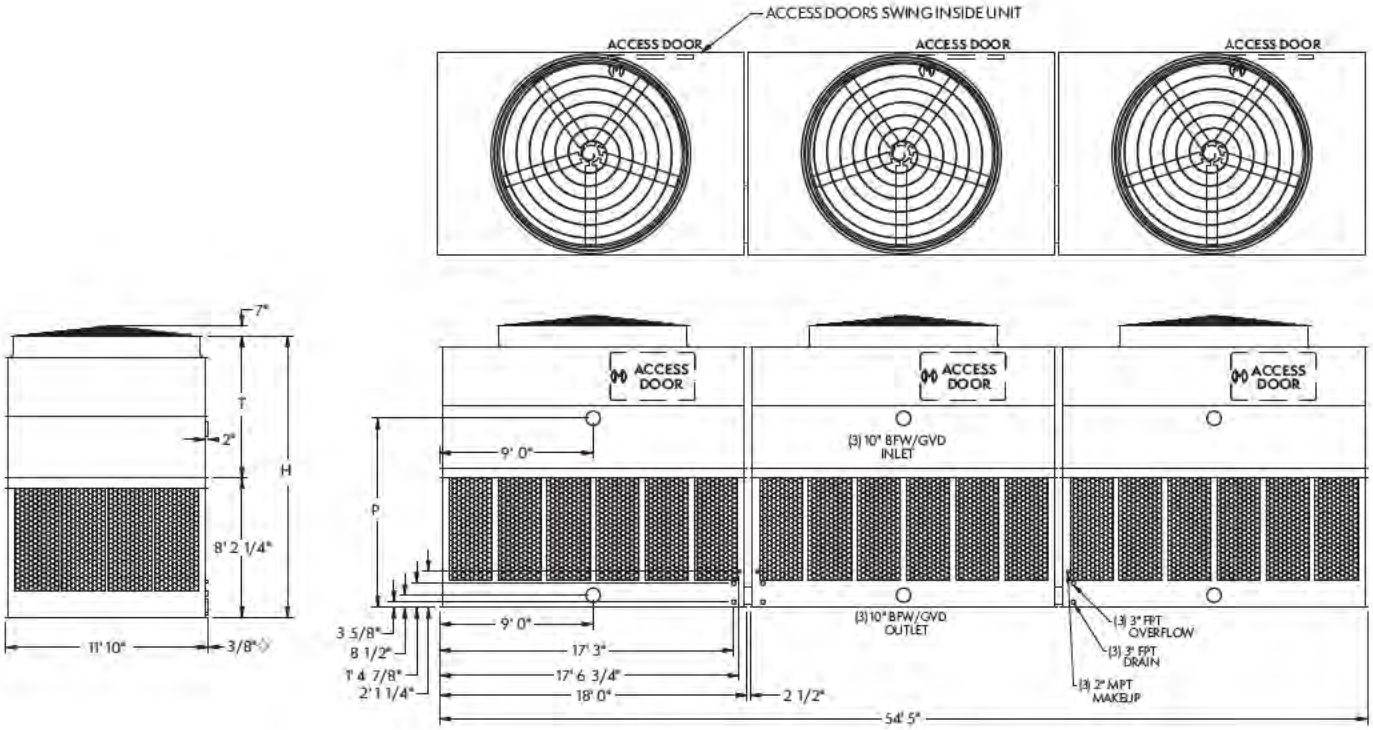
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 212-2J36	877	21,460	40,000	6,700	(2) 15	220,200	15' 6-1/4"	8' 4"	10' 1"
AT 212-2K36	994	21,580	40,120	6,760	(2) 20	241,200	15' 6-1/4"	8' 4"	10' 1"
AT 212-2L36	1,051	21,680	40,220	6,810	(2) 25	259,200	15' 6-1/4"	8' 4"	10' 1"
AT 212-2M36	1,107	21,900	40,440	6,920	(2) 30	274,700	15' 6-1/4"	8' 4"	10' 1"
AT 212-2N36	1,219	22,420	40,960	7,180	(2) 40	300,900	15' 6-1/4"	8' 4"	10' 1"
AT 212-3J36	977	23,020	41,560	7,480	(2) 15	216,900	16' 6-1/4"	9' 4"	11' 1"
AT 212-3K36	1,092	23,140	41,680	7,540	(2) 20	237,300	16' 6-1/4"	9' 4"	11' 1"
AT 212-3L36	1,161	23,240	41,780	7,590	(2) 40	254,700	16' 6-1/4"	9' 4"	11' 1"
AT 212-3M36	1,227	23,460	42,000	7,700	(2) 50	269,800	16' 6-1/4"	9' 4"	11' 1"
AT 212-3N36	1,350	23,980	42,520	7,960	(2) 30	295,200	16' 6-1/4"	9' 4"	11' 1"
AT 212-3O36	1,448	24,100	42,640	8,020	(2) 25	316,900	16' 6-1/4"	9' 4"	11' 1"
AT 212-4J36	1,035	24,500	43,040	8,220	(2) 15	213,300	17' 6-1/4"	10' 4"	12' 1"
AT 212-4K36	1,145	24,620	43,160	8,280	(2) 20	233,600	17' 6-1/4"	10' 4"	12' 1"
AT 212-4L36	1,213	24,720	43,260	8,330	(2) 25	250,800	17' 6-1/4"	10' 4"	12' 1"
AT 212-4M36	1,283	24,940	43,480	8,440	(2) 30	265,500	17' 6-1/4"	10' 4"	12' 1"
AT 212-4N36	1,409	25,460	44,000	8,700	(2) 40	290,400	17' 6-1/4"	10' 4"	12' 1"
AT 212-4O36	1,513	25,580	44,120	8,760	(2) 50	311,200	17' 6-1/4"	10' 4"	12' 1"
AT 212-4P36	1,570	25,800	44,340	8,870	(2) 60	329,700	17' 6-1/4"	10' 4"	12' 1"
SLSF Addition		2,400	2,400	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
(4) Nominal Tonnage is based on 3 gpm per ton at 95 degree entering water temperature, 85 degree leaving water temperature, and 78 degree wet-bulb temperature.
(5) This box size is available in a dual fan/cell configuration.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 312-2J54 to 312-4P54

Three-Cell Cooling Towers



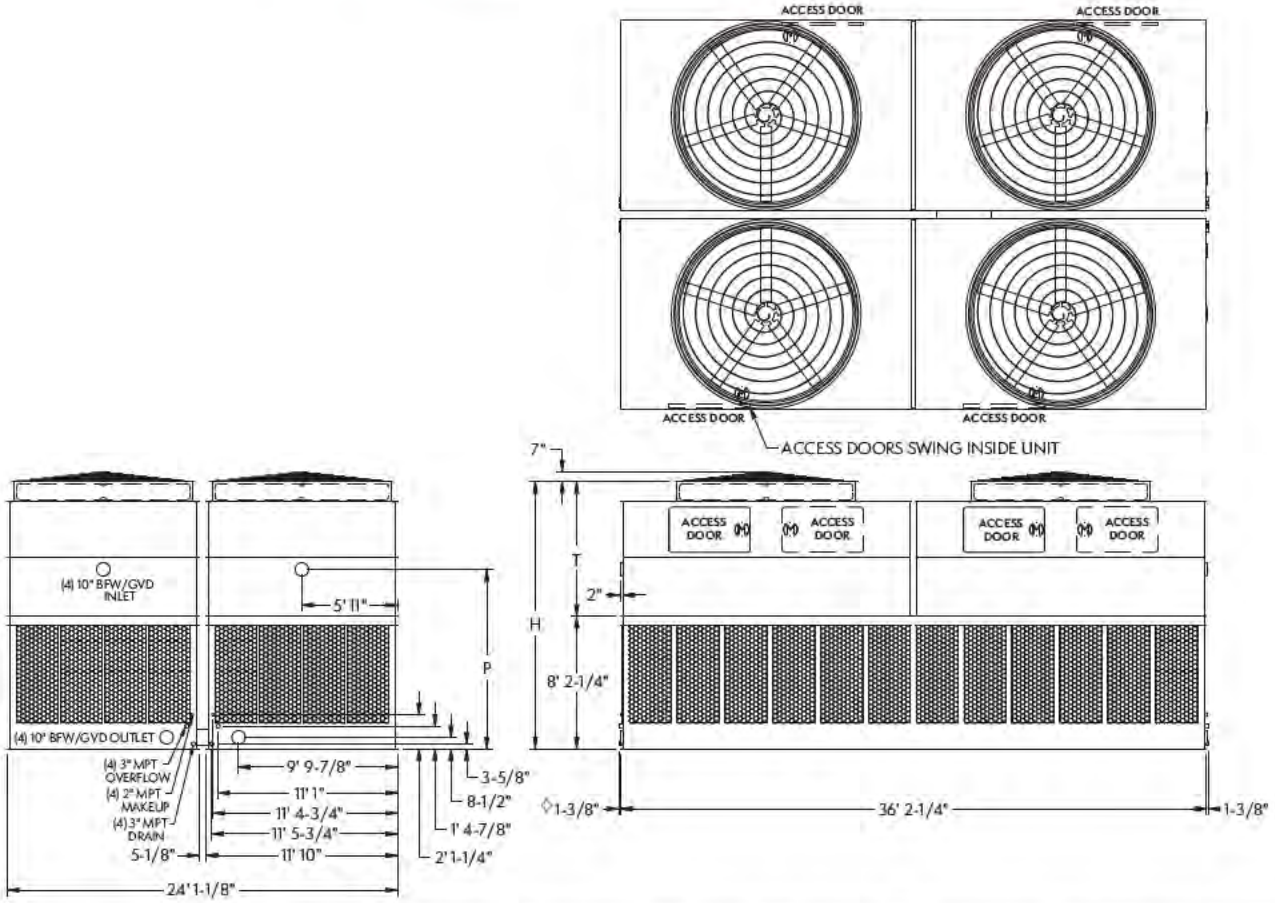
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 312-2J54	1,324	32,640	60,450	6,700	(3) 15	330,500	16' 6-1/4"	8' 4"	11' 1"
AT 312-2K54	1,499	32,820	60,630	6,760	(3) 20	362,000	16' 6-1/4"	8' 4"	11' 1"
AT 312-2L54	1,586	32,970	60,780	6,810	(3) 25	389,000	16' 6-1/4"	8' 4"	11' 1"
AT 312-2M54	1,670	33,300	61,110	6,920	(3) 30	412,300	16' 6-1/4"	8' 4"	11' 1"
AT 312-2N54	1,840	34,080	61,890	7,180	(3) 40	451,700	16' 6-1/4"	8' 4"	11' 1"
AT 312-3J54	1,473	34,980	62,790	7,480	(3) 15	325,600	17' 6-1/4"	9' 4"	12' 1"
AT 312-3K54	1,648	35,160	62,970	7,540	(3) 20	356,200	17' 6-1/4"	9' 4"	12' 1"
AT 312-3L54	1,752	35,310	63,120	7,590	(3) 25	382,300	17' 6-1/4"	9' 4"	12' 1"
AT 312-3M54	1,851	35,640	63,450	7,700	(3) 30	404,900	17' 6-1/4"	9' 4"	12' 1"
AT 312-3N54	2,036	36,420	64,230	7,960	(3) 40	443,100	17' 6-1/4"	9' 4"	12' 1"
AT 312-3O54	2,182	36,600	64,410	8,020	(3) 50	475,700	17' 6-1/4"	9' 4"	12' 1"
AT 312-4J54	1,560	37,200	65,010	8,220	(3) 15	320,200	18' 6-1/4"	10' 4"	13' 1"
AT 312-4K54	1,725	37,380	65,190	8,280	(3) 20	350,500	18' 6-1/4"	10' 4"	13' 1"
AT 312-4L54	1,828	37,530	65,340	8,330	(3) 25	376,300	18' 6-1/4"	10' 4"	13' 1"
AT 312-4M54	1,935	37,860	65,670	8,440	(3) 30	398,500	18' 6-1/4"	10' 4"	13' 1"
AT 312-4N54	2,124	38,640	66,450	8,700	(3) 40	435,800	18' 6-1/4"	10' 4"	13' 1"
AT 312-4O54	2,281	38,820	66,630	8,760	(3) 50	467,000	18' 6-1/4"	10' 4"	13' 1"
AT 312-4P54	2,367	39,150	66,960	8,870	(3) 60	494,700	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		3,600	3,600	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES: (1) An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
(2) Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
(3) Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
(4) Nominal Tonnage is based on 3 gpm per ton at 95 degree entering water temperature, 85 degree leaving water temperature, and 78 degree wet-bulb temperature.
(5) This box size is available in a dual fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 424-2J36 to 424-4P36

Four-Cell Cooling Towers



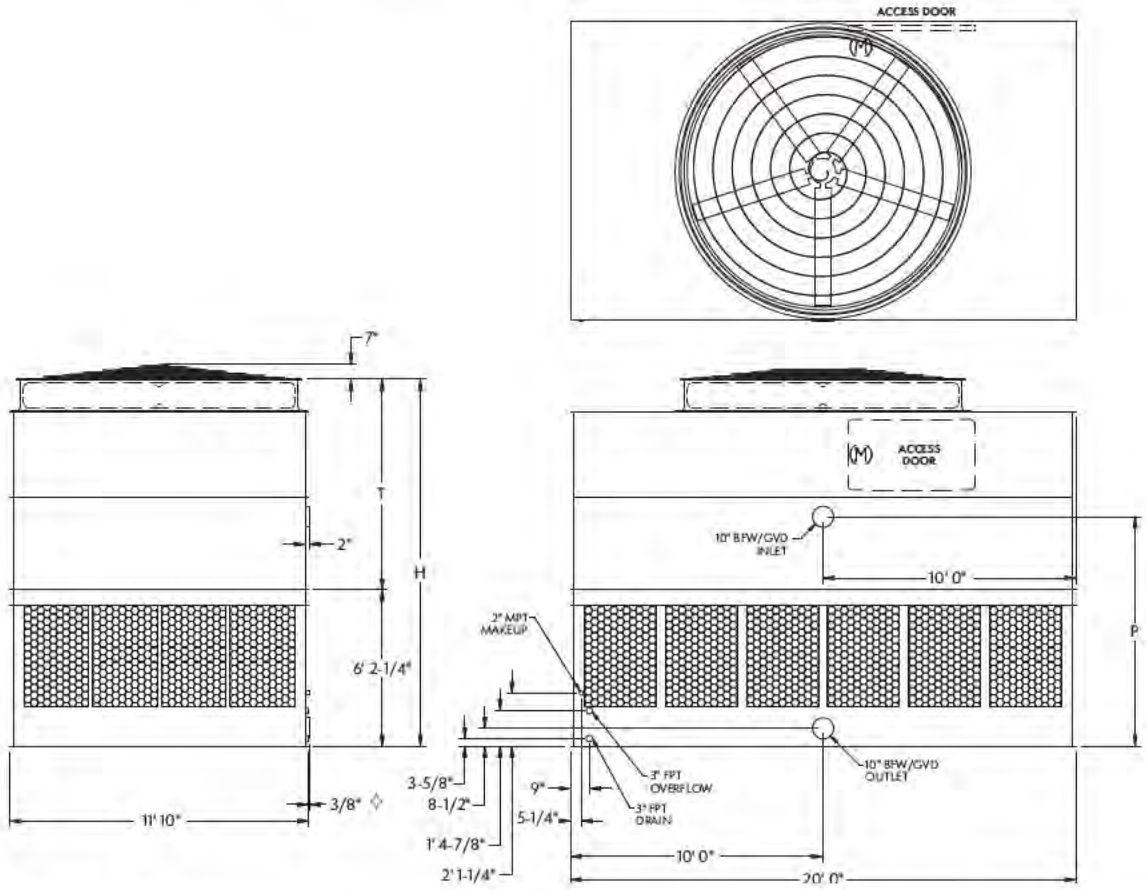
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 424-2J36	1,687	43,840	80,540	8,520	(4) 15	423,100	16' 6-1/4"	8' 4"	11' 1"
AT 424-2K36	1,914	44,080	80,780	8,520	(4) 20	463,300	16' 6-1/4"	8' 4"	11' 1"
AT 424-2L36	2,023	44,280	80,980	8,520	(4) 25	498,000	16' 6-1/4"	8' 4"	11' 1"
AT 424-2M36	2,133	44,720	81,420	8,520	(4) 30	527,900	16' 6-1/4"	8' 4"	11' 1"
AT 424-2N36	2,350	45,760	82,460	8,520	(4) 40	578,400	16' 6-1/4"	8' 4"	11' 1"
AT 424-3J36	1,883	46,960	83,660	8,520	(4) 15	416,900	17' 6-1/4"	9' 4"	12' 1"
AT 424-3K36	2,108	47,200	83,900	8,520	(4) 20	456,200	17' 6-1/4"	9' 4"	12' 1"
AT 424-3L36	2,246	47,400	84,100	8,520	(4) 25	489,600	17' 6-1/4"	9' 4"	12' 1"
AT 424-3M36	2,373	47,840	84,540	8,520	(4) 30	518,600	17' 6-1/4"	9' 4"	12' 1"
AT 424-3N36	2,614	48,880	85,580	8,520	(4) 40	567,400	17' 6-1/4"	9' 4"	12' 1"
AT 424-3O36	2,806	49,120	85,820	8,520	(4) 50	608,800	17' 6-1/4"	9' 4"	12' 1"
AT 424-4J36	2,005	49,920	86,620	8,520	(4) 15	409,800	18' 6-1/4"	10' 4"	13' 1"
AT 424-4K36	2,221	50,160	86,860	8,520	(4) 20	448,800	18' 6-1/4"	10' 4"	13' 1"
AT 424-4L36	2,353	50,360	87,060	8,520	(4) 25	481,900	18' 6-1/4"	10' 4"	13' 1"
AT 424-4M36	2,491	50,800	87,500	8,520	(4) 30	510,300	18' 6-1/4"	10' 4"	13' 1"
AT 424-4N36	2,736	51,840	88,540	8,700	(4) 40	558,300	18' 6-1/4"	10' 4"	13' 1"
AT 424-4O36	2,938	52,080	88,780	8,760	(4) 50	598,300	18' 6-1/4"	10' 4"	13' 1"
AT 424-4P36	3,049	52,520	89,220	8,870	(4) 60	633,900	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		4,800	4,800	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is the lower section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 112-2K20 to 112-4P20

One-Cell Cooling Towers



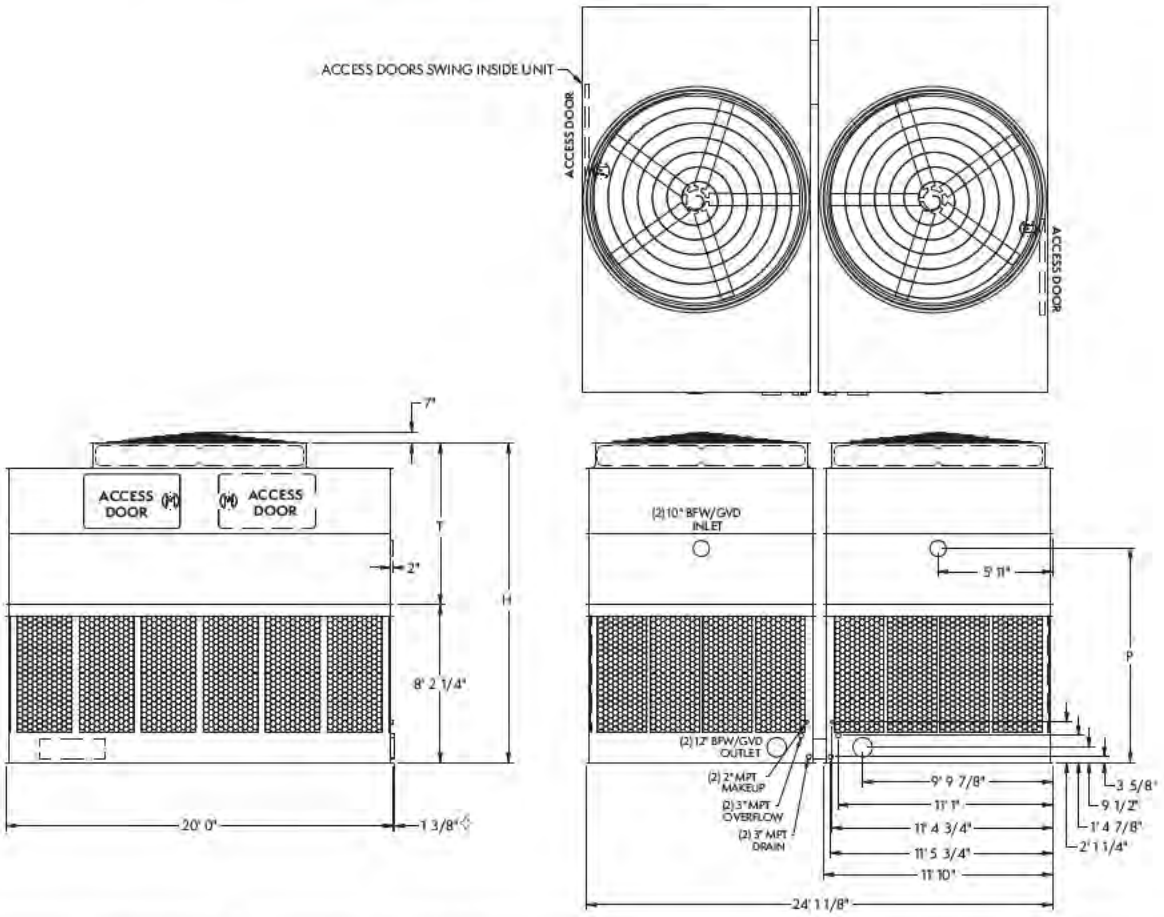
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 112-2K20	459	11,320	21,720	7,210	20	123,900	14' 6 1/4"	8' 4"	9' 1"
AT 112-2L20	506	11,370	21,770	7,260	25	133,000	14' 6 1/4"	8' 4"	9' 1"
AT 112-2M20	544	11,480	21,880	7,370	30	140,900	14' 6 1/4"	8' 4"	9' 1"
AT 112-2N20	625	11,740	22,140	7,630	40	154,100	14' 6 1/4"	8' 4"	9' 1"
AT 112-2O20	679	11,800	22,200	7,690	50	165,300	14' 6 1/4"	8' 4"	9' 1"
AT 112-3K20	536	12,050	22,450	7,940	20	121,800	15' 6 1/4"	9' 4"	10' 1"
AT 112-3L20	585	12,100	22,500	7,990	25	130,700	15' 6 1/4"	9' 4"	10' 1"
AT 112-3M20	623	12,210	22,610	8,100	30	138,300	15' 6 1/4"	9' 4"	10' 1"
AT 112-3N20	698	12,470	22,870	8,360	40	151,200	15' 6 1/4"	9' 4"	10' 1"
AT 112-3O20	757	12,530	22,930	8,420	50	162,100	15' 6 1/4"	9' 4"	10' 1"
AT 112-4K20	572	12,950	23,350	8,840	20	119,800	16' 6 1/4"	10' 4"	11' 1"
AT 112-4L20	618	13,000	23,400	8,890	25	128,500	16' 6 1/4"	10' 4"	11' 1"
AT 112-4M20	655	13,110	23,510	9,000	30	136,100	16' 6 1/4"	10' 4"	11' 1"
AT 112-4N20	728	13,370	23,770	9,260	40	148,800	16' 6 1/4"	10' 4"	11' 1"
AT 112-4O20	788	13,430	23,830	9,320	50	159,500	16' 6 1/4"	10' 4"	11' 1"
AT 112-4P20	817	13,540	23,940	9,430	60	169,000	16' 6 1/4"	10' 4"	11' 1"
SLSF Addition		1,200	1,200	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

♢ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 224-2K20 to 224-4P20

Two-Cell Cooling Towers



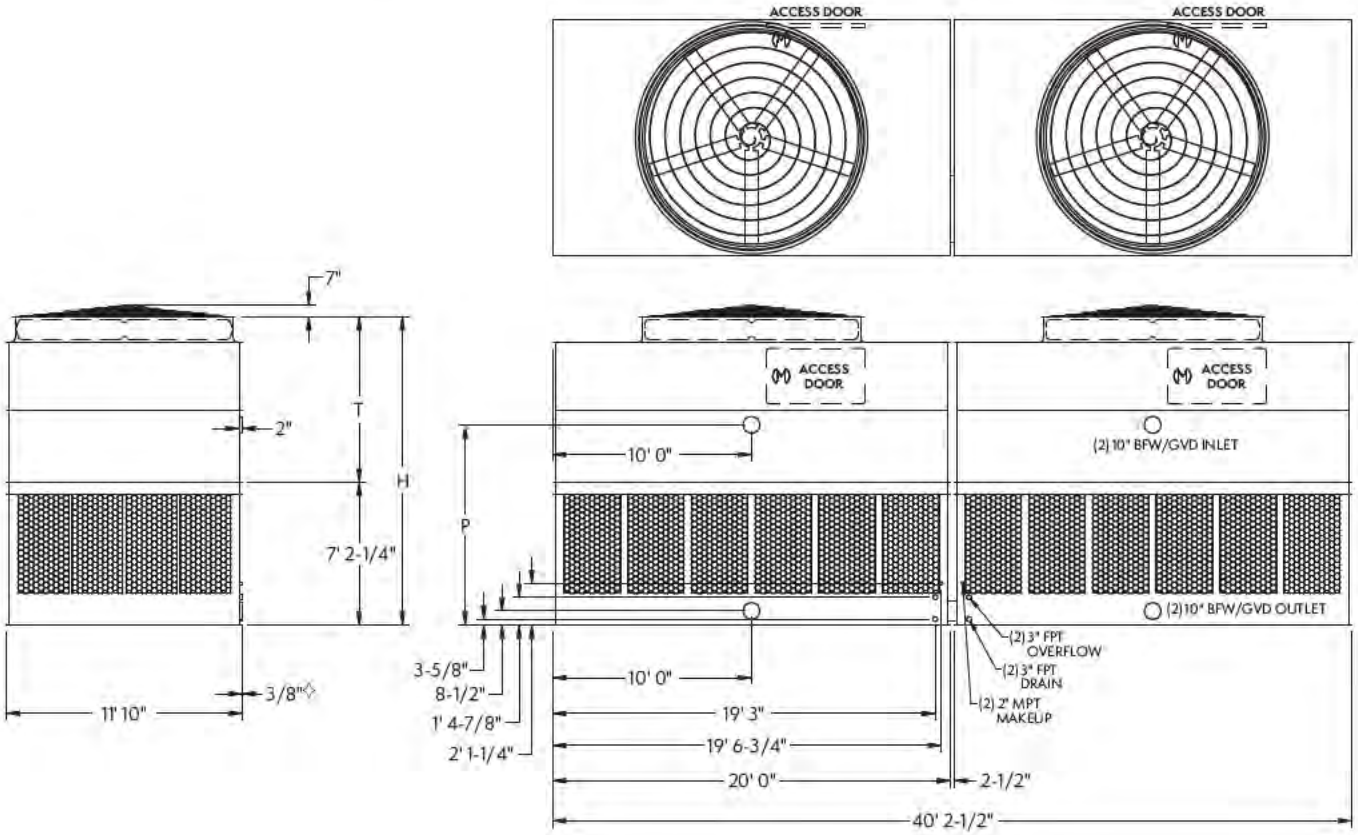
Model No.	Nominal Tonnage	Weights (LBS)			Fan Motor (HP)	Air Flow (CFM)	Dimensions		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 224-2K20	893	23,660	44,460	7,210	(2) 20	244,300	16' 6-1/4"	8' 4"	11' 1"
AT 224-2L20	986	23,760	44,560	7,260	(2) 25	262,200	16' 6-1/4"	8' 4"	11' 1"
AT 224-2M20	1,061	23,980	44,780	7,370	(2) 30	277,900	16' 6-1/4"	8' 4"	11' 1"
AT 224-2N20	1,220	24,500	45,300	7,630	(2) 40	304,000	16' 6-1/4"	8' 4"	11' 1"
AT 224-2O20	1,324	24,620	45,420	7,690	(2) 50	326,100	16' 6-1/4"	8' 4"	11' 1"
AT 224-3K20	1,046	25,120	45,920	7,940	(2) 20	240,300	17' 6-1/4"	9' 4"	12' 1"
AT 224-3L20	1,142	25,220	46,020	7,990	(2) 25	257,800	17' 6-1/4"	9' 4"	12' 1"
AT 224-3M20	1,219	25,440	46,240	8,100	(2) 30	272,900	17' 6-1/4"	9' 4"	12' 1"
AT 224-3N20	1,366	25,960	46,760	8,360	(2) 40	298,300	17' 6-1/4"	9' 4"	12' 1"
AT 224-3O20	1,482	26,080	46,880	8,420	(2) 50	319,800	17' 6-1/4"	9' 4"	12' 1"
AT 224-4K20	1,119	26,920	47,720	8,840	(2) 20	236,300	18' 6-1/4"	10' 4"	13' 1"
AT 224-4L20	1,210	27,020	47,820	8,890	(2) 25	253,500	18' 6-1/4"	10' 4"	13' 1"
AT 224-4M20	1,284	27,240	48,040	9,000	(2) 30	268,500	18' 6-1/4"	10' 4"	13' 1"
AT 224-4N20	1,428	27,760	48,560	9,260	(2) 40	293,700	18' 6-1/4"	10' 4"	13' 1"
AT 224-4O20	1,545	27,880	48,680	9,320	(2) 50	314,700	18' 6-1/4"	10' 4"	13' 1"
AT 224-4P20	1,603	28,100	48,900	9,430	(2) 60	333,500	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		2,400	2,400	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 212-2K40 to 212-4P40

Two-Cell Cooling Towers



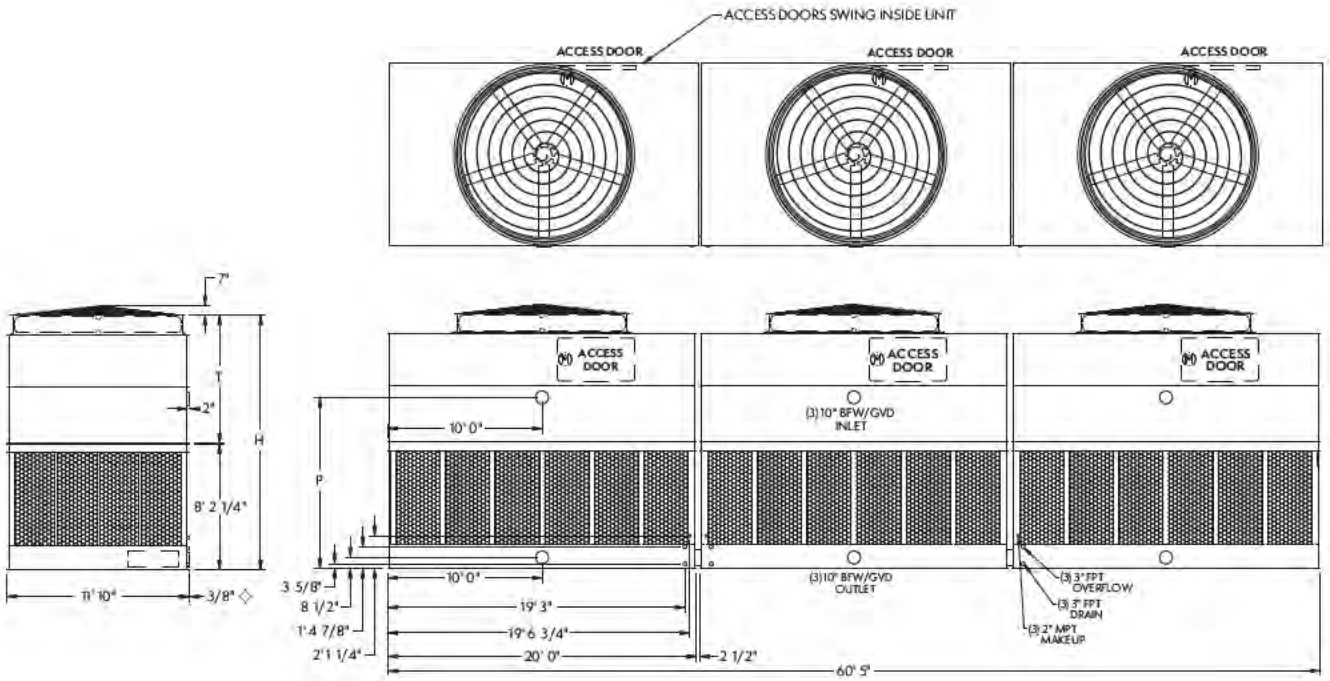
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 212-2K40	918	22,940	43,740	7,210	(2) 20	246,500	15' 6-1/2"	8' 4"	10' 1"
AT 212-2L40	1,013	23,040	43,840	7,260	(2) 25	264,600	15' 6-1/2"	8' 4"	10' 1"
AT 212-2M40	1,088	23,260	44,060	7,370	(2) 30	280,300	15' 6-1/2"	8' 4"	10' 1"
AT 212-2N40	1,250	23,780	44,580	7,630	(2) 40	306,600	15' 6-1/2"	8' 4"	10' 1"
AT 212-2O40	1,357	23,900	44,700	7,690	(2) 50	329,000	15' 6-1/2"	8' 4"	10' 1"
AT 212-3K40	1,073	24,400	45,200	7,940	(2) 20	242,400	16' 6-1/2"	9' 4"	11' 1"
AT 212-3L40	1,170	24,500	45,300	7,990	(2) 25	260,000	16' 6-1/2"	9' 4"	11' 1"
AT 212-3M40	1,246	24,720	45,520	8,100	(2) 30	275,300	16' 6-1/2"	9' 4"	11' 1"
AT 212-3N40	1,396	25,240	46,040	8,360	(2) 40	300,900	16' 6-1/2"	9' 4"	11' 1"
AT 212-3O40	1,515	25,360	46,160	8,420	(2) 50	322,600	16' 6-1/2"	9' 4"	11' 1"
AT 212-4K40	1,143	26,200	47,000	8,840	(2) 20	238,300	17' 6-1/2"	10' 4"	12' 1"
AT 212-4L40	1,235	26,300	47,100	8,890	(2) 25	255,700	17' 6-1/2"	10' 4"	12' 1"
AT 212-4M40	1,310	26,520	47,320	9,000	(2) 30	270,900	17' 6-1/2"	10' 4"	12' 1"
AT 212-4N40	1,457	27,040	47,840	9,260	(2) 40	296,200	17' 6-1/2"	10' 4"	12' 1"
AT 212-4O40	1,576	27,160	47,960	9,320	(2) 50	317,300	17' 6-1/2"	10' 4"	12' 1"
AT 212-4P40	1,635	27,380	48,180	9,430	(2) 60	336,300	17' 6-1/2"	10' 4"	12' 1"
SLSF Addition		2,400	2,400	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 312-2K60 to 312-4P60

Three-Cell Cooling Towers



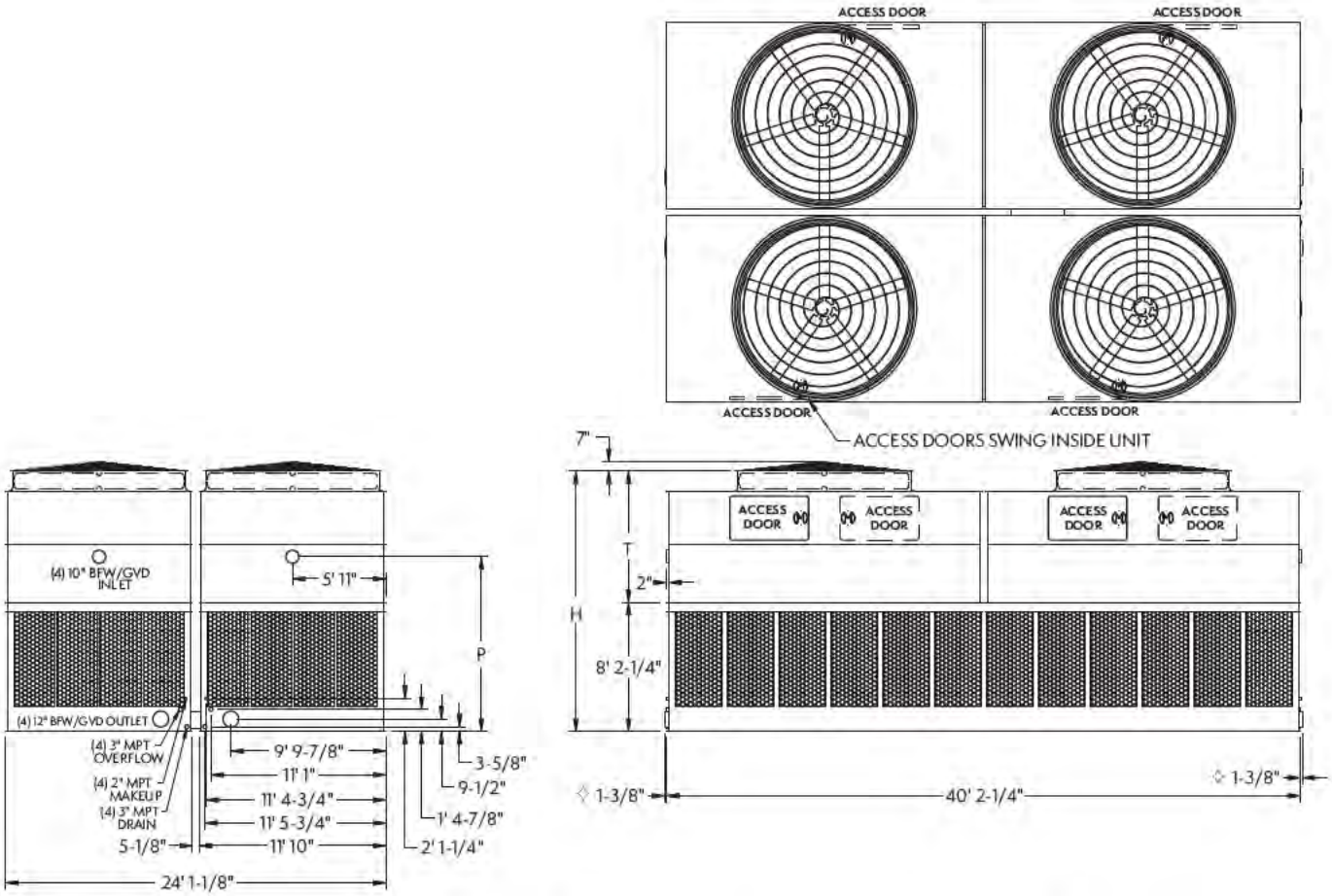
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 312-2K60	1,368	34,890	66,090	7,210	(3) 20	369,800	16' 6-1/4"	8' 4"	11' 1"
AT 312-2L60	1,508	35,040	66,240	7,260	(3) 25	396,900	16' 6-1/4"	8' 4"	11' 1"
AT 312-2M60	1,622	35,370	66,570	7,370	(3) 30	420,600	16' 6-1/4"	8' 4"	11' 1"
AT 312-2N60	1,865	36,150	67,350	7,630	(3) 40	460,000	16' 6-1/4"	8' 4"	11' 1"
AT 312-2O60	2,023	36,330	67,530	7,690	(3) 50	493,600	16' 6-1/4"	8' 4"	11' 1"
AT 312-3K60	1,600	37,080	68,280	7,940	(3) 20	363,700	17' 6-1/4"	9' 4"	12' 1"
AT 312-3L60	1,745	37,230	68,430	7,990	(3) 25	390,100	17' 6-1/4"	9' 4"	12' 1"
AT 312-3M60	1,859	37,560	68,760	8,100	(3) 30	413,000	17' 6-1/4"	9' 4"	12' 1"
AT 312-3N60	2,083	38,340	69,540	8,360	(3) 40	451,400	17' 6-1/4"	9' 4"	12' 1"
AT 312-3O60	2,260	38,520	69,720	8,420	(3) 50	484,000	17' 6-1/4"	9' 4"	12' 1"
AT 312-4K60	1,707	39,780	70,980	8,840	(3) 20	357,600	18' 6-1/4"	10' 4"	13' 1"
AT 312-4L60	1,844	39,930	71,130	8,890	(3) 25	383,700	18' 6-1/4"	10' 4"	13' 1"
AT 312-4M60	1,955	40,260	71,460	9,000	(3) 30	406,400	18' 6-1/4"	10' 4"	13' 1"
AT 312-4N60	2,174	41,040	72,240	9,260	(3) 40	444,400	18' 6-1/4"	10' 4"	13' 1"
AT 312-4O60	2,352	41,220	72,420	9,320	(3) 50	476,100	18' 6-1/4"	10' 4"	13' 1"
AT 312-4P60	2,440	41,550	72,750	9,430	(3) 60	504,600	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		3,600	3,600	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 424-2K40 to 424-4P40

Four-Cell Cooling Towers



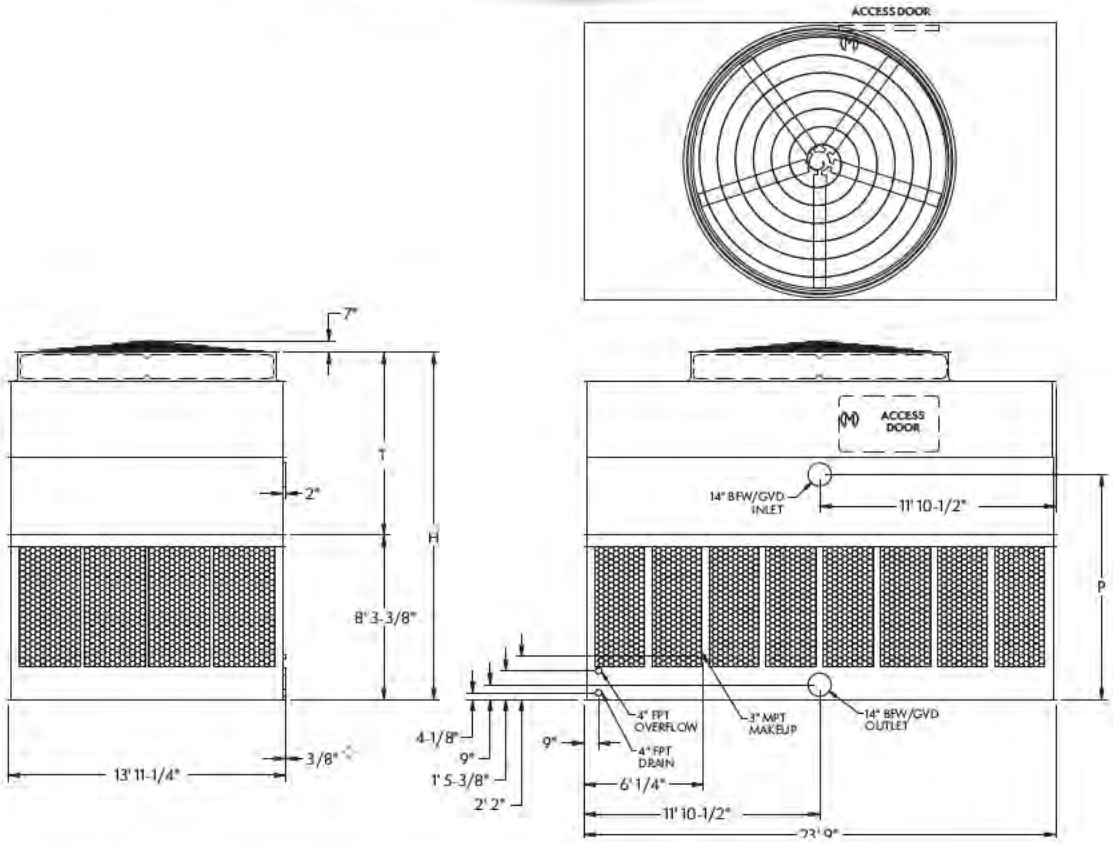
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 424-2K40	1,733	46,840	88,040	9,000	(4) 20	472,200	16' 6-1/4"	8' 4"	11' 1"
AT 424-2L40	1,919	47,040	88,240	9,000	(4) 25	506,800	16' 6-1/4"	8' 4"	11' 1"
AT 424-2M40	2,064	47,480	88,680	9,000	(4) 30	537,000	16' 6-1/4"	8' 4"	11' 1"
AT 424-2N40	2,379	48,520	89,720	9,000	(4) 40	587,500	16' 6-1/4"	8' 4"	11' 1"
AT 424-2O40	2,584	48,760	89,960	9,000	(4) 50	630,400	16' 6-1/4"	8' 4"	11' 1"
AT 424-3K40	2,038	49,760	90,960	9,000	(4) 20	464,500	17' 6-1/4"	9' 4"	12' 1"
AT 424-3L40	2,230	49,960	91,160	9,000	(4) 25	498,300	17' 6-1/4"	9' 4"	12' 1"
AT 424-3M40	2,380	50,400	91,600	9,000	(4) 30	527,600	17' 6-1/4"	9' 4"	12' 1"
AT 424-3N40	2,670	51,440	92,640	9,000	(4) 40	576,800	17' 6-1/4"	9' 4"	12' 1"
AT 424-3O40	2,900	51,680	92,880	9,000	(4) 50	618,200	17' 6-1/4"	9' 4"	12' 1"
AT 424-4K40	2,190	53,360	94,560	9,000	(4) 20	456,500	18' 6-1/4"	10' 4"	13' 1"
AT 424-4L40	2,369	53,560	94,760	9,000	(4) 25	489,900	18' 6-1/4"	10' 4"	13' 1"
AT 424-4M40	2,515	54,000	95,200	9,000	(4) 30	519,000	18' 6-1/4"	10' 4"	13' 1"
AT 424-4N40	2,798	55,040	96,240	9,260	(4) 40	567,600	18' 6-1/4"	10' 4"	13' 1"
AT 424-4O40	3,028	55,280	96,480	9,320	(4) 50	608,300	18' 6-1/4"	10' 4"	13' 1"
AT 424-4P40	3,141	55,720	96,920	9,430	(4) 60	644,800	18' 6-1/4"	10' 4"	13' 1"
SLSF Addition		4,800	4,800	1,200			1' 3-1/2"		

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a dual fan/cell configuration.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is the lower section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 114-2K24 to 114-4R24

One-Cell Cooling Towers



Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 114-2K24	619	16,870	32,720	10,600	20	159,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 114-2L24	684	16,920	32,770	10,650	25	171,200	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 114-2M24	722	16,940	32,790	10,670	30	181,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 114-2N24	781	17,090	32,940	10,820	40	199,100	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 114-2O24	839	17,440	33,290	11,170	50	213,800	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 114-3K24	708	17,910	33,760	11,640	20	157,100	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 114-3L24	775	17,960	33,810	11,690	25	168,500	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 114-3M24	812	17,980	33,830	11,710	30	178,600	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 114-3N24	892	18,130	33,980	11,860	40	195,500	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 114-3O24	951	18,480	34,330	12,210	50	209,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 114-3P24	1,008	18,650	34,500	12,380	60	222,100	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 114-4K24	772	18,950	34,800	12,680	20	154,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4L24	834	19,000	34,850	12,730	25	165,600	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4M24	872	19,020	34,870	12,750	30	175,500	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4N24	947	19,170	35,020	12,900	40	192,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4O24	998	19,520	35,370	13,250	50	206,500	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4P24	1,056	19,690	35,540	13,420	60	218,600	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4Q24	1,135	19,930	35,780	13,660	75	234,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 114-4R24*	1,201	20,370	36,220	14,100	100	256,700	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
SLSF Addition		1,250	1,250	1,250			1' 1-1/2"	1' 1-1/2"	

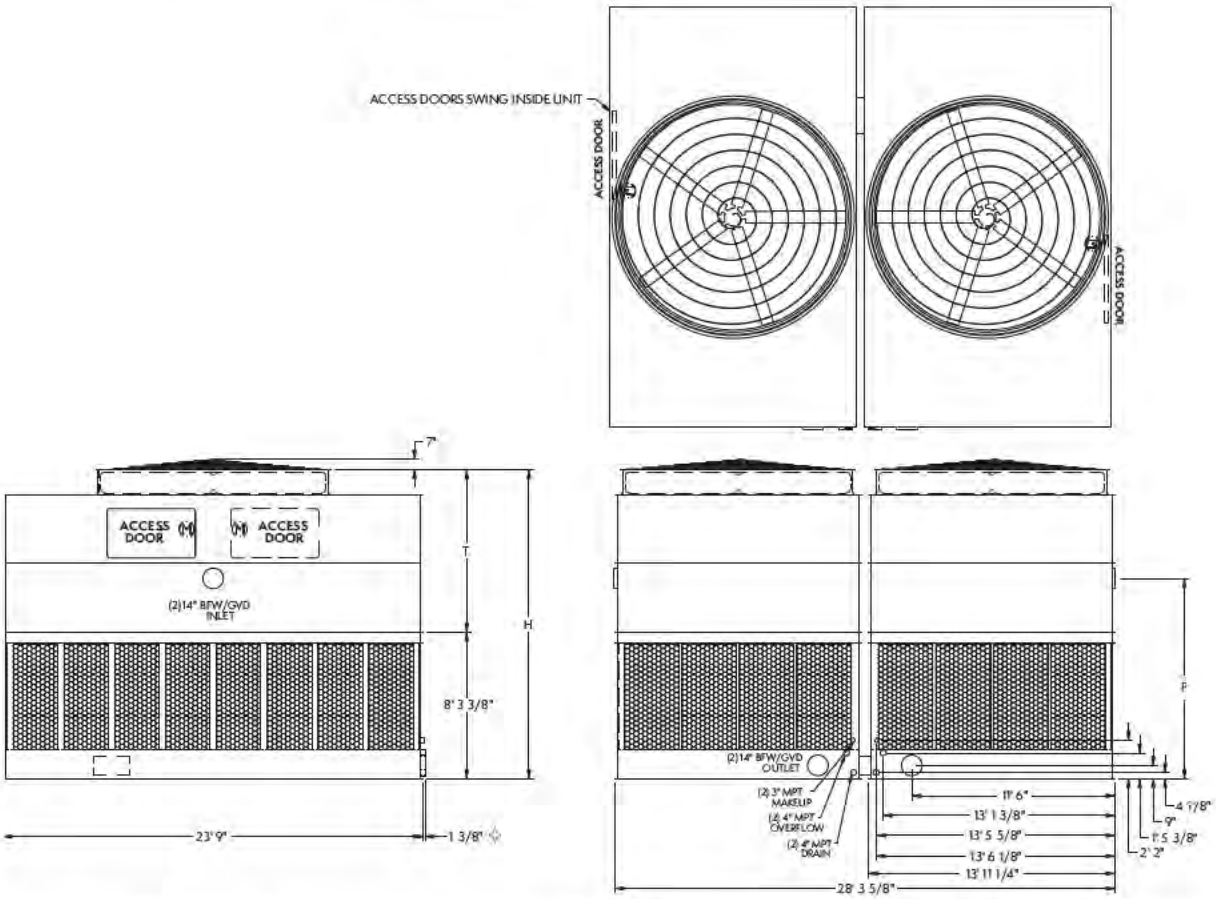
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

* Model available with gear drive only. Super Low Sound Fan is not available on this unit.

Models: AT 228-2K24 to 228-4R24

Two-Cell Cooling Towers



Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 228-2K24	1,198	33,260	64,960	10,600	(2) 20	312,300	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 228-2L24	1,329	33,360	65,060	10,650	(2) 25	335,200	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 228-2M24	1,402	33,400	65,100	10,670	(2) 30	355,400	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 228-2N24	1,520	33,700	65,400	10,820	(2) 40	389,900	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 228-2O24	1,633	34,400	66,100	11,170	(2) 50	418,800	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 228-3K24	1,376	35,340	67,040	11,640	(2) 20	307,600	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 228-3L24	1,510	35,440	67,140	11,690	(2) 25	330,000	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 228-3M24	1,582	35,480	67,180	11,710	(2) 30	349,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 228-3N24	1,740	35,780	67,480	11,860	(2) 40	383,000	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 228-3O24	1,855	36,480	68,180	12,210	(2) 50	411,000	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 228-3P24	1,969	36,820	68,520	12,380	(2) 60	435,100	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 228-4K24	1,508	37,420	69,120	12,680	(2) 20	302,100	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4L24	1,630	37,520	69,220	12,730	(2) 25	324,200	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4M24	1,706	37,560	69,260	12,750	(2) 30	343,700	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4N24	1,853	37,860	69,560	12,900	(2) 40	376,600	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4O24	1,952	38,560	70,260	13,250	(2) 50	404,400	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4P24	2,067	38,900	70,600	13,420	(2) 60	428,100	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4Q24	2,221	39,380	71,080	13,660	(2) 75	458,900	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 228-4R24*	2,350	40,260	71,960	14,100	(2) 100	502,900	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
SLSF Addition		2,500	2,500	1,250			1' 1-1/2"	1' 1-1/2"	

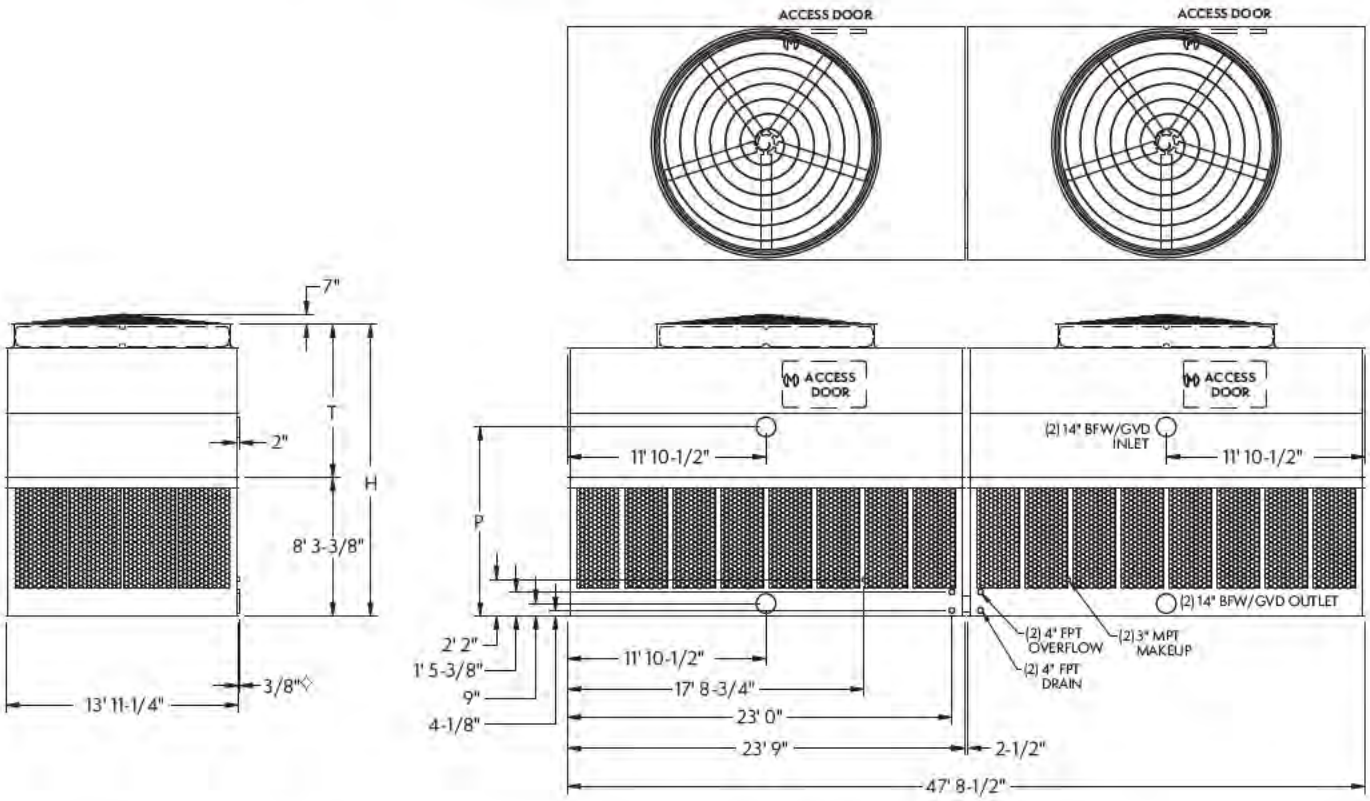
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

* Model available with gear drive only. Super Low Sound Fan is not available on this unit.

Models: AT 214-2K48 to 214-4R48

Two-Cell Cooling Towers



Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 214-2K48	1,205	33,420	65,120	10,600	(2) 20	313,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 214-2L48	1,336	33,520	65,220	10,650	(2) 25	336,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 214-2M48	1,410	33,560	65,260	10,670	(2) 30	356,800	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 214-2N48	1,527	33,860	65,560	10,820	(2) 40	391,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 214-2O48	1,641	34,560	66,260	11,170	(2) 50	420,400	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 214-3K48	1,383	35,500	67,200	11,640	(2) 20	308,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 214-3L48	1,517	35,600	67,300	11,690	(2) 25	331,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 214-3M48	1,589	35,640	67,340	11,710	(2) 30	351,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 214-3N48	1,748	35,940	67,640	11,860	(2) 40	384,400	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 214-3O48	1,863	36,640	68,340	12,210	(2) 50	412,500	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 214-3P48	1,978	36,980	68,680	12,380	(2) 60	436,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 214-4K48	1,514	37,580	69,280	12,680	(2) 20	303,200	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4L48	1,637	37,680	69,380	12,730	(2) 25	325,400	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4M48	1,713	37,720	69,420	12,750	(2) 30	345,000	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4N48	1,860	38,020	69,720	12,900	(2) 40	378,000	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4O48	1,960	38,720	70,420	13,250	(2) 50	405,900	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4P48	2,075	39,060	70,760	13,420	(2) 60	429,800	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4Q48	2,230	39,540	71,240	13,660	(2) 75	460,600	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 214-4R48*	2,359	40,420	72,120	14,100	(2) 100	504,800	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
SLSF Addition		2,500	2,500	1,250			1' 1-1/2"	1' 1-1/2"	

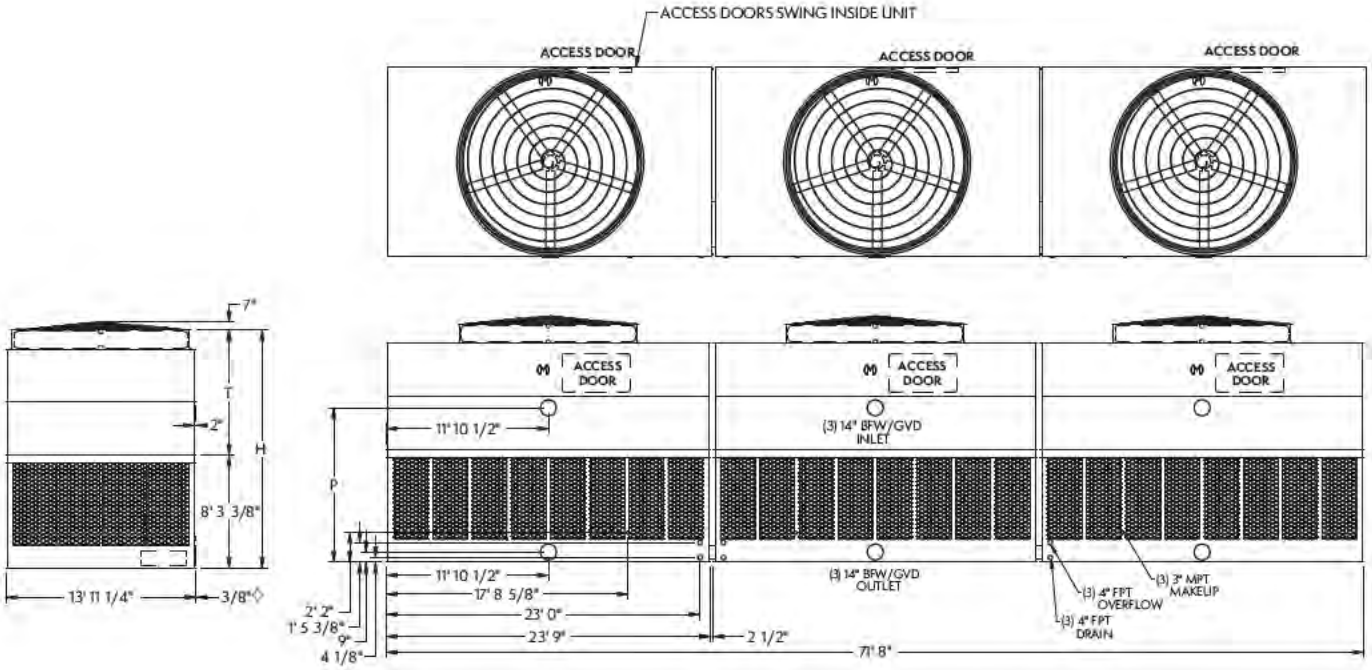
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

* Model available with gear drive only. Super Low Sound Fan is not available on this unit.

Models: AT 314-2K72 to 314-4Q72

Three-Cell Cooling Towers



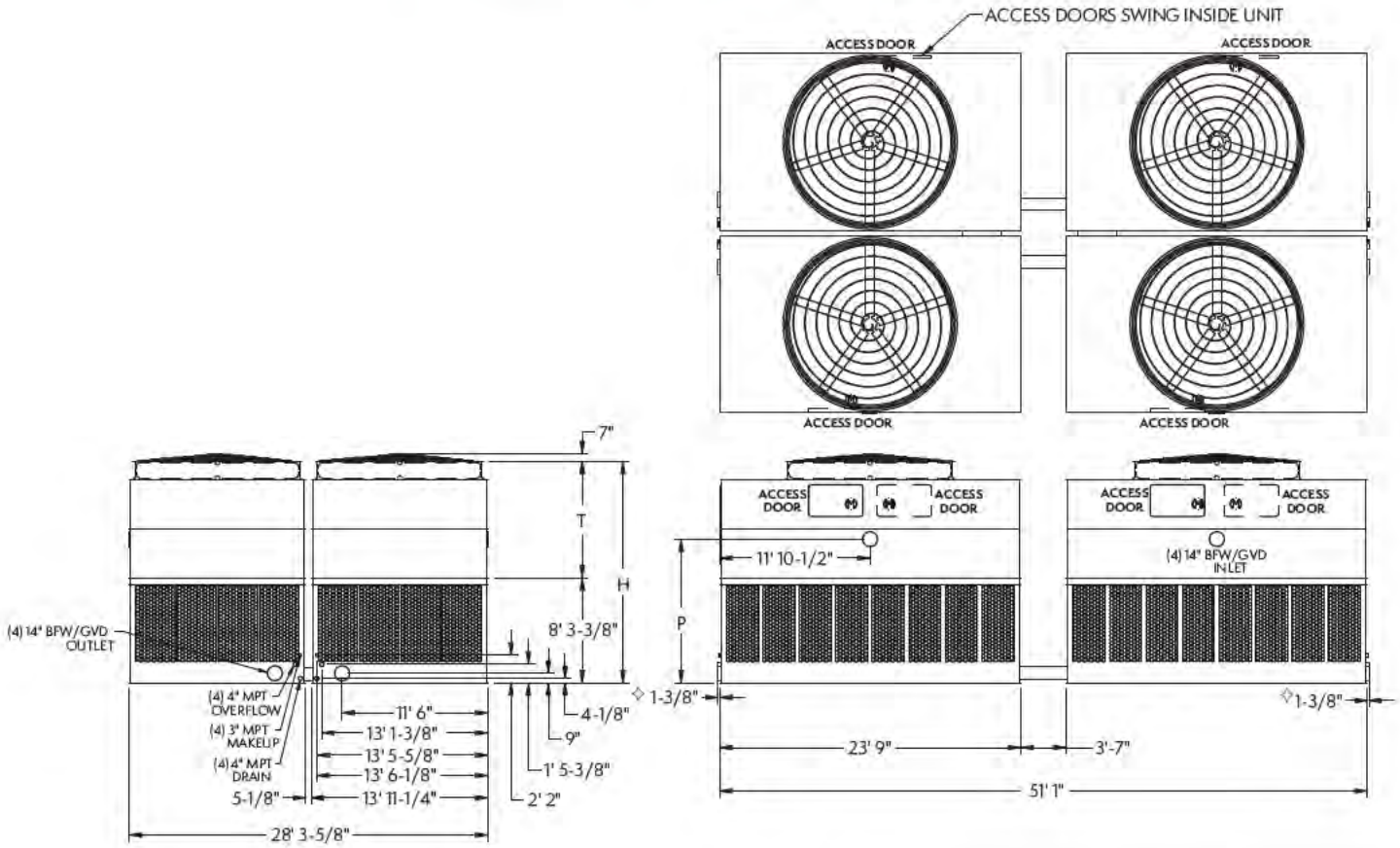
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 314-2K72	1,789	49,980	97,530	10,600	(3) 20	467,000	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 314-2L72	1,986	50,130	97,680	10,650	(3) 25	501,300	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 314-2M72	2,095	50,190	97,740	10,670	(3) 30	531,600	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 314-2N72	2,271	50,640	98,190	10,820	(3) 40	583,200	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 314-2O72	2,439	51,690	99,240	11,170	(3) 50	626,300	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 314-3K72	2,056	53,100	100,650	11,640	(3) 20	460,000	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 314-3L72	2,257	53,250	100,800	11,690	(3) 25	493,500	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 314-3M72	2,364	53,310	100,860	11,710	(3) 30	523,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 314-3N72	2,601	53,760	101,310	11,860	(3) 40	572,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 314-3O72	2,773	54,810	102,360	12,210	(3) 50	614,600	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 314-3P72	2,944	55,320	102,870	12,380	(3) 60	650,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 314-4K72	2,255	56,220	103,770	12,680	(3) 20	451,700	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 314-4L72	2,437	56,370	103,920	12,730	(3) 25	484,800	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 314-4M72	2,551	56,430	103,980	12,750	(3) 30	514,000	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 314-4N72	2,770	56,880	104,430	12,900	(3) 40	563,200	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 314-4O72	2,919	57,930	105,480	13,250	(3) 50	604,800	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 314-4P72	3,091	58,440	105,990	13,420	(3) 60	640,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 314-4Q72	3,322	59,160	106,710	13,660	(3) 75	686,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
SLSF Addition		3,750	3,750	1,250			1' 1-1/2"	1' 1-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 428-2K48 to 428-4R48

Four-Cell Cooling Towers



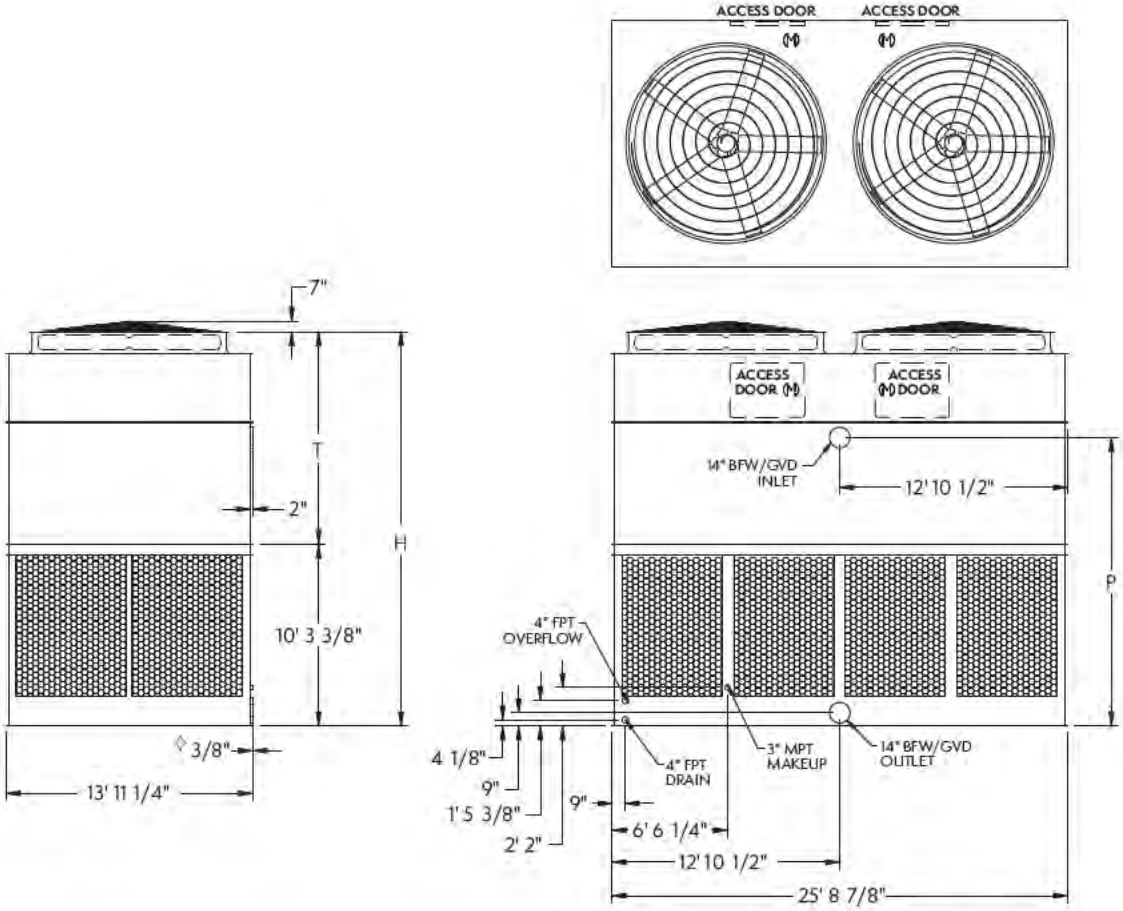
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 428-2K48	2,231	66,560	129,960	10,600	(4)20	595,300	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 428-2L48	2,482	66,760	130,160	10,650	(4)25	639,000	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 428-2M48	2,626	66,840	130,240	10,670	(4)30	677,600	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 428-2N48	2,846	67,440	130,840	10,820	(4)40	743,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 428-2O48	3,067	68,840	132,240	11,170	(4)50	798,500	17' 5-5/8"	9' 2-1/4"	11' 3-7/8"
AT 428-3K48	2,585	70,720	134,120	11,640	(4)20	586,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 428-3L48	2,837	70,920	134,320	11,690	(4)25	629,300	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 428-3M48	2,984	71,000	134,400	11,710	(4)30	667,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 428-3N48	3,283	71,600	135,000	11,860	(4)40	730,800	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 428-3O48	3,509	73,000	136,400	12,210	(4)50	784,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 428-3P48	3,728	73,680	137,080	12,380	(4)60	830,200	18' 5-5/8"	10' 2-1/4"	12' 3-7/8"
AT 428-4K48	2,858	74,880	138,280	12,680	(4)20	575,800	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4L48	3,093	75,080	138,480	12,730	(4)25	618,100	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4M48	3,237	75,160	138,560	12,750	(4)30	655,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4N48	3,524	75,760	139,160	12,900	(4)40	718,100	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4O48	3,714	77,160	140,560	13,250	(4)50	771,300	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4P48	3,933	77,840	141,240	13,420	(4)60	816,800	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4Q48	4,229	78,800	142,200	13,660	(4)75	875,700	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
AT 428-4R48*	4,475	80,560	143,960	14,100	(4)100	960,000	19' 5-5/8"	11' 2-1/4"	13' 3-7/8"
SLSF Addition		5,000	5,000	1,250			1' 1-1/2"	1' 1-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.
* Model available with gear drive only. Super Low Sound Fan is not available on this unit.

Models: AT 114-5K26 to 114-5O26

One-Cell Cooling Towers



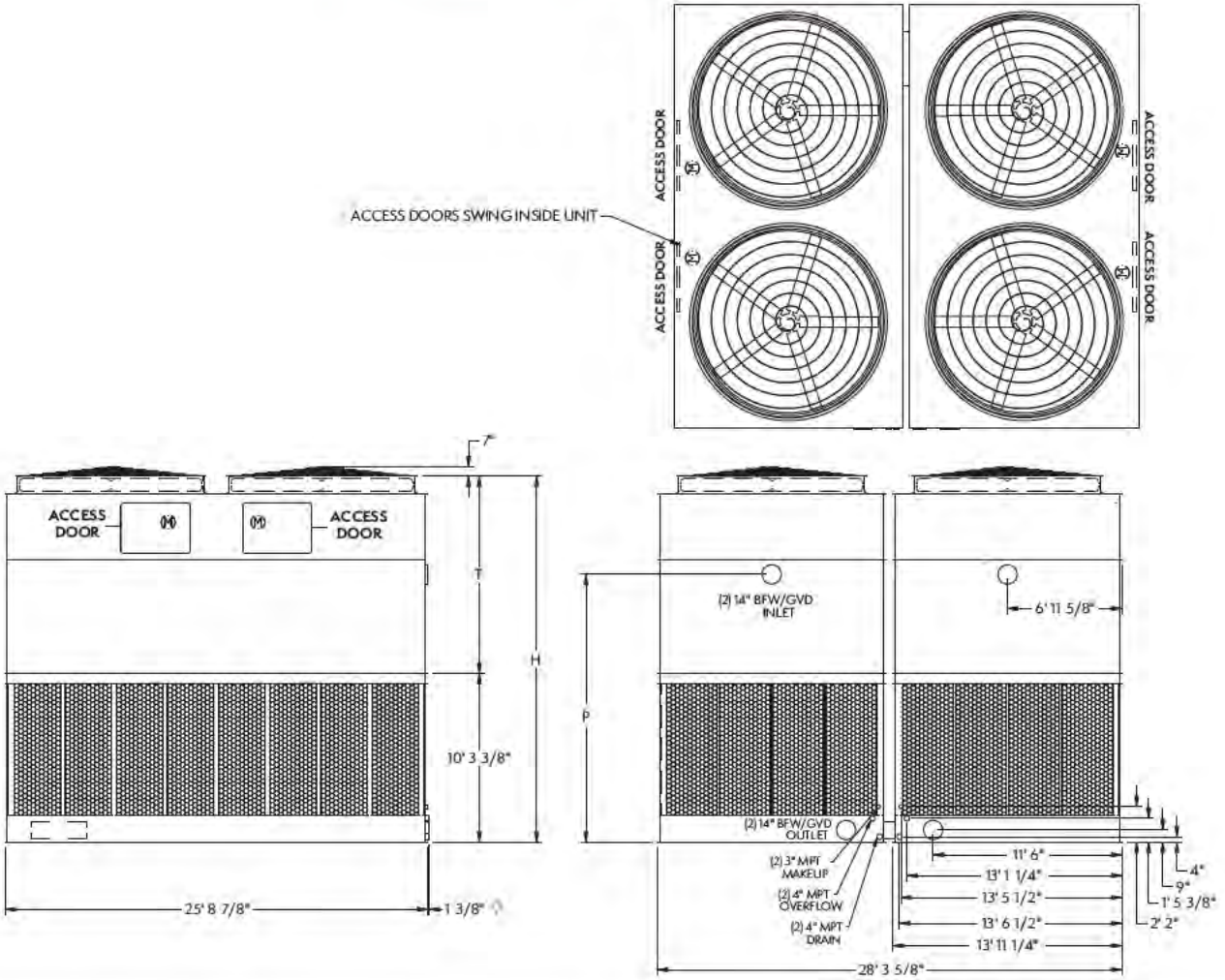
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 114-5K26	1,003	24,640	41,470	17,660	(2) 20	200,200	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 114-5L26	1,078	24,700	41,530	17,720	(2) 25	214,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 114-5M26	1,142	24,800	41,630	17,820	(2) 30	227,300	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 114-5N26	1,247	25,120	41,950	18,140	(2) 40	248,500	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 114-5O26	1,332	25,140	41,970	18,160	(2) 50	266,300	22' 3-1/2"	12' 1/8"	16' 3-3/4"
SLSF Addition		2,400	2,400	2,400			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a single fan/cell configuration.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 228-5K26 to 228-5O26

Two-Cell Cooling Towers



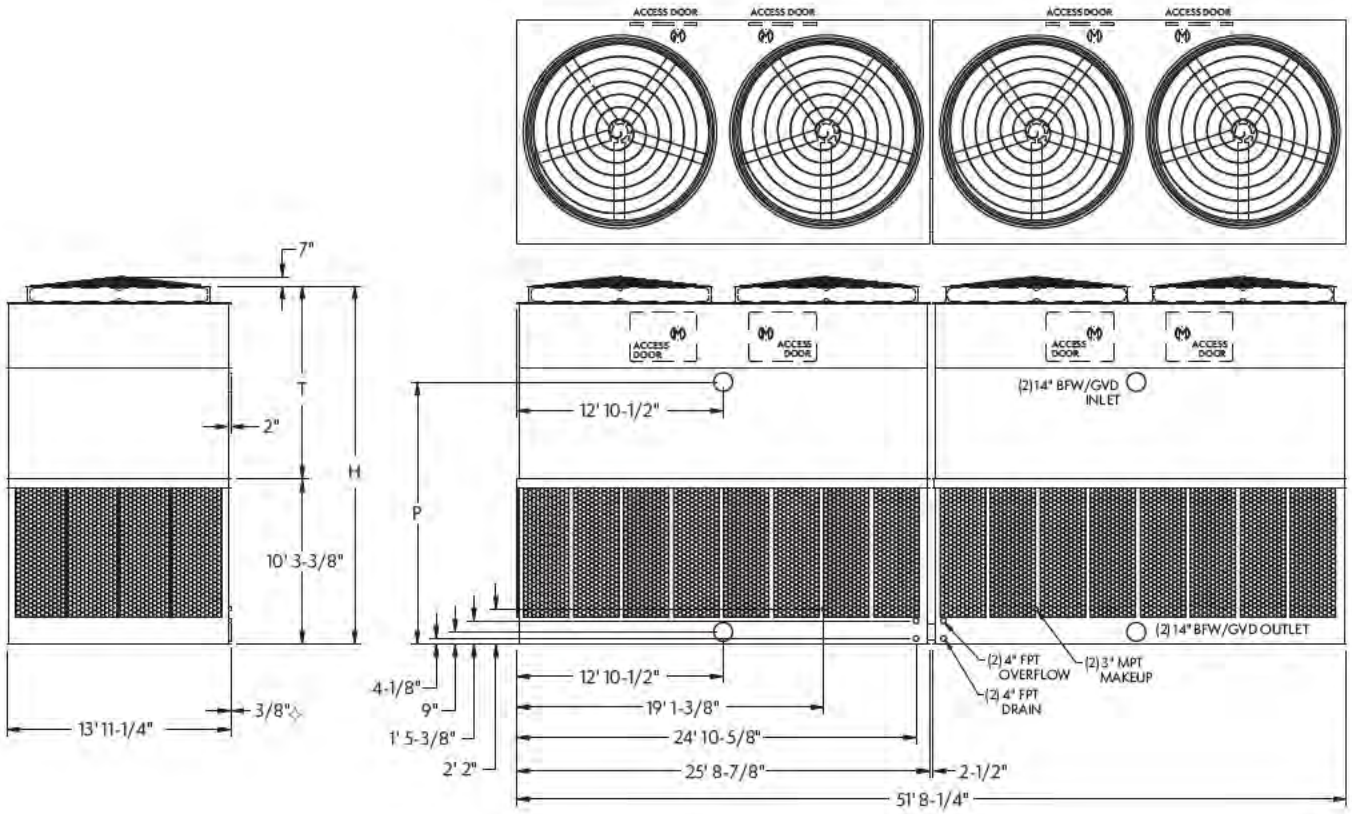
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 228-5K26	1,963	48,560	82,220	17,660	(4) 20	392,000	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 228-5L26	2,111	48,680	82,340	17,720	(4) 25	420,400	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 228-5M26	2,236	48,880	82,540	17,820	(4) 30	445,100	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 228-5N26	2,443	49,520	83,180	18,140	(4) 40	486,800	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 228-5O26	2,613	49,560	83,220	18,160	(4) 50	521,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
SLSF Addition		4,800	4,800	2,400			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a single fan/cell configuration.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 214-5K52 to 214-5O52

Two-Cell Cooling Towers



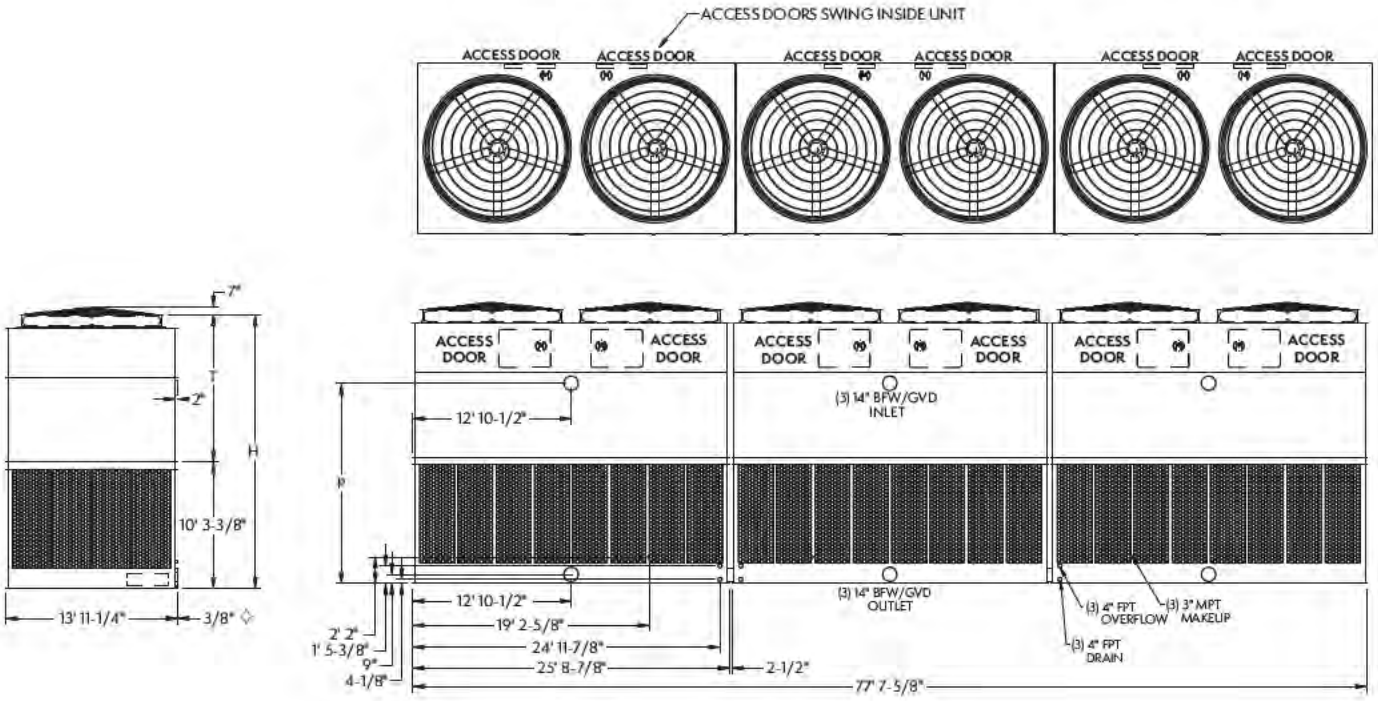
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 214-5K52	1,971	48,840	82,500	17,660	(4) 20	393,500	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 214-5L52	2,119	48,960	82,620	17,720	(4) 25	422,100	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 214-5M52	2,245	49,160	82,820	17,820	(4) 30	446,800	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 214-5N52	2,452	49,800	83,460	18,140	(4) 40	488,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 214-5O52	2,622	49,840	83,500	18,160	(4) 50	523,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
SLSF Addition		4,800	4,800	2,400			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a single fan/cell configuration.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 314-5K78 to 314-5O78

Three-Cell Cooling Towers



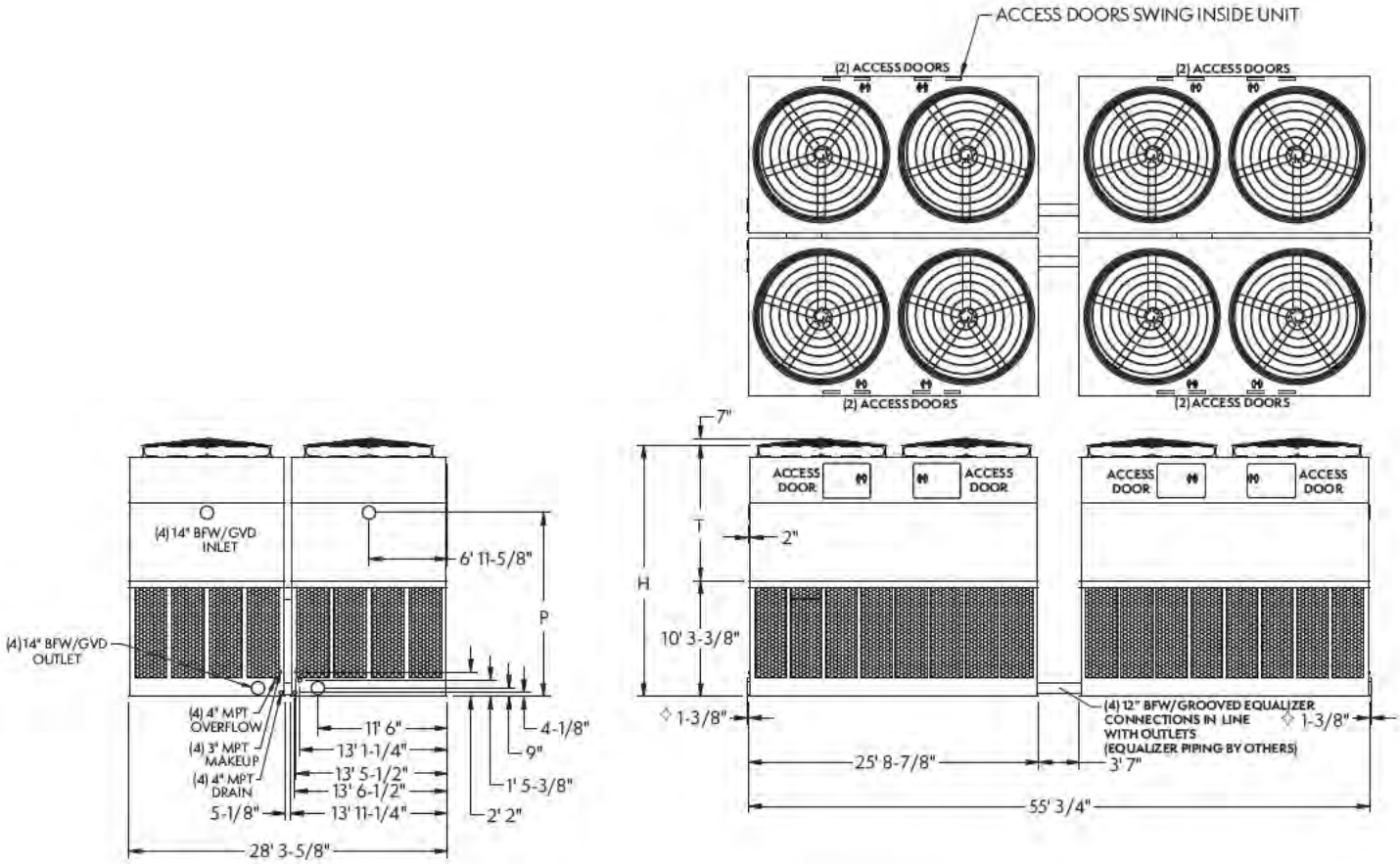
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 314-5K78	2,936	73,050	123,540	17,660	(6) 20	586,300	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 314-5L78	3,157	73,230	123,720	17,720	(6) 25	628,800	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 314-5M78	3,344	73,530	124,020	17,820	(6) 30	665,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 314-5N78	3,655	74,490	124,980	18,140	(6) 40	728,100	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 314-5O78	3,908	74,550	125,040	18,160	(6) 50	780,300	22' 3-1/2"	12' 1/8"	16' 3-3/4"
SLSF Addition		7,200	7,200	2,400			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a single fan/cell configuration.

✧ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 428-5K52 to 428-5O52

Four-Cell Cooling Towers



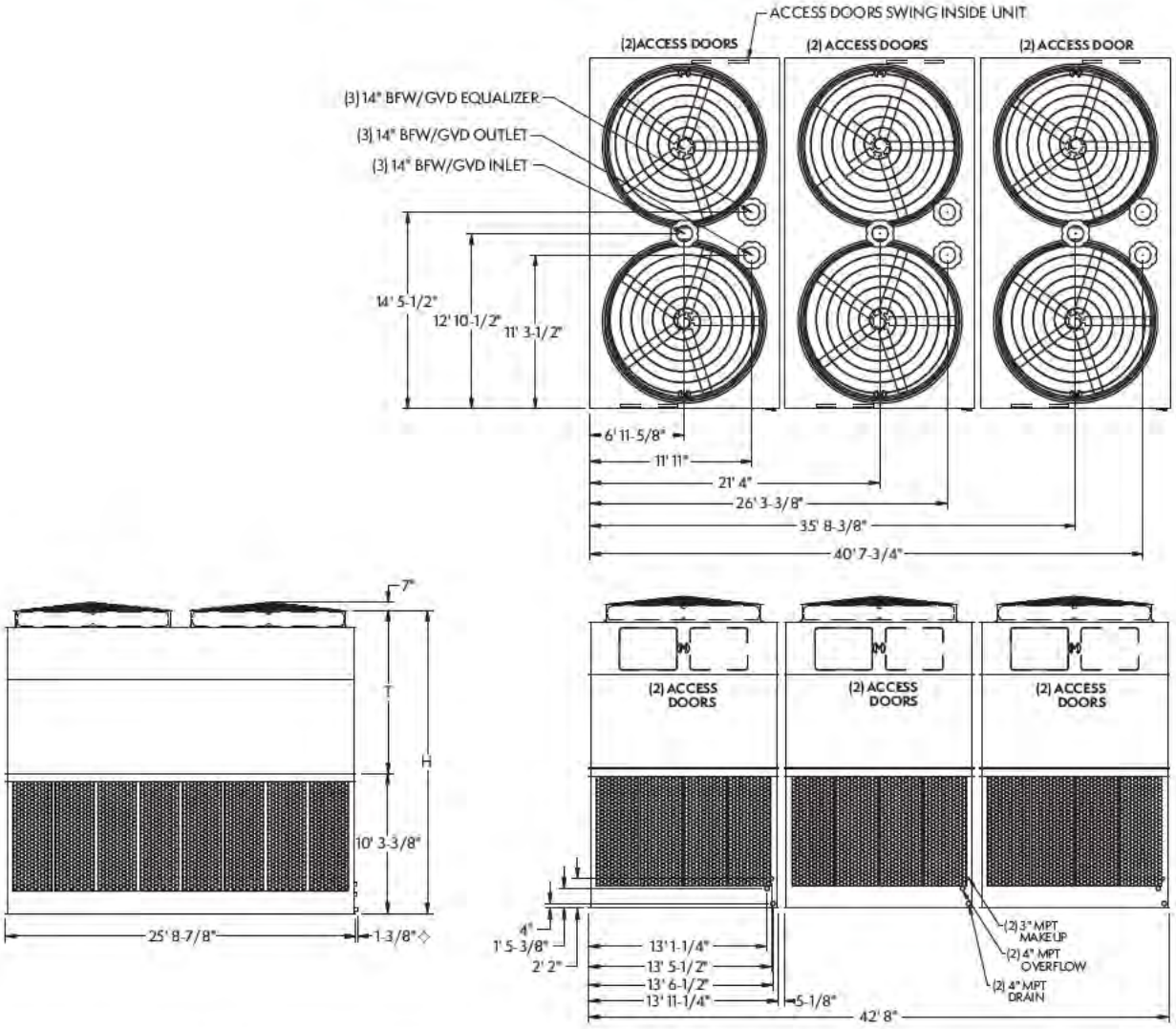
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 428-5K52	3,857	97,200	164,520	17,660	(8) 20	746,200	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 428-5L52	4,148	97,440	164,760	17,720	(8) 25	800,400	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 428-5M52	4,395	97,840	165,160	17,820	(8) 30	847,500	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 428-5N52	4,806	99,120	166,440	18,140	(8) 40	927,000	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 428-5O52	5,141	99,200	166,520	18,160	(8) 50	993,400	22' 3-1/2"	12' 1/8"	16' 3-3/4"
SLSF Addition		9,600	9,600	2,400			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a single fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 342-5K26 to 342-5O26

Four-Cell Cooling Towers



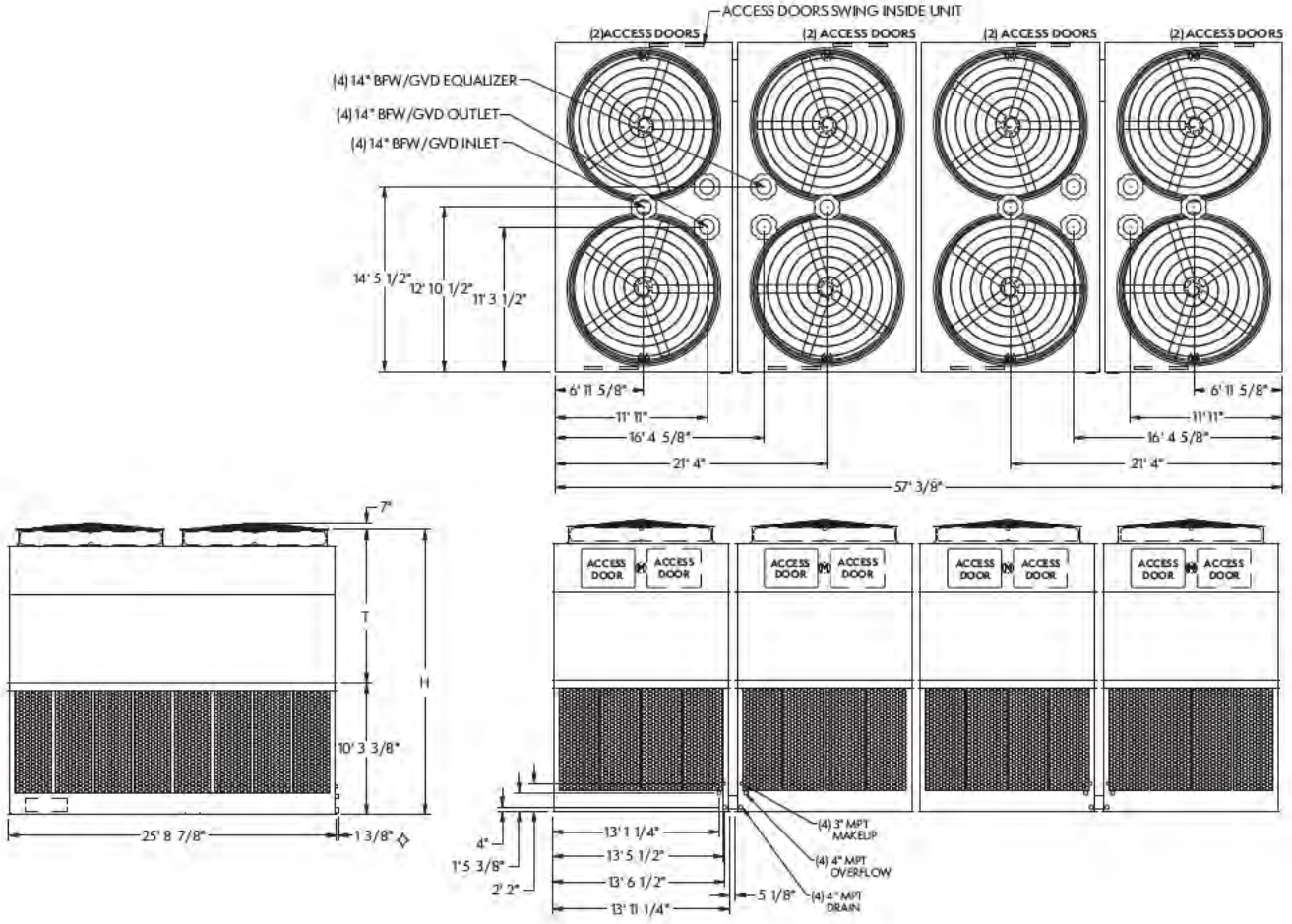
Model No.	Nominal Tonnage	WEIGHTS (LBS)			Fan Motor (HP)	Air Flow (CFM)	DIMENSIONS		
		Shipping	Operating	Heaviest Section✦			H†	T†	P
AT 342-5K26	2,882	73,920	124,410	17,660	6 (20)	588,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 342-5L26	3,100	74,100	124,590	17,720	6 (25)	631,500	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 342-5M26	3,286	74,400	124,890	17,820	6 (30)	668,600	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 342-5N26	3,593	75,360	125,850	18,140	6 (40)	731,300	22' 3-1/2"	12' 1/8"	16' 3-3/4"
AT 342-5O26	3,844	75,420	125,910	18,160	6 (50)	783,700	22' 3-1/2"	12' 1/8"	16' 3-3/4"
SLSF Addition		3,600	3,600	1,200			1' 3-1/2"	1' 3-1/2"	

NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.
5. This box size is available in a single fan/cell configuration.

◇ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Models: AT 456-5K26 to 456-5O26

Four-Cell Cooling Towers



Model No.	Nominal Tonnage	WEIGHTS (LBS)			FanMotor (HP)	Air Flow (CFM)	DIMENSIONS	
		Shipping	Operating	Heaviest Section✦			H†	T†
AT 456-5K26	3,802	98,560	165,880	17,660	(8) 20	746,800	22' 3-1/2"	12' 1/8"
AT 456-5L26	4,090	98,800	166,120	17,720	(8) 25	801,100	22' 3-1/2"	12' 1/8"
AT 456-5M26	4,335	99,200	166,520	17,820	(8) 30	848,200	22' 3-1/2"	12' 1/8"
AT 456-5N26	4,743	100,480	167,800	18,140	(8) 40	927,900	22' 3-1/2"	12' 1/8"
AT 456-5O26	5,075	100,560	167,880	18,160	(8) 50	994,400	22' 3-1/2"	12' 1/8"
SLSF Addition		9,600	9,600	2,400			1' 3-1/2"	1' 3-1/2"

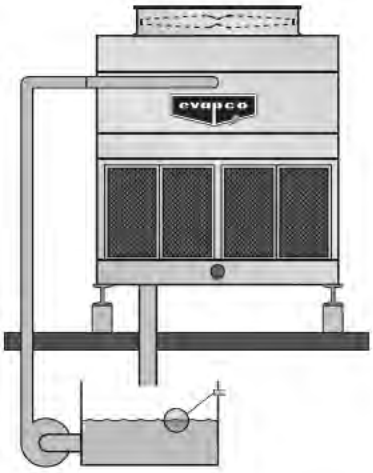
NOTES:
1. An adequately sized bleed line must be installed in the cooling tower system to prevent buildup of impurities in the recirculated water.
2. Do not use catalog drawings for certified prints. Dimensions and weights are subject to change.
3. Adequate spacing must be allowed for access to the cooling tower. Refer to EVAPCO's Equipment Layout Manual.
4. Nominal Tonnage is based on 3 gpm per ton at 95° F entering water temperature, 85° F leaving water temperature, and 78° F wet-bulb temperature.

◊ Outlet connection extends beyond bottom flange.
✦ Heaviest section is upper section.
† Height does not include fan guard, which ships loose for field installation.

Drain Down Volume for Remote Sump Applications

The following chart provides the maximum drain down volume allowable per AT box size. Use this chart when sizing indoor or outdoor remote sumps tanks. Remote sump applications are commonly used whenever a cooling tower is idle during sub-freezing weather to protect the water in the basin from freezing or for large multi-tower industrial applications. Either application allows the circulating water to gravity drain into a remote sump tank indoors or a large, outdoor concrete basin located underneath the cooling tower.

The water volume provided is the cooling tower portion of the remote sump tank only. The tank should allow for drain down water from external piping and pump suction coverage.



	Box Size	Maximum Drain Down Volume (gal.)
1 CELL	4 x 4	85
	4 x 6	130
	4 x 9	195
	4 x 12	275
	7 X 9	335
	7 X 12	465
	7 X 14	540
	7 X 18	700
	8.5 x 6	270
	8.5 x 7.5	320
	8.5 x 9	395
	8.5 x 10.5	460
	8.5 x 12	525
	8.5 x 14	610
	10 x 12	645
	10 x 18	980
	12 x 12	720
	12 x 14	855
	12 x 18	1090
	12 x 20	1210
	14 x 24	1855
	14 x 26	2085

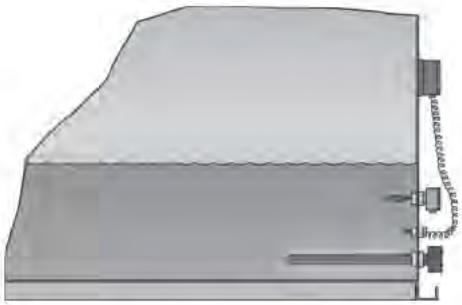
	Box Size	Maximum Drain Down Volume (gal.)
2 CELL	6 x 17	540
	7.5 x 17	640
	12 x 9	540
	15 x 9	640
	17 x 9	790
	17 x 10.5	920
	17 x 12	1050
	17 x 14	1220
	8.5 x 18	790
	8.5 x 21	920
	8.5 x 24	1050
	8.5 x 28	1220
	10 x 24	1290
	10 x 36	1960
	12 x 24	1440
	12 x 28	1710
	12 x 36	2180
	12 x 40	2420
	14 x 9	670
	14 x 12	930
	14 x 14	1080
	14 x 18	1400
	14 x 48	3710
	14 x 52	4170
	20 x 12	1290
	20 x 18	1960
	24 x 18	2180
	24 x 20	2420
	28 x 24	3710
	28 x 26	4170
3 CELL	8.5 x 36	1575
	8.5 x 42	1830
	10 x 36	1935
	12 x 36	2160
	12 x 42	2565
	12 x 54	3270
	12 x 60	3630
	14 x 72	5565
	14 x 78	6255
	42 x 26	6255
4 CELL	24 x 24	2880
	24 x 28	3420
	24 x 36	4360
	24 x 40	4840
	28 x 48	7420
	28 x 52	8340
	56 x 26	8340

Optional Equipment: **Electric Basin Heaters**

Electric immersion heaters can be added to the basin of your Advanced Technology series cooling tower. They are sized to maintain a +40° F (4.5° C) pan water temperature with the fans and system pumps off. A thermostat and low-water protection device cycle the heater on when required and prevent the heater elements from energizing unless they are completely submerged. All components are protected by rugged, weatherproof enclosures for outdoor use.

AT Heater Sizes *

	Box Size	0°F kW	20°F kW	40°F kW
1 CELL	4 x 4	2	3	4
	4 x 6	3	4	5
	4 x 9	4	5	7
	4 x 12	5	7	9
	7 x 9	6	8	12
	7 x 12	(2) 4	(2) 6	(2) 8
	7 x 14	(2) 5	(2) 7	(2) 9
	7 x 18	(2) 6	(2) 8	(2) 12
	8.5 x 6	5	7	9
	8.5 x 7.5	6	8	12
	8.5 x 9	7	10	15
	8.5 x 10.5	8	12	15
	8.5 x 12	(2) 4	(2) 7	(2) 9
	8.5 x 14	(2) 5	(2) 7	(2) 10
	10 x 12	(2) 5	(2) 8	(2) 10
	10 x 18	(2) 7	(2) 12	(2) 15
	12 x 12	(2) 6	(2) 9	(2) 12
	12 x 14	(2) 7	(2) 10	(2) 15
	12 x 18	(2) 9	(2) 15	(2) 18
	12 x 20	(2) 10	(2) 15	(3) 15
	14 x 24	(2) 16	(3) 16	(3) 20
	14 x 26	(2) 16	(3) 16	(3) 20
2 CELL	6 x 17	(2) 5	(2) 7	(2) 9
	7 x 24	(4) 4	(4) 6	(4) 8
	7 x 28	(4) 5	(4) 7	(4) 9
	7 x 36	(4) 6	(4) 8	(4) 12
	7.5 x 17	(2) 6	(2) 8	(2) 12
	8.5 x 18	(2) 6	(2) 9	(2) 12
	8.5 x 21	(2) 7	(2) 12	(2) 15
	8.5 x 24	(4) 4	(4) 7	(4) 9
	8.5 x 28	(4) 5	(4) 7	(4) 10
	10 x 24	(4) 5	(4) 8	(4) 10
	10 x 36	(4) 7	(4) 12	(4) 15
	12 x 8.5	(2) 5	(2) 7	(2) 9
	12 x 24	(4) 6	(4) 9	(4) 12
	12 x 28	(4) 7	(4) 10	(4) 15
	12 x 36	(4) 9	(4) 15	(4) 18
	12 x 40	(4) 10	(4) 15	(6) 15
	14 x 48	(4) 16	**	**
	14 x 52	(4) 16	**	**
	14 x 9	(2) 6	(2) 8	(2) 12
	14 x 12	(4) 4	(4) 6	(4) 8
	14 x 14	(4) 5	(4) 7	(4) 9
	14 x 18	(4) 6	(4) 8	(4) 12
	15 x 8.5	(2) 6	(2) 8	(2) 12
	17 x 9	(2) 7	(2) 10	(2) 15
	17 x 10.5	(2) 8	(2) 12	(2) 15
	17 x 12	(4) 4	(4) 7	(4) 9
	17 x 14	(4) 5	(4) 7	(4) 10
	20 x 12	(4) 5	(4) 8	(4) 10
	20 x 18	(4) 7	(4) 12	(4) 15
	24 x 18	(4) 9	(4) 15	(4) 18
	24 x 20	(4) 10	(4) 15	(4) 20
	28 x 24	(4) 16	**	**
	28 x 26	(4) 16	**	**



***NOTE:** Heater control packages that include contactor, transformer or disconnects are also available; speak to your local EVAPCO representative to learn more about these options.*

AT Heater Sizes *

	Box Size	0°F kW	20°F kW	40°F kW
3 CELL	8.5 x 36	(6) 4	(6) 7	(6) 9
	8.5 x 42	(6) 5	(6) 7	(6) 10
	10 x 36	(6) 5	(6) 8	(6) 10
	12 x 36	(6) 6	(6) 9	(6) 12
	12 x 42	(6) 7	(6) 10	(6) 15
	12 x 54	(6) 9	(6) 15	(6) 18
	12 x 60	(6) 10	(6) 15	(9) 15
	14 x 72	(6) 16	**	**
	14 x 78	(6) 16	**	**
	42 x 26	(6) 16	**	**
4 CELL	24 x 24	(4) 12	(4) 18	(6) 15
	24 x 28	(4) 15	(4) 20	(6) 18
	24 x 36	(4) 18	(6) 18	(8) 18
	24 x 40	(4) 20	(6) 20	(8) 20
	28 x 48	(8) 16	**	**
	28 x 52	(8) 16	**	**
	56 x 26	(8) 16	**	**

** Electric heater selection based on ambient air temperature shown.*
*** Consult factory*

Low Sound Fan – 4-7 dB(A) Reduction

Ideal for sound-sensitive applications, EVAPCO's low sound fan features a wide chord blade and a unique soft-connect blade-to-hub design that is compatible with variable speed drives. Since the blades are not rigidly connected to the fan hub, no vertical vibration forces are transmitted to the unit structure. This reduces sound pressure levels by 4 to 7 dB(A), depending on specific unit selection and measurement location.



The fan is a high efficiency axial propeller and is CTI certified on Advanced Technology (AT) series cooling towers. It has a thermal performance derate of 3.5%. Consult your EVAPCO representative for actual thermal performance.

Additional Height & Operating Weight Additions

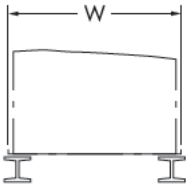
	Box Size	Height Addition for Low Sound Fan (in.)	Operating Weight Addition for Low Sound Fan (lbs.)
1 CELL	4 x 4	0	0
	4 x 6	0	0
	4 x 9	0	0
	4 x 12	0	0
	7 x 9	4	0
	7 x 12	4	0
	7 x 14	4	0
	7 x 18	4	0
	8.5 x 6	4	0
	8.5 x 7.5	4	0
	8.5 x 9	4	0
	8.5 x 10.5	4	0
	8.5 x 12	4	0
	8.5 x 14	4	0
	10 x 12	0	0
	10 x 18	0	0
	12 x 12	0	0
	12 x 14	7	225
	12 x 18	7	225
	12 x 20	7	225
	14 x 24	5	450
	14 x 26	7	450
2 CELL	6 x 17	4	0
	7 x 24	4	0
	7 x 28	4	0
	7 x 36	4	0
	7.5 x 17	4	0
	8.5 x 18	4	0
	8.5 x 21	4	0
	8.5 x 24	4	0
	8.5 x 28	4	0
	10 x 24	0	0
	10 x 36	0	0
	12 x 8.5	4	0
	12 x 24	0	0
	12 x 28	7	450
	12 x 36	7	450
	12 x 40	7	450
	14 x 48	5	900
	14 x 52	7	900

	Box Size	Height Addition for Low Sound Fan (in.)	Operating Weight Addition for Low Sound Fan (lbs.)
2 CELL	14 x 9	4	0
	14 x 12	4	0
	14 x 14	4	0
	14 x 18	4	0
	15 x 8.5	4	0
	17 x 9	4	0
	17 x 10.5	4	0
	17 x 12	4	0
	17 x 14	4	0
	20 x 12	0	0
	20 x 18	0	0
	24 x 18	7	450
	24 x 20	7	450
	28 x 24	5	900
	28 x 26	7	900
3 CELL	8.5 x 36	4	0
	8.5 x 42	4	0
	10 x 36	0	0
	12 x 36	0	0
	12 x 42	7	675
	12 x 54	7	675
	12 x 60	7	675
	14 x 72	5	1,350
	14 x 78	7	1,350
	42 x 26	7	1,350
4 CELL	24 x 24	0	0
	24 x 28	7	900
	24 x 36	7	900
	24 x 40	7	900
	28 x 48	5	1,800
	28 x 52	7	1,800
	56 x 26	7	1,800

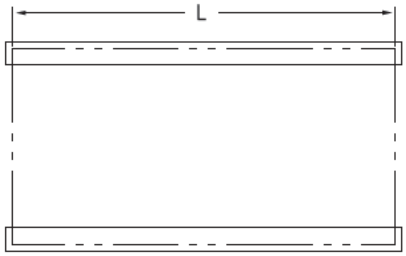
Structural Steel Support

Models AT 14-2E4 to 314-5078

Suggested Two I-Beam Arrangement



End Elevation



Plan View

Box Sizes 4′ x 4′ through 8.5′ x 18′

Two I-Beams Required (By Others)

	Box Size	Dimensions	
		W	L
1 CELL	4 x 4	4′ 1/2″	3′ 11-7/8″
	4 x 6	4′ 1/2″	5′ 11-7/8″
	4 x 9	4′ 1/2″	8′ 11-1/2″
	4 x 12	4′ 1/2″	11′ 11-3/4″
	7 x 9	7 '4"	8' 11-1/2"
	7 x 12	7' 4"	11' 11-3/4"
	7 x 14	7 '4"	13′ 11-3/4″
	7 x 18	7' 4"	18' 0"
	8.5 x 6	5′ 11-7/8″	8′ 5-1/2″
	8.5 x 7.5	7′ 5-7/8″	8′ 5-1/2″
	8.5 x 9	8′ 5-1/2″	8′ 11-1/2″
	8.5 x 10.5	8′ 5-1/2″	10′ 5-1/2″
	8.5 x 12	8′ 5-1/2″	11′ 11-3/4″
	8.5 x 14	8′ 5-1/2″	13′ 11-3/4″
	10 x 12	9′ 9-3/4″	11′ 11-3/4″
	10 x 18	9′ 9-3/4″	18′ 0″
	12 x 12	11′ 10″	11′ 11-3/4″
	12 x 14	11′ 10″	13′ 11-3/4″
	12 x 18	11′ 10″	18′ 0″
	12 x 20	11′ 10″	20′ 0″
	14 x 24	13′ 11-1/4″	23′ 9″
	14 x 26	13′ 11-1/4″	25′ 8-7/8″
2 CELL	6 x 17	5′ 11-7/8″	17′ 1-1/2″
	7.5 x 17	7′ 5-7/8″	17′ 1-1/2″
	8.5 x 18	8′ 5-1/2″	18′ 0″

Box Sizes 8.5′ x 21′ through 14′ x 78′

Two I-Beams Required (By Others)

	Box Size	Dimensions	
		W	L
2 CELL	7 x 14	7′ 4″	13′ 11-3/4″
	7 x 24	7' 4"	24' 2"
	7 x 28	7′ 4″	28′ 2″
	7 x 36	7′ 4″	36′ 2-1/2″
	8.5 x 21	8′ 5-1/2″	21′ 0″
	8.5 x 24	8′ 5-1/2″	24′ 2″
	8.5 x 28	8′ 5-1/2″	28′ 2″
	10 x 24	9′ 9-3/4″	24′ 2″
	10 x 36	9′ 9-3/4″	36′ 2-1/2″
	12 x 24	11′ 10″	24′ 2″
	12 x 28	11′ 10″	28′ 2″
	12 x 36	11′ 10″	36′ 2-1/2″
	12 x 40	11′ 10″	40″ 2-1/4″
	14 x 48	13′ 11-1/4″	47′ 8-1/2″
	14 x 52	13′ 11-1/4″	51″ 8-1/4″
3 CELL	8.5 x 36	8′ 5-1/2″	36′ 4-1/4″
	8.5 x 42	8′ 5-1/2″	42′ 4-1/4″
	10 x 36	9′ 9-3/4″	36′ 4-1/4″
	12 x 36	11′ 10″	36′ 4-1/4″
	12 x 42	11′ 10″	42′ 4-1/4″
	12 x 54	11′ 10″	54′ 5″
	12 x 60	11′ 10″	60′ 5″
	14 x 72	13′ 11-1/4″	71′ 8″
	14 x 78	13′ 11-1/4″	77′ 7-5/8″

NOTES:

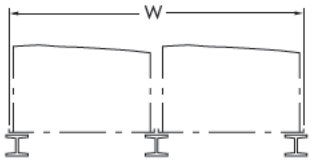
Models Listed Above.

1. These are suggested arrangements for preliminary layout purposes. Consult your EVAPCO representative for factory certified steel support drawings.
2. The recommended support for the AT Cooling Tower is structural I-beams located under the outer flanges and running the entire length of the unit. The unit should be elevated to allow access underneath the unit and to the roof below. Mounting holes, 3/4" in diameter, are located in the bottom flanges of the pan to provide for bolting to the structural steel.
3. Beams should be sized in accordance with accepted structural practices. Maximum deflection of beam under unit to be 1/360 of the unit length, not to exceed 1/2".
4. For these models where two support beams are required, deflection may be calculated by using 55% of the operating weight as a uniform load on each beam.
5. Beams should be level before setting the unit in place. Do not level the unit by shimming between it and the I-beams.
6. Support beams and Anchor bolts are to be furnished by others.
7. Dimensions, weights and data are subject to change without notice. Refer to the factory certified drawings for exact dimensions.
8. For alternate layout arrangements please consult the factory. *NOTE: OPTIONAL BOTTOM CONNECTIONS WILL REQUIRE THE UNIT TO BE ELEVATED TO ALLOW FOR PIPING.*

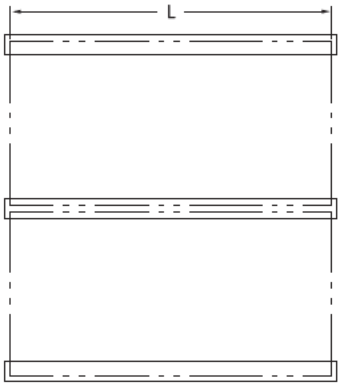
Structural Steel Support

Models AT 212-2G9 to 428-5O52

Suggested Three I-Beam Arrangement



End Elevation



Plan View

Box Sizes 12′ x 7.5′ through 28′ x 52′

Three I-Beams Required (By Others)

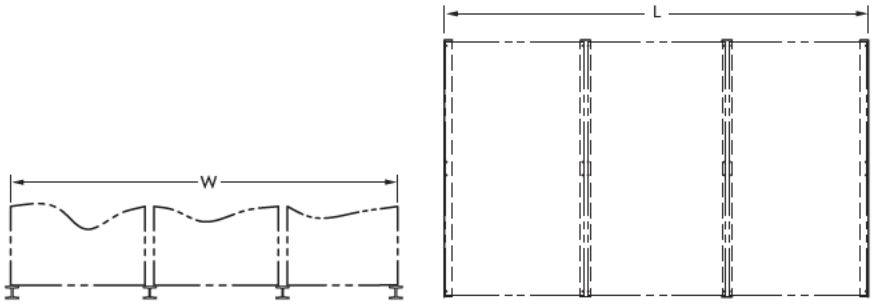
	Box Size	Dimensions	
		W	L
2-CELL	12 x 8.5	12′ 4-7/8″	8′ 5-1/2″
	14 x 9	15' 1-1/8"	8' 11-1/2"
	14 x 12	15' 1-1/8"	11' 11-3/4"
	14 x 14	15′ 1-1/8″	13′ 11-3/4″
	14 x 18	15' 1-1/8"	18' 0"
	15 x 7.5	15′ 4-7/8″	8′ 5-1/2″
	17 x 9	17′ 4-1/8″	8′ 11-1/2″
	17 x 10.5	17′ 4-1/8″	10′ 5-1/2″
	17 x 12	17′ 4-1/8″	11′ 11-3/4″
	17 x 14	17′ 4-1/8″	13′ 11-3/4″
	20 x 12	20′ 0-5/8″	11′ 11-3/4″
	20 x 18	20′ 0-5/8″	18′ 0″
	24 x 18	24′ 1-1/8″	18′ 0″
	24 x 20	24′ 1-1/8″	20′ 0″
	28 x 24	28′ 3-5/8″	23′ 9″
	28 x 26	28′ 3-5/8″	25′ 8-7/8″
4-CELL	24 x 24	24′ 1-1/8″	24′ 1-3/4″
	24 x 28	24′ 1-1/8″	28′ 1-3/4″
	24 x 36	24′ 1-1/8″	36′ 2-1/4″
	24 x 40	24′ 1-1/8″	40′ 2-1/4″
	28 x 48	28′ 3-5/8″	51′ 1″
	28 x 52	28′ 3-5/8″	55′ 3/4″

NOTES: Models Listed Above.

1. These are suggested arrangements for preliminary layout purposes. Consult your EVAPCO representative for factory certified steel support drawings.
2. The recommended support for the AT Cooling Tower is structural I-beams located under the outer flanges and running the entire length of the unit. The unit should be elevated to allow access underneath the unit and to the roof below. Mounting holes, 3/4" in diameter are located in the bottom flanges of the pan to provide for bolting to the structural steel.
3. Beams should be sized in accordance with accepted structural practices. Maximum deflection of beam under unit to be 1/360 of the unit length, not to exceed 1/2".
4. For these models only where three support beams are required, deflection may be calculated using 56% of the operating weight on the CENTER BEAM and 22% on each OUTBOARD beam.
5. Beams should be level before setting the unit in place. Do not level the unit by shimming between it and the I-beams.
6. Support beams and Anchor bolts are to be furnished by others.
7. Dimensions, weights and data are subject to change without notice. Refer to the factory certified drawings for exact dimensions.
8. For alternate layout arrangements please consult the factory. ***NOTE:*** *OPTIONAL BOTTOM CONNECTIONS WILL REQUIRE THE UNIT TO BE ELEVATED TO ALLOW FOR PIPING.*

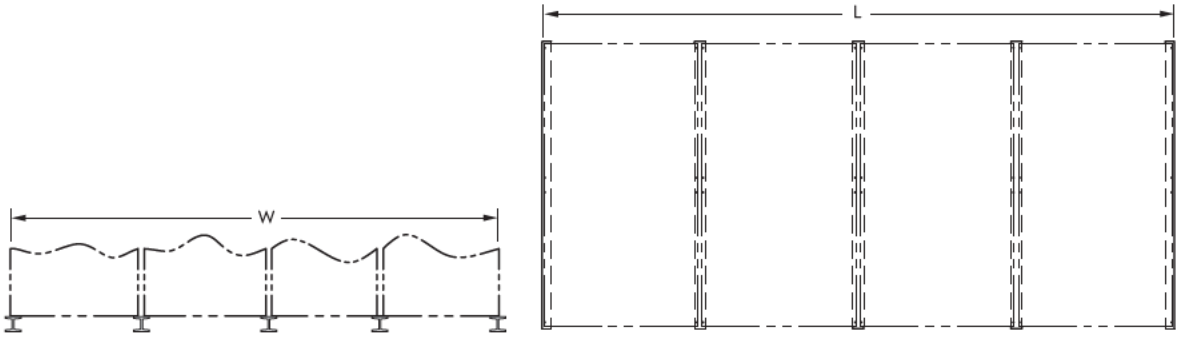
Structural Steel Support
Models AT 342-5K26 to 342-5O26

Suggested Four I-Beam Arrangement



End Elevation Plan View

Models AT 456-5K26 to 456-5O26
Suggested Five I-Beam Arrangement



End Elevation Plan View

Box Size 42' x 26' through 56' x 26'

I-Beams Required (By Others)

Dimensions		
Box Size	**W**	**L**
42 x 26	42' 8"	25' 8-7/8"
56 x 26	57' 3/8"	25' 8-7/8"

NOTES:

Models Listed Above.

1. These are suggested arrangements for preliminary layout purposes. Consult your EVAPCO representative for factory certified steel support drawings.
2. The recommended support for the AT Cooling Tower is structural I-beams located under the outer flanges and running the entire length of the unit. The unit should be elevated to allow access underneath the unit and to the roof below. Mounting holes, 3/4" in diameter are located in the bottom flanges of the pan to provide for bolting to the structural steel.
3. Beams should be sized in accordance with accepted structural practices. Maximum deflection of beam under unit to be 1/360 of the unit length, not to exceed 1/2".
4. For these models only where four or five support beams are required, deflection may be calculated using 56% of the operating weight on the CENTER BEAMS and 22% on each OUTBOARD beam.
5. Beams should be level before setting the unit in place. Do not level the unit by shimming between it and the I-beams.
6. Support beams and Anchor bolts are to be furnished by others.
7. Dimensions, weights and data are subject to change without notice. Refer to the factory certified drawings for exact dimensions.
8. For alternate layout arrangements please consult the factory. ***NOTE: OPTIONAL BOTTOM CONNECTIONS WILL REQUIRE THE UNIT TO BE ELEVATED TO ALLOW FOR PIPING.***

Applications

Design
EVAPCO cooling towers are of heavy-duty construction and designed for long trouble-free operation. Proper equipment selection, installation, and maintenance are necessary to ensure full unit performance while maximizing the equipment's service life. Some of the major considerations in the application of a tower are presented below. For additional information, please contact the factory.

Piping
Cooling tower piping should be designed and installed in accordance with generally accepted engineering practices. All piping should be anchored by properly designed hangers and supports with allowance made for possible expansion and contraction. No external loads should be placed upon cooling tower connections, nor should any of the piping supports be anchored to the unit framework.

The piping connection locations shown on the drawings included in this catalog and on the website are standard locations that can be changed. If the piping connection locations shown do not meet the needs of a particular project, contact the factory to determine a viable solution.

Air Circulation
In reviewing the system design and unit location, it is important that enough fresh air is provided to enable proper unit performance. The best location is on an unobstructed roof top or at ground level away from walls and other barriers. Care must be taken when locating towers in wells or enclosures or next to high walls. The potential for recirculation of the hot, moist discharge air back into the unit intake exists. Recirculation raises the wet-bulb temperature of the entering air, causing the leaving water temperature to rise above the design conditions. For these cases, the overall unit height should be raised so it is even with the adjacent wall, reducing the chance of recirculation. This can be done by raising the entire unit or adding a discharge hood. For additional information, see the EVAPCO Equipment Layout Manual. Engineering assistance is also available from the factory to identify potential recirculation problems and recommend solutions, such as reorienting multi-cell units.

Design Flexibility and Assistance
The large number of EVAPCO AT cooling towers makes it easy to find a model to meet your design and layout needs. If there is an application for which the standard catalog product line does not work, EVAPCO will make a cooling tower that will fit your requirement. Consult your local EVAPCO representative or the factory for assistance with applications, layout, accessories or other design needs.

Water Treatment
Proper water treatment is an essential part of the maintenance required for all evaporative cooling equipment. A well-designed and consistently implemented water treatment program will help to ensure efficient system operation while maximizing the equipment's service life. A qualified water treatment company should design a site-specific water treatment protocol based on equipment (including all metallurgies in the cooling system), location, makeup water quality, and usage.

Without proper water treatment, the equipment can be susceptible to scale buildup on its heat exchange surfaces, biological growth in the recirculating water and corrosion of its components. Your site-specific water treatment protocol should include procedures for routine operation, startup after a shutdown period, and system layup, if applicable.

Passivation Period
If the equipment includes any galvanized components, the initial commissioning and passivation period is a critical time for maximizing the service life of galvanized equipment. EVAPCO recommends that a site-specific water treatment protocol, which includes a passivation procedure that details the desired water chemistry and visual inspections during the first six to twelve weeks of operation, be used. During this passivation period, recirculating water pH should be maintained above 7.0 and below 8.0 at all times.

Recirculating Water System
The cooling in a tower is accomplished by the evaporation of a portion of the recirculated spray water. As this water evaporates, it leaves behind mineral content and impurities. Therefore, it is important to bleed off an amount of water proportional to that which is evaporated to prevent the buildup of impurities. If this is not done, the mineral content and/or the corrosive nature of the water will continue to increase. This can ultimately result in heavy scaling or a corrosive condition.

Bleed or Blowdown
Evaporative cooling equipment requires a bleed or blowdown line to remove concentrated water from the system. The mineral concentration is monitored by measuring the conductivity of the water. EVAPCO recommends an automated conductivity controller to maximize the water efficiency of your system. Based on recommendations from your water treatment supplier, the conductivity controller should open and close a bleed valve to maintain the conductivity of the recirculating water.

Control of Biological Contaminants
Evaporative cooling equipment should be inspected regularly to ensure good microbiological control. Inspections should include both monitoring of microbial populations via culturing techniques and visual inspections for evidence of biofouling. Poor microbiological control can result in a loss of heat transfer efficiency, increased corrosion potential, and an increased risk of pathogens, such as those that can cause risk to health. If excessive microbiological contamination is detected, a more aggressive mechanical cleaning and/or water treatment program should be undertaken.

Sample Mechanical Specification

SECTION 23 65 00 COOLING TOWERS

Below specification applies for a base AT unit with no options or accessories selected. For a copy of a dynamic specification, please contact your local EVAPCO sales representative for access to EVAPCO's **SPECTRUM** selection software.

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes factory assembled and tested, open circuit mechanical induced draft vertical discharge cooling towers.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, pressure drop, performance curves with selected points indicated, furnished specialties, and accessories.

B. Shop Drawings: Complete set of manufacturer's prints of equipment assemblies, control panels, sections and elevations, and unit isolation. Include the following:

1. Assembled unit dimensions.

2. Weight and load distribution.

3. Required clearances for maintenance and operation.

4. Sizes and locations of piping and wiring connections.

5. Wiring Diagrams: For power, signal, and control wiring. Differentiate between manufacturer installed and field installed wiring.

C. Operation and Maintenance Data: Each unit to include operation and maintenance manual.

1.4 QUALITY ASSURANCE

A. Verification of Performance:

1. The thermal performance shall be certified by the Cooling Technology Institute in accordance with CTI Certification Standard STD-201. Lacking such certification, a field acceptance test shall be conducted within the warranty period in accordance with CTI Acceptance Test Code ATC-105, by a Certified CTI Thermal Testing Agency.

2. Unit Sound Performance ratings shall be tested according to CTI ATC-128 standard. Sound ratings shall not exceed specified ratings.

B. Unit shall meet or exceed energy efficiency per ASHRAE 90.1

1.5 WARRANTY

A. Submit a written warranty executed by the manufacturer, agreeing to repair or replace components of the unit that fail in materials and workmanship within the specified warranty period.

1. The Entire Unit shall have a comprehensive one (1) year warranty against defects in materials and workmanship from startup, not to exceed eighteen (18) month from shipment of the unit.

2. Fan Motor/Drive System: Warranty Period shall be Five (5) years from date of unit shipment from Factory (fan motor(s), fan(s), bearings, mechanical support, sheaves, bushings and belt(s)).

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide cooling towers manufactured by one of the following:

1. EVAPCO Model AT _____

2. Approved Substitute

2.2 THERMAL PERFORMANCE

A. Each unit shall be capable to cool _____ GPM of water entering at _____° F leaving at _____° F at a design wet bulb of _____° F.

2.3 IBC COMPLIANCE

A. The unit structure shall be designed, analyzed, and constructed in accordance with the latest edition of International Building Code (IBC) for: IP = 1.0, SDS = 1.34; z/h = 0, P = 119 psf.

2.4 COMPONENTS

A. Description: Factory assembled and tested, induced draft counter flow cooling tower complete with fan, fill, louvers, accessories and rigging supports

B. Materials of Construction

1. All cold water basin components including vertical supports, air inlet louver frames and panels up to rigging seam shall be constructed of heavy gauge mill hot-dip galvanized steel.

2. Upper Casing, channels and angle supports shall be constructed of heavy gauge mill hot-dip galvanized steel. Fan cowl and guard shall be constructed of galvanized steel. All galvanized steel shall be coated with a minimum of 2.35 ounces of zinc per square foot of area (G-235 Hot-Dip Galvanized Steel designation). During fabrication, all galvanized steel panel edges shall be coated with a 95% pure zinc-rich compound.

C. Fan(s):

1. Fan(s) shall be high efficiency axial propeller type with aluminum wide chord blade construction. Each fan shall be dynamically balanced and installed in a closely fitted cowl with venturi air inlet for maximum fan efficiency.

D. Drift Eliminators

1. Drift eliminators shall be constructed entirely of Polyvinyl Chloride (PVC) in easily handled sections. Design shall incorporate three changes in air direction and limit the water carryover to a maximum of 0.001% of the recirculating water rate.

E. Water Distribution System

1. Spray nozzles shall be precision molded ABS, large orifice nozzles utilizing fluidic technology for superior water distribution over the fill media. Nozzles shall be designed to minimize water distribution system maintenance. Spray header and branches shall be Schedule 40 Polyvinyl Chloride (PVC) for corrosion resistance with a steel connection to attach external piping.

F. Heat Transfer Media

1. Fill media shall be constructed of Polyvinyl Chloride (PVC) of cross-fluted design and suitable for inlet water temperatures up to 130° F. The bonded block fill shall be bottom supported and suitable as an internal working platform. Fill shall be self-extinguishing, have a flame spread of 5 under A.S.T.M. designation E-84-81a, and shall be resistant to rot, decay, and biological attack.

G. Air Inlet Louvers

1. The air inlet louver screens shall be constructed from UV inhibited polyvinyl chloride (PVC) and incorporate a framed interlocking design that allows for easy removal of louver screens for access to the entire basin area for maintenance. The louver screens shall have a minimum of two changes in air direction and shall be of a non-planar design to prevent splash-out and block direct sunlight and debris from entering the basin.

H. Makeup Float Valve Assembly

1. Makeup float assembly shall be a mechanical brass valve with an adjustable plastic float.

I. Pan Strainer

1. Pan Strainer(s) shall be all Type 304 Stainless Steel construction with large area removable perforated screens.

2.5 MOTORS AND DRIVES

A. General requirements for motors are specified in Division 23 Section "Motors"

B. Fan Motor

1. Fan motor(s) shall be totally enclosed, ball bearing type electric motor(s) suitable for moist air service. Motor(s) are Premium Efficient, Class F insulated, 1.15 service factor design. Inverter rated per NEMA MG1 Part 31.4.4.2 and suitable for variable torque applications and constant torque speed range with properly sized and adjusted variable frequency drives.

2. Fan motor(s) shall include strip-type space heaters with separate leads brought to the motor conduit box.

C. Fan Drive

1. The fan drive shall be multi-groove, solid back V-belt type with QD tapered bushings designed for 150% of the motor nameplate power. The belt material shall be neoprene reinforced with polyester cord and specifically designed for evaporative equipment service. Fan sheave shall be aluminum alloy construction. Belt adjustment shall be accomplished from the exterior of the unit.

D. Fan Shaft

1. Fan shaft shall be solid, ground and polished steel. Exposed surface shall be coated with rust preventative.

E. Fan Shaft Bearings

1. Fan Shaft Bearings shall be heavy-duty, self-aligning ball type bearings with extended lubrication lines to grease fittings located on access door frame. Bearings shall be designed for a minimum L_{10} life of 100,000 hours.

2.6 MAINTENANCE ACCESS

A. Fan Section

1. Access door shall be hinged and located in the fan section for fan drive and water distribution system access.

B. Basin Section

1. Framed removable louver panels shall be on all four (4) sides of the unit for pan and sump access.

C. Internal Working Platform

1. Internal working platform shall provide easy access to the fans, belts, motors, sheaves, bearings, all mechanical equipment and complete water distribution system. The fill shall be an acceptable means of accessing these components.

D. Louver Access Door

1. Hinged access door in louver shall be provided.

Notes

OUR PRODUCTS ARE MANUFACTURED WORLDWIDE.



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Bulletin AT21ENG
3M/5-20/DGD

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Manufacturers of Quality Heat Exchangers

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technical email : engineering@aihti.com

Shell & Tube Application Request: *(For liquid to liquid heat exchangers)*

For CS2400 - 4800 Series

Email form to: sales@aihti.com or engineering@aihti.com or fax to 434-757-1810

Contact Name _____ Telephone _____ Date _____

Company Name _____ Email _____

Address: _____ Fax _____

_____

Hot Side

Fluid Type _____

If available:
- Density _____ lb/ft3
- Viscosity _____ cP
- Conductivity _____ Btu/hr.ft.°F
- Specific Heat _____ Btu/lb.°F

1. Flow Rate _____
2. Temperature In _____
3. Desired Temperature Out _____
4. Heat Load _____

Cold Side

Fluid Type _____

If available:
- Density _____ lb/ft3
- Viscosity _____ cP
- Conductivity _____ Btu/hr.ft.°F
- Specific Heat _____ Btu/lb.°F

1. Flow Rate _____
2. Temperature In _____

Maximum Allowable Pressure Drop:

Hot Side _____ Cold Side _____

To properly size the heat exchanger we need 3 of the 4 parameter on the Hot Side and 2 on the Cold Side.

Fixed Tube Bundle ☐ Removable Tube Bundle ☐ U-Tube Fixed Tube Bundle ☐ U-Tube Removable Tube Bundle ☐

Shell Material Construction:

Steel ☐ Stainless Steel ☐

Tube Sheet Material

Steel ☐ Stainless Steel ☐

Brass ☐ (Applies to removable bundle only)

Tube Material Construction:

Copper ☐
90/10 Copper Nickel ☐
Stainless Steel ☐

End Bonnets Material:

Steel ☐
Stainless Steel ☐

Require All Stainless Steel Heat Exchanger Yes ☐ No ☐

ASME Code and Certified Yes ☐ No ☐

Comment: _____

_____

note: AIHTI reserves the right to make reasonable design changes without notice.
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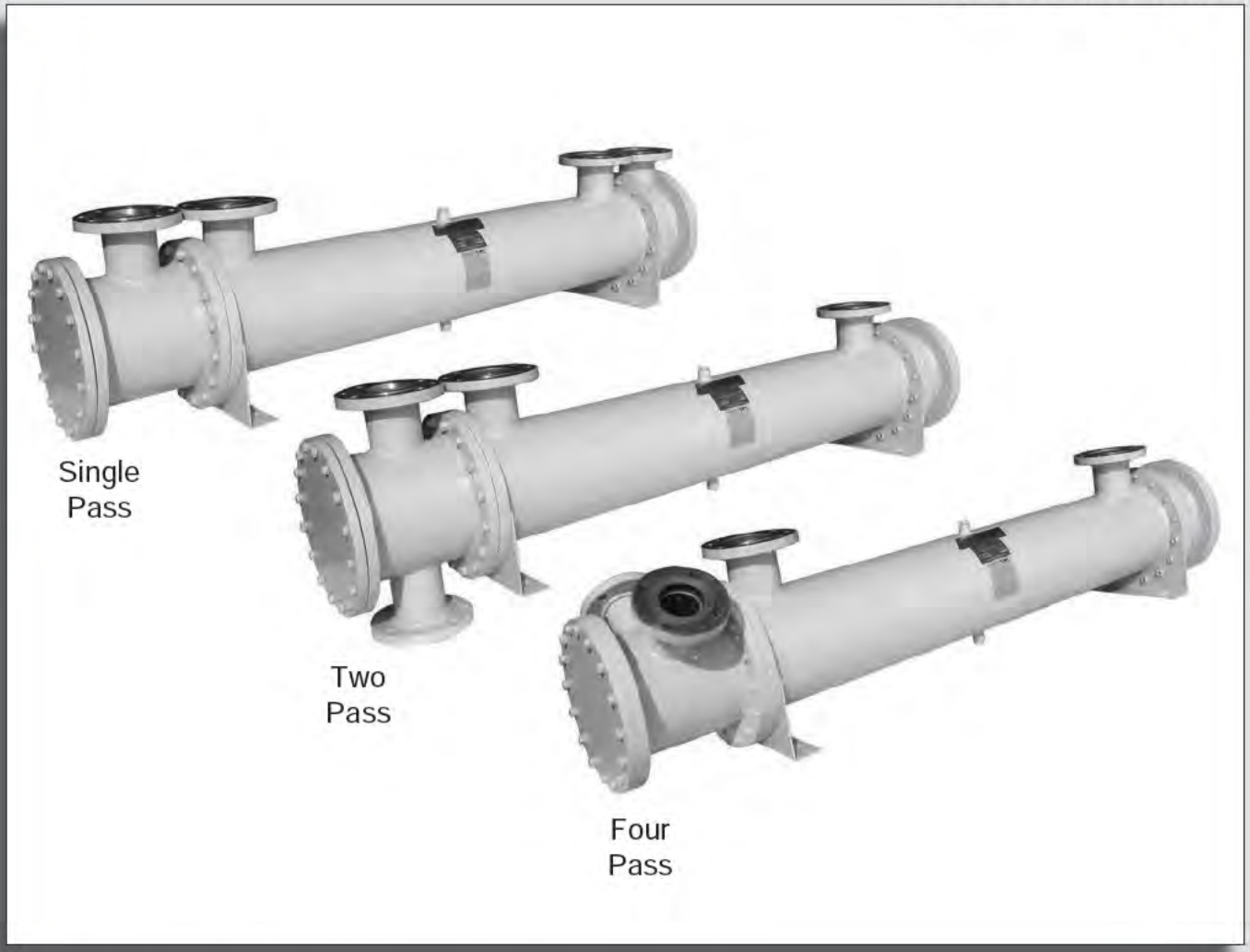
CS 2400 - 4800 SERIES



Fixed Tube Bundle / Liquid Cooled

HEAT EXCHANGERS

- High thermal capacity.
- Large flow capacity.
- Operating pressure for tubes 150 PSI.
- Operating pressure for shell 300 PSI.
- Operating temperature 300 °F.
- Computer generated data sheet available for any application
- As an option, available in ASME code and certified
- Can be customized to fit any applications.

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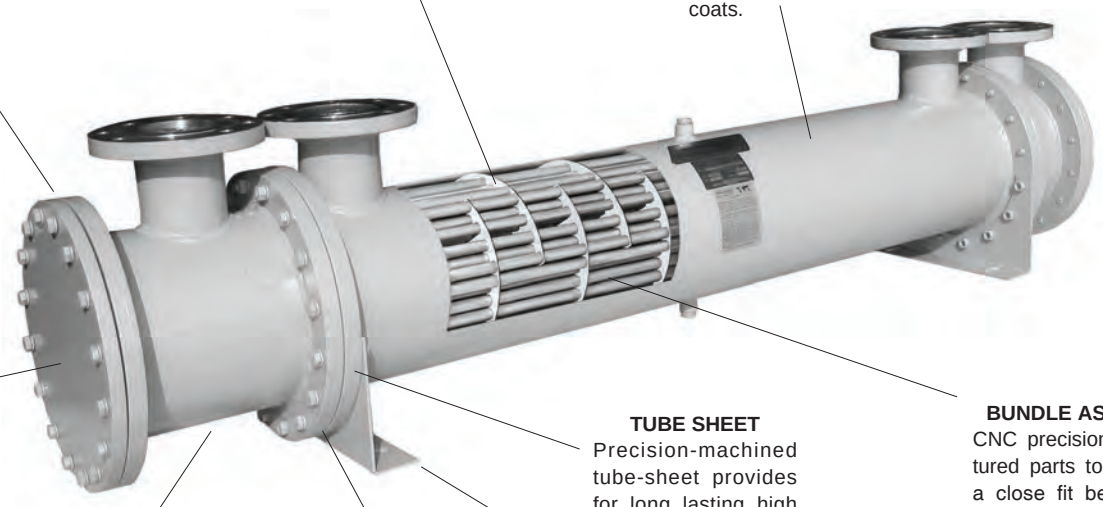
CS 2400 - CS 4800 Series *overview*



BAFFLES
CNC manufactured baffles to provide maximum turbulence and heat transfer with a minimum fluid pressure drop.

FINISH
Gray semigloss enamel suitable for outdoor service. Can be used as a base for additional coats.

FULL FACE GASKET
Full-face composite gasket.

REMOVABLE CHANNEL COVER
For easy access to tubes for cleaning without removing the channel.

TUBE SHEET
Precision-machined tube-sheet provides for long lasting high strength service.

BUNDLE ASSEMBLY
CNC precision manufactured parts to guarantee a close fit between the baffles, tubes, and shell. Clearances are minimized to provide for maximum heat transfer.

FABRICATED CHANNEL
Provides fluid into tubes with minimum restriction. One, two, or four pass interchangeability.

TUBE JOINT
Roller expanded tube joint to tube-sheet.

STEEL FOOT BRACKET

UNIT CODING

Example Model

Options

CS - 3648 - 4 - 6 - TP - CNT - SB - Z

Model
CS

Shell Diameter
2400 = 12.75"
2800 = 14.00"
3200 = 16.00"
3600 = 18.00"
4000 = 20.00"
4400 = 22.00"
4800 = 24.00"

Effective Tube Length
(12" increments)

Baffle Spacing Code
4.0"
6.0"
8.0"
12.0"
18.0"
24.0"

Cooling Tube Diamenter
6 = 3/8"
10 = 5/8"

Tube Side Passes
SP = 1 pass
TP = 2 pass
FP = 4 pass

Tubing
Blank = Copper

Options
CNT= 90/10 Cu Ni
STS = Stainless Steel
C = Carbon Steel

End Bonnets
Blank = Fabricated Steel

Options
SB = Stainless Steel

Zinc Anode
Z = 1 Zinc Anode
2Z = 2 Zinc Anode etc.

STANDARD CONSTRUCTION MATERIALS & RATINGS

Standard Model	CS 2400 - 4800	Options	
Shell	Steel	Stainless Steel	Operating Pressure Tubes 150 psig Operating Pressure Shell 300 psig Operating Temperature 300 °F
Tubes	Copper	90/10 Copper Nickel / Stainless Steel	
Baffle	Steel	Brass / Stainless Steel	
Tube Sheet	Steel	Stainless Steel	
End Bonnets	Fabricated Steel	Stainless Steel	
Mounting Brackets	Steel	Steel	
Gasket	Hypalon Composite	O-Ring	

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STEP 1: Calculate the heat load

The heat load in BTU/HR or (Q) can be derived by using several methods. To simplify things, we will consider general specifications for hydraulic system oils and other fluids that are commonly used with shell & tube heat exchangers.

Terms					
GPM	=	Gallons Per Minute	Kw	=	Kilowatt (watts x 1000)
CN	=	Constant Number for a given fluid	T_{in}	=	Hot fluid entering temperature in °F
△T	=	Temperature differential across the potential	T_{out}	=	Hot fluid exiting temperature in °F
PSI	=	Pounds per Square Inch (pressure) of the operating side of the system	t_{in}	=	Cold fluid temperature entering in °F
MHP	=	Horsepower of the electric motor driving the hydraulic pump	t_{out}	=	Cold fluid temperature exiting in °F
			Q	=	BTU / HR

For example purposes, a hydraulic system has a total input 1200 HP (894Kw) electric motor installed coupled to a pump that produces a flow of 600 GPM @ 3000 PSIG. The temperature differential of the oil entering the pump *vs* exiting the system is about 6.6°F. Even though the return line pressure operates below 200 psi, calculate the system heat load potential (Q) based upon the prime movers (pump) capability, cooling fluid is water @ 80ºF use one of the following equations to accomplish this:

To derive the required heat load (Q) to be removed by the heat exchanger, apply ONE of the following. Note: The calculated heat loads may differ slightly from one formula to the next. This is due to assumptions made when estimating heat removal requirements. The factor *(v)* represents the percentage of the overall input energy to be rejected by the heat exchanger. The *(v)* factor is generally about 30% for most hydraulic systems, however it can range from 20%-70% depending upon the installed system components and heat being generated (ie. servo valves, proportional valves, etc…will increase the percentage required).

Formula	Example
A) Q = GPM x CN x actual △T	A) Q =600 x 210 x 6.6°F = 831,600 BTU/HR
B) Q = [(PSI x GPM) / 1714] x (*v*) x 2545	B) Q =[(3000x600)/1714] x .30 x 2545 = 801,808 BTU/HR
C) Q = MHP x (*v*) x 2545	C) Q =1200 x .30 x 2545 = 916,200 BTU/HR
D) Q = Kw to be removed x 3415	D) Q =894 x .30 x 3415 = 915,909 BTU/HR
E) Q = HP to be removed x 2545	E) Q =300 x 2545 = 736,500 BTU/HR

Constant for a given fluid (CN)

1) Oil ..... CN = 210
2) Water..... CN = 500
3) 50% E. Glycol..... CN = 450

STEP 2: Calculate the Mean Temperature Difference

When calculating the MTD you will be required to choose a liquid flow rate to derive the Cold Side △T. If the water flow is unknown you may need to assume a number based on what is available. As a normal rule of thumb, for oil to water cooling a 2:1 oil to water ratio is used. For applications of water to water or 50 % Ethylene Glycol to water, a 1:1 ratio is common.

	Formula	Example (from step 1,item C)
HOT FLUID Oil	$\triangle T = \frac{Q}{CN \times GPM}$	$\triangle T = \frac{916{,}200\ BTU/hr}{210\ CN \times 600 GPM} = 7.37°F$ = △T Rejected
COLD FLUID Water	$\triangle t = \frac{BTU\ /\ hr}{CN \times GPM}$	$\triangle t = \frac{916{,}200\ BTU/hr}{500\ CN \times 300 GPM} = 3.81°F$ = △t Absorbed

T_{in} =	Hot Fluid entering temperature in degrees F	117.3 °F
T_{out} =	Hot Fluid exiting temperature in degrees F	110.0 °F
t_{in} =	Cold Fluid entering temperature in degrees F	80.0 °F
t_{out} =	Cold Fluid exiting temperature in degrees F	86.1 °F

$$\frac{T_{out} - t_{in}}{T_{in} - t_{out}} = \frac{S[\text{smaller temperature difference}]}{L[\text{larger temperature difference}]} = \left(\frac{S}{L}\right) \qquad \frac{110.0°F - 80.0°F}{117.3°F - 86.1°F} = \frac{30.0°F}{31.2°F} = .962$$

STEP 3: Calculate Log Mean Temperature Difference (LMTD)

To calculate the LMTD please use the following method;
L = Larger temperature difference from step 2.
M = S/L number (LOCATED IN TABLE A). .962 = .980
$LMTD_i$ = L x M

$LMTD_i$ = 31.2 x .980 (FROM TABLE A) = 30.6

To correct the $LMTD_i$ for a multipass heat exchangers calculate **R** & **K** as follows:

Formula	Example
$R = \frac{T_{in} - T_{out}}{t_{out} - t_{in}}$	$R = \frac{117.3°F - 100°F}{86.1°F - 90°F} = \frac{17.3°F}{6.1°F} =$ **{2.82=R}**
$K = \frac{t_{out} - t_{in}}{T_{in} - t_{in}}$	$K = \frac{86.1°F - 80°F}{117.3°F - 80°F} = \frac{6.1°F}{37.3°F} =$ **{.163=K}**

Locate the correction factor CF_B (FROM TABLE B)
$LMTD_c = LMTD_i \times CF_B$
$LMTD_c$ = 30.6 x .997 = **30.5**

STEP 4: Calculate the area required

$$\textbf{Required Area sq.ft.} = \frac{Q\ (BTU\ /\ HR)}{LMTD_c \times U\ (\text{FROM TABLE C})} \qquad \frac{916{,}200}{30.5 \times 100} = \textbf{300.4 sq ft.}$$

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CS 2400 - 4800 Series *selection*

STEP 5: Selection

a) From TABLE E choose the correct series size, baffle spacing, and number of passes that best fits your flow rates for both shell and tube side. Note that the tables suggest minimum and maximum information. Try to stay within the 20-80 percent range of the indicated numbers.

Example

Oil Flow Rate = 600 GPM = Series Required from Table E = **2400 Series**
Baffle Spacing from Table E = **18 baffle**
Water Flow Rate = 300 GPM = Passes required in 2000 series = **TP**

b) From TABLE D choose the heat exchanger model size based upon the sq ft. or surface area in the series size that will accommodate your flow rate.

Example

Required Area = 300.4 sq.ft Closest model required based upon sq.ft. & series = **CS-2472-12-6-TP**

If you require a computer generated data sheet for the application, or if the information that you are trying to apply does not match the corresponding information, please contact our engineering services department for further assistance.

Shell Dia. Code	Max. Liquid Flow - Shell Side						Liquid Flow - Tube Side					
	4	6	8	12	18	24	SP		TP		FP	
							Min.	Max.	Min.	Max.	Min.	Max.
2400	155	235	310	470	700	930	135	1080	70	535	34	265
2800	170	255	345	510	770	1030	166	1320	83	660	42	330
3200	200	295	395	590	890	1175	221	1760	110	880	55	440
3600	225	335	445	665	1000	1330	284	2275	142	1135	71	565
4000	250	375	495	745	1120	1490	355	2845	177	1420	89	710
4400	275	410	550	820	1230	1640	435	3480	218	1740	109	870
4800	300	450	600	895	1345	1790	522	4170	261	2085	130	1040

TABLE C

U	TUBE FLUID	SHELL FLUID
400	Water	Water
350	Water	50% E. Glycol
100	Water	Oil
300	50% E. Glycol	50% E. Glycol
90	50% E. Glycol	Oil

TABLE A- FACTOR M/LMTD = L x M

S/L	M	S/L	M	S/L	M	S/L	M
		.25	.541	.50	.721	.75	.870
.01	.215	.26	.549	.51	.728	.76	.864
.02	.251	.27	.558	.52	.734	.77	.879
.03	.277	.28	.566	.53	.740	.78	.886
.04	.298	.29	.574	.54	.746	.79	.890
.05	.317	.30	.582	.55	.753	.80	.896
.06	.334	.31	.589	.56	.759	.81	.902
.07	.350	.32	.597	.57	.765	.82	.907
.08	.364	.33	.604	.58	.771	.83	.913
.09	.378	.34	.612	.59	.777	.84	.918
.10	.391	.35	.619	.60	.783	.85	.923
.11	.403	.36	.626	.61	.789	.86	.928
.12	.415	.37	.634	.62	.795	.87	.934
.13	.427	.38	.641	.63	.801	.88	.939
.14	.438	.39	.648	.64	.806	.89	.944
.15	.448	.40	.655	.65	.813	.90	.949
.16	.458	.41	.662	.66	.818	.91	.955
.17	.469	.42	.669	.67	.823	.92	.959
.18	.478	.43	.675	.68	.829	.93	.964
.19	.488	.44	.682	.69	.836	.94	.970
.20	.497	.45	.689	.70	.840	.95	.975
.21	.506	.46	.695	.71	.848	.96	.979
.22	.515	.47	.702	.72	.852	.97	.986
.23	.524	.48	.709	.73	.858	.98	.991
.24	.533	.49	.715	.74	.864	.99	.995

TABLE B- LMTD correction factor for Multipass Exchangers

R

	.05	.1	.15	.2	.25	.3	.35	.4	.45	.5	.6	.7	.8	.9	1.0
.2	1	1	1	1	1	1	1	.999	.993	.984	.972	.942	.908	.845	.71
.4	1	1	1	1	1	1	.994	.983	.971	.959	.922	.855	.70		
.6	1	1	1	1	1	.992	.980	.965	.948	.923	.840				
.8	1	1	1	1	.995	.981	.965	.945	.916	.872					
1.0	1	1	1	1	.988	.970	.949	.918	.867	.770					
2.0	1	1	.977	.973	.940	.845	.740								
3.0	1	1	.997	.933	.835										
4.0	1	.993	.950	.850											
5.0	1	.982	.917												
6.0	1	.968	.885												
8.0	1	.930													
10.0	.996	.880													
12.0	.985	.720													
14.0	.972														
16.0	.958														
18.0	.940														
20.0	.915														

K

TABLE D- Surface Area

Model Number	Surface Area in Sq.ft.		Model Number	Surface Area in Sq.ft.		Model Number	Surface Area in Sq.ft.		Model Number	Surface Area in Sq.ft.	
	3/8" O.D Tubing	5/8 O.D Tubing		3/8" O.D Tubing	5/8 O.D Tubing		3/8" O.D Tubing	5/8 O.D Tubing		3/8" O.D Tubing	5/8 O.D Tubing
CS-2436	153.2	82.5	CS-3248	334.6	185.9	CS-4048	540.4	301.1	CS-4848	793.2	442.4
CS-2448	204.2	110.0	CS-3260	418.2	232.3	CS-4060	675.4	376.3	CS-4860	991.6	553.0
CS-2460	255.3	137.4	CS-3272	501.9	278.8	CS-4072	810.5	451.6	CS-4872	1189.9	663.7
CS-2472	306.3	164.9	CS-3284	585.5	325.3	CS-4084	945.6	526.9	CS-4884	1388.2	774.3
CS-2484	357.4	192.4	CS-3296	669.1	371.8	CS-4096	1080.7	602.1	CS-4896	1586.5	884.9
CS-2496	408.4	219.9	CS-32108	752.8	418.2	CS-40108	1215.8	677.4	CS-48108	1784.8	995.5
CS-24108	459.5	247.4	CS-32120	836.4	464.7	CS-40120	1350.9	752.7	CS-48120	1983.1	1106.1
CS-24120	510.5	274.9	CS-32132	920.1	511.2	CS-40132	1486.0	827.9	CS-48132	2181.4	1216.7
CS-2848	251.3	138.8	CS-3648	432.0	240.9	CS-4448	661.3	361.3			
CS-2860	314.2	173.4	CS-3660	540.0	301.1	CS-4460	826.6	451.6			
CS-2872	377.0	208.1	CS-3672	647.9	361.3	CS-4472	991.9	541.9			
CS-2884	439.8	242.8	CS-3684	755.9	421.5	CS-4484	1157.3	632.2			
CS-2896	502.7	277.5	CS-3696	863.9	481.7	CS-4496	1322.6	722.6			
CS-28108	565.5	312.2	CS-36108	971.9	541.9	CS-44108	1487.9	812.9			
CS-28120	628.3	346.9	CS-36120	1079.9	602.1	CS-44120	1653.2	903.2			
CS-28132	691.1	381.6	CS-36132	1187.9	662.4	CS-44132	1818.5	993.5			

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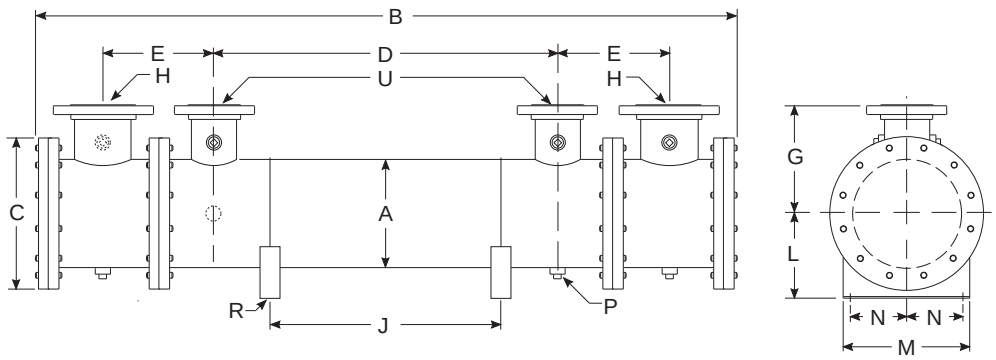
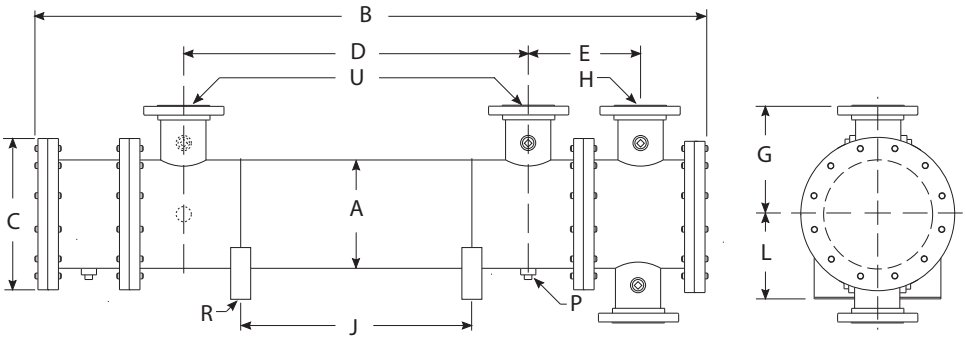


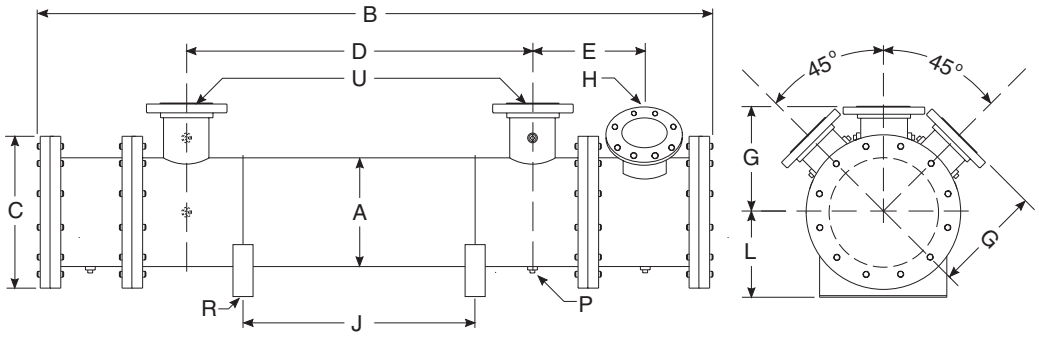
Model	B	E	H
CS-2436	68.00	14.44	8.00" ANSI Flange 150# RF
CS-2448	80.00		
CS-2460	92.00		
CS-2472	104.00		
CS-2484	116.00		
CS-2496	128.00		
CS-24108	140.00		
CS-24120	152.00		

Single Pass (SP)



Model	B	E	H
CS-2436	63.00	14.44	6.00" ANSI Flange 150# RF
CS-2448	75.00		
CS-2460	87.00		
CS-2472	99.00		
CS-2484	111.00		
CS-2496	123.00		
CS-24108	135.00		
CS-24120	147.00		

Two Pass (TP)



Model	B	E	H
CS-2436	63.00	14.44	4.00" ANSI Flange 150# RF
CS-2448	75.00		
CS-2460	87.00		
CS-2472	99.00		
CS-2484	111.00		
CS-2496	123.00		
CS-24108	135.00		
CS-24120	147.00		

Four Pass (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-2436	12.75	16.25	24.00	11.38	12.00	12.00	14.75	5.00	(10) .50	.75"Ø x 1.00" Thru Slot	6.00" ANSI Flange 150# RF	1040	CS-2436
CS-2448			36.00		24.00							1130	CS-2448
CS-2460			48.00		36.00							1221	CS-2460
CS-2472			60.00		48.00							1312	CS-2472
CS-2484			72.00		60.00							1402	CS-2484
CS-2496			84.00		72.00							1493	CS-2496
CS-24108			96.00		84.00							1584	CS-24108
CS-24120			108.00		96.00							1675	CS-24120

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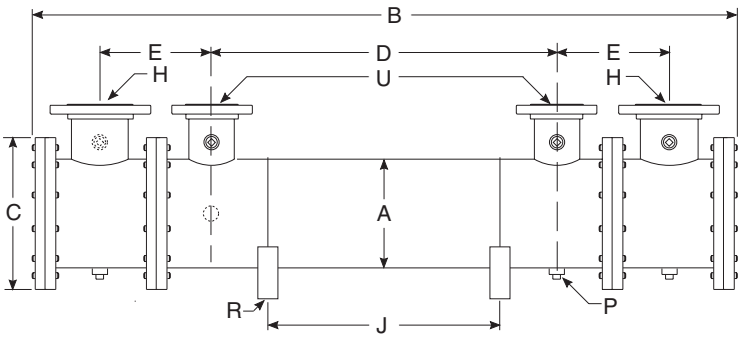
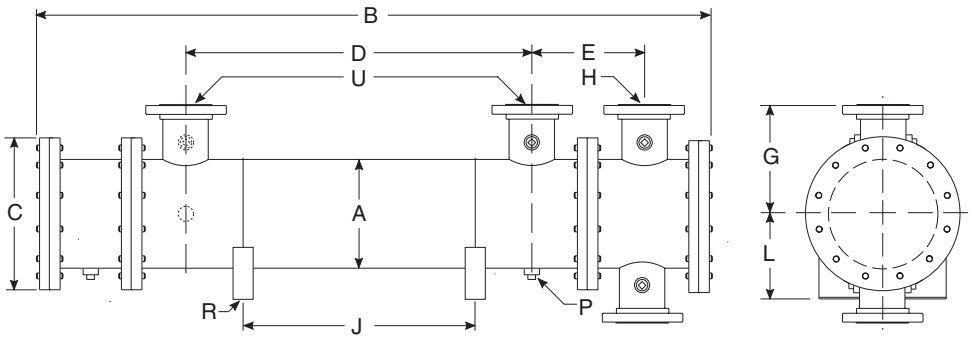
CS-2800 Series *dimensions*



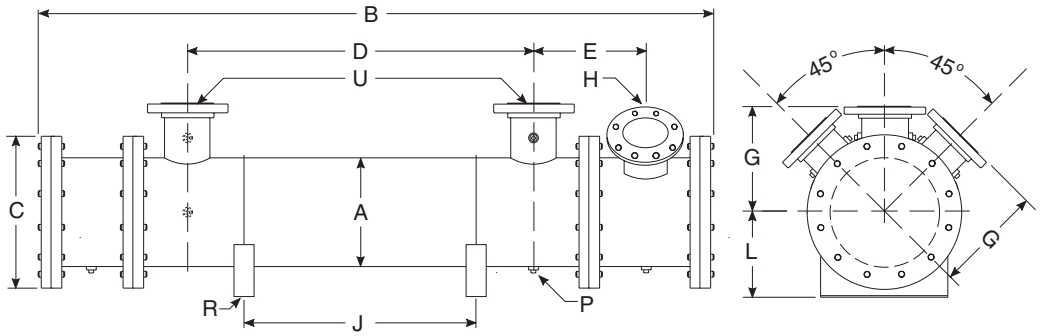
Model	B	E	H
CS-2836	68.00	15.44	8.00" ANSI Flange 150# RF
CS-2848	80.00		
CS-2860	92.00		
CS-2872	104.00		
CS-2884	116.00		
CS-2896	128.00		
CS-28108	140.00		
CS-28120	152.00		
CS-28132	164.00		

Single Pass (SP)



Model	B	E	H
CS-2836	64.00	15.44	6.00" ANSI Flange 150# RF
CS-2848	76.00		
CS-2860	88.00		
CS-2872	100.00		
CS-2884	112.00		
CS-2896	124.00		
CS-28108	136.00		
CS-28120	148.00		
CS-28132	160.00		

Two Pass (TP)



Model	B	E	H
CS-2836	64.00	15.44	4.00" ANSI Flange 150# RF
CS-2848	76.00		
CS-2860	88.00		
CS-2872	100.00		
CS-2884	112.00		
CS-2896	124.00		
CS-28108	136.00		
CS-28120	148.00		
CS-28132	160.00		

Four Pass (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-2836	14.00	18.00	22.00	13.00	6.00	13.00	16.00	5.00	(10) .50	.75"Ø x 1.00" Thru Slot	8.00" ANSI Flange 150# RF	1288	CS-2836
CS-2848			34.00		18.00							1400	CS-2848
CS-2860			46.00		30.00							1512	CS-2860
CS-2872			58.00		42.00							1624	CS-2872
CS-2884			70.00		54.00							1736	CS-2884
CS-2896			82.00		66.00							1848	CS-2896
CS-28108			94.00		78.00							1960	CS-28108
CS-28120			106.00		90.00							2072	CS-28120
CS-28132			118.00		102.00							2184	CS-28132

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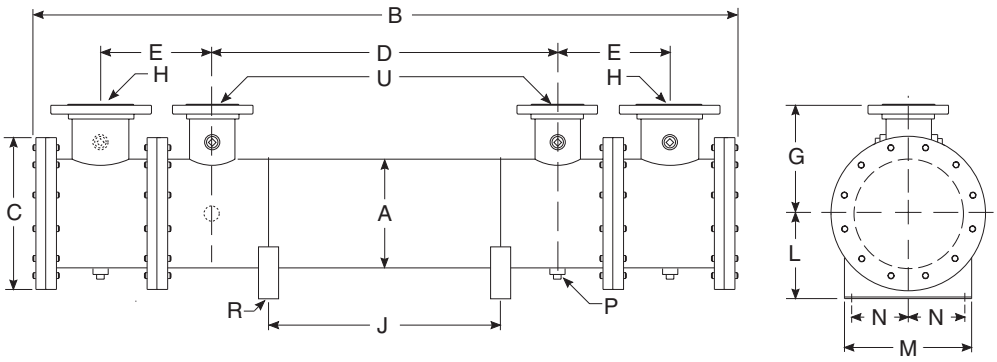
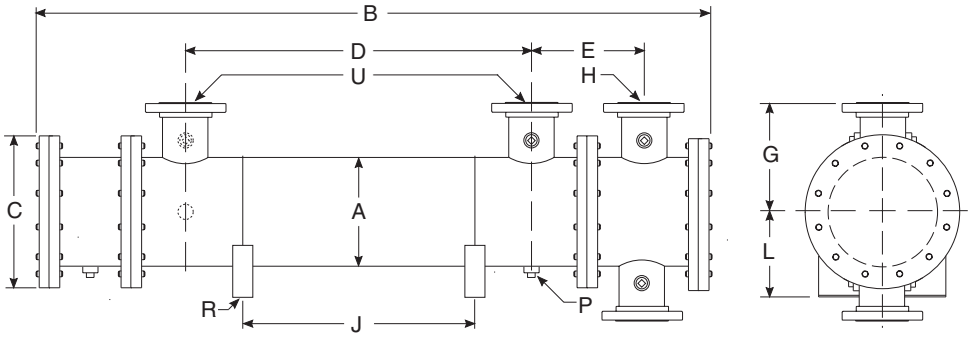


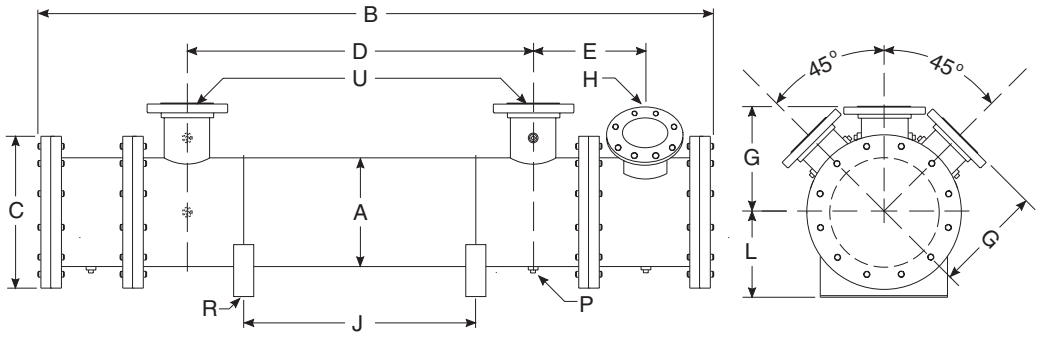
Model	B	E	H
CS-3248	85.00	17.00	10.00" ANSI Flange 150# RF
CS-3260	97.00		
CS-3272	109.00		
CS-3284	121.00		
CS-3296	133.00		
CS-32108	145.00		
CS-32120	157.00		
CS-32132	169.00		

Single Pass (SP)



Model	B	E	H
CS-3248	80.00	17.00	6.00" ANSI Flange 150# RF
CS-3260	92.00		
CS-3272	104.00		
CS-3284	116.00		
CS-3296	128.00		
CS-32108	140.00		
CS-32120	152.00		
CS-32132	164.00		

Two Pass (TP)



Model	B	E	H
CS-3248	80.00	17.00	5.00" ANSI Flange 150# RF
CS-3260	92.00		
CS-3272	104.00		
CS-3284	116.00		
CS-3296	128.00		
CS-32108	140.00		
CS-32120	152.00		
CS-32132	164.00		

Four Pass (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-3248	16.00	20.00	34.00	13.00	18.00	14.00	18.00	6.00	(10) .50	.781"Ø x 1.50" Thru Slot	8.00" ANSI Flange 150# RF	2377	CS-3248
CS-3260			46.00		30.00							1975	CS-3260
CS-3272			58.00		42.00							2121	CS-3272
CS-3284			70.00		54.00							2266	CS-3284
CS-3296			82.00		66.00							2412	CS-3296
CS-32108			94.00		78.00							2558	CS-32108
CS-32120			106.00		90.00							2705	CS-32120
CS-32132			118.00		102.00							2852	CS-32132

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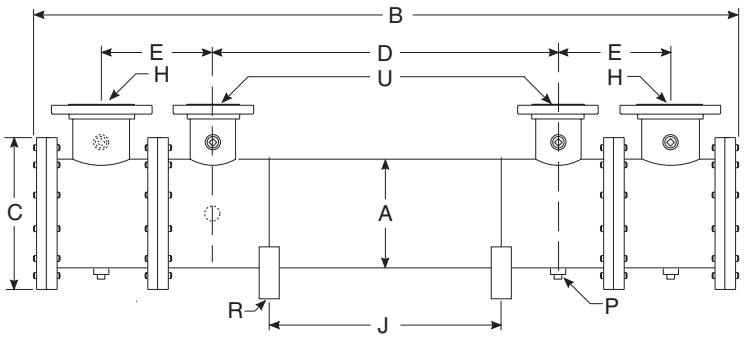
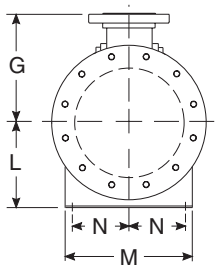
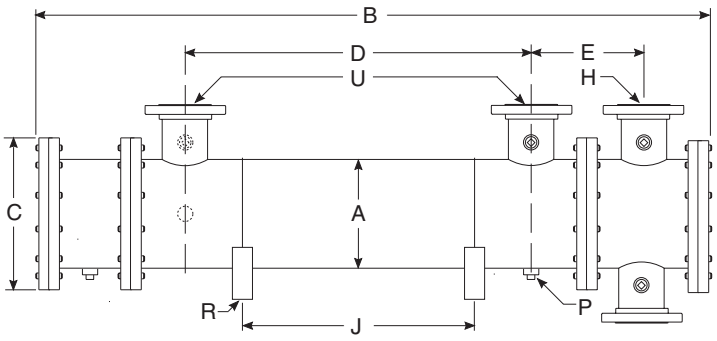
CS-3600 Series *dimensions*

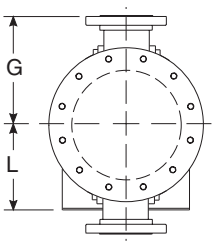




Model	B	E	H
CS-3648	85.00	18.00	10.00" ANSI Flange 150# RF
CS-3660	97.00		
CS-3672	109.00		
CS-3684	121.00		
CS-3696	133.00		
CS-36108	145.00		
CS-36120	157.00		
CS-36132	169.00		

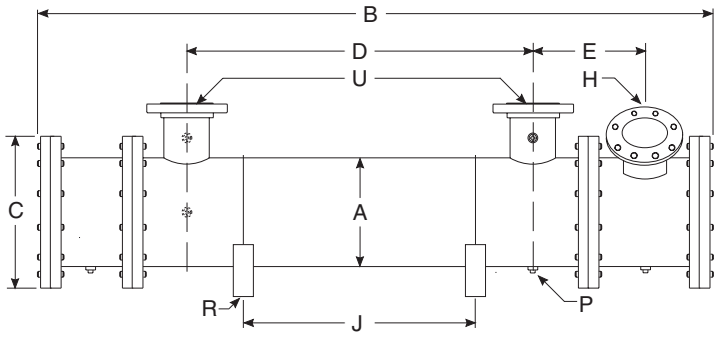
Single Pass (SP)

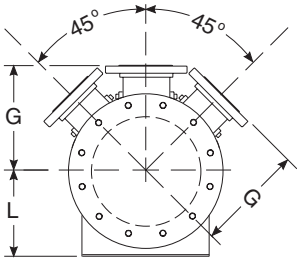




Model	B	E	H
CS-3648	81.50	18.00	8.00" ANSI Flange 150# RF
CS-3660	93.50		
CS-3672	105.50		
CS-3684	117.50		
CS-3696	129.50		
CS-36108	141.50		
CS-36120	153.50		
CS-36132	165.50		

Two Pass (TP)





Model	B	E	H
CS-3648	81.50	18.00	5.00" ANSI Flange 150# RF
CS-3660	93.50		
CS-3672	105.50		
CS-3684	117.50		
CS-3696	129.50		
CS-36108	141.50		
CS-36120	153.50		
CS-36132	165.50		

Four Pass (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-3648	18.00	22.00	32.00	13.00	12.00	15.00	20.00	7.00	.50	.781"Ø x 1.50" Thru Slot	10.00" ANSI Flange 150# RF	2314	CS-3648
CS-3660			44.00		24.00							2498	CS-3660
CS-3672			56.00		36.00							2684	CS-3672
CS-3684			68.00		48.00							2869	CS-3684
CS-3696			80.00		60.00							3054	CS-3696
CS-36108			92.00		72.00							3239	CS-36108
CS-36120			104.00		84.00							3424	CS-36120
CS-36132			116.00		96.00							3609	CS-36132

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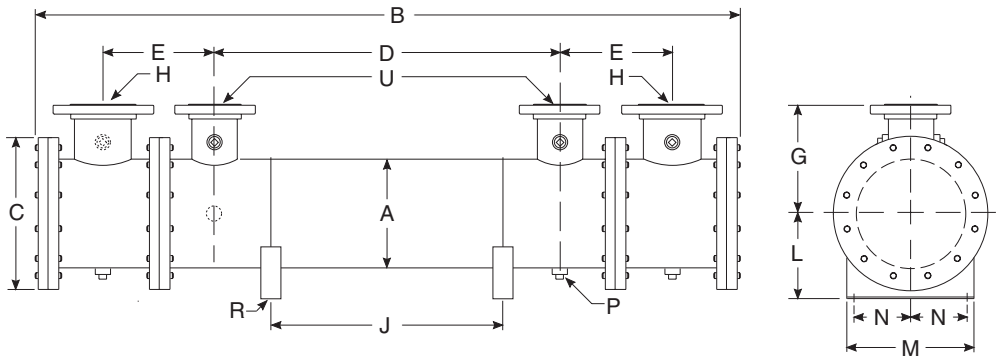
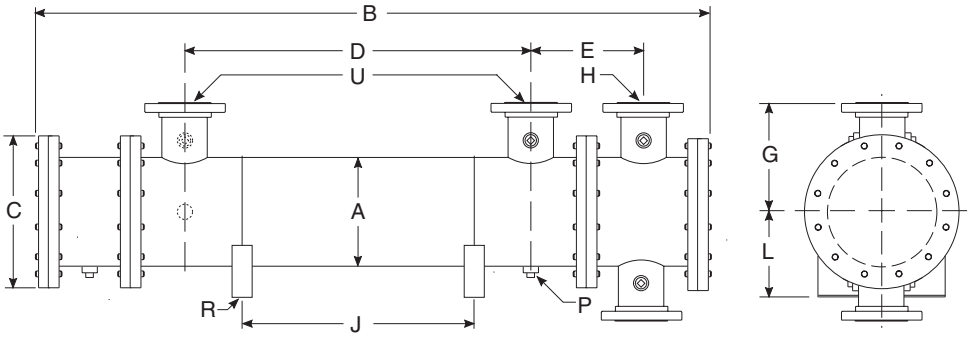


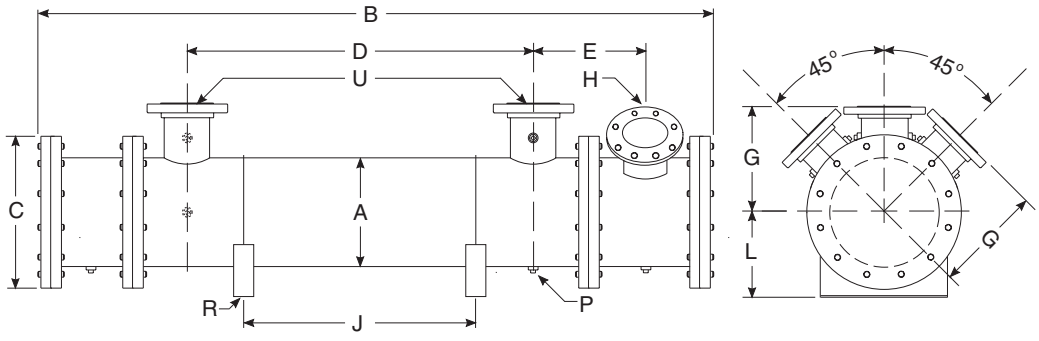
Model	B	E	H
CS-4048	91.00	19.50	12.00" ANSI Flange 150# RF
CS-4060	103.00		
CS-4072	115.00		
CS-4084	127.00		
CS-4096	139.00		
CS-40108	151.00		
CS-40120	163.00		
CS-40132	175.00		

Single Pass (SP)



Model	B	E	H
CS-4048	86.50	19.50	8.00" ANSI Flange 150# RF
CS-4060	98.50		
CS-4072	110.50		
CS-4084	122.50		
CS-4096	134.50		
CS-40108	146.50		
CS-40120	158.50		
CS-40132	170.50		

Two Pass (TP)



Model	B	E	H
CS-4048	86.50	19.50	6.00" ANSI Flange 150# RF
CS-4060	98.50		
CS-4072	110.50		
CS-4084	122.50		
CS-4096	134.50		
CS-40108	146.50		
CS-40120	158.50		
CS-40132	170.50		

Four Pass (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-4048	20.00	25.00	32.00	16.00	12.00	17.00	22.00	8.00	.50	.781"Ø x 1.50" Thru Slot	10.00" ANSI Flange 150# RF	2856	CS-4048
CS-4060			44.00		24.00							3085	CS-4060
CS-4072			56.00		36.00							3313	CS-4072
CS-4084			68.00		48.00							3542	CS-4084
CS-4096			80.00		60.00							3770	CS-4096
CS-40108			92.00		72.00							3999	CS-40108
CS-40120			104.00		84.00							4227	CS-40120
CS-40132			116.00		96.00							4456	CS-40132

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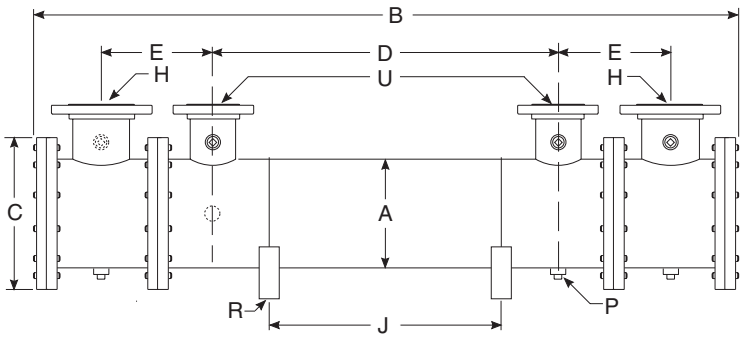
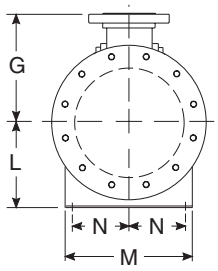
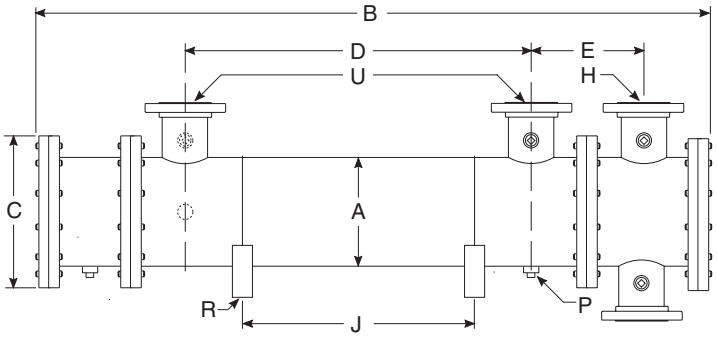
CS-4400 Series *dimensions*

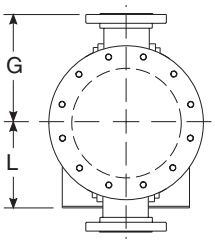




Model	B	E	H
CS-4448	95.00	21.63	14.00" ANSI Flange 150# RF
CS-4460	107.00		
CS-4472	119.00		
CS-4484	131.00		
CS-4496	143.00		
CS-44108	155.00		
CS-44120	167.00		
CS-44132	179.00		

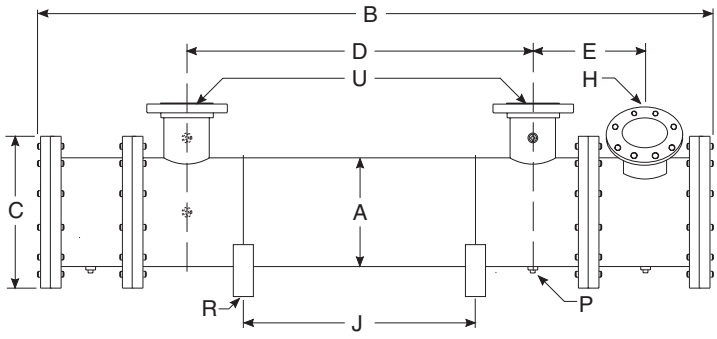
Single Pass (SP)

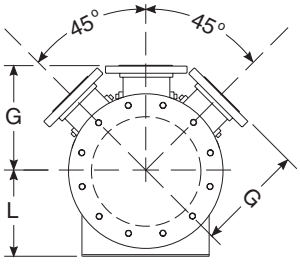




Model	B	E	H
CS-4448	90.00	21.63	10.00" ANSI Flange 150# RF
CS-4460	102.00		
CS-4472	114.00		
CS-4484	126.00		
CS-4496	138.00		
CS-44108	150.00		
CS-44120	162.00		
CS-44132	174.00		

Two Pass (TP)





Model	B	E	H
CS-4448	90.00	21.63	6.00" ANSI Flange 150# RF
CS-4460	102.00		
CS-4472	114.00		
CS-4484	126.00		
CS-4496	138.00		
CS-44108	150.00		
CS-44120	162.00		
CS-44132	174.00		

FOUR PASS (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-4448	22.00	28.00	29.00	17.00	5.00	18.00	24.00	8.50	.50	.781"Ø x 1.50" Thru Slot	12.00" ANSI Flange 150# RF	3456	CS-4448
CS-4460			41.00		17.00							3733	CS-4460
CS-4472			53.00		29.00							4099	CS-4472
CS-4484			65.00		41.00							4285	CS-4484
CS-4496			77.00		53.00							4562	CS-4496
CS-44108			89.00		65.00							4839	CS-44108
CS-44120			101.00		77.00							5115	CS-44120
CS-44132			113.00		89.00							5391	CS-44132

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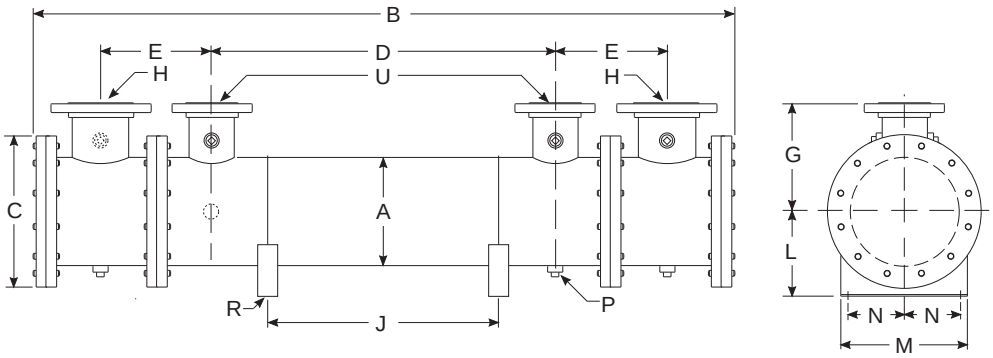
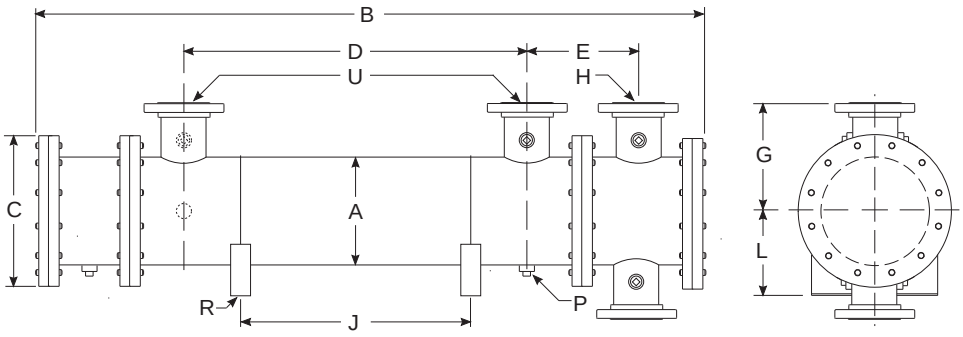


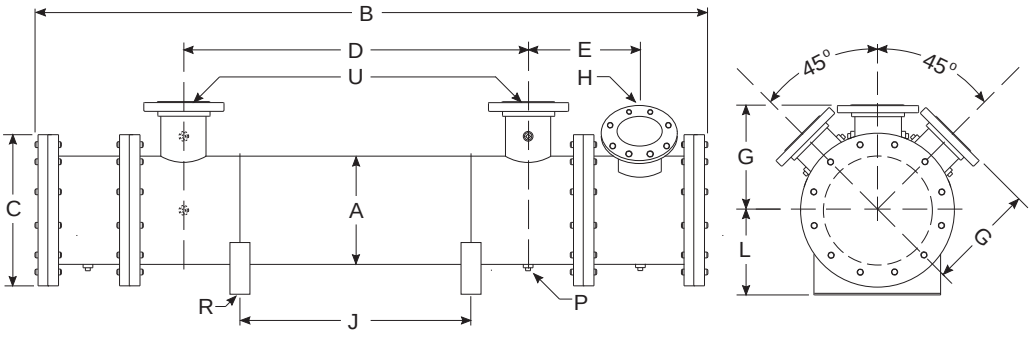
Model	B	E	H
CS-4848	95.00	21.63	14.00" ANSI Flange 150# RF
CS-4860	107.00		
CS-4872	119.00		
CS-4884	131.00		
CS-4896	143.00		
CS-48108	155.00		
CS-48120	167.00		
CS-48132	179.00		

Single Pass (SP)



Model	B	E	H
CS-4848	91.50	21.63	10.00" ANSI Flange 150# RF
CS-4860	103.50		
CS-4872	115.50		
CS-4884	127.50		
CS-4896	139.50		
CS-48108	151.50		
CS-48120	163.50		
CS-48132	175.50		

Two Pass (TP)



Model	B	E	H
CS-4848	91.50	21.63	8.00" ANSI Flange 150# RF
CS-4860	103.50		
CS-4872	115.50		
CS-4884	127.50		
CS-4896	139.50		
CS-48108	151.50		
CS-48120	163.50		
CS-48132	175.50		

FOUR PASS (FP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J adjustable	L	M	N	P NPT	R	U	Weight	Model
CS-4848	24.00	30.00	29.00	18.00	5.00	19.00	26.00	10.00	.50	.781"Ø x 1.50" Thru Slot	12.00" ANSI Flange 150# RF	4113	CS-4848
CS-4860			41.00		17.00							4442	CS-4860
CS-4872			53.00		29.00							4771	CS-4872
CS-4884			65.00		41.00							5100	CS-4884
CS-4896			77.00		53.00							5429	CS-4896
CS-48108			89.00		65.00							5758	CS-48108
CS-48120			101.00		77.00							6087	CS-48120
CS-48132			113.00		89.00							6416	CS-48132

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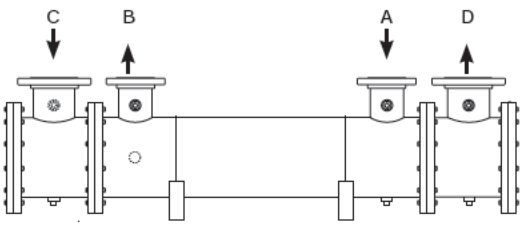
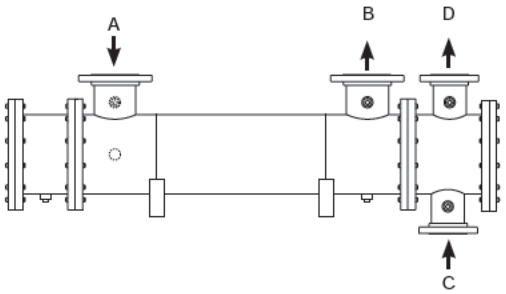
PIPING HOOK-UP



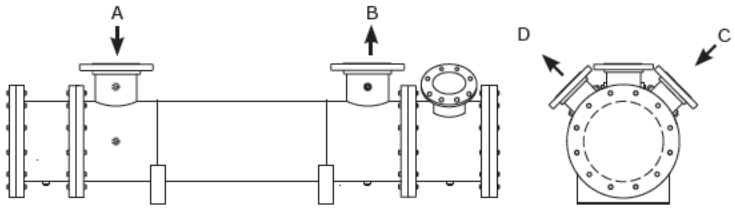
Single Pass

A ..... Hot fluid to be cooled
B ..... Cooled fluid
C ..... Cooling water in
D ..... Cooling water out

SP ..... Single Pass
TP ..... Two Pass
FP ..... Four Pass



Two Pass



Two Pass

Receiving / Installation

a) Inspect unit for any shipping damage before uncrating. Indicate all damages to the trucking firms' delivery person, and mark it on the receiving bill before accepting the freight. Make sure that there is no visible damage to the outside surface of the heat exchanger. The published weight information located in this brochure is approximate. True shipment weights are determined at the time of shipping and may vary. Approximate weight information published herein is for engineering approximation purposes and should not be used for exact shipping weight. Since the warranty is based upon the unit date code located on the model identification tags, removal or manipulation of the identification tags will void the manufacturers warranty.

b) When handling the shell & tube heat exchanger, special care should be taken to avoid dropping the unit since mishandling could cause the heat exchanger to crack and leak externally. Mishandling of the unit is not covered under the manufacturers warranty. All units are shipped with partial wood/corrugated cardboard containers for safe handling.

c) Storage: American Industrial heat exchangers are protected against the elements during shipment. If the heat exchanger cannot be installed and put into operation immediately upon receipt, certain precautions are required to prevent deterioration during storage. The responsibility for integrity of the heat exchanger(s) is assumed by the user. American Industrial will not be responsible for damage, corrosion, or other deterioration of the heat exchanger during transit or storage.
Proper storage practices are important when considering the high costs of repair or replacement, and the possible delays for items which require long lead times for manufacture. The following listed practices are provided solely as a convenience to the user, who shall make their own decision on whether to use all or any of them.

1) Heat exchangers not to be placed in immediate service, require precautionary measures to prevent corrosion or contamination.
2) Heat exchangers made of ferrous materials, may be pressure-tested using compressed air at the factory. Residual oil coating on the inside surfaces of the heat exchanger(s) as a result of flushing does not discount the possibility of internal corrosion. Upon receipt, fill the heat exchanger(s) with the appropriate grade of oil or apply a corrosion preventing inhibitor for storage.
3) Corrosion protection compounds for interior surfaces for long term storage or other applications are applied solely at the request of customers. Upon request, American Industrial can provide a customer approved corrosion preventative if available when included in the original purchase order specifications.
4) Remove all dirt, water, ice, or snow and wipe dry before moving heat exchanger(s) into storage. Heat exchangers are generally shipped empty, open drain plugs to remove any accumulated condensation moisture, then reseal. Accumulation of moisture usually indicates corrosion has already started and remedial action should be taken.
5) Store in a covered, environmentally stable area. The ideal storage environment for heat exchangers is in a dry, low-humidity atmosphere which is sealed to prevent the entry of blowing dust, rain, or snow. Maintain in atmospheric temperatures between 70°F and 105°F (Large temperature swings may cause condensation and moisture to form on steel components, threads, shell, etc...) Use thermometers and humidity indicators and maintain the atmosphere at 40% relative humidity, or lower.

d) Standard Enamel Coating: American Industrial provides its standard products with a normal base coat of oil base air cure enamel paint. The enamel paint is applied as a temporary protective and esthetic coating prior to shipment. While the standard enamel coating is durable, American Industrial does not warranty it as a long-term finish coating. It is strongly suggested that a more durable final coating be applied after installation or prior to long-term storage in a corrosive environment to cover any accidental scratches, enhance esthetics, and further prevent corrosion. It is the responsibility of the customer to provide regular maintenance against chips, scratches, etc... and regular touch up maintenance must be provided for long-term benefits and corrosion prevention.

e) Special Coatings: American Industrial offers as customer options, Air-Dry Epoxy, and Heresite (Air-Dry Phenolic) coatings at additional cost. American Industrial offers special coatings upon request, however American Industrial does not warranty coatings to be a permanent solution for any equipment against corrosion. It is the responsibility of the customer to provide regular maintenance against chips, scratches, etc... and regular touch up maintenance must be provided for long-term benefits and corrosion prevention.

f) American Industrial recommends that the equipment supplied should be installed by qualified personnel who have solid understanding of system design, pressure and temperature ratings, and piping assembly. Verify the service conditions of the system prior to applying any shell & tube heat exchanger. If the system pressure or temperature does not fall within the parameters on model rating tag located on the heat exchanger, contact our factory prior to installation or operation.

g) Plan the installation to meet the requirements indicated on the piping installation diagram as illustrated above. It is recommended to put the

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hot fluid to be cooled through the shell side and the cold fluid through the tube side. The indicated port assembly sequence in the diagram maximizes the performance, and minimizes the possibility of thermal shock. In instances where the fluids are required to be reversed, *hot fluid in the tubes and cold fluid in the shell* the heat exchanger will work with reduced performance. Installation may be vertical or horizontal or a combination thereof. However, the installation must allow for complete draining of the heat exchanger regardless of Single Pass, Two Pass, or four pass construction. Complete drainage is important to prevent the heat exchanger from freezing, over-heating of a fluid, or mineral deposit buildup.
For fixed bundle heat exchangers, provide sufficient clearance at one end to allow for the removal or replacement of tubes. On the opposite end, provide enough space to allow removal of the channel cover and complete channel to provide sufficient clearance to permit tube rolling and cleaning. Channel covers can be removed to aid in cleaning the tubes without disassembling channel, plumbing, or mounting hardware. Allow accessible room for scheduled cleaning as needed. Include thermometer wells and pressure gauge pipe ports in piping to and from the heat exchanger located as close to the heat exchanger as possible. For more information please contact American Industrial.

h) It is recommended to use flexible hose wherever possible to reduce vibration and allow slight movement. However, hoses are not required. Hydraulic carrying lines should be sized to handle the appropriate flow and to meet system pressure drop requirements based upon the systems parameters, and not based upon the units supply and return connection size. We recommend that a low cracking pressure direct acting relief valve be installed at the heat exchanger inlet to protect it from pressure spikes by bypassing oil in the event the system experiences a high flow surge. If preventative filtration is used it should be located ahead of the cooler on both shell and tube side to catch any scale or sludge from the system before it enters the cooler. Failure to install filters ahead of the heat exchanger could lead to possible heat exchanger failure due to high pressure if the system filters plug.

i) Standard shell & tube coolers are built with a rolled tube-sheet construction. However, the differential operating temperature between the entering shell side fluid and the entering tube side fluid should not exceed 150°F. If this condition exists, a severe thermal shock could occur leading to product failure and mixing of the fluids. For applications with a differential temperatures of 150°F or more, we recommend using a series with a floating tube-sheet, u-tube, or expansion joint to reduce the potential for the effects of thermal shock.

j) Water requirements vary from location to location. If the source of cooling water is from other than a municipal water supply, it is recommended that a water strainer be installed ahead of the heat exchanger to prevent dirt and debris from entering and clogging the flow passages. If a water modulating valve is used it is recommended to be installed at the inlet to the cooler to regulate the water flow.

k) For steam service, or other related applications, please consult our engineering department for additional information.

Maintenance
a) Inspect the heat exchanger for loosened bolts, connections, rust spots, corrosion, and for internal or external fluid leakage. Any corroded surfaces should be cleaned and recoated with paint.

b) Shell side: In many cases with clean hydraulic system oils it will not be necessary to flush the interior of the shell side of the cooler. In circumstances where the quality of hydraulic fluid is in question, the shell side should be disconnected and flushed on a yearly basis with a clean flushing oil/solvent to remove any sludge that has been deposited. For severe cases where the unit is plugged and cannot be flushed clean with solvent, the heat exchanger should be replaced to maintain the proper cooling performance.

c) Tube side: In many cases it will be necessary to clean the tube side of the heat exchanger due to poor fluid quality, debris, calcium deposits, corrosion, mud, sludge, seaweed, etc.... To clean the tube side, flush with clean water or any good quality commercial cleaner that does not attack the particular material of construction. With straight tube heat exchangers you can use a rod to carefully push any debris out of the tubes.

d) Zinc anodes are normally used to reduce the risk of failure due to electrolysis. Zinc anodes are a sacrificial component designed to wear and dissolve through normal use. Normally, zinc anodes are applied to the water supply side of the heat exchanger. Depending upon the amount of corrosive action, one, two, three, or more anodes can be applied to help further reduce the risk of failure. American Industrial Heat Transfer, Inc. offers zinc anodes as an option, to be specified and installed at the request our customers. It is the responsibility of the customer to periodically check and verify the condition of the zinc anode and replace it as needed.

Applications vary due to water chemical makeup and quality, material differences, temperature, flow rate, piping arrangements, and machine grounding. For those reasons, zinc anodes do not follow any scheduled factory predetermined maintenance plan moreover they must be checked routinely by the customer, and a maintenance plan developed based upon the actual wear rate.

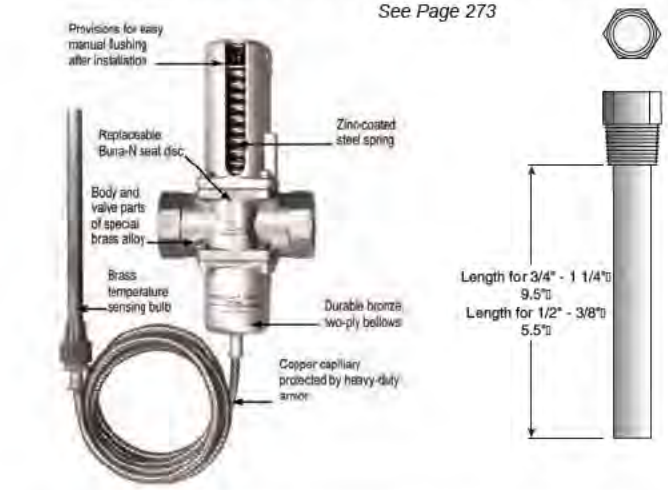
If substantial wear occurs or zinc dissolves without replacement, premature failure or permanent damage may occur to the heat exchanger. American Industrial does not warranty customer applications. It is the responsibility of the customer to verify and apply the proper system materials of construction and overall system requirements. Failures resulting from properly applied or misapplied use of zinc anode(s) into non-specified or specified applications will be the sole responsibility of the customer.

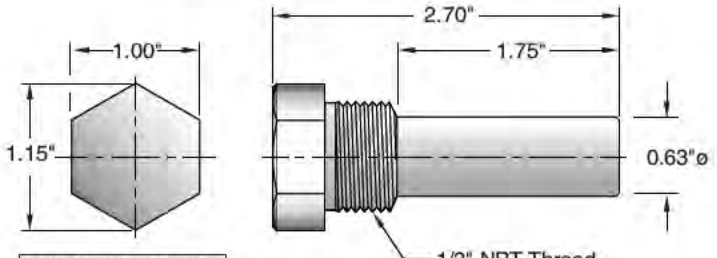
e) A routine maintenance schedule should be developed and adjusted to meet your systems requirements based upon water quality, etc....Failure to regularly maintain and clean your heat exchanger can result in a reduction in operational performance and life expectancy.

Note: *Since applications can vary substantially, the installation and maintenance information contained in this catalog should be used as a basic guideline. The safe installation, maintenance, and use of any American Industrial Heat Transfer, Inc. heat exchanger are solely the responsibility of the user.*

THERMOSTATIC MODULATING WATER VALVE WITH BULB WELL ASSEMBLY
(for Shell & Tube Heat Exchangers And Air/Oil Coolers)

See Page 273





1/2" NPT Zinc Anode PN: 301-0003
CS-2400thru CS-4800

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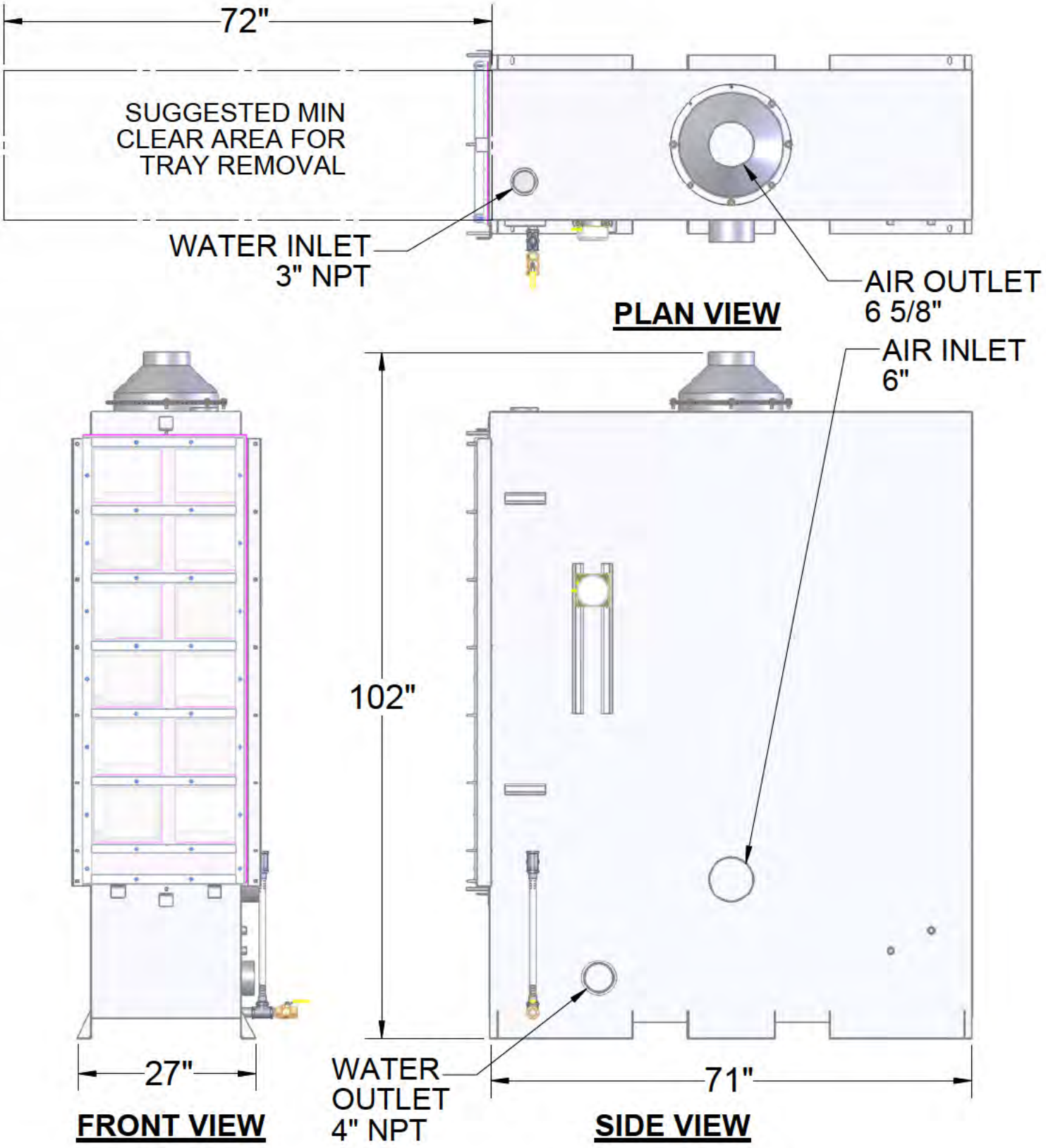


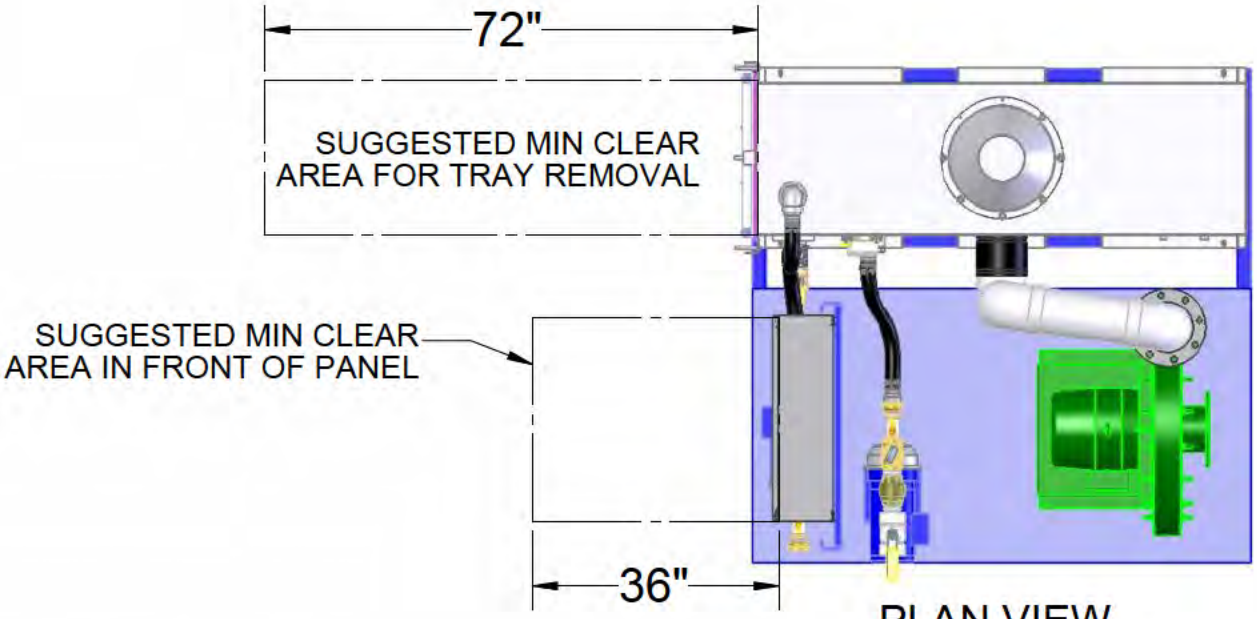
EZ-12.6SS (AIR STRIPPER ONLY)

FOR MORE SPECIFICATIONS CLICK ON:

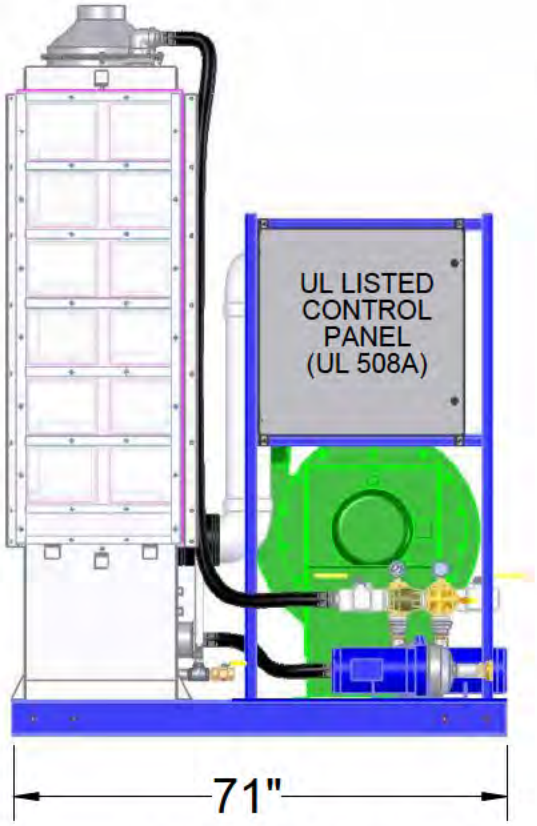
http://www.qedenv.com/Products/Airstrippers_VOC_Removal/Air_Stripper_Specifications/

NOT TO SCALE

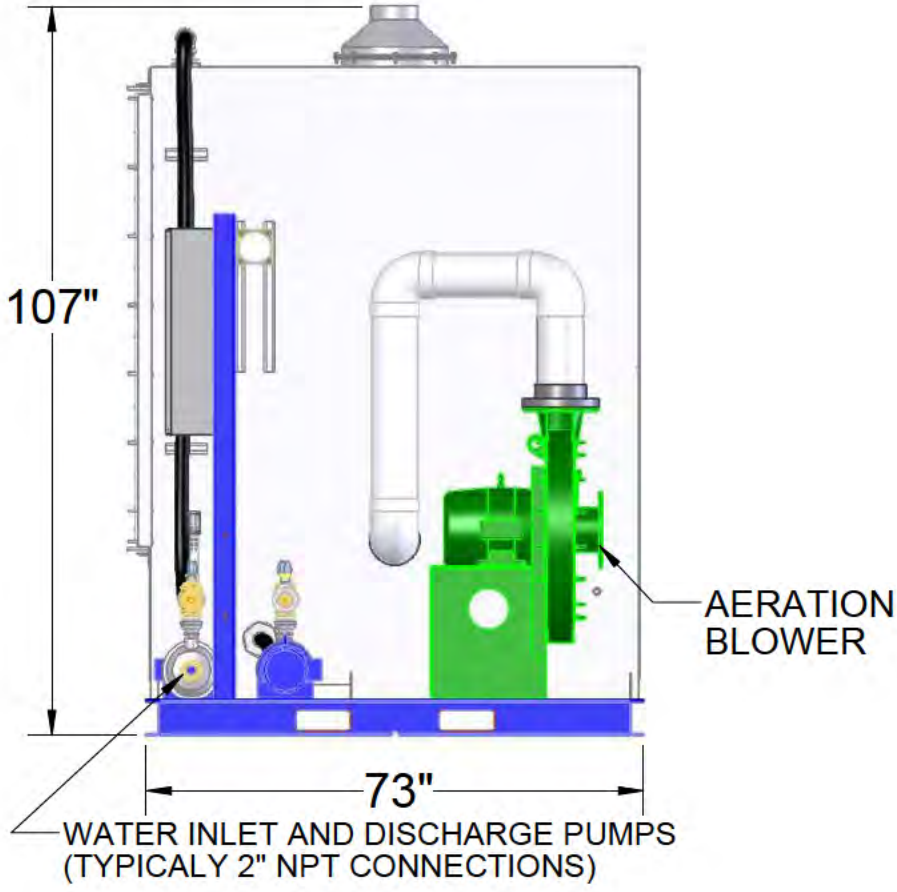
NOT FOR CONSTRUCTION, FOR REFERENCE ONLY



PLAN VIEW



FRONT VIEW



SIDE VIEW

EZ-12.6SS

EXAMPLE OF A SKID SYSTEM WITH CONTROL PANEL, PUMPS, AND BLOWER
CONTACT QED FOR INFORMATION ON ALL OPTIONS.
NOT TO SCALE

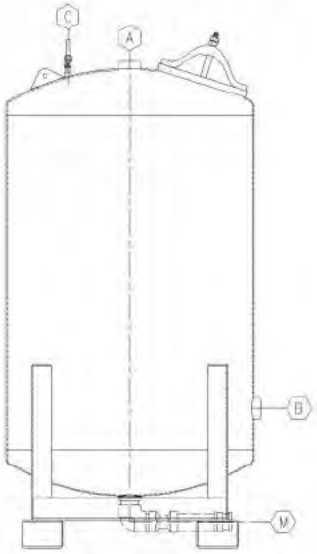
NOT FOR CONSTRUCTION, FOR REFERENCE ONLY

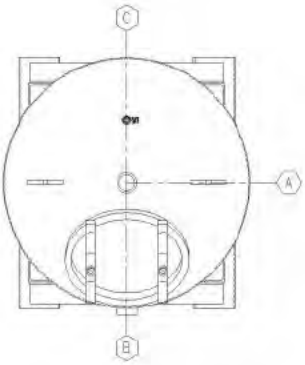
PRODUCT DATA

HPAF SERIES FILTERS

HPAF series filters are designed to treat liquid streams in a wide variety of adsorption applications. The modular design enables the units to easily fit into a wide variety of installations. Standard features include steel construction with epoxy internal coating, efficient internal collector array, forklift skid and lifting eyes.

A wide variety of options and contact medias are available, con-





A - Process Inlet
B - Process Outlet
C - Vent
M - Carbon Discharge (Not standard on all mod-



Standard Model Shown - Detailed Submittal Drawings Available

HPAF SERIES STANDARD SPECIFICATIONS

Model Number	HPAF-500	HPAF-1000	HPAF-2000	HPAF-3000	HPAF-5000	HPAF-10,000	L10
Overall Height	5'11"	7'2"	8'6"	8'11"	9'11"	10'9"	15'10"
Diameter	30"	36"	48"	60"	72"	96"	120"
Process Connection	2" FNPT	2" FNPT	3" FNPT	3" FNPT	4" FNPT	6" FLNG	8" FLNG
Typical GAC Fill (28#/FT³)	500 Lbs	1,000 Lbs	2,000 Lbs	3,000 Lbs	5,000 Lbs	10,000 Lbs	20,000 Lbs
Shipping Weight (empty)	350 Lbs	535 Lbs	1,020 Lbs	1,525 Lbs	2,490 Lbs	3,800 Lbs	7,250 Lbs
Operational Weight	1,700 Lbs	3,300 Lbs	6,800 Lbs	10,700 Lbs	17,900 Lbs	31,200 Lbs	68,400 Lbs
Optimal Water Flows at standard conditions	8-25 GPM	10 to 35 gpm	15 to 70 gpm	25 to 120 gpm	35 to 165 gpm	60 to 300 gpm	100 to 480 gpm
Available Bed Volume	20 FT³	35 FT³	75 FT³	117 FT³	196 FT³	400 FT³	780 FT³
Maximum Pressure	75 PSIG	75 PSIG	75 PSIG	75 PSIG	75 PSIG	75 PSIG	75 PSIG
Maximum Vacuum	28" Hg	28" Hg	28" Hg	28" Hg	28" Hg	28" Hg	28" Hg

cincinnati fan



HP

SERIES II

HIGH PRESSURE BLOWERS

7697 Snider Road, Mason, OH 45040-9135

Telephone: 513-573-0600

Visit us at www.cincinnatifan.com for more information.

Cat. No. HP-II-908

Supersedes HP-II-1104

cincinnati fan

A Company That Stands Behind Its Product

Since the founding of **Cincinnati Fan** in 1956, the company's mission has been to provide quality products at competitive prices, backed by dependable service.

This mission is carried out by specializing in the market for industrial air handling products up to 125 HP. But specialization does not mean the product line is small. **Cincinnati Fan** offers a wide variety of standard and customized products, production flexibility, and customer responsiveness.

Cincinnati Fan has over 170 experienced sales engineers across the U.S. and Canada ready to serve your air handling needs.

Cincinnati Fan can provide:

- Technical evaluation for correct performance conditions.
- Review of air stream and ambient conditions that require special attention.
- Selection of proper components to meet required design specifications.
- Selection of proper accessories.

Cincinnati Fan operates in a modern facility specifically designed for world class manufacturing enabling us to build standard products to order, including accessories, and ship within 10-15 working days.

With support like this, you can be sure your **Cincinnati Fan** product will be well-built and will provide maximum dependability and longevity.

Visit us at www.cincinnatifan.com for more information.

SPECIFICATIONS FOR HP SERIES II BLOWERS

Radial bladed pressure blowers shall be Cincinnati Fan HP, Series II, Model _____, Arrangement _____ Capacity: _____ CFM, _____ Static Pressure at standard conditions. Operating conditions: _____°F, _____Ft. Altitude.

Wheels shall be dynamically balanced to assure smooth operation. Fan motor and bearing vibration levels shall not exceed 1.5 mils displacement at 3500 RPM. Shafts shall be turned, ground and polished steel (or stainless steel). All fan shafts shall receive a rust preventive coating prior to shipment. All fans shall be test run at factory before shipping.

All construction gauges shall be as shown in Cincinnati Fan's HP, Series II catalog, page 16. The blower housing shall be continuously welded and supported to minimize pulsation at all conditions. Fan bearings shall be grease-lubricated, heavy-duty, self-aligning ball bearings mounted in cast iron pillow blocks. V-belt drives shall be selected for a minimum of 1.3 times nominal horsepower.

All parts in contact with airstream shall be standard steel, aluminum or stainless steel as specified.

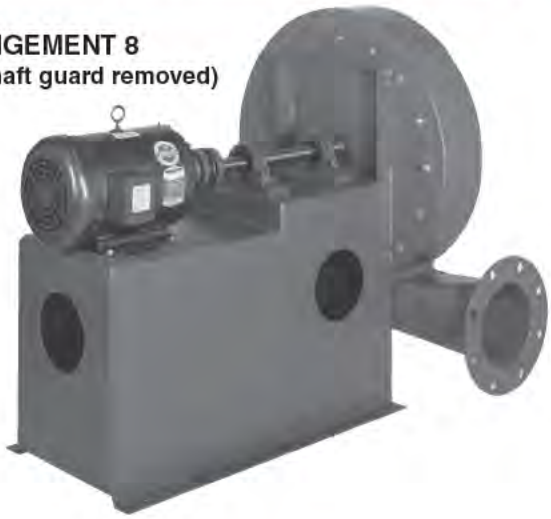
Before painting, steel parts shall be cleaned by detergent wash, phosphatized and painted with oven cured gray enamel.

The following accessories shall be included: (See page 5 for optional accessories).

SIX STANDARD ARRANGEMENTS



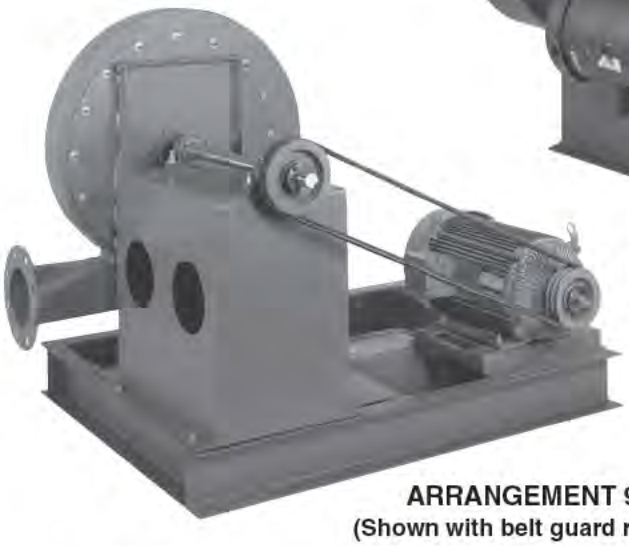
ARRANGEMENT 1



ARRANGEMENT 8
(Shown with shaft guard removed)



ARRANGEMENT 9
(Shown with optional shaft guard)



ARRANGEMENT 9CB
(Shown with belt guard removed)



ARRANGEMENT 4
(Arrangement 4HM not shown)

ARRANGEMENT 1 (V-BELT DRIVE)

- Motor not mounted on bearing base.
- Wheel mounted on fan shaft with two pillow block bearings.
- Maximum temperature of standard design: 300°F; high temperature design: 750°F.

ARRANGEMENT 8 (DIRECT DRIVE)

- Motor mounted on motor base extending beyond the bearing base.
- Wheel mounted on fan shaft with two pillow block bearings.
- Maximum temperature of standard design: 300°F; high temperature design: 750°F.
- For dimensions, contact your local Cincinnati Fan sales office.

ARRANGEMENT 9 (V-BELT DRIVE)

- Motor mounted on an adjustable slide base on the side of the bearing base.
- Wheel mounted on fan shaft with two pillow block bearings.
- Maximum temperature of standard design: 300°F; high temperature design: 750°F.

ARRANGEMENT 9CB (V-BELT DRIVE)

- Same as Arrangement 9 except motor and fan are mounted on a common channel base.
- Maximum temperature of standard design: 300°F; high temperature design: 750°F.

ARRANGEMENT 4 & 4HM (DIRECT DRIVE)

- Motor mounted on motor base.
- Wheel mounted on motor shaft.
- Maximum temperature of standard design: 200°F; high temperature design: 400°F.
- For arrangement 4HM, see page 16.

HP SERIES II FEATURES

A) Wheels are fabricated of heavy-gauge, high-strength steel to assure long lasting, efficient operation. (Not shown.)

B) Turned, ground and polished shafting assures smooth operation. A rust preventative coating is applied prior to shipment.

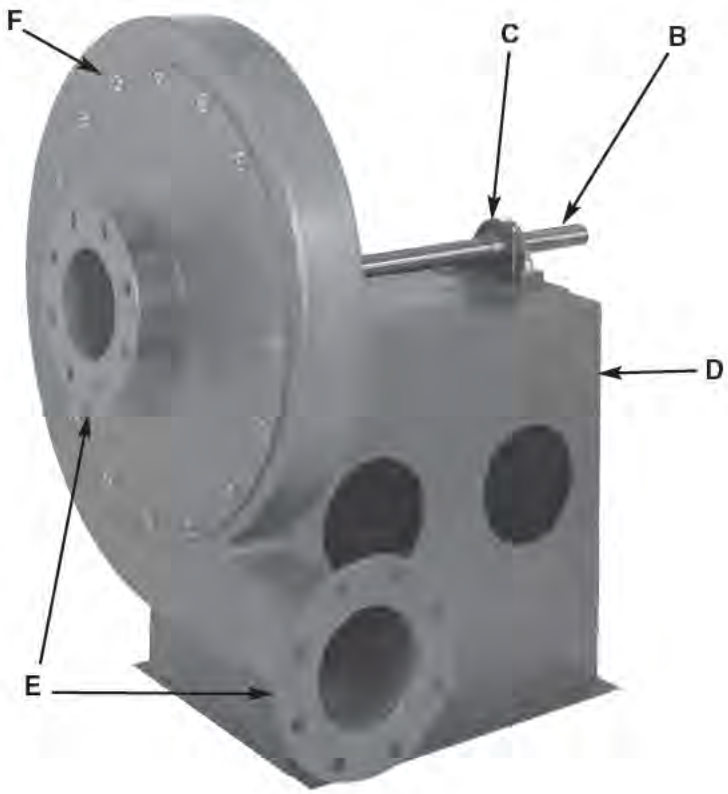
C) Heavy-duty, self-aligning ball bearings in relubricatable cast-iron pillow blocks. Bearings are selected for optimal performance depending on fan size.

D) Bearing base is heavy steel construction with internal supports to maximize rigidity and assure long equipment life. Arrangement #1 fans can be converted to Arrangement #9 with the addition of the motor slide base.

E) Flanged inlet and outlet standard. Drilled per ANSI 125 pound and ASA 150 pound specifications with holes straddling centers. See ★ note on page 18.

F) Reversible housing provides increased configuration flexibility. Removable side plates allow the wheel to be removed from the motor or inlet side of the housing. Housings are rotatable in 45 degree increments.

G) Teflon shaft seal is standard. Ceramic seal is used for applications above 400°F. (Not shown.)



SPARK-RESISTANT CONSTRUCTION

Type A: All parts in contact with airstream are of nonferrous material. **Maximum temperature 200°F.** Consult factory.

Type B: Aluminum wheel and aluminum rubbing ring for motor shaft or fan shaft. **Maximum temperature 200°F.**

Type C: Consists of an aluminum plate on drive side of the fan and aluminum inlet plate assembly. **Maximum temperature 750°F.**

⚠ WARNING

The use of aluminum or aluminum alloys in the presence of steel which has been allowed to rust requires special consideration. Research by the U.S. Bureau of Mines and others has shown that aluminum impellers rubbing on rusty steel may cause high intensity sparking.

The use of the above construction in no way implies a guarantee of safety for any level of spark resistance. Spark resistant construction also does not protect against ignition of explosive gases caused by catastrophic failure or from any airstream material that may be present in a system.

OPTIONAL ACCESSORIES



Belt Guard
Belt guard standard on Arrangement 9 and 9CB only. **Painted safety yellow.**



Drain Connection
3/4" pipe coupling welded to lowest point of housing. Not required on BH discharge position.



Inspection Door
Inspection door available on all sizes except 4A, 4C and 6C. Rubber gasket standard to 250°F. Silicone gasket standard at temperatures of 250°F. to 750°F.



Inlet Bell
With OSHA type guard.



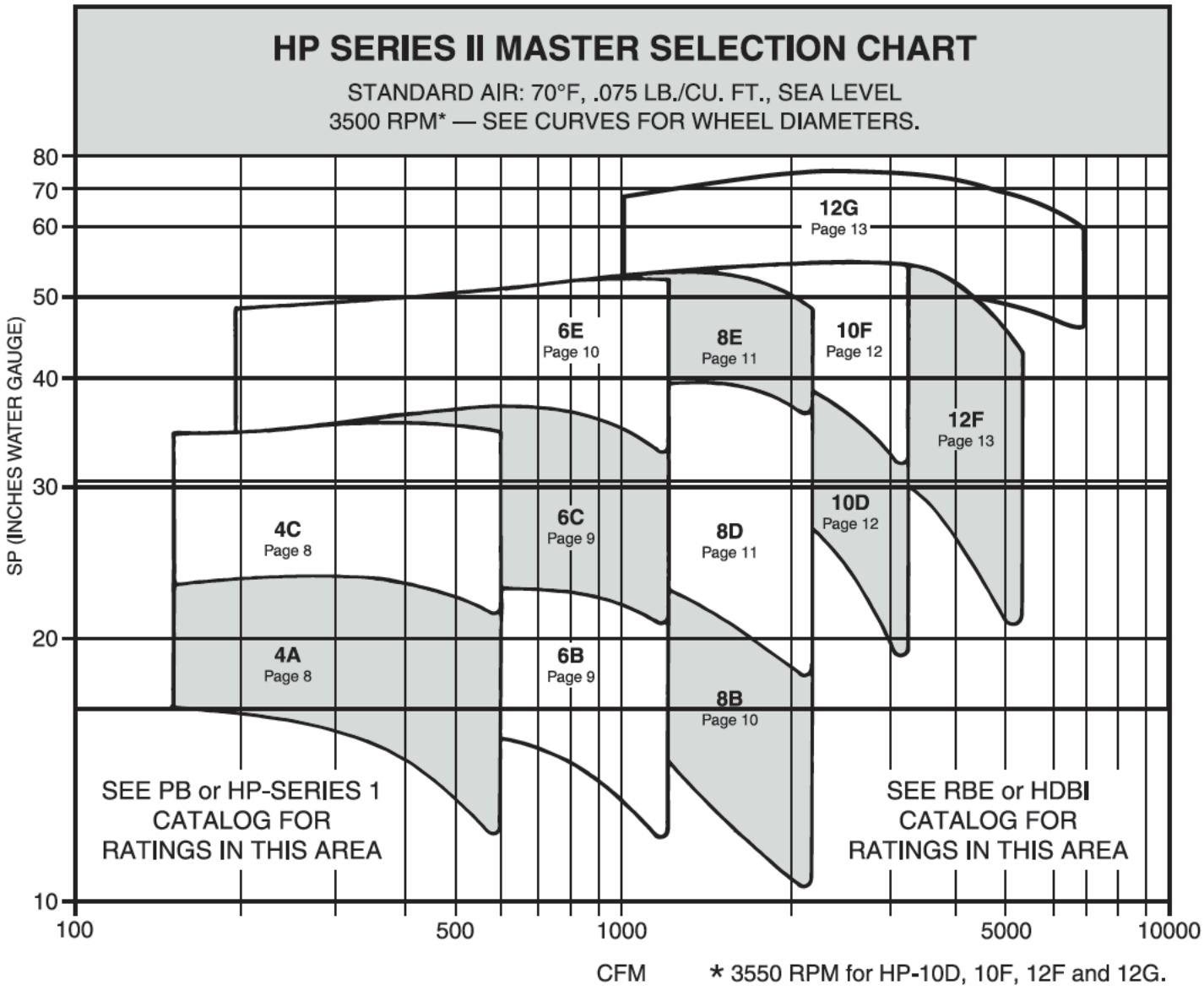
Outlet Guard
OSHA type.



Shaft and/or Heat Slinger Guard
Guard available on Arrangement 1, 9 and 9CB. Standard on Arrangement 8. Covers bearings and shaft between fan housing and belt guard. Bearings relubricatable through guard. **Painted safety yellow.**

⚠ DANGER

All fans & blowers shown have rotating parts and pinch points. Severe personal injury can result if operated without guards. Stay away from rotating equipment unless it is disconnected or locked out from its power source. Read operating instructions.



HOW TO USE THE MASTER SELECTION CHART

The above chart is intended to guide you to the correct fan for a desired performance rating. This chart was prepared for standard air (70° F., 29.92" Hg barometric pressure and .075 lbs. per cubic foot density.)

All fans were tested with an inlet bell. All performance curves in this catalog are for standard air, at the fan inlet, entering the inlet (whether belled or ducted) with static pressure measured at the discharge.

Corrections are required for temperature and/or altitude and rarefication. See page 7 for correction factors.

Rarefication: When air is pulled into a blower inlet (negative pressure) the air molecules are "stretched out", or rarefied, and become less dense than at the blower discharge where the air is compressed.

Catalog ratings may be used directly, without correction, for static pressures defined at the fan discharge. For static pressures defined at the fan inlet (i.e., negative pressures), a correction is typically only made for inlet suction pressures greater than 15" W.G. See page 7 for details.

HIGH TEMPERATURE CONSTRUCTION

Arrangements 4 and 4 HM

Up to 200°F. **Standard fan construction.**

201°- 400°F. Standard fan with shaft seal, heat slinger, slinger guard and external hub on wheel.

Arrangements 1, 8, 9 and 9CB

Up to 300°F. **Standard fan construction.**

301°- 400°F. Standard fan with heat slinger and shaft/slinger guard.

401°- 600°F. Standard fan with heat slinger, shaft/slinger guard and high temperature shaft seal, gasketing and paint.

601°- 750°F. Standard fan with heat slinger, shaft/slinger guard, 316SS fan shaft and high temperature shaft seal, gasketing and paint.

TEMPERATURE RANGE	MAXIMUM RPM REDUCTION FACTOR†
Up to 175°F.	0%
176°-200°	2%
201°-300°	4%
301°-400°	7%
401°-500°	11%
501°-600°	15%
601°-700°	20%
701°-750°	30%

† Steel wheels only.

TEMPERATURE - ALTITUDE CONVERSIONS

AIR TEMP. F°	ALTITUDE IN FEET ABOVE SEA LEVEL										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0°	.87	.91	.94	.98	1.01	1.05	1.09	1.13	1.17	1.22	1.26
40°	.94	.98	1.02	1.06	1.10	1.14	1.19	1 23	1.28	1.32	1.36
70°	1.00	1.04	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.45
80°	1.02	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48
100°	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48	1.54
120°	1.09	1.14	1.18	1.23	1.28	1.32	1.38	1.43	1.48	1.53	1.58
140°	1.13	1.18	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.58	1.65
160°	1.17	1.22	1.26	1.31	1.36	1.42	1.47	1.53	1.59	1.64	1.70
180°	1.21	1.26	1.30	1.36	1.41	1.46	1.52	1.58	1.64	1.70	1.75
200°	1.25	1.29	1.34	1.40	1.45	1.51	1.57	1.63	1.69	1.75	1.81
250°	1.34	1.39	1.45	1.50	1.56	1.62	1.68	1.74	1.82	1.88	1.94
300°	1.43	1.49	1.55	1.61	1.67	1.74	1.80	1.87	1.94	2.00	2.08
350°	1.53	1.59	1.65	1.72	1.78	1.85	1.92	2.00	2.07	2.14	2.22
400°	1.62	1.69	1.75	1.82	1.89	1.96	2.04	2.12	2.20	2.27	2.35
450°	1.72	1.79	1.86	1.93	2.00	2.08	2.16	2.24	2.33	2.41	2.50
500°	1.81	1.88	1.96	2.03	2.11	2.19	2.28	2.36	2.46	2.54	2.62
550°	1.91	1.98	2.06	2.14	2.22	2.30	2.40	2.49	2.58	2.68	2.77
600°	2.00	2.08	2.16	2.24	2.33	2.42	2.50	2.61	2.71	2.80	2.90
650°	2.10	2.18	2.26	2.35	2.44	2.54	2.63	2.74	2.84	2.94	3.04
700°	2.19	2.27	2.36	2.46	2.55	2.65	2.75	2.86	2.97	3.06	3.18
750°	2.28	2.37	2.47	2.56	2.66	2.76	2.87	2.98	3.10	3.19	3.31

Fan performance tables are developed using standard air which is 70°F., 29.92" barometric pressure and .075 lbs. per cubic foot. Density changes resulting from temperature or barometric pressure variations (such as high altitudes) must be corrected to standard conditions before selecting a fan based on standard performance data.

Temperature and/or altitude conversion factors are used in making corrections to standard conditions.

EXAMPLE:

Select an HP Series II fan to deliver 4800 CFM at 30" SP at 160°F., and 7000' altitude.

STEP 1. From the table, conversion factor is 1.53.

STEP 2. Correct static pressure is:
1.53 x 30" SP = 45.9" SP at standard conditions.

STEP 3. Check HP, Series II catalog for 4800 CFM at 45.9" SP. We select a HP12F with a 26" diameter wheel at 3500 RPM and 56 BHP.

STEP 4. Correct the BHP for the lighter air:
56 ÷ 1.53 = 36.6 BHP. A 40 HP motor will suffice at 160° F., and 7000' but not at standard conditions. Special motor insulation may be required above 3500 feet altitude. Consult factory.

SUCTION PRESSURE CORRECTIONS

The two tables at the right give corrected static pressures for suction pressure (rarefication). These corrected static pressures are for standard air (70°F., 29.92" Hg barometric pressure and .075 lbs. per cubic foot density) at the blower inlet.

If the inlet air temperature and/or altitude are different, make those corrections as shown above and then correct for rarefication.

Suction Pressure in Inches W.G.	Corrected Static Pressure
16	16.7
18	18.8
20	21.0
22	23.3
24	25.5
26	27.8
28	30.1
30	32.4
32	34.7
34	37.1
36	39.5
38	41.9
40	44.4
42	46.8

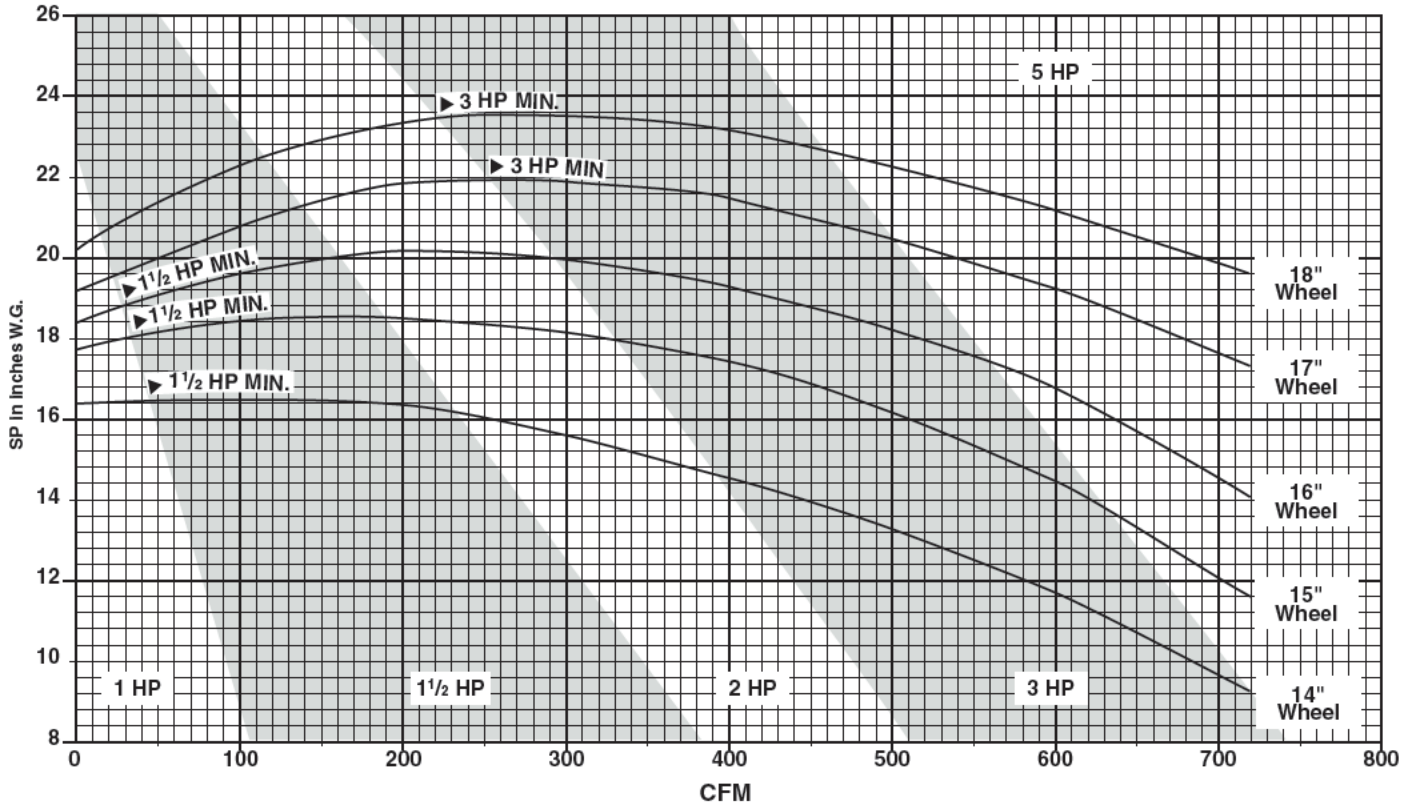
Suction Pressure in Inches W.G.	Corrected Static Pressure
44	49.3
46	51.9
48	54.4
50	57.0
52	59.6
54	62.2
56	64.9
58	67.6
60	70.4
62	73.2
64	75.9
66	78.8
68	81.6
70	84.5

DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

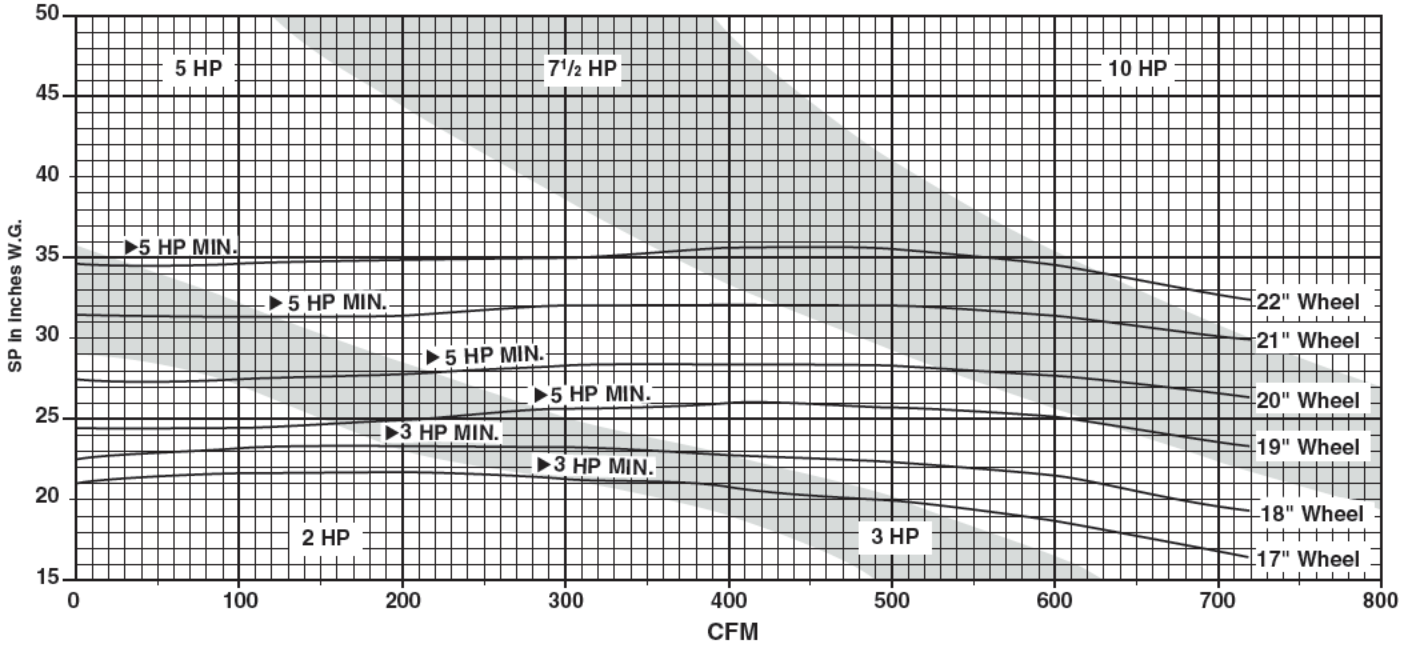
Model HP-4A

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.



Model HP-4C

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.

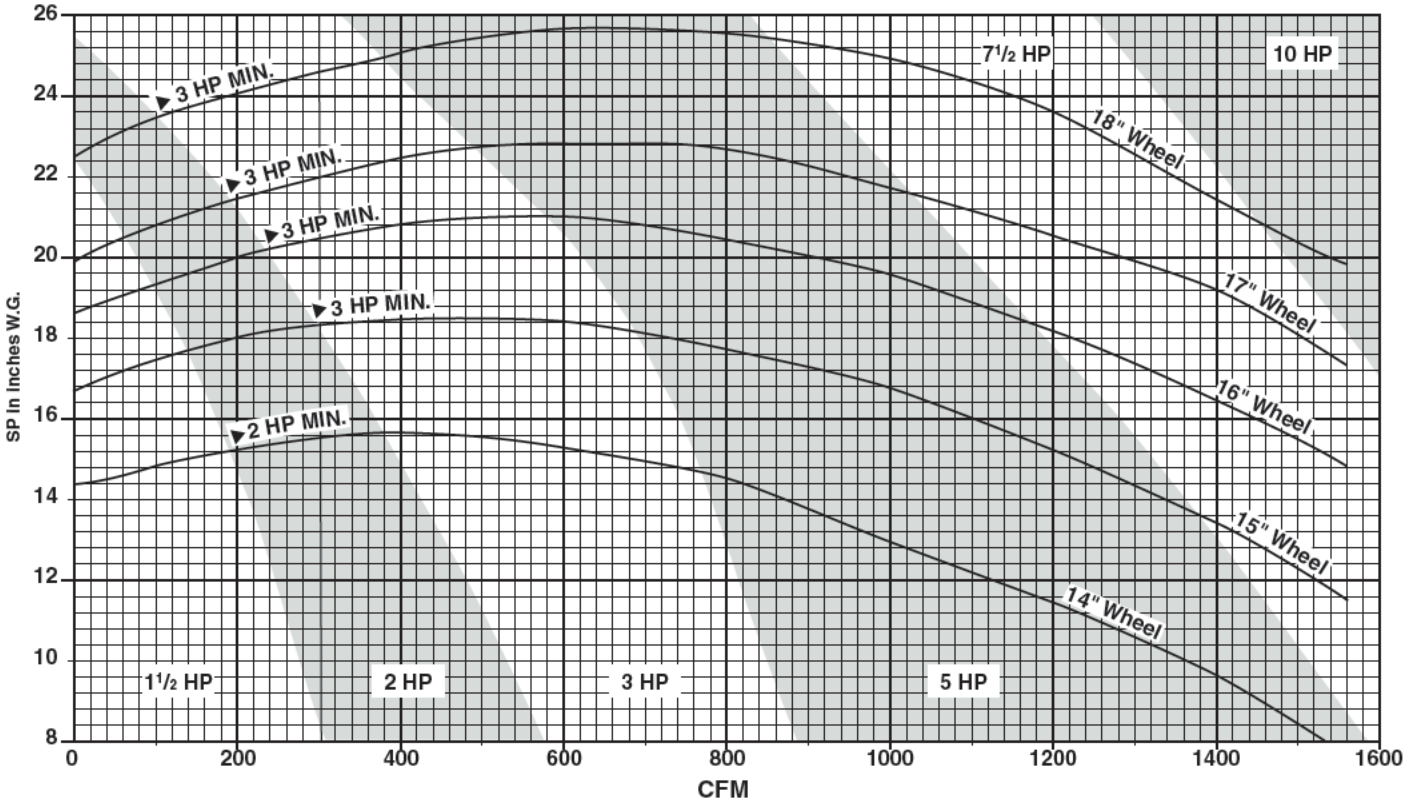


DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

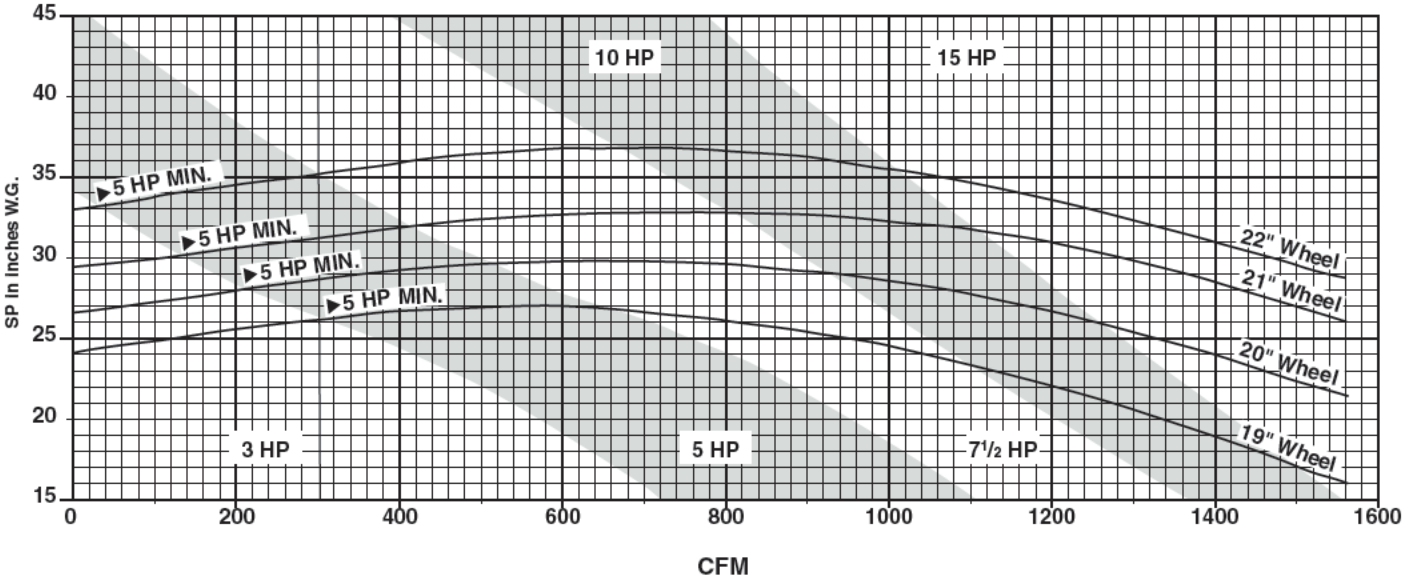
Model HP-6B

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-6C

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR²) for steel wheels. See page 14.

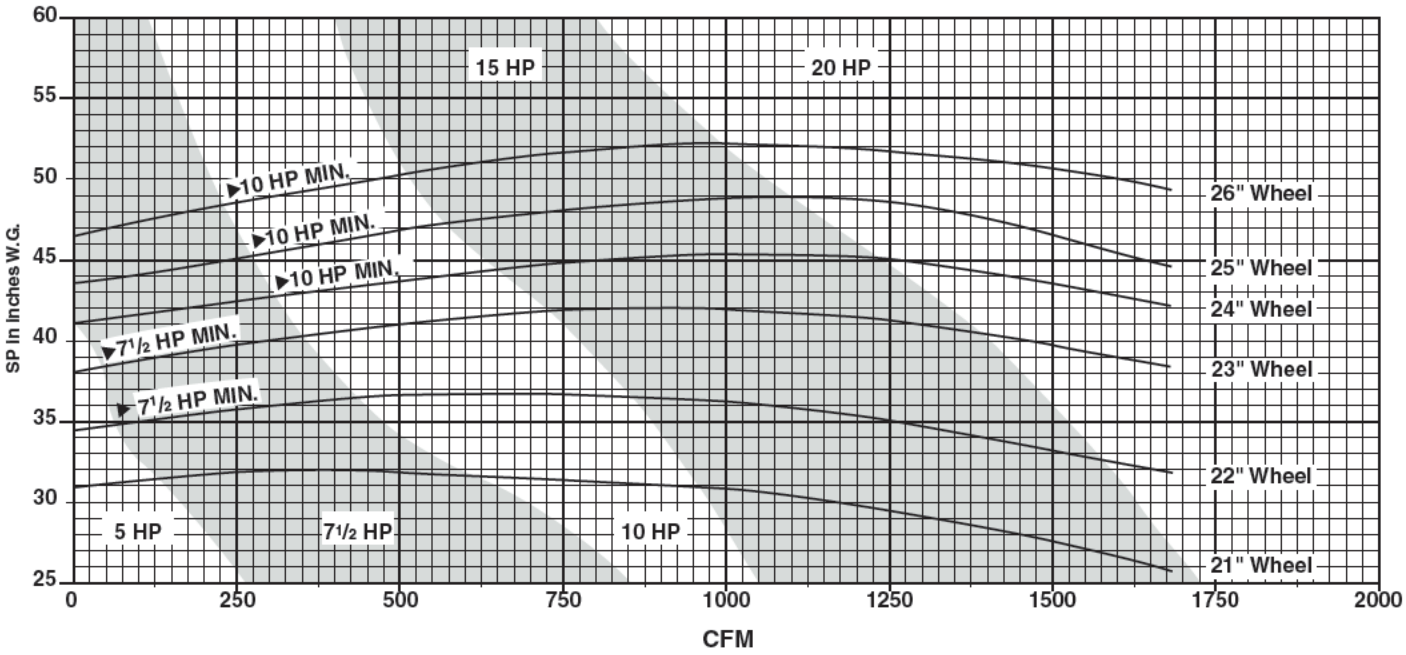


DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

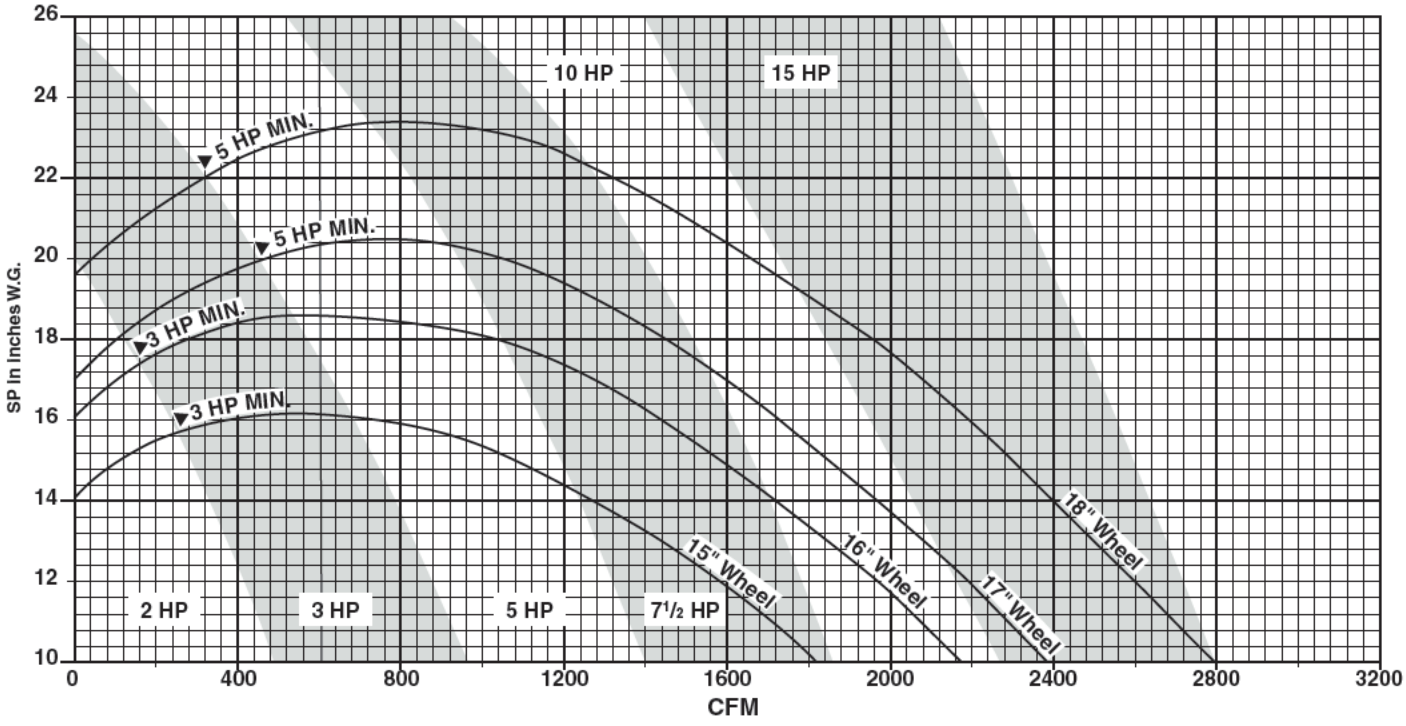
Model HP-6E

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.



Model HP-8B

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.

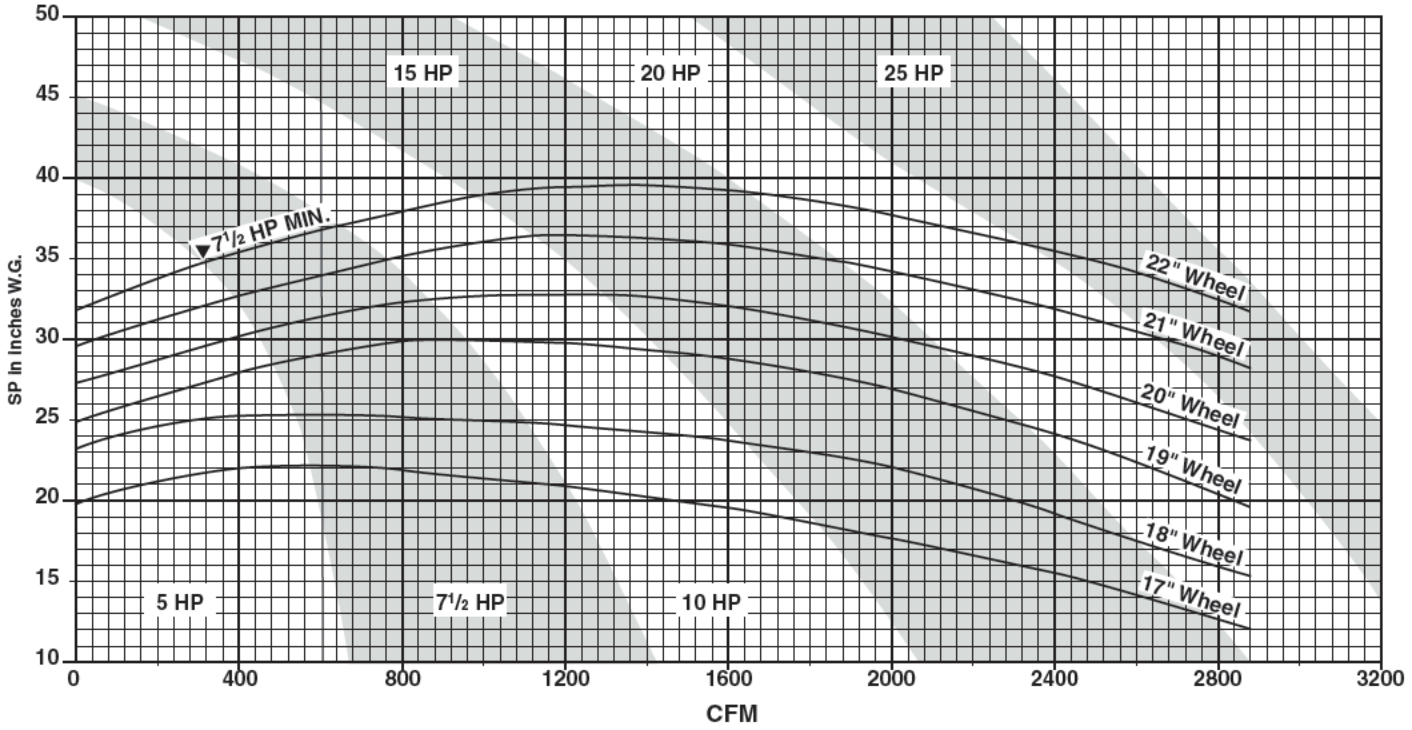


DIRECT DRIVE RATINGS @ 3500 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

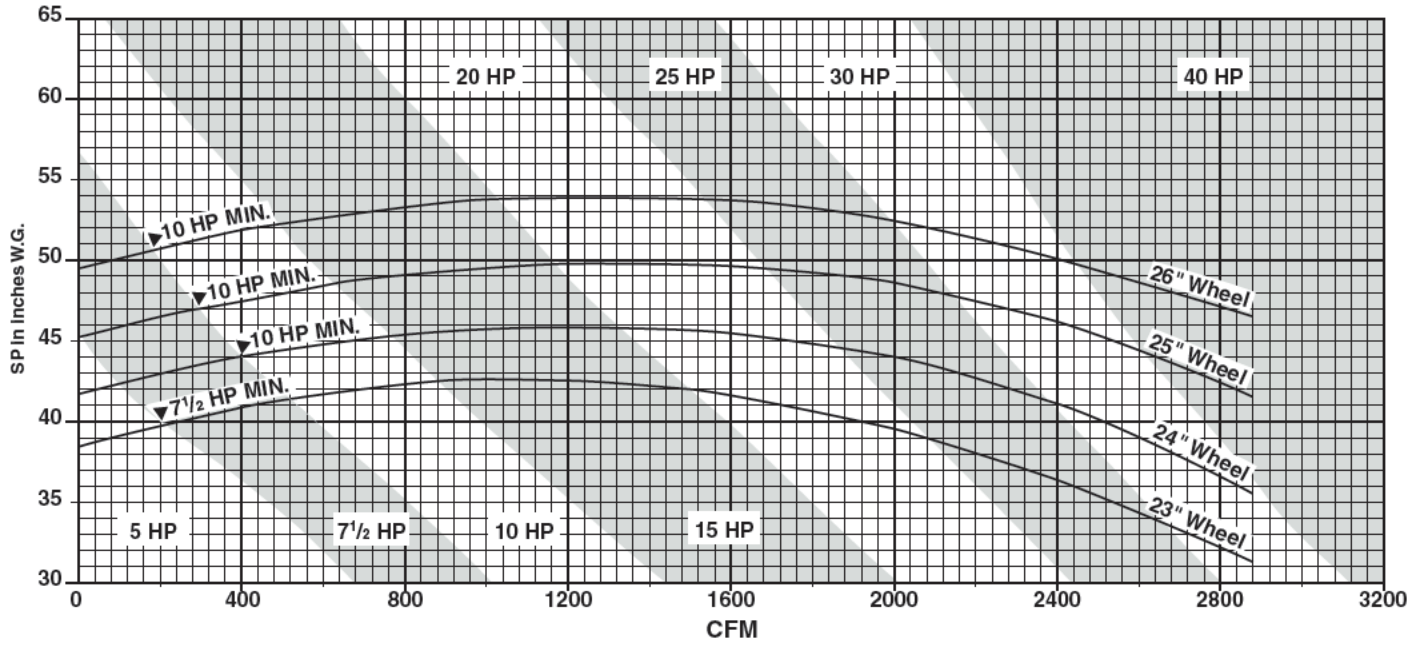
Model HP-8D

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.



Model HP-8E

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.

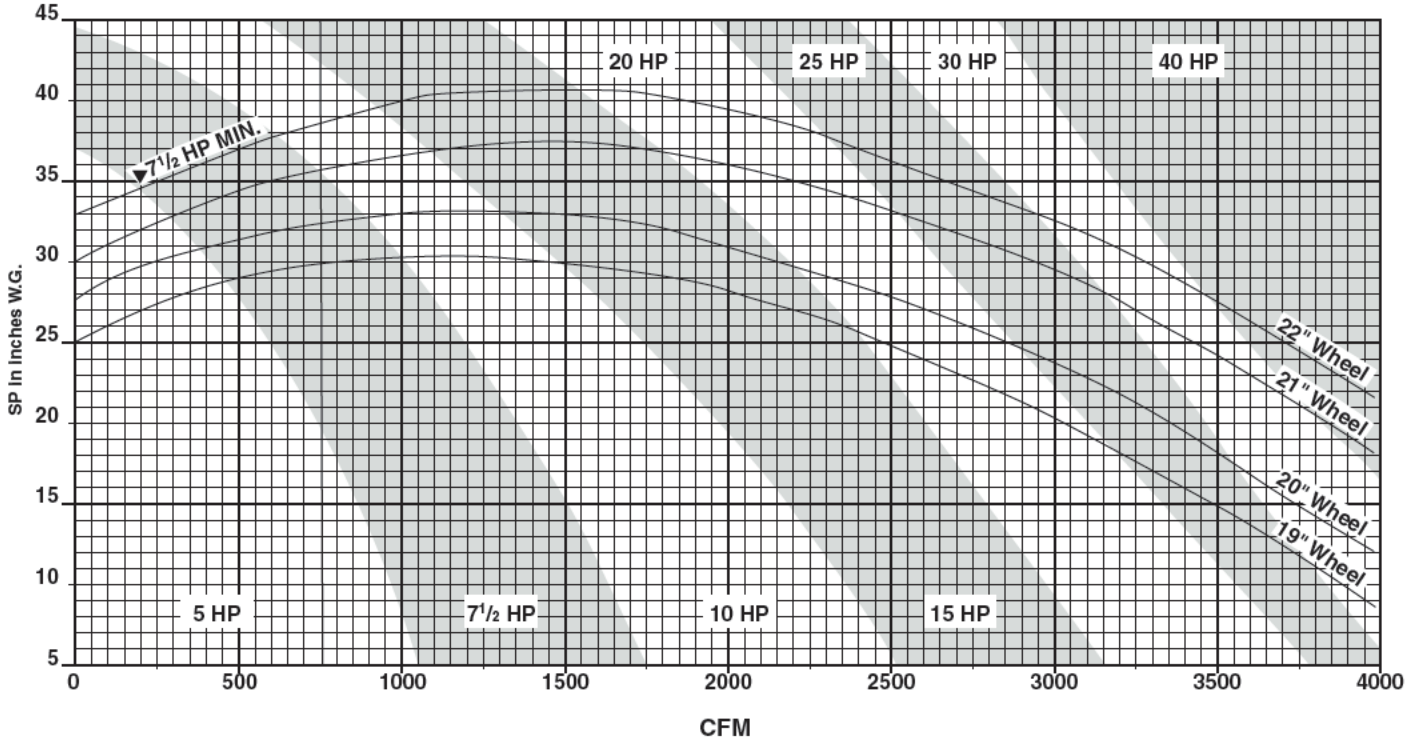


DIRECT DRIVE RATINGS @ 3550 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

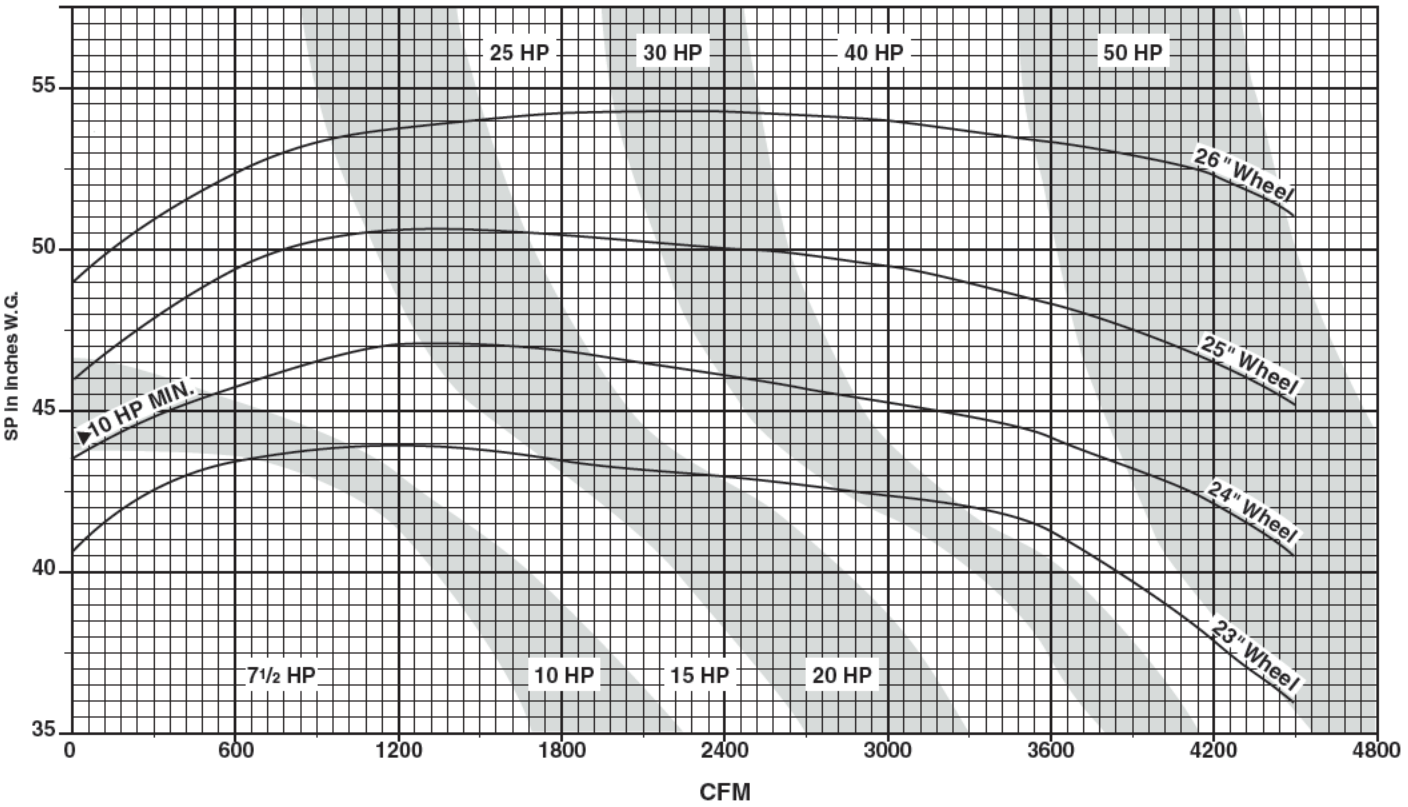
Model HP-10D

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.



Model HP-10F

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR^2) for steel wheels. See page 14.

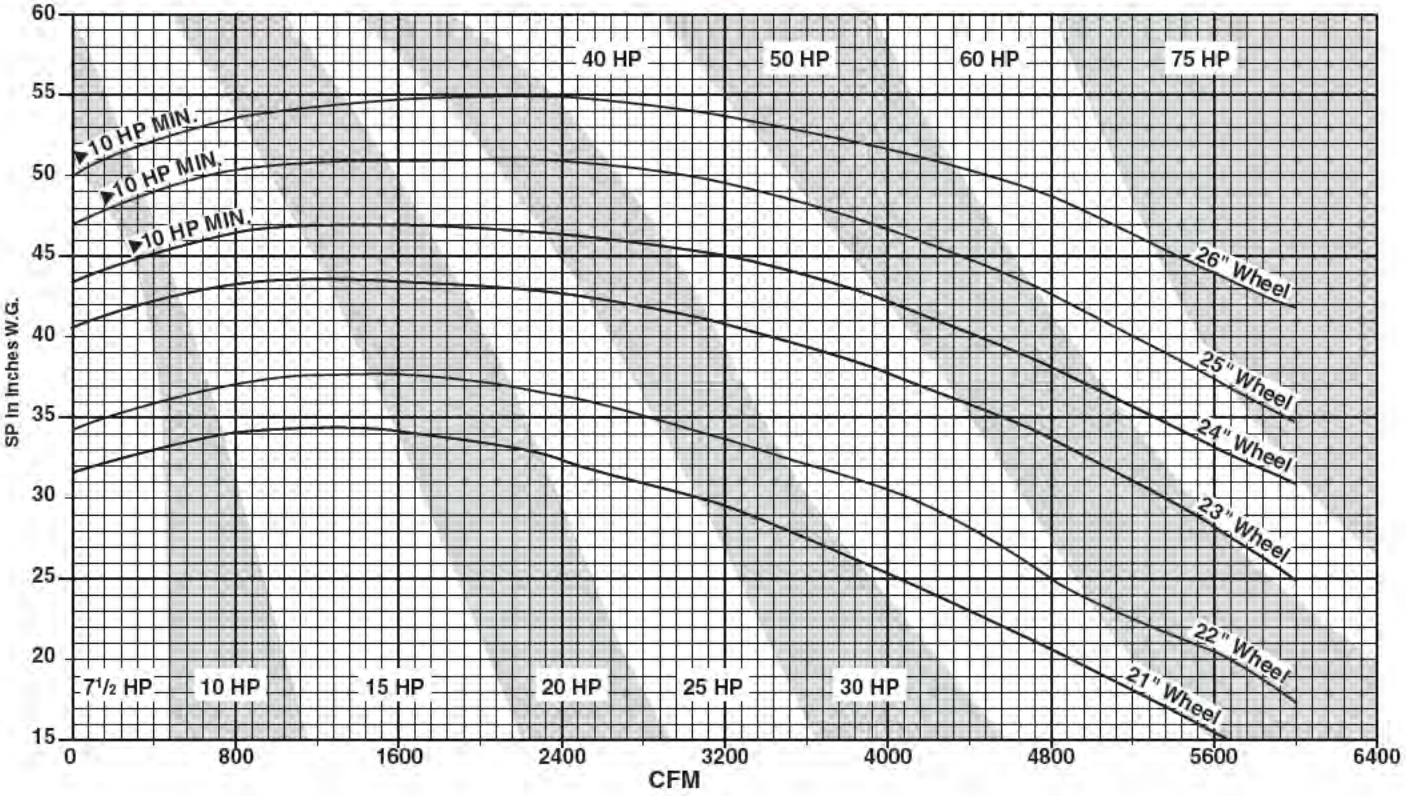


DIRECT DRIVE RATINGS @ 3550 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

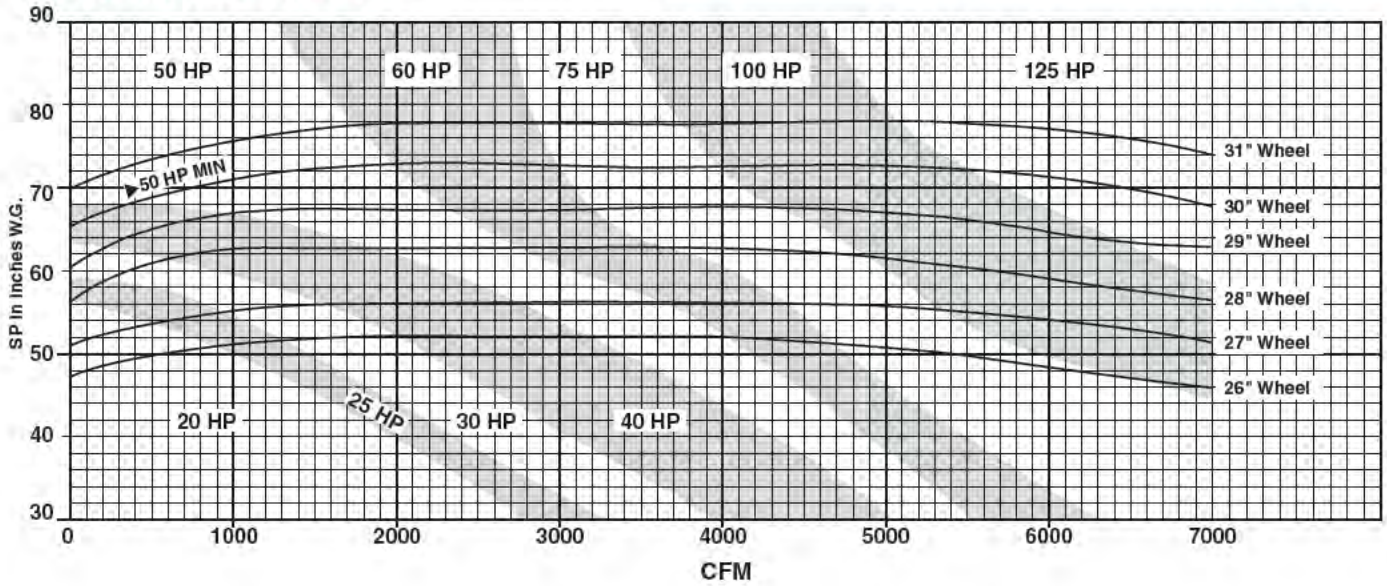
Model HP-12F

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR²) for steel wheels. See page 14.



Model HP-12G

BHP values are shown. Note "▶" is minimum HP motor needed for required starting torque (WR²) for steel wheels. See page 14.



DESIGN SPECIFICATIONS

HP STEEL WHEEL WR² VALUES AND MINIMUM MOTOR HORSEPOWER

Model	WR²(lb.-FT.²)	Min. HP*
HP-4A14	3.4	1 1/2
HP-4A15	4.4	1 1/2
HP-4A16	5.7	1 1/2
HP-4A17	7.2	3
HP-4A18	9.0	3
HP-4C17	7.2	3
HP-4C18	9.0	3
HP-4C19	11.0	5
HP-4C20	13.5	5
HP-4C21	16.2	5
HP-4C22	19.4	5
HP-6B14	3.5	2
HP-6B15	4.6	3
HP-6B16	6.0	3
HP-6B17	7.6	3
HP-6B18	9.6	3
HP-6C19	11.0	5
HP-6C20	13.5	5
HP-6C21	16.2	5
HP-6C22	19.4	5
HP-6E21	19.1	5
HP-6E22	22.2	7 1/2
HP-6E23	23.8	7 1/2
HP-6E24	28.1	10
HP-6E25	32.9	10
HP-6E26	38.3	10
HP-8B15	4.6	3
HP-8B16	6.0	3
HP-8B17	7.6	5
HP-8B18	9.6	5

Model	WR²(lb.-FT.²)	Min. HP*
HP-8D17	7.6	5
HP-8D18	9.6	5
HP-8D19	11.9	5
HP-8D20	14.5	5
HP-8D21	17.6	5
HP-8D22	21.0	7 1/2
HP-8E23	23.8	7 1/2
HP-8E24	28.0	10
HP-8E25	32.9	10
HP-8E26	38.3	10
HP-10D19	11.9	5
HP-10D20	14.5	5
HP-10D21	17.6	5
HP-10D22	21.1	7 1/2
HP-10F23	26.7	7 1/2
HP-10F24	31.5	10
HP-10F25	36.8	10
HP-10F26	42.7	15
HP-12F21	19.0	5
HP-12F22	23.0	7 1/2
HP-12F23	26.7	7 1/2
HP-12F24	31.5	10
HP-12F25	36.8	10
HP-12F26	42.7	15
HP-12G26	72.0	20
HP-12G27	83.0	20
HP-12G28	95.0	20
HP-12G29	108.0	25
HP-12G30	123.0	50
HP-12G31	138.0	50

***Min. HP:** This is the suggested minimum motor horsepower for Arrangement 4 fans with a nominal 3500 RPM motor speed. In a few situations motors suitable for the fan *operating point* BHP may not have sufficient torque to start the fan as *quickly* as desired. Therefore, use a motor horsepower at least as large as those listed in the tables to the left. The suggested motor horsepower values are based on typical Baldor three phase motors. Motor starting torques from other vendors will vary. These tables do not apply to Arrangement 4 fans with 1750 RPM and 2850 RPM motors, and any belt driven fans. A smaller horsepower motor may be acceptable for some of these applications.

DIMENSIONS and SPECIFICATIONS

NOTE: The table below contains blower housing dimensions common to all arrangements on pages 15, 17 and 18.

DIMENSIONS IN INCHES ± 1/8" DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

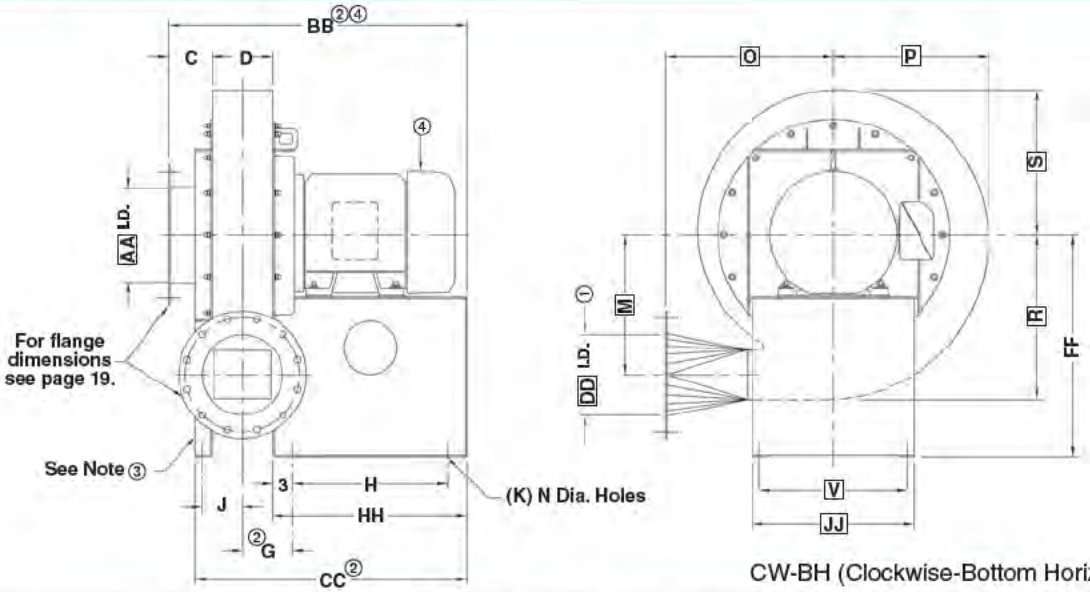
MODEL*	D	M	O	P	R	S	AA	DD①
HP-4A	4	11 3/4	18	13 9/16	14 3/8	12 3/4	6	4
HP-4C	4	14 13/16	17 7/8	16 7/16	17 7/16	15 7/16	6	4
HP-6B	6 3/8	11 3/4	18	13 9/16	14 3/8	12 3/4	8	6
HP-6C	4	14 13/16	17 7/8	16 7/16	17 7/16	15 7/16	6	6
HP-6E	5 3/8	17 7/16	19 1/8	19 3/8	20 9/16	18 3/16	8	6
HP-8B	6 3/8	11 3/4	19 13/16	13 9/16	14 3/8	12 3/4	8	8
HP-8D	6 3/8	14 13/16	19 3/4	16 7/16	17 7/16	15 7/16	8	8
HP-8E	5 3/8	17 7/16	21	19 3/8	20 9/16	18 3/16	8	8
HP-10D	6 3/8	14 13/16	21 3/4	16 7/16	17 7/16	15 7/16	8	10
HP-10F	7 3/8	17 7/16	23	19 3/8	20 9/16	18 3/16	10	10
HP-12F	7 3/8	17 7/16	23	19 3/8	20 9/16	18 3/16	10	12
HP-12G	9	20 3/4	24 15/16	23 1/16	24 7/16	21 5/8	14	12

*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

① Discharge flange not available with downblast discharge on models HP-8B, HP-10D, HP-12F and HP-12G.

DIMENSIONS and SPECIFICATIONS

Arrangement #4, Direct Drive



CW-BH (Clockwise-Bottom Horizontal Shown)

Note: For common boxed blower housing dimensions, see bottom of Page 14.

DIMENSIONS IN INCHES ± 1/8" DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	C	② G	H	③ J	K	N	V	②④ BB	②④ CC	FF	HH	JJ
HP-4A	143T-184T	4 1/2	5	6 3/4	—	9/16	4	14 3/4	21 1/4	—	21	12 3/4	16 3/4
HP-4C	143T-215T	4 1/2	5	9	—	9/16	4	17	23 1/2	—	25	15	19
	254T-256T			14					28 1/2			20	
HP-6B	143T-184T	4 1/2	6 3/16	6 3/4	—	9/16	4	14 3/4	23 5/8	—	21	12 3/4	16 3/4
	213T-215T			12 1/2					29 5/8			18 1/2	
HP-6C	143T-215T	4 1/2	5	9	—	9/16	4	17	23 1/2	—	25	15	19
	254T-256T			14					28 1/2			20	
HP-6E	184T-256T	4 1/2	5 11/16	13	—	9/16	4	19	28 7/8	—	29	19	21
HP-8B	143T- 184T	4 1/2	6 3/16	6 3/4	—	9/16	4	14 3/4	23 5/8	—	21	12 3/4	16 3/4
	213T-256T			12 1/2					29 3/8			18 1/2	
HP-8D	182T-215T	4 1/2	6 3/16	9	—	9/16	4	17	25 7/8	—	25	15	19
	254T-286TS			14					30 7/8			20	
HP-8E	184T-256T	4 1/2	5 11/16	13	—	9/16	4	19	28 7/8	—	29	19	21
	284TS-286TS			15 1/2					31 3/8			21 1/2	
HP-10D	184T-215T	4 1/2	6 3/16	9	—	9/16	4	17	25 7/8	—	25	15	19
	254T-286TS			14					30 7/8			20	
HP-10F	215T-256T	4 1/2	6 11/16	13	—	9/16	4	19	30 7/8	—	29	19	21
	284TS-326TS			15 1/2					33 3/8			21 1/2	
	364TS-365TS			22					39 7/8			28	
HP-12F	184T-256T	4 1/2	6 11/16	13	—	9/16	4	19	30 7/8	—	29	19	21
	284TS-326TS			15 1/2					33 3/8			21 1/2	
	364TS-365TS			22					39 7/8			28	
HP-12G	254T-256T	6 1/2	7 1/2	13	6	3/4	6	22	34 1/2	30 1/2	33	19	24
	284T-326T			21					42 1/2	38 1/2		27	
	364T-365T			23					44 1/2	40 1/2		29	
	404T-405T			26					47 1/2	43 1/2		32	
	444TS			30					51 1/2	47 1/2		36	

* COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER. Fan housings are reversible and rotatable in 45° increments.

① Discharge flange not available with Downblast (DB) discharge position on models HP-8B, HP-10D, HP-12F and HP-12G.

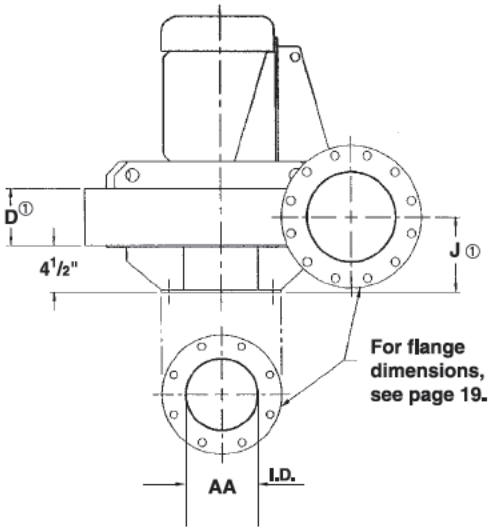
② For AMCA Type "C" spark resistant construction, add 1/8 inch to dimensions "G", "BB" and "CC".

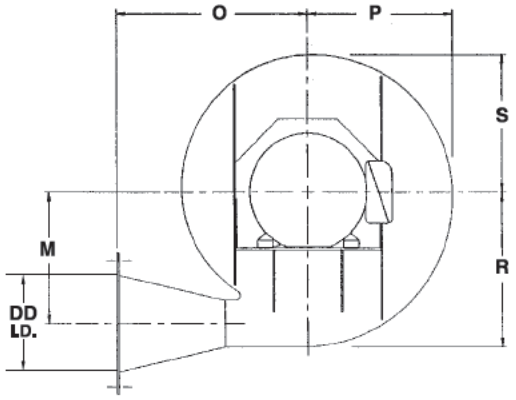
③ Inlet side support plate is only included on model HP-12G.

④ On some models, motor may extend past end of motor base.

DIMENSIONS and SPECIFICATIONS

Arrangement #4HM, Direct Connected





CW-BH (Clockwise-Bottom Horizontal Shown)

DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	① D	① J	M	O	P	R	S	AA	DD
HP-4A	143T-184T	4	6 1/2	11 3/4	18	13 9/16	14 3/8	12 3/4	6	4
HP-4C	143T-256T	4	6 1/2	14 13/16	17 15/16	16 7/16	17 7/16	15 7/16	6	4
HP-6B	143T-215T	6 3/8	7 11/16	11 3/4	18	13 9/16	14 3/8	12 3/4	8	6
HP-6C	143-256T	4	6 1/2	14 13/16	17 15/16	16 7/16	17 7/16	15 7/16	6	6
HP-6E	184T-256T	5 3/8	7 3/16	17 7/16	19 3/16	19 3/8	20 9/16	18 3/16	8	6
HP-8B	143T-254T	6 3/8	7 11/16	11 3/4	19 13/16	13 9/16	14 3/8	12 3/4	8	8
HP-8D	182T-286TS	6 3/8	7 11/16	14 13/16	19 3/4	16 7/16	17 7/16	15 7/16	8	8
HP-8E	213T-286TS	5 3/8	7 3/16	17 7/16	21	19 3/8	20 9/16	18 3/16	8	8
HP-10D	184T-286TS	6 3/8	7 11/16	14 13/16	21 3/4	16 7/16	17 7/16	15 7/16	8	10
HP-10F	215T-326TS	7 3/8	8 3/16	17 7/16	23	19 3/8	20 9/16	18 3/16	10	10
HP-12F	184T-326TS	7 3/8	8 3/16	17 7/16	23	19 3/8	20 9/16	18 3/16	10	12

*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

① For AMCA "C", add: 1/8 inch to dimension "J" and 1/4 inch to dimension "D".

FAN HOUSINGS ARE REVERSIBLE AND ROTATABLE IN 45° INCREMENTS.

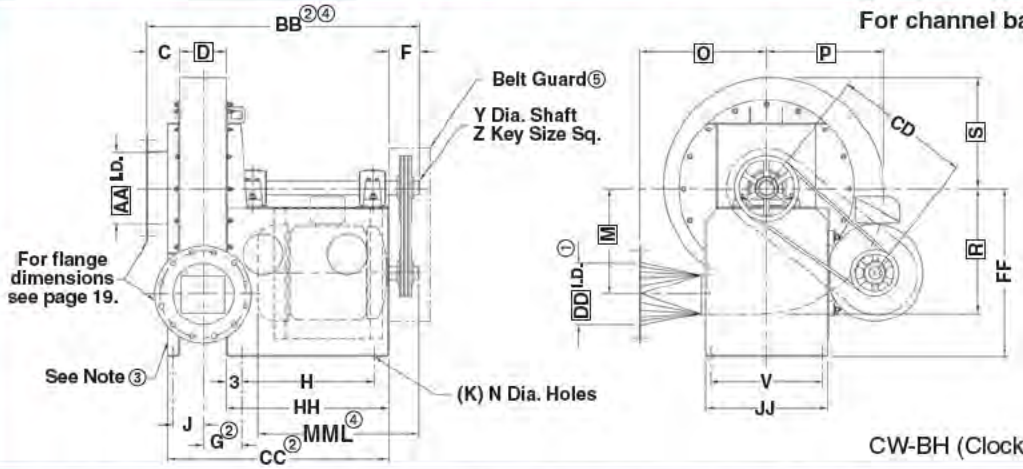
CONSTRUCTION GAUGES

MODEL	Inlet			Outlet Flange	Housing			Wheel			All Bases
	Side Plate	Inlet Collar	Inlet Flange		Side Plates	Scroll	Transition	Back Plate	Shroud	Blades	
HP-4A & HP-4C	7	10	10	10	7	10	14	7	7	10	7
HP-6B & HP-6E	7	10	7	10	7	10	14	7	7	10	7
HP-6C	7	10	10	10	7	10	14	7	7	10	7
HP-6E	7	10	7	10	7	10	14	7	7	10	7
HP-8B through HP-12F	7	10	7	10	7	10	14	7	7	10	7
HP-12G	1/4"	10	7	7	1/4"	10	14	1/4"	1/4"	10	7

DIMENSIONS and SPECIFICATIONS

Arrangement #1 and #9, Belt Drive (specify 9R or 9L)

For channel base dimensions, see page 18.



Unit shown is Arrangement 9R (motor on right side.) For motor on left side, specify Arrangement 9L.

CW-BH (Clockwise-Bottom Horizontal Shown)

Note: For common boxed blower housing dimensions, see bottom of Page 14.

DIMENSIONS IN INCHES ± 1/8"

DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	C	F	② G	H	②③ J	K	N	V	Y	Z	② BB	② CC	FF	HH	JJ	④ MML
HP-4A	143T-215T	4 1/2	4	5	12 13/16	—	4	9/16	14 3/4	1 7/16	3/8	31 5/16	—	21	18 13/16	16 3/4	21 1/2
HP-4C	143T-256T	4 1/2	5	5	17 1/16	—	4	9/16	17	1 7/16	3/8	36 9/16	—	25	23 1/16	19	26 1/4
HP-6B	143T-215T	4 1/2	4	6 3/16	12 13/16	—	4	9/16	14 3/4	1 7/16	3/8	33 11/16	—	21	18 13/16	16 3/4	21 1/2
HP-6C	143T-256T	4 1/2	5	5	17 1/16	—	4	9/16	17	1 11/16	3/8	36 9/16	—	25	23 1/16	19	26 1/4
HP-6E	184T-286T	4 1/2	5	5 11/16	21	—	4	9/16	19	1 15/16	1/2	41 7/8	—	29	27	21	30 1/4
HP-8B	143T-215T	4 1/2	4	6 3/16	12 13/16	—	4	9/16	14 3/4	1 7/16	3/8	33 11/16	—	21	18 13/16	16 3/4	21 1/2
	254T-256T		5		17 1/16					1 11/16	3/8	38 15/16			23 1/16		26 1/4
HP-8D	184T-256T	4 1/2	5	6 3/16	17 1/16	—	4	9/16	17	1 11/16	3/8	38 15/16	—	25	23 1/16	19	26 1/4
HP-8E	182T- 286T	4 1/2	5	5 11/16	21	—	4	9/16	19	1 15/16	1/2	41 7/8	—	29	27	21	30 1/4
HP-10D	184T-256T	4 1/2	5	6 3/16	17 1/16	—	4	9/16	17	1 11/16	3/8	38 15/16	—	25	23 1/16	19	26 1/4
HP-10F	215T-324T	4 1/2	6	6 11/16	21	—	4	9/16	19	2 3/16	1/2	44 7/8	—	29	27	21	30 1/4
HP-12F	215T-324T	4 1/2	6	6 11/16	21	—	4	9/16	19	2 3/16	1/2	44 7/8	—	29	27	21	30 1/4
HP-12G	213T-365T	6 1/2	6	7 1/2	26	6	6	3/4	22	2 11/16	5/8	53 1/2	43 1/2	33	32	24	32 1/8

*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

FAN HOUSINGS ARE REVERSIBLE AND ROTATABLE IN 45° INCREMENTS.

① Discharge flange not available with Downblast (DB) discharge position on models HP-8B, HP-10D, HP-12F and HP-12G.

② For "AMCA Type "C" spark resistant construction, add 1/8 inch to dimensions "G", "BB" and "CC".

③ Inlet side support plate is only included on model HP-12G.

④ "MML" is the Maximum Motor Length (for maximum motor frame size listed) on customer supplied motor. Motor manufacturers "C" dimension cannot exceed "MML" without a special base.

⑤ Belt guard is standard on Arrangement 9 blowers. Arrangement 1 blowers do not include motor, motor slide base, belt guard, sheaves or belts.

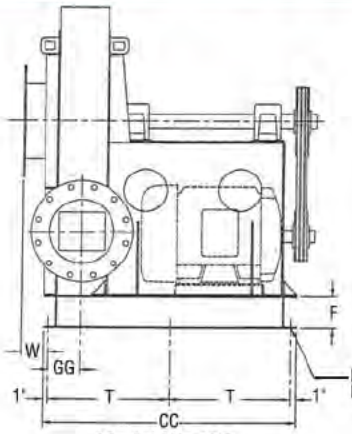
C.D. BELT CENTER DISTANCE

DIMENSIONS IN INCHES

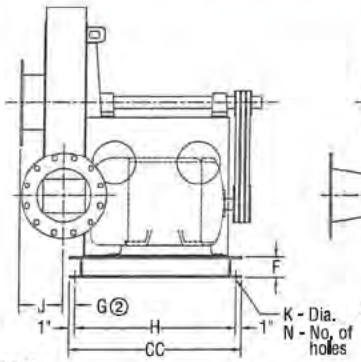
MODEL	MOTOR FRAME SIZE													
	143T-145T		182T-184T		213T-215T		254T-256T		284T-286T		324T-326T		364T-365T	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
HP-4A & HP-6B	12 5/8	14 1/16	14 3/8	15 7/8	15 11/16	17 3/8	—	—	—	—	—	—	—	—
HP-4C & HP-6C	13 11/16	15	15 7/16	16 7/8	16 3/4	18 7/16	18 7/8	20 3/4	—	—	—	—	—	—
HP-6E & HP-8E	—	—	15	16 1/2	16 3/8	18 3/8	18	20 7/16	18 15/16	21 15/16	—	—	—	—
HP-8B	12 5/8	14 1/16	14 3/8	15 7/8	15 11/16	17 1/2	17 3/8	19 1/4	—	—	—	—	—	—
HP-8D & HP-10D	—	—	15 7/16	16 7/8	16 3/4	18 7/16	18 7/8	20 3/4	—	—	—	—	—	—
HP-10F & HP-12F	—	—	—	—	16 3/8	18 3/8	18	20 7/16	18 15/16	21 15/16	19 5/8	23 1/4	—	—
HP-12G	—	—	—	—	19 3/4	21	21 1/2	23	22 1/2	24 3/8	24 3/8	26 3/4	25 3/4	27 1/2

DIMENSIONS and SPECIFICATIONS

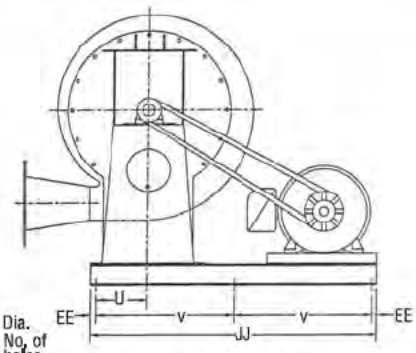
Arrangement #9RCB or #9LCB Channel Base, Belt Drive



Model HP-12G



Models HP-4A thru HP-12F



All Models
Clockwise Bottom Horizontal Discharge and arrangement 9RCB shown.

Note: For common boxed blower housing dimensions, see bottom of Page 14.

DIMENSIONS IN INCHES ± 1/8"

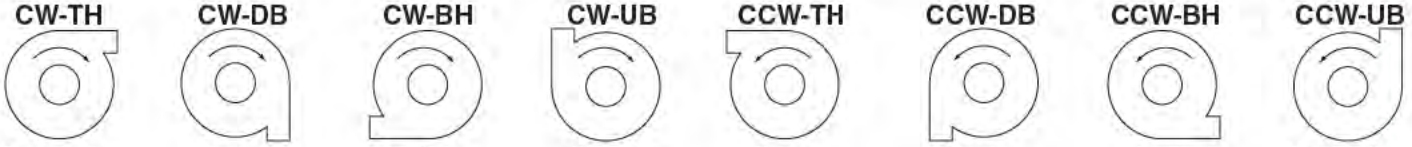
DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL*	MOTOR FRAME	F	② G	H	J	K	N	T	U	V	W	CC	EE	GG	JJ
HP-4A	182T - 215T	4	3	16 13/16	6 1/2	9/16	6	--	7 3/8	21 1/2	—	18 13/16	1	—	45
HP-4C	182T - 256T	4	3	21 1/16	6 1/2	9/16	6	—	8 1/2	22 1/2	—	23 1/16	1	—	47
HP-6B	182T - 215T	4	4 3/16	16 13/16	7 11/16	9/16	6	—	7 3/8	21 1/2	—	18 13/16	1	—	45
HP-6C	213T - 256T	4	3	21 1/16	6 1/2	9/16	6	—	8 1/2	22 1/2	—	23 1/16	1	—	47
HP-6E	213T - 286T	4	1 3/16	30	7 3/16	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-8B	213T - 256T	4	4 3/16	21 1/16	7 11/16	9/16	6	—	7 3/8	21 1/2	—	23 1/16	1	—	45
HP-8D	213T - 286T	4	4 3/16	21 1/16	7 11/16	9/16	6	—	8 1/2	22 1/2	—	23 1/16	1	—	47
HP-8E	213T - 326T	4	1 3/16	30	7 3/16	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-10D	213T - 326T	4	4 3/16	21 1/16	7 11/16	9/16	6	—	8 1/2	22 1/2	—	23 1/16	1	—	47
HP-10F	213T - 364T	4	2 3/16	30	8 3/16	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-12F	213T - 364T	4	2 3/16	30	8 3/16	9/16	6	—	9 1/2	25 1/2	—	32	1	—	53
HP-12G	284T- 444T	6	—	—	—	3/4	8	22 1/2	7	28 3/16	5	47	5	6	66 3/8

② For AMCA "C", add: 1/8 inch to dimensions "G".

*COMPLETE MODEL NUMBER INCLUDES WHEEL DIAMETER.

16 DISCHARGE POSITIONS AVAILABLE. 45° DISCHARGE POSITIONS NOT SHOWN.
Discharges shown are determined by viewing fan from motor or drive side.



Clockwise Top Horizontal Discharge ★

Clockwise Down-Blast Discharge

Clockwise Bottom Horizontal Discharge

Clockwise Up-Blast Discharge

Counter-Clockwise Top Horizontal Discharge

Counter-Clockwise Down-Blast Discharge ★

Counter-Clockwise Bottom Horizontal Discharge

Counter-Clockwise Up-Blast Discharge

★ Discharge flange not available with downblast discharge on models HP-8B, HP-10D, HP-12F and HP-12G.

⚠ DANGER

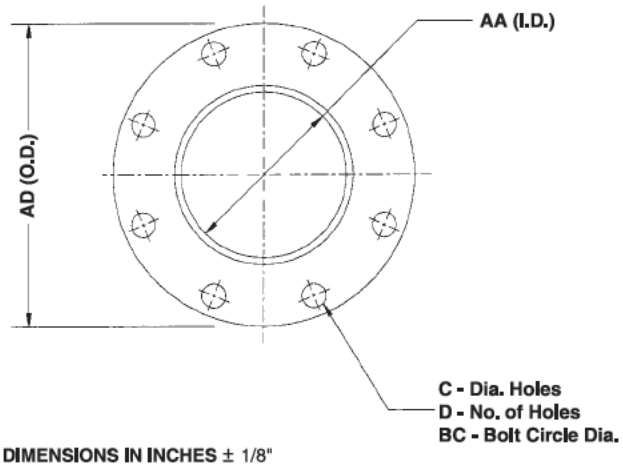
All fans & blowers shown have rotating parts and pinch points. Severe personal injury can result if operated without guards. Stay away from rotating equipment unless it is disconnected or locked out from its power source.

Read operating instructions.

DIMENSIONS and SPECIFICATIONS

INLET AND DISCHARGE FLANGES

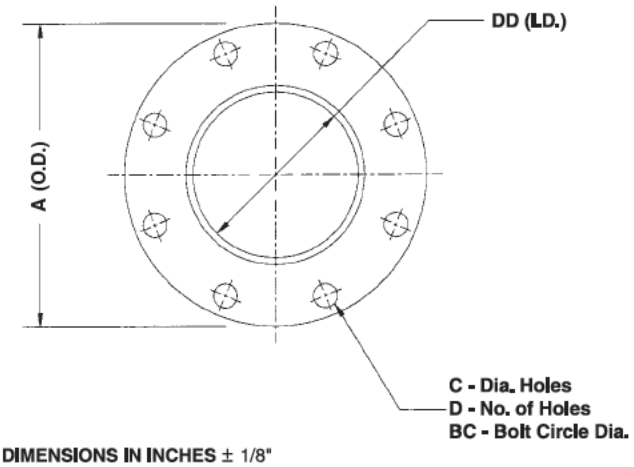
INLET FLANGE



DIMENSIONS IN INCHES ± 1/8"

MODEL	AA I.D.	AD O.D.	BC B.C.	C Dia.	D
HP-4A, 4C and 6C	6	11	9 1/2	7/8	8
HP-6B, 6E, 8B, 8D, 8E and 10D	8	13 1/2	11 3/4	7/8	8
HP-10F and 12F	10	16	14 1/4	1	12
HP-12G	14	21	18 3/4	1 1/8	12

DISCHARGE FLANGE ★



DIMENSIONS IN INCHES ± 1/8"

MODEL	DD I.D.	A O.D.	BD B.C.	C Dia.	D
HP-4A and 4C	4	9	7 1/2	3/4	8
HP-6B, 6C and 6E	6	11	9 1/2	7/8	8
HP-8B, 8D and 8E★	8	13 1/2	11 3/4	7/8	8
HP-10D and 10F★	10	16	14 1/4	1	12
HP-12F and 12G★	12	19	17	1	12

★See note under discharge positions available on page 18

All dimensions except flange thickness meet ANSI-125 lb. and ASA-150 lb. specifications. Standard orientation is holes straddling major center lines. Holes may be specified to be on center lines at no additional cost.

APPROXIMATE SHIPPING WEIGHTS LESS MOTOR

MODEL	MOTOR FRAME	Fan Arrangement			
		4	8	1 & 9	9CB
HP-4A	143T - 184T	190	265	—	—
	143T - 215T	—	—	220	—
	182T - 213T	—	—	—	315
HP-4C	143T - 215T	250	335	—	—
	254T	260	350	—	—
	143T - 256T	—	—	280	—
	182T - 254T	—	—	—	380
HP-6B	143T - 184T	210	285	—	—
	213T - 215T	240	315	—	—
	143T - 215T	—	—	270	—
	182T - 215T	—	—	—	365
HP-6C	143T - 215T	270	355	—	—
	254T	300	385	—	—
	143T - 256T	—	—	310	—
	213T - 256T	—	—	—	410
HP-6E	184T - 256T	350	445	—	—
	184T - 286T	—	—	400	—
	213T - 286T	—	—	—	510
HP-8B	143T - 184T	215	—	—	—
	213T - 254T	245	—	—	—
	143T - 215T	—	290	275	—
	254T - 256T	—	320	300	—
	213T - 256T	—	—	—	395
HP-8D	182T - 215T	280	365	—	—
	254T - 286TS	300	—	—	—
	254T - 256T	—	385	—	—
	184T - 256T	—	—	340	—
	213T - 286T	—	—	—	440

MODEL	MOTOR FRAME	Fan Arrangement			
		4	8	1 & 9	9CB
HP-8E	213T - 256T	360	455	—	—
	284T - 324T	380	—	—	—
	284TS - 326TS	—	475	—	—
	182T - 286T	—	—	430	—
	213T - 326T	—	—	—	540
HP-10D	184T - 215T	290	375	—	—
	184T - 256T	—	—	350	—
	254T - 286TS	310	395	370	—
	213T - 326T	—	—	—	470
HP-10F	215T - 256T	380	475	—	—
	284TS - 326TS	395	490	—	—
	215T - 324T	—	—	445	—
	213T - 364T	—	—	—	565
HP-12F	184T - 256T	380	—	—	—
	215T - 256T	—	475	—	—
	284TS - 364TS	400	495	—	—
	215T - 324T	—	—	465	—
	213T - 364T	—	—	—	595
HP-12G	254T - 256T	712	—	—	—
	284T - 326T	766	—	—	—
	364T - 365T	787	—	—	—
	404T - 405T	802	—	—	—
	444TS	856	—	—	—
	213T - 365T	—	—	1080	—
	284T - 444T	—	—	—	1400

Inclined Plate Clarifiers

LP & LP-Q MODELS

- Lower installed cost
- Easily installed indoors
- Minimal start-up/restart time
- Lower maintenance costs
- Occupies less floor space
- Minimal field labor required to install



The Hydro Quip Inclined Plate Clarifiers are designed and manufactured to provide for the precipitation and separation of suspended solids. Our design employs the use of a series of plates inclined at an angle of 45° or 55°. This specialized design allows the unit to perform all of the functions of a conventional solids contact clarifier at a fraction of the space and cost.

LP Model: separation of suspended solids from water
LP-Q Model: separation of suspended solids and trace amounts of oil in water

INLET COMPARTMENT

The inlet compartment receives the raw water from the process. After entering through the non-clogging inlet nozzle, the water in the LP model is dispersed evenly through the chamber.

In the LP-Q model, the water enters the quiescent zone. This area disperses the energy and evenly distributes the flow. A skimmer is provided to decant the oil to a separate tank.

SEPARATION CHAMBER

The raw water from the inlet chamber passes down under the plate pack skirt and moves upwards toward the plate pack. As the water moves upwards, the suspended particles have their upward velocity interrupted by the inclined plates. These particles drop down and slide down the inclined plate and join larger previously settled particles in the sludge hopper. Individual plates are easily installed and removed.

SLUDGE CHAMBER

The sludge chamber collects the solids as they fall. The sludge hopper is sloped at a minimum 45° angle to concentrate the sludge and avoid bridging.

CLEAN WATER CHAMBER

The clarified water exits the top of the plates and flows into the effluent trough. From this point the clarified effluent flows by gravity and exits the unit through the effluent nozzle.

PERFORMANCE

- Excellent separation of suspended solids
- Up to 1200 sq ft of projected plate surface area
- Effective separation of hard to settle solids
- Ability to produce up to 3% – 5% concentrated sludge

TECHNICAL FEATURES

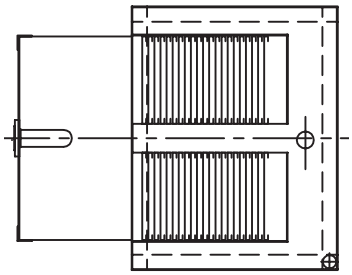
- Individual removable polypropylene or stainless steel plates
- Stainless steel or coated carbon steel tanks
- Complete shop assembly
- Adjustable effluent weir
- Oil skimming connections
- Inspection hatch/ window
- Sample ports

OPTIONAL EQUIPMENT/ FEATURES

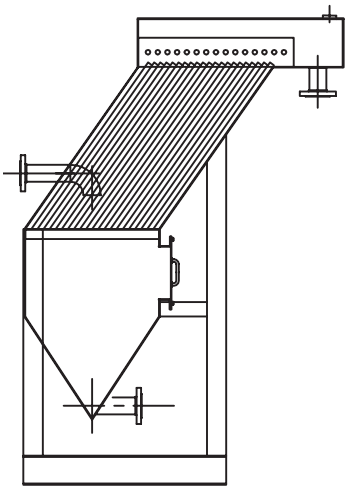
The inclined plate clarifier is available with a number of different options such as:

- Access Platform and Ladder (or Stairs)
- Cover
- Flash Mixer Chamber with Mixer
- Flocculation Tank with Slow Speed Mixer
- Instrumentation / Controls
- Chemical Feed Equipment
- Sludge Handling and Dewatering
- Concrete Tank Designs

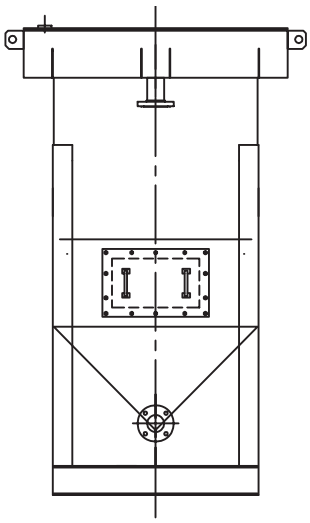
LP MODEL



PLAN



RIGHT SIDE VIEW



ELEVATION

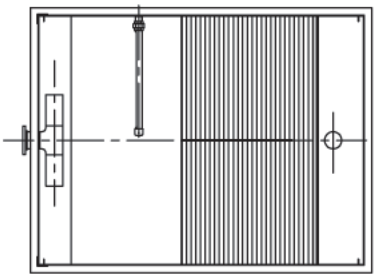
SPECIFICATIONS

*Dimensions are approximate and may vary depending on your application.

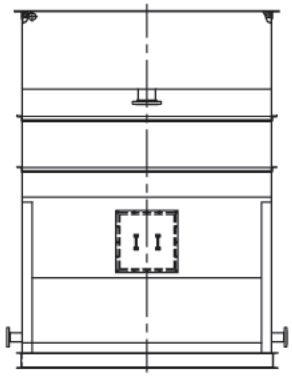
** Flow rates are based on 0.25 GPM per square foot of projected plate surface area.

LP Model	Number of Plates	Length	Width	Height	Flow Rate (GPM)
HQI-CLA-20LP	11	3’-0”	2’-8”	5’-0”	5
HQI-CLA-40LP	18	3’-10”	3’-0”	5’-4”	10
HQI-CLA-60LP	18	3’-10”	4’-0”	5’-9”	15
HQI-CLA-84LP	19	5'-6"	4'-6"	7'-7"	20
HQI-CLA-125LP	21	5'-6"	4'-6"	8'-0"	32
HQI-CLA-200LP	29	6'-8"	4'-6"	9'-0"	50
HQI-CLA-266LP	29	7'-0"	5'-6"	9'-4"	65
HQI-CLA-333LP	39	7'-8"	5'-6"	9'-4"	83
HQI-CLA-400LP	44	8'-6"	5'-6"	9'-4"	100
HQI-CLA-500LP	44	8'-6"	6'-6"	9'-4"	125
HQI-CLA-600LP	42	9'-0"	6'-6"	10'-10"	150
HQI-CLA-700LP	39	8'-10"	7'-6"	12'-0"	175
HQI-CLA-800LP	45	9'-4"	7'-6"	12'-0"	200
HQI-CLA-1000LP	50	10'-8"	7'-6"	13'-0"	250
HQI-CLA-1200LP	59	11'-6"	8'-6"	13'-6"	300

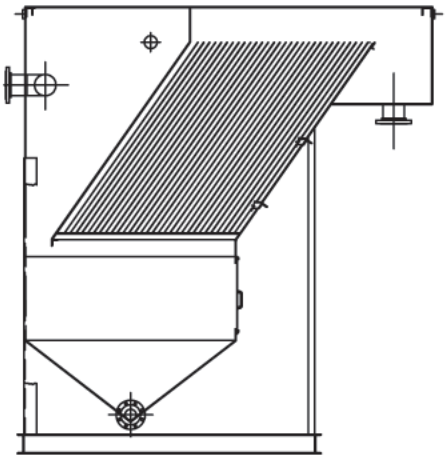
LP-Q MODEL



PLAN



RIGHT SIDE VIEW



ELEVATION

SPECIFICATIONS

*Dimensions are approximate and may vary depending on your application.

** Flow rates are based on 0.25 GPM per square foot of projected plate surface area.

LP-Q Model	Number of Plates	Length	Width	Height	Flow Rate (GPM)
HQI-CLA-20LP-Q	16	5' 0"	2' 4"	6' 0"	5
HQI-CLA-40LP-Q	16	5' 0"	3' 4"	6' 0"	10
HQI-CLA-60LP-Q	16	5' 0"	3' 6"	6' 0"	15
HQI-CLA-84LP-Q	17	6' 0"	3' 6"	7' 0"	20
HQI-CLA-125LP-Q	25	7' 0"	3' 6"	7' 0"	32
HQI-CLA-200LP-Q	29	7' 0"	3' 6"	8' 0"	50
HQI-CLA-266LP-Q	29	7' 0"	4' 6"	8' 0"	65
HQI-CLA-333LP-Q	29	7' 0"	5' 6"	8' 0"	83
HQI-CLA-400LP-Q	28	7' 0"	5' 6"	10' 0"	100
HQI-CLA-500LP-Q	29	7' 0"	6' 6"	10' 0"	125
HQI-CLA-600LP-Q	29	7' 0"	6' 6"	11' 6"	150
HQI-CLA-700LP-Q	29	7' 0"	7' 6"	11' 6"	175
HQI-CLA-800LP-Q	29	7' 0"	8' 6"	11' 6"	200
HQI-CLA-1000LP-Q	32	10' 6"	8' 6"	13' 6"	250
HQI-CLA-1200LP-Q	38	12' 2"	8' 6"	13' 6"	300

HYDRO QUIP

Whether an off-the-shelf unit or customized equipment, we'll help you determine the best solution for your application and site-specific needs.

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hqisales@hydroquipinc.com
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FILTRATION SPECIFICATIONS

Filter: Model 8 Basket Strainers and Bag Filters

Model 8 strainer/filter housings are made in 2 sizes and 2 pressure ratings, and can serve as basket strainers (for particle retention down to 74 micron size) or as bag filters (for particle retention down to 1 micron size).



FEATURES

- Low pressure drops
- Permanently piped housings
- Covers are o-ring sealed
- Carbon steel, 304 or 316 stainless steel construction
- All housings are electropolished to resist adhesion of dirt and scale
- Adjustable-height legs
- Large-area, heavy-duty baskets
- O-ring seals: Buna N, EPR, Fluoroelastomer, PTFE
- Two pressure ratings: 150 and 300
- Pipe sizes 2-inch to 4-inch, NPT or flanged
- Two basket depths: 15 or 30 inches (nominal)
- ASME code stamp available

OPTIONS

- Duplex Units Available
- Special Alloys
- Sanitary Construction
- Different Outlet Connections
- Higher Pressure Ratings
- Extra-Length Legs
- Heat Jacketing
- Liquid Displacers for Easier Servicing
- NSF 61 Certified

OPERATION

Unfiltered liquid enters the housing above the bag or basket and flows through. Solids are contained inside the bag or basket, where they are easily removed when the unit is serviced. A basket bail is pushed down by the closed cover to hold the basket against a positive stop in the housing. A radial seal prevents bypass of unfiltered liquid.

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FILTRATION SPECIFICATIONS

Filter: Model 8 Basket Strainers and Bag Filters

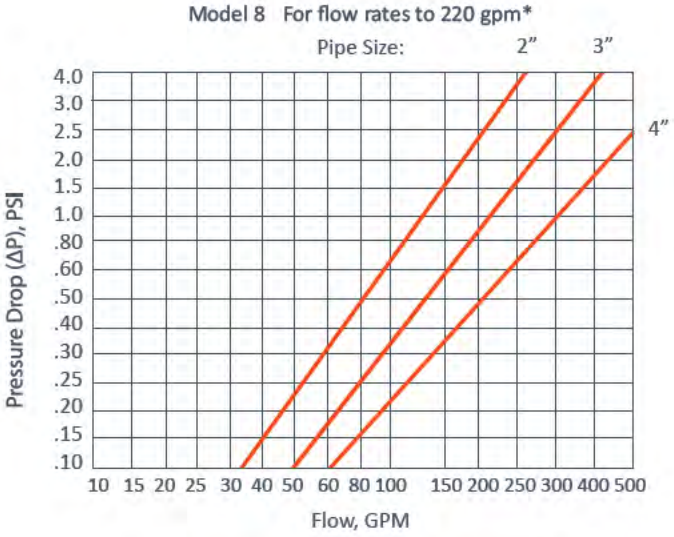
PRESSURE DROP DATA

Basket strainers and bag filters are usually selected so that the pressure drop does not exceed 2 psi when they are clean. Higher pressure drops may be tolerated when contaminant loading is low. Bag change-out should occur at 15 psid.

The pressure drop data is determined by the steps below:

FOLLOW THESE EASY STEPS:

1. Using the desired pipe size and approximate flow rate, determine the pressure drop from the appropriate graph.
2. Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table. This is the adjusted pressure drop for all baskets, without filter bags.
3. Add the pressure drop for the bag filter housing.



*Based on housing only. Fluid viscosity, bag filter used, and expected dirt loading should be considered when sizing a filter.



Eyenut covers with filter bag or basket.

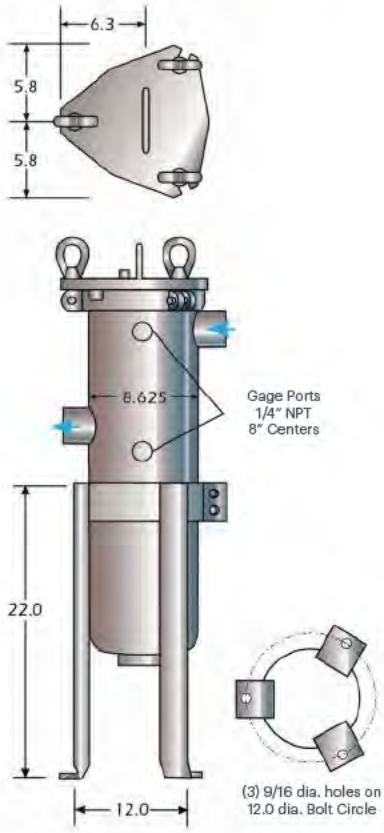
Filter bags are specified and sold separately.

	VISCOSITY, CPS								
BAG STYLE	1 (H_2O)	50	100	200	400	600	800	1000	2000
ALL UNLINED BASKETS	.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80
40-MESH LINED	.73	.95	1.20	1.40	1.50	1.80	1.90	2.00	2.30
60-MESH LINED	.77	1.00	1.30	1.60	1.70	2.10	2.20	2.30	2.80
80-MESH LINED	.93	1.20	1.50	1.90	2.10	2.40	2.60	2.80	3.50
100-MESH LINED	1.00	1.30	1.60	2.20	2.40	2.70	3.00	3.30	4.40
200-MESH LINED	1.30	1.70	2.10	3.00	3.40	3.80	4.40	5.00	6.80

Model 8 - Dimensions

COVER TYPE

Eyenut Cover
150 PSIG - 3 Bolt Design

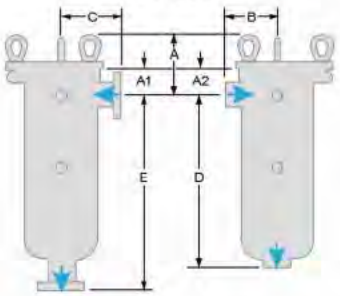


A clearance distance equal to the basket depth must be available above the housing for basket removal.

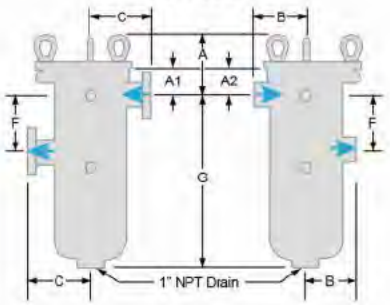
OUTLET STYLES

Threaded NPT or
Flanged Connections

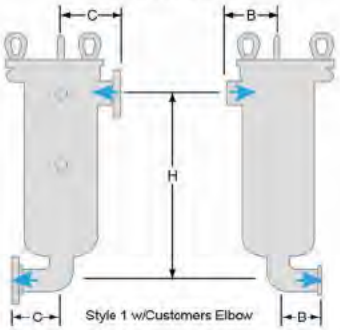
STYLE 1



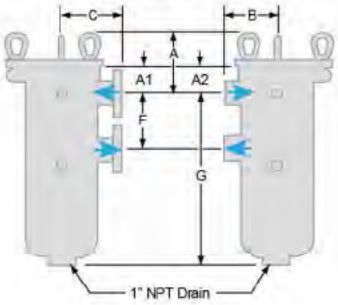
STYLE 2



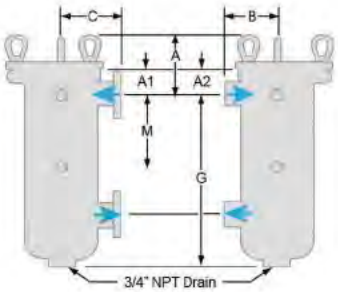
STYLE 3



STYLE 4



STYLE D



Dimensions (IN) 150 PSIG Design

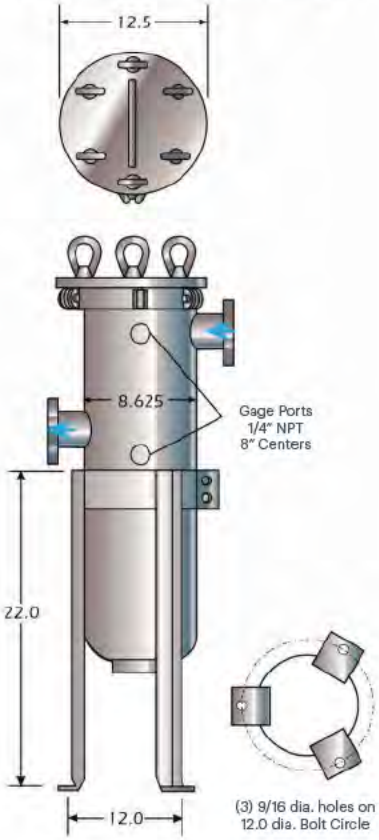
Model	Pipe Size	A	A1	A2	B	C	D	E	F	G	H	I	J	K	L	M
8-15	2	9.1	5.4	2.9	5.9	7.5	20.6	23.4	8.0	20.9	22.8	3.25	5.0	4.06	4.25	N/A
	3	9.1	5.4	3.7	6.8	7.5	21.3	23.4	8.0	20.9	24.3	3.25	7.25	6.12	4.25	N/A
	4	9.1	5.4	5.0	6.8	8.6	21.3	23.9	8.0	20.9	25.6	3.25	9.0	7.75	4.25	N/A
8-30	2	9.1	5.4	2.9	5.9	7.5	35.6	38.4	8.0	35.9	37.8	3.25	5.0	4.06	4.25	15.0
	3	9.1	5.4	3.7	6.8	7.5	36.3	38.4	8.0	35.9	39.3	3.25	7.25	6.12	4.25	17.0
	4	9.1	5.4	5.0	6.8	8.6	36.3	38.9	8.0	35.9	40.6	3.25	9.0	7.75	4.25	18.0

Dimensions are for reference only and should not be used for hard plumbing. Request a drawing from filters@rosedaleproducts.com

Model 8 - Dimensions

COVER TYPE

Eyenut Cover
300 PSIG - 6 Bolt Design

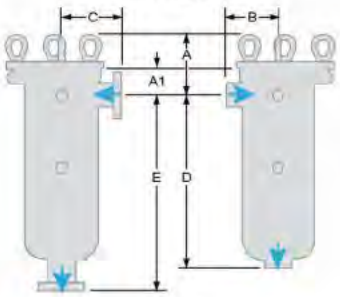


A clearance distance equal to the basket depth must be available above the housing for basket removal.

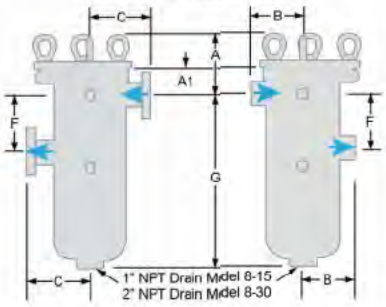
OUTLET STYLES

Threaded NPT or
Flanged Connections

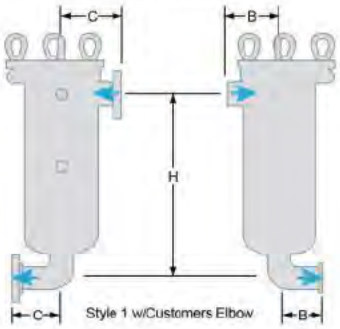
STYLE 1



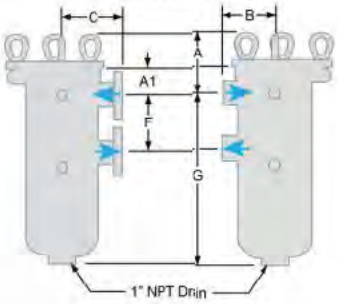
STYLE 2



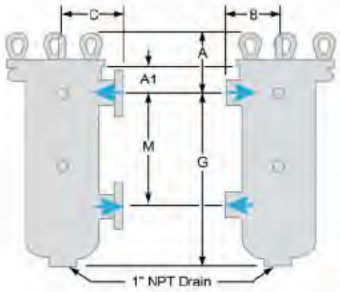
STYLE 3



STYLE 4



STYLE D



Dimensions (IN) 300 PSIG Design

Model	Pipe Size	A	A1	B	C	D	E	F	G	H	I	J	K	L	M
8-15	2	9.25	5.4	5.9	7.5	20.6	23.4	8.0	20.9	22.8	3.25	5.0	4.06	4.25	N/A
	3	9.25	5.4	6.8	7.5	21.3	23.4	8.0	20.9	24.3	3.25	7.25	6.12	4.25	N/A
	4	9.25	5.4	6.8	8.6	21.3	23.9	8.0	20.9	25.6	3.25	9.0	7.75	4.25	N/A
8-30	2	9.25	5.4	5.9	7.5	35.6	38.4	8.0	35.9	37.8	3.25	5.0	4.06	4.25	15.0
	3	9.25	5.4	6.8	7.5	36.3	38.4	8.0	35.9	39.3	3.25	7.25	6.12	4.25	17.0
	4	9.25	5.4	6.8	8.6	36.3	38.9	8.0	35.9	40.6	3.25	9.0	7.75	4.25	18.0

Dimensions are for reference only and should not be used for hard plumbing. Request a drawing from filters@rosedaleproducts.com

Model 8 Housing Code - How to Order

CONFIGURE YOUR PART NUMBER (EXAMPLE: 8-30-3P-1-300-C-B-S-M20-D-C-NSF)

A	B	C	D	E	F	G	H	I	J	K	L	M
MODEL NUMBER	HOUSING SIZE	PIPE SIZE	OUTLET STYLE	PRESSURE RATING	HOUSING MATERIAL	COVER SEAL	BASKET SEAL	BASKET TYPE	BASKET, MEDIA SIZE	DISPLACER	ASME CODE STAMP	NSF 61 CERTIFIED

A	MODEL NUMBER	CODE
	EYENUT COVER	8

B	HOUSING SIZE	CODE
	15 INCH	15
	30 INCH	30

C	PIPE SIZE, NPT AND FLANGED[1]	CODE
	2-IN NPT OR FLANGE	2P / 2F
	3-IN NPT OR FLANGE	3P / 3F
	4-IN FLANGE	4F

D	OUTLET STYLE	CODE
	BOTTOM	1
	SIDE HIGH	2
	BOTTOM ELBOW	3
	SAME SIDE HIGH	4
	SAME SIDE LOW	D

E	PRESSURE RATING[1]	CODE
	150 PSI	150
	300 PSI	300

F	HOUSING MATERIAL	CODE
	CARBON STEEL	C
	304 STAINLESS STEEL	S
	316 STAINLESS STEEL	S316

G	COVER SEAL	CODE
	BUNA N	B
	ETHYLENE PROPYLENE	E
	FLUOROELASTOMER	V
	FKM/FEP	TEV
	PTFE (SOLID WHITE) (6 BOLT COVER)	TSW

H	BASKET SEAL	CODE
	SEAL REQUIRED	S

I	BASKET TYPE	CODE
	FILTER BAG BASKET, 9/64 PERFORATIONS[2]	PB
	STRAINER BASKET, PERFORATED METAL	P
	FILTER BAG BASKET, PERFORATED, MESH LINED[2]	BM
	STRAINER BASKET, PERFORATED, MESH LINED	M
	FSI/POLYLOC	POLY

J	BASKET, MEDIA SIZE	CODE	
	NO SYMBOL FOR PB BASKET		
	PERFORATION DIAMETERS (P BASKETS)	PERF SIZES	MESH SIZES
		1/4	20
		3/16	40
	MESH SIZES (M AND BM BASKETS)	9/64	60
		3/32	80
		1/16	100

K	DISPLACER	CODE
	DISPLACER	D

L	ASME CODE STAMP	CODE
	CODE STAMP	C

M	NSF 61 CERTIFIED	CODE
	NSF 61	NSF

1. Higher pressure ratings and alternative connections available. Consult factory.
2. Filter bags are specified separately.

KAESER COMPRESSORS®



Rotary Screw Compressors

SM Series

With the world-renowned SIGMA PROFILE

Flow rate 0.39 to 1.64 m³/min, Pressure 5.5 to 15 bar

www.kaeser.com

SM Series

Long-term savings

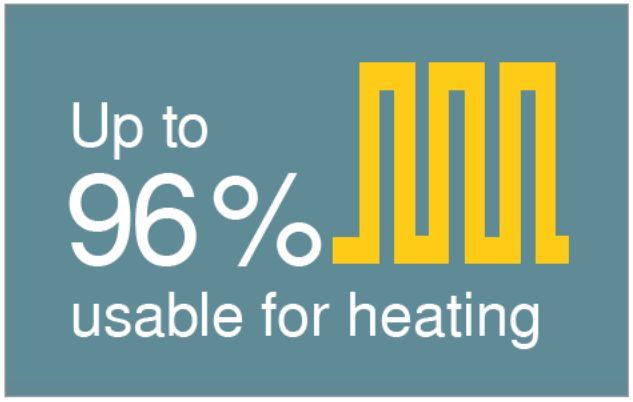
Today's users expect maximum availability and efficiency from their compressors, regardless of size. SM series rotary screw compressors meet these key expectations and more. Not only do they deliver more compressed air for less energy, but they also combine ease of use and maintenance-friendliness with exceptional versatility and environmentally responsible design.

SMart with SIGMA 06

The latest generation SM series rotary screw compressors feature the new SIGMA 06 airend with further-refined SIGMA PROFILE rotors for higher intake volumes and even greater efficiency. The result? Up to 13 percent lower power consumption and up to 10 percent higher flow rate.

Energy-saving performance

The efficiency of a machine depends on the total costs incurred throughout the equipment's entire service life. With compressors, energy costs account for the lion's share of total expenditure. KAESER therefore designed its SM series compressors with optimum energy efficiency in mind. Refinements to the energy-saving SIGMA PROFILE airend rotors contribute significantly to the increased performance of these versatile compressors, whilst Super Premium Efficiency IE4 motors (Premium Efficiency IE3 motors for the SM 10 and SM 16), a SIGMA CONTROL 2 internal controller, low airend speeds, reduced internal pressure losses and a unique dual-flow fan cooling system all combine to push the boundaries of efficiency even further.



Optimised design

The new SM models all share logical and user-friendly design throughout. For example, the left-hand side panel can be removed in a few simple steps to allow excellent visibility of the system's intelligently laid out components. Needless to say, the SM series was designed to ensure best possible access to all service points. When closed, the sound-absorbing compressor enclosure keeps operational sound levels to a minimum, thereby ensuring a pleasantly quiet work environment. In addition, the enclosure features four inlet openings for separate airflow cooling of the compressor, motor, control cabinet and intake air. Last but not least, SM series compressors are impressively compact, which makes them the perfect choice for applications where space is at a premium.

Modular system concept

SM series compressors are available as standard versions, as versions equipped with an add-on energy-saving refrigeration dryer and as AIRCENTER versions which, in addition to a refrigeration dryer, feature an air receiver installed underneath. KAESER's intelligent modular design principle therefore offers incredible flexibility. The SM 13 model is also available with a frequency converter for infinitely variable flow rate control.

Why choose heat recovery?

In fact, the question should be: Why not? Amazingly, up to 100 % of the (electrical) energy supplied to a compressor is converted into heat. Up to 96 % of this energy can be recovered and reused for heating purposes. This not only reduces primary energy consumption, but also improves the company's overall energy balance.

Quiet, powerful, reliable and durable.



Image: SM 13


KAESER
RFID
SIGMA CONTROL 2
www.kaeser.com
KAESER
KOMPRESSOREN
02/20XX

SM Series

Design is in the details



SIGMA PROFILE airend

At the heart of every SM system lies a new, premium-quality airend featuring Kaeser's energy-saving SIGMA PROFILE rotors. With optimised flow characteristics, these rotors play a key role in setting new standards in specific power performance.



SIGMA CONTROL 2

The SIGMA CONTROL 2 ensures efficient control and system monitoring. The large display and RFID reader provide effective communication and maximum security. Multiple interfaces offer exceptional flexibility, whilst the SD card slot makes updates quick and easy.



Tomorrow's technology, available today: IE4 motors

KAESER remains the only compressed air systems provider to equip compressors with Super Premium Efficiency IE4 drive motors as standard (SM 13 models), thereby delivering maximum performance and energy efficiency. SM 10 and SM 16 model compressors are equipped with Premium Efficiency IE3 motors.



Efficient cooling

KAESER's innovative cooling system uses a highly efficient, dual-flow fan and separate airflow channels for cooling the motor, fluid / compressed air aftercooler and control cabinet. This not only achieves optimum cooling performance, low compressed air discharge temperatures and minimal operating sound levels, but also more efficient compression.

SM T (SFC) Series

Also available with refrigeration dryer and variable speed control



SM with energy-saving dryer

The compressed air refrigeration dryer is installed in a separate enclosure in order to shield it from heat radiated by the compressor. The automatic shutdown function further enhances energy-efficient performance.



Variable speed control also available

The use of variable speed control can provide definite advantages for specific applications, which is why the SM 13 is also available with this feature. The frequency converter is integrated into the compressor system's control cabinet (with a separate fan) and is thermally isolated.



Even quieter

The new cooling system provides outstanding cooling performance and enables optimum sound-proofing. Normal conversation can take place right beside the running compressor.



Maintenance-friendly

All maintenance work can be carried out from one side of the unit. The left housing cover is easily removed to allow excellent component accessibility.



Image: SM 13 T



Image: AIRCENTER 13

AIRCENTER

The compact and efficient complete compressed air station



Connect and go

Simply connect the power supply and air distribution network to this compact complete compressed air station and it is ready to operate. No further installation work is necessary.



Durable air receiver

The 270-litre air receiver is specially designed for installation in AIRCENTER systems. All inner and outer surfaces are coated to provide excellent corrosion protection and to ensure long service life.



Service-friendly design

The left-hand housing cover is easily removed to allow excellent accessibility to all service points. Inspection glasses allow convenient inspection of fluid levels, condensate drain and drive belt tension whilst the unit is in operation.



KAESER FILTER for pure air

Thanks to lowest possible differential pressure, original KAESER FILTER products (optional) efficiently ensure compressed air of all purity classes as per ISO 8573-1, whilst allowing rapid and clean replacement of the filter elements. They are available in four different filter grades.


IE4
KAESER
SM 13
SIGMA



Equipment

Complete system

Ready-to-run, fully automatic, super-silenced, vibration damped, all panels powder coated. Suitable for use in ambient temperatures up to +45 °C.

Airend

Genuine KAESER single-stage airend with SIGMA PROFILE rotors and cooling fluid injection for optimised rotor cooling.

Electric motor

Super Premium Efficiency IE4 (Premium Efficiency IE3 in SM 10 / SM 16) motor, quality German manufacture, IP 55.

Fluid and air flow

“Honeycomb” structure air intake filter, pneumatic inlet and venting valves, cooling fluid separator tank with triple separation system, pressure relief valve, minimum pressure / check valve, thermostatic valve and fluid filter within the cooling fluid circuit, fluid / compressed air combination cooler.

Refrigeration dryer (with T version)

Pressure dew point measurement via PT 100 sensor and electronic level-controlled condensate drain with alarm contact as standard. Refrigerant compressor with energy-saving, cycling shutdown feature; linked to operational status of the compressor when inactive. Alternatively, continuous operation can be selected on site.

Electrical components

Ventilated IP 54 control cabinet, automatic star-delta starter, overload relay, control transformer.

SIGMA CONTROL 2

"Traffic light" LED indicators show operational status at a glance; plain text display, over 30 selectable languages, soft-touch keys with icons, fully automated monitoring and control. Selection of Dual, Quadro, Vario and Continuous control modes as standard. Interfaces: Ethernet; additional optional communications modules for: Profibus DP, Modbus, Profinet and Devicenet. SD card slot for data-logging and updates. Reader and web server.

SIGMA AIR MANAGER 4.0

The refined adaptive 3-D^{advanced} Control predictively calculates and compares the various operating options and selects the most efficient one to suit the specific needs of the application.

The SIGMA AIR MANAGER 4.0 constantly adjusts flow rates and compressor energy consumption in response to current compressed air demand. This optimisation is made possible by the integrated industrial PC with multi-core processor, in combination with the adaptive 3-D^{advanced} Control. Furthermore, the SIGMA NETWORK bus converter (SBC) provides a host of possibilities for enabling the system to be individually tailored to meet specific user requirements. The SBC can be equipped with digital and analogue input and output modules, as well as with SIGMA NETWORK ports, in order to enable seamless display of flow rate, pressure dew point, performance or alarm message information.

Amongst other key features, the SIGMA AIR MANAGER 4.0 provides long-term data storage capacity for reporting, controlling and audits, as well as for energy management tasks as per ISO 50001.

(See image on right; extract from the SIGMA AIR MANAGER 4.0 brochure)

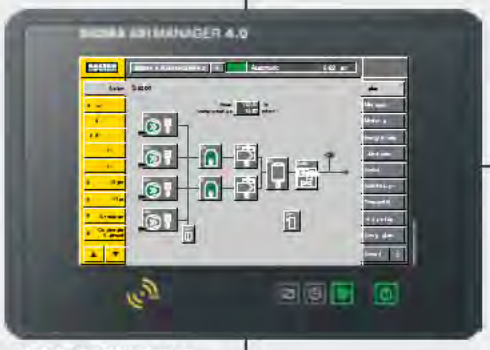


Digital output device, e.g. laptop



Control centre

KAESER CONNECT



SIGMA AIR MANAGER 4.0

Communications module e g. Modbus TCP



KAESER SIGMA NETWORK

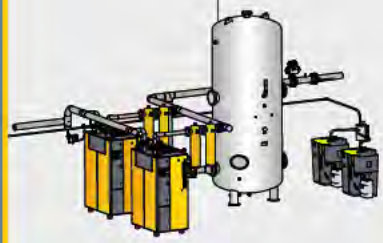
SIGMA NETWORK
PROFIBUS Master



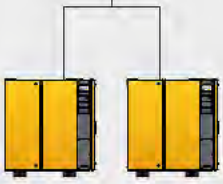
Controller:
SIGMA CONTROL 2



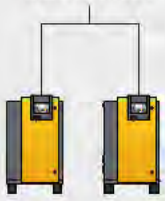
Controller:
SIGMA CONTROL



Various connection possibilities
for treatment components



Connection of conventional
compressors possible



Connection of compressors with
SIGMA CONTROL 2



Connection of compressors with
SIGMA CONTROL; connection to stations
with Profibus network (SAM 1 alternative)



Secure data – secure business!

Technical specifications

Standard versions

Model	Gauge working pressure bar	Flow rate *) complete system at gauge working pressure m³/min	Max. gauge pressure bar	Drive motor rated power kW	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Mass kg
SM 10	7.5	0.94	8	5.5	630 x 790 x 1100	G 3/4	62	220
	10	0.78	11					
	13	0.60	15					
SM 13	7.5	1.32	8	7.5	630 x 790 x 1100	G 3/4	65	240
	10	1.08	11					
	13	0.85	15					
SM 16	7.5	1.62	8	9.0	630 x 790 x 1100	G 3/4	66	240
	10	1.36	11					
	13	1.09	15					

T - Versions with integrated refrigeration dryer (refrigerant R-513A)

Model	Gauge working pressure bar	Flow rate *) complete system at gauge working pressure m³/min	Max. gauge pressure bar	Drive motor rated power kW	Refrigeration dryer model	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Mass kg
SM 10 T	7.5	0 94	8	5.5	ABT 15	630 x 1090 x 1100	G 3/4	62	295
	10	0.78	11						
	13	0 60	15						
SM 13 T	7.5	1 32	8	7.5	ABT 15	630 x 1090 x 1100	G 3/4	65	315
	10	1 08	11						
	13	0 85	15						
SM 16 T	7.5	1 62	8	9.0	ABT 15	630 x 1090 x 1100	G 3/4	66	315
	10	1 36	11						
	13	1 09	15						

SFC - Version with variable-speed drive

Model	Gauge working pressure bar	Flow rate *) complete system at gauge working pressure m³/min	Max. gauge pressure bar	Drive motor rated power kW	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Mass kg
SM 13 SFC	7.5	0 39 - 1.40	8	7.5	630 x 790 x 1100	G 3/4	67	250
	10	0.40 - 1.19	11					
	13	0.42 - 0.95	15					

T SFC - Version with variable-speed drive and integrated refrigeration dryer

Model	Gauge working pressure bar	Flow rate *) complete system at gauge working pressure m³/min	Max. gauge pressure bar	Drive motor rated power kW	Refrigeration dryer model	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Mass kg
SM 13 T SFC	7.5	0.39 - 1.40	8	7.5	ABT 15	630 x 1090 x 1100	G 3/4	67	325
	10	0.40 - 1.19	11						
	13	0.42 - 0.95	15						

AIRCENTER - Versions with refrigeration dryer and air receiver

Model	Gauge working pressure bar	Flow rate *) complete system at gauge working pressure m³/min	Max. gauge pressure bar	Drive motor rated power kW	Refrigeration dryer model	Air receiver volume l	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Mass kg
	7.5	0.94	8							
AIRCENTER 10	10	0.78	11	5.5	ABT 15	270	630 x 1220 x 1720	G 3/4	62	420
	13	0.60	15							
	7.5	1.32	8							
AIRCENTER 13	10	1.08	11	7.5	ABT 15	270	630 x 1220 x 1720	G 3/4	65	440
	13	0.85	15							
	7.5	1.62	8							
AIRCENTER 16	10	1.36	11	9.0	ABT 15	270	630 x 1220 x 1720	G 3/4	66	440
	13	1.09	15							

AIRCENTER - Versions with variable-speed drive

Model	Gauge working pressure bar	Flow rate *) complete system at gauge working pressure m³/min	Max. gauge pressure bar	Drive motor rated power kW	Refrigeration dryer model	Air receiver volume l	Dimensions W x D x H mm	Compressed air connection	Sound pressure level **) dB(A)	Mass kg
	7.5	0.39 - 1.40	8							
AIRCENTER 13 SFC	10	0.40 - 1.19	11	7.5	ABT 15	270	630 x 1220 x 1720	G 3/4	62	450
	13	0.42 - 0 95	15							

*) Flow rate complete system as per ISO 1217: 2009 Annexe C/E: inlet pressure 1 bar (a), cooling and air inlet temperature +20 °C
**) Sound pressure level as per ISO 2151 and basic standard ISO 9614-2, tolerance: ± 3 dB (A)
***) Power consumption (kW) at ambient temperature +20° and 30 % relative humidity

Technical specifications for add-on refrigeration dryer

Model	Refrigeration dryer power consumption kW	Pressure dew point °C	Refrigerant	Refrigerant charge kg	Greenhouse warming potential GWP	CO_2 equivalent t	Hermetic refrigeration circuit
ABT 15	0.37	3	R-513A	0.35	631	0.22	Yes

The world is o

As one of the world's largest manufacturers
compressors, blowers and compressed air s
KAESER KOMPRESSOREN is represented
world by a comprehensive network of branch
and authorised distribution partners in over

By offering innovative, efficient and reliable p
services, KAESER KOMPRESSOREN's exp
consultants and engineers work in close par
customers to enhance their competitive edge
progressive system concepts that continuous
boundaries of performance and technology.
decades of knowledge and expertise from th
leading systems provider are made available
every customer via the KAESER group's adv
network.

These advantages, coupled with KAESER's
service organisation, ensure that every prod
peak performance at all times, whilst providi
availability.



LGA InterCert
Certified
QM/EM System
DIN EN ISO 9001:2015/
14001:2015

KAESER KOMPRESSOREN SE
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E-mail: productinfo@kaeser.com – www.kaeser.com

P-651/24ED Specifications are subject to change without notice. . 12/21

Legend® DSL Series
Dual Splash Lubrication

Positive Displacement Blowers & Vacuum Pumps



GARDNER DENVER
1859 2009
SESQUICENTENNIAL

GD
GARDNER DENVER
Experience Proven Results

Sutorbilt® Legend® DSL Series

Gardner Denver

– Tradition

– Quality

– Innovation

– Results



Sutorbilt Legend DSL

Improving a great, trusted and proven product was the challenge. The Legend DSL integrates proven experience with world-class blower design and manufacturing to create a product worthy of the name "Legend."

Quality + Tradition = Trust

- Tradition: 150 years of quality manufacturing with proven results
- Every Legend DSL is manufactured in our ISO 9001 certified facility in Sedalia, Missouri
- Each Legend DSL is individually tested to meet rigorous performance specifications
- Superior and consistent quality can be found in each Legend DSL as a result of:
  - Continual investment in the training of world-class manufacturing personnel
  - Quality inspections throughout the entire manufacturing process
- Requested by leading Original Equipment Manufacturers (OEMs) worldwide for a wide range of applications
- A Legend is at the heart of an ever-expanding variety of air solutions working every minute of every day
- Supported by a worldwide network of experienced and trusted sales and service professionals
- Quiet Series available with reduced noise up to 5 dBA
- The Legend DSL Warranty
  - **30 months** from the date of shipment or
  - **24 months** from the date of installation, whichever occurs first

Experience Proven Results
with the Legend DSL

Legend DSL Provides

– Pressure to 15 psig

– Vacuum to 16" Hg

– Airflow to 950 cfm

– 24/30 Warranty

Innovation

- Refined timing and locking device incorporates frictional keyless shaft gear locking rings
  - Improves blower life with more resistance to slipped timing
  - Allows for easier maintenance
- Spherical roller bearing on drive shaft (4–6" gear diameters only)
  - Provides greater allowance for misaligned drives, and improves longevity

Results

- Drop-in replacement for current Legend products
- Operating temperatures which can be up to 15°F cooler compared to leading competitive brands
- Greater durability with an increased capacity for overhung load by as much as 30%
- Unmatched strength and rigidity from increased mass, which can be up to 37% more than leading competitive brands
- Universal mounting feet allows for easy field conversion

Advanced Engineering Capabilities

Finite Element Analysis (FEA) – thermal analysis

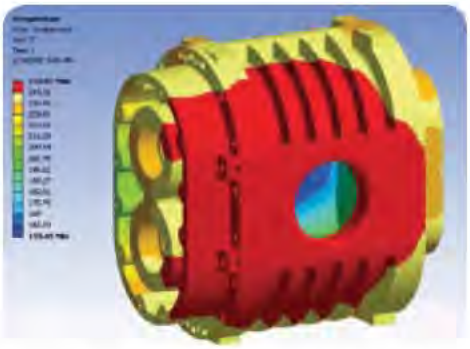


Figure 1 – Previous design was developed without the benefit of FEA thermal analysis.

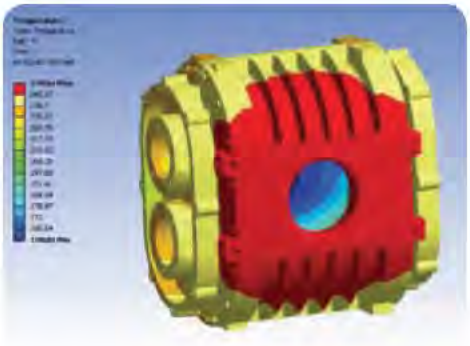
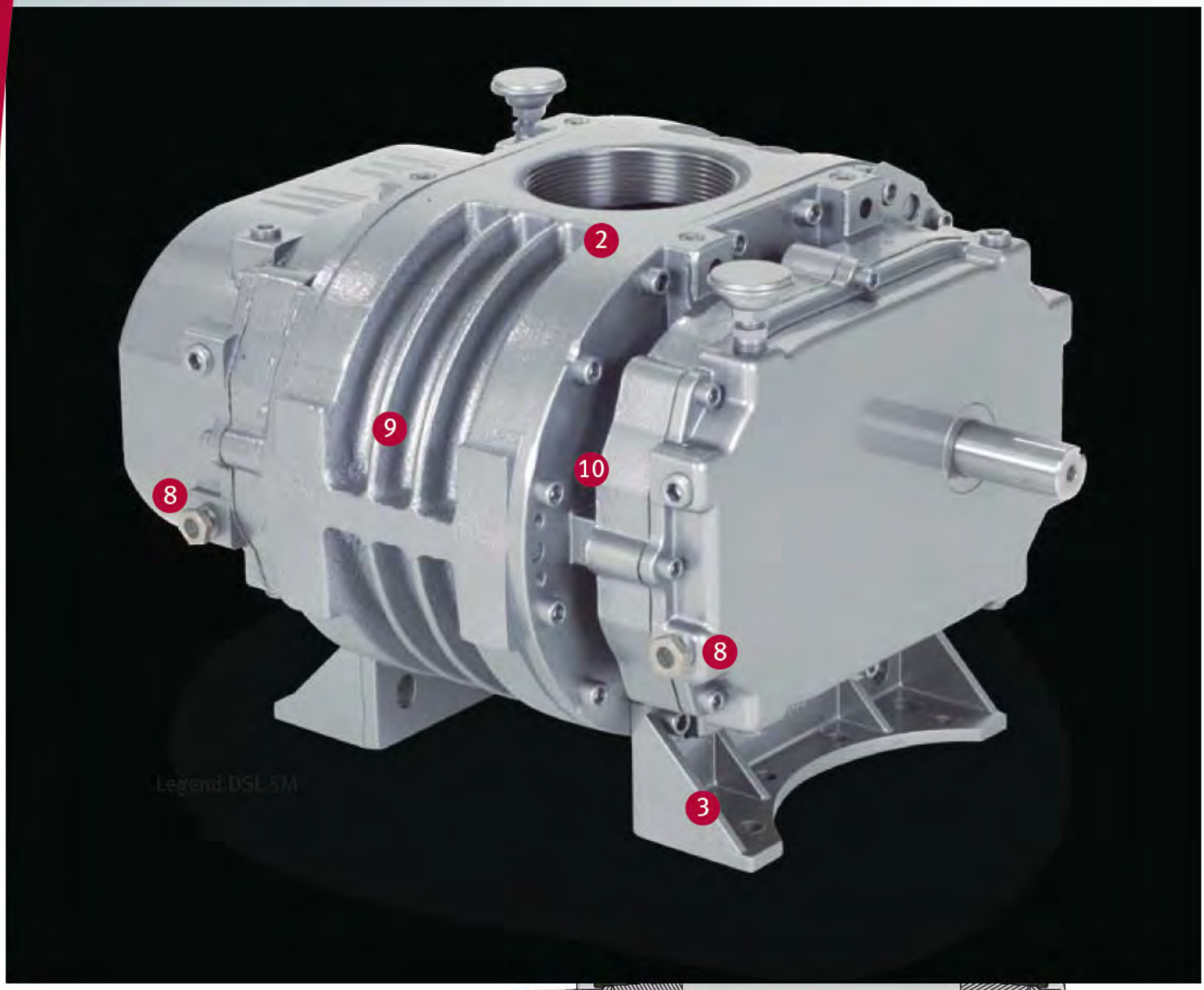
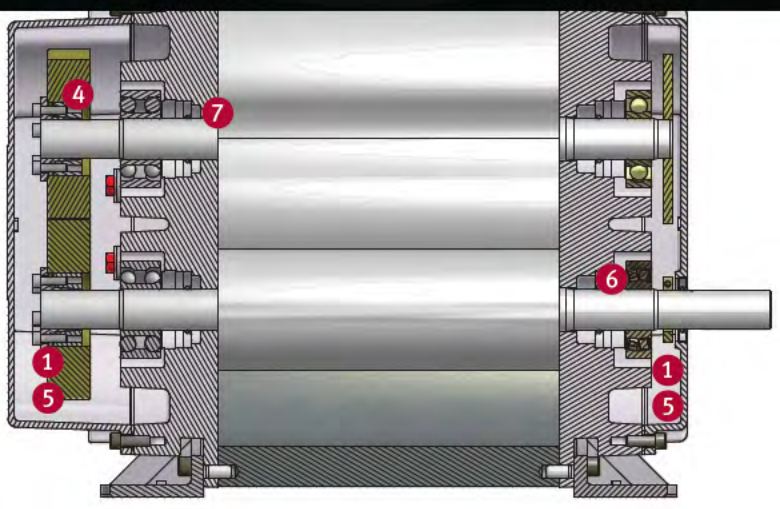


Figure 2 – With FEA thermal analysis, a good design was made great.

- Innovative bearing housing design with air gaps reduce drive end sump temperatures which can be up to 15°F, extending lubricant, bearing, and blower life

Legendary DSL Design Features & Benefits





1. Dual Splash Lubrication

- Reliable splash lubrication on both gear and drive ends for longer product life
- One-piece slingers are securely clamped on both shafts to ensure efficient lubrication, and allow installation flexibility



2. Single Piece Cylinder Provides Greater Strength & Rigidity

- Heavy-duty reinforced cast iron cylinder retains internal clearance
- DSL design utilizes the existing Legend cylinder and rotors with proven results

3. Universal Feet

- Drop-in replacement for current Legend design
- Reduce inventory and provide installation flexibility
- One set of feet for vertical and horizontal configurations

4. Improved Timing= Improved Reliability



- Grip rings expand against the bore and compress on the shaft for a secure, mechanical shrink fit
- Replaces pinning of timing gears
- Easier and more cost effective to teardown and rebuild

5. Larger Sump Capacities = Cooler Running Bearings

- Sump capacity is increased as much as 30% on drive end and 62% on gear end over leading competition

6. Greater Overhung Load Capacity Increases Blower Life

- Improving overhung load capabilities by as much as 30%
- Belt drive capabilities are independent of blower/ motor orientation for improved packaging options
- Spherical roller drive bearing provides better misalignment capabilities (4–6" gear diameter)
- Cylindrical drive bearing on 3" gear diameter

7. High Temperature Viton® Oil Seals

- Maximize the seal life in continuous, severe-duty applications to provide leak-free operation

8. Site Glasses

- Installed on side of unit and can be readily converted in the field

9–10. Cooler Operating Temperatures Increases Blower Life



- Integral ribs (9) improve heat dissipation and performance
- Engineered air gap (10) to isolate the oil sumps from hot air
- Engineered lubrication channels ensure ample lubrication reaches critical components

Robust Design Improves Performance & Efficiency

- Additional weight provides more rigidity to the blower allowing greater efficiency and tighter clearances
- The Legend DSL weights are greater than leading competitive brands which can be up to 37% heavier

Mechanical Gas Seals

- The Legend DSL design accommodates mechanical gas seals for critical gas applications

LOW PRESSURE

SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./ REV.	RPM	2 PSIG		3 PSIG		4 PSIG		5 PSIG		6 PSIG		7 PSIG	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
3L 3LV	2½"-S	0.104	1,760	149	1.9	142	2.8	135	3.7	130	4.5	124	5.2	120	6.1
			2,265	202	2.4	194	3.5	188	4.7	182	5.6	177	6.7	172	7.8
			2,770	254	2.9	247	4.3	240	5.5	235	6.8	230	8.2	225	9.6
			3,600	341	3.7	333	5.3	327	7.1	321	8.9	316	10.6	311	12.4
4L 4LV	3"-S	.170	1,760	253	3.0	243	4.5	234	5.7	227	7.1	220	8.5	213	9.9
			2,190	326	3.7	316	5.3	307	7.1	300	8.8	293	10.6	286	12.4
			2,620	400	4.4	389	6.3	381	8.4	373	10.6	366	12.7	360	14.8
			3,600	566	5.8	556	8.7	547	11.6	539	14.5	533	17.4	526	20.3
5L 5LV	4"-S	.350	1,500	463	5.2	449	7.5	438	10.0	427	12.4	418	14.9	409	17.4
			1,760	554	5.8	540	8.8	529	11.7	518	14.6	509	17.5	500	20.4
			2,100	673	7.0	659	10.5	648	13.9	637	17.4	628	20.9	619	24.4
			2,850	936	9.5	922	14.2	910	18.9	900	23.6	890	28.4	882	33.1
6L 6LV	6"-F	.718	1,170	739	8.0	716	11.9	697	15.9	680	19.9	664	23.9	650	27.9
			1,760	1,162	12.0	1,139	18.0	1,120	24.0	1,103	29.9	1,088	35.9	1,074	41.9
			1,930	1,284	13.1	1,261	19.7	1,242	26.3	1,225	32.8	1,210	39.4	1,196	46.0
			2,350	1,586	16.0	1,563	24.0	1,544	32.0	1,527	40.0	1,512	48.0	1,497	56.0

MEDIUM PRESSURE

SIZE	DIA.INLET & OUTLET	DISPL.CU. FT./REV.	RPM	7 PSIG		9 PSIG		10 PSIG		12 PSIG		13 PSIG		14 PSIG	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
3M 3MV	2"-S	0.060	1,760	64	3.6	59	4.6								
			2,265	95	4.6	89	5.8	87	6.4						
			2,770	125	5.5	119	7.1	117	7.9	112	9.5				
			3,600	175	7.2	169	9.2	167	10.2	162	12.3				
4M 4MV	2½"-S	.117	1,760	144	6.8	136	8.8	132	9.8						
			2,190	194	8.5	186	10.9	182	12.1						
			2,620	245	10.2	236	13.1	233	14.5						
			3,600	359	14.0	351	18.0	347	20.0						
5M 5MV	4"-S	.210	1,500	237	10.5	227	13.4	222	14.9	213	17.9	209	19.4		
			1,760	292	12.3	281	15.8	277	17.5	268	21.0	263	22.8		
			2,100	363	14.6	353	18.8	348	20.9	339	25.1	335	27.2		
			2,850	521	19.9	510	25.5	506	28.4	497	34.0	493	36.9		
6M 6MV	5"-S	.383	1,170	332	14.9	316	19.1	309	21.2	296	25.5	289	27.6	283	29.7
			1,760	558	22.4	542	28.8	535	32.0	522	38.3	515	41.5	509	44.7
			1,930	622	24.5	607	31.5	600	35.0	587	42.0	580	45.5	574	49.1
			2,350	784	29.9	768	38.4	761	42.7	748	51.2	741	55.5	735	59.7

HIGH PRESSURE

SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	7 PSIG		8 PSIG		9 PSIG		11 PSIG		13 PSIG		15 PSIG	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
3H 3HV	1¼"-S	0.045	1,760	46	2.6	44	3.0	41	3.4						
			2,265	69	3.4	66	3.9	64	4.3	60	5.3				
			2,770	91	4.1	89	4.7	87	5.3	83	6.5				
			3,600	129	5.4	126	6.1	124	6.9	120	8.4	117	10.0	113	11.5
4H 4HV	1½"-S	.069	1,760	80	4.0	77	4.6	74	5.2						
			2,190	110	5.0	107	5.7	104	6.4	99	7.9				
			2,620	139	6.0	137	6.9	134	7.7	129	9.4	124	11.1		
			3,600	207	8.2	204	9.4	201	10.6	196	13.0	192	15.3	188	17.7
5H 5HV	2½"-S	.140	1,500	154	7.0	151	8.0	147	9.0	140	10.9				
			1,760	191	8.2	187	9.3	183	10.5	177	12.8	171	15.2	165	17.5
			2,100	238	9.8	235	11.1	231	12.5	224	15.3	218	18.1	213	20.9
			2,850	343	13.2	340	15.1	336	17.0	329	20.8	323	24.6	318	28.4
6H 6HV	3"-S	.227	1,170	188	8.8	182	10.1	177	11.3	168	13.8	159	16.4		
			1,760	321	13.3	316	15.1	311	17.0	302	20.8	293	24.6	285	28.4
			1,930	360	14.5	355	16.6	350	18.7	340	22.8	332	27.0	324	31.1
			2,350	455	17.7	450	20.2	445	22.8	436	27.8	427	32.9	419	37.9

LOW VACUUM

SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	2 "Hg		4 "Hg		8 "Hg		10 "Hg		12 "Hg		14 "Hg	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
3L 3LV	2½"-S	0.104	1,760	158	1.1	147	1.9	128	3.6	118	4.5	108	5.1		
			2,265	211	1.3	200	2.4	180	4.6	171	5.5	160	6.6		
			2,770	264	1.5	252	2.9	233	5.4	223	6.7	213	8.1		
			3,600	350	1.9	338	3.7	319	7.0	309	8.7	299	10.5	288	12.2
4L 4LV	3"-S	.170	1,760	266	1.6	250	3.0	224	5.6	211	7.0	197	8.4		
			2,190	339	1.9	323	3.7	297	6.9	284	8.7	270	10.4		
			2,620	412	2.3	396	4.3	370	8.3	357	10.4	343	12.4	329	14.5
			3,600	579	3.1	563	5.7	537	11.4	524	14.3	510	17.1	495	20.0
5L 5LV	4"-S	.350	1,500	480	2.6	459	5.1	424	9.8	406	12.2	388	14.7		
			1,760	571	3.1	550	5.7	515	11.5	497	14.3	479	17.2	459	20.1
			2,100	690	3.6	669	6.8	634	13.7	616	17.1	598	20.5	578	24.0
			2,850	953	4.8	932	9.3	896	18.6	879	23.2	860	27.9	840	32.5
6L 6LV	6"-F	.718	1,170	766	4.1	732	7.8	674	15.7	645	19.6	615	23.5		
			1,760	1,190	5.9	1,115	11.8	1,097	23.5	1,068	29.4	1,038	35.3	1,005	41.2
			1,930	1,312	6.5	1,278	12.9	1,219	25.8	1,191	32.3	1,160	38.7	1,127	45.2
			2,350	1,614	7.9	1,579	15.7	1,521	31.4	1,492	39.3	1,462	47.2	1,429	55.0

MEDIUM VACUUM

SIZE	DIA. INLET &OUTLET	DISPL. CU. FT./REV.	RPM	6 "Hg		10 "Hg		12 "Hg		14 "Hg		15 "Hg		16 "Hg	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
3M 3MV	2"-S	0.060	1,760	76	1.6	63	2.6	57	3.1						
			2,265	106	2.0	93	3.3	87	3.9						
			2,770	136	2.4	124	4.0	117	4.7	110	5.4				
			3,600	186	3.1	174	5.0	167	6.0	160	7.0	156	7.5		
4M 4MV	2½"-S	.117	1,760	161	3.0	142	4.9	132	5.8						
			2,190	211	3.7	193	6.0	183	7.2						
			2,620	262	4.4	243	7.1	233	8.6	222	10.0				
			3,600	376	5.9	358	9.8	348	11.8	337	13.7	331	14.7	325	15.7
5M 5MV	4"-S	.210	1,500	258	4.5	235	7.3	223	8.8	209	10.3				
			1,760	313	5.2	290	8.6	277	10.3	264	12.1				
			2,100	384	6.2	361	10.3	349	12.3	335	14.4	328	15.4		
			2,850	542	8.4	519	13.9	506	16.7	493	19.5	485	20.9	477	22.3
6M 6MV	5"-S	.383	1,170	363	6.3	328	10.4	310	12.5	290	14.6	279	15.7	267	16.7
			1,760	589	9.4	554	15.7	536	18.8	516	22.0	505	23.5	493	25.1
			1,930	655	10.3	619	17.2	601	20.7	581	24.1	570	25.8	558	27.5
			2,350	815	12.6	780	21.0	762	25.2	741	29.3	731	31.4	719	33.5

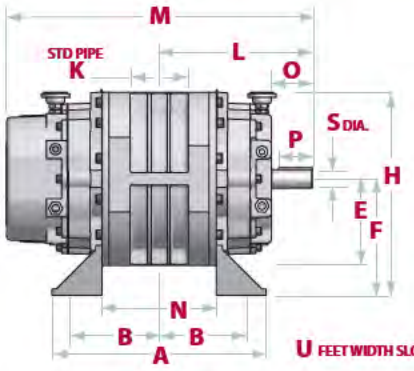
HIGH VACUUM

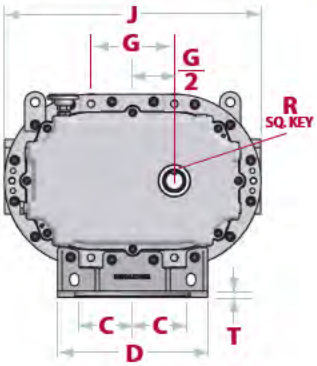
SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	6 "Hg		8 "Hg		12 "Hg		14 "Hg		15 "Hg		16 "Hg	
				CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
3H 3HV	1¼"-S	0.045	1,760	55	1.1	50	1.5	40	2.2						
			2,265	78	1.4	73	1.9	62	2.8						
			2,770	100	1.7	95	2.3	85	3.5	79	4.1	76	4.4		
			3,600	138	2.3	133	3.0	122	4.5	117	5.3	113	5.7	110	6.0
4H 4HV	1½"-S	.069	1,760	91	1.7	85	2.3	72	3.4						
			2,190	121	2.1	115	2.8	102	4.2	95	4.9	105	5.8		
			2,620	151	2.5	144	3.4	132	5.1	124	5.9	120	6.3		
			3,600	218	3.5	212	4.6	199	6.9	192	8.1	188	8.7	184	9.3
5H 5HV	2½"-S	.140	1,500	170	2.9	161	3.9	144	5.9	134	6.8				
			1,760	206	3.4	198	4.6	180	6.9	171	8.0	165	8.6		
			2,100	254	4.1	245	5.5	228	8.2	218	9.6	213	10.3		
			2,850	359	5.6	350	7.4	333	11.2	323	13.0	318	14.0	312	14.9
6H 6HV	3"-S	.227	1,170	209	3.7	197	4.8	173	7.4	159	8.7	152	9.3		
			1,760	343	5.6	331	7.4	307	11.2	293	13.0	286	14.0	278	14.9
			1,930	381	6.1	370	8.2	345	12.2	332	14.3	325	15.3	317	16.3
			2,350	477	7.5	165	9.9	441	14.9	427	17.4	420	18.6	412	19.9

Performance based on inlet air at standard temperature of 68°F, an ambient pressure of 14.7 psia and 36% relative humidity.
For performance at non-standard conditions, contact your authorized Gardner Denver representative.

Dimensional Data — Horizontal Configurations

SIZE	WT.	CONN.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U
3H	71	S	6.75	2.69	2.69	7.75	3.88	5.00	3.50	8.88	11.26	1.25	5.86	12.05	3.50	1.78	1.63	0.19	0.75	0.25	.62 x 1.12
3M	79	S	7.62	3.13	2.69	7.75	3.88	5.00	3.50	8.88	11.26	2.00	6.30	12.92	4.36	1.78	1.63	0.19	0.75	0.25	.62 x 1.12
3L	95	S	10.24	4.44	2.69	7.75	3.88	5.00	3.50	8.88	11.26	2.5	7.61	15.55	7.00	1.78	1.63	0.19	0.75	0.25	.62 x 1.12
4H	98	S	7.25	3	3	8.25	4.19	6.25	4	10.44	12.38	1.5	6.88	13.75	4	2.38	1.81	.19	.875	.38	.5 x .75
4M	117	S	9.5	4.13	3	8.25	4.19	6.25	4	10.44	12.38	2.5	8	16	6.25	2.38	1.81	.19	.875	.38	.5 x .75
4L	142	S	12	5.38	3	8.25	4.19	6.25	4	10.44	12.38	3	9.25	18.5	8.75	2.38	1.81	.19	.875	.38	.5 x .75
5H	196	S	10.88	3.5	3.5	9	5.19	7	5	12.19	15.38	2.5	8.19	16.38	4.88	2.5	2	.25	1.125	.38	.5625 x .75
5M	215	S	12.88	4.5	3.5	9	5.19	7	5	12.19	15.38	4	9.19	18.38	6.88	2.5	2	.25	1.125	.38	.5625 x .75
5L	255	S	16.88	6.5	3.5	9	5.19	7	5	12.19	15.38	4	11.19	22.38	10.88	2.5	2	.25	1.125	.38	.5625 x .75
6H	329	S	9.75	3.94	4	16.5	6	8.75	6	14.75	18	3	9.19	18.63	5.75	2.94	2	.31	1.375	.5	.75 x 1
6M	377	S	13	5.56	4	16.5	6.19	8.75	6	14.94	18	5	10.81	21.88	9	2.94	2	.31	1.375	.5	.75 x 1
6L	549	F	20	9.06	4	16.5	7.5	8.75	6	16.25	18	6	14.31	28.88	16	2.94	2	.31	1.375	.5	.75 x 1







LHC
LEFT HAND
(OPTIONAL ASSEMBLY)

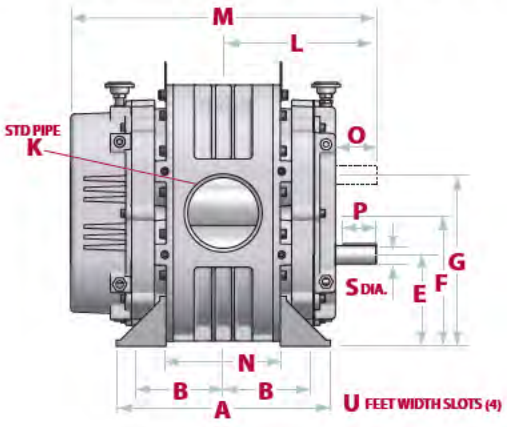


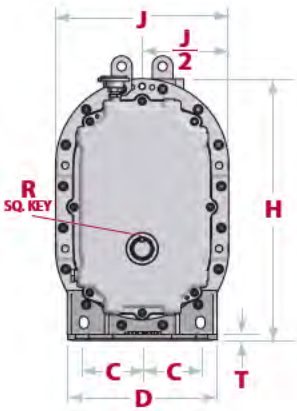
RHC
RIGHT HAND
(STANDARD ASSEMBLY)
CENTER TIMED FOR ROTATION
IN EITHER DIRECTION

Dimensional Data — Vertical Configurations

SIZE	WT.	CONN.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U
3H	71	S	6.75	2.69	2.69	7.75	4.50	6.25	8.00	11.88	7.75	1.25	5.86	12.05	3.5	1.78	1.63	0.19	.75	0.25	.62 x 1.12
3M	79	S	7.62	3.13	2.69	7.75	4.50	6.25	8.00	11.88	7.75	2.00	6.30	12.92	4.36	1.78	1.63	0.19	.75	0.25	.62 x 1.12
3L	95	S	10.24	4.44	2.69	7.75	4.50	6.25	8.00	11.88	7.75	2.50	7.61	15.55	7.00	1.78	1.63	0.19	.75	0.25	.62 x 1.12
4H	98	S	7.25	3	3	8.25	4.5	6.5	8.5	12.69	8.38	1.5	6.88	13.75	4	2.38	1.81	.19	.875	.38	.5 x .75
4M	117	S	9.5	4.13	3	8.25	4.5	6.5	8.5	12.69	8.38	2.5	8	16	6.25	2.38	1.81	.19	.875	.38	.5 x .75
4L	142	S	12	5.38	3	8.25	4.5	6.5	8.5	12.69	8.38	3	9.25	18.5	8.75	2.38	1.81	.19	.875	.38	.5 x .75
5H	196	S	10.88	3.5	3.5	9	5.5	8	10.5	15.88	10.38	2.5	8.19	16.38	4.88	2.5	2	.25	1.125	.38	.5625 x .75
5M	215	S	12.88	4.5	3.5	9	5.5	8	10.5	15.88	10.38	4	9.19	18.38	6.88	2.5	2	.25	1.125	.38	.5625 x .75
5L	255	S	16.88	6.5	3.5	9	5.5	8	10.5	15.88	10.38	4	11.19	22.38	10.88	2.5	2	.25	1.125	.38	.5625 x .75
6H	329	S	9.75	3.94	4	10.5	8.75	11.75	14.75	20.75	12	3	9.19	18.63	5.75	2.94	2	.31	1.375	.5	.75 x 1
6M	377	S	13	5.56	4	10.5	8.75	11.75	14.75	20.75	12.38	5	10.81	21.88	9	2.94	2	.31	1.375	.31	.75 x 1
6L	549	F	20	9.06	4	10.5	8.75	11.75	14.75	20.75	15	6	14.31	28.88	16	2.94	2	.31	1.375	.31	.75 x 1

S = Threaded connections standard NPT. F = flange connections. Inlet and outlet connections are the same type and size.
Dimensions are in inches. Weights are in pounds and are approximate.





THC
TOP HAND
(OPTIONAL ASSEMBLY)



BHC
BOTTOM HAND
(STANDARD ASSEMBLY)
CENTER TIMED FOR ROTATION
IN EITHER DIRECTION



Genuine Gardner Denver Parts & Lubricants

- Maintain the Gardner Denver performance advantage and reliability with Genuine GD Replacement Parts available through authorized sales and service representatives
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  - Now available:
    - ›› AEON® PD-XD (eXtreme Duty)
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    - ›› AEON® PD-FG (Food Grade)





Quality Promise

- Gardner Denver industrial blowers are manufactured under rigid ISO 9001 quality standards
- All models are thoroughly tested to meet the highest performance standards for unequaled service life under the most severe operating conditions



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ENERGY STAR PARTNER

ISO 9001 CERTIFIED QUALITY SYSTEM

Member CAGI

Please recycle after use.

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Gardner Denver, Inc. 1800 Gardner Expressway, Quincy, IL 62305
Customer Service Department Telephone: (800) 682-9868 FAX: (217) 221-8780

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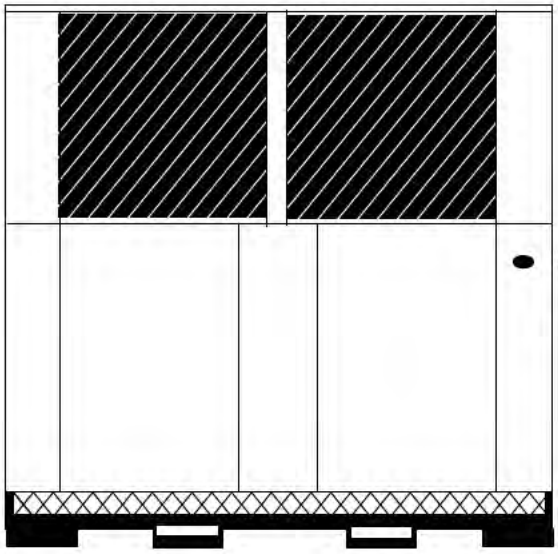
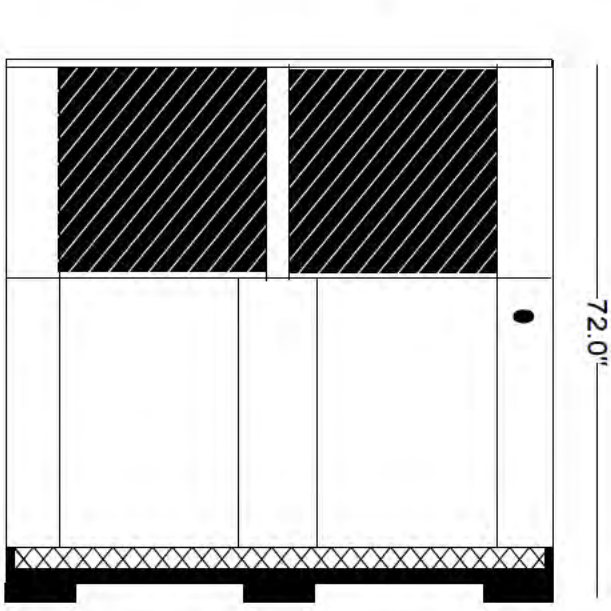
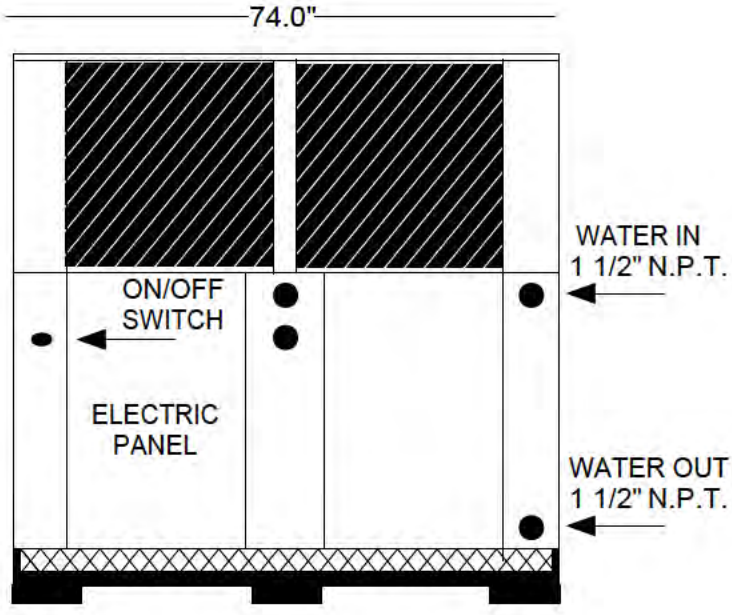
RITE-TEMP MFG.

MODEL: RTS-1604 SPEC







SPECIFICATIONS:

- 192,000 BTU/HR heat removal - 95F degree ambient, 45F degree water out.
- Electrical: 460 / 60HZ / 3 PH 24 volt electrical panel.
- Run Load: 43.95 Amps.
- Minimum Circuit Ampacity: 46; Maximum Circuit Ampacity: 83.
- ETL/CSA Laboratory Approved: ETL # 63122 & CAN/CSA NO. 236
- (2) 40 gallon, 16 gage, 304 stainless steel closed evaporator tank with coil inside.
- 1.5 HP water pump: 30 - 40 GPM, 35 - 45 PSI.
- Low ambient start-up package (standard).
- R422D Refrigerant.
- Analog water temperature and pressure gauges.
- Air-cooled condenser.
- Cabinet: 18 and 20 gage Phos coat galvanized steel finished with polyester powder coat.
- Base frame: 1/8 - inch angle & channel iron.
- Multi-compressor design: (4) 4 ton Copeland Hermetic (5 - year warranty).
- Independent multi-compressor operation for staged loads.
- Approximate crated weight: 2400 LBS.
- Physical dimensions: 74" wide, 74" long, and 72" tall.

NOT TO SCALE

American Industrial Heat Transfer Inc.

Manufacturer of Quality Heat Exchangers



website : www.aihti.com
general email : sales@aihti.com
technical email : engineering@aihti.com

Shell & Tube Application Request: *(For liquid to liquid heat exchangers)*

For SRCS Series

Email form to: sales@aihti.com or engineering@aihti.com or fax to 434-757-1810

Contact Name _____ Telephone _____ Date _____

Company Name _____ Email _____

Address: _____ Fax _____

_____

Hot Side

Fluid Type _____

If available:

Density _____ lb/ft3
Viscosity _____ cP
Conductivity _____ Btu/hr.ft.°F
Specific Heat _____ Btu/lb.°F

1. Flow Rate _____
2. Temperature In _____
3. Desired Temperature Out _____
4. Heat Load _____

Cold Side

Fluid Type _____

If available:

Density _____ lb/ft3
Viscosity _____ cP
Conductivity _____ Btu/hr.ft.°F
Specific Heat _____ Btu/lb.°F

1. Flow Rate _____
2. Temperature In _____

Maximum Allowable Pressure Drop:

Hot Side _____ Cold Side _____

To properly size the heat exchanger we need 3 of the 4 parameter on the Hot Side and 2 on the Cold Side.

Fixed Tube Bundle ☐ Removable Tube Bundle ☐ U-Tube Fixed Tube Bundle ☐ U-Tube Removable Tube Bundle ☐

Shell Material Construction:

Steel ☐ Stainless Steel ☐

Tube Sheet Material

Steel ☐ Stainless Steel ☐

Brass ☐ (Applies to removable bundle only)

Tube Material Construction:

Copper ☐
90/10 Copper Nickel ☐
Stainless Steel ☐

End Bonnets Material:

Steel ☐
Stainless Steel ☐

Require All Stainless Steel Heat Exchanger Yes ☐ No ☐

ASME Code and Certified Yes ☐ No ☐

Comment: _____

_____

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SRCS SERIES



Single Pass

Two Pass

Straight Tube Removable Bundle / Liquid Cooled

HEAT EXCHANGERS

- Computer generated data sheet available for any application
- Removable straight-tube bundle
- Brass stationary and floating tube sheets.
- Brass packing and retaining rings.
- Dual Viton O-ring packing seals.
- Removable channel covers for access to tubes without disturbing existing plumbing.
- As an option, available in ASME code and certified
- Operating pressure, 150 PSI tubes, 250 PSI shell.
- Operating temperature 400°F
- Can be customized to fit any applications.

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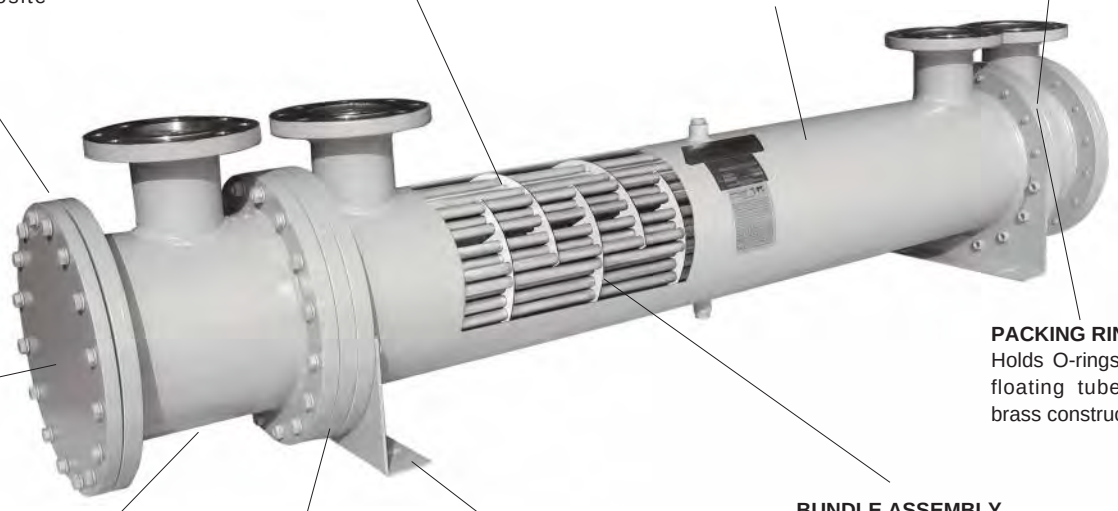
SRCS Series *overview*



BAFFLES
CNC manufactured baffles to provide maximum turbulence and heat transfer with a minimum fluid pressure drop.

FINISH
Gray semigloss enamel. Can be used as a base for additional coats.

RETAINING RING
Holds packing O-rings in place, brass construction.

FULL FACE GASKET
Full-face composite gasket.

REMOVABLE CHANNEL COVER
For easy access to tubes for cleaning without removing the channel.

PACKING RING
Holds O-rings against floating tube sheet, brass construction.

BUNDLE ASSEMBLY
CNC precision manufactured parts to guarantee a close fit between the baffles, tubes, and shell. Clearances are minimized to provide for maximum heat transfer.

STEEL FOOT BRACKET

CHANNEL
Provides fluid into tubes with minimum restriction. One or Two Pass interchangeability.

STATIONARY TUBE SHEET
Roller expanded tube joint to tube-sheet made of brass construction.

UNIT CODING

Example Model

Options

SRCS - 2496 - 8 - 6 - TP - CNT - SB - Z

Model
SRCS

Shell Diameter
1700 = 8.00"
2000 = 10.75"
2400 = 12.75"
2800 = 14.00"
3200 = 16.00"
3600 = 18.00"
4000 = 20.00"

Effective Tube Length
(12" increments)

Baffle Spacing
4.0"
6.0"
8.0"
12.0"
18.0"
24.0"

Cooling Tube Diamenter
6 = 3/8"
10 = 5/8"

Tube Side Passes
SP = 1 pass
TP = 2 pass

Tubing
Blank = Standard

Options
CNT= 90/10 Cu Ni
STS = Stainless Steel
C = Carbon Steel

End Bonnets
Blank = Fabricated Steel

Options
SB = Stainless Steel

Zinc Anode
Z = 1 Zinc Anode
2Z = 2 Zinc Anode etc.

STANDARD CONSTRUCTION MATERIALS & RATINGS

Standard Model	SRCS 1700 - 4000	Options	Standard Unit Ratings
Shell	Steel	Stainless Steel	Operating Pressure Tubes 150 psig Operating Pressure Shell 300 psig Operating Temperature 400 ºF Optional 500 °F
Tubes	Copper	90/10 Cu. Ni. / Stainless Steel	
Baffles	Steel	Brass / Stainless Steel	
Tube Sheets	Brass	Steel / Stainless Steel	
Retaining Ring	Brass	Steel / Stainless Steel	
Packing Ring	Brass	Steel / Stainless Steel	
Gaskets / Packing	Hypalon / Viton	Viton / EPDM / EPR	
Mounting Brackets	Steel	Stainless Steel	
Bonnets / Channels	Cast Iron / Steel	Stainless Steel	

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STEP 1: Calculate the heat load

The heat load in BTU/HR or (Q) can be derived by using several methods. To simplify things, we will consider general specifications for hydraulic system oils and other fluids that are commonly used with shell & tube heat exchangers.

Terms					
GPM	=	Gallons Per Minute	Kw	=	Kilowatt (watts x 1000)
CN	=	Constant Number for a given fluid	T_{in}	=	Hot fluid entering temperature in °F
△T	=	Temperature differential across the potential	T_{out}	=	Hot fluid exiting temperature in °F
PSI	=	Pounds per Square Inch (pressure) of the operating side of the system	t_{in}	=	Cold fluid temperature entering in °F
MHP	=	Horsepower of the electric motor driving the hydraulic pump	t_{out}	=	Cold fluid temperature exiting in °F
			Q	=	BTU / HR

For example purposes, a hydraulic system has a total input 1200 HP (894Kw) electric motor installed coupled to a pump that produces a flow of 600 GPM @ 3000 PSIG. The temperature differential of the oil entering the pump *vs* exiting the system is about 6.6°F. Even though return line pressure operates below 200 psi, calculate the system heat load potential (Q) based upon the prime movers (pump) capability, cooling fluid is water @ 80ºF use one of the following equations to accomplish this:

To derive the required heat load (Q) to be removed by the heat exchanger, apply ONE of the following. Note: The calculated heat loads may differ slightly from one formula to the next. This is due to assumptions made when estimating heat removal requirements. The factor *(v)* represents the percentage of the overall input energy to be rejected by the heat exchanger. The *(v)* factor is generally about 30% for most hydraulic systems, however it can range from 20%-70% depending upon the installed system components and heat being generated (ie. servo valves, proportional valves, etc…will increase the percentage required).

Formula	Example
A) Q = GPM x CN x actual △T	A) Q =600 x 210 x 6.6°F = 831,600 BTU/HR
B) Q = [(PSI x GPM) / 1714] x (*v*) x 2545	B) Q =[(3000x600)/1714] x .30 x 2545 = 801,808 BTU/HR
C) Q = MHP x (*v*) x 2545	C) Q =1200 x .30 x 2545 = 916,200 BTU/HR
D) Q = Kw to be removed x 3415	D) Q =894 x .30 x 3415 = 915,909 BTU/HR
E) Q = HP to be removed x 2545	E) Q =300 x 2545 = 736,500 BTU/HR

Constant for a given fluid (CN)

1) Oil ..... CN = 210
2) Water..... CN = 500
3) 50% E. Glycol..... CN = 450

STEP 2: Calculate the Mean Temperature Difference

When calculating the MTD you will be required to choose a liquid flow rate to derive the Cold Side △T. If the water flow is unknown you may need to assume a number based on what is available. As a normal rule of thumb, for oil to water cooling a 2:1 oil to water ratio is used. For applications of water to water or 50 % Ethylene Glycol to water, a 1:1 ratio is common.

	Formula	Example (from step 1,item C)
HOT FLUID Oil	$\triangle T = \frac{Q}{CN \times GPM}$	$\triangle T = \frac{916{,}200\ BTU/hr}{210\ CN \times 600 GPM} = 7.37°F$ = △T Rejected
COLD FLUID Water	$\triangle t = \frac{BTU\ /\ hr}{CN \times GPM}$	$\triangle t = \frac{916{,}200\ BTU/hr}{500\ CN \times 300 GPM} = 3.81°F$ = △t Absorbed

T_{in}	=	Hot Fluid entering temperature in degrees F	117.3 °F
T_{out}	=	Hot Fluid exiting temperature in degrees F	110.0 °F
t_{in}	=	Cold Fluid entering temperature in degrees F	80.0 °F
t_{out}	=	Cold Fluid exiting temperature in degrees F	86.1 °F

$$\frac{T_{out} - t_{in}}{T_{in} - t_{out}} = \frac{S[\text{smaller temperature difference}]}{L\ [\text{larger temperature difference}]} = \left(\frac{S}{L}\right) \qquad \frac{110.0°F - 80.0°F}{117.3°F - 86.1°F} = \frac{30.0°F}{31.2°F} = .962$$

STEP 3: Calculate Log Mean Temperature Difference (LMTD)

To calculate the LMTD please use the following method;
L = Larger temperature difference from step 2.
M = S/L number (LOCATED IN TABLE A). .962 = .980
$LMTD_i$ = L x M

$LMTD_i$ = 31.2 x .980 (FROM TABLE A) = 30.6

To correct the $LMTD_i$ for a multipass heat exchangers calculate **R** & **K** as follows:

Formula	Example
$R = \frac{T_{in} - T_{out}}{t_{out} - t_{in}}$	$R = \frac{117.3°F - 100°F}{86.1°F - 90°F} = \frac{17.3°F}{6.1°F} =$ **{2.82=R}**
$K = \frac{t_{out} - t_{in}}{T_{in} - t_{in}}$	$K = \frac{86.1°F - 80°F}{117.3°F - 80°F} = \frac{6.1°F}{37.3°F} =$ **{.163=K}**

Locate the correction factor CF_B (FROM TABLE B)
$LMTD_c = LMTD_i \times CF_B$
$LMTD_c$ = 30.6 x .997 = **30.5**

STEP 4: Calculate the area required

$$\textbf{Required Area sq.ft.} = \frac{Q\ (BTU / HR)}{LMTD_c \times U\ (\text{FROM TABLE C})} \qquad \frac{916{,}200}{30.5 \times 100} = \textbf{300.4 sq.ft.}$$

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SRCS Series *selection*

STEP 5: Selection

a) From TABLE E choose the correct series size, baffle spacing, and number of passes that best fits your flow rates for both shell and tube side. Note that the tables suggest minimum and maximum information. Try to stay within the 20-80 percent range of the indicated numbers.

Example

Oil Flow Rate = 600 GPM = Series Required from Table E = **2400 Series**
Baffle Spacing from Table E = **18 baffle**
Water Flow Rate = 300 GPM = Passes required in 2000 series = **TP**

b) From TABLE D choose the heat exchanger model size based upon the sq.ft. or surface area in the series size that will accommodate your flow rate.

Example

Required Area = 300.4 sq.ft Closest model required based upon sq.ft. & series = **SRCS-2484-18-6-TP**

If you require a computer generated data sheet for the application, or if the information that you are trying to apply does not match the corresponding information, please contact our engineering services department for further assistance.

TABLE E

Shell Dia. Code	Max. Liquid Flow - Shell Side						Liquid Flow - Tube Side			
	4	6	8	12	18	24	SP		TP	
							Min.	Max.	Min.	Max.
1700	140	165	190	210	220	—	52	418	26	164
2000	150	220	300	440	550	—	82	590	41	290
2400	155	235	310	470	700	930	125	980	64	486
2800	170	255	345	510	770	1030	150	1200	75	600
3200	200	295	395	590	890	1175	200	1600	100	800
3600	225	335	445	665	1000	1330	258	2068	129	1031
4000	250	375	495	745	1120	1490	322	2586	160	1290

TABLE C

U	TUBE FLUID	SHELL FLUID
400	Water	Water
350	Water	50% E. Glycol
100	Water	Oil
300	50% E. Glycol	50% E. Glycol
90	50% E. Glycol	Oil

TABLE A- FACTOR M/LMTD = L x M

S/L	M	S/L	M	S/L	M	S/L	M
		.25	.541	.50	.721	.75	.870
.01	.215	.26	.549	.51	.728	.76	.874
.02	.251	.27	.558	.52	.734	.77	.879
.03	.277	.28	.566	.53	.740	.78	.886
.04	.298	.29	.574	.54	.746	.79	.890
.05	.317	.30	.582	.55	.753	.80	.896
.06	.334	.31	.589	.56	.759	.81	.902
.07	.350	.32	.597	.57	.765	.82	.907
.08	.364	.33	.604	.58	.771	.83	.913
.09	.378	.34	.612	.59	.777	.84	.918
.10	.391	.35	.619	.60	.783	.85	.923
.11	.403	.36	.626	.61	.789	.86	.928
.12	.415	.37	.634	.62	.795	.87	.934
.13	.427	.38	.641	.63	.801	.88	.939
.14	.438	.39	.648	.64	.806	.89	.944
.15	.448	.40	.655	.65	.813	.90	.949
.16	.458	.41	.662	.66	.818	.91	.955
.17	.469	.42	.669	.67	.823	.92	.959
.18	.478	.43	.675	.68	.829	.93	.964
.19	.488	.44	.682	.69	.836	.94	.970
.20	.497	.45	.689	.70	.840	.95	.975
.21	.506	.46	.695	.71	.848	.96	.979
.22	.515	.47	.702	.72	.852	.97	.986
.23	.524	.48	.709	.73	.858	.98	.991
.24	.533	.49	.715	.74	.874	.99	.995

TABLE B- LMTD correction factor for Multipass Exchangers

R

	.05	.1	.15	.2	.25	.3	.35	.4	.45	.5	.6	.7	.8	.9	1.0
.2	1	1	1	1	1	1	1	.999	.993	.984	972	.942	.908	.845	.71
.4	1	1	1	1	1	1	994	.983	.971	.959	.922	.855	.70		
.6	1	1	1	1	1	.992	980	.965	.948	.923	.840				
.8	1	1	1	1	.995	.981	.965	.945	.916	.872					
1.0	1	1	1	1	.988	.970	.949	.918	.867	.770					
2.0	1	1	.977	.973	.940	.845	.740								
3.0	1	1	.997	.933	.835										
4.0	1	.993	.950	.850											
5.0	1	.982	.917												
6.0	1	.968	.885												
8.0	1	.930													
10.0	.996	.880													
12.0	.985	.720													
14.0	.972														
16.0	.958														
18.0	.940														
20.0	.915														

K

TABLE D- Surface Area

Model Number	Surface Area in Sq. ft.		Model Number	Surface Area in Sq. ft.		Model Number	Surface Area in Sq. ft.		Model Number	Surface Area in Sq. ft.	
	3/8" O.D. Tubing	5/8" O.D. Tubing		3/8" O.D. Tubing	5/8" O.D. Tubing		3/8" O.D. Tubing	5/8" O.D. Tubing		3/8" O.D. Tubing	5/8" O.D. Tubing
SRCS-1736	55.3	33.3	SRCS-2472	286.3	149.2	SRCS-3248	336.9	179.3	SRCS-36144	1324.0	730.0
SRCS-1748	73.8	44.5	SRCS-2484	334.0	174.1	SRCS-3260	421.1	224.1	SRCS-36156	1434.0	791.0
SRCS-1760	92.2	55.6	SRCS-2496	381.7	199.0	SRCS-3272	505.4	268.9	SRCS-36168	1544.0	852.0
SRCS-1772	110.7	66.7	SRCS-24108	429.4	223.8	SRCS-3284	589.6	313.8	SRCS-36180	1655.0	913.0
SRCS-1784	129.1	77.8	SRCS-24120	477.1	248.7	SRCS-3296	673.8	358.6			
SRCS-1796	147.6	89.0	SRCS-24132	524.8	273.6	SRCS-32108	758.1	403.4	SRCS-4048	545.8	299 7
SRCS-17108	166.1	100.1	SRCS-24144	572.5	298.5	SRCS-32120	842.3	448.3	SRCS-4060	682.3	374 7
						SRCS-32132	926.5	493.1	SRCS-4072	818.7	449 6
SRCS-2036	104.8	53.9	SRCS-2836	186.1	96.2	SRCS-32144	1010.8	537.9	SRCS-4084	955.2	524 5
SRCS-2048	139.8	72.0	SRCS-2848	248.1	128.2	SRCS-32156	1095.0	582.8	SRCS-4096	1091.7	599 5
SRCS-2060	174.7	90.0	SRCS-2860	310.2	160.5	SRCS-32168	1179.2	627.6	SRCS-40108	1228.0	674.4
SRCS-2072	209.7	108.0	SRCS-2872	372.2	192.4				SRCS-40120	1364.6	749.4
SRCS-2084	244.6	126.0	SRCS-2884	434.3	224.4	SRCS-3648	441.4	243.5	SRCS-40132	1501.0	824.3
SRCS-2096	279.6	144.0	SRCS-2896	496.3	256.5	SRCS-3660	551.7	304.3	SRCS-40144	1637.5	899 2
SRCS-20108	314.5	162.0	SRCS-28108	558.4	290.4	SRCS-3672	662.1	356.2	SRCS-40156	1774.0	974 2
SRCS-20120	349.5	180.0	SRCS-28120	620.4	320.7	SRCS-3684	772.4	426.1	SRCS-40168	1910.4	1049.1
			SRCS-28132	682.5	352.7	SRCS-3696	882.8	486.9	SRCS-40180	2046.9	1124.1
SRCS-2436	143.1	74.6	SRCS-28144	744.5	384.8	SRCS-36108	993.1	547.8			
SRCS-2448	190.9	99.5	SRCS-28156	806.6	416.9	SRCS-36120	1103.5	608.7			
SRCS-2460	238.6	124.4	SRCS-28168	868.6	448.9	SRCS-36132	1213.8	669.6			

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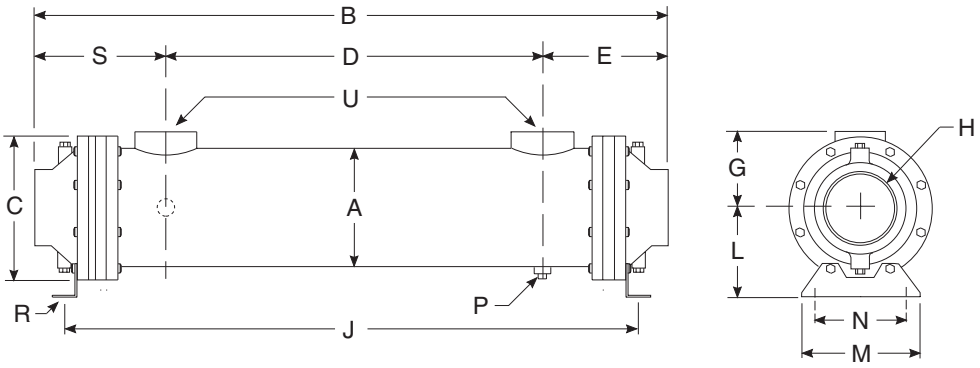
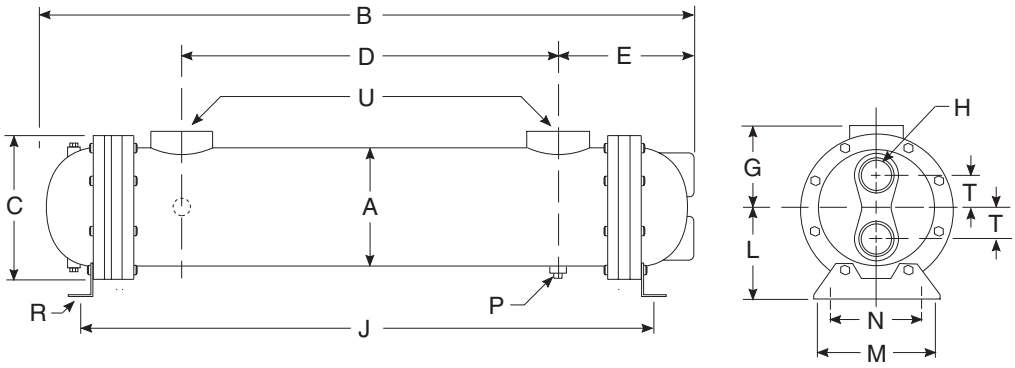


Model	B	S	E	H NPT
SRCS-1736	45.4	8.35	8.04	4.0
SRCS-1748	57.4			
SRCS-1760	69.4			
SRCS-1772	81.4			
SRCS-1784	93.4			
SRCS-1796	105.4			
SRCS-17108	117.4			
SRCS-17120	129.4			

Single Pass (SP)



Model	B	E	H NPT	T
SRCS-1736	44.5	7.88	2.5	1.88
SRCS-1748	56.5			
SRCS-1760	68.5			
SRCS-1772	80.5			
SRCS-1784	92.5			
SRCS-1796	104.5			
SRCS-17108	116.5			
SRCS-17120	128.5			

Two Pass (TP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J	L	M	N	P NPT	R	U NPT	Weight	Model
SRCS-1736	8.0	10.12	29.00	5.62	41.4	5.75	8.25	7.0	(2) .38	.44Ø x 1.00" Thru Slot	3.0	205	SRCS-1736
SRCS-1748			41.00		53.4							245	SRCS-1748
SRCS-1760			53.00		65.4							285	SRCS-1760
SRCS-1772			65.00		77.4							325	SRCS-1772
SRCS-1784			77.00		89.4							365	SRCS-1784
SRCS-1796			89.00		101.4							405	SRCS-1796
SRCS-17108			101.00		113.4							445	SRCS-17108
SRCS-17120			113.00		125.4							485	SRCS-17120

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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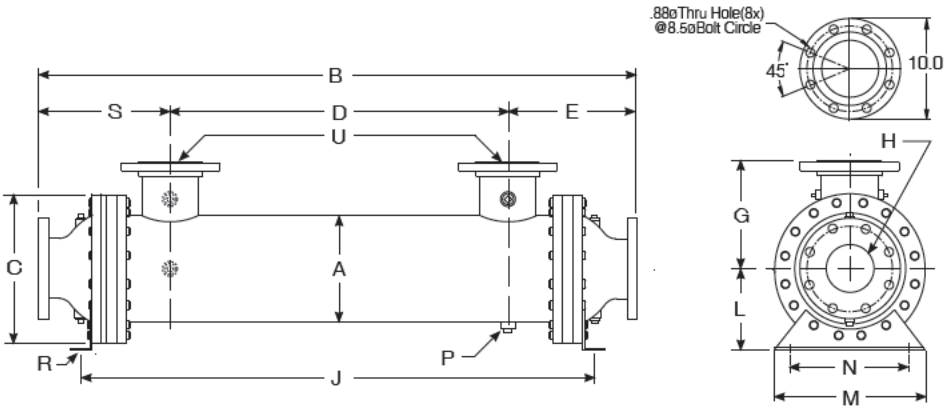
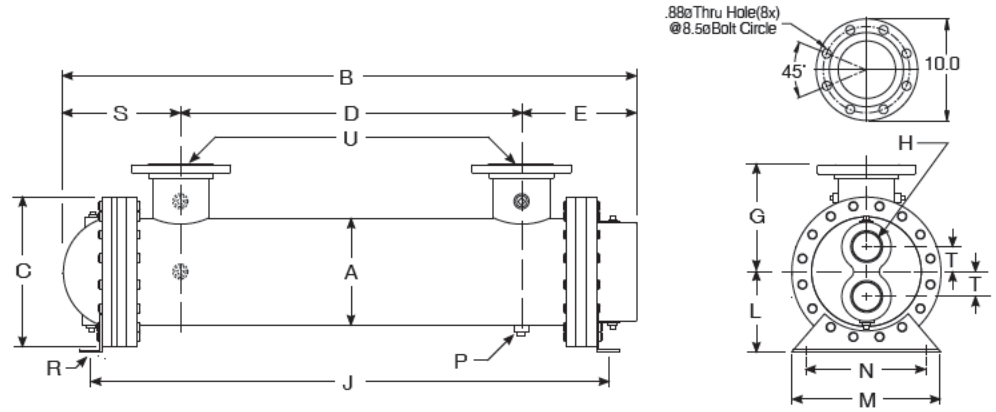
SRCS-2000 Series *dimensions*



Model	B	S	E	H
SRCS-2036	53.40	14.38	13.90	5.0" ANSI Flange
SRCS-2048	65.40			
SRCS-2060	77.40			
SRCS-2072	89.40			
SRCS-2084	101.40			
SRCS-2096	113.40			
SRCS-20108	125.40			
SRCS-20120	137.40			

Single Pass (SP)



Model	B	E	H NPT	T
SRCS-2036	49.2	11.94	3.00	2.50
SRCS-2048	61.2			
SRCS-2060	73.2			
SRCS-2072	85.2			
SRCS-2084	97.2			
SRCS-2096	109.2			
SRCS-20108	121.2			
SRCS-20120	133.2			

Two Pass (TP)

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J	L	M	N	P NPT	R	U	Weight	Model
SRCS-2036	10 75	15.00	26.00	10.75	44.63	8.0	12.0	5.0	(4x) .50	.75"Ø x 1.25" Thru Slot	4.00" ANSI Flange 150# RF	720	SRCS-2036
SRCS-2048			38.00		56.63							780	SRCS-2048
SRCS-2060			50.00		68.63							840	SRCS-2060
SRCS-2072			62.00		80.63							900	SRCS-2072
SRCS-2084			74.00		92.63							960	SRCS-2084
SRCS-2096			86.00		104.63							1020	SRCS-2096
SRCS-20108			98.00		116.63							1080	SRCS-20108
SRCS-20120			110.00		128.63							1150	SRCS-20120

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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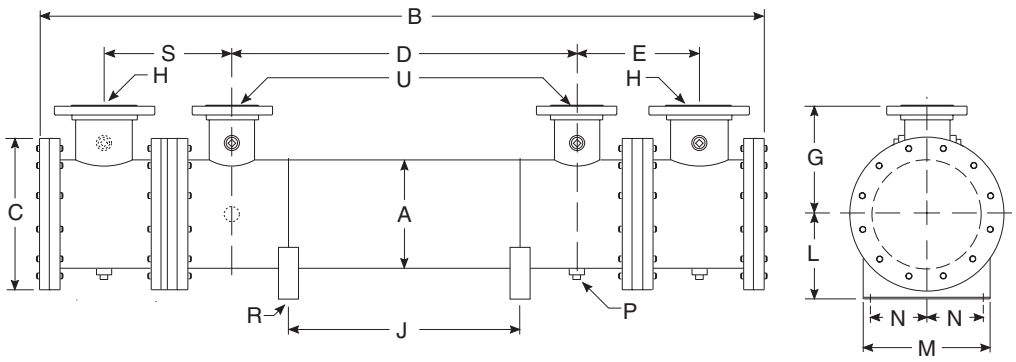
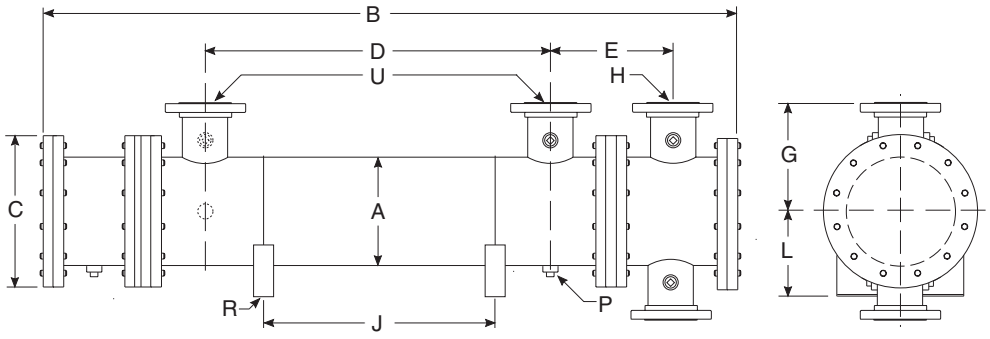


Single Pass (SP)

Model	B	E	H
SRCS-2436	70.63	15.56	8.0 ANSI Flange 150# RF
SRCS-2448	82.63		
SRCS-2460	94.63		
SRCS-2472	106.63		
SRCS-2484	118.63		
SRCS-2496	130.63		
SRCS-24108	142.63		
SRCS-24120	154.63		
SRCS-24132	166.63		
SRCS-24144	178.63		
SRCS-24156	190.63		



Two Pass (TP)

Model	B	E	H
SRCS-2436	70.63	15.56	6.0 ANSI Flange 150# RF
SRCS-2448	82.63		
SRCS-2460	94.63		
SRCS-2472	106.63		
SRCS-2484	118.63		
SRCS-2496	130.63		
SRCS-24108	142.63		
SRCS-24120	154.63		
SRCS-24132	166.63		
SRCS-24144	178.63		
SRCS-24156	190.63		

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J	L	M	N	P NPT	R	U	Weight	Model
SRCS-2436	12.75	16.25	24.00	11.38	31.00	12.00	12.75	5.00	.50 (10x)	.75"Ø x 1.00" Thru Slot	6.0 ANSI Flange 150# RF	1040	SRCS-2436
SRCS-2448			36.00		43.00							1130	SRCS-2448
SRCS-2460			48.00		55.00							1221	SRCS-2460
SRCS-2472			60.00		67.00							1312	SRCS-2472
SRCS-2484			72.00		79.00							1402	SRCS-2484
SRCS-2496			84.00		91.00							1493	SRCS-2496
SRCS-24108			96.00		103.00							1584	SRCS-24108
SRCS-24120			108.00		115.00							1675	SRCS-24120
SRCS-24132			120.00		127.00							1766	SRCS-24132
SRCS-24144			132.00		139.00							1857	SRCS-24144
SRCS-24156			144.00		151.00							1869	SRCS-24156

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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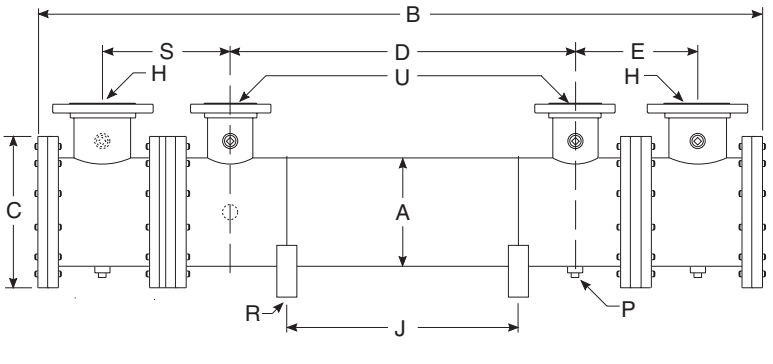
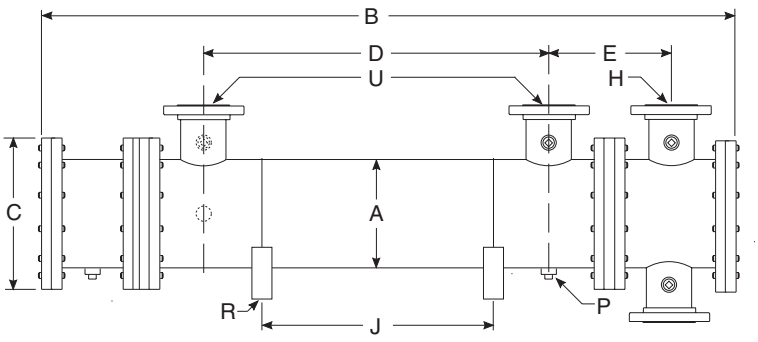
SRCS-3000 Series *dimensions*



Single Pass (SP)

Model	B	E	H
SRCS-2836	70.63	16.56	8.00" ANSI Flange 150# RF
SRCS-2848	82.63		
SRCS-2860	94.63		
SRCS-2872	106.63		
SRCS-2884	118.63		
SRCS-2896	130.63		
SRCS-28108	142.63		
SRCS-28120	154.63		
SRCS-28132	166.63		
SRCS-28144	178.63		
SRCS-28156	190.63		
SRCS-28168	202.63		



Two Pass (TP)

Model	B	E	H
SRCS-2836	70.63	16.56	6.00" ANSI Flange 150# RF
SRCS-2848	82.63		
SRCS-2860	94.63		
SRCS-2872	106.63		
SRCS-2884	118.63		
SRCS-2896	130.63		
SRCS-28108	142.63		
SRCS-28120	154.63		
SRCS-28132	166.63		
SRCS-28144	178.63		
SRCS-28156	190.63		
SRCS-28168	202.63		

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J	L	M	N	P NPT	R	U	Weight	Model
SRCS-2836	14.00	18.00	22.00	12.00	31.00	13.00	14.00	5.00	.50 (10x)	.75"Ø x 1.00" Thru Slot	8.00" ANSI Flange 150# RF	1288	SRCS-2836
SRCS-2848			34.00		43.00							1400	SRCS-2848
SRCS-2860			46.00		55.00							1512	SRCS-2860
SRCS-2872			58.00		67.00							1624	SRCS-2872
SRCS-2884			70.00		79.00							1736	SRCS-2884
SRCS-2896			82.00		91.00							1848	SRCS-2896
SRCS-28108			94.00		103.00							1960	SRCS-28108
SRCS-28120			106.00		115.00							2072	SRCS-28120
SRCS-28132			112.00		127.00							2184	SRCS-28132
SRCS-28144			130.00		139.00							2296	SRCS-28144
SRCS-28156			142.00		151.00							2408	SRCS-28156
SRCS-28168			154.00		163.00							2520	SRCS-28168

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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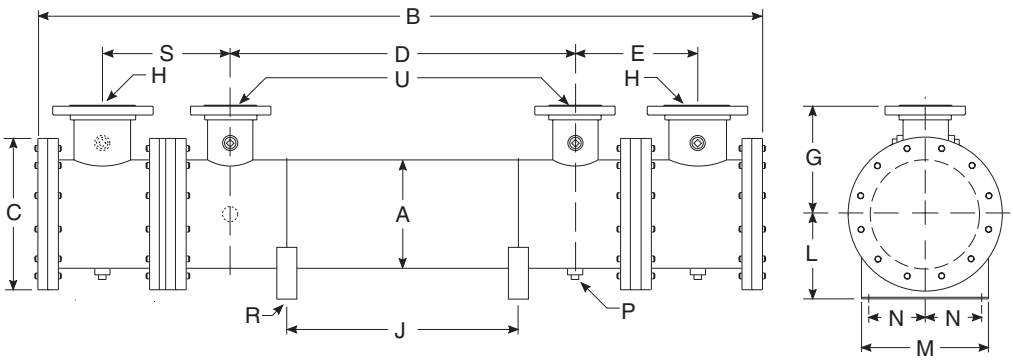
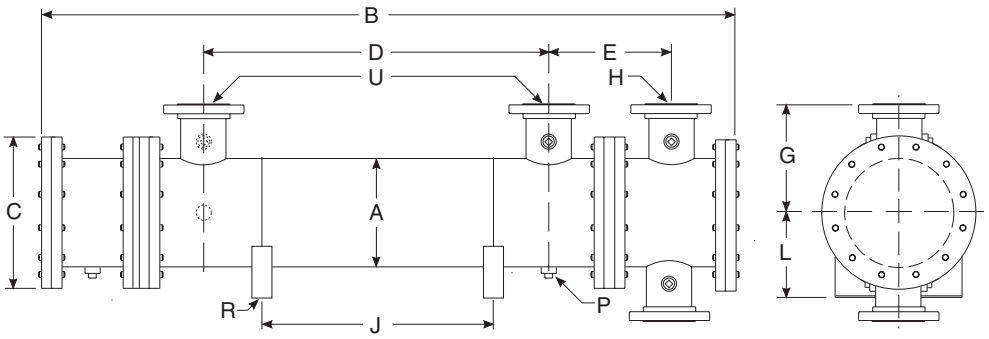


Single Pass (SP)

Model	B	E	H
SRCS-3248	87.63	18.13	10.00" ANSI Flange 150# RF
SRCS-3260	99.63		
SRCS-3272	111.63		
SRCS-3284	123.63		
SRCS-3296	135.63		
SRCS-32108	147.63		
SRCS-32120	159.63		
SRCS-32132	171.63		
SRCS-32144	183.63		
SRCS-32156	195.63		
SRCS-32168	207.63		



Two Pass (TP)

Model	B	E	H
SRCS-3248	87.63	18.13	6.00" ANSI Flange 150# RF
SRCS-3260	99.63		
SRCS-3272	111.63		
SRCS-3284	123.63		
SRCS-3296	135.63		
SRCS-32108	147.63		
SRCS-32120	159.63		
SRCS-32132	171.63		
SRCS-32144	183.63		
SRCS-32156	195.63		
SRCS-32168	207.63		

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J	L	M	N	P NPT	R	U	Weight	Model
SRCS-3248	16.00	20.00	34.00	13.00	43.00	14.00	16.00	6.00	.50 (10x)	.781"Ø x 1.50" Thru Slot	8.00" ANSI Flange 150# RF	2377	SRCS-3248
SRCS-3260			46.00		55.00							1975	SRCS-3260
SRCS-3272			58.00		67.00							2121	SRCS-3272
SRCS-3284			70.00		79.00							2266	SRCS-3284
SRCS-3296			82.00		91.00							2414	SRCS-3296
SRCS-32108			94.00		103.00							2558	SRCS-32108
SRCS-32120			106.00		115.00							2705	SRCS-32120
SRCS-32132			112.00		127.00							2852	SRCS-32132
SRCS-32144			130.00		139.00							2999	SRCS-32144
SRCS-32156			142.00		151.00							3146	SRCS-32156
SRCS-32168			154.00		163.00							3293	SRCS-32168

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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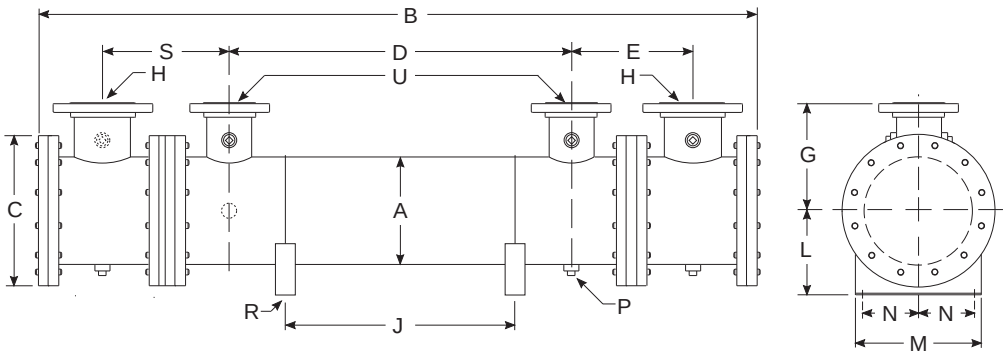
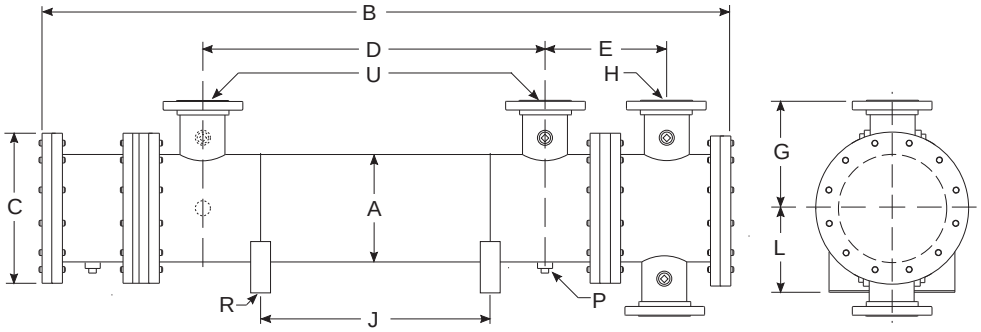
SRCS-3600 Series *dimensions*



One Pass (TP)

Model	B	E	H
SRCS-3648	87.63	19.13	10.00" ANSI Flange 150# RF
SRCS-3660	99.63		
SRCS-3672	111.63		
SRCS-3684	123.63		
SRCS-3696	135.63		
SRCS-36108	147.63		
SRCS-36120	159.63		
SRCS-36132	171.63		
SRCS-36144	183.63		
SRCS-36156	195.63		
SRCS-36168	207.63		
SRCS-36180	219.63		



Two Pass (TP)

Model	B	E	H
SRCS-3648	87.63	19.13	8.00" ANSI Flange 150# RF
SRCS-3660	99.63		
SRCS-3672	111.63		
SRCS-3684	123.63		
SRCS-3696	135.63		
SRCS-36108	147.63		
SRCS-36120	159.63		
SRCS-36132	171.63		
SRCS-36144	183.63		
SRCS-36156	195.63		
SRCS-36168	207.63		
SRCS-36180	219.63		

Model	A	C	D	G	J	L	M	N	P NPT	R	U	Weight	Model
SRCS-3648	18.00	22.00	32.00	14.00	43.00	15.00	16.00	7.00	.50 (6X)	.781"Ø x 1.50" Thru Slot	10.00" ANSI Flange 150# RF	2314	SRCS-3648
SRCS-3660			44.00		55.00							2498	SRCS-3660
SRCS-3672			56.00		67.00							2684	SRCS-3672
SRCS-3684			68.00		79.00							2869	SRCS-3684
SRCS-3696			80.00		91.00							3054	SRCS-3696
SRCS-36108			92.00		103.00							3239	SRCS-36108
SRCS-36120			104.00		115.00							3424	SRCS-36120
SRCS-36132			116.00		127.00							3609	SRCS-36132
SRCS-36144			128.00		139.00							3794	SRCS-36144
SRCS-36156			140.00		151.00							3979	SRCS-36156
SRCS-36168			152.00		163.00							4164	SRCS-36168
SRCS-36180			164.00		175.00							4349	SRCS-36180

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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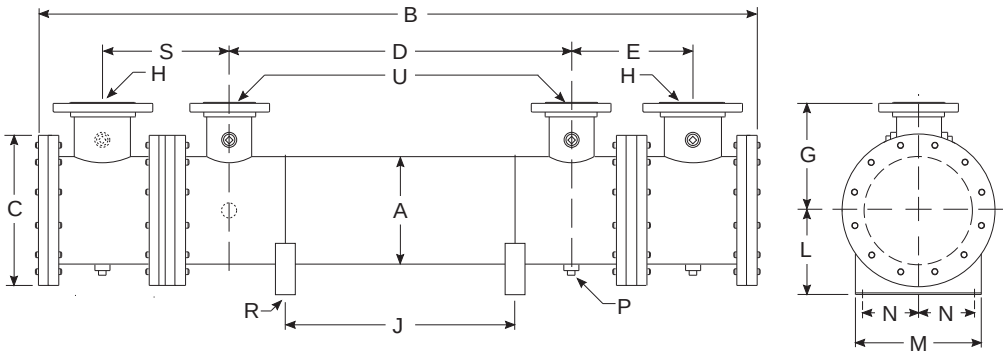
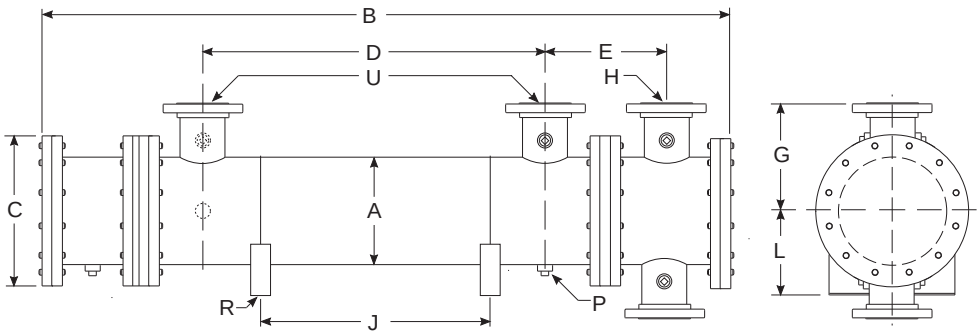


One Pass (TP)

Model	B	E	H
SRCS-4048	93.68	20.68	12.00" ANSI Flange 150# RF
SRCS-4060	105.68		
SRCS-4072	117.68		
SRCS-4084	129.68		
SRCS-4096	141.68		
SRCS-40108	153.68		
SRCS-40120	165.68		
SRCS-40132	177.68		
SRCS-40144	189.68		
SRCS-40156	201.68		
SRCS-40168	213.68		
SRCS-40180	225.68		



Two Pass (TP)

Model	B	E	H
SRCS-4048	93.68	20.68	8.00" ANSI Flange 150# RF
SRCS-4060	105.68		
SRCS-4072	117.68		
SRCS-4084	129.68		
SRCS-4096	141.68		
SRCS-40108	153.68		
SRCS-40120	165.68		
SRCS-40132	177.68		
SRCS-40144	189.68		
SRCS-40156	201.68		
SRCS-40168	213.68		
SRCS-40180	225.68		

COMMON DIMENSIONS & WEIGHTS

Model	A	C	D	G	J	L	M	N	P NPT	R	U	Weight	Model
SRCS-4048	20.00	25.00	32.00	16.00	43.00	17.00	20.00	8.00	.50 (6X)	.781"Ø x 1.50" Thru Slot	10.00" ANSI Flange 150# RF	2856	SRCS-4048
SRCS-4060			44.00		55.00							3085	SRCS-4060
SRCS-4072			56.00		67.00							3313	SRCS-4072
SRCS-4084			68.00		79.00							3542	SRCS-4084
SRCS-4096			80.00		91.00							3770	SRCS-4096
SRCS-40108			92.00		103.00							3999	SRCS-40108
SRCS-40120			104.00		115.00							4227	SRCS-40120
SRCS-40132			116.00		127.00							4456	SRCS-40132
SRCS-40144			128.00		139.00							4686	SRCS-40144
SRCS-40156			140.00		151.00							4916	SRCS-40156
SRCS-40168			152.00		163.00							5146	SRCS-40168
SRCS-40180			164.00		175.00							5376	SRCS-40180

Notes

- SRCS Series tube bundle is removable. For replacement bundles consult factory.
- It is recommended that when a heat exchanger is disassembled, new gaskets and O-rings to be used in reassembly.
- Replacement gasket and O-Ring seal part numbers are available. For more information consult factory.

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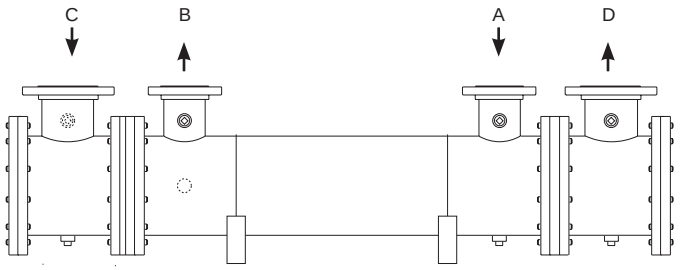
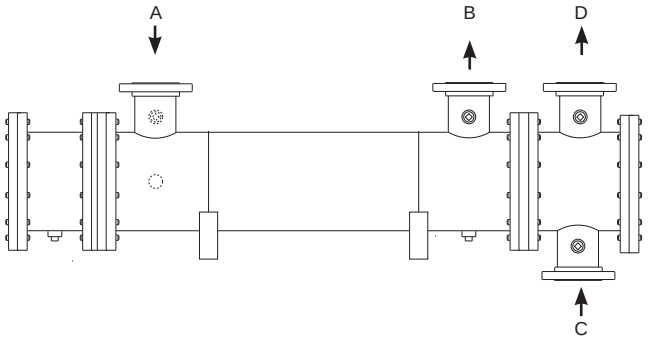
PIPING HOOK-UP

A ..... Hot fluid to be cooled
B ..... Cooled fluid
C ..... Cooling water in
D ..... Cooling water out

SP ..... Single Pass
TP ..... Two Pass



Single Pass



Two Pass

Receiving / Installation

a) Inspect unit for any shipping damage before uncrating. Indicate all damages to the trucking firms' delivery person, and mark it on the receiving bill before accepting the freight. Make sure that there is no visible damage to the outside surface of the heat exchanger. The published weight information located in this brochure is approximate. True shipment weights are determined at the time of shipping and may vary. Approximate weight information published herein is for engineering approximation purposes and should not be used for exact shipping weight. Since the warranty is based upon the unit date code located on the model identification tags, removal or manipulation of the identification tags will void the manufacturers warranty.

b) When handling the shell & tube heat exchanger, special care should be taken to avoid dropping the unit since mishandling could cause the heat exchanger to crack and leak externally. Mishandling of the unit is not covered under the manufacturers warranty. All units are shipped with partial wood/corrugated cardboard containers for safe handling.

c) Storage: American Industrial heat exchangers are protected against the elements during shipment. If the heat exchanger cannot be installed and put into operation immediately upon receipt, certain precautions are required to prevent deterioration during storage. The responsibility for integrity of the heat exchanger(s) is assumed by the user. American Industrial will not be responsible for damage, corrosion, or other deterioration of the heat exchanger during transit or storage.

Proper storage practices are important when considering the high costs of repair or replacement, and the possible delays for items which require long lead times for manufacture. The following listed practices are provided solely as a convenience to the user, who shall make their own decision on whether to use all or any of them.

1) Heat exchangers not to be placed in immediate service, require precautionary measures to prevent corrosion or contamination.
2) Heat exchangers made of ferrous materials, may be pressure-tested using compressed air at the factory. Residual oil coating on the inside surfaces of the heat exchanger(s) as a result of flushing does not discount the possibility of internal corrosion. Upon receipt, fill the heat exchanger(s) with the appropriate grade of oil or apply a corrosion preventing inhibitor for storage.
3) Corrosion protection compounds for interior surfaces for long term storage or other applications are applied solely at the request of customers. Upon request, American Industrial can provide a customer approved corrosion preventative if available when included in the original purchase order specifications.
4) Remove all dirt, water, ice, or snow and wipe dry before moving heat exchanger(s) into storage. Heat exchangers are generally shipped empty, open drain plugs to remove any accumulated condensation moisture, then reseal. Accumulation of moisture usually indicates corrosion has already started and remedial action should be taken.
5) Store in a covered, environmentally stable area. The ideal storage environment for heat exchangers is in a dry, low-humidity atmosphere which is sealed to prevent the entry of blowing dust, rain, or snow. Maintain in atmospheric temperatures between 70°F and 105°F (Large temperature swings may cause condensation and moisture to form on steel components, threads, shell, etc...) Use thermometers and humidity indicators and maintain the atmosphere at 40% relative humidity, or lower.

d) Standard Enamel Coating: American Industrial provides its standard products with a normal base coat of oil base air cure enamel paint. The enamel paint is applied as a temporary protective and esthetic coating prior to shipment. While the standard enamel coating is durable, American Industrial does not warranty it as a long-term finish coating. It is strongly suggested that a more durable final coating be applied after installation or prior to long-term storage in a corrosive environment to cover any accidental scratches, enhance esthetics, and further prevent corrosion. It is the responsibility of the customer to provide regular maintenance against chips, scratches, etc... and regular touch up maintenance must be provided for long-term benefits and corrosion prevention.

e) Special Coatings: American Industrial offers as customer options, Air-Dry Epoxy, and Heresite (Air-Dry Phenolic) coatings at additional cost. American Industrial offers special coatings upon request, however American Industrial does not warranty coatings to be a permanent solution for any equipment against corrosion. It is the responsibility of the customer to provide regular maintenance against chips, scratches, etc... and regular touch up maintenance must be provided for long-term benefits and corrosion prevention.

f) American Industrial recommends that the equipment supplied should be installed by qualified personnel who have solid understanding of system design, pressure and temperature ratings, and piping assembly. Verify the service conditions of the system prior to applying any shell & tube heat exchanger. If the system pressure or temperature does not fall within the parameters on model rating tag located on the heat exchanger, contact our factory prior to installation or operation.

note: AIHTI reserves the right to make reasonable design changes without notice.
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g) Plan the installation to meet the requirements indicated on the piping installation diagram as illustrated above. It is recommended to put the hot fluid to be cooled through the shell side and the cold fluid through the tube side. The indicated port assembly sequence in the installation diagram maximizes the performance, and minimizes the possibility of thermal shock. In instances where the fluids are required to be reversed, *hot fluid in the tubes and cold fluid in the shell* the heat exchanger will work with reduced performance. Installation may be vertical or horizontal or a combination thereof. However, the installation must allow for complete draining of the heat exchanger regardless of Two Pass or four pass construction. Complete drainage is important to prevent the heat exchanger from freezing, over-heating of a fluid, or mineral deposit buildup.
For removable bundle heat exchangers, provide sufficient clearance at the stationary tube-sheet end to allow for the removal of the tube bundle from the shell. Channel cover can be removed to aid in cleaning the tubes without disassembling the tube bundle. For more information please contact American Industrial.

h) It is recommended to use flexible hose wherever possible to reduce vibration and allow slight movement. However, hoses are not required. Hydraulic carrying lines should be sized to handle the appropriate flow and to meet system pressure drop requirements based upon the systems parameters, and not based upon the units supply and return connection size. We recommend that a low cracking pressure direct acting relief valve be installed at the heat exchanger inlet to protect it from pressure spikes by bypassing oil in the event the system experiences a high flow surge. If preventative filtration is used it should be located ahead of the cooler on both shell and tube side to catch any scale or sludge from the system before it enters the cooler. Failure to install filters ahead of the heat exchanger could lead to possible heat exchanger failure due to high pressure if the system filters plug.

i) Standard shell & tube coolers are built with a rolled tube-sheet construction. However, the differential operating temperature between the entering shell side fluid and the entering tube side fluid should not exceed 150°F. If this condition exists, a severe thermal shock could occur leading to product failure and mixing of the fluids. For applications with a differential temperatures of 150°F or more, we recommend using a series with a floating tube-sheet, u-tube, or expansion joint to reduce the potential for the effects of thermal shock.

j) Water requirements vary from location to location. If the source of cooling water is from other than a municipal water supply, it is recommended that a water strainer be installed ahead of the heat exchanger to prevent dirt and debris from entering and clogging the flow passages. If a water modulating valve is used it is recommended to be installed at the inlet to the cooler to regulate the water flow.

k) For steam service, or other related applications, please consult our engineering department for additional information.

Maintenance
a) Inspect the heat exchanger for loosened bolts, connections, rust spots, corrosion, and for internal or external fluid leakage. Any corroded surfaces should be cleaned and recoated with paint.

b) Shell side: In many cases with clean hydraulic system oils it will not be necessary to flush the interior of the shell side of the cooler. In circumstances where the quality of hydraulic fluid is in question, the shell side should be disconnected and flushed on a yearly basis with a clean flushing oil/solvent to remove any sludge that has been deposited. For severe cases where the unit is plugged and cannot be flushed clean with solvent, the heat exchanger should be replaced to maintain the proper cooling performance.

c) Tube side: In many cases it will be necessary to clean the tube side of the heat exchanger due to poor fluid quality, debris, calcium deposits, corrosion, mud, sludge, seaweed, etc.... To clean the tube side, flush with clean water or any good quality commercial cleaner that does not attack the particular material of construction. With straight tube heat exchangers you can use a rod to carefully push any debris out of the tubes.

d) Zinc anodes are normally used to reduce the risk of failure due to electrolysis. Zinc anodes are a sacrificial component designed to wear and dissolve through normal use. Normally, zinc anodes are applied to the water supply side of the heat exchanger. Depending upon the amount of corrosive action, one, two, three, or more anodes can be applied to help further reduce the risk of failure. American Industrial Heat Transfer, Inc. offers zinc anodes as an option, to be specified and installed at the request our customers. It is the responsibility of the customer to periodically check and verify the condition of the zinc anode and replace it as needed.

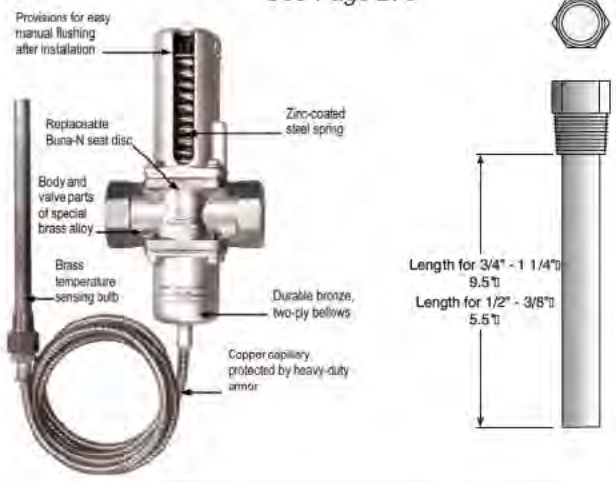
Applications vary due to water chemical makeup and quality, material differences, temperature, flow rate, piping arrangements, and machine grounding. For those reasons, zinc anodes do not follow any scheduled factory predetermined maintenance plan moreover they must be checked routinely by the customer, and a maintenance plan developed based upon the actual wear rate.

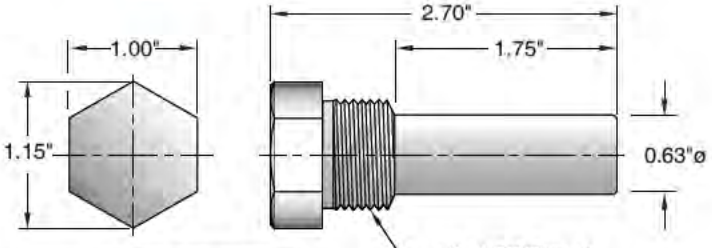
If substantial wear occurs or zinc dissolves without replacement, premature failure or permanent damage may occur to the heat exchanger. American Industrial does not warranty customer applications. It is the responsibility of the customer to verify and apply the proper system materials of construction and overall system requirements. Failures resulting from properly applied or misapplied use of zinc anode(s) into non-specified or specified applications will be the sole responsibility of the customer.

e) A routine maintenance schedule should be developed and adjusted to meet your systems requirements based upon water quality, etc... .Failure to regularly maintain and clean your heat exchanger can result in a reduction in operational performance and life expectancy.

Note: *Since applications can vary substantially, the installation and maintenance information contained in this catalog should be used as a basic guideline. The safe installation, maintenance, and use of any American Industrial Heat Transfer, Inc. heat exchanger are solely the responsibility of the user.*

ACCESSORIES: THERMOSTATIC MODULATING WATER VALVE WITH BULB WELL ASSEMBLY
(for Shell & Tube Heat Exchangers And Air/Oil Coolers)
See Page 273





1/2" NPT Zinc Anode PN: 301-0003
SRCS-1700 thru SRCS-4800

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Attachment C

IEPA Letter Dated 12/20/2019

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

RCRA Permit Application Form (LPC-PA23)

View Instructions

This form must be used for any permit application for a hazardous waste management facility regulated in accordance with RCRA, Subtitle C, including all requests to modify an existing permit. One original and three (3) copies, of all permit applications must be submitted. Attach the original and appropriate number of copies of a cover letter, any necessary plans, specifications, reports, forms, (e.g., corrective action certification form), and any other certifications etc. to fully support and describe the activities or modifications being proposed. Attach sufficient information to demonstrate compliance with all applicable regulatory requirements. Applications without this form will be deemed incomplete. Please refer to the RCRA checklist and decision guide documents for further guidance. For RCRA corrective action, this form should only be used if requesting an actual modification to a RCRA permit. A RCRA Corrective Action Certification form should be used in all other instances.

Note: Permit applications which are hand-delivered to the Bureau of Land, Permit Section must be delivered to 1021 North Grand Avenue East between the hours of 8:30 a.m. to 5:00 p.m., Monday through Friday (excluding State holidays).

Please type or print all information legibly.

I. Site Identification

Site # (Illinois EPA): 1191150002 USEPA ID Number: ILD080012305

Site Name: Equilon Enterprises LLC d/b/a Shell Oil Products US (SOPUS)

Physical Site Location (street, road, etc.): 900 South Central Avenue

City: Roxana Zip Code: 62084 County: Madison

Existing RCRA Permit (if applicable): B-43R

II. Owner/Operator Identification

Owner Information

Name: WRB Refining LP

Mailing Address:

2331 City West Blvd
Houston, TX 77042

Contact Name: Tom Morgan

Phone #: 618-255-2142

Email: thomas.r.morgan@p66.com

Operator Information

Name: Equilon Enterprises LLC d/b/a SOPUS

Mailing Address:

150 North Dairy Ashford
Building A, 5th Floor
Houston, TX 77079

Contact Name: Dan Kirk

Phone #: 281.544.9796

Email: dan.kirk@shell.com

A 39(i) certification must be submitted with information concerning the following persons or entities:

- the owner of the business entity applying for the permit;
- the operator of the business entity applying for the permit;
- each employee or officer of the owner or operator who signed the permit application or has managerial authority at the site; and
- any additional owner, operator, or officer or employee of the owner or operator from whom a certification is requested by the Illinois EPA, including any officer or employee who will be responsible for overseeing or implementing regulated activities governed by the permit.

III. Permit Application Identification

Application Type

- ☐ New Part B Permit
- ☐ Part B Permit Renewal
- ☐ Class 1 Modification
- ☑ Class 1* (prior approval required) Modification
- ☐ Class 2 Modification
- ☐ Class 3 Modification
- ☐ Additional information to supplement UIC Class I application Log Number

_____

- ☐ Remedial Action Plan Permit (RAPP)
- ☐ Sig RAPP Modification
- ☐ Non Sig RAPP Modification
- ☐ Major UIC Modification
- ☐ Minor UIC Modification

This Application Involves

☐ Storage	☐ Treatment	☐ Disposal	☐ Incineration
☑ Groundwater	☑ Corrective Action	☐ UIC Class I	☐ UIC Class V

Description of This Permit Request: (Include a brief narrative description here.)

Response to Condition V.D.3. of the 12/20/2019 Modified Permit requesting installation of a new groundwater monitoring well (B-43R-M-29).

IV. SIGNATURES

Original signatures required. Signature stamps or applications transmitted electronically or by facsimile are not acceptable. All applications shall be signed by the person in accordance with 35 IAC 702.126(a).

Please check the box of the appropriate certification.

Owner

☐ I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Alternative owner certification. For remedial action plans (RAPs) permit under Subpart H of 35 IAC 703, the owner may choose to make the following certification instead of the certification above.

☒ Based on my knowledge of the conditions of the property described in the RAP and my inquiry of the person or persons that manage the system referenced in the operator's certification, or those persons directly responsible for gathering the information, the information submitted is, upon information and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Name (Printed or Typed): Gerald Knoyle

Owner Signature: Gerald Knoyle Date: 10/8/2020

Title: Refinery Manager

Notary (Required for both owner and operator signatures)

Subscribed and Sworn before me this 8th day of October 2020

Notary Signature: Karen Batty

My commission expires on: February 28, 2023

OFFICIAL SEAL
KAREN BATTY
Notary Public - State of Illinois
My Commission Expires
February 28, 2023

Notary Seal

Operator

I certify under penalty of law that this document and all attachment were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Operator Name (Printed or Typed): Dan Kirk

Operator Signature: D. T. Kirk Date: 9-17-20

Title: Principal Program Manager

Notary (Required for both owner and operator signatures)

Subscribed and Sworn before me this 17th day of September 2020.

Notary Signature:

My commission expires on: 09/13/2024

BRIAN L. PLISCO
Notary Public, State of Texas
Comm. Expires 09-13-2024
Notary ID 130819667

Notary Seal

Engineer

I certify under penalty of law that this document and all attachment were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Engineer Name (Print or Type): NOT APPLICABLE

Engineer Signature: _____

Illinois License No.: _____

Expiration Date of License: _____

Engineer Phone No. _____

Email: _____

Engineer Address:

Engineer Seal

All information submitted as part of the Application is available to the public except when specifically designated by the Applicant to be treated confidentially as a trade secret or secret process in accordance with Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Instructions for
RCRA Permit Application Form LPC-PA23

Return to Page 1

The following instructions are designed to aid in the completion of the RCRA Permit Application Form LPCPA23. If you have additional questions regarding the form, or the informational requirements, please contact the Illinois EPA Bureau of Land (BOL) Permit Section at 217-524-3300.

This form must be used for any permit application for a hazardous waste management facility regulated in accordance with RCRA, Subtitle C, including all requests to modify an existing permit. If an application has already been submitted to the Agency, a completed RCRA Permit Application Form must accompany all additional information that is submitted to the agency for that application. An example of "additional information" would be a response to verbal or written comments from the Agency. For RCRA corrective action, this form should only be used if requesting an actual modification to a RCRA permit. A RCRA Corrective Action Certification form should be used in all other instances.

I. Site Identification

Enter all of the required information in the space provided. If you do not have an Illinois or USEPA identification number, call the Illinois EPA BOL Waste Reduction and Compliance Section at 217-785-8604 to obtain these numbers prior to completing the form.

II. Owner/Operator Identification

The terms "owner" and "operator" are defined at 35 IAC 720.110 and 702.110. If the facility has the same owner and operator, you may type in "same" under operator information. Also, if the contact person for an application is different from the owner or operator (i.e. the consultant), please indicate this in the cover letter for the application.

III. Permit Application Identification

Indicate both the type of application and the kind of waste management involved. For instance, if the application involves more than one type of waste management, check all applicable options.

IV. Signatures

The signatory requirements for permit applicants are identified at 35 IAC 702.126 and 702.151. If the facility has the same owner and operator, you may type in "same" under operator information.

Notary Public: A notary public's signature and stamp are required for both the owner and operator signatures on the form.

Engineer Certification: A professional engineer that is licensed in the State of Illinois must certify all technical information provided in a permit application. 35 IAC 703.182 describes the types of information that must be certified by a professional engineer.

Illinois Environmental Protection Agency

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39(i) Certification
for Operating a Waste Management Facility

Pursuant to 415 ILCS 5/39(i), prior to issuing any RCRA permit, or any permit for a waste storage site, sanitary landfill, waste disposal site, waste transfer station, waste treatment facility, waste incinerator, clean construction or demolition debris fill operation, or used tire storage site, the Illinois EPA must conduct an evaluation of the prospective owner's or operator's prior experience in waste management operations, clean construction or demolition debris fill operations, and tire storage site management. As part of that evaluation please complete and submit this form with your permit application.

This form may be completed online and saved locally before printing, signing and submitting it to the Illinois EPA at the address below. If the form is completed manually, please type or print clearly.

Illinois Environmental Protection Agency
Division of Land Pollution Control - #33
39(i) Certification
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

I. Applicant Information

Site Name: Equilon Enterprises LLC d/b/a Shell Oil Products US IEPA BOL No.: 1191150002

Site Address: 900 South Central Avenue

City: Roxana State: IL Zip Code: 62084

Permit Numbers (if applicable): B-43R

Owner

Owner Name: WRB Refining LP

Street Address: 2331 City West Blvd

City: Houston State: TX Zip: 77042

Operator

Operator Name: Equilon Enterprises LLC dba SOPUS

Street Address: 150 N Dairy Ashford, Bldg A, 5th Floor

City: Houston State: TX Zip: 77079

Is this 39(i) certification for the owner or the operator?

◯ Owner ⊘ Operator ◯ Owner and operator are the same entity

II. Officers and Employees with Site Responsibility

Unless the owner and operator are the same entity, a separate 39(i) form must be submitted for both the owner and operator. Persons operating under the authority of the owner should be listed on the owner's 39(i) form and persons operating under authority of the operator should be listed on the operator's 39(i) form.

A. Officers: List the name and title of all officers of the owner or operator that will have personal involvement or active participation in the operation or management of the site or facility for which the application is submitted.

Name	Title
Dan Kirk	Principal Program Manager

B. Employees: List the name and title of each employee of the owner or operator that will have personal involvement or active participation in the overall operation or management of the site or facility for which the application is submitted (e.g. site managers, site engineers, and other persons who direct or control the overall day-to-day management of the operation, but not persons whose duties are exclusively limited to equipment operation, labor, or similar non-managerial functions).

Name	Title
Wendy Pennington	AECOM, Project Manager
Bob Billman	AECOM, Project Manager

III. Owner, Operator, Officer, and Employee Information

A. Prior Conduct Identification

The applicant must answer each of the following questions for every owner or operator, and for any officer or employee identified under Section II. If the answer to any of the following questions is affirmative, the applicant must complete an Attachment A for each person for whom the answer is affirmative and include a copy of each final administrative or judicial determination that required an affirmative response. If the information for each owner, operator, officer, and employee has not changed since the applicant's last submission of a 39(i) certification, the applicant can skip to Section III(C), below.

1) Has there been a finding that any person named in Section II violated federal, State, or local laws, regulations, standards, or ordinances in the operation of one or more waste management facilities or sites, clean construction or demolition debris fill operation facilities or sites, or tire storage sites? ○ Yes ⊘ No

2) Has any person named in Section II ever been convicted in this or another State of any crime which is a felony under the laws of this State, or convicted of a felony in a federal court; or convicted in this or another state or federal court of any of the following crimes: forgery, official misconduct, bribery, perjury, or knowingly submitting false information under any environmental law, regulation, or permit term or condition? ○ Yes ⊘ No

3) Has there been a finding against any person named in Section II of gross carelessness or incompetence in handling, storing, processing, transporting or disposing of waste, clean construction or demolition debris, or used or waste tires, or a finding of gross carelessness or incompetence in using clean construction or demolition debris as fill? ○ Yes ⊘ No

B. Pending Proceedings

The applicant must answer each of the following questions for every owner or operator, and for any officer or employee identified in Section II. If the answer to any of the following questions is affirmative, the applicant must complete an Attachment A for each person for whom the answer is affirmative and provide information identified in Attachment A regarding the pending proceeding.

1. Is there any proceeding currently pending against any person named in Section II that could result in a conviction or finding described in subsection A, above? ○ Yes ⊘ No

2. Is there any proceeding currently pending against any person named in Section II that could result in the reversal of a conviction or finding described in subsection A, above? ○ Yes ⊘ No

C. Prior Application Information

If (i) the applicant has previously submitted the Attachments required pursuant to subsections A and B above and (ii) the Attachments previously submitted are still complete, true, and correct, then the applicant does not need to include Attachments with this submission if fhe following box is checked:

☑ By checking this box, I affirm that the Attachments previously submitted are still complete, true, and correct and wish to incorporate them into this Certification.

If the above box is checked, identify the application that contains the previously submitted Attachments that are complete, true, and correct.

RCRA Post-Closure Permit Renewal Application, EPA ID No. ILD080012305, Log No. B-43R2

Authorization for Release of Information

This Certification must be signed by an officer of the applicant.

The undersigned authorizes any representative of the Illinois Environmental Protection Agency bearing this release to obtain any information from the Illinois State Police pertaining to the criminal records of the applicant and hereby directs the Illinois State Police to release such information upon request of the bearer. The undersigned authorizes a review of and full disclosure of all records, or any part thereof, concerning the applicant's criminal records by and to a duly authorized agent of the Illinois Environmental Protection Agency, whether the records are of public, private, or confidential nature. The intent of this authorization is to give consent for full and complete disclosure of the applicant's criminal records.

The undersigned fully understands that any information which is developed directly or indirectly, in whole or in part, as a result of this authorization will be considered in determining whether a permit shall be issued by the Illinois Environmental Protection Agency under the Environmental Protection Act [415 ILCS 5]. The undersigned further agrees to release the Illinois State Police and the Illinois Environmental Protection Agency, its agents and designees under this release, from any and all liability which may be incurred as a result of compliance with this authorization for release of information.

Certification Statements

I certify under penalty of law that the information submitted, including information on any Attachments submitted as part of or incorporated into this Certification, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

D. T. Kirk — Signature of Applicant Officer

9-17-20 — Date

Dan Kirk — Printed Name

Principal Program Manager — Title

Illinois Environmental Protection Agency

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39(i) Certification
for Operating a Waste Management Facility

Pursuant to 415 ILCS 5/39(i), prior to issuing any RCRA permit, or any permit for a waste storage site, sanitary landfill, waste disposal site, waste transfer station, waste treatment facility, waste incinerator, clean construction or demolition debris fill operation, or used tire storage site, the Illinois EPA must conduct an evaluation of the prospective owner's or operator's prior experience in waste management operations, clean construction or demolition debris fill operations, and tire storage site management. As part of that evaluation please complete and submit this form with your permit application.

This form may be completed online and saved locally before printing, signing and submitting it to the Illinois EPA at the address below. If the form is completed manually, please type or print clearly.

Illinois Environmental Protection Agency
Division of Land Pollution Control - #33
39(i) Certification
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

I. Applicant Information

Site Name: Equilon Enterprises LLC d/b/a Shell Oil Products US
IEPA BOL No.: 1191150002
Site Address: 900 South Central Avenue
City: Roxana
State: IL
Zip Code: 62084
Permit Numbers (if applicable): B-43R

Owner

Owner Name: WRB Refining LP
Street Address: 2331 City West Blvd
City: Houston
State: TX
Zip: 77042

Operator

Operator Name: Equilon Enterprises LLC dba SOPUS
Street Address: 150 N Dairy Ashford, Bldg A, 5th Floor
City: Houston
State: TX
Zip: 77079

Is this 39(i) certification for the owner or the operator?

☑ Owner ○ Operator ○ Owner and operator are the same entity

II. Officers and Employees with Site Responsibility

Unless the owner and operator are the same entity, a separate 39(i) form must be submitted for both the owner and operator. Persons operating under the authority of the owner should be listed on the owner's 39(i) form and persons operating under authority of the operator should be listed on the operator's 39(i) form.

A. Officers: List the name and title of all officers of the owner or operator that will have personal involvement or active participation in the operation or management of the site or facility for which the application is submitted.

Name	Title
Gerald Knoyle	Refinery Manager

B. Employees: List the name and title of each employee of the owner or operator that will have personal involvement or active participation in the overall operation or management of the site or facility for which the application is submitted (e.g. site managers, site engineers, and other persons who direct or control the overall day-to-day management of the operation, but not persons whose duties are exclusively limited to equipment operation, labor, or similar non-managerial functions).

Name	Title
Thomas Morgan	Environmental Director

III. Owner, Operator, Officer, and Employee Information

A. Prior Conduct Identification

The applicant must answer each of the following questions for every owner or operator, and for any officer or employee identified under Section II. If the answer to any of the following questions is affirmative, the applicant must complete an Attachment A for each person for whom the answer is affirmative and include a copy of each final administrative or judicial determination that required an affirmative response. If the information for each owner, operator, officer, and employee has not changed since the applicant's last submission of a 39(i) certification, the applicant can skip to Section III(C), below.

1) Has there been a finding that any person named in Section II violated federal, State, or local laws, regulations, standards, or ordinances in the operation of one or more waste management facilities or sites, clean construction or demolition debris fill operation facilities or sites, or tire storage sites? ◯ Yes ⊘ No

2) Has any person named in Section II ever been convicted in this or another State of any crime which is a felony under the laws of this State, or convicted of a felony in a federal court; or convicted in this or another state or federal court of any of the following crimes: forgery, official misconduct, bribery, perjury, or knowingly submitting false information under any environmental law, regulation, or permit term or condition? ◯ Yes ⊘ No

3) Has there been a finding against any person named in Section II of gross carelessness or incompetence in handling, storing, processing, transporting or disposing of waste, clean construction or demolition debris, or used or waste tires, or a finding of gross carelessness or incompetence in using clean construction or demolition debris as fill? ◯ Yes ⊘ No

B. Pending Proceedings

The applicant must answer each of the following questions for every owner or operator, and for any officer or employee identified in Section II. If the answer to any of the following questions is affirmative, the applicant must complete an Attachment A for each person for whom the answer is affirmative and provide information identified in Attachment A regarding the pending proceeding.

1. Is there any proceeding currently pending against any person named in Section II that could result in a conviction or finding described in subsection A, above? ◯ Yes ⊘ No

2. Is there any proceeding currently pending against any person named in Section II that could result in the reversal of a conviction or finding described in subsection A, above? ◯ Yes ⊘ No

C. Prior Application Information

If (i) the applicant has previously submitted the Attachments required pursuant to subsections A and B above and (ii) the Attachments previously submitted are still complete, true, and correct, then the applicant does not need to include Attachments with this submission if fhe following box is checked:

☑ By checking this box, I affirm that the Attachments previously submitted are still complete, true, and correct and wish to incorporate them into this Certification.

If the above box is checked, identify the application that contains the previously submitted Attachments that are complete, true, and correct.

RCRA Post-Closure Permit Renewal Application, EPA ID No. ILD080012305, Log No. B-43R2

Authorization for Release of Information

This Certification must be signed by an officer of the applicant.

The undersigned authorizes any representative of the Illinois Environmental Protection Agency bearing this release to obtain any information from the Illinois State Police pertaining to the criminal records of the applicant and hereby directs the Illinois State Police to release such information upon request of the bearer. The undersigned authorizes a review of and full disclosure of all records, or any part thereof, concerning the applicant's criminal records by and to a duly authorized agent of the Illinois Environmental Protection Agency, whether the records are of public, private, or confidential nature. The intent of this authorization is to give consent for full and complete disclosure of the applicant's criminal records.

The undersigned fully understands that any information which is developed directly or indirectly, in whole or in part, as a result of this authorization will be considered in determining whether a permit shall be issued by the Illinois Environmental Protection Agency under the Environmental Protection Act [415 ILCS 5]. The undersigned further agrees to release the Illinois State Police and the Illinois Environmental Protection Agency, its agents and designees under this release, from any and all liability which may be incurred as a result of compliance with this authorization for release of information.

Certification Statements

I certify under penalty of law that the information submitted, including information on any Attachments submitted as part of or incorporated into this Certification, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

[signature]	10/8/2020
Signature of Applicant Officer	Date
Gerald Knoyle	Refinery Manager
Printed Name	Title

AECOM
100 Nor h Broadway
20th Floor
St. Louis, MO 63102
aecom.com

October 12, 2020

Mr. Kenneth E. Smith, PE
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, IL 62794

Class 1* Permit Modification Request –
Response to Condition 4.b. in Attachment A and Condition V.D.3. of the 12/20/2019 IEPA Letter with Modified Permit
Equilon Enterprises LLC d/b/a Shell Oil Products US
Roxana, Illinois
1191150002 - Madison County (ILD080012305)
Log No. B-43R-M-29

Dear Mr. Smith,

AECOM Technical Services, Inc. (AECOM), on behalf of Equilon Enterprises LLC d/b/a Shell Oil Products US (SOPUS), is providing this letter in response to the Illinois Environmental Protection Agency's (IEPA's) December 20, 2019 letter. In that letter, the IEPA approved several modification requests submitted between February 22, 2015 and January 29, 2018 for the RCRA Hazardous Waste Post-Closure Permit (Permit) for the Wood River Refinery (WRR) and included a modified Permit. The IEPA also included a condition requesting the installation of new groundwater monitoring well, to be added to the Roxana Interim Groundwater Monitoring Program.

Condition 4.b. in Attachment A of the IEPA December 20, 2019 letter and Condition V.D.3. of the enclosed modified Permit requested the installation of new groundwater monitoring well, to be added to the Roxana Interim Groundwater Monitoring Program, to "intercept potential groundwater contamination observed in the B-level well, P-93B".

For reference purposes, "A" level wells were screened across the water table at the time of installation. "B", "C" and "D" level wells are distributed throughout the rest of the Main Sand aquifer, and not with respect to a particular soil unit.

The most recent submittal reviewed by and included in the IEPA December 20, 2019 letter was a Permit Modification request dated January 30, 2018. Since January 2018, additional information has been collected at the Roxana Public Works Yard (PWY) to refine the Conceptual Site Model (CSM). This work was conducted by AECOM in June and July 2019 and included collecting groundwater samples from multiple depths (groundwater profiling (GWP)) at locations throughout the PWY as depicted on **Figure 1** enclosed with this letter. **Table 1** provides a summary of the groundwater sample depths and elevations at these locations.

The groundwater samples from the Public Works Yard 2019 data collection were analyzed for the same compounds as in the Roxana Interim Groundwater Program. Benzene was found to be the main constituent of concern of the detections during this investigation. The modeled benzene results for groundwater samples are shown in cross section view in **Figures 2a, 2b, 2c, 2d,** and **2e**.

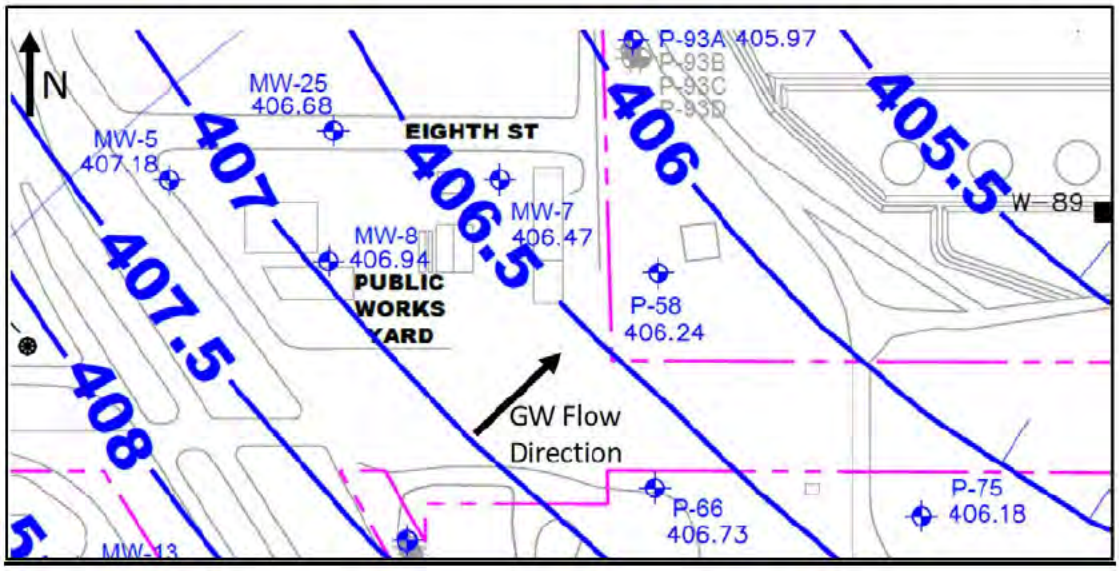
The following groundwater monitoring wells, among others throughout Roxana and WRR, are sampled each quarter as part of the Roxana Interim Groundwater Monitoring Program (Roxana Program). **Figure 1** shows the location of these monitoring wells. **Table 1** provides a summary of the screened intervals, sample depths and elevations for these groundwater monitoring wells.

North Property	Village of Roxana	West Property	Main Property
P-58*	MW-5*	MW-13*	MW-6A
P-93A	MW-7*	P-114R*	MW-6B
P-93B	MW-8*		MW-6C
P-93C	MW-23*		MW-6D
P-93D	MW-25*		P-66*

* A-level well

The PWY GWP activities were performed during the same timeframe as the 3rd quarter 2019 (3Q19) quarterly groundwater sampling event. GWP samples were collected at approximately 10-foot intervals and/or as indicated by field observations during other investigation activities (e.g., CPT/DyeLIF); some of the depths sampled coincidentally corresponded to screened elevations in the A-, B- and C- level wells at the MW-6 and P-93 well clusters. The benzene concentrations observed during the 3Q19 and GWP groundwater sampling activities are presented on **Figure 3** along with groundwater elevation contours from the 3Q19 groundwater gauging event.

Groundwater occurs at approximately elevation 407 North American Vertical Datum (NAVD 88), based on the 3Q19 measurement in monitoring well MW-8 in the western portion of the PWY. Groundwater in this area is controlled by the water production system pumping at the WRR (minimum 3,000 gallons per minute daily average), which creates an aggregate cone of depression and resultant hydraulic gradient directed toward the pumping centers. The following figure, excerpted from Figure 3b in the 3Q19 quarterly report for the Roxana Interim Groundwater Monitoring Program, shows typical groundwater flow directions, with flow inward toward the WRR pumping wells (e.g., W-89).



Groundwater elevations observed in 3Q19 were unusually high, influenced in part by above-average precipitation in the first half of 2019 and flood conditions in the Mississippi River. From 2010 through 3Q19 the groundwater elevation in the vicinity of the PWY has ranged from approximately 399 to 407 feet NAVD 88, with flow inward toward the WRR pumping wells.

The highest groundwater benzene concentrations occur from the groundwater surface to a depth of approximately 54 feet below ground surface (bgs). Below the 54-foot depth bgs, concentrations were predominantly less than 1 mg/L during the 2019 data collection; an exception to this was observed in the northeastern portion of the PWY where, likely as a result of the WRR pumping, concentrations up to 1,200 mg/L were detected to a depth of about 71 feet bgs. Based on groundwater analytical data, benzene concentrations are lowest in the western portion of the Public Works Yard. For reference, the 3Q19 benzene concentrations from the P-93 well cluster are listed below:

Well ID	Benzene Concentration (mg/L)
P-93A	10
P-93B	170 / 220 *
P-93C	<0.001
P-93D	0.0012

* Indicates duplicate sample collected and analyzed

Prior to the installation of the MW-6 well cluster (south of the PWY) and monitoring well MW-13 (southwest of the PWY), GWP activities were performed at these two well locations (GWP-22 and GWP-27, respectively) in September and October 2010. This was during the same timeframe as the 4th quarter 2010 (4Q10) quarterly groundwater sampling event. Prior to the installation of monitoring well MW-23 (west of PWY), GWP activities were performed at this well location (GWP-28) in October 2012. Various depths sampled during the 2010 and 2012 GWP events correspond to screened elevations in the A-, B-, C- and D- levels wells at the P-93 well cluster and to PWY GWP sample depths. The benzene concentrations observed during the GWP and 4Q10 groundwater sampling activities are presented on **Figure 4** along with groundwater elevation contours from the 4Q10 groundwater gauging event.

Conclusions

Data has been collected over the course of the past decade. A review of data from historic (2010 and 2012) and more recent (3Q19) GWP and quarterly groundwater sampling events indicates benzene concentrations are highest at depths that coincide with the A- level and B- level well depths. Benzene concentrations are currently highest in the eastern half of the PWY and extending into the WRR due to 20+ years of groundwater capture. The groundwater in this area, WRR Main and North Properties, is captured within the water production system radius of influence. Benzene concentrations decrease to the west and south (upgradient) of the PWY. Benzene concentrations observed at MW-13 (located to the west and upgradient of the P-93 well cluster and PWY), on the West Property and in the A- and B- level wells at the MW-6 well cluster (located to the south and upgradient of the P-93 well cluster and PWY) are below 0.005 mg/L and/or non-detect. A thermal treatment system is currently being designed for the PWY with the objective of accelerating the reduction of hydrocarbons in targeted areas. Dissolved concentrations outside the thermal treatment zone will continue to improve. The need for additional groundwater monitoring will be assessed as part of the design process.

Based on the review of these data and information, the B- level impact observed in P-93B has been delineated to the west, and as such, installation of a new groundwater monitoring well for the Roxana Program does not appear to be necessary at this time, and as such is not proposed. It is requested that Condition V.D.3. be removed from the Permit. As previously mentioned however, additional monitoring may be proposed as part of the thermal treatment effort.

If you have any questions concerning this request, please contact Dan Kirk, SOPUS Principal Program Manager, at 832-337-8276 or dan.kirk@shell.com, or me at 314-452-8929 or wendy.pennington@aecom.com.

Sincerely,

Wendy Pennington
Project Engineer
AECOM
T: 314-802-1196
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Robert B. Billman
Senior Project Manager
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Enclosures: LPC-PA23 Form
39i Certifications for owner and operator
Table 1 Monitoring Well Construction & Groundwater Profiling Sample Summary
Figure 1 Investigation Locations Map
Figure 2a through 2e Cross Sections A-A' through E-E' Benzene in Groundwater
Figure 3 Benzene Concentrations – 3Q19
Figure 4 Benzene Concentrations – 4Q10

cc: Dan Kirk, SOPUS (electronic)
Thomas Morgan, P66 (electronic)
Amy Butler, IEPA, Springfield
Gina Search, IEPA Collinsville
Repository (Roxana website and Roxana Public Library)
Project File

TABLE 1
MONITORING WELL CONSTRUCTION & GROUNDWATER PROFILING SAMPLE SUMMARY

Monitoring Well Identification	Screened Interval (ft btoc)		Screen Length (ft)	Screened Interval Elevation (ft MSL)[1]		Pump Intake / Sample Depth (ft btoc)	Pump Intake / Sample Depth (ft bgs)	Pump Intake / Sample Depth (ft MSL)[1]
A- LEVEL (elevation >386)								
MW-5	33.97	43.97	10	396.01	386.01	38.97	39.29	391.01
MW-6A	33.85	43.85	10	398.48	388.48	38.85	39.48	393.48
MW-7	42.92	52.92	10	400.39	390.39	47.92	48.31	395.39
MW-8	33.60	43.60	10	400.83	390.83	38.60	38.87	395.83
MW-13	24.80	34.80	10	405.50	395.50	29.80	30.33	400.50
MW-23	29.02	39.02	10	402.55	392.55	34.02	34.02	397.55
MW-25	35.59	45.59	10	402.94	392.94	40.59	41.11	397.94
P-114R	23.01	33.01	10	406.47	396.47	28.01	28.35	401.47
P-58	40.21	65.21	25	404.95	379.95	52.71	51.37	392.45
P-66	34.72	59.72	25	402.28	377.28	47.22	47.39	389.78
P-93A	43.07	53.07	10	402.30	392.30	48.07	47.53	397.30
PD-01			4				34.0	400.75
			4				44.0	390.75
PD-02			4				44.0	399.82
			4				50.0	393.82
PD-03			4				45.0	399.64
			4				50.0	394.64
			4				55.0	389.64
PD-04			4				35.0	399.47
			4				41.0	393.47
			4				43.0	391.47
PD-05			4				42.0	393.49
			4				48.0	387.49
PD-07			4				45.0	398.52
			4				50.0	393.52
			4				55.0	388.52
PD-08			4				35.0	399.73
			4				41.0	393.73
			4				46.0	388.73
PD-09			4				35.0	400.67
			4				40.0	395.67
			4				45.0	390.67
PD-11			4				35.0	401.41
			4				37.0	399.41
			4				43.0	393.41
			4				50.0	386.41
PD-12			4				35.0	389.27
PD-13			4				40.0	396.25
			4				46.0	390.25
			4				50.0	386.25
PD-14			4				40.0	402.57
			4				45.0	397.57
			4				50.0	392.57
			4				53.0	389.57
PD-17			4				45.0	398.91
			4				50.0	393.91
GWP-27			4				28.5	402.30
			4				36.5	394.30
GWP-28			4				40.0	389.02
B- LEVEL (elevation 365 - 385)								
MW-6B	64.05	69.05	5	368.32	363.32	66.55	67.04	365.82
P-93B	74.78	76.78	2	371.74	369.74	75.78	75.96	370.74
PD-01			4				53.0	381.75
PD-01			4				60.0	374.75
			4				69.0	365.75
PD-02			4				59.0	384.82
			4				65.0	378.82
			4				70.0	373.82
			4				74.5	369.32
PD-03			4				60.0	384.64
			4				65.0	379.64
			4				71.0	373.64

TABLE 1
MONITORING WELL CONSTRUCTION & GROUNDWATER PROFILING SAMPLE SUMMARY

Monitoring Well Identification	Screened Interval (ft btoc)		Screen Length (ft)	Screened Interval Elevation (ft MSL)[1]		Pump Intake / Sample Depth (ft btoc)	Pump Intake / Sample Depth (ft bgs)	Pump Intake / Sample Depth (ft MSL)[1]
PD-04			4				50.0	384.47
			4				53.0	381.47
			4				60.0	374.47
			4				70.0	364.47
PD-05			4				54.0	381.49
			4				62.0	373.49
			4				70.0	365.49
PD-08			4				52.0	382.73
			4				57.0	377.73
			4				62.0	372.73
PD-09			4				54.0	381.67
			4				60.0	375.67
			4				70.0	365.67
PD-11			4				56.0	380.41
			4				60.0	376.41
			4				66.7	369.71
PD-12			4				45.0	379.27
			4				50.0	374.27
			4				55.0	369.27
			4				60.0	364.27
PD-13			4				59.0	377.25
			4				65.0	371.25
			4				70.0	366.25
PD-14			4				60.0	382.57
			4				70.0	372.57
			4				78.5	364.07
GWP-22			4				61.0	371.80
GWP-28			4				60.0	379.02
C- LEVEL (elevation 340 - 360)								
MW-6C	84.95	89.95	5	347.23	342.23	87.45	88.10	344.73
P-93C	92.88	97.88	5	353.67	348.67	95.38	93.64	351.17
PD-01			4				75.0	359.75
			4				80.0	354.75
PD-04			4				80.0	354.47
PD-05			4				80.0	355.49
PD-08			4				70.0	364.73
			4				80.0	354.73
PD-09			4				80.0	355.67
PD-12			4				70.0	354.27
			4				73.0	351.27
PD-13			4				80.0	356.25
GWP-22			4				81.0	351.80
GWP-28			4				80.0	369.02
D- LEVEL (elevation >325)								
MW-6D	104.72	109.72	5	327.34	322.34	107.22	107.75	324.84
P-93D	125.75	127.75	2	321.22	319.22	126.75	124.50	320.22
GWP-22			4				112.0	320.80

NOTES:
1) Elevations are referenced to the 1988 North American Vertical Datum (NAVD88).

LEGEND

GROUNDWATER MONITORING WELL LOCATION

INVESTIGATION LOCATION

NORFOLK SOUTHERN RAILROAD

NOTES:

1) GROUNDWATER MONITORING WELLS SHOWN ARE GAUGED AND SAMPLED ON A QUARTERLY BASIS AS PART OF THE ROXANA INTERIM GROUNDWATER MONITORING PROGRAM.

2) INVESTIGATION ACTIVITIES PERFORMED DURING JUNE AND JULY 2019.

BP

MW-23

S. CENTRAL AVENUE (ROUTE 111)

S. OLD EDWARDSVILLE ROAD

7TH STREET

S. CHAFFER AVENUE

MW-25

8TH STREET

P-93A
P-93B
P-93C
P-93D

SVE SYSTEM

MW-5

PD-12

PD-14

PD-02

MW-7

PD-03

PD-13

PD-01

PD-07

MW-8

PD-04

PD-05

PD-17

NORTH PROPERTY

P-58

PD-09

PD-08

PD-11

RAND AVENUE

P-66

MW-13

MW-6A
MW-6B
MW-6C
MW-6D

WEST PROPERTY

MAIN PROPERTY

P-114R

0 100

SCALE FEET

N

EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO. 60619901

AECOM

DRN. BY: wmp January 2020
DSGN. BY: djd
CHKD. BY: b3

Investigation Locations Map

FIG. NO. 1

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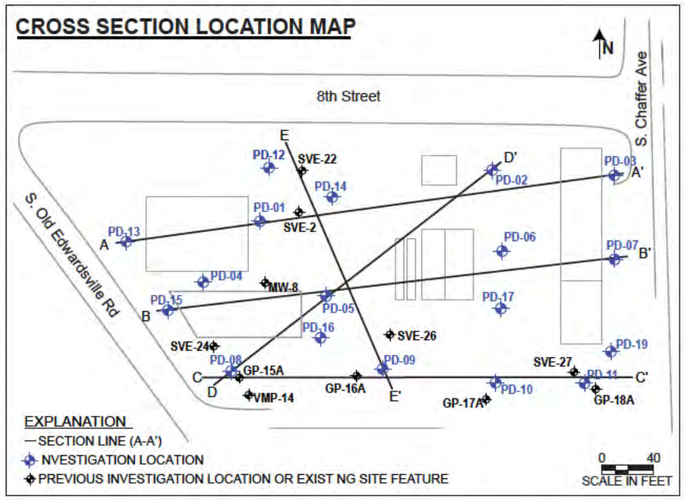
CROSS SECTION LOCATION MAP



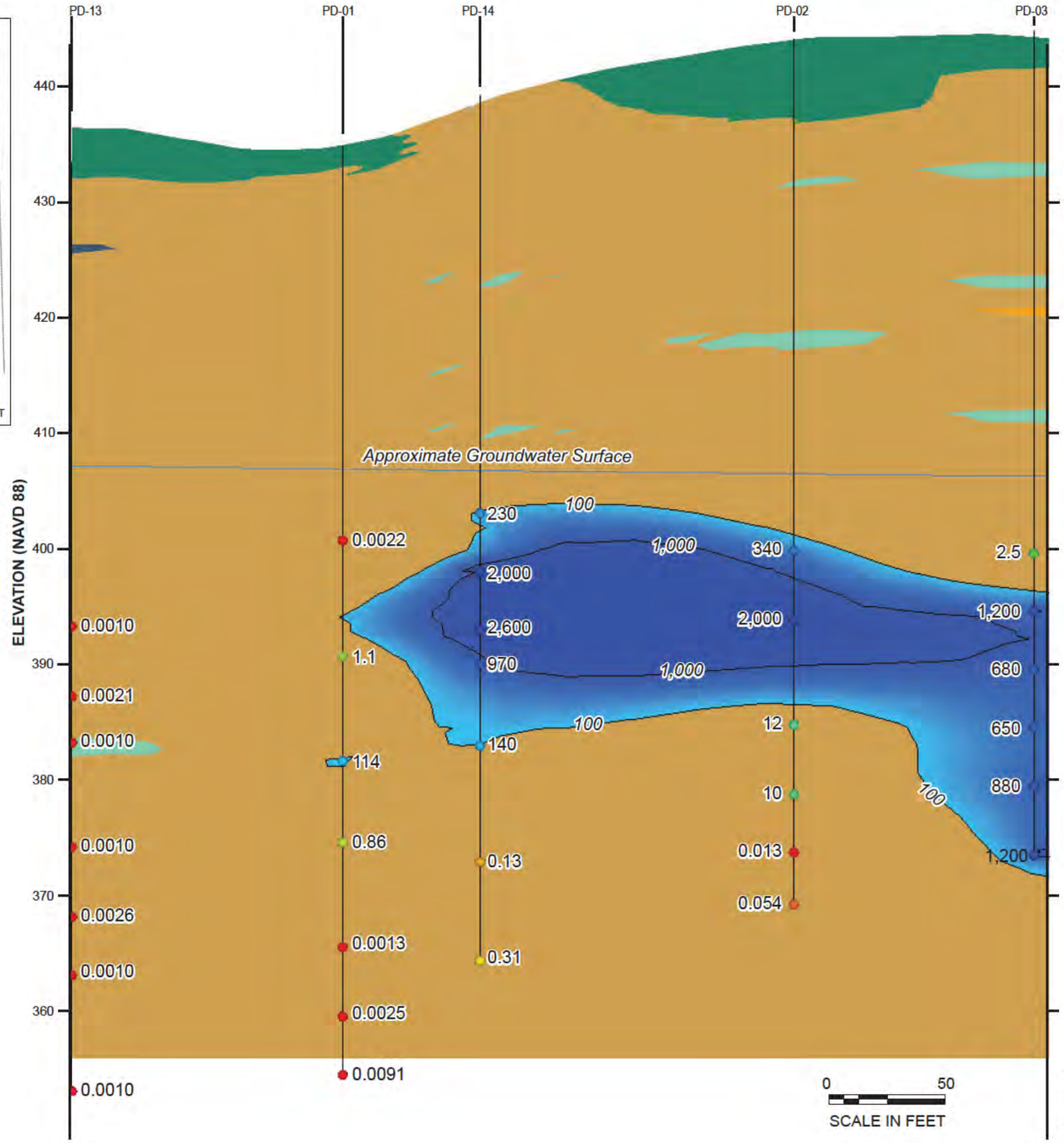
EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay

Benzene in Groundwater (mg/L)

2,600 · 1,000 · 300 · 100 · 30 · 10 · 3 · 1 · 0.3 · 0.1 · 0.03 · 0.01 · 0.003 · 0.001



NOTES

NAVD 88 — North American Vertical Datum
mg/L — milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 60619901
AECOM	
CROSS SECTION A-A' BENZENE IN GROUNDWATER	FIG. NO. 2a

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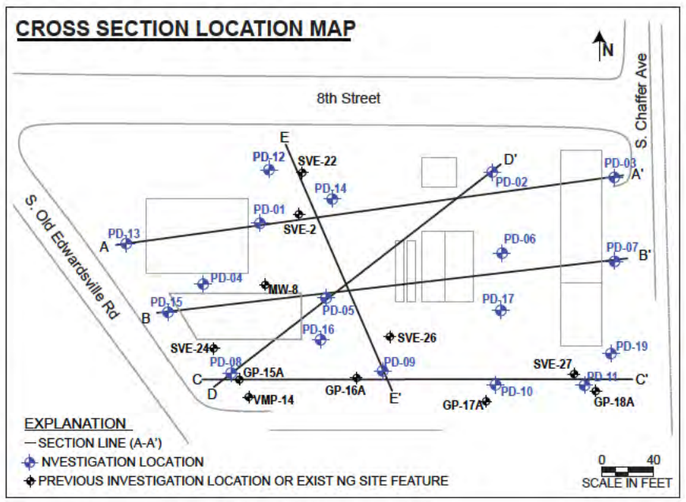
CROSS SECTION LOCATION MAP



EXPLANATION

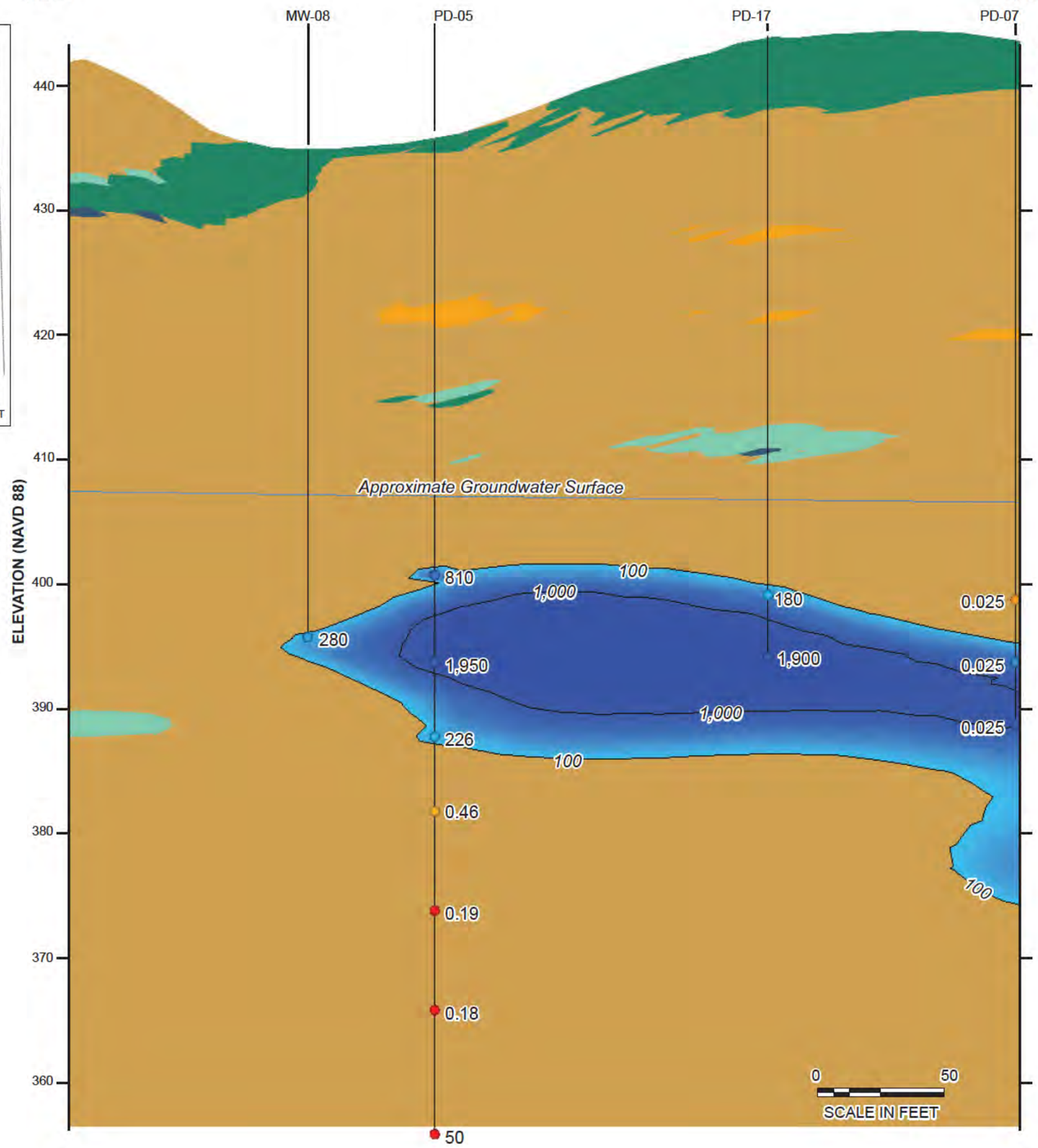
Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay
- Clay

Benzene in Groundwater (mg/L)

2,600
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001

B WEST — B' EAST



NOTES

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1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
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4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.
7. Groundwater profiling was not completed at PD-06, PD-15 or PD-16.

EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 60619901
AECOM	
CROSS SECTION B-B' BENZENE IN GROUNDWATER	FIG. NO. 2b

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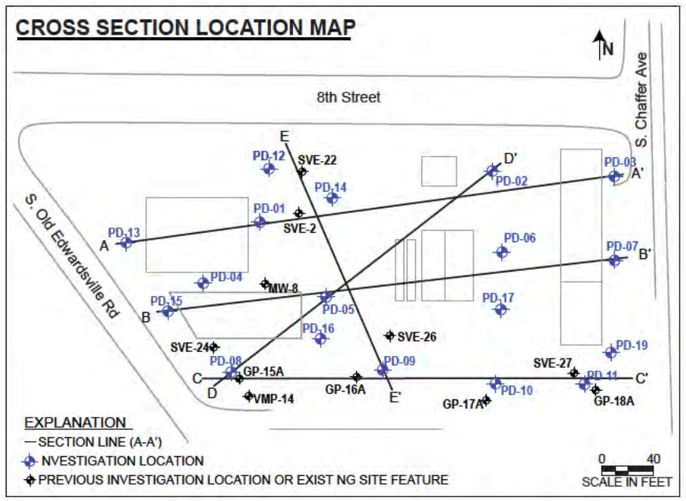
CROSS SECTION LOCATION MAP



EXPLANATION

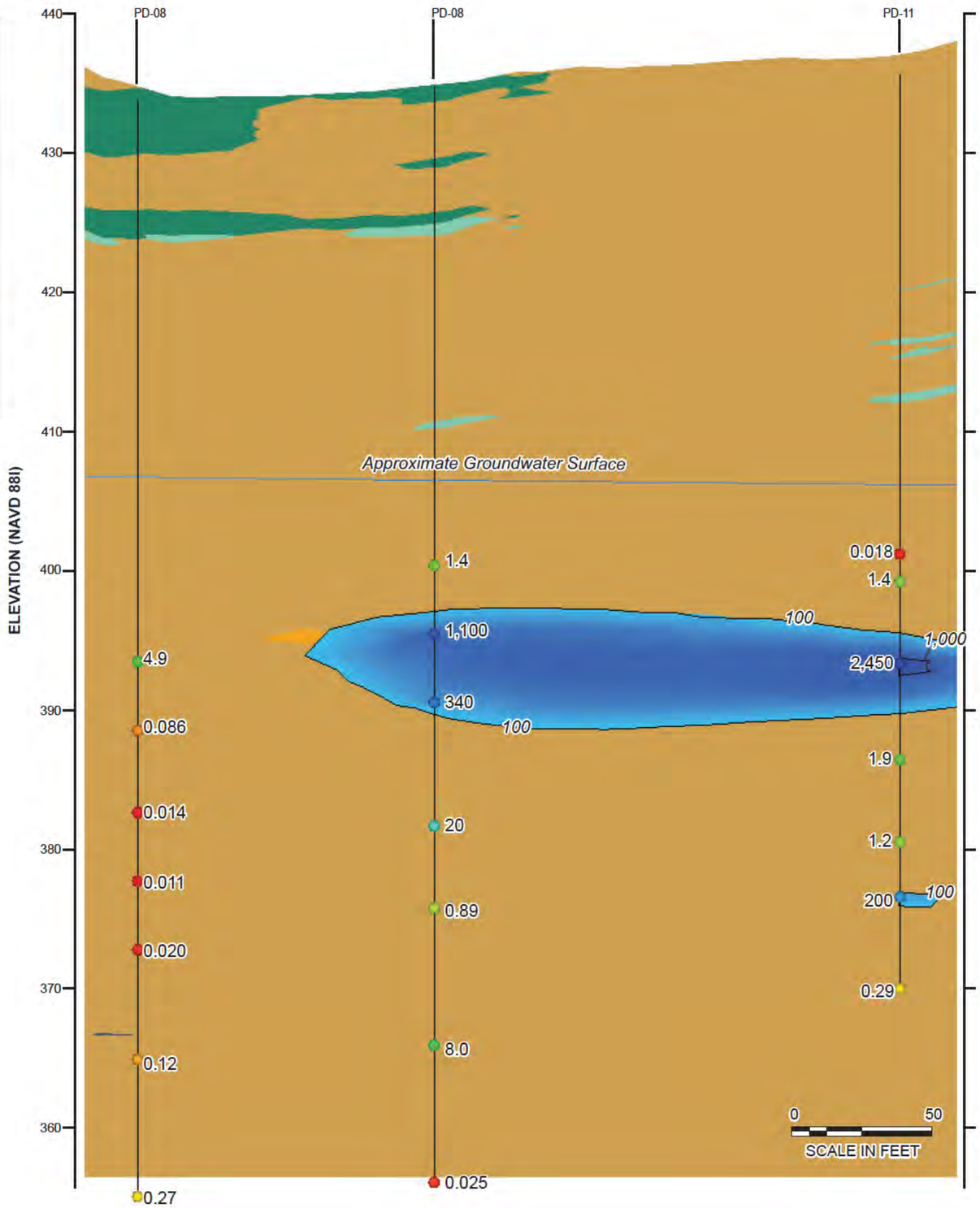
Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Groundwater (mg/L)

- 2,600
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01
- 0.003
- 0.001

C WEST — **C' EAST**



NOTES

NAVD 88 — North American Vertical Datum
mg/L — milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 60619901
AECOM	
CROSS SECTION C-C' BENZENE IN GROUNDWATER	FIG. NO. 2c

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D
SOUTHWEST

D'
NORTHEAST

PD-08 PD-05 PD-02

ELEVATION (NAVD 88)

440 430 420 410 400 390 380 370 360

Approximate Groundwater Surface

100 1,000

810 340 1,400 1,950 2,000 1,000 226 100 12 10

4.9 0.086 0.014 0.011 0.020 0.12 0.27

0.46 0.19 0.18 0.18

0 50
SCALE IN FEET

EXPLANATION

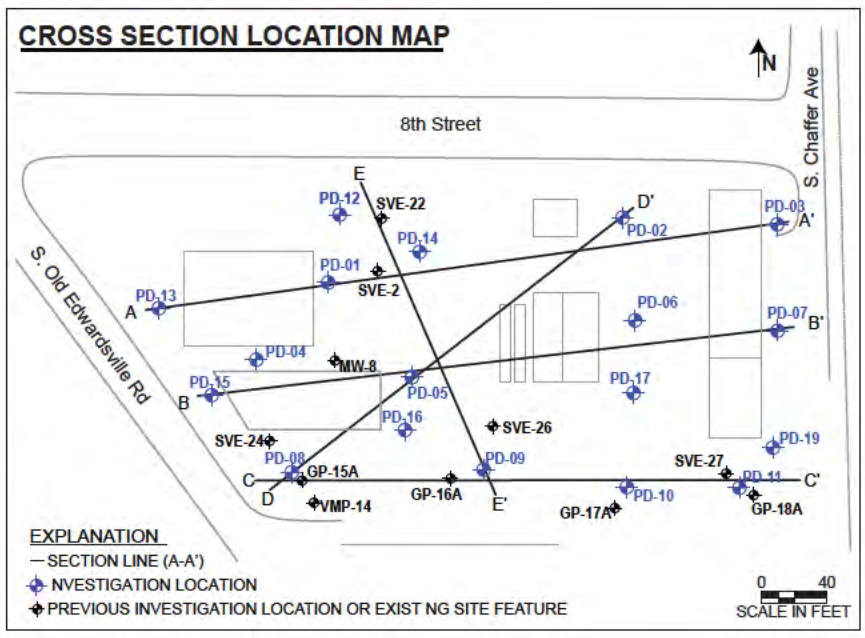
Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Groundwater (mg/L)

2,600
1,000
300
100
30
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001

CROSS SECTION LOCATION MAP



NOTES

NAVD 88 North American Vertical Datum
mg/L milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;

2. Contour lines are in orders of magnitude, starting at 100 mg/L.

3. Modeled lithology is based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.

4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.

5. Locations within 15 feet were projected on to the cross section line.

6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

EQUILON ENTERPRISES LLC d/b/a SHELL OILS PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 60619901
AECOM	
CROSS SECTION D-D' BENZENE IN GROUNDWATER	FIG. NO. 2d

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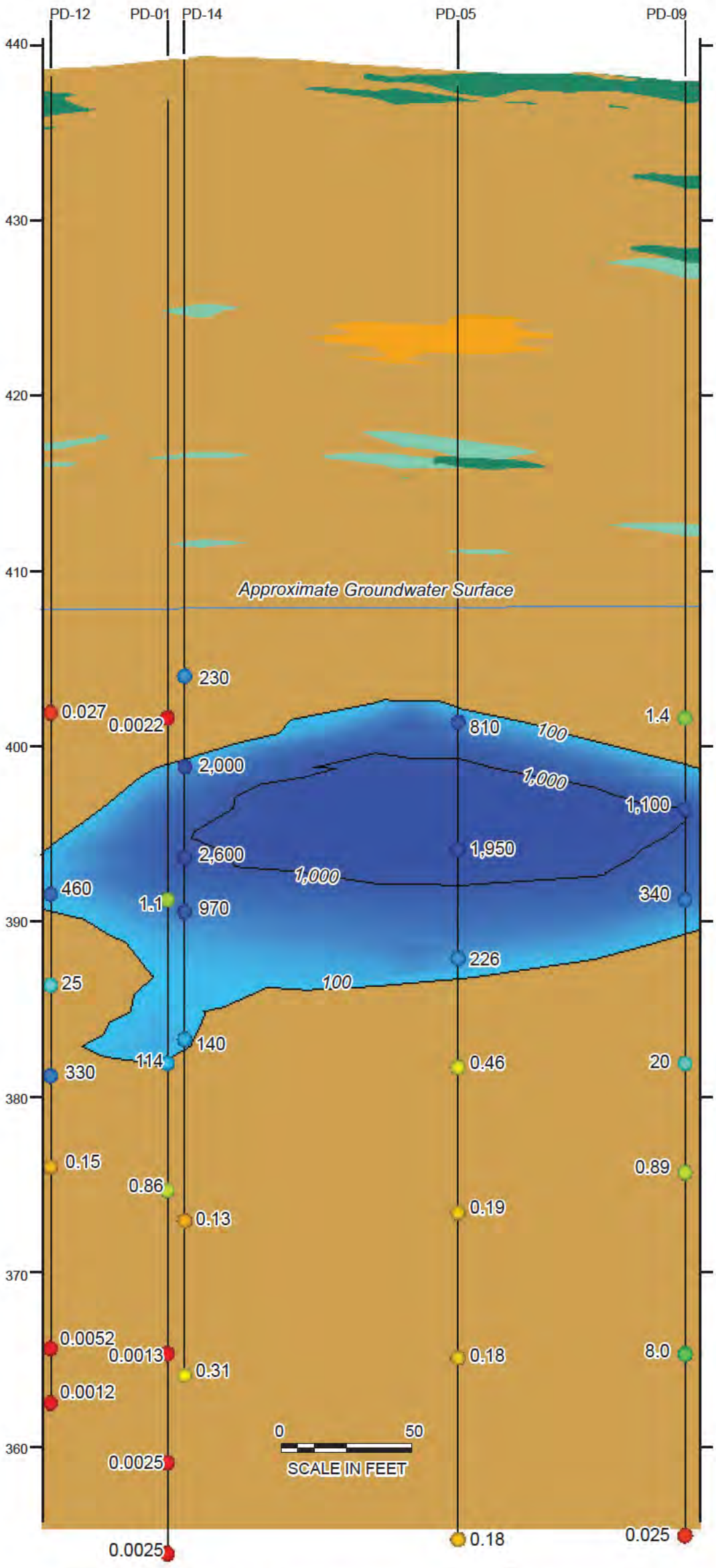
E
NORTHWEST

E'
SOUTHEAST



EXPLANATION

Lithology

- Sand and Silty Sand
- Sand
- Silty Sand and Sandy Silt
- Clay and Silty Clay

Benzene in Groundwater (mg/L)

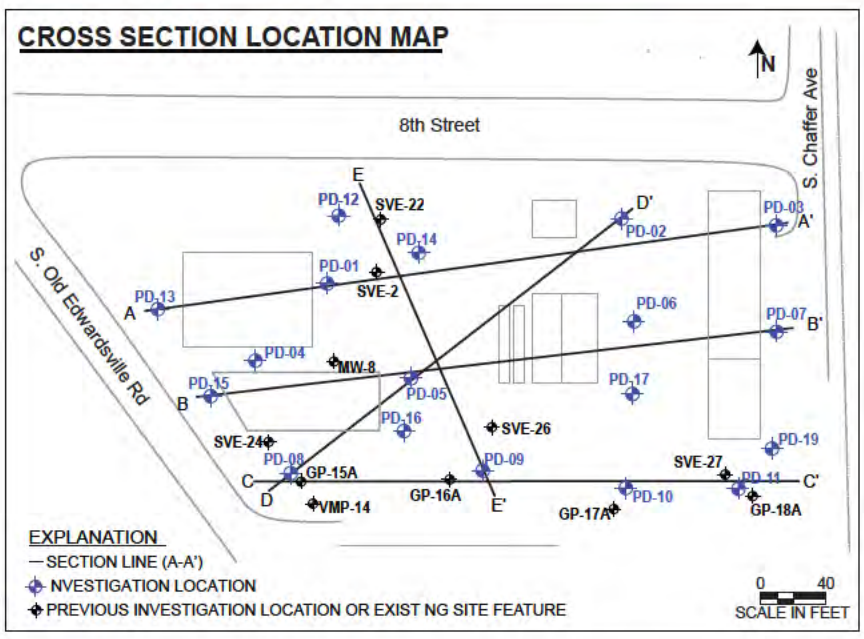
- 2,600
- 1,000
- 300
- 100
- 30
- 10
- 3
- 1
- 0.3
- 0.1
- 0.03
- 0.01
- 0.003
- 0.001

NOTES

NAVD 88	North American Vertical Datum
mg/L	milligrams per liter

1. Lithology and concentrations of benzene in groundwater were modeled using CTECH's Earth Volumetric Studio (EVS), version 2019.2;
2. Contour lines are in orders of magnitude, starting at 100 mg/L.
3. Modeled lithology was based on CPT data collected at 18 locations on June 10 - June 20, 2019, except the upper 10 feet, which was based on hand auger logs.
4. Benzene in groundwater was modeled using EVS' Krig Statistics method. The dataset includes predesign concentrations of benzene in groundwater at the site, as well as concentrations from the 3Q19 Roxana Interim Groundwater Monitoring Program.
5. Locations within 15 feet were projected onto the cross section line.
6. The approximate groundwater surface was modeled using gauging data from the 3Q19 Roxana Interim Groundwater Monitoring Program.

CROSS SECTION LOCATION MAP



EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 60619901
AECOM	
CROSS SECTION E-E' BENZENE IN GROUNDWATER	FIG. NO. 2e

NOTES:

1) BENZENE RESULTS AT MONITORING WELLS WERE COLLECTED DURING THE 3Q19 SAMPLING EVENT.
2) BENZENE RESULTS AT INVESTIGATION LOCATIONS WERE COLLECTED DURING JUNE AND JULY 2019. SAMPLE DEPTHS CORRESPONDING TO MONITORING WELL SCREEN DEPTHS ARE SHOWN AND INDICATED AS SUMMARIZED BELOW:
   - A–LEVEL WELL (elevation >386)
   - B–LEVEL WELL (elevation 365 – 385)
   - C–LEVEL WELL (elevation 340 – 360)
   - D–LEVEL WELL (elevation < 325)

LEGEND

- GROUNDWATER MONITORING WELL LOCATION
- GROUNDWATER PROFILE INVESTIGATION LOCATION
- NORFOLK SOUTHERN RAILROAD
- –410– GROUNDWATER ELEVATION CONTOUR

BP

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-23		
7/10/2019	<0.001	397.55

MW–23

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-01		
6/25/2019	0.0022	400.75
6/25/2019	1.08	390.75
6/25/2019	114	381.75
6/26/2019	0.856	374.75
6/26/2019	0.0013	365.75
6/26/2019	0.0025	359.75
6/27/2019	0.0091	354.75

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-13		
7/8/2019	0.00043 J	396.25
7/8/2019	0.0021	390.25
7/8/2019	0.00093 J	386.25
7/8/2019	<0.001	377.25
7/9/2019	0.0026	371.25
7/9/2019	0.00047 J	366.25
7/9/2019	<0.001	356.25

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-5		
7/12/2019	0.01	391.01

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-14		
7/17/2019	230	402.57
7/17/2019	2000	397.57
7/17/2019	2300 / 2900	392.57
7/17/2019	970	389.57
7/17/2019	140	382.57
7/17/2019	0.13	372.57
7/18/2019	0.31	364.07

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-04		
7/15/2019	0.0063	399.47
7/15/2019	67	393.47
7/15/2019	0.3	391.47
7/15/2019	2.3	384.47
7/15/2019	290	381.47
7/15/2019	0.039	374.47
7/16/2019	0.0076 / 0.0078	364.47
7/16/2019	0.0036	354.47

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-8		
7/8/2019	280	395.83

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-13		
7/9/2019	<0.001	400.50

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-08		
6/28/2019	810	399.73
6/28/2019	4.9	393.73
6/28/2019	0.086	388.73
6/28/2019	0.014	382.73
7/1/2019	0.011	377.73
7/1/2019	0.02	372.73
7/1/2019	0.12	364.73
7/1/2019	0.27	354.73

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-6A		
7/11/2019	<0.001	393.48
MW-6B		
7/11/2019	0.00044 I	365.82
MW-6C		
7/11/2019	0.00075 I	344.73
MW-6D		
7/11/2019	0.0056	324.84

Date	Benzene (mg/L)	Approx. Sample Elevation
P-114R		
7/9/2019	<0.001	391.64

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-25		
7/8/2019	0.016	397.94

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-12		
7/1/2019	0.027	389.27
7/12/2019	460	379.27
7/12/2019	35	374.27
7/12/2019	330	369.27
7/12/2019	0.15	364.27
7/15/2019	0.0052	354.27
7/15/2019	0.0012	351.27

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-17		
7/19/2019	180	398.91
7/22/2019	1600 / 2200	393.91

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-02		
7/18/2019	340	399.82
7/18/2019	2500 / 1500	393.82
7/18/2019	12	384.82
7/19/2019	10	378.82
7/19/2019	0.013	373.82
7/19/2019	0.054	369.32

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-05		
6/27/2019	1990 J / 1910 SJ	393.49
6/27/2019	226 J	387.49
6/27/2019	0.455	381.49
6/27/2019	0.195	373.49
6/27/2019	0.184	365.49
6/28/2019	0.18	355.49

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-11		
7/10/2019	0.018	401.41
7/11/2019	1.4	399.41
7/11/2019	2500 / 2400	393.41
7/11/2019	1.9	386.41
7/11/2019	1.2	380.41
7/11/2019	200	376.41
7/12/2019	0.29	369.71

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-09		
7/9/2019	1.4	400.67
7/9/2019	1100	395.67
7/9/2019	340	390.67
7/10/2019	20	381.67
7/10/2019	0.89	375.67
7/10/2019	3.1 / 13	365.67
7/10/2019	0.025	355.67

Date	Benzene (mg/L)	Approx. Sample Elevation
P-93A		
7/15/2019	10	397.30
P-93B		
7/12/2019	170 / 220	370.96
P-93C		
7/12/2019	<0.001	352.40
P-93D		
7/12/2019	0.0012	320.38

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-7		
7/8/2019	1300 / 1400	395.39

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-03		
7/23/2019	2.5	399.64
7/23/2019	1200 / 1200	394.64
7/23/2019	680	389.64
7/23/2019	650	384.64
7/23/2019	880	379.64
7/23/2019	1200	373.64

Date	Benzene (mg/L)	Approx. Sample Elevation
PD-07		
7/22/2019	0.4	398.52
7/22/2019	500 / 380	393.52
7/23/2019	1400	388.52

Date	Benzene (mg/L)	Approx. Sample Elevation
P-58		
7/15/2019	87 / 86	392.45

Date	Benzene (mg/L)	Approx. Sample Elevation
P-66		
7/10/2019	0.0017	389.78

P–93A
P–93B
P–93C
P–93D

P–58

P–66

MW–6A
MW–6B
MW–6C
MW–6D

MW–13

P–114R

PD–12
PD–14
PD–13
PD–01
PD–04
MW–5
MW–8
PD–02
MW–7
PD–03
PD–17
PD–07
PD–05
PD–09
PD–08
PD–11
MW–25

S. CENTRAL AVENUE
S. OLD EDWARDSVILLE ROAD
ROUTE 111
7TH STREET
8TH STREET
S. CHAFFER AVENUE
RAND AVENUE
SVE SYSTEM
WEST PROPERTY
MAIN PROPERTY

405.5
406
406.5
407
407.5
408
408.5
409
409.5
410

0 100
SCALE FEET
N

EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO. 60619901

AECOM

DRN. BY: wmp January 2020
DSGN. BY: djd
CHKD. BY: b3

Benzene Concentrations and Exceedances – 3Q19

FIG. NO. 3

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NOTES:

1) BENZENE RESULTS AT MONITORING WELLS WERE COLLECTED DURING THE 3Q19 SAMPLING EVENT.
2) BENZENE RESULTS AT GROUNDWATER PROFILE LOCATIONS WERE COLLECTED DURING SEPTEMBER AND OCTOBER 2010. GROUNDWATER PROFILE LOCATION GWP-28 WAS SAMPLED IN OCTOBER 2012 SELECT SAMPLE DEPTH CORRESPONDENCE TO MONITORING WELL SCREEN DEPTHS ARE INDICATED AS SUMMARIZED BELOW:
   - A-LEVEL WELL (elevation >386)
   - B-LEVEL WELL (elevation 365 – 385)
   - C-LEVEL WELL (elevation 340 – 360)
   - D-LEVEL WELL (elevation <325)

LEGEND

- GROUNDWATER MONITORING WELL LOCATION
- GROUNDWATER PROFILE LOCATION
- NORFOLK SOUTHERN RAILROAD
- -410- GROUNDWATER ELEVATION CONTOUR

BP

Date	Benzene (mg/L)	Approx. Sample Elevation
GWP-28		
10/9/2012	<0.005	389.02
10/9/2012	<0.005	379.02
10/10/2012	<0.005	369.02

GWP-28 (2012)

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-5		
11/12/2010	<0.01	391.01

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-7		
11/17/2010	928 D / 876 D	395.18

Date	Benzene (mg/L)	Approx. Sample Elevation
P-93A		
10/5/2010	536 D / 638 D	390.91
10/26/2010	422 D	390.91
P-93B		
10/5/2010	271 D	370.86
10/26/2010	189 D	370.86
P-93C		
10/5/2010	<0.005	351.25
10/26/2010	<0.005	351.25
P-93D		
10/5/2010	0.121	319.92
10/26/2010	0.0429	319.92

Date	Benzene (mg/L)	Approx. Sample Elevation
MW-8		
11/17/2010	965 D	395.51

Date	Benzene (mg/L)	Approx. Sample Elevation
P-58		
10/4/2010	490 D	392.45

Date	Benzene (mg/L)	Approx. Sample Elevation
GWP-27		
10/29/2010	<0.005	402.3
10/29/2010	<0.005	394.3

Date	Benzene (mg/L)	Approx. Sample Elevation
GWP-22		
9/30/2010	<0.005	371.8
9/29/2010	<0.005	351.8
9/29/2010	<0.005	320.9

7TH STREET
8TH STREET
S. CHAFFER AVENUE
S. CENTRAL AVENUE (ROUTE 111)
S. OLD EDWARDSVILLE ROAD
RAND AVENUE
SVE SYSTEM
NORTH PROPERTY
WEST PROPERTY
MAIN PROPERTY
P-93A
P-93B
P-93C
P-93D
MW-5
MW-7
MW-8
P-58
P-66
P-114R
GWP-27
GWP-22
406
406.5
407
407.5

0 100
SCALE FEET
N

EQUILON ENTERPRISES LLC d/b/a SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO. 60619901

AECOM

DRN. BY: wmp January 2020
DSGN. BY: djd
CHKD. BY: bj

Benzene Concentrations and Exceedances – 4Q10

FIG. NO. 4

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